

The **BARRED OWL**

Newsletter of the Baton Rouge Audubon Society

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HOPE FOR OUR COAST: AUDUBON'S INSIGHTS

Richard Condrey
Conservation Chair, Baton Rouge Audubon

The competition was rough at this year's Downriver Festival. Jazz and the aroma of Louisiana cooking filled the air. Gaily clad second liners danced about the New Orleans Mint. Upstairs, I presented Audubon's Louisiana: Postcards from Eden, Lessons from the Past for the Future. Despite the competition, and the sometimes un-festive nature of my talk, it seemed to be well received – not too surprising given my reliance on Audubon's penetrating study of Louisiana's ecology and the importance of coastal restoration.

In this article I'll cover the new findings I presented in my Downriver talk. I will not repeat that portion of the talk I covered in two previous Barred Owl articles (3rd Quarter 2014 p. 4 and 4th Quarter 2016 p. 4) as those are available at our BRAS website, <http://www.braudubon.org/newsletters.php>.

So what's new? Based on what I learned from my research on Audubon's Louisiana (<https://btnep.org>

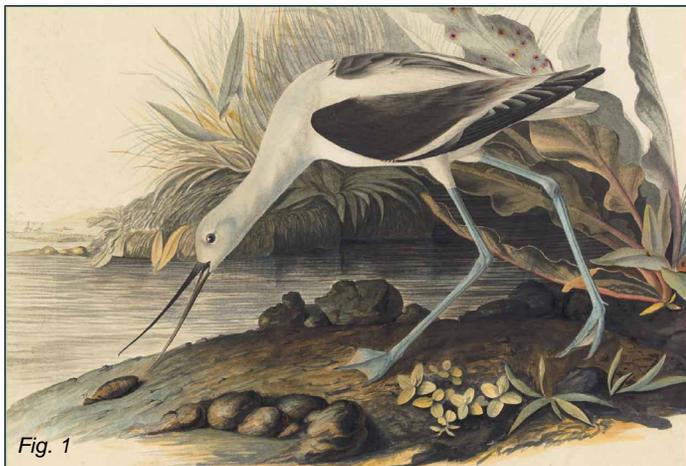


Fig. 1

resources/calendars/, Figure 1), I have been testing Audubon's 1837 Hypothesis that his work forms a touchstone for measuring environmental change. I have continued to find it true for our coast. It has allowed me to link the eyewitness accounts from the 1500s to 1800s of a robust, seaward advancing coast (briefly reviewed on page 4 of our 3rd Quarter 2014 Barred Owl) to the present with an eye towards the future. Given the massive changes our coast has endured, this link was critical, at least for me.

The Great Barrier Reef of the Americas is a prime example of the dramatic and -- until Audubon -- unexplained changes which occurred along the Louisiana coast in the 1800s. The Reef was there in the Gulf of Mexico, just off what is now the central coast of Louisiana from the time the Spanish first sailed the northern Gulf through President Jefferson's Louisiana Purchase (Figure 2). It was a well-known and dangerous impediment to navigation. It was just three to four feet under the surface of the water, though visible when winds blew from the north. It was formed and maintained by billions of living oysters. It was a vital component of Louisiana's nearly continuous coastline, providing the coast protection from storms and the offshore transport of sediment and detritus. In turn, Louisiana's coast formed the northern portion of a 'bowl' which helped hold the brackish waters the Reef's oysters required. When Audubon visited the northern portion of the Reef in 1837 he found its oysters dead. And by 1853 the reef was gone (<http://mississippiriverdelta.org/great-barrier-reef-americas-coastal-lessons-past/>).

