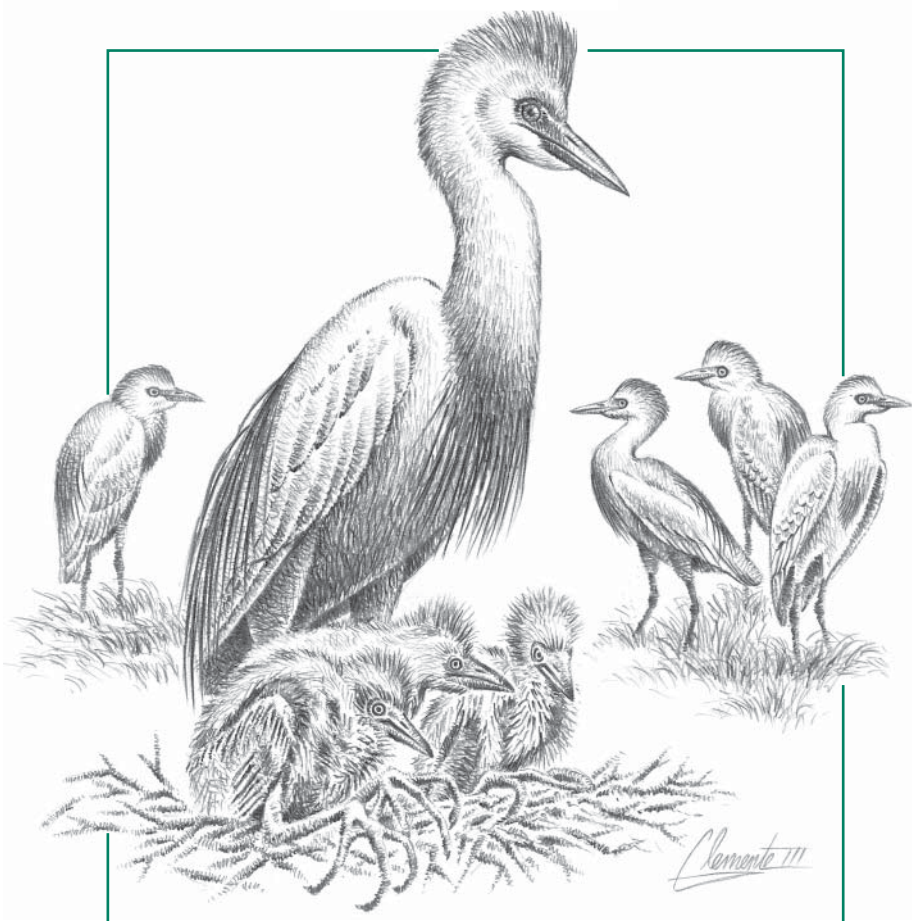


TEXAS PARKS AND WILDLIFE

NUISANCE HERONRIES

— IN TEXAS —



CHARACTERISTICS AND MANAGEMENT
by Ray C. Telfair II, Bruce C. Thompson, and Linda Tschirhart
— Second Edition —

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by

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Cliff Shackelford (Ornithologist, Wildlife Diversity Program, Texas Parks and Wildlife) suggested the need for a new edition since 13 years have elapsed after the first edition was published. Thus, Linda Tschirhart (Biologist, Texas Wildlife Damage Management Service) was invited to add her expertise as a co-author of the new edition.

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Nuisance Heronries in Texas: Characteristics and Management

by Ray C. Telfair II, Bruce C. Thompson, and Linda Tschirhart

Introduction

Long-legged waterbirds known as herons and egrets are important components of the breeding bird life found in numerous wetlands and woodlands in the eastern half of Texas. These species are part of the natural predator-prey cycle in these habitats and they provide much appreciated scenery to many who routinely enjoy viewing wildlife. The graceful flight, brilliant breeding plumages, and diverse feeding habits of the various species are the subject of much study and artistry, and justify our efforts to maintain populations for future appreciation despite dwindling habitat. However, this beauty and concern for population well-being cannot completely overshadow other management needs in certain circumstances where these birds strongly conflict with human needs.

