

Louisiana Natural Resources News

Newsletter of the Louisiana Association of Professional Biologists

August 2005

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Fall Symposium only weeks away – August 18 & 19

Fill out your travel forms and get ready to wind your way to Lafayette for the Fall Symposium, which will be all day August 18th and half of August 19th at the NOAA Estuarine Habitats and Coastal Fisheries Center near the Cajondome. This is the same venue as last year. The general plan for the meeting also is like recent year's symposia with student talks on Thursday and then a half day focused session on Friday morning. That half day focus session will be *Integrated Natural Resource Management in Louisiana Forests, Marshes, and Grasslands*. This year we will also have a poster session at the meeting. This will be an added opportunity for all of us to share information about research, management, and the state of the natural resources in Louisiana. There is no specific theme for the poster session.

The LAPB also holds one of its two regularly scheduled business meetings in conjunction with the symposium. The business meeting is Thursday afternoon, right after the student talks. Immediately following that business meeting there is a steak cookout on Thursday evening. We hope you can plan to eat with us too. How many meetings have you been to with \$30 as the maximum registration fee where you got a good steak dinner with the deal? Most of you (LAPB life members) get the vittles for only a \$20

registration. What an event - good science, good food, excellent location, and fine company.

Gas-up the vehicle and plan to get to Lafayette on Thursday & Friday, August 18 & 19. Tell friend or, better yet, bring a friend and recruit a new member to the LAPB. Directions are below

Symposium Logistics – Location, How to get there, & Costs

Location: Estuarine Habitat and Coastal Fisheries Center
646 Cajundome Blvd
Lafayette, Louisiana 70506

Directions:

From I-10 exit at SR-182 (North University Ave.) and go South for 1.4 miles. Turn right on US-90 (Cameron St.) for 0.8 miles, then turn left onto Cajundome Blvd. The Estuarine Habitat and Coastal Fisheries Center is approximately 0.5 miles on your left. The Thursday evening social and supper will be held at Abdalla Hall, which is another 0.2 miles on your right.

Registration:	Non-members & annual LAPB members with social & supper	\$30.00
	LAPB Life members with social & supper	\$20.00
	Non-members & annual members without social & supper	\$20.00
	LAPB Life members without social	\$10.00
	Students with social and supper	\$10.00
	Students without social and supper	NC
	Student speakers with social and supper	NC

Symposium Agenda

Thursday, August 18 - Recent Natural Resources Research in Louisiana

- 8:20 - 8:30 Welcome and Introduction: **Larry Reynolds**, Department of Wildlife and Fisheries.
- 8:30 - 8:55 *Some Effects of Forest Management on Wood Thrush at Sherburne Wildlife Management Area.* **Sarah C. Coulter** and David G. Kremontz, Arkansas Coop Unit, Dept. of Biological Sciences, Univ. of Arkansas.
- 8:55 - 9:20 *Herpetofaunal Community Structure and Habitat Preferences of Herpetofauna at Two Wildlife Management Areas in Northeast Louisiana.* **Stephanie L. Kovac** and Dr. John L. Carr, Dept. of Biology, University of Louisiana at Monroe.
- 9:20 - 9:45 *Herpetofaunal Assemblages in Relation to Forestry Practices on Wildlife Management Areas in Northeast Louisiana.* **Marcie Dixon** and Dr. John L. Carr, College of Arts and Sciences, Dept. of Biology, University of Louisiana at Monroe.

- 9:45 - 10:10 *Effects of Game Management Practices on the Avifaunal Abundance of Two Louisiana Wildlife Management Areas.* **Amanda Carroll** and Dr. Kim Marie Tolson, Dept. of Biology, University of Louisiana at Monroe.
- 10:10 - 10:30 Coffee Break
- 10:30 - 10:55 *Waterbird Use of Rice Fields in Southwestern Louisiana.* **Sergio Pierluissi** and Dr. Sammy L. King, School of Renewable Natural Resources, Louisiana State University.
- 10:55 - 11:20 *The Effect of Terraces on SAV in Three Southwest Louisiana Marshes,* **Chris Cannaday**, School of Renewable Natural Resources, Louisiana State University.
- 11:20 - 11:45 *The Effects of Fire on Body Condition, Home Range, and Post-Migration Movements of Wintering Henslow's Sparrows in Southeastern Louisiana.* **Erik I. Johnson**, Jennifer K. DiMiceli, and Dr. Philip C. Stouffer, School of Renewable Natural Resources, Louisiana State University.
- 11:45 - 12:10 *The Over-Winter Social System of Hermit Thrush.* **Dr. David Brown**, Department of Ecology and Evolutionary Biology, Tulane University.
- 12:10 - 1:45 LUNCH
- 1:45 - 2:35 *The Effects of Selective Timber Harvest on Birds, Amphibians and Reptiles in Bottomland Hardwood Forests of Louisiana.* **Dr. Paul Leberg**, Brian Lorenz and Jeannie Heltzel, Department of Biology, University of Louisiana at Lafayette.
- 2:35 - 3:00 *Effects of Birds on Sapling Growth in the Maurepas Swamp, Louisiana.* **David M. Fox** and Dr. Philip C. Stouffer, School of Renewable Natural Resources, Louisiana State University.
- 3:00 - 3:25 *Habitat Selection at Multiple Spatial Scales by Avian and Herpetofauna Communities in Managed Forests of Louisiana.* **Holly G. LeGrand** and Dr. Michael J. Chamberlain, School of Renewable Natural Resources, Louisiana State University.
- 3:30 - 3:55 *Avian Response to Forestry Practices at Two Wildlife Management Areas in Northeast Louisiana: a Breeding Bird and Phenology Study.* **Michael Baranski** and Dr. Kim Marie Tolson, Department of Biology, University of Louisiana at Monroe.
- 3:55 – 4:15 BREAK
- 4:15 - 5:30 LAPB Fall Business Meeting
Agenda & Introductions
Secretary's Report
Treasurer's Report
Awards Committee Report
Old Business (Discussion of symposium suggestions, themes for next year, etc.)
New Business

5:15 - 9:30 Evening Social, Student Presentation and Publication Awards, and Supper at Abdalla Hall

Friday, August 19 - Focal Session on Integrated Management of Wildlife Resources

- 8:20 - 8:30 *Introductions.* **Larry Reynolds**, Louisiana Department of Wildlife and Fisheries, Baton Rouge.
- 8:30 - 9:00 *Gulf Coast Joint Venture Integrated Bird Conservation.* **Barry C. Wilson**, US Fish and Wildlife Service.
- 9:00 - 9:30 *Forest Management Strategies.* **Kenny Ribbeck**, Louisiana Department of Wildlife and Fisheries.
- 9:30 - 10:00 *All Bird Management.* **Chuck Hunter**, US Fish and Wildlife Service.
- 10:00 - 10:30 Coffee Break
- 10:30 - 11:00 *Restoration, Viability, and Management of the Louisiana Black Bear.* **Michael Chamberlain**, Louisiana State University
- 11:00 - 11:30 *Prairie Restoration.* **Scott Edwards**, US Department of Agriculture
- 11:30 - 12:00 *Discussion with all presenters.*

NOTE: Abstracts for Thursday's presentations and the posters are at the end of this newsletter.