It was Audubon's insightful 1820-1837 observations of our coast that remind me that the living Reef must have depended on a massive, somewhat continuous flow of groundwater to dilute the saline water of the Gulf of Mexico. Without this dilution, the saline waters of the Gulf would bring predators, disease, and death to the Reef's

(Continued on page 3)

Dear BR Audubon membership,

As many of you know, it has recently come to light that the Louisiana Department of Wildlife and Fisheries and the Grand Isle Independent Levee Board have come to an agreement to build an airport on Elmer's Island just outside of Grand Isle. The mayor of Grand Isle sees it as an economic boon, counting on an influx of wealthy fisherman who will fly their private jets to the area. The conservation community, however, sees it as an ill-conceived idea on many levels. It's not a done deal; permits still have to be granted before construction can begin. I decided that we needed to speak out against this and perhaps there is still hope to change this course of action. I've written the following letter to the Governor and copied the Secretary of LA Wildlife and Fisheries as well as Patrick Connick, the State Representative for District 84 which includes Grand Isle. If you've a mind to add your voice as well, you can email these leaders at the following addresses:

Governor John Bel Edwards

<http://gov.louisiana.gov/email-the-governor>

Jack Montoucet, Secretary LA Wildlife and Fisheries
Jack.Montoucet@la.gov

Jerry Gisclair, State Rep District 54
jgisclair@legis.la.gov

Dear Governor Edwards,

Imagine you weigh slightly more than a quarter and you have just flown 600 miles over the Gulf of Mexico in a headwind and landed on the coast of Louisiana. You are exhausted, hungry, thirsty, and yet completely driven by hormones and instinct to continue that flight hundreds or even thousands more miles across the continent of North America to find a place to nest and raise a family.

Now imagine that when you land on the coast of Louisiana, there is an airport where you used to be able to find sustenance to continue your journey.

The dwindling and fragile coast of Louisiana is a life-line for millions of birds that pass through on their grueling migratory journeys each spring and fall. Nature is eating away at the coast, but so is man. Each bit of development in this fragile habitat has serious repercussions for the wildlife that depend upon it.

Carving up a wildlife refuge used by millions of animals to build an airport that will benefit a few wealthy individuals hardly seems like a fair trade. The placement of this airport on a coastal strip of land that will undoubtedly be destroyed by the full blunt force of a storm at some point seems ill-advised at best. Endangering people's lives by flying planes in the middle of one of the largest migratory bird flyways in North America seems downright irresponsible.

In the articles referencing this issue in the Times-Picayune, it was stated that you support the idea of an airport on Elmer's Island. Perhaps you were not given all the facts regarding what's at stake with such a development on this tiny and vulnerable barrier shoreline. Given the potential negative impact to our invaluable state resources, we would ask you reconsider offering that support.

Sincerely yours,

Jane Patterson
President, Baton Rouge Audubon Society

cc: Jerry Gisclair, Representative State District 54;
Jack Montoucet, Secretary, LA Dept Wildlife & Fisheries

BRAS PROGRAMS UPDATE

Monthly Speaker Series – Fall 2018

We recently kicked off another season of our monthly speaker series. Presentations will be held at BREC's Bluebonnet Swamp Education Center. Presentations begin at 7:00 PM, with refreshments offered at 6:45 PM. Attendance is free for all BRAS Members, \$3 at the door for non-BRAS Members and \$2.50 for non-BRAS seniors (price of admission at the Bluebonnet Swamp).

In September, Justin Lehman, Marshbird Biologist with Audubon Louisiana, taught us about the extremely elusive Black Rail and the exciting results from point count and drag-line surveys conducted across south Louisiana over the last year. If you are interested in volunteering for drag-line surveys this fall/winter – a rare opportunity to see a rare bird up close – you may contact Mr. Lehman at jlehman@audubon.org.

On October 4th, Larry Reynolds, Waterfowl Program Manager with the Louisiana Department of Wildlife and Fisheries, will discuss the

health of waterfowl populations in Louisiana. Mr. Reynolds will present results from aerial surveys, bird banding efforts, and harvest data.

