

Center for Environmental Research at Hornsby Bend

MISSION

Urban Ecology and Sustainability

- Community
- Education
- Research

PARTNERS

- Austin Water Utility
- University of Texas
- Texas A&M University

RESEARCH AREAS

- Soil Ecology, Sewage Recycling and Reuse
- Hydrogeology of the Alluvial Aquifer
- Riparian Ecology and Restoration
- Avian Ecology

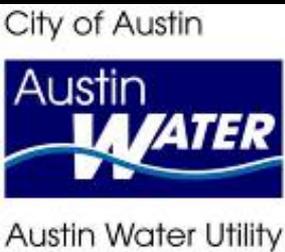


50 YEARS OF BIRDING



AUSTIN, TEXAS
Hornsby Bend
1959-2009

AWU-CER Research Programs



Center for Environmental Research at Hornsby Bend

RESEARCH AREA

- Soil Ecology, Sewage Recycling and Reuse

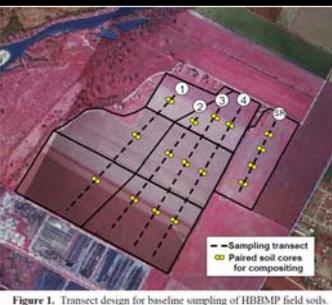
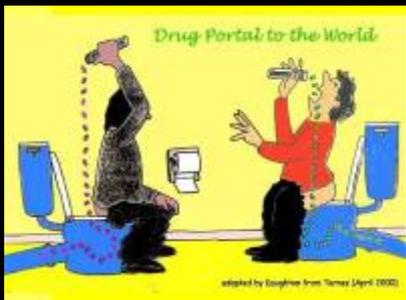


Figure 1. Transect design for baseline sampling of HBBMP field soils.

RESEARCH AREA

- Avian Ecology

Hornsby Bend Bird Observatory
A cooperative partnership promoting the study and understanding of birds in Central Texas.

The Hornsby Bend Bird Observatory is located near Austin, Texas at the Austin Water Utility's Hornsby Bend Wastewater Management Plant. It is hosted by the Austin Water Utility's Center for Environmental Research at Hornsby Bend. More information about Hornsby Bend can be found at the Center for Environmental Research website.

Hornsby Bend is open to visitors 7 days a week from dawn to dark. Please only use the marked "Public Entrance" to access the ponds (see photo). See the Bird Location guide page for more information about the site.

Special Report: Eric Carpenter's Big Year at Hornsby Bend. Eric's report on his 2009 effort provides a lot of good information about Hornsby Bend.

Hawkwatch: Peg Wallace was the Hornsby Bend Hawkwatch Coordinator for 2008. Travis Audubon Society has funded Hawkwatch since 2000. The watch ran from August 20th through October 22nd. The 2008 data are available online, as well as the data for 2007, 2006, 2005, 2004, 2003, 2002, 2001, 2000, 1999 & 1998.

Hornsby Bend Bird Observatory

2009 Monthly Bird Survey Data

Other available monthly survey data:
1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009

Most recent survey:
The April monthly survey on April 11th featured an energetic crew of birders who were rewarded with a nice variety of birds (115 species) throughout the day. Fourteen participants in the morning covered all areas and found 111 species while working thru overcast skies and cooler than expected temperatures. I remained on the property all day and then was joined in the afternoon session by one other birder and we were able to add a few additions (Swainson's Hawk, Western Sandpiper, 2 Barred Owls, Summer Tanager) to the morning list before getting interrupted by a brief downpour that cut our Platt Lake/River Trail walk a bit short.

The change of seasons was noted with a few of our winter residents missing or notably lower in numbers, contrasting with the rise in numbers/variety of migrating shorebirds and several newly-arrived summer residents. There were no super rare birds but highlights would have to include: 14 Neotropical Cormorants, 1 Barn Owl, plus a lingering Winter Wren and Spotted Towhee.

The complete list follows.
Eric Carpenter

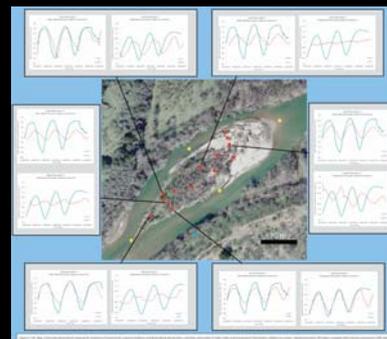


RESEARCH AREA

- Hydrogeology of the River and Alluvial Aquifer

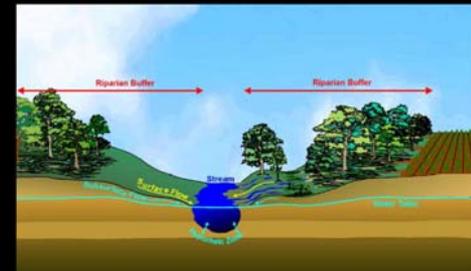


Dr. Bayani Cardenas and Dr. Jack Sharp



RESEARCH AREA

- Riparian Ecology and Restoration



City of Austin



Austin Water Utility



Center for Environmental Research at Hornsby Bend

AWU-CER Lunchtime Lectures January – April 2011

Each talk begins AT NOON Waller Center [625 East 10th Street – between I-35 and Red River] Room 104

The 1st Wednesday of the Month! Free and Open to the Public – bring a lunch and learn

Austin and the Colorado River Corridor

We begin 2011 by exploring the ecology and geography of the Colorado River Corridor. The first four Lunchtime Lectures focus on different aspects of the Colorado River – ecological, cultural, historical, and biological.

