

Texas Partners In Flight Flyway



NEWSLETTER

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Partners in Flight was formed to address the conservation needs of declining bird species. Federal and state government agencies, non-governmental conservation organizations, communities and conservation-minded corporations, landowners, and other businesses, have joined together in an international effort to address these declines. Together, we are working to understand the ecology and natural history of all birds in the Western Hemisphere, while also discovering the causes of their vulnerability. Our main goal is to implement actions needed to assure that these valuable species continue to occur in healthy and productive populations into the future.

PWD BR W7000-233 (3/02)

Mountain Plover: A Texas Perspective

By Tim Fennell,
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According to the Texas Ornithological Society's *Checklist of the Birds of Texas*, the Mountain Plover is a "rare summer resident in the high grasslands of the Trans-Pecos and the northwest Panhandle." Even though there are recent breeding records for Jeff Davis and Presidio counties, and it occurs as a rare migrant as far east as Delta County, most Texans are probably more familiar with what the aforementioned checklist continues to say about the species as a "rare to uncommon local winter resident on the coastal plains and inland from south Texas through the Edwards Plateau into the South Plains." Both the common and scientific names are somewhat misleading since both reference mountains. It is not that this plover is found in mountain habitats, but rather that they inhabit high elevation grasslands near mountains. In such an area of Wyoming, John Kirk Townsend collected the first Mountain Plover known to science in 1832. This plover is not what people typically think of when "shorebirds" are mentioned; this one has been observed in water only a few times.

The Mountain Plover breeds almost exclusively in the Great Plains of North America. It's one of a few true grassland obligates and is strongly associated with short-grass and mixed-grass prairies. Currently, the primary breeding range includes portions of Montana, Wyoming, Colorado, New Mexico, Kansas, and the Oklahoma Panhandle. The primary wintering range appears to be the central valleys of California and they are known to occur as far south as Sonora, Zacatecas, Coahuila, and Tamaulipas in Mexico. In some publications, Texas is overlooked as a wintering area. However, the overall winter distribution and habits of the Mountain Plover are poorly known.

Like the majority of grassland birds, the Mountain Plover is declining due to habitat loss. It is an endangered species in Canada and a candidate for threatened status in the U.S. Currently, the world population is estimated to be less than 10,000 and, based on 30 years of Breeding Bird Survey data,

Mountain Plover: A Texas Perspective (cont'd)

has declined by at least 50 percent since 1966. Their population has declined 3% or more per year since the 1970s. Excessive (unregulated) market hunting in the 1800s was an early pressure on the species. However, the alteration of its preferred prairie-breeding habitat due to agricultural practices has probably been the major cause for their decline. This alteration includes the destruction of prairie dog towns that provide ideal habitat for the plover. The effects of agricultural practices, if any, on their wintering grounds are poorly understood.

The largest, regularly occurring wintering population in Texas is probably the one that occurs in eastern Williamson and Bell counties in the vicinity of Granger Lake (northeast of Austin). This area is former blackland prairie heavily utilized for farming and ranching. Mountain Plovers arrive in this area during the first half of October and depart during the last half of March. They prefer large, flat plowed fields (the larger and flatter, the better!) with at least some corn or sorghum stubble lying on the ground. Their cryptic coloration often renders them almost invisible in such fields.

Although there are references to their use of overgrazed pastures in winter, I have only seen them in plowed fields during more than 70 observations of the species in the Granger Lake area. I typically find them in flocks of up to 30 birds, foraging for insects and other invertebrates in the most distant parts of large fields. However, I have seen them in the middle of dirt roads and elsewhere in flocks as large as 186 birds.

January and February are usually the best months to find Mountain Plovers in the Granger area. The plowed fields north and east of Granger Lake are the most productive areas to search and there are a lot of these fields. Two of the more reliable locations include the field bounded by Alligator Road on the north, CR 352 on the east and CR 353 on the south and the fields centered on the CR 346/CR 347 intersection. Special care should be taken with identification if searching for them during migration as both Black-bellied Plovers and American Golden-Plovers can frequent the same plowed fields preferred by Mountain Plovers (and

Killdeer are common throughout the area at any season). Confusion with winter-plumaged American Golden-Plover is a common problem; the same can also occur along the Texas Gulf Coast as well.

Finding the Mountain Plover in the Granger Lake area can be a frustrating experience at times. Despite regular reports of sightings in a particular field for a week or more at a time, an observer can often show up along the roadside at the designated site only to stare into a big, empty field. One of the few, if not only, studies of the species' habits in winter might shed some light on this phenomenon. In California, Fritz Knopf and Jeff Rupert conducted radio-telemetry studies during the winters of 1992-1993 and 1993-1994 and documented an average movement for the transmitted plovers of 1.17 km/day. They moved more than 55 km during a one-week period on seven different occasions, with a maximum movement recorded of 127 km over a mountain range! It is not surprising then that they can be hard to find in winter. However, the effort to find this fascinating species can be worth it, especially if you catch these "wind birds" in flight as they weave and dance across a field on a crisp, clear winter's morning.

REFERENCES USED

- Knopf, F.L. 1996. Mountain Plover (*Charadrius montanus*). In: The Birds of North America, No. 211 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.
- Matthiessen, Peter. 1994. The Wind Birds: Shorebirds of North America. Shelburne, Vermont: Chapters Publishing.
- Oberholser, Harry C. 1974. The Bird Life of Texas. Austin: University of Texas Press.
- Texas Ornithological Society. 1995. Checklist of the Birds of Texas. 3rd ed. Austin, TX: Capital Printing, Inc.
- U.S. Fish and Wildlife Service. 1999. Mountain Plover: Proposal to List the Mountain Plover as a Threatened Species (Fact Sheet).
<www.r6.fws.gov/mtnplover/factsheet.htm>

ARE YOU PROMOTING BIRDING IN YOUR AREA?

If you are in the early stages of trying to promote nature tourism in your area or community, then you might need a little ammo that local residents, community leaders, and businesses will listen to. For an impressive list of nature-based tourism facts, please click on "Fact Sheet..." at <www.tpwd.state.tx.us/nature/tourism/index.htm>. How many birdwatchers are out there, what kind of money are they spending, etc.

NOTICE

Texas Parks and Wildlife receives federal financial assistance from the U.S. Fish and Wildlife Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972, the U.S. Department of the Interior and its bureaus prohibit discrimination on the basis of race, color, national origin, age, disability or sex (in educational programs). If you believe that you have been discriminated against in any Texas Parks and Wildlife program, activity, or facility, or if you desire further information, please call or write: The U.S. Fish and Wildlife Service, Office for Diversity and Civil Rights Programs - External Programs, 4040 N. Fairfax Drive, Webb 300, Arlington, VA 22203, (703) 358-1724.

Integrated Migratory Bird Management in East Texas

By Carl Frentress <cfrentress@aol.com>, and Kevin Kraai <kevinkraai@aol.com>
Texas Parks and Wildlife, Athens

Owners and managers of East Texas land can expect increased opportunities for technical guidance and cost-sharing support for improvement of migratory bird habitat. The Texas Parks and Wildlife (TPW) and Ducks Unlimited (DU) have developed an agreement to co-sponsor the East Texas Wetland Project (ETWP). Until recently, TPW personnel in East Texas had limited access to funds that could be provided to landowners for projects to improve habitat. DU had no program of this type focused on East Texas. This will change with implementation of the ETWP.

Within DU, the ETWP is a component of Texas CARE (Conservation of Agriculture, Resources, and the Environment). The CARE program is a recent DU initiative to establish partnerships through fund-raising and conservation delivery that includes private lands projects. In Texas, fund-raising will be through traditional sponsorships as well as the sale of special automobile license plates portraying the DU theme (see www.texasducks.org). These plates now can be obtained through county tax appraiser offices.

However, the ETWP will not be an exclusive TPW/DU endeavor. It is anticipated that the U.S. Fish and Wildlife Service and the U.S. Natural Resources Conservation Service will join with this partnership. Other agencies and conservation organizations are also expected to participate. This alliance approach is a key factor in achieving the project objectives.

The purpose of the ETWP is to provide assistance and incentives to create, restore, and enhance natural and

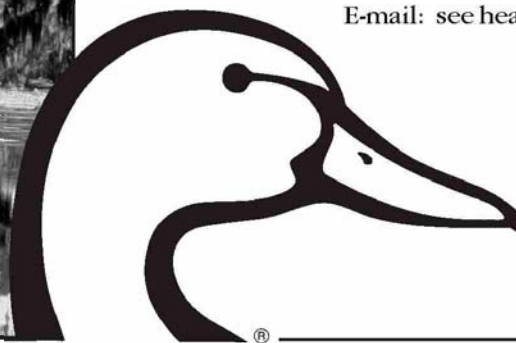
manmade wetlands and associated uplands. According to project documents, "Project objectives will be accomplished utilizing the following management practices: hydro-period restoration, reforestation, plant propagation, vegetation management, site preparation, fencing to control grazing, and conservation easements." Additionally, project personnel state that: "Wetland habitat types will include forested wetlands, moist soil areas, harvested croplands, or waterfowl food plots to increase biodiversity for waterfowl, other migratory birds (including shorebirds, wading birds, and neotropical migratory land birds), and other wetland wildlife."

The notable change brought by the ETWP is the increased funding potential. For years, wetland professionals in East Texas met an ever-growing demand from owners and managers of wetlands primarily by providing technical guidance on habitat improvement. Until recently, restricted funds and limited eligibility of applicants hindered distribution of cost-sharing monies. The ETWP relaxes these restricted conditions.

The ETWP became operational in mid-2001. Persons interested in obtaining more information or making application for assistance may contact one of the following:

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Ducks Unlimited, Inc.
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Phone: (903) 566-1626
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Carl Frentress or Kevin Kraai
Regional Waterfowl Biologists – East Texas
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Urban Mississippi Kites: Facts, Problems, and Management

By James W. Parker, Aerie East Environmental Education
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Since the late 1970s Mississippi Kites in the Great Plains have gained fame and sometimes, because of their tendency to do what good parents do, misfortune at the hands of humans. Because of an inclination to defend their nests by diving at perceived predators on their eggs and nestlings, they have become notorious in towns of all sizes by diving at, and sometimes biting, people who venture too near the kites' nests. As a result a lot of kites, nests, and their contents have been "removed," sometimes fatally and unnecessarily. This human-kite conflict is not going to go away, and has occurred many times in past summers.

I began a long-term study of this species in 1968, have repeatedly dealt with diving, devised successful methods for its management, and appropriately advised federal (including military), state, and private agencies. Here you'll find my comprehensive approach to management of urban kites. This should be of interest to birders, general environmentalists, and wildlife biologists and managers.