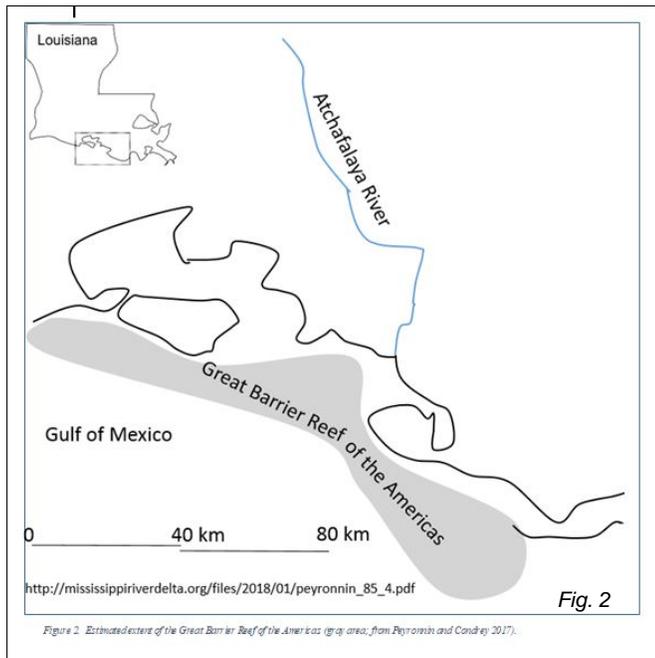
On Nov 8th, Oscar Johnson, Ph.D. Candidate at Louisiana State University, will discuss the recent LSU Museum of Natural Science expeditions to South America. The LSU Museum of Natural Science maintains an active program of field work in tropical regions throughout the world, conducting exploratory research to document the fauna of remote regions. Oscar Johnson will share the results from recent expeditions to Peru and Bolivia, highlighting recent discoveries and the cutting-edge science that results from those expeditions.

In December, we will host our annual Christmas Potluck (date TBD) and share information about the upcoming Baton Rouge Christmas Bird Count!

Announcements and reminder emails will be distributed to the Baton Rouge Audubon Society listerv. Event details will also be posted on our Facebook page. Please feel free to share the announcements and bring a friend!

HOPE FOR OUR COAST: AUDUBON'S INSIGHTS

(Continued from page 1)

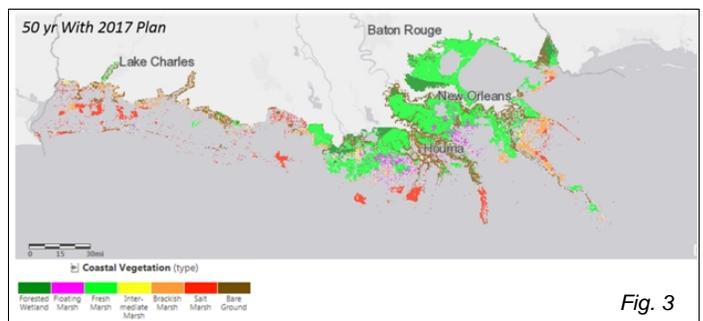


oysters. Audubon's 1820-1837 travels down the Mississippi River and along and through our coast also reminded me that the flow of groundwater was being disrupted through human alterations in the flow of surface waters by the construction of levees, river "improvements", and trapping of beaver. Audubon showed me the obvious: the Great Barrier Reef was lost because these alterations raised coastal salinities. These increased salinities killed the oysters which had built and maintained the reef. Without the Reef, this extensive portion of our coast was fully exposed to Gulf of Mexico storms and salinities -- adversely impacting coastal vegetation and facilitating offshore transport of detritus. In short, starting our current spiral of land loss.

Why must we attempt to restore the natural outflows of groundwater? The surface of our current coast is largely composed of sediment – silt, clay, and sand – covered by a thin veneer of shallow-rooted, salinity-stressed vegetation. Its Great Barrier Reef is gone. Its barrier islands have been declining at a steady rate since at least the late 1800s. My previous analysis of coastal land data from 1932-2010 suggests that during this period the coast lost land at a rate of -1.5 football fields/hr with no statistical suggestion that management measures were working.[1] In an upcoming paper, my new analysis of the recently updated coastal land data suggests a sudden, temporary switch from loss to gain began in 2009. While the data from 1932 to 2008 remain consistent with a loss of 1.5 football fields/hr, the data from 2009 to 2016 suggest the coast is gaining land at a rate of +0.8 football fields/hr. I believe this gain is due to a temporary decline in hurricane impact. I

do not expect it to continue, since our coast now lacks almost any hard natural structure which could withstand strong storms and retard the flow of detritus into the Gulf of Mexico.