Wednesday, January 5

The Forgotten Habitat: the Biogeography of the Colorado River Bottomlands

Wednesday, February 2

Changes in the Land: The Cultural Landscape of the Colorado River Corridor

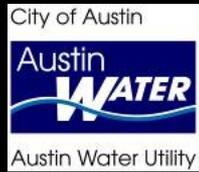
Wednesday, March 2

Discovering the Colorado: The Austin-Bastrop River Corridor Partnership 2003-2011

Wednesday, April 6

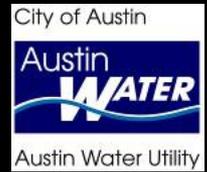
The Nature of the River: The Flora and Fauna of the Colorado River Corridor

The Nature of the River: The Flora and Fauna of the Colorado River Corridor



Kevin M. Anderson, Coordinator

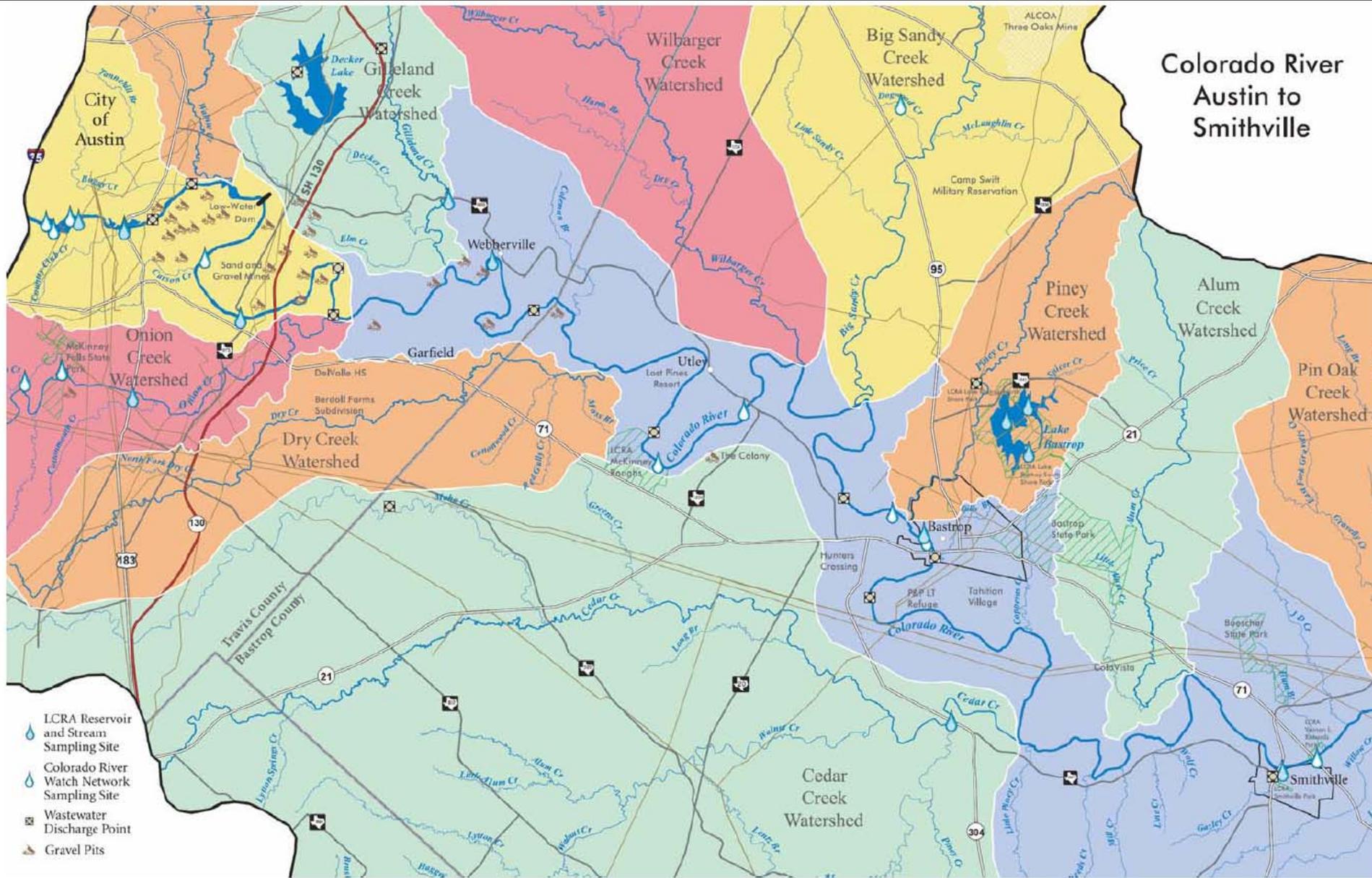
Austin Water - Center for Environmental Research