I CAUTION THAT ACTIVE MANAGEMENT SHOULD ONLY BE ATTEMPTED BY THOSE WITH BOTH KNOWLEDGE OF KITE BIOLOGY AND THE PROPER STATE AND FEDERAL PERMITS.

Those wishing or needing a review of the behavior and ecology of this species, including a discussion of circumstances that have led to its urban nesting and diving at people, can do so most thoroughly and accurately by consulting the Birds of North America (BNA) species account (1999; see <www.birdsofna.org>), the appropriate chapter in Ralph Palmer's *Handbook of North American Birds* (1988; Yale Press), and Chapter 6 of *Raptors in Human Landscapes* by Bird, Varland, and Negro (1996; Academic Press). A short summary here, relevant to the problem of kites dive bombing or whacking people in defense of nests, includes the following important points, of which an awareness will maximize chances for effective understanding and solution of this conflict.

Mississippi Kites nest in 18 states in the U.S. During the breeding season (mid April-August) they are often locally numerous and, despite a clutch of almost never more than two eggs, expanding their range. Urban colonial nesting is common only in central and western Kansas, western Oklahoma, north central and northwestern Texas, eastern New Mexico, and southeastern Colorado. Originally a species of riparian trees, oak prairie, and savanna, it has managed a remarkable shift in nest-site preference to include shelterbelts, mesquite groves, ranch and farm woodlots, and since the late 1960s, urban trees. In urban areas, kites prefer the savanna-like conditions of many residential areas, parks, and particularly golf courses. Urban densities of these kites can be amazing, as in the case of 27 nests on about half of one 18-hole golf course. New small nesting groups in widely separated parts of their total range are often urban. However, diving at humans is known to me only from the aforementioned states. Compared to rural populations, urban kite colonies produce more fledglings, have a larger presence of yearlings, and have more closely spaced and persistent nest sites.

Kites are very fast and acrobatic in pursuit of insect and vertebrate prey and in attack of larger animals (e.g., great horned owls) they consider threats. Where trees are short, whole kite colonies may nest below 10 m, which apparently increases the degree to which kites feel their nests are threatened by people.

Urban Mississippi Kites: Facts, Problems, and Management (cont'd)

THE NITTY GRITTY OF DIVING AND HUMAN RESPONSES

- Diving occurs most often during the period when nestlings are present or when eggs are near hatching, mid/late June through at least July. A majority of nesting kites does not dive at people.
- Diving is usually done by females and is often more aggressive when the nest is approached repeatedly and closely, the nearer the nest is to the ground, and the more a person aggressively counterattacks by throwing or waving objects at a diving kite. Kites often show a preference to attack certain people (color of clothing, smaller size, etc.), or dogs and cats, golf carts, bicycles, and even automobiles.
- Only rarely will more than one kite at a particular nest dive. If two nests are close together, parents from both nests may target a person. Alfred Hitchcock and media sensationalism notwithstanding, flocks of kites do not attack.
- Most dives are into the wind, and from behind a person. Only in a small minority of cases will a person be hit, and when a person is hit, it is usually on the hat, head, or shoulders. Kites tend to be intimidated by a person watching them, and will virtually never hit a person who is watching them and waving arms vigorously.
- Kites have small toes and talons and weigh 225-350 grams (about a half pound), so they usually do no more than punch a person, knock off a hat, or disrupt a golfer's swing. However, there are cases of injury, including laceration requiring stitching. Rarely, situations have arisen when people responded from fright or surprise by falling down stairs or by tripping, or when a bicycling child avoids a diving kite but hits a tree or car.

I foresee two threats to kite populations. First, kites could encounter a large-scale ecocatastrophe of the sort that has killed large numbers of flocking Swainson's Hawks (pesticide use in S. America; for details see <<http://www.tiehh.ttu.edu/mhooper/Swainson.htm>>). A second threat would be any large-scale, repeated, and potentially excessive depression of reproduction in urban colonies by the removal of divers' nests (see below). This latter threat could become significant. My records document responses to diving that were inappropriate, extreme, or arguably unnecessary: postal delivery interrupted; claims of diving, hitting people, and injuries exaggerated or probably fabricated; cases where diving has been "solved" by midnight commando activity (which is illegal since this species is protected); all nests in a colony removed when only kites from one or two nests are diving; an adult kite maimed (wing torn off) and abandoned by a person who swung an object at the diving kite rather than just holding

an object to deflect a dive; a nestling abandoned to die on the ground after nest was destroyed; and eggs (or resultant hatchlings) removed from nests dying in large numbers when placed with rehabilitators. Lastly, I have had government personnel hesitate to release details substantiating justification for removal of large number of nests.

So, where are we in the evolution of an effective, culturally mature, and ecologically proper management response to the diving at humans by kites? I suggest the following for people charged with solving conflicts, and I encourage consultation of "Raptor Attacks on People" in the 1999 volume of the Journal of Raptor Research (Vol. 33:63-66).

MANAGEMENT PROCEDURES

A. For people management:

- Education efforts should be strong, with much of the above kite biology being explained to citizens and organizations. It should be stressed that: the kites are simply being responsible parents by protecting nests from a variety of predators; they have the admirable quality of being able to adapt to how humans have changed habitat; the species is protected by state and federal laws; and common sense, mature tolerance, and simple solutions should be used. Often, reasonable people simply need to know enough about the kites to realize that adapting one's behavior eliminates virtually all real danger. Sometimes egos need soothing; some people seem to feel that the kites are arrogantly threatening their "rights and way of life," as well as health.
- Take advantage of available educational materials. These include popular articles in environmental magazines that describe urban kites and raptors in general, and posters, pamphlets, or display signs prepared by federal, state, and private agencies or groups (see below).
- For changes in behavior, advise people to: become aware of the location of the nest and the usual flight paths of the kites; wear sturdy hats (John Wayne style is good); carry, but do not wave (purpose is not to whack the kite) an object (the more visible the better) such as a stick, broom, or golf club near and above the head; watch the kite as it dives and wave arms (but not an object) vigorously when the kite gets close; and most importantly, reroute one's walking during the kite's breeding season as much as possible to avoid the nest tree.
- For help with diving problems, citizens should be encouraged to contact state or federal biologists or game agents/wardens. Police or sheriff departments usually refer such complaints.
- Encourage school and environmental groups to accept the responsibility of educating about kites. The

Urban Mississippi Kites: Facts, Problems, and Management (cont'd)

production of "anti-raptor" caps with large eyes on the back is a way to involve such groups and discourage some diving.

- Don't bother with nets, noise-makers, or other "repellents," including decoys of large owls or nesting kites placed in trees; these require too much time and trouble, and are usually ineffective.

B. For kite management, only if education fails, and only by the appropriate persons:

Active management is rarely required, and only if it appears that diving is unusually problematic or that illegal citizen action to stop diving is likely to result in the death of kites. Please note that these actions should be taken only by legally-authorized state or federal personnel, others with appropriate federal and state permits, and only those familiar with kite biology and how the following procedures work.

- Remove nestling(s), preferably at least 1-week old, from and destroy nest. Whenever possible, transplant nestling(s) to a nest of another kite pair in a location where diving will not be an issue. My research indicates conclusively that kites will virtually always accept foster nestlings and, with proper regard for nest size, will usually be able to raise three nestlings, sometimes four. Attempt to match the ages of nestlings, but this need not be exact. There are some tricks that simplify and hasten removal and transplanting of older nestlings (see below).
- If a foster nest is not available, place nestling(s) with a wildlife rehabilitator who has been advised ahead of time and has experience with this species. There may

be options of transplanting nestlings to other states where they are wanted for hack release (see below).

- Avoid removing nests that contain eggs. First, it is not likely to solve the diving problem because these kites will likely reneest very quickly, sometimes nearby in a secondary nest they've already built, and they may have "chips on their scapulars." Secondly, most rehabilitators are not trained or equipped to incubate and hatch kite eggs, nor to care for hatchlings. Removed eggs are usually equivalent to killed nestlings. For any that survive, imprinting or habituation will probably make release more difficult. Thirdly, removing nestlings is most likely to encourage the kites to move to another nesting site next year.
- I strongly recommend avoiding any involvement of the media unless it is necessary to counter prior negative publicity.
- Be aware that use of "cherry picker" devices to reach nests may cause considerable damage to private lawns and golf courses.

FOR ASSISTANCE

For anyone dealing with a diving situation and wishing help, I will be happy to advise about the particulars of a response, including techniques, equipment, and reference to persons and agencies who may provide on-site assistance. Additionally, I maintain a relevant collection of popular articles, research publications, posters, and signs and will be happy to help provide copies. Contact me at (207) 778-9437 or by e-mail (see article header).

IMPORTANT BIRD AREAS

American Bird Conservancy is pleased to announce that the first 500 "Global" Important Bird Areas in the U.S. have been identified and designated.

A full list of sites is on the ABC Web site at www.abcbirds.org where a dozen Texas IBAs are listed. Each site has received an IBA sign and certificate, and many are conducting local media and other outreach campaigns.

The program aims to support conservation of the most important places for bird conservation in the U.S. by engaging local support, federal and state funding, and public-private partnerships for conservation.

EDITOR'S BOOK PICKS

There are two recent books that provide excellent reading on birds. One is on extinct birds of North America and the other is on the migration phenomenon in birds. They both will keep you glued to the pages and I strongly recommend them.

Cokinos, Christopher. 2001. Hope is the thing with feathers: A personal chronicle of vanished birds. Warner Books. 374 pp.

Weidensaul, Scott. 2000. Living on the wind: Across the hemisphere with migratory birds. North Point Press. 432 pp.

WORLD BIRDING CENTER

For news and information on Texas Parks and Wildlife's World Birding Center, please visit www.worldbirdingcenter.org.

The Moral is: Don't Mess With a Cuckoo Nest

*By Guy Luneau,
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If you live your life anywhere close to the way I live mine, you pretty much don't want to mess up anything in nature. Try as I might, I still sometimes mess up. In 2001, I accidentally caused the abandonment of a Yellow-billed Cuckoo nest. Before you get angry with me, give me the benefit of the doubt and read on.

After beating the bushes all my life, not always in search of birds but always in search of something new to learn, I finally found my first Yellow-billed Cuckoo nest on July 21, 2001. At midday, I was walking along one of the paths I keep mowed through my regrowing pasture. You may not believe this, but just five minutes earlier I told myself that I was out to find a Yellow-billed Cuckoo nest. I looked into a nine-year old, fifteen-foot tall water oak tree growing near the path. I know the tree is nine years old, because that's the last time I mowed two acres of my pasture. From 25 feet away – I know it was 25 feet because I later measured it – and through the limbs, I saw a clump. Sticking out of that clump appeared to be a cuckoo head and bill. My binoculars then proved that it was indeed the head and bill of a Yellow-billed Cuckoo. I was immediately elated!