Summer foodplots and management dilemmas – Jeb Linscombe, LDWF

If you have ever tried to maintain any permanent clover plots in areas with high deer densities, you probably have experienced some difficulties in late summer with various other grass and broad leaf species coming in and competing with your clover. The deer have heavily browsed the clover all spring and summer, it is very hot, and the competition really has put a whipping on the clover. This causes considerable dismay to the manager. He has to decide if he is going to disc it up and replant or eventually just mow it all down, scratch it, or whatever, in hopes of seeing it come back strong again next spring. I've had ill will towards the vasey, crab and signal grasses, *Verbena* sp., night shades, and other plants that have competed with my precious clover. White clover is expensive and not as easy to maintain for multiple years as often is touted.

However, this past summer, I had a change of perception. The intense browsing that the deer put on the clover, coupled with the competing seed producing and insect harboring grasses and forbs seems to have, in this particular field, created a perfect mosaic of short, medium and taller vegetative structure that was just full of turkey foods. Islands and irregular shaped patches of taller grasses seem to be all mixed with shorter

grasses and the struggling clover to form a unique micro landscape. More importantly, I got to observe a fine mixed brood of about a dozen or more poults with about 3 adult hens in this field on many occasions. I've feared that the heavy grasses might make them too vulnerable to ground predators and that they might not be able to see well enough to stay safe, so I mowed wide meandering strips through the clover patches. Interestingly, I had 2 other clover patches that I mowed low and that appeared to have good insect availability, but I rarely saw turkeys using those plots.

So, if you are at the end of summer and are ready to mow everything down, you might want to first, go out and walk through your clover patches and see what kind of mosaic pattern might have been created by all the deer browsing. It might be something that you want to put off as long as you can into the fall until the bug population is less plentiful and turkeys are going to other foods.

On another note, I really try to keep a certain percentage of land in fallow fields principally for deer. We had one fine 3 acre dewberry patch that could not have been better. It was permanent, and cheap to maintain. All we had to do was mow it once a year to keep out the sweet gum. It was better than any food plot you could ever plant in my opinion. The deer fawned in it and it offered a year round quality food source. One year we got talked into planting this new fabulous bean that would climb up on everything and be the answer to growing huge racks etc. We disked in our precious dewberry patch and planted the new legume. It completely failed, and we got an incredible stand of morning glory. Since then the dewberry has never really fully recovered and we get a good stand of sickle pod each year. So this is not to say, don't try new things, but if you have a real good thing, think twice about changing it.

Ducks by the numbers: what the May counts revealed – Frank Rohwer

Each year the world's largest annual wildlife survey takes place in the northern US and Canada. I'm talking about the joint US and Canadian May Surveys for waterfowl conducted by personnel from the US Fish and Wildlife Service and the Canadian Wildlife Service along with folks from NGOs and state & provincial wildlife organizations. The survey is a mix of air transects, mostly from fixed wing aircraft, that are ground truthed on some of the flight segments. The ground counts are how we get visibility corrections – it is no surprise that more green-winged teal are missed by the air crew than are big, colorful, open-water species like canvasbacks. The May survey samples the population of breeding ducks over huge areas, including the prairie pothole region, the productive arctic river deltas, and the vast northern boreal forest with its lower duck densities. The survey also records wetland conditions on the prairies and parklands, since those areas are the most significant driver of duck production. When the prairies are dry, you can bet it is going to be a lousy fall in the duck blind.

OK, enough background, lets get to the meat of the spring surveys. The simple result is that total duck numbers are about the same as last year. Overall, the total in the surveyed regions is down by 1%, but that is well within the margin of error for this enormous survey. The really good news is that ponds were up a whopping 37%, mostly due to good conditions in southern Canada, which had 56% more ponds than last spring. The bad news on pond numbers came from the Dakotas. That area started the

spring considerably dryer than last year. The Dakotas have been a major driver of production in recent years with good wetlands and lots of grass due to the Conservation Reserve Program. That is a good recipe for production - water for nesting, re-nesting and brood survival and relatively good nest success due to an abundance of grass and reduced predators due to a widespread mange epidemic causing low Red Fox numbers. So, the lower water in the eastern Dakotas is not particularly good news for Louisiana hunters. Plenty of water in Saskatchewan may be our savior, at least for Mallards.

The specifics about some duck numbers are part good and part bad. Scaup populations reached an all time low – definitely not good! Mallards were down by about 7%, but Pintail were up. The numbers are below.

Pond & duck numbers (thousands) pooled over all of the traditional surveyed areas*.

	2005	2004	Long term ave.
May ponds	5,381	3,920	4,813
Total ducks	31,735	32,164	33,281
Gadwall**	2,179	2,590	1,683
Blue-winged Teal	4,586	4,073	4,499
Green-winged Teal	2,157	2,461	1,861
Mallard	6,755	7,425	7,510
Shoveler	3,591	2,810	2,149
Scaup	3,387	3,807	5,220
Wigeon	2,225	1,981	2,624
Pintail	2,561	2,185	4,142
Redhead	592	605	625
Canvasback	521	617	563

* Data from Waterfowl Population Status, 2005, which is published annually by the USFWS Office of Migratory Bird Management (all pubs at <http://migratorybirds.fws.gov/reports/reports.html>). Special interest note: the primary author on the above document is LSU graduate Dr. Pam Garrettson, now a USFWS employee.

** Ducks are listed in order of harvest totals for Louisiana during the 2004 season, excluding 3 species not surveyed in the prairies, namely Wood Ducks (5th in harvest), Ringnecks (6th), and Mottled Ducks (8th).

The big question is “what does this mean for the fall?” That is really hard to say. However, I’m going to go out on a limb a bit farther than the official USFWS forecast. The Office of Migratory Bird Management plugged in the May duck counts and the May pond numbers to their fall flight prediction models and came up with a fall flight index for Mallards of 9.3 million, which is quite close to last year’s Mallard fall flight index of 9.4

million. Their model basically predicted the smaller Mallard breeding population (see table above) would have better production due to the more abundant May wetlands. What their model does not consider is the amazing amount of spring and summer rains that have hit the prairies after the May surveys. Most of the Dakotas and the southern parts of the prairie provinces of Canada have been deluged with rain. Ponds numbers and water levels over vast areas have increased rather than shown the normal seasonal decline. So Frank's prediction is that this will be a substantially better production year than last year. Abundant wetlands in June and July mean a strong renesting effort and elevated brood survival. The only way we will know if my seat-of-the-pants prediction was correct will be to look at the age ratios in the harvest this fall. Those data will not be available until late spring 2006.