Heronries (nesting areas of herons, egrets, and other associated colonial nesting waterbirds) can be offensive, and thus unpopular, when they are located near human habitation. Some heronries are considered nuisances when located adjacent to residential areas and airports because of noise, odor, concern about possible health hazards (broken eggs, decomposing birds, associated parasitic insects, and diseases such as psittacosis, ornithosis, histoplasmosis, encephalitis, and arbovirus), and potential danger to aircraft. Also, heronries may produce detrimental effects upon nest and roost-site vegetation primarily because of the accumulation of excrement on the plants and substrata (soil and/or water). Furthermore, newly flighted young may alight in trees bordering driveways and yards situated near the heronry, and their excrement falls upon parked vehicles, yard equipment, lawn furniture, etc.

In Texas, 33 nuisance heronries have developed in several towns and cities within 5 vegetational areas (Fig. 1), primarily the Post Oak Savannah, Blackland Prairies, and Cross Timbers and Grand Prairie. Unfortunately, visitation to these heronries by curious people and the subsequent disruption of nesting activities can make the situation much worse since young birds are frightened, leave their nests prematurely, become displaced, and die from starvation because they will not be fed by their parents which return only to the vicinity of the nest site.

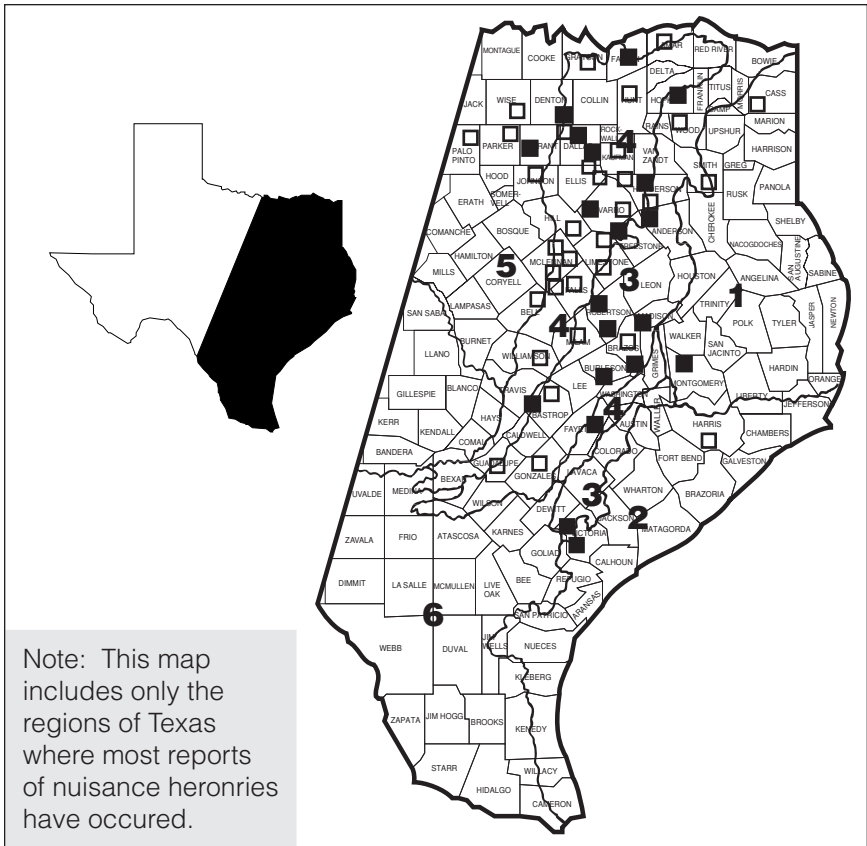


Figure 1. Locations of Texas heronries (■) within regions where some heronries are or have been considered nuisances (□). Vegetational regions are: (1) Pine and Hardwood Timberlands, (2) Gulf Prairies and Marshes, (3) Post Oak Savannah, (4) Blackland Prairies, (5) Cross Timbers and Grand Prairie, and (6) South Texas Plains. Delineation of vegetational regions is based upon Gould et al. (1960), modified by Telfair (1983) and McMahan et al. (1984).