My expectation is consistent with Louisiana's 2017 Coastal Management Plan (CMP). The CMP uses a "High Environmental Scenario [HES] to guide decision making" (<http://coastal.la.gov/our-plan/2017-coastal-master-plan/> p. 85). The CMP's 50-year projection of its HES with current and proposed management measures clearly demonstrates the vulnerability of a coastal Louisiana under existing and proposed management measures (Figure 3) – management measures which do not attempt to restore natural groundwater flows. Note in Figure 3 that almost all of the current barrier islands and much of the current coastline will be lost, exposing the coast to Gulf of Mexico salinities and storms. Also note in Figure 3, the CMP expects to establish islands of floating marsh in the Gulf; fresh marsh adjacent to the Gulf; and fingers and islands of salt, brackish, and fresh marsh in the Gulf. I find nothing in the current or historic record which suggests that these areas can be established and sustained. Rather the record suggests that these areas will be lost as the CMP's coast lacks any natural hard structure – such as the Reef -- to withstand storms, offshore transport of detritus, and undiluted Gulf of Mexico salinities.



I firmly believe that if we are to restore our coast we must follow Audubon's lead, test his Hypothesis, and look for guidance from the past to understand the present and plan for a sustainable future. My research suggests a successful plan will include a massive reintroduction of groundwater into our coastal system. While this solutions may not be easy, Figure 3 suggests it's worth a concerted effort.

[1] Condrey, R., P. Hoffman, and D.E. Evers. 2014. The last naturally active delta complexes of the Mississippi River (LNDM): Discovery and implications. Pp. 33-50 in Perspectives on the restoration of the Mississippi Delta: The Once and Future Delta. J. Day, G.P. Kemp, A. Freeman, and D.P. Muth (Editors). Elsevier. Estuaries of the World 20: 194pp.

Working With A Net

Bird banding with **Baton Rouge** Audubon's Louisiana Bird Observatory has contributed to my education in more ways than I could have ever imagined. Not only has it been a fun experience, but it has helped me learn more than possible in any classroom because it involves so much hands-on learning. I have also thoroughly enjoyed the uniqueness of my experience and the fact that I gotten to do things that many people do not get the chance to. When working in the field, the things that I have learned about come to life and are no longer just things I try to understand on paper; they become real.

As someone who enjoys nature, bird banding is the perfect alternative to a classroom. Although getting up before dawn is not necessarily pleasurable, I'm sure anyone can agree that the rewards greatly outweigh the struggle of waking up. I had never handled birds before, and the knowledge I have gained from banding has helped me see these beautiful creatures in a new way and with a better understanding.

After being a part of banding for two years, I am able to extract a bird from a net, as well as process a bird and collect necessary data. I have even started to take blood samples from a few birds, which are used in the lab work that I help with as well. In the lab, I extract DNA from the blood samples, and then I use the DNA for PCR. I am currently helping with two projects, one which is determining the sex of Carolina Wrens, and the other dealing with Avian Malaria in Northern Cardinals.

My work with banding extends far beyond the field and the lab; I have formed great relationships with the people I band with, many who have helped me throughout my college career and have become mentors to me. Overall, this experience has definitely added a lot more than I ever expected to my education and my life, and I am grateful for the opportunity to be a part of it.

Elizabeth Heintz

University of Louisiana-Lafayette
Undergraduate student

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Katie Percy
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Dave Patton
sanctuary@braudubon.org

Webmaster

Daniel Patterson
webmaster@braudubon.org

At Large Members...

Erik Johnson
Ejohnson@audubon.org

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Extra sanctuary patches or patches for NAS members are \$10 each and can be ordered by using the form to the right. If you are joining BRAS and want a **free** patch, you must put "1" in the blank.

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Baton Rouge Audubon Society

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