Mississippi Flyway News: A Liberal Hunting Season With Lots of "Cautions" – Larry Reynolds, LDWF

The Mississippi Flyway summer meetings were held July 18–24 in Tunica, Mississippi with the 2005/06 waterfowl hunting season regulations clearly the most important thing on the agenda. Like every year, the Technical Section met first to gather all pertinent information, discuss alternatives, and make recommendations to the Council. The Council then met to discuss the Technical Section's recommendations, and those that were approved were sent to the USFWS for final consideration. Based on this year's May Waterfowl Breeding Population and Habitat Survey results of 7.54 million mallards and 3.9 million ponds in Prairie Canada, the liberal harvest regulation option was recommended for all 4 Flyways. That means Louisiana and all states in the Mississippi Flyway will be offered a duck hunting season length of 60 days with a maximum bag limit of 6 ducks per day. Furthermore, with a breeding population of 2.56 million, the current harvest management strategy for pintails recommends a full 60-day season with a daily bag limit of 1 per day instead of the 30-day season-in-a-season we have experienced recently.

That sounds great, but all is not rosy in the world of duck harvest management. The 7.54 million mallards is a total count from the traditional survey, Minnesota, Michigan, and Wisconsin. The last time results from the traditional survey area, 6.75 million, were as low as this year, we had a 30-day duck season with a 3-duck bag limit in 1993. Only the predicted excellent late-nesting and brood-rearing habitat conditions, as indicated by the pond count in Canada and further precipitation since the May surveys, eased the Technical Section biologist's concern with the recommended liberal harvest regulations.

Further concern has arisen from a recent population assessment of Pintails as detailed in a report titled *Population Dynamics and Harvest Management of the Continental Northern Pintail Population* by Michael C. Runge and G. Scott Boomer, and summary comments on Black Ducks, Canvasbacks, Scaup, and Mottled Ducks contained in a short document from the USFWS titled "2005 Preliminary Harvest-Management Considerations", which was faxed to the Flyway Regulations Committees shortly before they met. There is evidence that probably due to habitat changes, pintails are settling on the breeding grounds about 2.4-degrees of latitude further north on average than they did in 1975. Using an improved population model for pintails, the authors estimate

the more northern distribution of nesting pintails has resulted in a lower reproduction, 30-45% reduction in carrying capacity, and a 40-65% reduction in sustainable harvest potential. The report is not final, and this year's harvest recommendations are based on the current pintail harvest management strategy, but it will certainly impact future hunting regulations.

The spring breeding survey reported about 520,500 canvasbacks, which is above the 500,000 needed to open the season. However, predicted harvest with a full 60-day season and a bag limit of 1 per day would exceed the estimated allowable harvest, and a 30-day season within the regular duck season was recommended.

Comments from the USFWS regarding scaup and mottled ducks came as a little bit of a surprise. A recent population assessment for scaup indicated that harvest potential has decreased along with observed population declines. The USFWS suggested that scaup harvest rates have increased since the 1990's and recommended a 25% reduction in harvest. The only actions predicted to reduce current harvest levels by 25% were 1) a 30-day season within the regular duck season with a bag limit of 3 scaup per day or 2) a 60-day season with a daily bag limit of 1 per day. Concern for mottled duck populations came primarily from the western Gulf Coast portion of their range, and the USFWS recommended the Central and Mississippi Flyways consider actions to reduce harvest. With surprisingly little discussion, these recommendations were not approved by the Flyway Technical Section. Harvest is not considered a meaningful contributor to scaup population decline, and populations are not significantly different than in 1998. Consequently, no change in scaup or mottled duck harvest regulations was recommended by the Mississippi Flyway Council. The USFWS took the recommendation for mottled ducks, but has reduced the bag limit on scaup from 3 to 2 for the upcoming waterfowl season.

So as we prepare for the waterfowl hunting season, we are hopeful that wet conditions in Prairie Canada bode well for duck populations in general. However, the harvest management process seems more and more confounded by the population status and harvest potential of particular species. Anticipate further study, population modeling, recommendations, and inquiries of hunter opinion regarding alternative harvest options.

Restoration publications worth reading – Joy Merino

Ecology and Society has published two articles relevant to Louisiana restoration.

Myths of Restoration Ecology by Hilderbrand et al.

(<http://www.ecologyandsociety.org/vol10/iss1/art19/>) provides a concise review of the complexities and current theories of restoration science and policy.

Ecology, Planning, and River Management in the United States: Some Historical

Reflections by Reuss (<http://www.ecologyandsociety.org/vol10/iss1/art34/>) is a must read for anyone in environmental policy. It provides an easily digestible perspective of components that factor into restoration planning (such as the fact that agencies have personalities as well as missions) and provides argument for the role of ecologists in the planning process.

Terracing in Coastal Marshes - Joy Merino, National Marine Fisheries Service & Christine Thibodeaux, Louisiana Department of Natural Resources

A progressive technique for wetland restoration in south Louisiana is the construction of terraces in shallow open water areas. Terraces are discontinuous low levees constructed with bottom sediments excavated on site. They are designed to reduce wind propagated wave intensity, slow water movement allowing fine sediments to settle within the site, provide favorable conditions for submerged aquatic vegetation establishment (SAV), and increase habitat for nekton species. Ideal sites for terracing projects are degraded, hydrologically altered marsh, bayou deposition points, canal breaks or coastal areas where one water body threatens to coalesce with another water body. Several projects have been constructed or designed incorporating different building techniques, terrace orientations, and planted vegetation, dependent upon ecosystem traits.

Louisiana Department of Natural Resources monitoring data indicate that emergent vegetation has become established on terraces and SAV has colonized between the terraces at a Vermilion Parish project. Comparisons of planted vs. non-planted terraces indicate that vegetation is established voluntarily from the seed bank. Data from bathymetry surveys indicate that terraces constructed over existing natural channels should be avoided in future designs. The terraces in these channels are undermined and have a tendency to collapse and revert back into a channel. Average annual shoreline retreat in an early project in Cameron Parish was reversed from -3.53 m/yr pre-construction to an average annual advance of +6.40 m/yr. A coastal restoration program in Texas completed their first marsh terracing project in 1999 based on information supplied by LDNR and federal agencies.

The National Marine Fisheries Service is completing its fourth terracing project this spring, funded through the Coastal Wetland Planning and Protection Act. The terraces in this case were configured to trap sediments from freshwater flow coming into the bay, while protecting shoreline and increasing fishery habitat. Located in West Cote Blanche Bay, the JAWS project site had fresh SAV in the area of construction. The project anticipated increases in SAV, but not in the in the first season after construction; construction consists of increasing sediments in the water column and removing SAV in the borrow channels. Construction was expected to temporarily reduce SAV population and productivity. However, only months after constructing the terraces, a majority of the project area was seen covered more densely with SAV than pre-construction. Monitoring data are not available at this time, but will be necessary to confirm the apparent increase population and productivity. The JAWS project will be completed this month by planting marsh species on the created terraces.

Abstracts for Fall Symposium speakers for Thursday, August 18

SOME EFFECTS OF FOREST MANAGEMENT ON WOOD THRUSH AT SHERBURNE WILDLIFE MANAGEMENT AREA. Sarah C. Coulter and David G. Krementz, Arkansas Coop Unit, Department of Biological Sciences, Univ. of Arkansas.