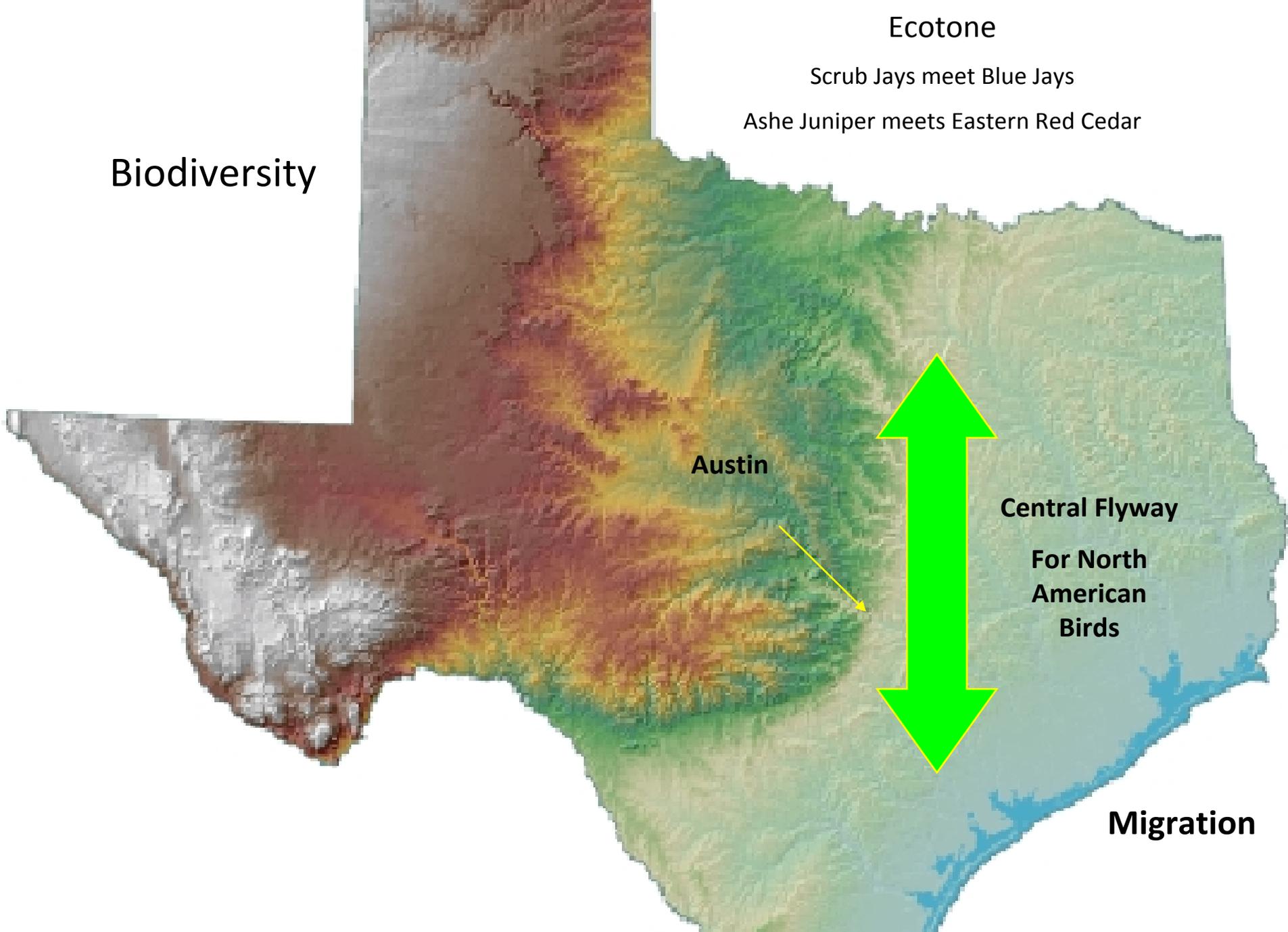
The Colorado River Basin



Colorado River Austin to Smithville



- LCRA Reservoir and Stream Sampling Site
- Colorado River Watch Network Sampling Site
- Wastewater Discharge Point
- Gravel Pits



Ecotone

Scrub Jays meet Blue Jays

Ashe Juniper meets Eastern Red Cedar

Biodiversity

Austin

Central Flyway

For North
American
Birds

Migration

Alleged Texas gator killer boasted on Facebook

THE ASSOCIATED PRESS

Updated: 3:50 p.m. Thursday, March 10, 2011

Published: 11:43 a.m. Thursday, March 10, 2011

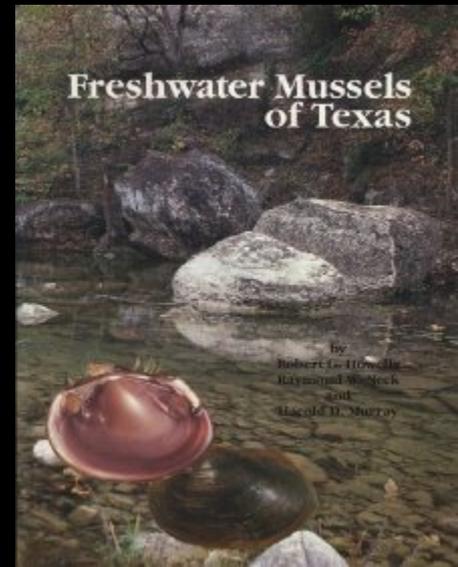
A man who boasted on Facebook that he killed an 11½-foot alligator in Central Texas is a prime suspect in the illegal shooting, Texas wildlife authorities said Thursday.

The gator's body was discovered near a creek in Bastrop County about a week ago, said Fred Ensinger, a game warden with the Texas Parks and Wildlife.

The alligator's size is an "anomaly," Ensinger said, noting that it's nearly twice as big as gators rarely seen so far from the Texas Gulf Coast. Amos Cooper, a state alligator expert, estimated it probably at least 20 to 30 years old and weighed between 500 to 800 pounds, given its length and girth.

"That's a big gator," said Cooper, alligator program leader at the J.D. Murphree Wildlife Management Area in Port Arthur. Cooper said there are hundreds of thousands of alligators in Texas' coastal areas. He said he has seen some as large as 13 or 14 feet in his 24 years on the job.





Lepisosteus oculatus
Spotted Gar



Anguilla rostrata
American Eel

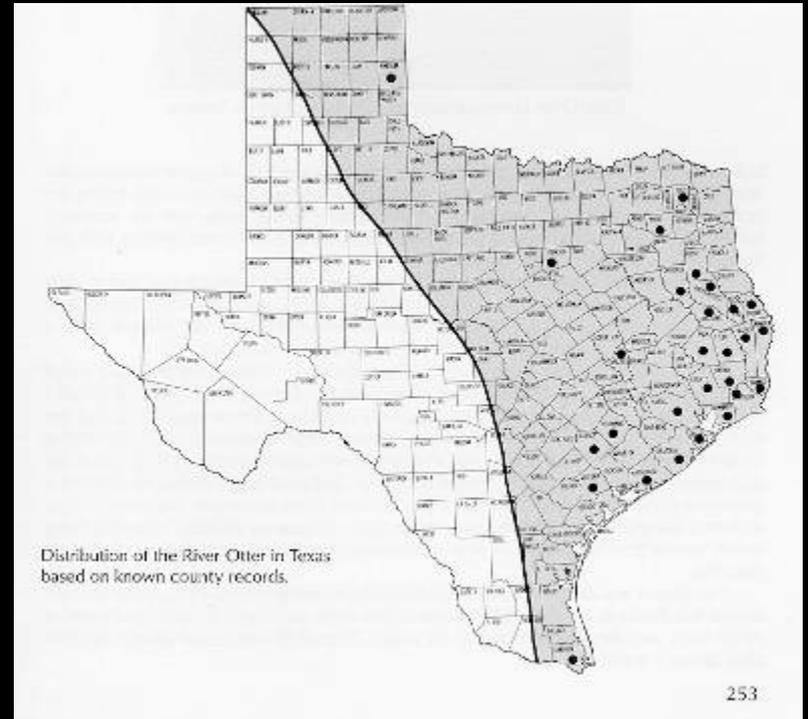


Fishes of Texas (University of Texas – Texas Natural Science Center

<http://www.fishesoftexas.org/about>

River Otter

Lutra canadensis



**[Brief] Environmental History
of the
Austin - Bastrop River Corridor**

The Overlooked Entrada: The Espinosa-Olivares-Aguirre Expedition of 1709

By Anibal Gonzalez [Sayersville Historical Association Bulletin]

In April 1709, two Franciscan priests and 15 soldiers came from the Rio Grande all the way to the Colorado looking for a delegation of Tejas Indians they never found...it is probable that they camped not far above the Hornsby Bend of the Colorado in Eastern Travis County.