With me standing perfectly still, she left the nest after 30 seconds of me staring at her – or maybe it was him. Mind you, I was 25 feet away, a good ten paces. The nest was 7 feet above the ground. I think she had felt pressured, despite what I thought was a fair distance. My mowed path passed within ten feet of the nest. I walked to the point ten feet away from the nest, realized quickly that there was no way I could see into the nest, so I walked away. From the other direction, I could see the nest from a rather hidden spot 35 feet away in the narrow, leafy path, a good fifteen paces away from the nest. I know it was 35 feet away because I later measured it. I thought, "I can set up a chair and my scope here and watch the progression of this nesting." Then I left. Total elapsed time of me being within sight of the nest was no more than two minutes.

I went inside and read about cuckoo nests for the hundredth time. I read several of my reference books' accounts. I got excited when I read things like: the young will leave the nest at one week old and clamber about the shrubbery for the next two weeks before they can fly; the young will assume an erect posture with the bill pointing up when threatened; and the young's feather quills do not open into feathers until after they leave the nest. Wow, did I ever want to observe these things! Nowhere did I read anything to the effect of, "Beware. Cuckoos don't like any disturbance, lest they abandon the nest."

I returned to the nest area later that evening with my nest snooper. My nest snooper is an eight-foot long stick with a small mirror mounted on the end at an angle. This homemade contraption allows me to see into some nests that I would otherwise be unable to see into. No adult was at the nest. I eased to within ten feet of the nest, slipped the snooper through the branches, and stretched out my arm. I could see three beautiful, relatively large, blue eggs in the mirror. I was again elated! I immediately went back to the house after having been near the nest for no more than one minute.

At midday the next day, July 22, I got my telescope and a folding chair and walked to my predetermined spot that was 35 feet away, fifteen paces away, from the nest. She, or he, was incubating! I quietly set up my chair and telescope. I zoomed in to 60-power, and I could count nearly every feather on the cuckoo's head. I could see the fine detail of its iris, pupil, bill, and tail. I was enjoying the point blank views from a not so point blank range – or so I thought. After three full minutes and just when I figured that the cuckoo was comfortable with my being there, it left. I immediately thought, "It will be awhile before it comes back. So, I'll leave my chair and scope here in this fairly hidden spot. The cuckoo will soon get used to it being there, and then I'll get really nice long looks at things as the nesting progresses."

I returned twice more that day for no more than one minute each trip. No adult was present either time. On the second occasion, I gathered the chair and scope and returned to the house.

That was Sunday, July 22. I had to go to work for the next five days. Each evening I went to the nest area for very brief looks, less than one minute each. No adult cuckoos were at the nest on each trip. One evening, I took another look with my nest snooper. The three eggs were there. On another evening, the three eggs were there, but they seemed to be in the very same position as on a previous evening – two eggs side-by-side, and one opposing them end-to-end. I began to worry that the adults had abandoned the nest. As I write here on August 16, four weeks later, the three eggs are still in the same place.

I caused a pair of Yellow-billed Cuckoos to abandon their nest, and it just makes me sick. I have gone through all sorts of reasoning with this. How many hundreds of times have I opened a nesting box and found myself eyeball-to-eyeball with an adult bluebird, chickadee, titmouse, or

The Moral is: Don't Mess With a Cuckoo Nest (cont'd)

Wood Duck? They never abandoned a nest. How many hundreds of times have I watched the progression of young birds in those nests without abandonment? How many times have I spooked adult robins, phoebes, wrens, martins, you name it, from their nests without them abandoning? How could I cause abandonment of a cuckoo nest when I never approached within ten feet of the nest, and when I spooked the adult off the nest on only two occasions when I was no closer than 25 feet from it? Perhaps one of the adults died, but I feel that I must not make that assumption, and instead I must blame it on me.

All I can surmise is that Yellow-billed Cuckoos can be very sensitive to human disturbance at the nest. In a way, that surprises me, but then again it doesn't surprise me. I think about specific habitat needs for certain species, not just birds, but also other organisms both plant and animal. I think about specific soil conditions, specific latitudes, specific altitudes, specific water quality, specific water depth, specific this, specific that, and on and on. I have to

now add specific tolerance to disturbance to that list. I've come to realize that I understand nature a lot better than most people do, but I am still humbled daily by what I don't know and don't understand.

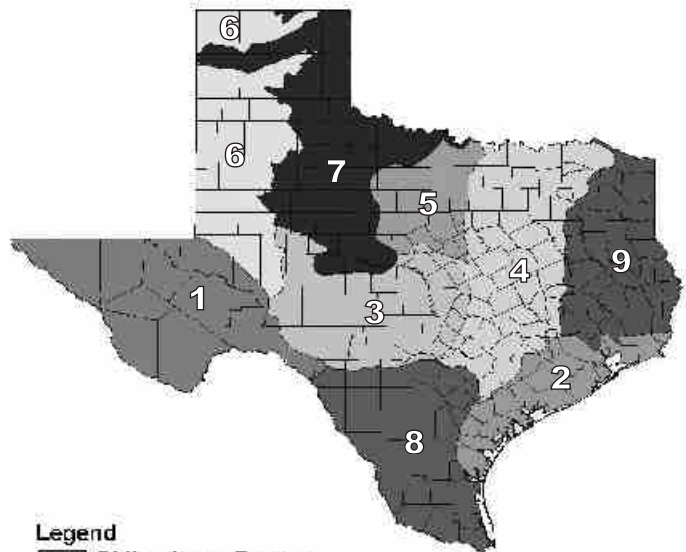
I write this story for three reasons. First, I write it for me. It helps me to reason through things that I have not thought about previously in my life, so that I can be smarter today than I was yesterday. Second, I write it for you, that you may learn from the outcome of my own ignorance. Third, I write it for the bird. A cuckoo has as much of a right to life as I do.

In a way, I hope that I never find another cuckoo nest. If I do stumble on one again some day, I think I will blow her a kiss and move on, never to return. Why do I agonize over such things? When the following is rooted at the very core of your heart and soul, you agonize: Who am I to assume dominion over another of God's carefully crafted creations? I think I now tread on Earth more lightly than ever before.

PHYSIOGRAPHIC AREAS IN TEXAS

Thanks to Chris Eberly (DOD-Virginia) and Jason Singhurst (TPW-Austin) for helping build this new map of the **Partners in Flight**

Physiographic Areas in Texas using ecological boundaries and not political (county) boundaries.



- Legend**
- 1 Chihuahuan Desert
 - 2 Coastal Prairies
 - 3 Edwards Plateau
 - 4 Oaks and Prairies
 - 5 Osage Plains
 - 6 Pecos and Staked Plains
 - 7 Rolling Red Plains
 - 8 South Texas Brushlands
 - 9 West Gulf Coastal Plain

BIRD RESEARCH NEEDS IN TEXAS

The avian research community in Texas now has two excellent tools to help steer critical research needs in the Lone Star State. Partners in Flight has developed a searchable Web database that can be found at <www.partnersinflight.org/pifneeds/searchform.cfm>. Also, Texas Partners in Flight has compiled "Texas Avian Research Projects" that is presently only available in hardcopy. To order a copy of the TARP document, please send an e-mail request to <clifford.shackelford@tpwd.state.tx.us>.

WEST NILE VIRUS

For information on the West Nile Virus, please visit our fact sheet on the Web at <www.tpwd.state.tx.us/nature/birding/westnilevirus/index.htm>.

TEXAS BREEDING BIRD ATLAS ON-LINE

For maps and information on many of the over 300 breeding species in Texas, please visit the Breeding Birds Atlas Web site at <<http://tbba.cbi.tamucc.edu/>>.

Kids' Urban BioBlitz: Introducing Young Minds to Nature

By Kelly Bender, Texas Parks and Wildlife, Austin
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A habitat of concrete and the sounds of traffic surround today's urban children. The nearest green space is often the trampled bermuda and St. Augustine grasses of the neighborhood park or school play yard. Is it any wonder, then, that few have an appreciation or understanding of nature or wildlife?



In order to facilitate children in discovering that there's more wildlife than fire ants, Texas Parks and Wildlife has developed the first Kids' Urban BioBlitz. In this school-year-long program, urban and primarily minority 7th and 8th grade science classes were paired with professional and volunteer mentors during the 2000-2001 school year. These mentors, who were professional biologists, college professors, and Master Naturalists (for details, see <www.tpwd.state.tx.us/nature/volunteer/txmasnat/index.htm>), helped the classes choose one group of plants or animals that they were to study all year. Mentors and students studied their subject matter by participating in lab activities, field trips, and lectures focusing on their plant or animal group. Mentors were asked to help the students learn about their species group in the context of subjects like habitat, ecosystems, and native versus exotic Texas wildlife. At the end of the year, the students put their knowledge to the test as they converged on The Lady Bird Johnson Wildflower Center (hereafter, "Wildflower Center") in Austin for the final BioBlitz event. At that event, students trapped, collected, spotted, identified, or counted as many plants or animals in their species groups as they possibly could.

A report from a Fulmore Junior High class was submitted by Marcia Hermann of the Wildflower Center and Meg Goodman, an environmental consultant with SWCA in Austin. The following is a summary of their report.

The Fulmore students were really excited about birding after the introductory session. Meg brought binoculars and the class went out on the school grounds for their first birding trip. At the next session, a slide presentation of common birds in the Austin area was shown. Meg brought a CD of bird songs and played selected songs to go with the slides. The call of the Laughing Gull was a hit!

We also decided to incorporate a small research report into the course of study. Each student picked a common native Texas species of bird. Between sessions, students read articles and books about their chosen bird and drew life-sized pictures of their subject.

On their next field trip, the students went to the Hornsby Bend Biosolids Management Facility and The Center for Environmental Research east of Austin. They used binoculars that Texas Parks and Wildlife provided to see birds around the facility. Volunteers also showed them how to use a spotting scope to view the birds while the students honed their identification skills. At the next field trip, students were able to look at a variety of habitat types with associated species of birds at the Wildflower Center. This field trip prepared them for the final event: the Kids' Urban BioBlitz at the Wildflower Center.

On the day of the event, the class gathered excitedly and began to identify all the species they could spot. While they did find lots of birds, in the end it didn't matter how many different species they tallied. It was more important that they were out in nature, without fear, looking for wildlife.