We estimated nest survival, adult survival and documented movements for 101 radio-tagged wood thrushes in 3 different management compartments at Sherburne Wildlife Management Area during the summers of 2003 and 2004. The 3 management compartments were a replanted agricultural area (RA), a regenerated clearcut (CC) and a selectively harvested stand (SH). We also estimated wood thrush densities using distance transect surveys in those 3, as well as 4 additional compartments each summer. Movements of wood thrushes were generally smaller than the scale of management. The mean distance between consecutive locations for the entire study population was 177 m (SE=16.6) in 2003 and 127 m (SE=7.4) in 2004. Only 5 birds were observed moving between management compartments, 3 of which moved into the RA. Distance between successive nesting attempts was not affected by management compartment but tended to be greater after a failed nest than a successful one. The mean distance moved between nests was 193 m (SE=69.2) with a maximum of 9,389 m. Daily nest survival was affected by density of vegetation, but not by management compartment. As density of cover increased, so did nest survival. The daily nest survival estimate at the CC and the RA was 0.966 (SE=0.0107 and SE= 0.0081 respectively), and at the SH the daily nest survival was 0.950 (SE=0.0218). The overall 25-day nest success estimate was 0.421 at the CC and the RA, and nest success was 0.277 at the SH. Weekly survival of adult wood thrushes was not affected by management compartment, age, sex, or year of study. The probability of surviving all 11 weeks of the study each summer was 0.804 (SE=0.0612). The wood thrush population was more dense in the replanted agricultural area ($\hat{d}=1.1$ males/ha) than at any other management compartment (0.00 to 0.23 males/ha). Density of wood thrushes was correlated to stem density across all management compartments ($r=0.99$). Wood thrush density was also positively correlated to midstory density ($r=0.71$) and negatively correlated to herb cover ($r=-0.84$). Our results suggest that at the southern periphery of their range, wood thrushes may prefer areas with high stem densities, dense midstory cover and reduced herbaceous cover, and that wood thrushes do not suffer reduced survival or nest survival rates when they breed in such areas. Densities of wood thrush throughout SWMA were comparable to those reported in other studies; however, there was a notable absence of wood thrushes from the reference area, an area that had not been managed >40 years. At Sherburne Wildlife Management Area, wood thrushes may prefer a stand structure typical of an early stage mid-successional stand, between ~10 and 20 years old.

HERPETOFAUNAL COMMUNITY STRUCTURE AND HABITAT PREFERENCES OF HERPETOFAUNA AT TWO WILDLIFE MANAGEMENT AREAS IN NORTHEAST LOUISIANA. Stephanie L. Kovac and Dr. John L. Carr, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.

Buckhorn (BWMMA) and Sicily Island Hills Wildlife Management Areas (SIHWMA) are two state-owned properties in Northeast Louisiana. Buckhorn is a bottomland hardwood forest in the Mississippi Alluvial Plain Ecoregion. Sicily Island Hills is an isolated mixed pine and hardwoods area with a great amount of topographic relief on the easternmost edge of the Western Gulf Coastal Plain Ecoregion. Several 500-meter transects were marked at each area, and visual encounter surveys (VES), coverboard surveys, and drift fence surveys with funnel traps were conducted along them, in addition to anuran call surveys, turtle trapping and spotting scope surveys at other points. Surveys conducted from April 2003 through November 2004 resulted in 44 species at BHWMA and 40 species at SIHWMA. Simpson's diversity and evenness was higher for VES ($C_{inv} = 6.50$, $E = 0.28$) than drift fence surveys ($C_{inv} = 2.87$, $E = 0.11$) at BHWMA and higher for drift fence surveys ($C_{inv} = 5.22$, $E = 0.28$) than for VES ($C_{inv} = 2.69$, $E = 0.112$) at SIHWMA. Palmetto was revealed to be highly utilized habitat for *Hyla cinerea* (69% caught on palmetto) at BHWMA, while leaf litter was the primary habitat for *Scincella lateralis* at SIHWMA (93% caught in leaf litter). A chi-square test of the two revealed significant values ($p \leq 0.001$), providing evidence that these two species select these particular habitats when they are available.

HERPETOFAUNAL ASSEMBLAGES IN RELATION TO FORESTRY PRACTICES ON WILDLIFE MANAGEMENT AREAS IN NORTHEAST LOUISIANA. *Marcie Dixson and Dr. John L. Carr, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

Ouachita (OWMA) and Russell Sage Wildlife Management Areas (RSWMA) are state-owned and managed public lands in Ouachita Parish, northeast Louisiana. Both are comprised of bottomland hardwood forest within the Bayou Lafourche floodplain, although OWMA also has extensive areas of reforested agricultural fields. Topography is flat and poorly drained with numerous sloughs and shallow bayous. Backwater flooding occurs frequently. Between the two WMAs, twenty-six 500-meter transects were marked. Sampling was conducted along the transects by means of drift fence surveys with funnel and pitfall traps, visual encounter surveys, and coverboard surveys. Total species richness assessed by all techniques was 40 for OWMA and 38 for RSWMA. Sorenson's binary coefficient of similarity comparing the two WMA's was 0.907. Visual encounter surveys (VES) completed between the months of April 2003 and November 2004 yielded a sample size of 246 individuals of 25 species for OWMA and 257 individuals of 26 species for RSWMA. The Morisita Index of Similarity (VES) for OWMA and RSWMA is 0.87. Drift fence surveys completed September through November 2003, April through June 2003 and September through November 2004 yielded a sample size of 308 individuals of 22 species for OWMA and 386 individuals of 26 species for RSWMA. The Morisita Index of Similarity for the drift fence survey of OWMA and RSWMA is 0.91. Both VES and drift fence sampling individually accounted for a little over half (55-68%) of the total species known from each WMA. The two techniques produced very similar indices of overall similarity.

EFFECTS OF GAME MANAGEMENT PRACTICES ON THE AVIFAUNAL ABUNDANCE OF TWO LOUISIANA WILDLIFE MANAGEMENT AREAS. *Amanda*

Carroll and Dr. Kim Marie Tolson, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.

Ouachita (OWMA) and Russell Sage Wildlife Management Areas (RSWMA) are two state-owned lands that are primarily managed for game species through various forest management techniques. Because breeding birds that migrate from the tropics to North America are suffering significant declines, land managers have recognized the need to implement management strategies for non-game species as well. Data on the avian richness and abundance, as well as the effects of various silvicultural practices on the avian community, are lacking on these two bottomland hardwood forested habitats. Breeding Bird Surveys (BBS) were conducted on both WMAs from April through early July of 2003 and 2004. A total of 7,617 breeding birds were detected over the course of the study generating a species richness of 36 different birds. The avian communities between the two WMAs were found to be relatively similar as Sorenson's Similarity Coefficient yielded a value of 0.96. Relative abundance was calculated for each species within each treatment type. A nested design analysis of variance concluded that treatment type had no significant effect on the total number of individuals, the total number of species, number of migrant individuals and the number of migrant species on RSWMA. However, significance was found on all four variables with respect to treatment types on OWMA. Least Square Means Contrast test indicated the significance to exist between the younger forested areas (WRPs, reforested sites) and the more mature forested sites (control, natural area). Significance was also found between the two WRP sites and the two reforested areas sampled. Canonical correlation analyses for both WMAs resulted in weak associations regarding relationships between breeding bird species present and the habitat variables measured. However, birds did separate according to habitat requirements in that forest canopy birds were positively associated with canopy closure and tree height, and early successional species favored shrub and tree density. Results conclude that the various forest management practices conducted on these state-owned lands have an effect on not only the abundance of each species but also the diversity of species found within each WMA. This study was supported by funds provided by the Louisiana Department of Wildlife & Fisheries and the U. S. Fish & Wildlife Service, Division of Federal Aid through the State Wildlife Grants Program.

