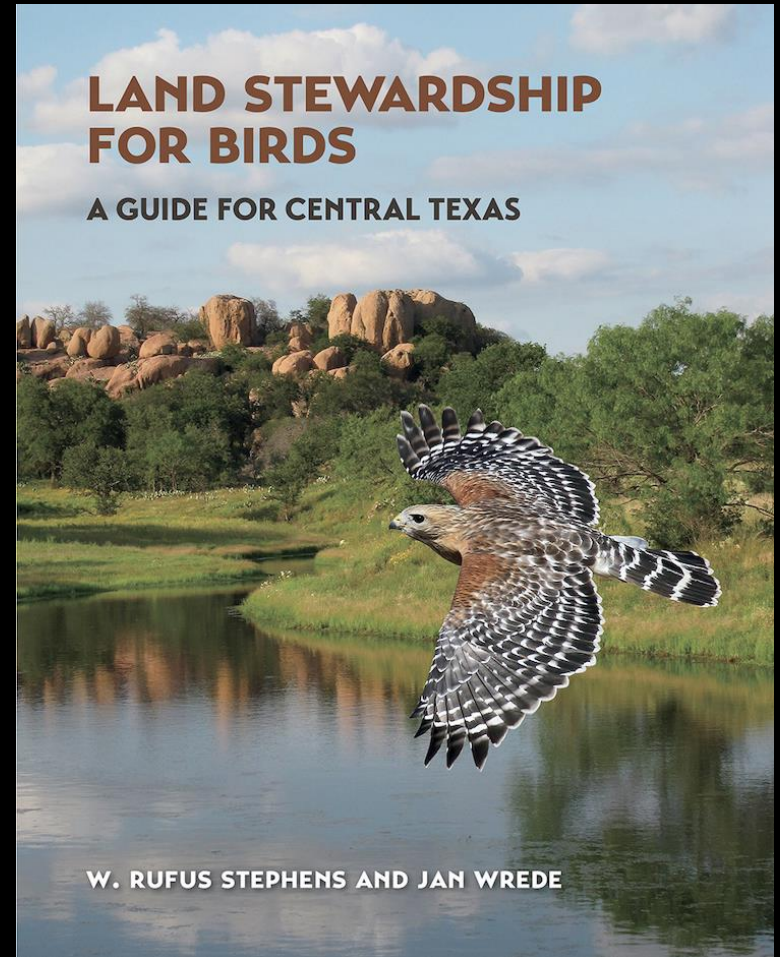


Texas Waters Webinar

Stewardship for Birds in Aquatic & Riparian Habitats



RUFUS STEPHENS, CERTIFIED WILDLIFE BIOLOGIST

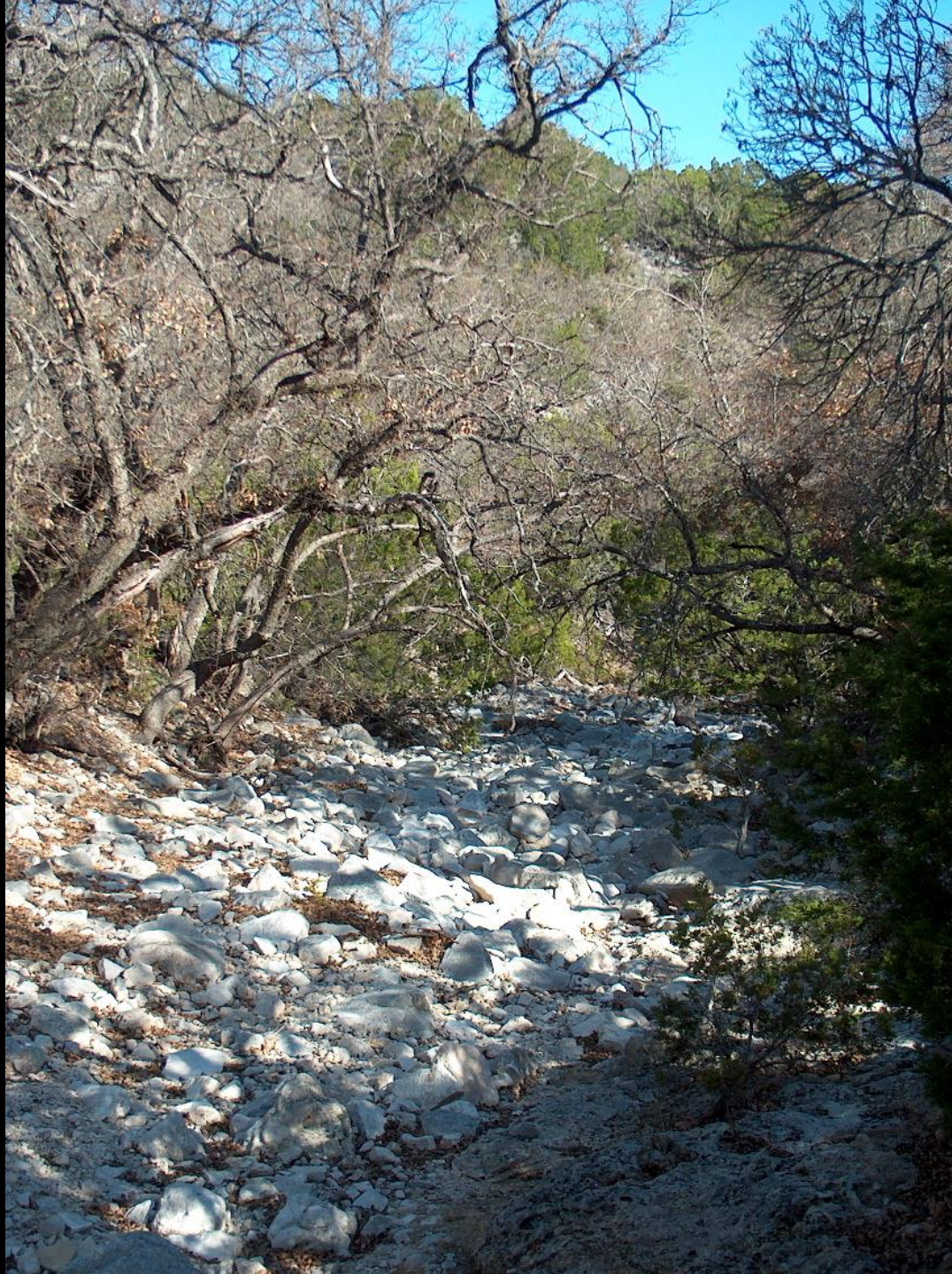
Biodiversity encompasses life at **all scales**, including **individual organisms**, **populations**, and **ecosystems**.

Every small part is significant.

Every small action we do to promote and protect biodiversity is significant.







In **LAND STEWARDSHIP FOR BIRDS**
we work to **ENHANCE BIRD HABITATS**, where
they find cover, food, water and a place to
breed.



LAND STEWARDSHIP FOR BIRDS in AQUATIC & RIPARIAN HABITATS

- OVERVIEW OF **LAND STEWARDSHIP**
- **BIRDS** AS AN **INDICATOR** FOR GOOD RIPARIAN STEWARDSHIP.
- EXAMPLES OF **HABITATS** AND **BIRD REQUIREMENTS**
- LAND STEWARDSHIP **TOOLS AND TECHNIQUES**

What is LAND STEWARDSHIP?