Ms. Hermann's class was one of over 10 that participated in the Kids' Urban BioBlitz in Austin in May 2001. Texas Parks and Wildlife Urban Biologist, Kelly Bender developed the program. It is hoped that other urban areas will be able to use the Kids' Urban BioBlitz to help get our city's youth out into nearby habitat, learning about and appreciating the incredible variety and abundance of birds and other native Texas wildlife.

For more information on the Kids' Urban BioBlitz, please contact Kelly Bender (see e-mail above in header).

Constructed Wetlands for Wastewater Treatment and Wildlife Habitat in Texas

Compiled by Julia Heskett <jheskett@tsl.state.tx.us>
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WHAT ARE CONSTRUCTED WETLANDS?

Constructed wetlands are sewage lagoons that imitate natural wetlands by filtering wastewater with native plants, microorganisms and other natural processes.

During the last 20 years, constructed wetlands have become an increasingly popular alternative to the traditional sewage treatment plant. Because of growing populations and aging infrastructure, many communities' old traditional sewage plants cannot meet the effluent limits that are imposed by the National Pollution Discharge Elimination System (NPDES) of the Environmental Protection Agency. Constructed wetlands are a low cost and simple alternative that may be used as a back up system or an upgrade to a current system (for examples, see www.epa.gov/owow/wetlands/construc/).

HOW CAN A CONSTRUCTED WETLAND BENEFIT MY COMMUNITY?

- Construction and maintenance are cheaper than the traditional sewage plant.
- Controls flooding by absorbing floodwater.
- Protects coastlines by serving as a pollution buffer between land and water.
- Can irrigate agricultural or recreational (golf courses and parks) lands.
- More aesthetic than the traditional sewage plant.
- Attracts wildlife such as birds, butterflies, dragonflies, turtles, etc, and nature tourism opportunities are created.
- Creates educational opportunities for schools and research projects for universities.
- More environmentally friendly than the traditional sewage plant.

ATTRACTION TO WILDLIFE

Testimonies from around the nation attest to the attraction constructed wetlands have for wildlife, especially birds. In Texas, Hornsby Bend Biosolids Management Plant in Austin is a great example. This constructed wetland has become

internationally known as a "hot spot" for birders. Many birds stop at this wetland as they migrate north in the spring and south in the fall through the Central Flyway of North America. Also popular for wildlife viewing in Texas are Mitchell Lake in San Antonio, which is an abandoned wastewater treatment plant, Cattail Marsh in Beaumont, the Dupont-Victoria Bio-remediation Facility, and Village Creek drying basins in Arlington (abandoned treatment facility). Contact information for these and other constructed wetlands from around the U.S. is located at the end of this brochure.

CONSTRUCTING A SEWAGE WETLAND

The first and most important step in constructing a sewage wetland is to get support for the concept from the local community by informing them and dispelling misconceptions. Study case histories of other constructed wetlands (see end of brochure for contacts) and seek advice from other communities that have successfully created such a sewage project. Work with your local government council; find people who will enthusiastically support the program; get interested environmental groups in your community to spread the word about the benefits of the project through their newsletters and web sites; talk with teachers and professors at local schools and universities about educational opportunities they might receive from such a project; and keep your local newspaper informed about your plan.

The second step for a community that is interested in constructing a wetland for sewage removal is to find out if such a project is appropriate for your community. Hire a consultant from an engineering firm that specializes in treatment wetlands. The Texas Board of Professional Engineers is a source for help in finding an engineering firm with experience in constructed wetlands. In addition, biologists can assist in wetland design, plant species selection, etc.

An engineering consultant will need to examine many aspects of the environment of the community:

- **Population** Large human population centers need larger areas of land.
- **Sources of sewage** The type of wetland system constructed would be different if there is heavy industrial or agricultural waste.
- **Climate** Rainfall and water evaporation rates affect the

Constructed Wetlands for Wastewater Treatment and Wildlife Habitat (cont'd)

amount of land needed. Systems in arid west Texas need more land than humid east Texas.

- **Geology** The type of soil will determine percolation rates of water through the soil. The effect on groundwater and aquifers will need to be taken into account.
- **Native vegetation** Wetland vegetation takes up pollutants, and depending on the pollutant, can convert it to a harmless and benign by-product. It is important to use native vegetation because introduced plant species can sometimes displace and “take over” native vegetation, even outside of the constructed wetland area.

The third step is to seek sources of financial help in constructing a sewage wetland. Experts in the field report that constructed wetlands can be built for 60% to 90% less than conventional sewage plants and can operate at 95% less cost than mechanical plants. The Texas Department of Housing and Community Affairs (TDHCA) is an excellent place to look for grants or loans. Ninety-one percent of their grants are for sewage treatment plants for communities and TDHCA is very interested in supporting alternative sewage treatment plants such as constructed wetlands. The Texas Water Development Board, the Texas General Land Office, and the Texas Natural Resource Conservation Commission may be able to offer expertise, loans, or grants.

The fourth step is to acquire all the required permits. The engineering firm that you hire should be qualified to do this. If your community is located along the coast you should contact the Texas Coastal Management Program (TCMP). This program coordinates the activities of federal, state, and local entities in the management of coastal resources. In addition to the State of Texas, there may be other local governmental entities that you need to acquire permits from, such as a river authority. Because they attract birds, a constructed wetland should not be near an airport. If the constructed wetland is within 5 miles of an airport, then Federal Aviation Administration must be contacted for advice.

The fifth and on-going step is to keep the community involved in the project. One suggestion that has been successful in other communities is to start an energetic “friends” group for the constructed wetland.

FOR THE REST OF THIS DOCUMENT, INCLUDING A LIST OF SEVERAL EXISTING CONSTRUCTED WETLANDS AND INFORMATION ON A VARIETY OF IMPORTANT CONTACTS, PLEASE SEE THIS PAGE ON THE TEXAS PARKS AND WILDLIFE WEB SITE

www.tpwd.state.tx.us/nature/birding/topics/projects.htm

Texas-sized Space: It's Diminishing Everyday

*By Cliff Shackelford,
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The human population in Texas topped 20 million a few years ago. According to the USDA's 1997 National Resources Inventory data for nonfederal rural land, there are about 155 million acres of rural land in Texas. This means that each Texan would have less than eight acres of countryside for stretching without bumping shoulders. This equates to about seven-and-a-half football fields of space per person. If that sounds like a lot of space, think what that figure must have been in the 1960s, let alone the 1860s. At the current growth rate, space is only going to get tighter. How much roaming space do our birds have with an ever-increasing and encroaching human population?

This “roaming space” for humans, of course, is not a reality since only 3% of Texas is publicly accessible, and of that, half is dedicated to roadways and their rights-of-way. It's obvious where conservation needs to take place – on private lands. Conservation of these lands is largely

dependent on those who own and manage them, but you can help.

Is the conservation organization(s) that you belong to working to assist private lands? If not, then maybe you should suggest that they start thinking about a new mission and new goals. Birdwatchers, for example, can make a difference by paying to birdwatch on private ranches that have opened their gates to nature tourism (see <www.tpwd.state.tx.us/nature/tourism/index.htm>). This increased revenue from viewing birds can start a very powerful domino effect. If you pay to watch birds then the land could be managed for those species, most of which might be rare and declining. The more common species (and numerous other plants and animals) will undoubtedly “ride-the-coat tail” of such efforts. I hope that every Texan is supporting our rural private lands even if residing in an urban setting.

Private Land Ownership in Texas

By Ted Lee Eubanks,
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Editor's Note: This is a combined and edited version of two posts by Mr. Eubanks that appeared on the birding listserv, TexBirds <<http://list.audubon.org/archives/texbirds.html>>, in September 2000 (printed with permission from the author).

The figure that states that 97% of Texas is held in private ownership was recently questioned. Dr. Jim Kimmel, a geography professor at Southwest Texas State University who works with private lands, writes: "like [others], I have said with great authority that 97% of Texas is privately owned, until I saw the Sunset Commission Review for TPW this summer. TPW came up with a figure of about 87%. A major piece that I don't think has been previously counted is the School Lands, administered by GLO [Texas General Land Office]. However, in a review of the Sunset Report, someone challenged TPW's figure."

The Sunset Commission Review reports (number in parentheses is the percentage of land in all of Texas):

- Federal Agencies: 2,804,397 acres (1.6%)
- State Agencies: 2,090,099 acres (1.2%)
- Permanent School Fund: 13,335,678 acres (7.6%)
- Permanent University Fund, Asylum Lands, Veterans Land Board Lands, and GLO Lands: 4,929,592 acres (2.8%)
- City and Counties: 222,186 acres (0.1%)
- River Authorities: 4,743 acres (<0.1%)
- TOTAL PUBLIC LANDS: 23,386,695 acres (13.3%)

At the macro-level (disregarding "use"), this means that approximately 87% of Texas lands is privately owned. The debate, however, is over the 10.4% owned by the state and its institutions to provide funding for universities and other public entities (thus the question about the TPW figure). The question still remains how much of this "public" land is available for "public use."

The purpose of these lands is to provide revenue for Texas institutions such as Texas A&M and the University of Texas, and therefore these properties are frequently leased to the private sector. The GLO owns lands that it manages for revenue, for example, and much of this is not accessible to

the public. Lands owned for infrastructure are hardly what a recreationist would define as being a "public land."

A more interesting analysis would be of the percentage of Texas lands that are open to the public for recreation. Since "public lands" is often used in this context (and certainly the context of this article), what is this figure? Even within the definition of "public lands" that all would agree to, there are many holdings that are not available to the public on a regular basis.

In the past, these state-owned yet leased lands (10.4%) have been included with the 86.9% (privately-owned), thus the 97.1% figure that is often given. So what is the "real" number? As stated when continuing with Dr. Kimmel's letter: "to answer your question directly, I don't know and I don't know anyone who should know. There would have to be a survey of all levels of government to query them about their holdings, including counties, school districts, drainage districts, river authorities, etc., etc. Pretty big project."

In summary, at least 87% of Texas lands are privately owned, *in fee title*. An additional 10.4% is owned by the state, and an unknown percentage of this is effectively managed as private land by the private sector to provide revenue for Texas institutions. Therefore, to be accurate, somewhere between 86.9% and 97.1% (addressing only the school lands) are managed as private lands in Texas.

Finally, look at the distribution of these "public lands" within our state. The combination of national and state parks west of Kerrville is astounding. So even though our human population is eastern (east of IH-35), most of the public recreation lands (still in the 3 to 5% range) are distanced from the people who would use them. Texas Tech University and Loomis of Austin was contracted to study this. The report can be found at <www.tcru.ttu.edu/21century/index.html>.

Who Should Manage Your National Forests?