WATERBIRD USE OF RICE FIELDS IN SOUTHWESTERN LOUISIANA. *Sergio Pierluissi and Sammy L. King, School of Renewable Natural Resources, Louisiana State University.*

Rice fields are agricultural wetlands used extensively by waterbirds for foraging and nesting. More than 175,000 ha of these wetlands are in southwestern Louisiana, and they may replace some wetland habitat lost from coastal areas of the state. Several features of rice fields, including timing of flooding, water depth, and vegetation height and density, are similar to the preferred habitat of many waterbirds. Objectives of this study were to 1) determine nest survival and nest density of waterbirds in rice fields, 2) determine how management and landscape context influence survival and nest density, and 3) determine the effectiveness of call-back surveys as indicators of breeding activity. In 2004 and 2005, 40 rice fields were selected based on tillage practices, distance from a marsh, presence of ditches and trees, and landscape context.

Presence of waterbirds was determined by censusing rice fields with call-back surveys. Each field was also searched for nests, which were monitored weekly. In 2004, 250 nests were found; in 2005, 350 were found. All were of seven species. Purple gallinules and fulvous whistling-ducks nested at the highest density, followed by king rails, common moorhens, mottled ducks, least bitterns, and black-necked stilts. Proportion of a field's perimeter with ditches was the most important factor for king rails, purple gallinules, and fulvous whistling-ducks. King rails and purple gallinules avoided fields bordered by tree lines. Areas with contiguous rice fields were also important for purple gallinules, and no-till fields were preferred by king rails and fulvous whistling-ducks. Rice fields in Louisiana provide excellent habitat for several waterbird species, several of which we know little about or are declining elsewhere.

THE EFFECT OF TERRACES ON SAV IN THREE SOUTHWEST LOUISIANA MARSHES, *Chris Cannaday, School of Renewable Natural Resources, Louisiana State University.*

The coast of Louisiana is one of the largest contiguous marshes in the world, but it is converting to shallow open water at a rate of 25 square miles per year. Recently, various techniques have been developed to slow or reverse these losses. One technique used in southwestern Louisiana in recent years is terracing. Terracing uses soil from the bottom of shallow ponds to create open ended levees that reduce wave action. This is expected to slow erosion of nearby marsh. Terraces also create a small amount of marsh, and create edge habitat that is favorable for nekton. Terraces are believed enhance submerged aquatic vegetation (SAV) productivity and abundance by reducing turbidity. Though this is a logical assumption, the effect of terraces on SAV remains unknown. Only two studies have looked at terraces' effects on SAV and the results are inconclusive. This study compared several terraced and natural areas in attempt to understand how terracing affects SAV.

THE EFFECTS OF FIRE ON BODY CONDITION, HOME RANGE, AND POST-MIGRATION MOVEMENTS OF WINTERING HENSLOW'S SPARROWS IN SOUTHEASTERN LOUISIANA. *Erik I. Johnson, Jennifer K. DiMiceli, and Philip C. Stouffer, School of Renewable Natural Resources, Louisiana State University.*

Henslow's Sparrow populations have declined considerably, leading to high conservation concern for the species. During the winter, Henslow's Sparrows depend on longleaf pine savannas in the southeastern United States. These grasslands are now largely maintained through prescribed burns. Although much of the winter ecology of Henslow's Sparrows remains unknown, Henslow's Sparrows are most abundant in savannas burned during the previous growing season, and abundance declines with time since burn. We conducted a mark-recapture study of wintering Henslow's Sparrows in southeastern Louisiana to determine the effects of fire on body condition, post-migration movements, and home range size. We determined that home range is relatively small (<1 ha) throughout the winter, but many individuals undergo post-migration movements in October and November as they arrive on their wintering grounds. Once home ranges are established, adult birds in unburned savannas utilize a larger home range, possibly due to decreased intraspecific competition. Although time since burn is a reliable predictor of bird abundance, body condition does not differ among

bird age and burn treatments with one exception. Adult birds in unburned savannas have higher body condition in January than other age/burn/month combinations, which may be related to the use of a larger home range by this age class. These results have implications for local and regional land managers of longleaf pine savannas.

THE OVER-WINTER SOCIAL SYSTEM OF HERMIT THRUSH *David Brown, Department of Ecology and Evolutionary Biology, Tulane University.*

The over-winter period contributes to population limitation of migratory songbirds through variation in food supply and habitat quality. I studied the over-winter ecology of Hermit Thrush to better understand the mechanisms by which winter ecological variation affects bird behavior and survival. Hermit Thrush are small (30 g) short-distance migrants that over-winter in Louisiana. Hermit Thrush occupy a broad range of forested habitat and subsist on an omnivorous diet that consists principally of fruit (*Ilex vomitoria* and *Ligustrum* sp.). Sharp-shinned Hawks exert considerable predation pressure. Hermit Thrush of both sexes and all age classes maintain solitary territories throughout the winter, with strong site fidelity between years- a pattern typical of many other wintering migratory passerines. Territories are generally small (0.4 ha) with little overlap (15%), and are defended with visual and vocal agonistic displays. During the fall arrival period, birds sequentially fill habitats from high to low quality. Agonistic interactions are particularly high during the settlement period as birds sort the available space. However, not all individuals maintain a territory, 15% of Hermit Thrush are floaters. Floaters represent a loose class of behaviors, but in general they occupy relatively large areas of use that may include territories of other individuals. A fruit removal experiment did not induce floater behavior, suggesting social pressures within a landscape at saturation density constrain movement behavior. We speculate that alternative space use strategies (e.g., floating) are adopted during the fall settlement period, when a losing outcome in paired encounters results in elevated corticosterone- a stress hormone associated with increased mobility.

THE EFFECTS OF SELECTIVE TIMBER HARVEST ON BIRDS, AMPHIBIANS AND REPTILES IN BOTTOMLAND HARDWOOD FORESTS OF LOUISIANA

Dr. Paul Leberg, Brian Lorenz and Jeannie Heltzel, Department of Biology, University of Louisiana at Lafayette.