- CAREFUL AND RESPONSIBLE MANAGEMENT OF **LAND** ENTRUSTED TO ONE'S CARE
- PRIVATE LANDOWNERS HAVE A TREMENDOUS RESPONSIBILITY AND OPPORTUNITY TO MAKE A DIFFERENCE AS WE CHANGE OUR RELATIONSHIP WITH NATURE FROM ONE OF EXPLOITATION TO ONE OF COLLABORATION.

Why Birds?

- **BIRDS ARE CHARISMATIC SPECIES.**
- **BIRDS REPRESENT DIVERSITY.**
- **WHEN BIRDS FLOURISH OTHERS WILDLIFE DOES TOO.**
- **BIRDS CAN BENEFIT FROM HABITAT IMPROVEMENT.**
- **BIRDS NEED OUR HELP!**

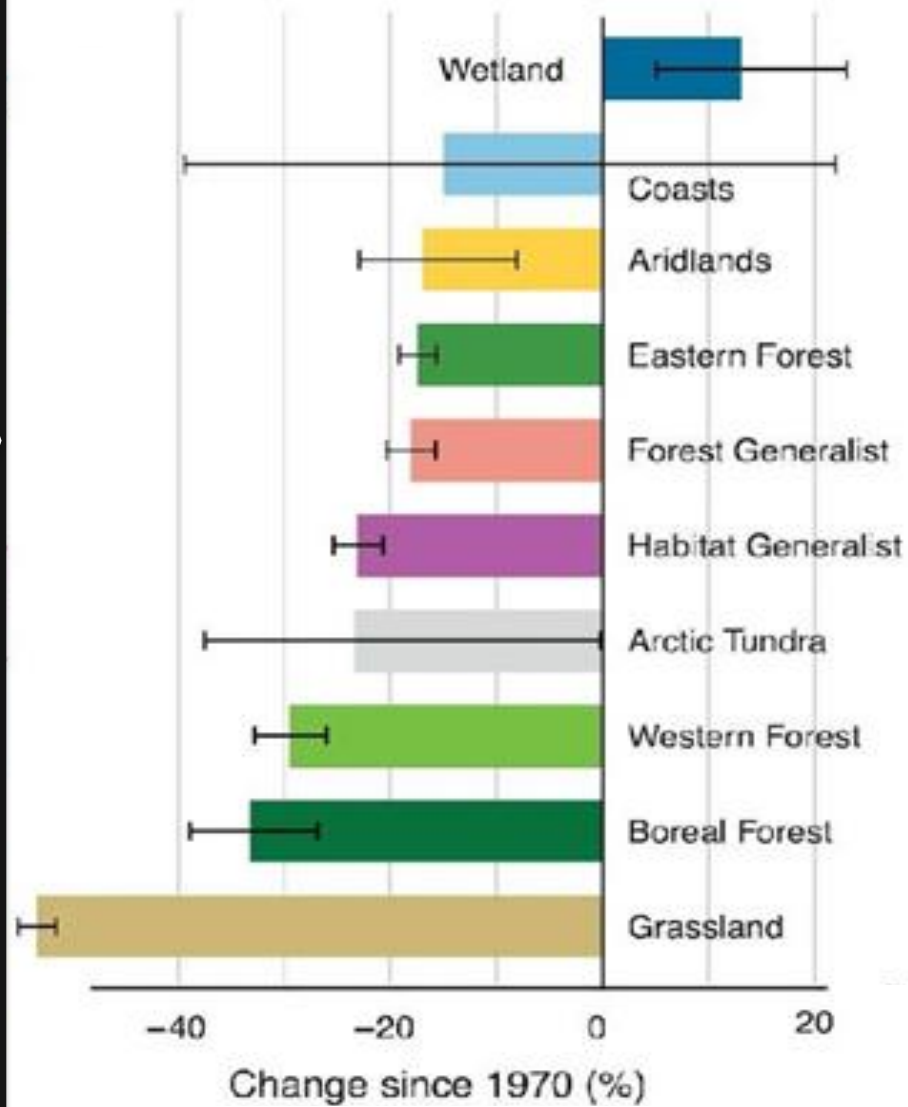


**Bird abundance has declined 29%
in the last 50 years!**

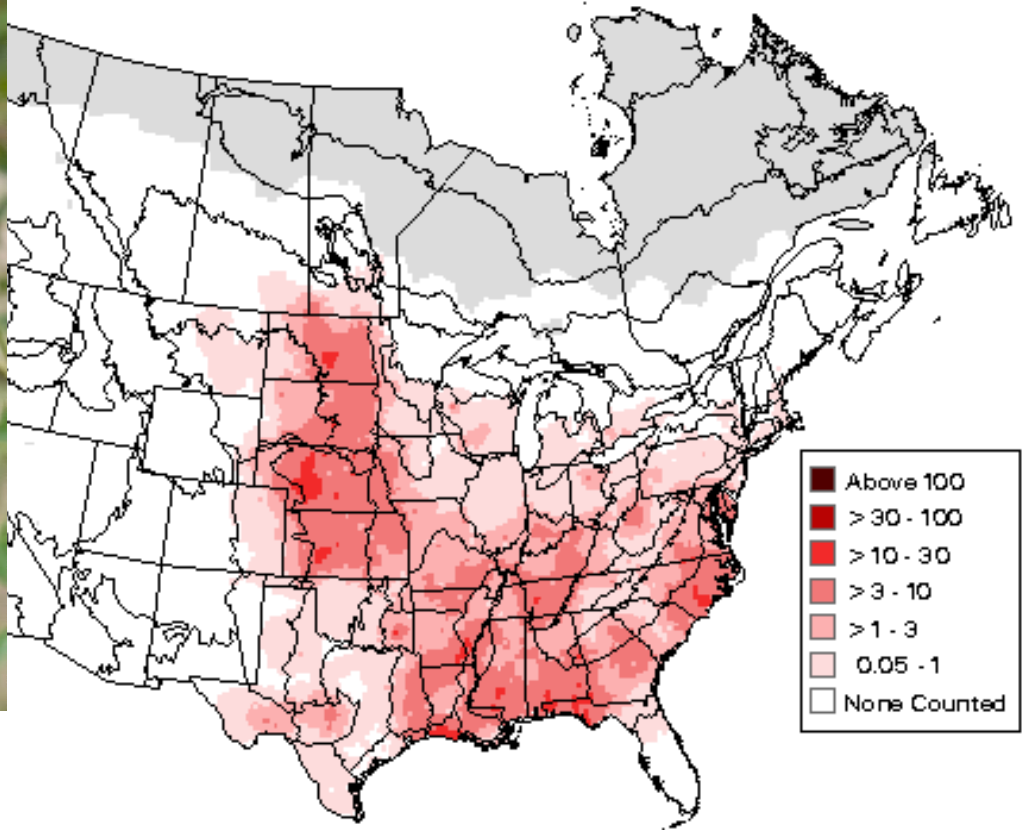
Net loss approaches 3 billion birds.