By John Burk,
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Regardless of their lot in life, most people realize that society is placing an ever-tightening grasp around the throat of our natural resources. Habitat loss as a result of urban sprawl, pollution, mining, timber harvesting, or agriculture all have the same effect; less wild places available for free-ranging wild animals. As the wild landscape continues to shrink, what we do with the remainder becomes increasingly important.



Intensively managing small areas can in some ways make up for, or at least reduce the impact of losses at the landscape level. Today's land managers, either state, federal, or private, have a wealth of knowledge gained from extensive field experience and cutting edge scientifically based research data that guide their management decisions. Let these people do the jobs that they were trained to do!

As if the problems of declining species diversity and abundance as a result of habitat degradation, fragmentation, and direct loss weren't enough, today's managers have to justify their management decisions in lengthy court battles brought on by preservationist-minded groups or individuals. Though these groups are not large in number, their voices are being heard and they have effectively crippled the ability of federal land managers to implement time-tested management techniques (such as prescribed burning) that have been shown to sustain healthier forests.

The uplands of the Pineywoods of East Texas have always been a predominantly pine-dominated, fire-climax ecosystem dependent upon fire to maintain the biodiversity historically indicative. As the area, however, became increasingly fragmented and developed, wild fires were effectively suppressed and prescribed fires became a liability. As a result, many species of plants and animals disappeared or are disappearing from the Pineywoods landscape. Bachman's Sparrows, Henslow's Sparrows, Red-cockaded Woodpeckers (RCW), Northern Bobwhite, and (Eastern) Wild Turkeys are just a few bird species highly dependent upon frequently burned forests; all but the turkey and bobwhite are threatened or endangered in Texas.

In East Texas, the 635,000 acres of national forests are some of the last strongholds for these endangered birds and

contain the healthiest population of (Eastern) Wild Turkeys in the Pineywoods. The primary reason for this is that the U.S. Forest Service, the managing body of the national forests, is the only landowner in the Pineywoods that makes significant use of prescribed burning on a regular basis. Fire-dependent wildlife species usually prefer herbaceous vegetation on the forest floor instead of brush/shrub/sapling vegetative communities typical of forests that succeed in the absence of fire and other forms of disturbance. With annual precipitation that exceeds 60 inches along with an 8-9 month growing season, the forests of the Pineywoods succeed from herbaceous vegetation to brush in typically 2-4 years post-disturbance, depending on soil type.

Within the last several years, several environmental groups (which will remain unnamed) have decided that they know what's best for our forests and have used our court system to prevent professional land managers from doing their jobs. If an outright ban on the management activity was not achieved, the same result was accomplished with court ordered "temporary" injunctions that often last for years. A temporary injunction and a permanent injunction have been requested in 2001 by one of these groups prohibiting the use of prescribed fire on the Sabine National Forest. Experience has shown that years pass while this kind of litigation is decided. In the meantime, lack of proper management degrades threatened habitat. This obviously places the future of fire-climax species currently thriving there in jeopardy. What's worse is that these injunctions and court decisions are cancerous and quickly affect the management of other forests in Texas and other states and can even influence management policy at the national level.

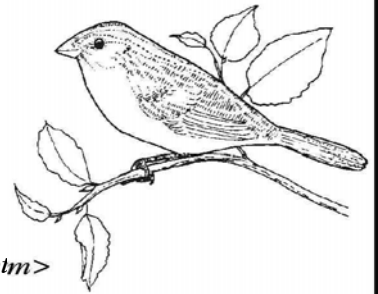
Who Should Manage Your National Forests? (cont'd)

If you are a consumptive user of our national forest system, the national forests in Texas are one of your only remaining options for high quality, reasonably priced outdoor recreation. If you are a non-consumptive user, particularly a birdwatcher, these forests are some of the only remaining areas that contain suitable and sustainable habitat for a variety of bird life that can be found nowhere else in Texas. The reality of the situation is that well-organized private citizen groups without any professional knowledge or experience are managing natural resources by dictating the terms under which public lands can legally be managed. I ask the question, "do you want the health and integrity of your forests managed and maintained by professional biologists with advanced degrees and years of practical field experience backing their decisions or lawyers with advanced degrees with absolutely no biological background, training, or hands-on field experience?"

I would really like to believe that the intentions of these groups are truly good. They are, however, not willing to compromise. Compromise has been repeatedly attempted by land managers (deemed as "the bad guys") and has repeatedly failed. These "environmentalists" want it all and what they want is for all federal lands to be treated as "wilderness" areas. Several Wilderness Areas already exist in the national forest system in Texas after being congressionally designated in 1984. During this same time period the federally endangered RCW existed in these areas as well as throughout the remainder of Texas national forests. By 1989, however, RCW populations had declined to all-time low numbers in these Wilderness Areas and the USFS was

federally mandated to manage for the recovery of RCW populations. Isn't it ironic that since 1989, Wilderness Area RCW populations (i.e. unmanaged forests) have winked out of existence, while everywhere else on the national forest (i.e., managed forests) they have recovered to 1983 levels? Isn't it also ironic that (Eastern) Wild Turkey populations thrive in RCW managed areas but are a rare site elsewhere on the forest? The time has come to fight back. If you are a member of an anti-management conservation organization and do not share an anti-management philosophy, question your leadership, they assume that they represent you. Responding positively to scoping letters mailed out by the U.S. Forest Service can help. Usually, though, only negative comments are received and they skew the perception of the public's position. If you enjoy using scenic forests and the plants and animals that make them that way then speak up and defend the managers and management decisions that create and maintain them. Special interest groups are successfully doing their best to turn your beautiful and unique national forests into just another pine thicket.

Editor's Note:
For additional information,
please see
<[www.tpwd.state.tx.us/
nature/birding/
redcockadedwoodpecker/
red_cockaded_woodpecker.htm](http://www.tpwd.state.tx.us/nature/birding/redcockadedwoodpecker/red_cockaded_woodpecker.htm)>



INTERNATIONAL PIF DIRECTORY ON WEB

The Partners in Flight Web site includes a directory of contacts for various bird conservation groups and agencies in the Western Hemisphere. Check it out at <<http://abcbirds.org/directory/directory.htm>>.

BREEDING BIRD SURVEY SHOWS DECLINES

This important paragraph comes from a staff member at the USGS's Patuxent Wildlife Research Center.

For details on the Breeding Bird Survey, please see
<www.mp2-pwrc.usgs.gov/bbs/BBS_Data/bbs_data.htm> and
<www.mbr.nbs.gov/bbs/bbs.htm>.

"During the past 30 years, about one-fifth of the bird species native to the United States have declined at rates equal to or exceeding 2.5 percent per year. A trend of this magnitude represents a cumulative decline of more than 50 percent over a span of 30 years. Declines this large are considered to be biologically meaningful, even for species that are widely distributed and relatively abundant. These losses are not restricted to just one or two groups of birds; birds of grassland, wetland, shrubland, and woodland habitats have all been affected. Non-migratory permanent residents have been affected, as have long-distance Neotropical migrants."

WILDLIFE COMPLAINTS IN URBAN AREAS

For wildlife complaints in urban areas (i.e., nuisance animal issues), please consult with the Texas Wildlife Damage Management Service (formerly Animal Damage Control).

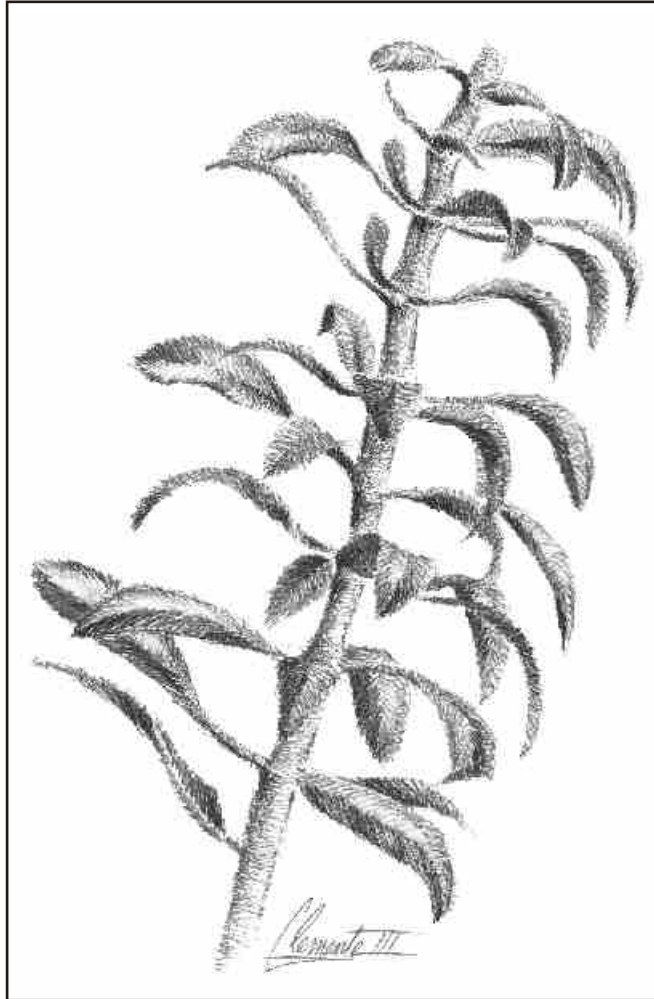
Their headquarters is in San Antonio at (210) 472-5451 and their Web address is <[http://agextension.tamu.edu/twdms/
twdmshom.htm](http://agextension.tamu.edu/twdms/twdmshom.htm)>.

Invasive Aquatic Weeds in Texas, Control Strategies, and Native Birds

By Rhandy J. Helton,
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Invasive aquatic weeds are a serious problem in some areas of Texas. Infestations of floating exotic species such as waterhyacinth (*Eichhornia crassipes*) have, since the mid-1950s, resulted in millions of public dollars being spent to control it. Texas Parks and Wildlife (TPW) maintains within its proclamation a "state prohibited plant" list for nuisance aquatic weeds. There are currently 11 aquatic plant species listed plus the entire genus *Salvinia*. Some of these species are also on the Federal Noxious Weed List. In Texas these plants are illegal to possess without a permit. The list contains such submersed species as hydrilla (*Hydrilla verticillata*), Eurasian milfoil (*Myriophyllum spicatum*) the shoreline emergent alligatorweed (*Alternanthera philoxeroides*), and floating plants like waterhyacinth, waterlettuce (*Pistia stratioides*), and the salvinias of which two are currently documented in Texas: common salvinia (*Salvinia minima*) and giant salvinia (*Salvinia molesta*). Since the identification of giant salvinia in the Houston area in 1998, serious efforts have been expended to implement an integrated strategy aimed at eradicating the plant from the waters of the state. The four main methods of controlling/eradicating nuisance aquatic vegetation are: biological, mechanical, environmental and chemical. To use two or more methods at the same time is to employ an integrated pest management strategy.