Selective harvests are a common method of managing bottomland hardwood forests on public lands in Louisiana; the implications of these harvests for wildlife populations are not well understood. We examined the influence of selective timber harvesting on amphibian, reptile, and breeding bird abundance, in selectively harvested bottomland hardwood forests in northeastern Louisiana. We compared indices of abundance among recent harvests (1-5 years old), older harvests (12-18 years old), and mature stands (> 30 years since harvest), and evaluated nest survival and brood parasitism in older harvests and mature forests. Our sampling included point counts, anuran calling surveys, nest surveys, visual encounter surveys, and funnel trapping.

Four species of birds were more abundant in mature forests than in recently harvested stands: Acadian Flycatcher, Prothonotary Warbler, Red-eyed Vireo, and Red-shouldered Hawk. With the exception of Acadian Flycatcher, older harvests and mature forests supported similar numbers of the species that are typically found in

mature bottomland hardwood forests. Older harvests supported higher densities of gap-dependent species, including Swainson's Warbler and Hooded Warbler, than were found in mature stands or recent harvests. Recent harvests supported higher densities of 6 early-successional species than were found in either older harvests mature forests. I found no differences between rates of nest survival or brood parasitism in older harvests and mature forests, with the exception of Yellow-billed Cuckoo. Cuckoo nests in mature forests were more likely to survive than nests in older harvests. Timber harvesting had a strong influence on the abundance of 20 species of breeding birds in bottomland hardwood forests, but did not appear to influence breeding productivity.

We observed differences in forest structural attributes such as canopy cover and tree basal area; however, we found few relationships between these features and the relative abundances of herpetofauna. Abundances of salamanders and Woodhouse's toad (*Bufo woodhousii*) were lower in areas affected by recent timber harvest. We recorded greater calling activity of Cope's gray treefrog (*Hyla chrysoscelis*) in recently harvested stands than older harvests. Our research suggests that the response of herpetofauna to selective harvesting of bottomland hardwood forests may be less dramatic than responses observed in previous studies focusing on clear-cuts. Although we observed significantly lower species richness in recently harvested stands than in mature ones, we found little evidence that selective harvests are resulting in large scale changes in herpetofaunal assemblages comparable to those produced by clear-cutting. Further, we observed few differences between recently harvested stands and older harvests (10-15 years old), suggesting that shifts in herpetofaunal species abundances following selective harvest of bottomland hardwood forests are transitory.

EFFECTS OF BIRDS ON SAPLING GROWTH IN THE MAUREPAS SWAMP, LOUISIANA. *David M. Fox and Dr. Philip C. Stouffer, School of Renewable Natural Resources, Louisiana State University.*

The woody biomass of the Maurepas Swamp, a major wetland of southeastern Louisiana, is in decline, primarily due to channelization of the Mississippi River. In addition to other stressors, the two dominant tree species, baldcypress and water tupelo are subjected to annual insect herbivory. Forest tent caterpillars defoliate water tupelo, and an emerging insect pest species, the baldcypress leafroller, defoliates baldcypress. We conducted an enclosure study to examine the indirect effect of birds on baldcypress and water tupelo sapling growth. Preliminary results of foraging observations and video monitoring of nests suggest that Prothonotary Warblers, the numerically dominant species in the area, are demonstrating a functional response to baldcypress leafrollers, but birds appear to prey only on first instar forest tent caterpillars. Leaf damage in 2004 did not differ between treatments, possibly because planted trees were not inoculated with caterpillar eggs in the previous year. We expect greater treatment effects in 2005.

HABITAT SELECTION AT MULTIPLE SPATIAL SCALES BY AVIAN AND HERPETOFAUNA COMMUNITIES IN MANAGED FORESTS OF LOUISIANA. *Holly G. LeGrand and Dr. Michael J. Chamberlain, School of Renewable Natural Resources, Louisiana State University.*

Decline of amphibians, reptiles, and numerous Neotropical migrant birds has been attributed to habitat destruction and alteration, which warrants examination of

these groups in managed forests and their association with habitat characteristics at multiple spatial scales. We surveyed avifauna and herpetofauna communities in 3 managed forests in Louisiana during 2003-2004. Study areas included Sherburne WMA, a bottomland hardwood forest under uneven-aged management, Ben's creek WMA, an even-aged, short-rotation loblolly pine plantation, and Sandy Hollow WMA, a longleaf pine-savannah maintained with prescribed fire. Field techniques included surveys of avian point counts, drift fence-pitfall arrays (DFPA), cover boards, visual encounters, anuran calls (ACS), and microhabitat. We derived landscape variables with GIS landcover maps and ArcView GIS 3.3. General trends included the following: DFPA and ACS accounted for the greatest percentage of detections among herpetofauna surveys, and results primarily reflect these efforts. Species of conservation concern were among detections of both early- and late-successional bird species. At Sherburne, abundance and richness of amphibians, and occurrence of late-successional birds were greater in unmanaged and individual-selection stands, whereas occurrence of early-successional birds was greater in recent selection cuttings with groups. Abundance of reptiles did not differ across harvest strategy. At Ben's Creek, abundance and richness of anurans was greater in 1-year and 11-23-year stands, whereas abundance and richness of lizards was similar across stand age. Late-successional bird species occurred with greater frequency in 11-23-year stands at Ben's Creek, whereas frequency of occurrence of early-successional bird species was greater in 1-year and 4-5-year stands. At Sandy Hollow, abundance of reptiles was greater than of amphibians, and avifauna was typical of pine-savannah ecosystems. Responses to habitat factors at all scales were species specific. In general, canopy closure and shrub cover were the most frequent predictors of occurrence at the microhabitat scale. At the landscape scale, canopy closure and streamside management zones were important predictors of occurrence at Ben's Creek, whereas openings and shape complexity of longleaf pine and savannah were frequent predictors of occurrence at Sandy Hollow. Forest management appears to benefit certain species, including species of conservation concern, but is potentially costly for other species. Thus conservation objectives need to be specified prior to application of management regime.

AVIAN RESPONSE TO FORESTRY PRACTICES AT TWO WILDLIFE MANAGEMENT AREAS IN NORTHEAST LOUISIANA: A BREEDING BIRD AND PHENOLOGY STUDY. *Michael Baranski and Dr. Kim Marie Tolson, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

The purpose of this project was to extend the understanding of the relationship between forest management protocols and breeding bird species, so that future timber management practices can include avian considerations. Breeding bird surveys were conducted from April 2003/2004 through the first week of July 2003/2004 at Buckhorn Wildlife Management Area (BWMA) and Sicily Island Hills Management Area (SIHWMA). Relative abundance of bird species was compared across silvicultural treatments. Early successional species were found to be more common in even-aged areas while later successional species were found to be more common in uneven-aged and unmanaged areas. Avian conservation significance scores showed that uneven-aged and unmanaged areas had higher conservation importance. A phenology study

was also conducted at these areas where a total of 165 avian species was found at BWMA and a total of 117 species was found at SIHWMA. This study was supported by funds provided by LDWF & USFWS, Division of Federal Aid through State Wildlife Grants Program.