A direct relationship exists between materials deposited in heronries and increased levels of nitrogen and phosphorus in water beneath or in the vicinity of heronries. These nutrients often stimulate production of thick mats of floating and submerged vegetation, particularly algae and duckweed. This rapid eutrophication (nutrient enrichment) concerns many fishermen because the filamentous types of algae entangle and stop propellers of motorboats and prevent retrieval of fishing lures. An example of this situation occurred in the vicinity of the Preserve Island heronry at the Koon Kreek Klub, Henderson Co.

Characteristics of Major Bird Species in Inland Heronries

Most inland heronries in Texas that are or have been considered nuisances contain 3-5 species of herons and egrets as well as Great-tailed Grackles. Characteristics of breeding adults are as follows:

1. **Cattle Egret** (*Bubulcus ibis*) - White with buffy-orange breeding plumes on crest, lower foreneck, and back. The yellow to orange bill and neck are shorter and thicker than in other herons. Legs are yellowish to orange. At rest, whether standing or perched, the Cattle Egret has a “hunched” posture. They fly to and from heronries in small to large flocks often in “V” formation. By the peak of the breeding season in June, they are the most abundant species in heronries; their breeding season may extend from early April to late October.
2. **Little Blue Heron** (*Egretta caerulea*) - Dark slaty-blue body with a maroon-brown head and neck. The bill is bluish with a black tip. Legs are bluish-green. They are the second-most abundant species in most heronries; their breeding season extends from late March to late July.
3. **Snowy Egret** (*Egretta thula*) - White with breeding plumes on crest, lower foreneck, and back. The bill is thin, long, and black with bare yellow skin at the base. Legs are black; feet are bright yellow. Snowy Egrets are longer-necked and slimmer than Cattle Egrets. They are usually the third-most abundant species in heronries; their breeding season extends usually from late March to early August.
4. **Great Egret** (*Ardea alba*) - White, long necked, with long breeding plumes on back extending beyond the tail. The bill is long and yellow. Legs and feet are black. Much larger than Cattle and Snowy Egrets. There may be none to many pairs in a heronry. Their breeding season extends from early March to early August.
5. **Black-crowned Night-Heron** (*Nycticorax nycticorax*) - Black crown with 2-3 long, thin, white plumes; black back, gray wings, and white underparts. Has heavy body, short thick neck, short legs. The bill is thick and black. Legs are yellow. Most heronries contain from none to less than 12 pairs. They are very secretive and are not usually seen flying until dusk. Their breeding season extends from early February to late July.
6. **Great-tailed Grackle** (*Quiscalus mexicanus*) - Male, a large steel-blue blackbird with a very long slender V-shaped tail that widens at the end. Female is paler and browner with a shorter tail. Nests occur in scattered groups throughout the taller trees of some heronries. Their breeding season extends from March to early August.

Legal Status

The bird species typically associated with nuisance heronries are protected under both state and federal laws. All of these species are subject to the Federal Migratory Bird Treaty Act which governs cooperative protective measures between the United States, Canada, Mexico, Japan, and the Soviet Union. Federal regulations pertaining to management of nuisance heronries are specified in Title 50 of the Code of Federal Regulations and are implemented through personnel assigned to the regional U.S. Fish and Wildlife Service Division of Law Enforcement Office. Control activities are exercised only to the extent necessary to resolve demonstrated nuisances or human health and safety hazards.

The birds also are protected by Chapter 64, Texas Parks and Wildlife Code from being killed, possessed, commercialized, or disturbed at breeding sites. Chapter 67 of the Parks and Wildlife Code further provides specific authority for programs necessary for proper species management.

Nuisance conditions – where removal of birds might be considered – are subject to federal permit requirements and procedures. The Texas Wildlife Damage Management Service (TWDMS) is the state agency that can assist the public with the proper procedures to apply for a federal permit. After the breeding season, when the birds have left the nesting area, the nests that remain are still under federal protection. To remove these nests, or to modify nesting habitat, you must first apply for a federal permit. If you believe that you may have a nuisance heronry, or would like to modify a site containing nests, contact TWDMS at (210) 472-5451.

