Ecology, Behavior, and Reproduction of Invasive Egyptian Geese (*Alopochen aegyptiaca*) in Texas

Corey T. Callaghan\(^1\), Katherine M. Conlan\(^2\), Daniel M. Brooks\(^2\),  
\(^1\)Florida Atlantic University, Boca Raton, Florida  \(^2\)The Houston Museum of Natural Science, Houston, Texas

### Background
- Egyptian Geese are native to Africa, with a population of greater than 500,000 individuals.
- In addition, they are successfully established throughout Europe, where they are considered a nuisance and pose ecological and economic effects.
- In North America, Egyptian Geese have populations in Texas, Florida, New England, and California among other regions.
- Potential ecological and economic effects include aggression toward native species, hybridization, eutrophication, agricultural damage, and aircraft strikes.

### Methods
- A questionnaire was designed to collect information from citizen science observers about behavior, habitat, location, and reproduction of Egyptian Geese.
- The questionnaire was distributed to birders via internet listservs, birdwatching festivals, birdwatching clubs, and word-of-mouth.
- Citizen science data were proofed through checking of photographs and ground truthing.
- The data were tabularized in order to conduct analyses.
- The results represent data that were submitted from June 2008 – March 2016.
- Citizen Science data were supplemented through weekly observation (by DMB & KMC) of a bonded adult pair of EGGO for a period of two years (1/2014 – 2/2016) at McGovern Lake in Hermann Park (Houston, Harris Co., Tx).

### Selected References

### Additional Results
- Recorded most often on land (57.6%) as opposed to water (37.7%), although in many cases the geese were initially observed on land but retreated to water.
- Utilized supplemental feeding in 12% of reports. They were also recorded eating grass (n = 3), aquatic vegetation (n = 1), and an Almond Verbena (*Verbena virgate*) tree’s seeds (n = 1).
- Commonly occur (24%) with other waterfowl species with few cases of agonistic behavior. Although one case of forced copulation and another of hybridization with a domestic duck.
- Permanent residents, with short-distance movements common throughout the year.
- Breeding occurs January to July (peaking March to May), with nests on the ground (n = 3) and in trees (n = 2), and number of goslings ranging 2 – 11.
- Goslings attain 50% adult size after the first month, nearly full grown at two months, and disperse from the natal site at a little more than two months of age.
- Two records of vehicle mortality, and two hawk attacks – one of which was fatal from a Red-tailed Hawk (*Buteo jamaicensis*).

### Discussion and Implications
- Geese in Texas are generalist in nature, displaying a wide diet and habitat breadth.
- We received one detailed report of hybridization of Egyptian Goose with a domestic duck, opening up the possibility for hybridization with native species.
- Given the close proximity and reliance of Egyptian Geese on humans, it is likely that there are few limiting factors to the Egyptian Geese population in Texas.
- We recommend close monitoring of the population size and potential negative impacts of the Egyptian Goose population in Texas.

---

**Figure 1.** The percentage of habitats used by Egyptian Geese in Texas. Lake and pond were combined as the distinction was relative.

**Figure 2.** The most common behaviors of Egyptian Geese in Texas.

**Figure 3.** Mean flock size of Egyptian Geese in Texas per month, pooled across all years. Error bars represent standard deviation.