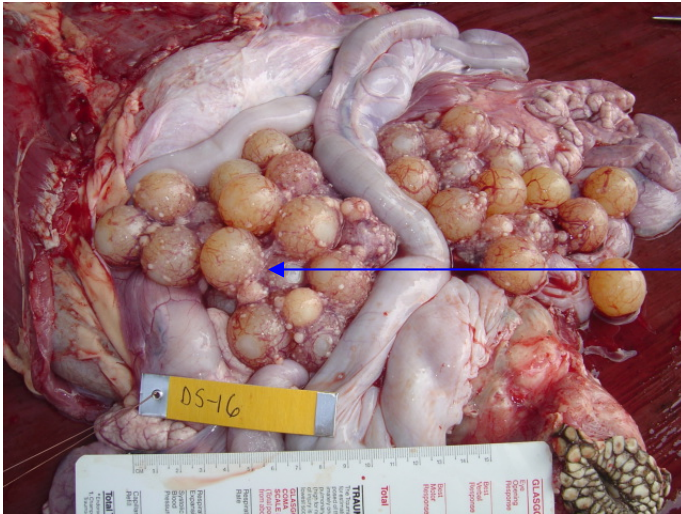


ALLIGATOR PROGRAM RESEARCH

Ms. April Bagwell - Masters Student – Southeastern University

In spring 2007, LDWF staff assisted Ms. April Bagwill with alligator collections. April is a graduate student in the Department of Biological Sciences at Southeastern Louisiana University; her advisor is Dr. Dave Sever. She is examining the ultra-structure of female alligator reproductive tract using electron microscopy. Preliminary results have been presented at scientific conferences and April anticipates receiving her Master of Science degree next year upon completion of her thesis.



This picture shows multiple size classes of developing ovarian follicles. Under normal conditions, some of the larger follicles would be fertilized, receive a calcified shell and be laid (as eggs) in a nest.

Dr. Val Lance – Reproductive Endocrinologist - San Diego State University

Dr. Val Lance continues to collaborate with LDWF alligator program staff on a number of research areas. Currently, Dr. Lance is working on the following projects:

Evaluation of Heavy Metals in Alligator Tissues

Tissues (liver, kidney, muscle, and fat) were collected from harvested alligators during the 2005 and 2006 September wild seasons. This survey was designed to evaluate the presence of heavy metals and other environmental contaminants in alligator tissues following both Hurricanes Katrina and Rita. Thus far no areas for concern have been noted. Alligator eggs were also collected from several parishes for evaluation; the results from the yolk and embryos are pending.



Researchers
collecting blood to
evaluate the effects
of high saline water
conditions on

Evaluate the Effects of Post-Hurricane Saline Stress in Alligators

Following Hurricane Rita, LDWF staff collected alligator blood and water salinity values to evaluate animal's stress hormone (i.e., corticoids) concentrations, electrolytes (sodium, potassium, chloride), and osmolality (i.e., *a measure of the osmoles of solute per litre of solution. In chemistry, the **osmole (Osm)** is a non-SI unit of measurement that defines the number of moles of a chemical compound that contribute to a solution's osmotic pressure.* Source: Wikipedia @ <http://en.wikipedia.org/wiki/Osmolar> (2007). These parameters were utilized to identify if alligators were adversely affected by highly elevated saline water exposure. However, data interpretation has been compounded due to the additive effects of drought on alligators and their environment. Dr. Lance suggested that some elevations in stress hormones were likely due to the combination of elevated salinities from Hurricane Rita and subsequent drought conditions. Following the late summer rains in July and August 2006, alligator stress hormone concentrations have returned to normal ranges.

Dr. Javier Nevarez – DVM-PhD – Louisiana State University (LSU)

Dr. Javier Nevarez has been coordinating a general health survey of farm-released alligators. This program is designed to ensure that alligators on farms and/or released animals are disease free. Alligators from five farms were randomly selected (20 alligators per farm) and transported to LSU's School of Veterinary Medicine for full evaluation and necropsy. Additional samples will be collected during next year's release season. We appreciate the cooperation of alligator farmers and ranchers in this project.

In addition, Dr. Nevarez is examining the clearance of tetracycline from alligator tissues; of vital importance as the meat is a major value to farmers and must be safe for human consumption.



Dr. Nevarez examines a farm alligator with LDWF Biologist Phillip "Scooter" Trosclair

Of note, Dr. Nevarez recently completed his PhD from LSU. His dissertation investigated the relationship between West Nile Virus and PIX/LPSA in alligators. He is now a full time faculty member at LSUSVM and remains available to assist with diagnostic services should alligator farmers notice any illness or unusual behavior in their alligators.