Characteristics of Nuisance Heronries

Most nuisance heronries occur within the breeding range of Cattle Egrets, largely east of the Balcones Escarpment and within or bordering the Post Oak Savannah, Blackland Prairies, and Sulphur, Cypress, and Trinity River tributaries. Breeding distribution and the western inland boundary of the breeding range of the Cattle Egret corresponds with those of the Little Blue Heron and Snowy Egret. Apparently, Cattle Egrets are attracted to inland heronries already established by the latter native species which are, in turn, limited by the distribution and abundance of crayfish upon which they feed. Within or bordering this area there have been 53 heronries, 33 (62%) of which have been considered to constitute nuisance situations.

Most nuisance heronries have occurred in the vegetative areas of Texas that are classified as: (1) woodlands—upland woods with small intermittent streams or ponds within or nearby, but not in water; (2) swamps—shrubs and trees in water, and (3) inland wooded islands—shrubs and trees on islands in inland bodies of water. Predominant vegetation of these areas are: (1) Post Oak Parks/Woods (sandy soils of the Post Oak Savannah and East Cross Timbers); (2) Elm-Hackberry Parks/Woods (within the Blackland Prairies, primarily in Ellis, Navarro, and Limestone counties); and (3) Water Oak-Elm-Hackberry Forest (Sulphur and Trinity rivers and tributaries); (McMahan, Frye, and Brown 1984).

Vegetation of woodland heronries consists of an overstory of 1 to 3 tree species. The most common are sugar hackberry, cedar elm, winged elm, post oak, water oak, willow oak, honey locust, and osage orange (horse apple or bois d'arc). The understory may be absent in some heronries or contain as many as 9 species in others. Common understory species are hawthorn, farkleberry (huckleberry), gum bumelia, red mulberry, plum, sumac, chinaberry, western soapberry, and juniper (eastern red cedar). Except for occasional openings, the canopy tends to be closed (>75%), and nest-site trees are of medium height and diameter, about 20-30 ft (6-9 m) tall and 3-9 in (7.5-23 cm) diameter breast high (DBH).

Vegetation in inland wooded island heronries is usually dense. It is composed of shrubs, saplings, and small trees of several species, primarily post oak, winged elm, green ash, honey locust, water-elm, common buttonbush, chinaberry, and juniper.

The nest-site vegetation in swamp heronries is mostly of 2 species: water-elm and common buttonbush. Red maple, water oak, and Carolina ash are used locally.

Other location characteristics of these heronries include: (1) usually at the periphery of a small town or city (300-100,000, ave. 15,000 population) except islands in reservoirs, (2) in a less affluent section of the community, (3) near a major highway, and (4) within an isolated woods or mott of 0.2-12 acres (0.1-5 ha) usually 2.5-7.5 acres (1-3 ha). Age or life-span of heronry, if left undisturbed-(1-12 years, usually 5 years). Number of nests 130-18,450 (usually about 5,000).

Prevention of Nuisance Heronry Development

The best way to prevent the establishment of a heronry is through public awareness and early detection. If detected early when the birds first move in, they are nervous and can be easily moved with various scaring methods (Booth 1994; Dusi 1977, 1979, 1982, 1983).

Scaring devices such as pyrotechnics (screamers, badgers), cracker shells (shot from a 12-gauge shotgun), rope-firecrackers, and propane cannons all work effectively. To be most effective, combine several of these methods so that the birds do not become accustomed to them. Eye-spot balloons, mylar flagging and streamers, and hawk and owl silhouettes can also be effective when put in the trees of a potential nesting site.

Since a potential nest-site is usually densely vegetated (i.e., with a closed canopy of shrubs and trees 15 to 30 ft (4.6-9.1 m) high and a dense undergrowth of saplings, vines, and herbaceous plants), such a site can be made unattractive by thinning the vegetation to provide spaces between trees and by the removal of undergrowth vegetation. Dramatic changes are not necessary and such modifications of a potential nesting area usually produce longer lasting prevention than other methods.

When trying to prevent a heronry from developing or when trying to move an existing heronry, it is possible that the birds will move to another location that is just as undesirable. An example of this type of situation is in Mexia, Limestone Co., where the heronry has been in at least 8 different locations.