From: Rosenberg et al., Science 366, 120–124
(2019) 4 October 2019

Birds have declined in all major North American biomes except wetlands

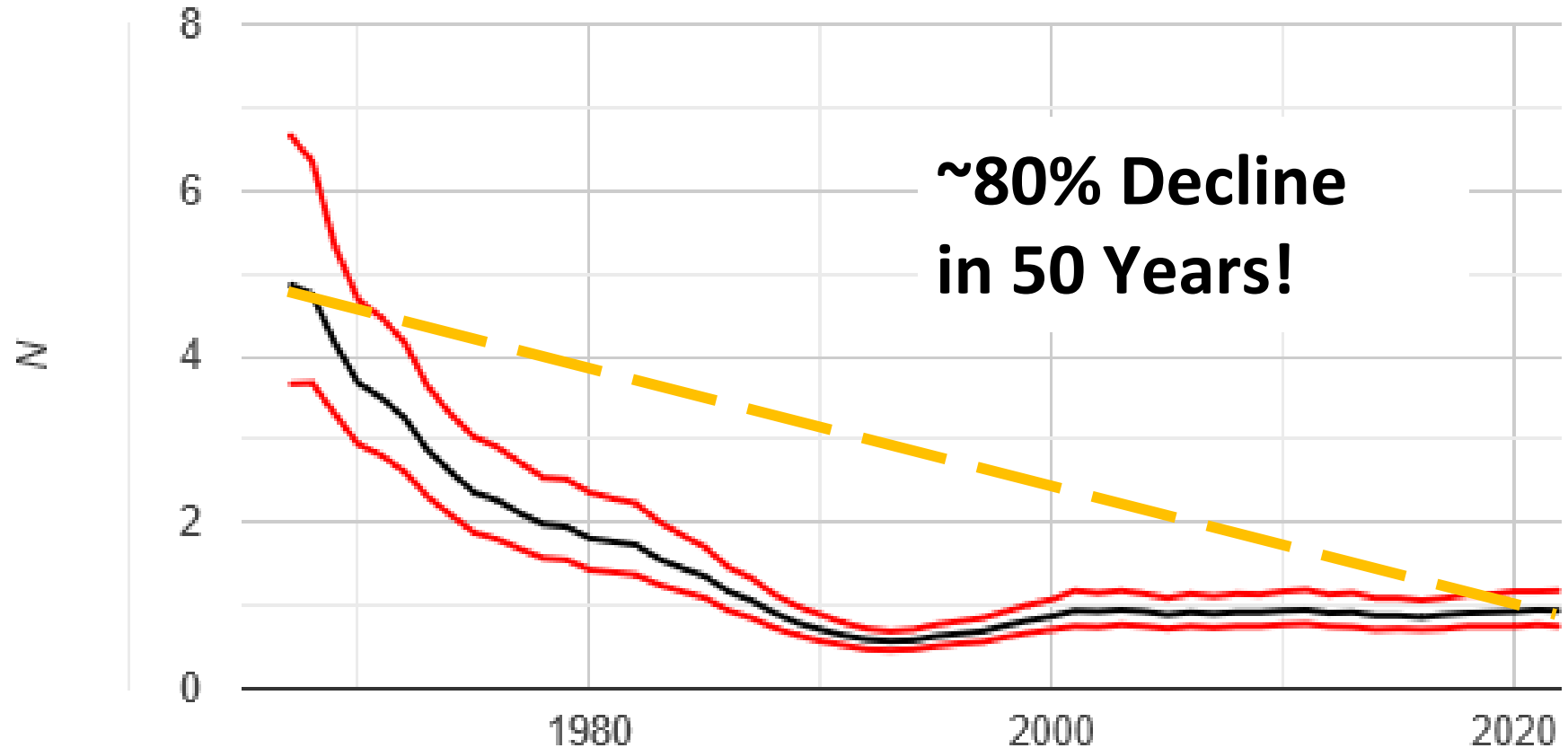


Orchard Oriole (*Icterus spurius*)



Breeding Bird Survey (BBS) Distribution of the Orchard Oriole (2011-2015)