“We came to the river, which has a guard on either side of luxuriant trees, nut trees [nogales], ash trees, poplars [cottonwood], elms, willows, mulberries, and wild grapevines much taller and thicker than those in Castile. It has sand banks which mark how high it rises, a quarter of a league wide. The water is of the best we have found.”

Difficulty traveling downriver because “the monte that offered itself to our sight was so much that we could not penetrate it.” Followed buffalo trails along the upland post oaks.



The Bottomland Forest

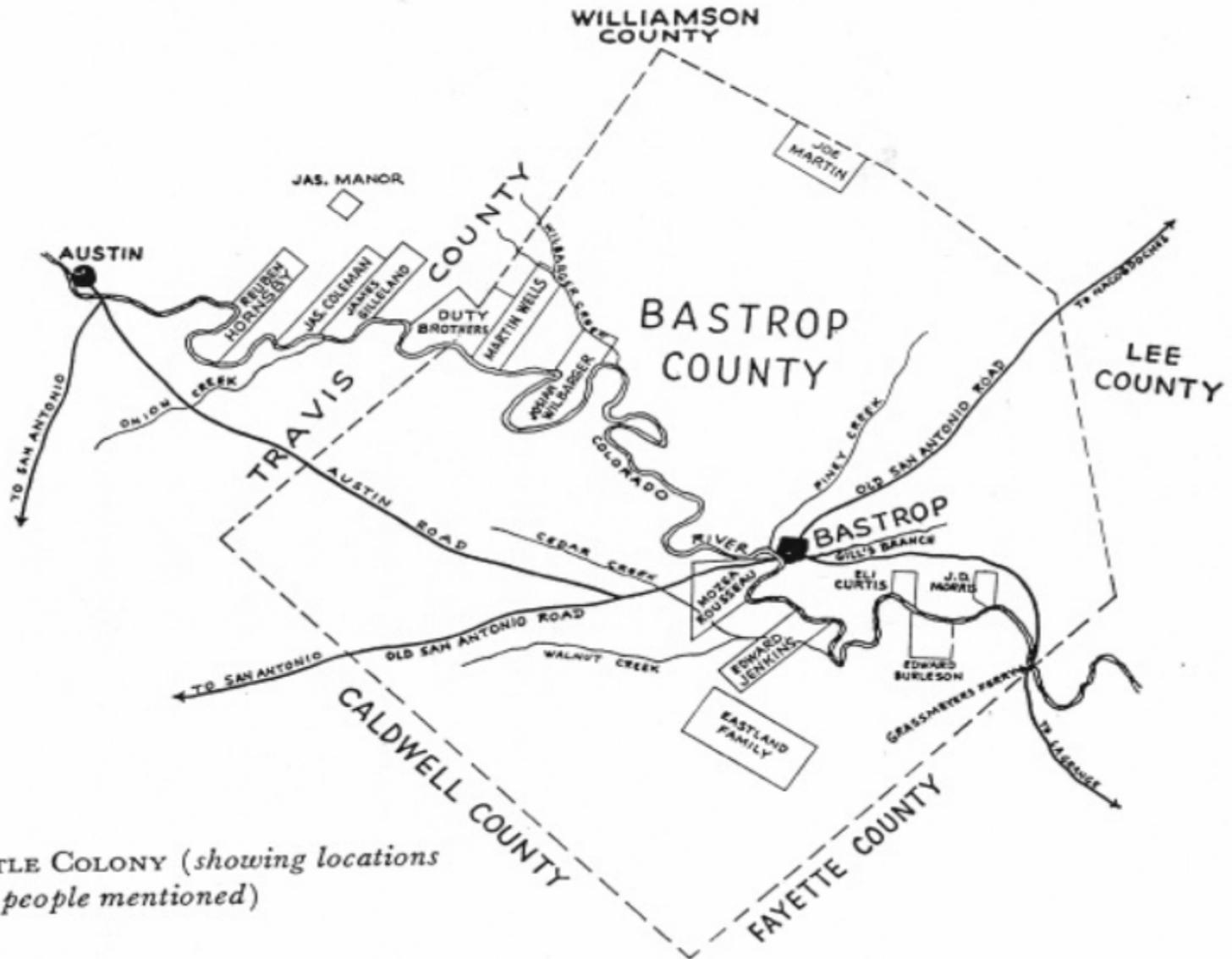
El Monte Grande (del Diablo!)

Early Spanish accounts of the Colorado

Monte – a sizable almost impenetrable forest – a thicket



Settlement begins 1820's along river corridor



AUSTIN'S LITTLE COLONY (showing locations of homes of people mentioned)

The Forgotten Bottomland Forest





Colorado River Biodiversity

Citizen River Monitoring



Austin Youth River Watch



Austin Secondary School students monitoring water quality in Austin's waterways

After-school "stay in school" program for at-risk students



Sites monitored:

Town Lake @ Redbud Isle
Barton Creek below Barton Springs
Town Lake @ 2.5 mile marker on Hike and Bike Trail
Town Lake @ West Bouldin Creek
East Bouldin Creek @ Milton St. and Jovitas Restaurant
East Bouldin Creek @ Dawson Park
Blunn Creek @ Blunn Creek Preserve
Waller Creek @ Waller Creek Center
Waller Creek @ Town Lake
Town Lake @ Austin Youth Hostel
Colorado River @ Montopolis
Little Walnut Creek @ Peyton Gin Rd.
Colorado River @ Old Ford on Hornsby Bend
Williamson Creek @ Dove Springs Park
Onion Creek @ Lower Falls, McKinney Falls State Park
Walnut Creek @ Walnut Creek Metropolitan Park
Boggy Creek @ 183
Colorado River @ Little Webberville Park
Colorado River @ "Big" Webberville Park



Austin – Bastrop River Corridor Partnership Monthly River Monitoring Trips



Travis County

Monthly River Monitoring Trip

1st Saturday of the month

Begun February 2006



Laura Von Roeder, Linda Dinnean, Allan Kugler, Pam Hohman, and Claude Morris check the map before heading downriver.