Although these invasive aquatic weeds may differ in morphology and structure they have some things in common. They grow fast and tend to dominate the plant community. Once established, it is not uncommon to find a monotypic stand of one plant species. The competitive, aggressive nature of invasive aquatic weeds will most



assuredly be to the detriment of a diverse native plant community, plants that are an extremely valuable component of healthy fish and wildlife habitats. Native plants seem to be best able to provide the necessary food and refuge resources for the wide variety of animal species that reside, or spend part of their life cycle, associated with aquatic environments.

Texas currently has 620 bird species documented, more than any other state. A high percentage of these species has a close association with aquatic systems. Different species, however, have varying degrees of affiliation with water. The use of water by two passerines often found near it, the Louisiana Waterthrush and the Prothonotary Warbler, will differ from that of a Mallard, Purple Gallinule, or one of the species of herons and egrets. One bird may seek insects or other food sources found around water, while

another spends most of its life on the water. Most birders have experienced a wide variety of birds in or around wetland areas; many of our popular birding hotspots are near water.

How then do noxious or non-native aquatic plants and their control affect birds? Birds, being highly mobile, are able to fly elsewhere. Many waterfowl managers tend to maintain exotic plants at the lowest possible level. It's hard to envision a lake, marsh or bayou matted over with waterhyacinth appealing to waterfowl. Instead, these migratory species prefer some open water with ample native vegetation as a food source. Hydrilla may have some appeal to waterfowl as a food source with plant fragments, turions and tubers (reproductive structures) available. During winter and early spring the hydrilla in a cooling

Invasive Aquatic Weeds in Texas, Control Strategies, and Native Birds (cont'd)

reservoir in Texas, like that of a coal-powered power plant, can almost be mapped just by noting the location of American Coots and to a lesser extent by the presence of diving ducks. Purple Gallinule and Common Moorhen will use large stands of waterhyacinth for nesting and coots will even feed on the plant. Egrets, herons, and bitterns will use waterhyacinth and alligatorweed for camouflage while ambushing prey. These plants, for a time, do benefit some species. However, research by U.S. Army Corps of Engineers biologists (C. Owens, pers. comm.) has shown that, if given a choice, waterfowl prefer ponds with native vegetation over hydrilla. In Texas, hydrilla is currently found in 90 public waterbodies with total statewide assessments between 75,000-100,000 acres. Currently, there are over 500 man-made waterbodies in Texas that total 500 surface acres or greater. Waterfowl might use this plant because it's the only vegetation available, but is it the best?

Invasive aquatic plants should be controlled where possible, especially new infestations. During part of the year, it appears that the American Coot is a biological control on hydrilla. Aquatic herbicides are often used to control these plant species. Thankfully, herbicides with the reputation of DDT are not used in the U.S. any longer. However, many of our native birds migrate to places where this pesticide is used. The number of herbicides EPA labeled for aquatic uses are actually few in number. Products like 2,4-D Amine (waterhyacinth), fluridone (hydrilla, Eurasian milfoil), glyphosate (waterhyacinth, salvinia) and diquat dibromide

(salvinia) all have aquatic use labels. These products are effective on the described plants at very low concentrations. The products do not persist in the environment and all are considered biodegradable. This process occurs fairly quickly by microbial action, or as in the case of fluridone, by sunlight. These products are considered safe for fish and wildlife when used according to the label. The most thoroughly researched herbicide in the world is 2,4-D (2,4 Dichlorophenoxyacetic acid) and current data continue to support the "no-effect" on the environment or fish and wildlife species, including birds, when used as directed. Within TPW Inland Fisheries Division, all aquatic herbicide applications are done by trained applicators licensed by the Texas Department of Agriculture.

Most resource managers agree, that once introduced, invasive or non-native aquatic plants will degrade the available habitat over time. The disadvantages outnumber any advantage especially when the entire ecosystem is considered. Water quality can be impacted and physical access by species, including many birds, into previously good habitat is imperiled. Desirable native vegetation will suffer. The complex interactions by birds and aquatic associations with habitats infested with non-native vegetation are not an area that has been studied extensively. The wonderful and varied birdlife of Texas has enough pressure on it considering the considerable habitat fragmentation that exists today. The birds do not need any more problems.

IMPORTANT!

ACKNOWLEDGMENTS

As the name implies, it's the partners involved in Partners in Flight that provide the foundation for much of our outreach, like this newsletter that is free to all interested readers. Production assistance for this issue was graciously provided by:

- The Migratory Bird Office, Region 2 of the U.S. Fish and Wildlife Service
- The Texas Chapter of the National Wild Turkey Federation, interested in the conservation of the wild turkey and the preservation of the hunting tradition



Thanks to Mark Lockwood of the Natural Resource Program at TPW for reviewing an early draft of this newsletter.

OLD ISSUES OF FLYWAY NEWSLETTERS

Interested in reading old editions of this annual newsletter?
The last four years can be found on-line at
<[www.tpwd.state.tx.us/
nature/birding/flyway_news/index.htm](http://www.tpwd.state.tx.us/nature/birding/flyway_news/index.htm)>

CAN YOU HELP?

Texas Partners in Flight is not a club with membership fees. This is a free newsletter, but we do rely on your financial assistance to continue our outreach efforts. If you would like to contribute, please donate to the "TPW Nongame Fund" (for details see <[www.tpwd.state.tx.us/nature/birding/assist_land_birds/
mig_landbirds2.htm](http://www.tpwd.state.tx.us/nature/birding/assist_land_birds/mig_landbirds2.htm)>) or purchase a horned lizard (a.k.a. "horny toad") conservation license plate for your vehicle (see <www.tpwd.state.tx.us/plate/>). The birds will thank you for your contribution.

Fellow Shorebird Enthusiasts!

*By Randy Wilson,
Lower Mississippi Valley Joint Venture, USFWS, Vicksburg, MS
<Randy_Wilson@fws.gov>*

Southward migration of shorebirds through the Mississippi Alluvial Valley (MAV) and West Gulf Coastal Plain (WGCP; includes eastern Texas; see <www.blm.gov/wildlife/pifplans.htm> for an ecoregional map) and adjacent regions has gone relatively unnoticed in the past, with the exception of a few hardy birders and fewer biologists. However, this is changing partly as a result of the attention stirred by development of the U.S. Shorebird Conservation Plan (USSCP; see <www.manomet.org/USSCP.htm>), and partly due to the continued interest of birders and conservationists. As such, shorebird issues are beginning to enjoy an increased profile among state, federal, and private conservation organizations.

Population and habitat objectives for shorebirds in the MAV were established several years ago, and public land managers have, to varying degrees, worked to meet these objectives. However, the biological validity of these objectives remains in question, and constitutes the highest priority information need outlined by the regional Shorebird Conservation Plan. To gain a more complete understanding of the numbers and chronology of shorebirds migrating through the region, scientists agree that two types of data are needed: (1) reliable estimates of shorebird numbers across the entire region at intervals during migration, and (2) estimates of turnover rates (i.e., how long birds stop-over).

In short, validating assumptions underlying the shorebird conservation plan is critical to the development and refinement of habitat objectives. To this extent, the Lower Mississippi Valley Joint Venture (LMV; a public/private partnership working cooperatively towards effective conservation of migratory bird and other wildlife habitat; see <www.lmvjv.org>) has coordinated an extensive research endeavor to further our knowledge of shorebird ecology in the LMV and WGCP. Specifically, biologists from the Arkansas Game and Fish Commission, U.S. Fish and Wildlife Service,

Mississippi State University, The University of Arkansas, The University of Memphis, Ducks Unlimited, and Audubon Mississippi have begun harnessing additional funds to: (1) coordinate a large-scale monitoring effort, (2) develop a statistically sound survey design and methodology for estimating shorebird density, (3) estimate turnover rates of shorebirds migrating through the region, (4) document food availability, and (5) develop spatial data to assist with monitoring efforts.

For the past two years, biologists and birders alike have participated in a coordinated shorebird count aimed at increasing our understanding of shorebird populations and habitat needs in the LMV and WGCP. To obtain valuable population information, volunteers have graciously combined their efforts to count shorebirds at over 80 sites across 6 states (on pre-determined dates) to provide a "snap-shot" of shorebird density and distribution in the region. Enthusiastic participation by private citizens in both 1999 and 2000 indicated that this is a viable means of collecting population (density) data that will allow scientists to better quantify the number of shorebirds migrating through the region. But, this effort needs your help.

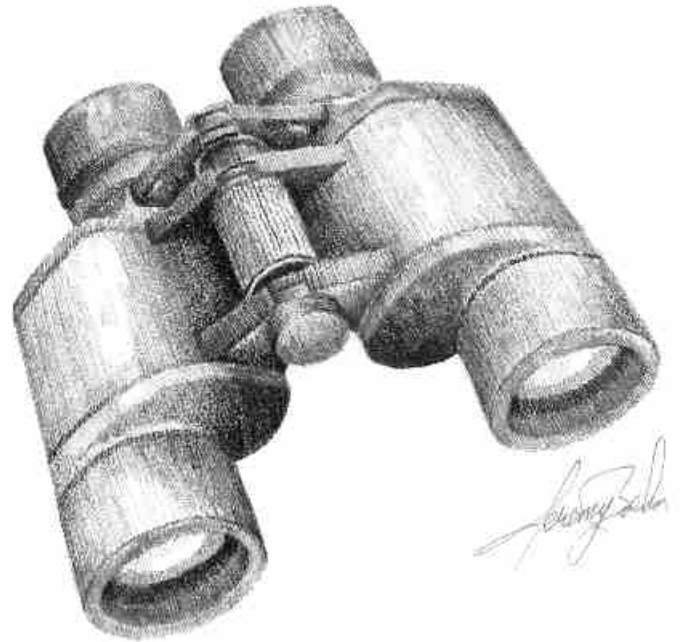
For the first time, data entry can be accomplished directly through the LMV's Web site at <www.lmvjv.org/shorebird>. Please visit this Web site to get additional information on Joint Venture activities, shorebird management in the LMV and WGCP, and to download previous years' reports, maps, etc. Information related to the Shorebird Counts can also be obtained by contacting the author at (601) 629-6626 or via e-mail (see above in header). Thanks in advance for your invaluable assistance in this effort. Remember, the quality of the data increases with every additional participant.



What Was That Bird?