Orchard Oriole Texas BBS Trend

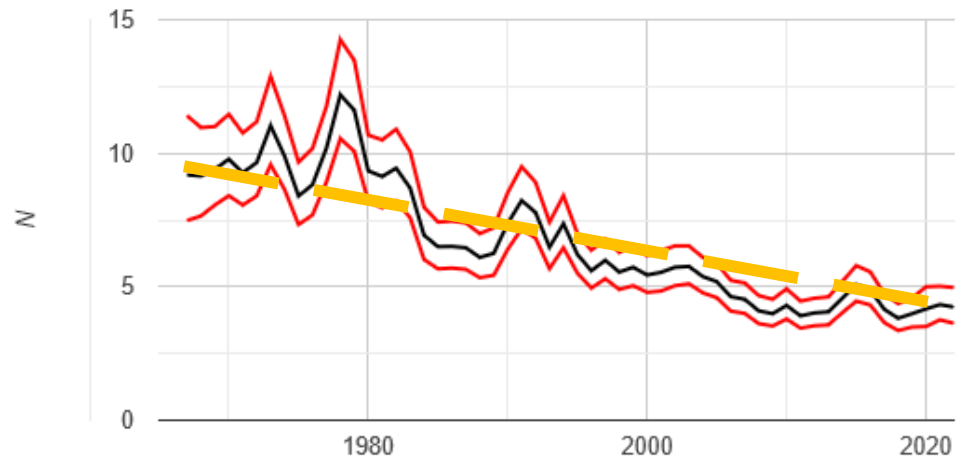


Yellow-billed Cuckoo



**~50% Decline
in 50 Years!**

Yellow-billed Cuckoo Texas Statewide BBS Trend

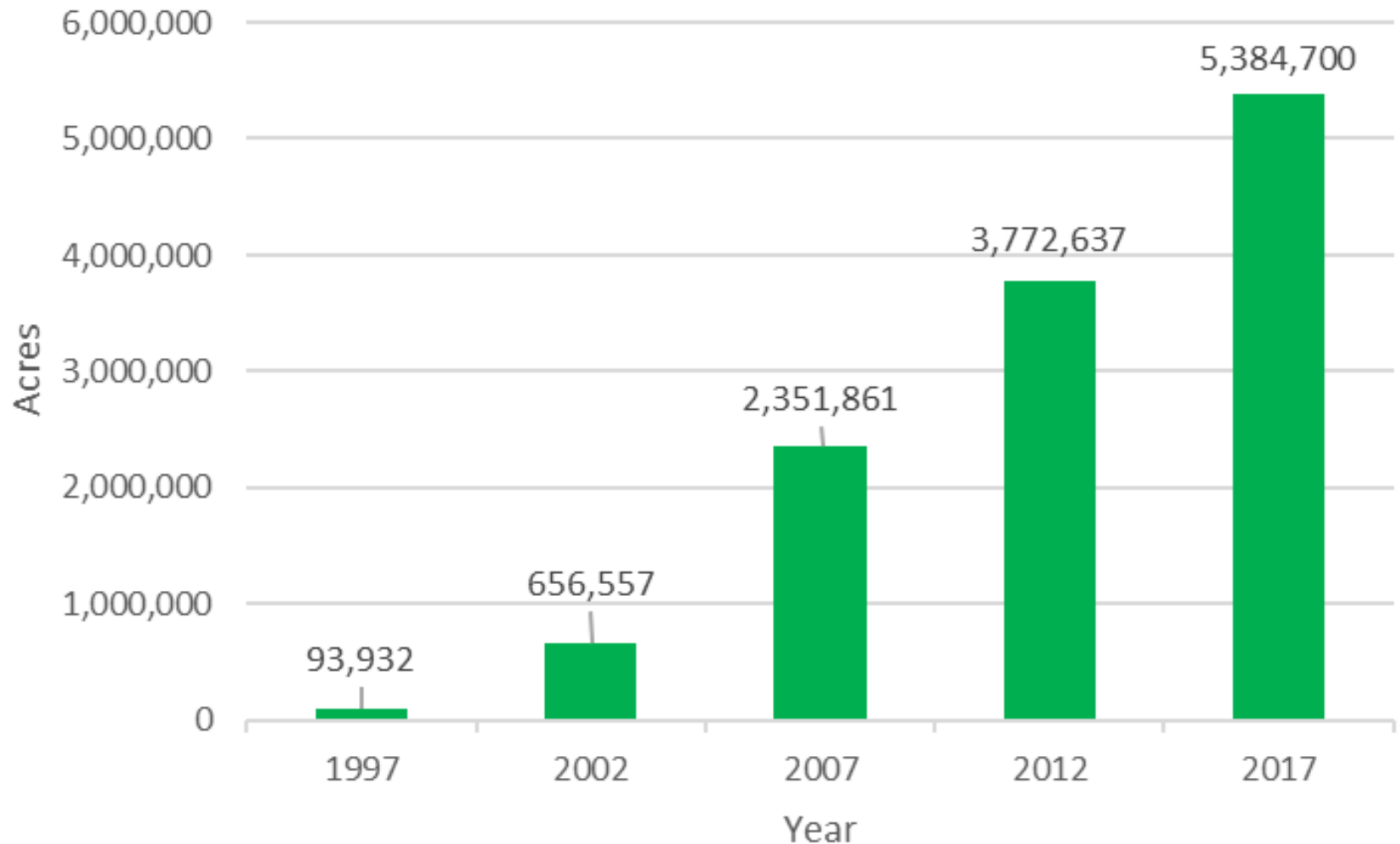


Sauer, J. R., D. K. Niven, J. E. Hines, D. J. Ziolkowski, Jr, K. L. Pardieck, J. E. Fallon, and W. A. Link. 2019. The North American Breeding Bird Survey, Results and Analysis 1966 - 2019. Version 2.07.2019 USGS Patuxent Wildlife Research Center, Laurel, MD

Poll Question

- Do you currently have ...
 - Ag Valuation?
 - Wildlife Tax Valuation?
 - or work with landowners with an Ag or Wildlife Tax Valuation
 - None of the above

Acres under Wildlife Management in Texas



Source: Texas Land Trends, Texas A&M Natural Resources Institute
<http://txlandtrends.org/>

Steps to Stewardship for Birds

- Identify Your Habitats
 - Different Types
 - Quality!
- Select Target Bird Species for Each Habitat
 - 2-3 Species per Habitat Type
- Determine what Stewardship Practices you are going to do to improve your selected bird habitats.



**Can you
recognize
Healthy riparian
bird habitat?**

**Unhealthy
Riparian Habitat**



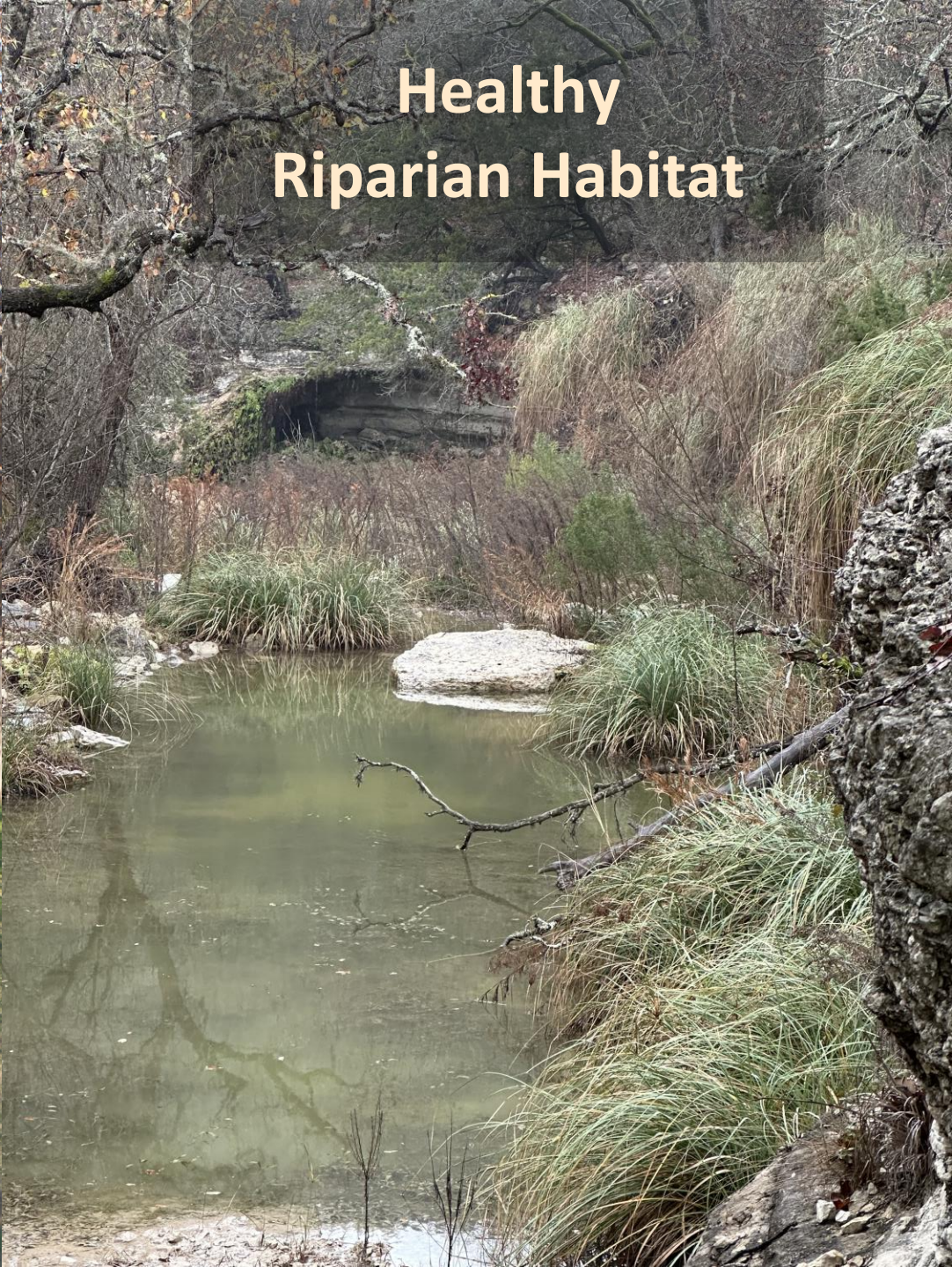
**Healthy
Riparian Habitat**



Unhealthy Riparian Habitat



Healthy Riparian Habitat



Summer Tanager

Priority Bird
spring and summer



NEEDS:

- About 22-27 acres/nesting pair
- Diverse understory plants.
- Diverse canopy plants.
- Nests 10'-35' off the ground
- Many insects.
- Fairly closed canopy.