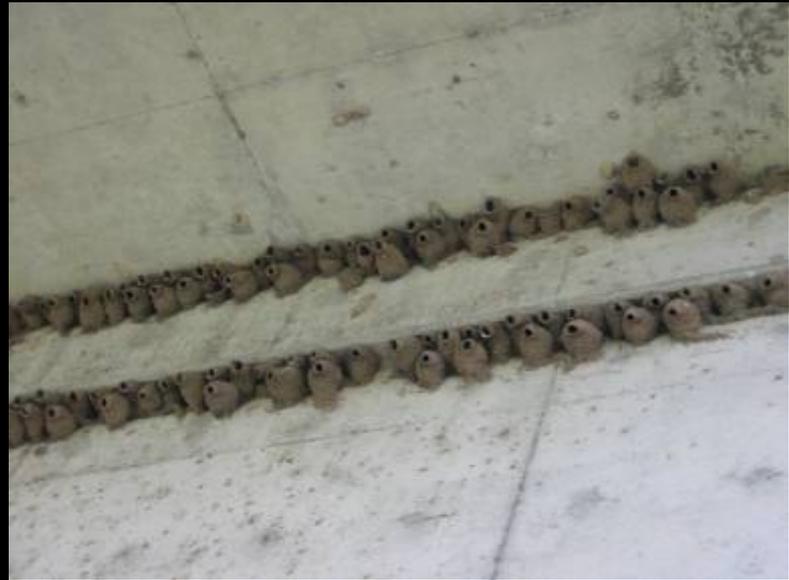
Bastrop County

Monthly River Monitoring Trip

3rd Saturday of the month

Begun April 2008

Discoveries



Bottomland Vegetation



Plant community structured by hydrology

Hydric Soils

Image Archive of Central Texas Plants

http://www.sbs.utexas.edu/bio406d/PlantPics_archive.htm



Bottomland Vegetation

Above Permanent Waterline

American Elm

Honey Locust

Roughleaf dogwood

Eve's Necklace

Box elder

Buttonbush

Green ash

Baccharis

Black willow

Western soapberry

Pecan

Bur oak

Cottonwood

Sycamore

Little walnut

False indigo

Wafer ash (Hop tree)

Live oak

Mulberry

Black Hickory

Yaupon

Switchgrass

Eastern gamagrass

Big bluestem

Indiangrass

Little bluestem

Virginia wildrye

Texas bluegrass

Purpletop

Inland sea-oats

Texas wintergrass

Maximilian sunflower

Illinois bundleflower

Dogbane

Buffalograss

Herbaceous mimosa

Redbud

Gum Bumelia



Vertical structure – groundcover, understory, canopy

At Permanent Waterline, not saturated yearlong

Elder berry

Southern wildrice (*Zizaniopsis*)

Buttonbush

Texas Sophora (Eve's Necklace)

Dwarf willow

Cattails

Sandbar willow

Switchgrass

Black willow

Horsetail (Scouring rush)

Box elder

Soft rush

Sycamore

Bulrushes

False indigo

Sedges

Roughleaf dogwood

Bushy bluestem

Bald cypress

Smartweed

Baccharis

Cattails

Colorado River Hemp [*Sesbania*]

Spikerushes



In the water, or permanently saturated:

Bald Cypress

Bulrushes

Horsetail

Soft rush

Reeds

Cattails

Spikerushes

Ludwigia

Yellow stargrass



Types of Vegetation:

Colonizers

Stabilizers

Woody

Nonequilibrium dynamics



Non-native species – are foreigners good or bad?

Elephant ear, coco yam, wild taro

Colocasia esculenta



Tobacco Tree
Nicotiana glauca



Chinaberry
Melia azedarach



Native Invasive Species

Honey Mesquite (*Prosopis glandulosa*)



Palo Verde (*Parkinsonia aculeata*)



Legumes = Nitrogen Fixers



Honey Locust
(*Gleditsia triacanthos*)

Hackberry *Celtus sp.*

- Early colonizer and wildlife food source



Riverside Species

Black Willow *Salix nigra*

Gravel bar colonizer



Bald Cypress *Taxodium distichum*



American Sycamore

Platanus occidentalis





Cottonwood

Populus deltoides



Box Elder – *Acer negundo*



Box Elder?

Poison ivy

Toxicodendron radicans



Green Ash

Fraxinus pennsylvanica



Pecan – *Carya illinoensis*





Hornsby Bend

1998



Bottomland Forest elders



Live Oak

Quercus fusiformis



Mulberry *Morus sp.*



American Elm

Ulmus americana



Lost Palms of the Colorado

Sabal palm

Sabal mexicana

Palmetto

Sabal minora



Bur Oak – *Quercus macrocarpa*



Eastern Red Cedar

Juniperus virginiana



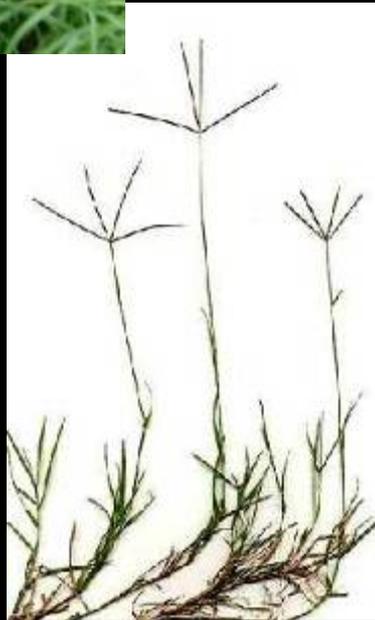
Cedar, Ash Juniper *Juniperus ashei*

Bottomland Grasses



NOT SHADE TOLERANT

Coastal Bermuda *Cynodon dactylon*



Johnson Grass *Sorghum halepense*



Wildrye

[*Elymus virginicana*]