Abstracts for Poster Presentations

Restoration and Management Methods in Louisiana's Coastal Prairie

Larry Allain¹, James B. Grace¹, Scott Edwards², and John Pitre²

¹USGS/BRD, National Wetlands Research Center, ²USDA, Natural Resource Conservation Service

Coastal prairie is considered to be among the most endangered ecosystems in North America with less than 0.1% of the original grassland remaining. Restoration efforts in Louisiana rely largely on agronomic practices and restoration theory resulting from work conducted in northern tallgrass prairie. In order to obtain data pertaining to restoration methodology in Louisiana, ecological experiments were established at a rice farm near Gueydan, Louisiana. In fall of 2003 one hundred and forty plots were established, each measuring 3m x 3m, in a block four plots wide. Ten replicates of fourteen treatments were established in randomly selected plots. Seeds of 24 prairie species, 18 forbs and 6 grasses, collected from local remnants, were planted. The treatments included two with fertilizer additions, two with sawdust and sugar additions, one with a mycorrhizal inoculant, two with varying forb/grass seed ratios, four with varying seasons of burn, and one that will be mowed during establishment. Two control treatments were established: one in which nothing was sown, and one that was planted with prairie seeds but was neither burned nor mowed. The experiments were planted in the first week of October 2003. Vegetation will be examined in each plot once in June of each year through 2007. Preliminary analysis of data collected in June of 2004 revealed that 19 of the 28 prairie species planted had become established. Seven of the prairie species flowered the first year. Prairie species were established in plots of all planted treatments, but the highest number of conservative prairie species appeared in the unfertilized plots.

Working Lands Programs: Potential Economic and Potential Benefits of Agricultural Wetlands. J. V. Westra¹, J. V. Huner², and R. H. Caffey¹

¹Center for Natural Resource Economics and Policy, LSU AgCenter, and ²Crawfish Research Center, University of Louisiana at Lafayette.

Over 500,000 acres of land in rice and crawfish production in Louisiana provide nesting, wintering, and breeding habitat for over 100 species of waterbirds. These agricultural wetlands have become critically important waterbird habitat because over one million acres of adjacent coastal wetlands have been lost since 1950. Land planted in rice in Louisiana has decreased due to falling rice prices and increasing production costs. Reduction in land for crawfish production, importation of low-cost crawfish meat, and loss of crawfish processing facilities have negatively influenced crawfish production. Conservation payments for agricultural wetlands may stem this potential habitat loss, benefit local wildlife and help producers financially.

GIS Mapping of Recreational Areas at Sam Houston Jones State Park Using a Trimble Geoxt. *Anthony L. Olivier,¹ Harold and Pearl Dripp Department of Agricultural Sciences, McNeese State University, John Hebert, Harold and Pearl Dripp Department of Agricultural Sciences, McNeese State University, Billy Delany, Harold and Pearl Dripp Department of Agricultural Sciences, McNeese State University.*

The current recreational map of Sam Houston Jones State Park (SHJSP) lacks many features that are being utilized by visitors on a daily basis. The primary purpose is to develop a current recreational map that identifies the trail system, benches, bridges, and facilities at SHJSP. A Trimble GeoXT handheld unit, ArcMap, Pathfinder Office, TerraSync, and a personal computer were used to integrate these features on a user friendly map. The 1,087 acre park maintains over 8.5 miles of nature trails, 27 bridges, and 13 benches. Metallic labels were permanently placed on the bridges and benches, which are matched with labels on the updated map. This will enable visitors to determine their exact location on park property by comparing the location of a landmark (i.e. bridge or bench) to the updated map.

Cultivar or Local Ecotype, Are We Meeting Customer Need? *Scott D. Edwards, United States Department of Agriculture, Natural Resources Conservation Service Billy DeLany, McNeese State University, David Daigle, Coastal Plain Conservancy, Larry Allain, USGS National Wetlands Research Center.*

There is a growing interest from public and private sectors to utilize locally adapted native plant materials for restoration and revegetation projects. Conservationists have experienced inconsistent results when establishing native species ranging from success to complete stand failure. The lack of commercially available cultivars that are adapted across the state of Louisiana is the largest contributing factor to stand failures. Cultivars that are not adapted to the state exhibit signs of summer stress and are less vigorous with lower biomass yields than local ecotypes of the same species. Performance may also be affected by changes in flowering date, seed set, dormancy initiation and precipitation. Commercially available sources of locally adapted plant materials have the potential to provide substantial ecological and economic benefits for Louisiana. A Memorandum of Understanding (MOU) was signed April 22, 2004 between McNeese State University, U.S. Geological Survey National Wetlands Research Center, Coastal Plain Conservancy and Natural Resources Conservation Service. This MOU will formalize a partnership to develop a comprehensive plant materials program to collect, increase and release locally adapted ecotypes of native grasses, forbs and legumes. The Louisiana Native Plant Initiative will utilize the NRCS Plant Materials Program model for all releases. In 2 years, this program has 45 extensive collections from across the state, 15 species in initial evaluation, 5 breeder blocks and 3 species in foundation seed increase. This initiative will try to meet the demands of a diverse customer base by utilizing both local ecotype and cultivar releases.

Gulf Coast Prairie Restoration in Louisiana. *Scott D. Edwards, U.S. Dept. of Agriculture, Natural Resources Conservation Service, L.K. Allain USGS National Wetlands Research Center, J.L. Pitre, USDA-Natural Resources Conservation Service.*

Coastal prairie once covered 1.1 million ha in southwest Louisiana and 2.6 million ha in Texas. Today, less than 0.1% remains due to intensive agricultural practices and loss to urban sprawl. In Louisiana, less than 100 ha remain primarily as narrow, fragmented strips between highways and railroad rights-of-way. In an attempt to restore prairie and document the practical aspects of prairie restoration, 98 ha near Gueydan, Louisiana have been enrolled in the USDA NRCS Wetlands Reserve Program. In 2002, 45 ha was restored to pre-cultivation hydrology by removing levees and pimple mounds were constructed to mimic historic topographic features. The restoration plan includes large scale demonstrations comparing spring and fall planting (April and October 2003) at 3.4, 6.7 and 11.2 pls kg ha⁻¹ using a prairie seed mixture consisting primarily of little bluestem [*Schizachyrium scoparium* (Michx.) Nash]. The following species were interseeded into the spring and fall planted areas: *switchgrass* (*Panicum virgatum*), Florida paspalum (*Paspalum floridanum*), Kansas gay feather (*Liatris pycnostachya*), yellow wild indigo (*Baptisia bracteata*), black-eyed susan (*Rudbeckia hirta*), bur marigold (*Bidens aristosa*), plains coreopsis (*Coreopsis tinctoria*), partridge pea (*Chamaecrista fasciculata*) and woolly rose mallow (*Hibiscus moscheutos*). To increase diversity, 1500 pieces of prairie sod from a remnant area scheduled for destruction were transplanted on the restoration site by a volunteer group of 275 people on 01 Feb. 2003. This project is a multiple partner and agency effort that will evaluate success, assist in future restoration attempts, and foster the importance of this endangered ecosystem.