WHAT TO DO FOR THIS BIRD:

- Exclude livestock
- Trap and dispatch cowbirds
- Control deer and cedar.
- Control RIFA/no broad spectrum insecticides



Summer Tanager

Habitat

NEEDS:

- Trees and shrubs mid - level canopy
- **Nests 10'-20' off the ground**
- Young are fed insects with adults also eating mostly insects and some fruit

WHAT TO DO FOR THIS BIRD:

- Control livestock use of riparian habitat
- **Control deer overpopulation**
- Control cowbird parasitism
- Avoid broad spectrum insecticides

Orchard Oriole

Priority Bird
spring and summer



Orchard Oriole

Habitat



NEEDS:

- Dense shrubs, wooded shoreline and herbaceous vegetation
- Nest from ground level to 30'
- Minnows, frogs and aquatic invertebrates

WHAT TO DO FOR THIS BIRD:

- Maintain or restore diverse shallow stream habitat.
- Avoid use of pesticides that may impact aquatic invertebrates.
- Control feral hogs.
- Limit grazing by livestock.
- Control deer.

Green Heron

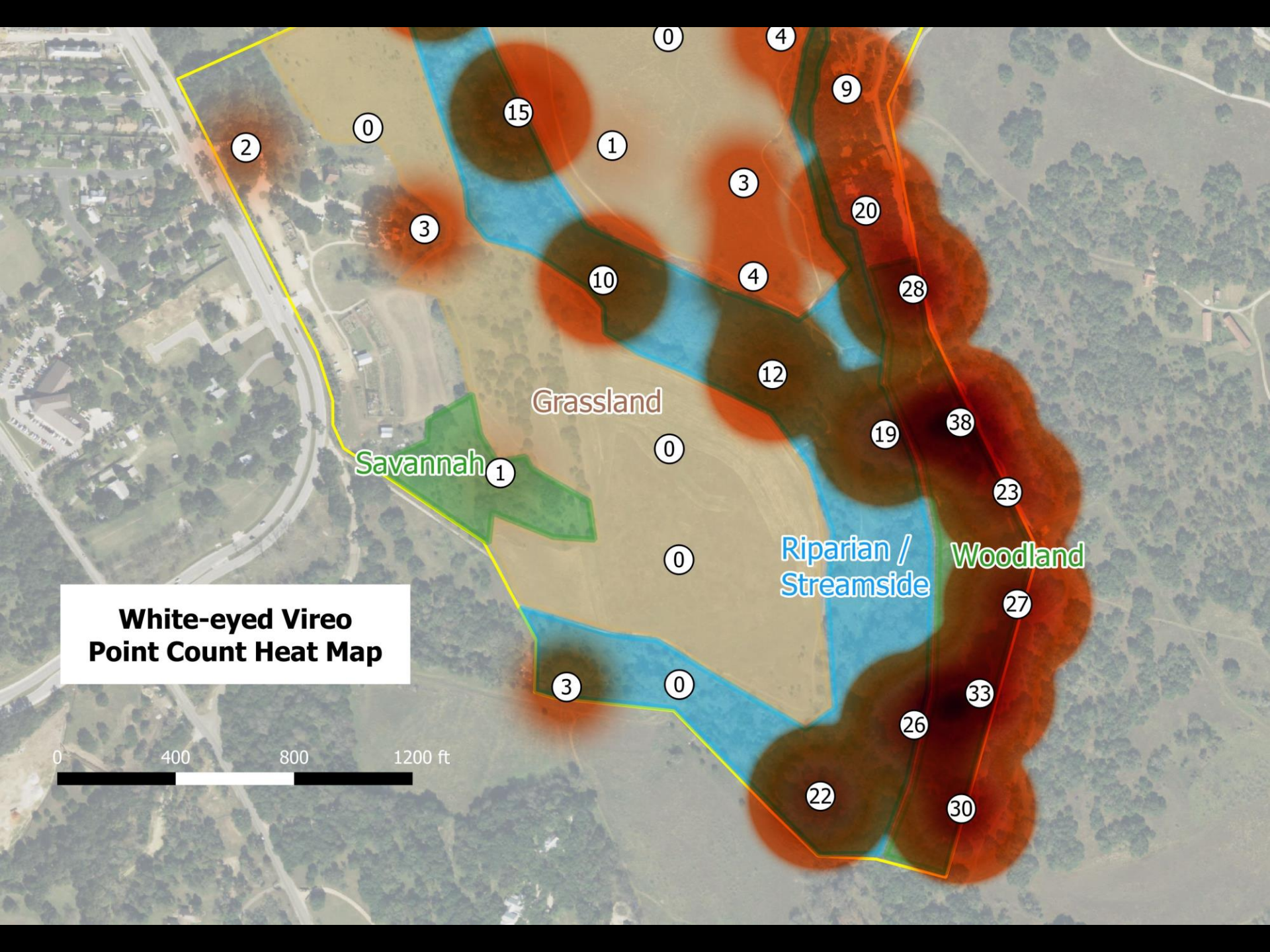
Under-the-Radar
all year



Green Heron

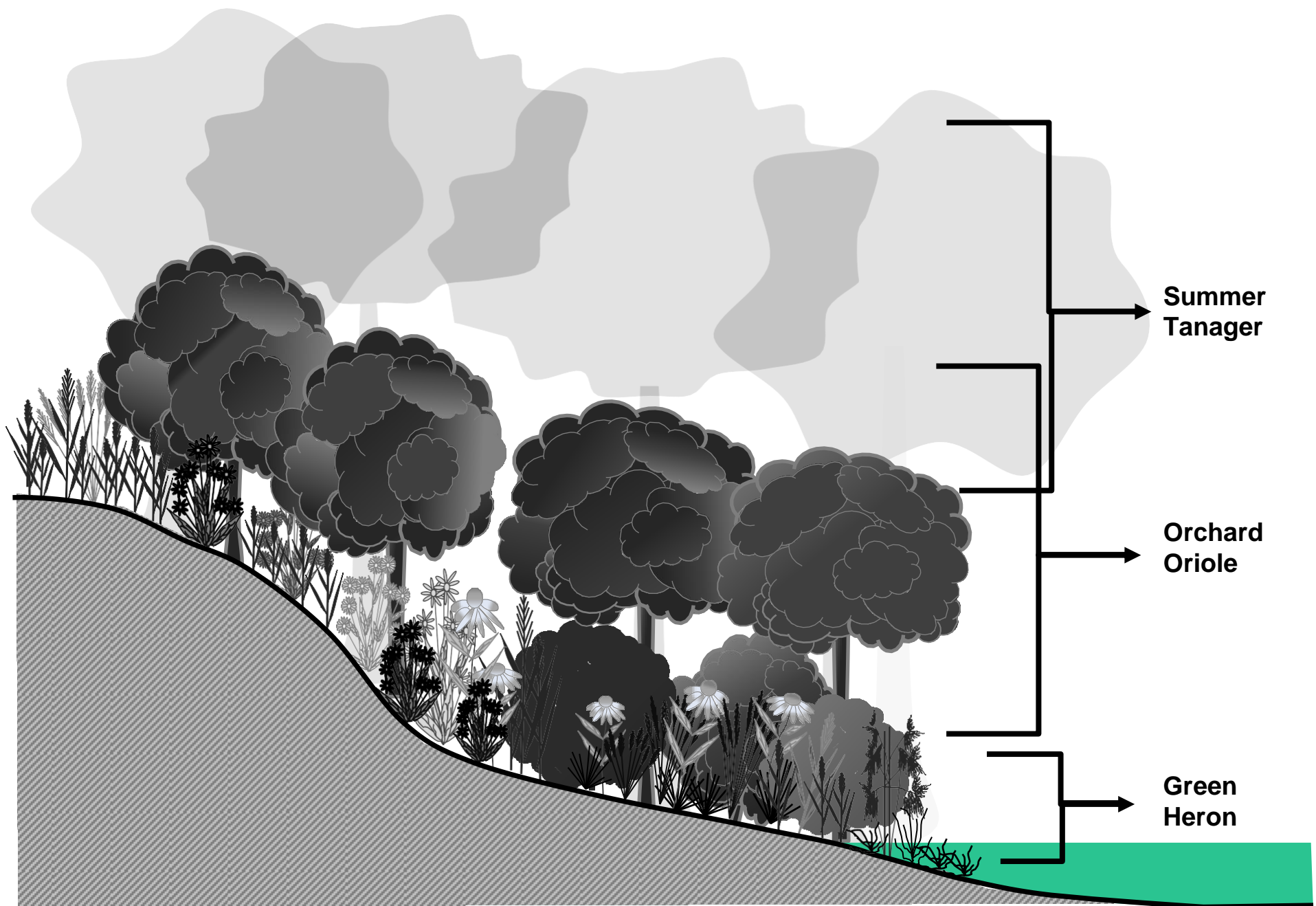
Habitat



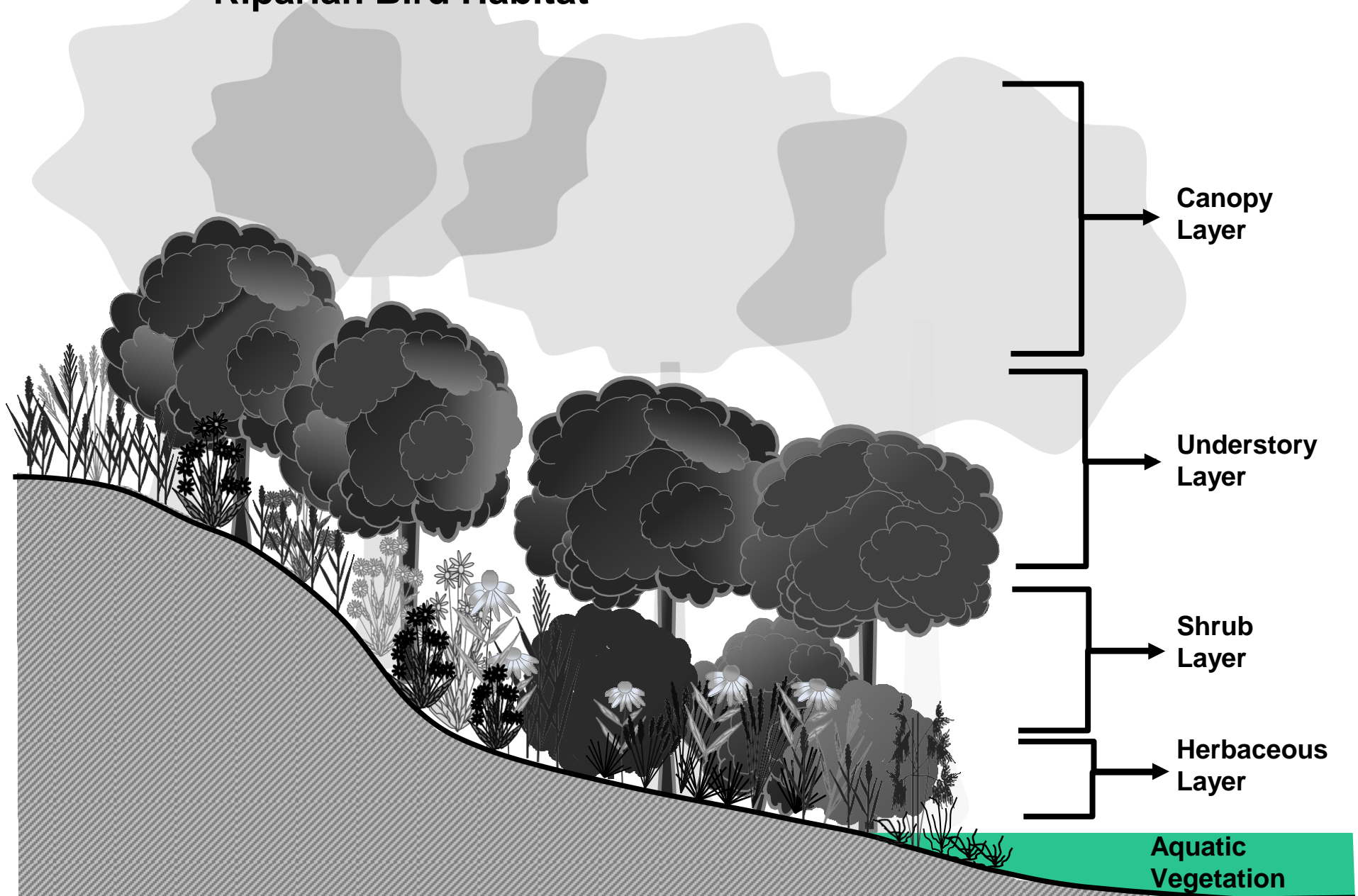


**White-eyed Vireo
Point Count Heat Map**

0 400 800 1200 ft



Diverse Vertical Structure is Critical for Healthy Riparian Bird Habitat



Important to consider all components of the riparian ecosystem including...

- Diversity of **native vegetation**
- Structural diversity of **native vegetation**
- Diversity and abundance of terrestrial and aquatic **invertebrates** (arthropods)
- Diversity and abundance of aquatic **vertebrates** especially fish, reptiles and amphibians