By Cliff Shackelford,
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The intent of this article is to look at some of the many identification challenges that birders in Texas and elsewhere face. Some of these may seem straight forward on first glance, but perhaps a closer look is needed. These species are the source of some of our state's most common mis-identifications, in my opinion. We all know that practice in the field makes us better and more confident, but sometimes we're birding on unfamiliar turf. Studying a field guide with range maps, habitat associations, and field characteristics before visiting unfamiliar areas can provide many clues on what to expect. It is always a good idea to examine and re-examine an unexpected species looking for reasons why it is not a more expected species.



These examples come to mind as being frequent complications in the world of bird identification in Texas.

- You have identified what appears to be a Hooded Oriole during spring migration on the Upper or Central Texas Coast with its black “bibbed” look. Have you seen everything that would eliminate the more likely first-year male Orchard Oriole?
- A sizeable flock of large white birds with black wing tips were soaring over town in fall and you're certain they were Whooping Cranes. Check again, because they're probably migrating American White Pelicans catching a ride high on a thermal. Watch for Wood Storks doing the same from late June thru early October in parts of Texas.
- A small black-and-white speckled woodpecker has caught your eye. If you're not in an open (meaning “minimal to no understory”) mature pine forest, then don't think Red-cockaded. The Downy Woodpecker is our most common member of the genus *Picoides* so look carefully. Hairy Woodpeckers are out there as well, but Downies usually outnumber them by 10 or 20 times where they occur together!
- So you've just ticked a springtime Fork-tailed Flycatcher in Texas with the short tail characteristics of an immature bird. Check your field guide; make sure you don't have an Eastern Kingbird with a damaged tail or one that is missing a central tail feather of two. Check the color of the bird's back.
- There's a small flock of shorebirds on a grassy field in spring on the Gulf coast; they're small and very drab so they must be Mountain Plovers. You had better look closely; most American Golden-Plovers heading north are still in their winter garb.
- At a flower patch in the eastern third of the state, you just caught a glimpse of a male hummingbird in the genus *Archilochus* and the throat looked black...must have been a Black-chinned. Better spy that violet throat patch first, because it was probably a Ruby-throated with a “blackened out” gorget. Angle to the light can play tricks on iridescence, so beware!

What Was That Bird? (cont'd)

- It's a cold winter day outside and you're busy participating on a Christmas Bird Count in Texas when this earth-toned, ground-dwelling thrush pops up in front of you. Don't yell "Swainson's Thrush" because they typically winter in Central and South America. Go with the expected winterer across Texas, the Hermit Thrush.
- A small, streaked sparrow in a grassy pasture has caught your eye in the dead of summer. Sure looks like a scruffy Savannah Sparrow, but check again because it's likely to be a recently fledged Grasshopper Sparrow. Unlike the Grasshopper Sparrow, the Savannah Sparrow does not breed in Texas and is not expected here in the heat of summer.
- At the feeder is a small reddish finch-like bird. Cold winters do push Purple Finches to some parts of Texas, but the majority of sightings are going to be of the resident and highly urbanized House Finch.
- A dorsal view of a blue-headed seed eater sure looked like a Lazuli Bunting, but make sure it wasn't a first-year Blue Grosbeak instead. Young males take two years to acquire the all-blue adult plumage.
- Are you seeing a large black corvid east of the IH-35/IH-37 line? Better study the bird for a long while if you believe it to be a raven, because these are American Crows.
- These fairly nondescript female-plumaged birds are common across the state and are very conspicuous, so caution is advised: Red-winged Blackbird, Brown-headed Cowbird, and House Sparrow.
- There are no documented records in Texas for the Vaux's Swift and there is only one record of the Black-capped Chickadee in the state from the 1880s. Go with the more likely duo: Chimney Swift and Carolina Chickadee, respectively. If you think you have one of the unlikely ones, be sure and document it with a photograph and detailed notes.
- Golden-cheeked Warblers are tough to find in migration when compared to its look-alike and abundant cousin, the Black-throated Green Warbler. Be sure and study its back and head as well as other important field marks especially away from the Hill Country. Also, Golden-cheekeds are not expected to be in Texas after mid-August (until their return in early March the following year), but Black-throated Greens can be present in small numbers in the winter months.
- A creamy wash to the throat of a "Myrtle" Yellow-rumped Warbler does not automatically make it an Audubon's variety. Some Myrtles show a yellowy tinge to the throat, but they're still eastern birds.
- Investigate the color of the crissum when you can't decide if it's an Orange-crowned or Tennessee warbler. The former is the expected and widespread winter resident across Texas, while the latter is only expected as a spring and fall migrant in Texas.
- There have not been any documented sightings of the Bachman's Warbler in the world in decades. Actually, there are no historical accounts of them ever being in Texas either! If you think you've seen one, check the book for a female Hooded Warbler sporting a dark, almost male-like (yet incomplete) hood.
- Those European Starlings can mimic the voices of several birds. In the heart of the city, they can make you think that Northern Bobwhites are calling from the treetop. They can also do an impressive Common Nighthawk vocalization in the dead of winter when nighthawks are far to our south in milder climates.
- Did a large, all-white owl just cruise overhead at dusk? There are very few Snowy Owl records in Texas, but Barn Owls are expected and virtually snow white underneath (especially in the low-light conditions of dusk).
- A dark Mallard-like duck in Texas is probably not an American Black Duck. Instead, examine the subtleties for a dark Mottled Duck or some kind of domesticated variety of a Mallard.
- Just because you're in West Texas doesn't mean that the bluebirds are all Westerns. Be sure and examine the throat, since Eastern Bluebirds are found out there also.
- Is that a Sage Thrasher out the back window in summer? Young Northern Mockingbirds are heavily speckled and are expected this time of the year, while Sage Thrashers are not.
- Just about any large zebra-backed woodpecker east of the IH-35/IH-37 corridor (except the Central Coastal Bend area) is going to be a Red-bellied Woodpecker and not a Golden-fronted.
- Molting birds often create confusion. In early summer, adult Northern Cardinals become virtually crestless because they've molted all their cranial tract feathers. An exotic disease or ectoparasite is usually blamed, but feather molt is the reason for this. Additionally, Great-tailed Grackles in late summer become tail-less which completely changes their shape and look, especially when they are flying. Keep molt and feather-wear in mind next time you see an oddity in the field.

Inland Heronries in Texas

By Ray C. Telfair II,
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Depending upon the location and type of habitat involved, inland heronries in Texas may involve assemblages of up to 7 species of herons and egrets (Great Blue Heron, Great Egret, Snowy Egret, Little Blue Heron, Tricolored Heron, Cattle Egret, and Black-crowned Night-Heron) as well as 5 species of other types of colonial waterbirds (Double-crested Cormorant, Neotropic Cormorant, Anhinga, White-faced Ibis, and White Ibis). Eastern inland nesting sites involve large multi-species heronries that exist for several years; whereas, western inland heronries involve fewer species and ephemeral breeding associated with opportunistic breeding conditions produced by abnormally wet periods or by the availability of artificial impoundments.

These assemblages of colonial waterbirds feed upon a great assortment of invertebrate and vertebrate prey items – aquatic, semi-aquatic, and terrestrial. They obtain this food in huge quantities over very large areas involving many types of habitat. Therefore, the location, number of species, population sizes, and annual reproductive success are important indicators of the environmental health of ecosystems within which they feed. However, unfortunately, some of the nesting sites can be offensive, thus unpopular, when they are located near human habitation. Why the birds choose to establish heronries in such locations is as yet unknown, especially, when there does not seem to be a limit upon otherwise available nesting sites.

Between the mid-1960s and 1990 annual reports by the Texas Colonial Waterbird Society included survey/census of inland heronries (except for no surveys in 1966, 1967, and

1978 and incomplete surveys in 1977, 1980, and 1981-1985). Apparently, all species in the inland area are maintaining stable or increasing populations. Unfortunately, after 1990, the survey/census has been only coastal and, thus, the annual status of inland heronries is incomplete.

There are several interesting aspects of the dynamics of inland heronries since the mid-1970s. One aspect is the inland breeding expansion of 6 species (Tricolored Heron, Double-crested Cormorant, Neotropic Cormorant, Anhinga, White Ibis, and White-faced Ibis). Another interesting aspect is the influence of the Cattle Egret. They may be serving as “beacons” that attract colonial waterbirds to inland breeding sites in which they did not nest before the arrival of the Cattle Egret (e.g., Tricolored Heron, Neotropic Cormorant, Anhinga, White Ibis, and White-faced Ibis). Attraction may result from social stimulus or facilitation of conspicuous, noisy colonies that may deter predators. Also, the availability of reservoirs and cattle-watering ponds provide feeding areas, which, via these Cattle Egret “beacons” in adjacent pastures, may be a major attraction to waterbirds. The “life span” of some heronries may be shortened by guanotrophication (accumulation of excrement) from large numbers of Cattle Egrets that thins or kills some nest-site vegetation; thus, new heronries may be established more often. However, there is an abundance of nest-sites for these highly adaptable birds; so, the availability of new nest sites is not a limit to range expansion or population growth. Also, some heronries with guano-tolerant vegetation have been used continuously for 20-30 years. Another important aspect is the influence of the 20-25 year precipitation cycle in Texas. Between the early 1960s to late 1980s, there was a significant upward trend in the cycle; since then, the trend has begun to decrease. Unfortunately, there is a hiatus of data about the status of inland heronries in Texas before the 1970s; so the possible relationship between colonial waterbirds and this cycle is not known for earlier years. Finally, since the 1960s, there has been the increasing positive effect of legal protection of colonial waterbirds and conservation awareness and interest.

NEPA: What is it and is it working?

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In 1969, the U.S. Congress enacted the National Environmental Policy Act (NEPA). Simply put, NEPA strives to balance human population growth and resultant increased demands on environmental resources with preservation of these same resources for the enjoyment of future generations.

To achieve this aim, Congress, under §102 of NEPA, directs federal agencies to consider how their actions may affect the human environment, including “the natural and physical environment and the relationships of people with that environment.” (§1508.14). This process of consideration manifests itself in the form of an Environmental Impact Statement (EIS) or Environmental Assessment (EA). These documents should describe, at a minimum, environmental impacts, alternatives to the proposed action, relationships between short-term use and long-term productivity of the environment, and permanent commitment of resources associated with the proposed action. Because federal actions include projects partially or fully funded by federal agencies, as well as projects and programs assisted, conducted, regulated, approved, and permitted by federal agencies, many construction and management projects and plans are required to comply with NEPA. Examples of federal actions include: financial assistance from the Federal Emergency Management Agency for flood damage repairs, a management plan for a national forest, and issuance of an “incidental take” permit under the Endangered Species Act for “take” of an endangered species.