It is not possible to predict that a particular site will become a heronry. However, in towns and cities where heronries have existed, or where there is the possibility for the development of heronries, the community can develop a contingency plan in anticipation of action to be taken should the need arise. Interagency cooperation and neighborhood involvement is vital for successful detection and dispersal of offending birds. In general, early detection of heronry initiation is the best method for eliminating nuisance heronries. We suggest that municipal administrators should consider providing training information on heronry characteristics and initiation to city police, maintenance personnel, and interested volunteers. A comprehensive vigil during the early spring could avert later undesirable circumstances for both people and birds.

Recommendations of Wildlife Biologists

1. Biological control of nuisance heronries (methods to discourage nesting) is more ecologically acceptable than lethal control (which can be controversial as well as illegal) and is founded on the premise that nesting sites are widely available and, thus, are not limiting.

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2. Early detection of potential nuisance heronry sites is essential; early vegetation control is advocated; and Texas Parks and Wildlife officials should be contacted when questions arise.
 3. Selected vegetation control to move birds from a potential nuisance heronry site does not compromise the Texas Parks and Wildlife Department's responsibility toward wildlife conservation and habitat preservation.
 4. Disturbance of a heronry during the nesting season is disruptive and illegal. It causes premature nest abandonment by the young, and subsequent death of young, especially during hot weather, only contributes to the problem.
 5. Tolerance of heronries is advocated where possible because conflicts often involve human encroachment into natural habitats of the birds and large-scale displacement of nesting is not consistent with sound resource management.

Literature Cited

- Booth, T.W. 1994. Bird dispersal techniques. Vol. II Pages E-19 - E-23 in S.E. Hygnstrom, Timm, R.M., and G.E. Larson, eds. Prevention and control of wildlife damage. Univ. Nebraska Coop. Ext., US Dept. Agric. - Animal and Plant Health Inspec. Serv. - Animal Damage Control, Great Plains Agric. Council. - Wildl. Comm., Univ. Nebraska, Lincoln.
- Dusi, J.L. 1977. Impact of Cattle Egrets on an upland colony area. Proc. Colonial Waterbird Group 1:128-130.
- Dusi, J.L. 1979. Heron colony effects on man. Proc. Colonial Waterbird Group 3:143-144.
- Dusi, J.L. 1982. Cattle Egret management. Colonial Waterbirds 5:177.
- Dusi, J.L. 1983. Cattle Egret management in Alabama. Alabama Birdlife 30-4-7.
- Gould, F.W., G.O. Hoffman, and C.A. Rechenthin. 1960. Vegetational areas of Texas. Texas A&M Univ., Tex. Agric. Exp. Sta., College Station Leaflet 492.
- McMahan, C.A., R.G. Frye, and K.L. Brown. 1984. The vegetation types of Texas including cropland. Tex. Parks and Wildl. Dept. Bull. 7000-120, 40 pp. and map.
- Telfair, R.C. II. 1983. The Cattle Egret: a Texas focus and world view. The Kleberg Studies in Natural Resources. Tex. Agric. Expt. Sta., Texas A&M Univ., College Station. 144pp.

Scientific Names of Vegetation References:

Ash, Carolina	<i>Fraxinus caroliniana</i>
Ash, green	<i>F. pennnsylvanica</i>
Bumelia, gum	<i>Bumelia lanuginosa</i>
Buttonbush, common	<i>Cephalanthus occidentalis</i>
Chinaberry	<i>Melia azedarach</i>
Elm, cedar	<i>Ulmus crassifolia</i>
Elm, winged	<i>U. alata</i>
Farkleberry (Huckleberry)	<i>Vaccinium arboreum</i>
Hackberry, sugar	<i>Celtis laevigata</i>
Hawthorn	<i>Crataegus spp.</i>
Juniper (Redcedar, eastern)	<i>Juniperus virginiana</i>
Locust, honey	<i>Gleditsia triacanthos</i>
Maple, red	<i>Acer rubrum</i>
Mulberry, red	<i>Morus rubra</i>
Oak, post	<i>Quercus stellata</i>
Oak, water	<i>Q. nigra</i>
Oak, willow	<i>Q. phellos</i>
Osage Orange (Horse Apple, Bois d'Arc)	<i>Machura pomifera</i>
Plum	<i>Prunus sp.</i>
Soapberry, western	<i>Sapindus drummondii</i>
Sumac	<i>Rhus sp.</i>
Water-elm	<i>Planera aquatica</i>



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