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Poll Question

- Feral hogs can...
 - Reduce water quality
 - Damage ground nesting bird habitat
 - Increase erosion
 - All of the above

Many Land Stewardship for Birds Problems Relate to:

- **Predators and Other “Dangerous” Animals** Red Imported Fire Ant (RIFA), Cats, Feral Hogs, and Cowbirds - Chapter 7
- **Deer Management** - Chapter 8
- **Cedar and Other Brush Management** - Chapter 9

Dangerous Animals damage birds and/or their habitat.



Red Imported Fire Ants (RIFA)



Cats



Feral Hogs

**Brown-headed
Cowbirds**



Control Exotics

Arundo donax





Chinaberry tree
Melia azedarach



Chinese Tallow Tree
Triadica sebifera



Ligustrum spp





INVASIVES 101

TAKE ACTION

CITIZEN SCIENTISTS

PROFESSIONALS

RESOURCES

INVASIVES
DATABASE

GO

PROTECT THE LAKES YOU LOVE. STOP INVASIVE MUSSELS.

Invasive mussels, like zebra and quagga mussels, are having a devastating effect on the state's natural resources. They negatively impact native fish and mussels, and foul beaches with their sharp shells. They wreak havoc on boating equipment and clog water intake systems. Invasive mussels can form larger populations that can have a great impact on a deep and shallow lakes ecosystem, and can costing taxpayers millions of dollars. Invasive mussels have already invaded several Texas lakes, and could take over all freshwater sources in Texas.

Do your part to save our lakes – **Clean, Drain and Dry** your boat every time you leave a lake.

LEARN MORE

NEWSLETTER

Invasive Species iWire and News

MORE

DO YOUR PART TO STOP THE SPREAD!