While the basic spirit and goals of NEPA are reasonable and necessary, I believe NEPA remains vague and difficult to grasp and is a challenge for agencies to comply with. First, considering every aspect of the human environment is overwhelming. Federal agencies must consider not only applicable federal laws such as the Clean Water Act, Clean Air Act, and the Endangered Species Act, but also how federal actions could affect a variety of factors such as

wildlife, economics, recreational uses, and aesthetic resources. Additionally, agencies must consider direct and indirect impacts, such as how endangered species could be directly or indirectly affected by a specific action. They must also consider predicted cumulative effects, those effects that result from “incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (§1508.7). Often, considering the impacts of even one environmental factor, such as endangered species, can be difficult to determine. Trying to discern how all possible impacts resulting from an agency’s action may combine with possible impacts resulting from future actions can be extremely difficult.

In addition to these technical challenges of NEPA compliance, preparing an EIS or EA can be challenging for those federal agency offices with a high employee turnover rate or with few or no employees knowledgeable in and experienced with NEPA. Problems are compounded when document preparation is contracted to non-governmental organizations, such as private consultants, if the people in these organizations, along with the people in the federal agency, do not possess a considerable amount of knowledge of or experience with NEPA.

Finally, a general lack of readily available information to document writers and reviewers and agency personnel and the general public is also a problem. How are those who work with NEPA expected to be able to fully understand and completely comply with NEPA, and how can the general public be expected to ensure NEPA is being complied with if basic, understandable information is scarce and difficult to find? As a reviewer of many documents written in a vain but earnest effort to comply with NEPA, I believe this lack of basic information and education is the biggest problem hampering NEPA compliance today.

Section 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

— The National Environmental Policy Act of 1969, as Amended

NEPA: What is it and is it working? (cont'd)

However, despite these shortcomings, there are many positive aspects of the NEPA process. First, because of NEPA, many actions and their effects on the human environment are addressed that otherwise would not have been. This often leads to implementation of the alternative that has the least effects on the human environment or to compensation (i.e., mitigation) for those resources that are impacted.

Second, the "NEPA process," using all measures necessary to ensure a project is in compliance with NEPA, provides a formal mechanism to help document writers consider environmental factors. Third, NEPA allows the public to become informed on how specific actions affect the environment around them. And, because informing the

public of an action and its potential effects is essential for NEPA compliance, the public has an opportunity to voice concerns about the action, its projected consequences, and its compliance or lack thereof with NEPA.

The original intent of NEPA, to balance growth and its environmental impacts with resource protection, is a reasonable, albeit overwhelming goal. It is one we should continue to strive to meet. More education and readily available information on NEPA and NEPA compliance is needed. Without these resources, many federal actions will continue to violate NEPA, and the public will continue to misunderstand their opportunity to ensure federal actions comply with NEPA.

GREAT TEXAS BIRDING CLASSIC

GREAT CHANGES WITH THE SIXTH ANNUAL BIRDING CLASSIC

The Great Texas Birding Classic is undergoing some major changes that will make the tournament bigger, better and wilder than ever! The dates for 2002 are April 20-28. In addition to the Conservation Cash Grand Prizes that the top three weeklong teams donate, the winning teams for each of the one-day Sectional Tournaments on the Lower, Central, and Upper Texas Coast will have the opportunity to donate \$3,000 each to the habitat project of their choice.

The schedule of the Weeklong Tournament also has a new twist. Instead of participating on the three days that the Sectional Tournament takes place, this year the Weeklong Tournament will be a five-day event. Teams will begin 12:01 a.m. Tuesday, April 23, and will complete their five days of birding at 11:59 p.m. on Saturday, April 27. During their five days of birding, these weeklong teams are allowed to cover any site within the 41-county area of the Great Texas Coastal Birding Trail.

Two more important changes involve the tournament's youngest and oldest competitors. Roughwings teams, our 8 to 13 year olds, will now have three different prize categories. Previously, all Roughwings teams competed against each other regardless of the area of the coast in which they birded. Seniors will also see a change this year designed to help boost participation. Senior teams may now consist of team members who are 60 years old and older, instead of the previous cutoff of 65 years old.

For more information, phone toll-free 888-TX-BIRDS or visit the TPW Web site <www.tpwd.state.tx.us/gtbc>

BIRDING CLASSIC FUNDS BIRDS CONSERVATION IN TEXAS

The Wildlife Diversity Program of Texas Parks and Wildlife is seeking grant proposals for projects that benefit high priority bird habitats on the Texas coast. The Great Texas Birding Classic is a birdwatching tournament held each spring along the coast. The Birding Classic raises at least \$50,000 each year to fund habitat acquisition and restoration projects in the 41 counties included on the Great Texas Coastal Birding Trail. The top scoring teams from the tournament win the opportunity to allocate funds to projects approved to receive the Conservation Cash Grand Prize. We are presently seeking project proposals that benefit the following high priority habitats or important avian sites:

- Native Coastal Prairie
- Old-growth Bottomland Forest
- Coastal Oak Motte and Cheniers
- Riparian Corridors
- Mudflats, Beaches and Dunes
- Laguna Madre Tidal Flats, Barrier Island, Nesting Islands
- Breeding sites for endangered species or high priority birds
- Migrant stopover sites or staging areas for migrating birds
- Hawk watch sites for migrating raptors
- Sites with colonial-nesting birds
- Sites with extensive populations of wintering waterfowl, grassland birds, and other species.

For more information, or to download or submit a grant application online, go to our Web site at <www.tpwd.state.tx.us/gtbc/prizes> or call Matt Dozier or Linda Campbell with TPW in Austin at 800-792-1112 x0.

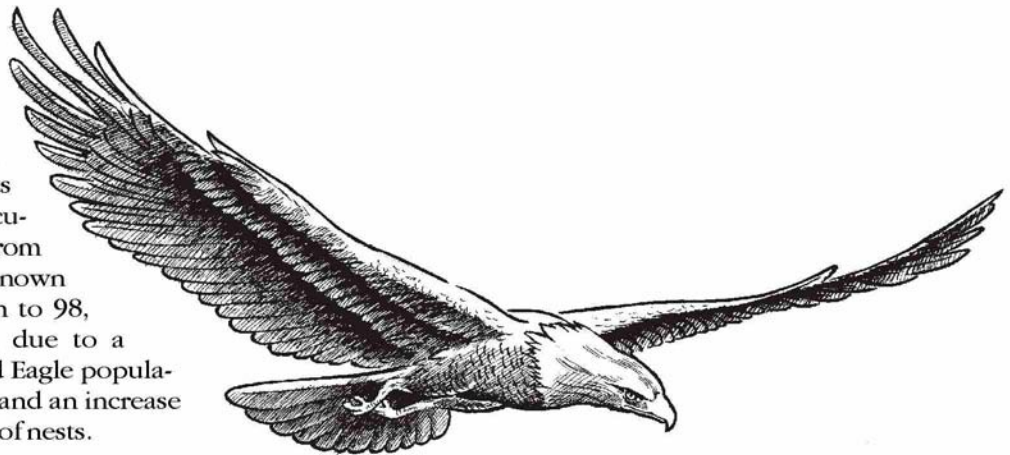
Texas Bald Eagle Nesting Surveys

By Brent Ortego, Texas Parks and Wildlife, Victoria

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Chris Gregory, Texas Parks and Wildlife, Livingston <cgregory@livingston.net>

Nesting Bald Eagles (*Haliaeetus leucocephalus*) have been monitored in Texas since the 1960s, at which time there were three known nesting territories. In the 1970s, efforts were increased to find and document active nesting territories. From 1975 to 2001, the number of known active nests increased from seven to 98, respectively. This increase was due to a combination of an increasing Bald Eagle population, an increase in agency effort, and an increase in public awareness and reporting of nests.



Typically, Bald Eagles start arriving in Texas during October to start their nesting activities, but there are also wintering (non-breeding) individuals that begin to arrive with flocks of wintering waterfowl. Breeding eagles tend to linger in Texas into late May or early June, but some individuals might extend their visit during mid- to late summer when they are not expected to be here.

Production from nesting Bald Eagles is estimated using aerial and ground surveys of known and newly reported Bald Eagle nests. When a nest falls out of a tree or when the nest is empty, the surrounding area is searched from the air for a new nest. Previous attempts to locate new eagle territories by flying transects across eagle habitat have shown few results for the time and expense involved. Surveys are conducted annually from January through April. These surveys are funded by TPW through a federal aid grant in wildlife restoration.

Bald Eagle nesting data from 1982-2001 are divided into 3 regions in Texas. The northernmost region, which includes counties from Cooke and Tarrant eastward to the Arkansas state line, was last active in 1997. This region has only contained five territories in its history and the region has never been documented to fledge young.

The central region contains nesting data from 31 counties mostly in the Pineywoods, (northern) Post Oak Savannah, and Blackland Prairie ecological areas. This geographic area covers eastern Texas from Dallas County south to (but not including) the Coastal Prairie. The number of known territories in the central region has grown from 16 in 1991 to 73 in 2001. The number of young eagles produced has increased from 7 to 52 and the average number of young fledged per active territory has varied from 0.5 to 1.3 over

the same time period with 0.9 being reported for 2001. The large increase in active territories has been the result of an expanding eagle population and an increased interest from land managers in nesting Bald Eagles on their property.

The final region contains nesting data from 15 counties mostly in the Coastal Prairie and (southern) Post Oak Savannah ecological areas. This survey region extends from Houston to Temple to Refugio in South Texas. TPW staff inventoried 54 nests in 44 territories in 2001 of which 38 were active and fledged 54 young. This resulted in a production of 1.4 young fledged per active territory. This region also experienced increased interests from cooperating landowners with six new territories being located in 2001. Fledgling production, however, has remained fairly high over the last three years with 1.4 eagles fledged per active territory.

At the continental level, populations are generally viewed as stable if they have average production of one fledgling per active territory. Texas fledgling eagle production has varied from 0.7 to 1.4 from 1982 thru 2001. Production of 1.0-1.1 has been accomplished during 13 years and 1.2-1.4 during 5 years. The Bald Eagle nesting population continues to increase annually with support and interest from private and public landowners throughout its range in Texas.

Bald Eagles can be observed in Texas at almost any sizeable reservoir east of IH-35 most often during the winter months. If you'd like to be involved with TPW, the Mid-winter Bald Eagle Survey is open to anyone interested during mid-January. For information, please contact Ann Storey in the Tyler office at (903) 566-1626. For additional information on Bald Eagles, please visit this Web site <<http://midwest.fws.gov/eagle/>>.

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