Bushy Bluestem

Andropogon glomeratus



Switch Grass
Panicum virgatum



Eastern Gamagrass
Tripsacum dactyloides



Inland Sea-oats

Chasmanthium latifolium



Southern wildrice
Zizaniopsis miliacea



Other plants





Charismatic Megafauna
Biodiversity

Riparian mammals



John Holland Jenkins, Recollections of Early Texas

Writing of the 1870s

“There were two noted localities for bear near us then – Hornsby’s Bend, twelve miles below Austin, and the other in the Eblin Bottom, twelve miles below Bastrop. Although bear was abundant in these places, few hunters tried to enter the almost impenetrable tangle of dogwood and greenbrier, of which the dense thickets were composed...”



Black Bear

Ursus americanus



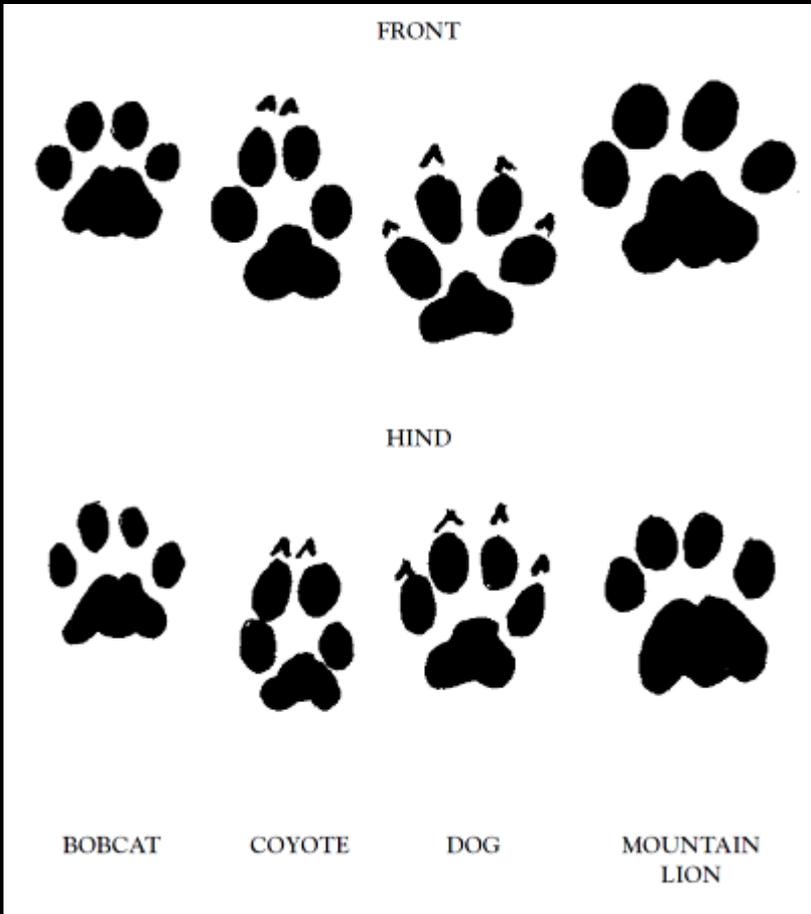
Bears at Our Borders

- Bears in Louisiana, New Mexico, Arkansas, Oklahoma, Mexico
- 24 confirmed sightings
- 67% sightings since 1990



- Description – reddish brown to tawny
- Tip of nose to tail males in excess of 7 feet
- Males 100 to 150 lbs
- Females 55-90 lbs

Mountain Lion
Felis concolor



MOUNTAIN LION



BOBCAT



DOG



COYOTE

Bobcat

Lynx rufus

- Avg. 35 lbs up to 50lbs
- Tail 6 – 12 inches
- Spotting heavy in some light in others
- Distributed across Texas – density varies
- Populations stable



Coyote

Canis latrans



Beaver

Castor canadensis



Nutria

Myocastor coypus



Ringtail *Bassariscus astutus*

- Raccoon found throughout state
- Ringtail throughout Texas excepting extreme south Texas