GIANT SALVINIA

SALVINIA MOLESTA

BRAZIL AQUATIC INVASIVE



EMERALD ASH BORER

AGRILUS PLANIPENNIS

EAST ASIA WOOD BORING BEETLE



LIONFISH

PTEROIS VOLITANS

INDO-PACIFIC SALTWATER INVASIVE

INVASIVES

TAKE

Excess Clearing or Maintenance

















Poll Question

- Should U-Haul trucks be stored/parked in the riparian floodplain?
 - Yes
 - No

Monitoring



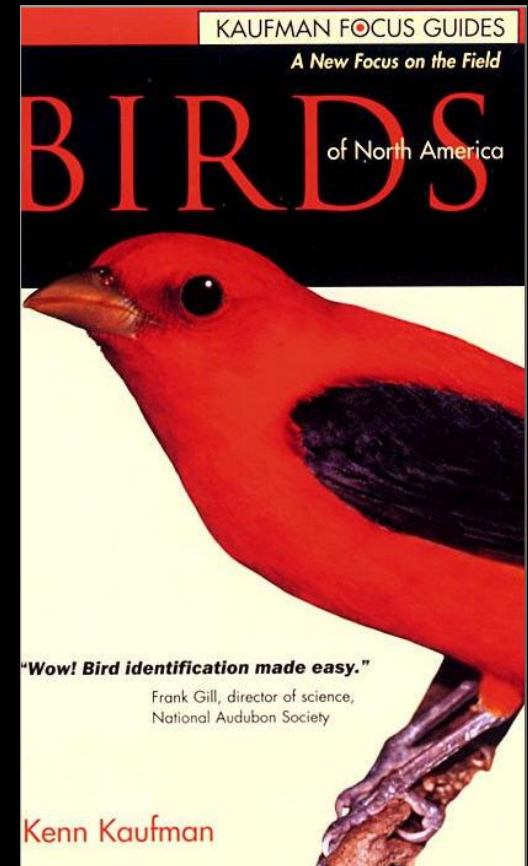
Photo Monitoring

Bird Surveys



Helpful Field Resources

- Field guides
- Audio (CD/DVD)
- Mobile Applications:
 - eBird
 - Merlin
 - iNaturalist



1:38



Your Bird of the Day
Green Heron



IDENTIFY A BIRD



Step by Step



Sound



Photo

My Sound Recordings



Identify



Explore



Life List



Settings

7:31



2023-11-05 0829

Huntsville, AR - 5 Nov 2023, 8:30 AM - 1:05



0:00



American Crow ✓
Corvus brachyrhynchos



Northern Cardinal ✓
Cardinalis cardinalis



Northern Flicker ✓
Colaptes auratus



White-throated Sparrow ✓
Zonotrichia albicollis



White-breasted Nuthatch ✓
Sitta carolinensis



Blue Jay ✓
Cyanocitta cristata



Red-bellied Woodpecker ✓
Melanerpes carolinus



Identify



Explore



Life List



Settings

Photo Monitoring Resources/Tools

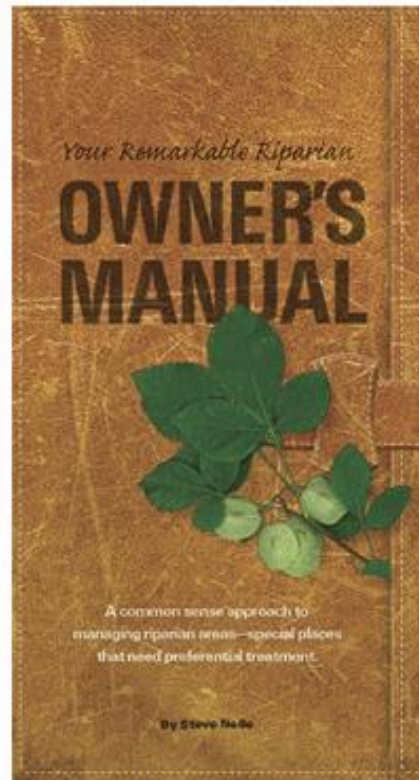
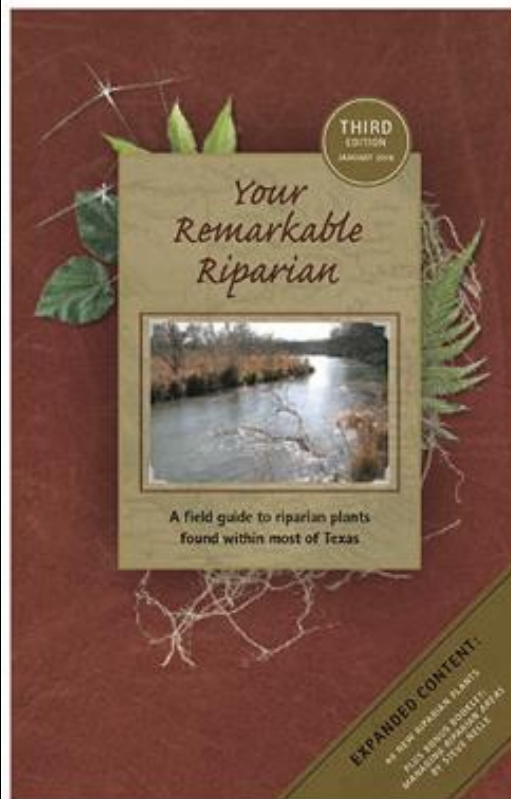
- **SMART PHONE**
 - **GPS APP**
- **PERMANENT MARKER**
 - **T-POSTS**
 - **FENCE POST**
- **HELP ITEMS**
 - **COVER BOARD**
 - **CLIPBOARD WITH YELLOW PAD**



References and Tools

Your Remarkable Riparian

by Steve Nelle
in collaboration with Nueces River Authority



The Riparian Field Guide and Manual are now available for \$44 per set or \$330 per box of ten sets plus a 10% shipping and handling fee.