Raccoon *Procyon lotor*

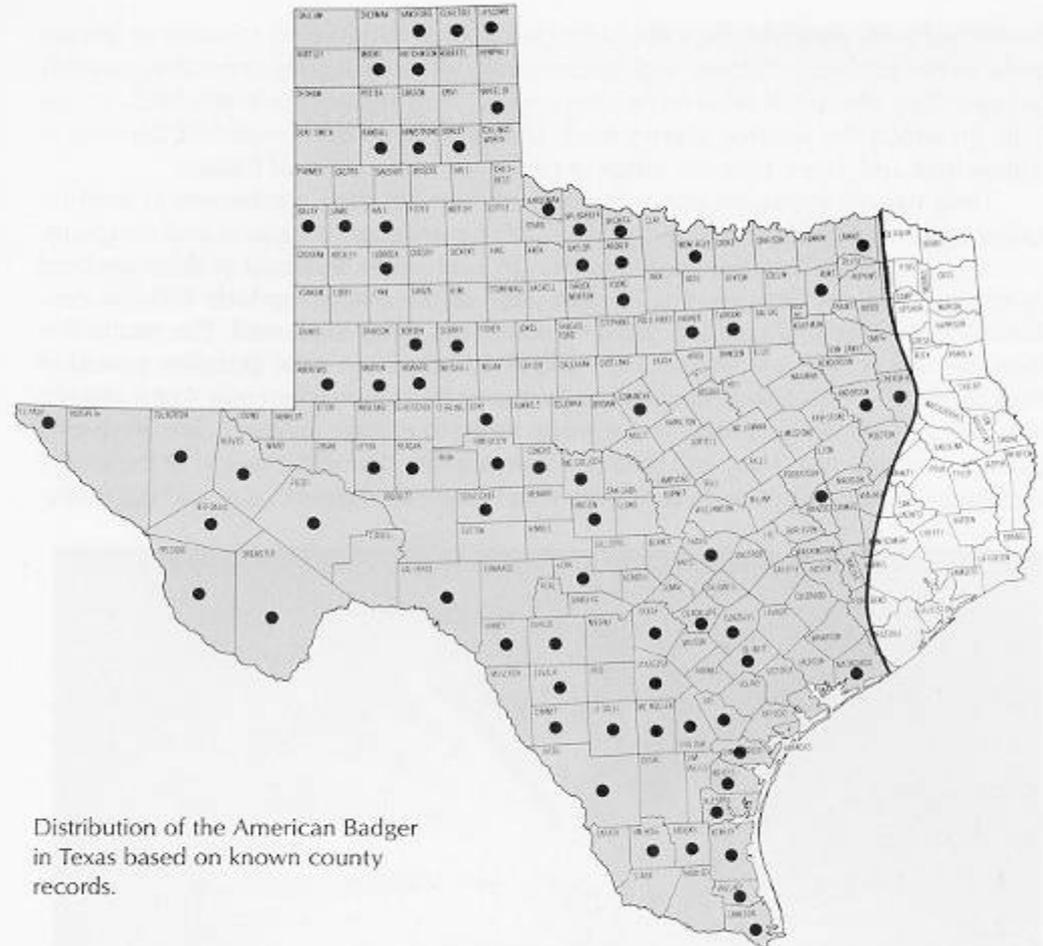


Nine-banded Armadillo

Dasyus novemcinctus

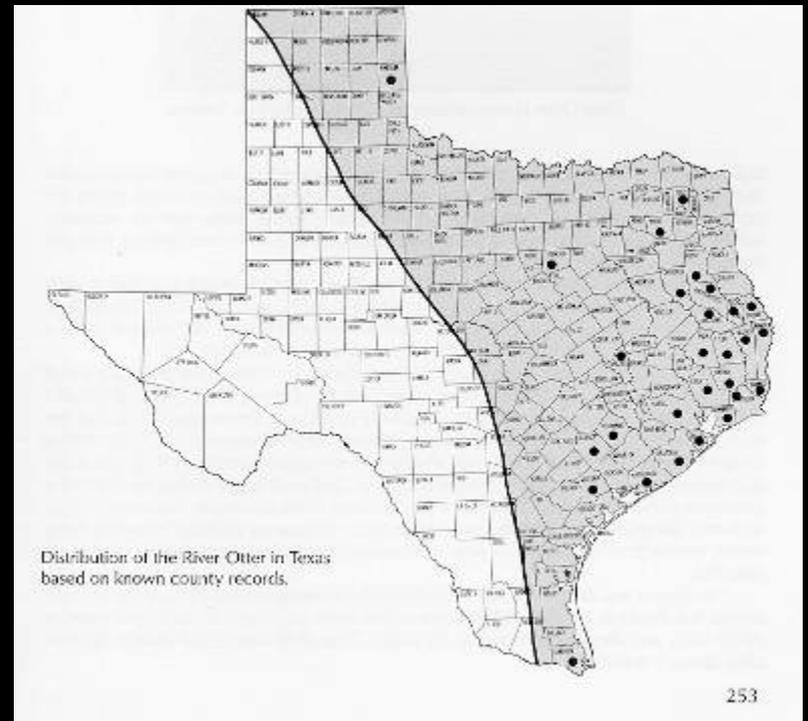


Badger *Taxidea taxus*



River Otter

Lutra canadensis



Striped skunk



Spotted skunk



Striped skunk

Eastern Cottontail
Sylvilagus floridanus



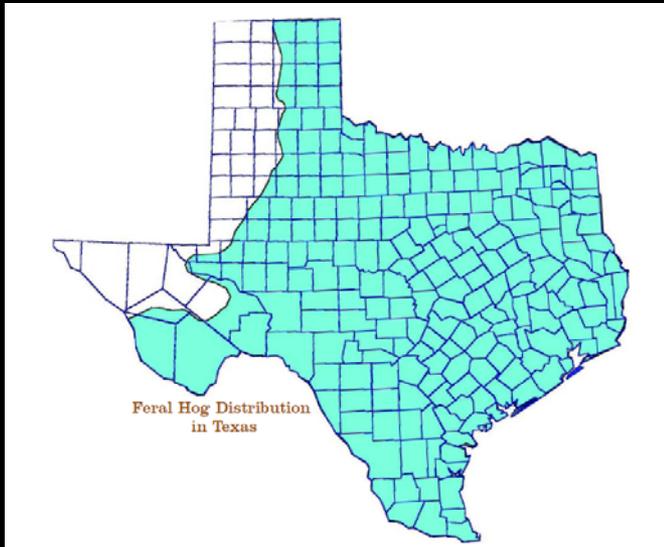
White-tailed Deer

Odocoileus virginianus



Feral Hog

Sus scrofa



Feral hogs are the most prolific large, wild mammal in North America. With adequate nutrition, a feral hog population can double in 4 months.

Explorers such as De Soto, Cortes and LaSalle brought them to the New World. They have been in Texas since the 1680s and were important livestock to the early settlers, who usually allowed their animals to roam free.

They prefer moist bottomland and are commonly found in riparian areas near rivers, creeks, streams, lakes, ponds, marshes, bogs, swamps and sloughs. They also prefer dense vegetation that conceals them and protects them from temperature extremes.

Birds of the River Corridor





© John D. Ingram /2001



© John D. Ingram /2002



© John D. Ingram/2001



© John D. Ingram /2002



© John D. Ingram /2001



Pileated Woodpecker



Bald Eagle



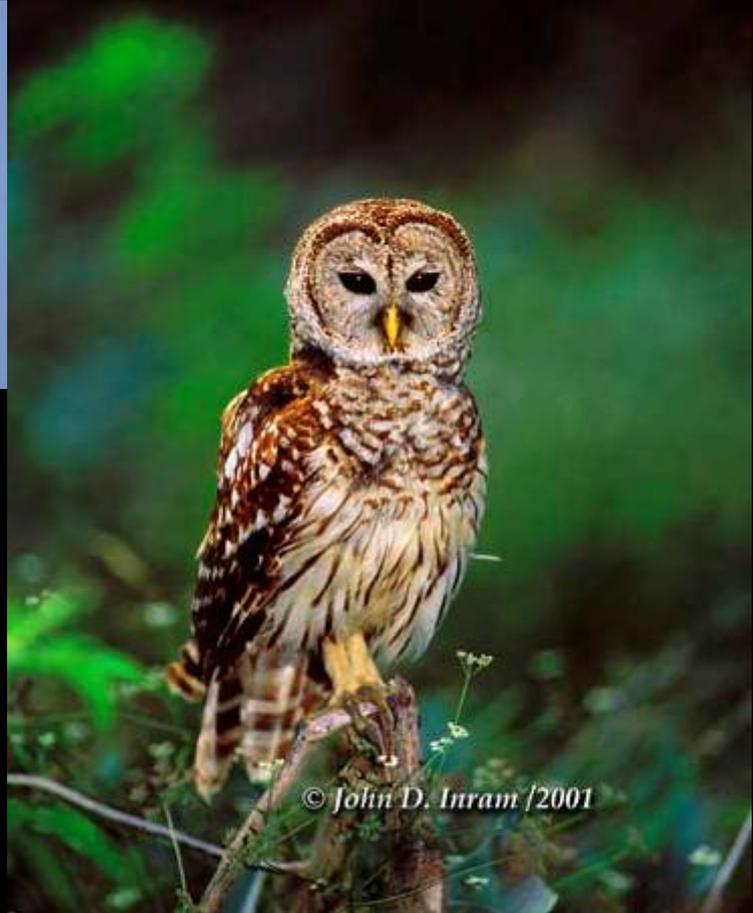


Crested Caracara





Great Horned Owl



Barred Owl



Barn Owl

Osprey

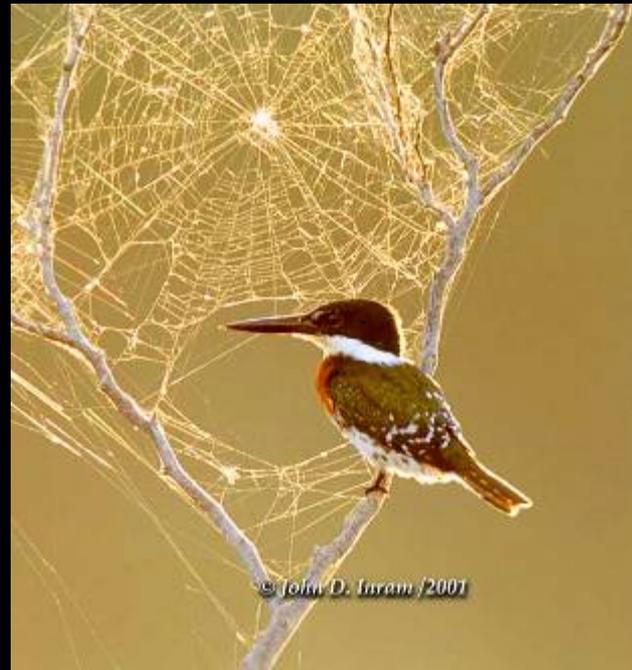


Red Shouldered Hawk





Ringed Kingfisher



Green Kingfisher



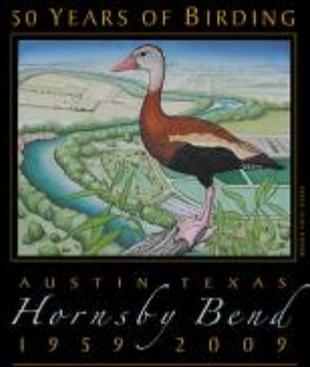
Belted
Kingfisher



Belted Kingfisher nest hole found in February 2006

Black Bellied Whistling Duck

Hornsby Bend Bird Observatory
*A cooperative partnership promoting
the study and understanding of birds in Central Texas*







Great Egret

Great Blue Heron



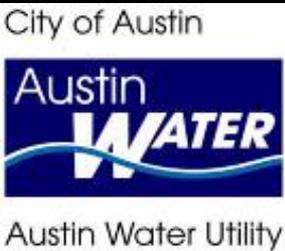




Applause!

Questions?





Center for Environmental Research at Hornsby Bend

AWU-CER Lunchtime Lectures May - August 2011

Each talk begins AT NOON Waller Center [625 East 10th Street – between I-35 and Red River] Room 104

The 1st Wednesday of the Month! Free and Open to the Public – bring a lunch and learn

Rivers: Myth, Meaning and Culture in America

Over the next four months, I will put on my Cultural Geographer's hat and draw on my English major to look at the meaning of rivers and waterways in American and Texan literature. The four lectures will descend in scale from an overview of American rivers and American literature to Texas and finally to Austin. Join me for a journey down rivers through literature, the first Wednesday of every month.

May 4 Noon-1pm

The Myth of the River: American Rivers and American Art

June 1 Monday Noon-1pm

Texas Rivers: On the Brazos with John Graves "Goodbye to a River"

July 6 Monday Noon-1pm

Texas Rivers: On the Colorado with Roy Bedichek "Karankaway Country"

August 3 Monday Noon-1pm

Life On Waller Creek – The Legacy of Joseph Jones

City of Austin



Austin Water Utility



Center for Environmental Research at Hornsby Bend

CER Monthly Activities 2011

Join us – free events – all are invited!

River Monitoring Trip- Travis County

1st Saturday of Every Month - All day [meet at CER 8am]

HBBO Bird Survey

2nd Saturday of Every Month 7am-11am and 4pm-dark

Birding Field Trip - Travis Audubon Society

3rd Saturday of Every Month 7:30am-11am

River Monitoring Trip – Bastrop County

3rd Saturday of Every Month - All day [meet at CER 8am]

Lunchtime Lecture Series – a free monthly public lecture about different aspects of Austin’s ecology, the 2st Monday of the month at Waller Center 625 East 10th Street between Red River and I-35, Room 105 NOON-1PM – bring a lunch and learn!

Ecological Literacy Days – three hours of outdoor volunteer work and an hour of ecological education on the last Saturday of every month at Hornsby Bend [9am-1pm]