www.remarkableriparian.org

Search

Enter a location to find

140 City Park Rd, Boer

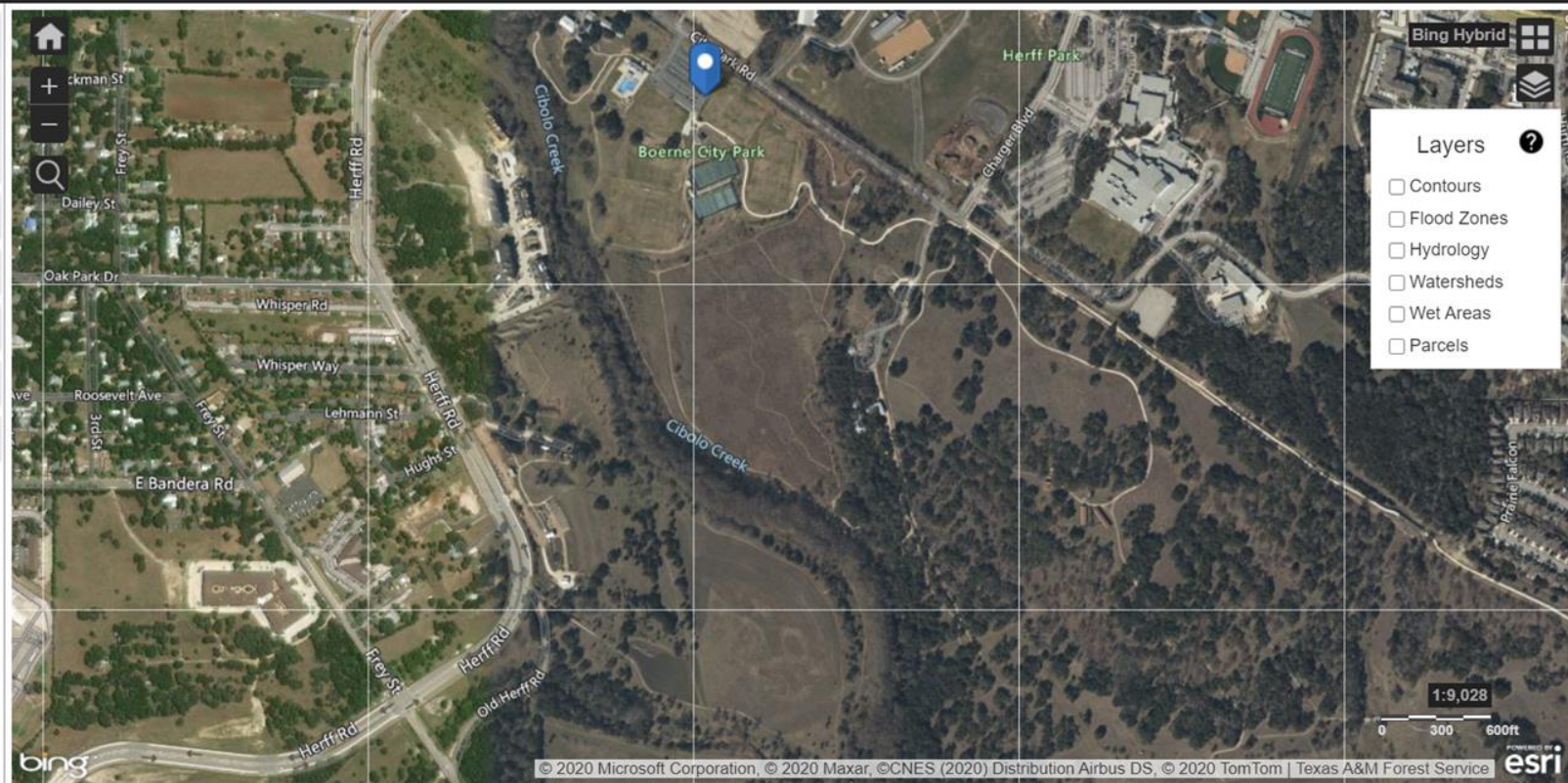
Custom Draw

Draw My Ranch

Load/Save

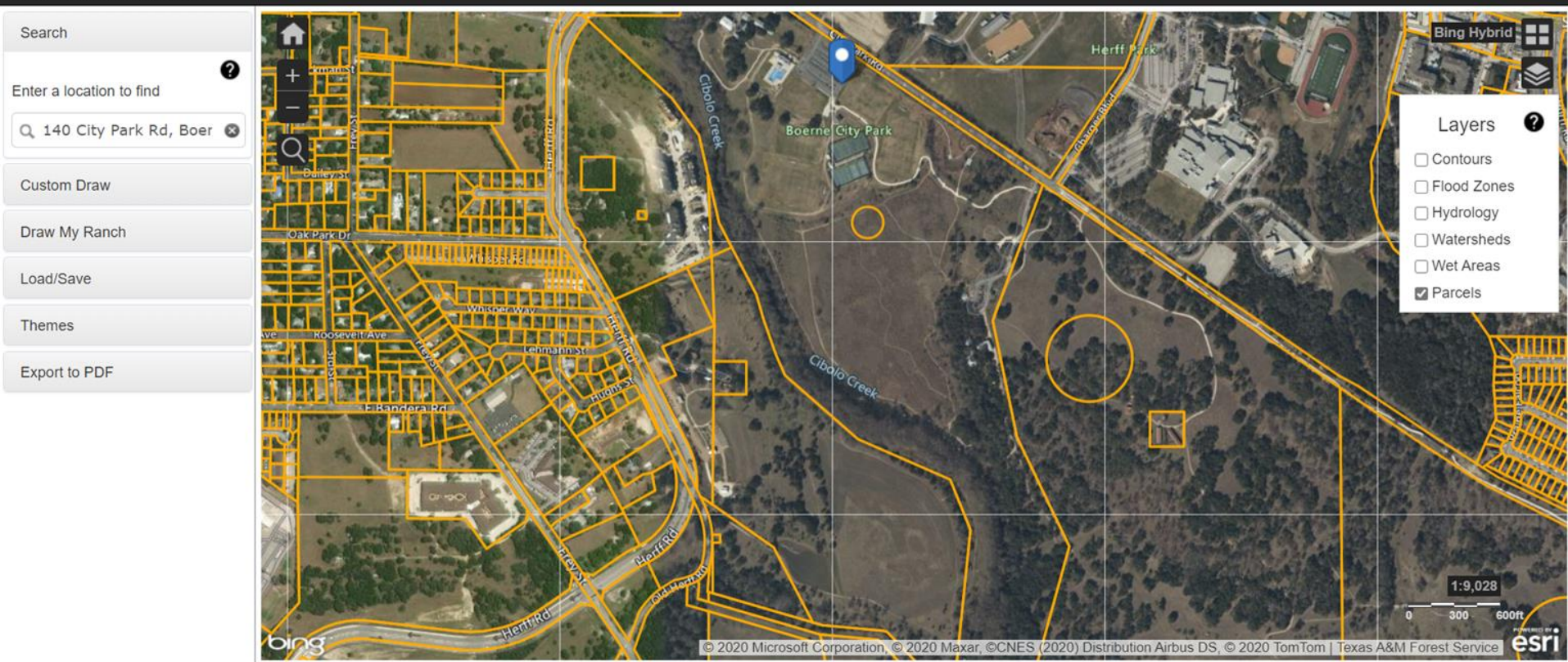
Themes

Export to PDF



Layers

- ☐ Contours
- ☐ Flood Zones
- ☐ Hydrology
- ☐ Watersheds
- ☐ Wet Areas
- ☐ Parcels





You are here: Web Soil Survey Home

Search

Enter Keywords

Go

All NRCS Sites

Browse by Subject

- ▶ Soils Home
- ▶ National Cooperative Soil Survey (NCSS)
- ▶ Archived Soil Surveys
- ▶ Status Maps
- ▶ Official Soil Series Descriptions (OSD)
- ▶ Soil Series Extent Mapping Tool
- ▶ Soil Data Mart
- ▶ Geospatial Data Gateway
- ▶ eFOTG
- ▶ National Soil Characterization Data
- ▶ Soil Geochemistry Spatial Database

The simple yet powerful way to access and use soil data.

START
WSS

Welcome to Web Soil Survey (WSS)



Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and

anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

Three Basic Steps

1 Define.

Area of Interest (AOI)



Use the Area of Interest tab to define your area of interest.

I Want To...

- Start Web Soil Survey (WSS)
- Know the requirements for running Web Soil Survey
- Know whether Web Soil Survey works in my web browser
- Know the Web Soil Survey hours of operation
- Find what areas of the U.S. have soil data

Announcements/Events

- Web Soil Survey Release History

I Want Help With...

- How to use Web Soil Survey
- How to use Web Soil Survey Online Help

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**Dedicated to
Benjamin H. Stephens &
W. Rufus Stephens, Jr**

Questions?