A Study on the Occurrence of Bullet Ingestion by Odocoileus virginianus. *Ben O. Oubre and Dr. Kim Marie Tolson College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

During the 2003-2004 hunting season, thirteen white-tailed deer, *Odocoileus virginianus*, were necropsied for rumen analysis on Fort Polk Wildlife Management Area in Vernon Parish, LA. The management area consists of 110,000 acres encompassing the Fort Polk military base operation. Three of thirteen deer were found to contain lead bullets in all four chambers of the stomach. These preliminary findings led to the collection of tissue samples from 83 deer harvested during the 2004-2005 hunting season. Biopsies were taken from the liver, kidney and skeletal muscle for heavy metal analysis. No whole bullets were present, but lead fragments were recovered from the abomasum of two of these deer. Only one of these two was found to have above normal lead levels (>1ppm) in the liver. The highest reported level of lead at 8.58 ppm was found in the liver of a deer where no lead bullets or fragments were recovered from the stomach. Elevated lead levels were not detected in any of the kidney or skeletal muscle samples. Funds for this study are provided by Louisiana Department of Wildlife and Fisheries and The United States Army.

An Inventory of the Avian and Small Mammal Fauna on a Bottomland Hardwood Wildlife Management Area in Northeast Louisiana. *Jason D. Olszak and Dr. Kim*

Marie Tolson, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.

Having lost near 80% of its former land mass, the remaining bottomland hardwood forests of the Mississippi Alluvial Valley (MAV) necessarily contain faunal communities of significant conservation importance in the south-central United States. Identification of these communities and the species that compose them is the first step in developing a management plan that will address the population declines of many non-game species. Data being collected in Louisiana's MAV at Bayou Macon Wildlife Management Area (East Carroll Parish) include an avian and small mammal species list, as well as a comparison of the relative abundances of these groups between tracts of land in different stages of succession and under different management regimes. Point counts and Sherman live traps are being used to identify and compare the abundance of the bird and small mammal communities respectively. Also, presence and age/sex ratios will be obtained for the chiropteran community via a mist-net survey. Preliminary data from the first of a two-year study will be presented. These baseline data may aid in the development of a Comprehensive Wildlife Conservation Strategy by the Louisiana Department of Wildlife and Fisheries (LDWF). Funding support for this project is being provided by the Division of Federal Aid through the State Wildlife Grants Program, LDWF.

Assessment of Parentage in Clutches of Alligator Snapping Turtle (*Macrochelys temminckii*) Eggs Using Microsatellite Markers. *Lauren M. Besenhofer and Dr. John L. Carr, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

The Alligator Snapping Turtle (*Macrochelys temminckii*) is the largest freshwater turtle in North America. It has been heavily exploited in the past and now receives some protection in every state within its range. *Macrochelys* exhibits strong sexual size dimorphism, suggesting that forced insemination may occur in the wild. Multiple paternity may result from forced insemination, multiple matings, or sperm storage. Determining whether or not *Macrochelys* exhibits this mode of reproduction is important because it may help slow the loss of genetic variability through drift in small populations. This study uses microsatellite regions in DNA to determine the parentage of eleven clutches of *Macrochelys* collected from Black Bayou Lake National Wildlife Refuge in northeast Louisiana. Microsatellites mutate at such a high rate that they are good indicators of parentage. Microsatellites have been used to observe the occurrence of multiple paternity in nearly all turtle species studied including, 37.5% of *Podocnemis expansa* clutches, 66% of *Chelydra serpentina* clutches, 33% of *Caretta caretta* clutches, and 58% of *Lepidochelys kempii* clutches. Two microsatellite loci have already been identified for *Macrochelys*, and others will be adapted for *Macrochelys* from other closely related turtle species. This study is supported in part by funds provided by LDWF and USFWS, Division of Federal Aid through State Wildlife Grants Program.

A Survey of Herpetofaunal Communities at Boeuf Wildlife Management Area in Northeast Louisiana. *Matt Brown and Dr. John L. Carr, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

Boeuf Wildlife Management Area (BWMA) is a state-owned property in northeast Louisiana. It consists of approximately 50,971 acres of bottomland hardwoods and wetland habitat. The terrain is flat and poorly drained, with numerous backwater lakes, sloughs, and bayous. Areas of Boeuf WMA are subject to frequent flooding from the Boeuf River and Bayou Lafourche. Several 500-meter transects were demarcated at locations representing the various habitats of the WMA. At these transects, visual encounter surveys (VES), coverboard surveys, and drift fence surveys with funnel traps have been conducted. Anuran call surveys have also been conducted throughout the area, and turtle trapping and spotting scope surveys will be carried out at other points in the future. Surveys conducted September 2004 to June 2005 have resulted in a sample of 477 individuals of 29 species. Incidental sightings and other collection methods, such as aquatic trapping and snake mist-netting, were also conducted, increasing the total species richness to 38. Of the two parishes including portions of BWMA (Catahoula and Caldwell), 10 parish records have been collected and documented. This study was supported by funds provided by LDWF and USFWS, Division of Federal Aid through State Wildlife Grants Program.

Inventory of the Herpetofaunal Structure at Bayou Macon Wildlife Management Area in Northeast Louisiana. *Ashley N. Hudson and Dr. John L. Carr, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

Bayou Macon Wildlife Management Area (BMWMA), located in East Carroll Parish, is state-owned and managed by the Louisiana Department of Wildlife and Fisheries. BMWMA is a forested "island" in a highly fragmented, agricultural landscape located within the Mississippi Alluvial Plain. It is the largest tract of bottomland hardwood forest in a four county/parish area of northeastern Louisiana and southeastern Arkansas; agricultural fields and reforestation plots are also present. The vegetation type is dominated by sugarberry-American elm-green ash, with overcup oak-water hickory and water oak-sweetgum present also. The terrain at Bayou Macon is basically flat, and the soil type is predominantly Sharkey clay. Fifteen 500-meter transects have been randomly placed within the fourteen management compartments. Drift fence arrays are being used to sample the herpetofauna with a combination of funnel traps and pitfall traps as well as time-constrained visual encounter surveys. Anuran calls are being conducted, and coverboards are also in place. Future data collection methods include turtle trapping and spotting scope surveys. Vegetation surveys will also be conducted this summer. Surveys conducted September 2004 to June 2005 resulted in a sample of 311 individuals of sixteen species. Incidental sightings have also been recorded, bringing the total species richness to twenty-eight species including seven anurans, one salamander, three turtles, three lizards, thirteen snakes, and one crocodylian. This study was supported by funds provided by LDWF and USFWS, Division of Federal Aid through State Wildlife Grants Program.

Avian Response to Silviculture Practices in the Mississippi Alluvial Plain: A Breeding Bird Survey of Boeuf Wildlife Management Area. *John Quinn and Dr. Kim Marie Tolson, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.* State

Wildlife Grants were created with the intent of protecting and managing wildlife species in greatest conservation need. With 80 percent of the original forest cover lost, breeding birds of the Mississippi Alluvial Valley (MAV) warrant our conservation efforts. To look at how forest management techniques in the MAV impact bird populations, the Louisiana Department of Wildlife and Fisheries commissioned breeding bird surveys (BBS) on the state's wildlife management areas. For this study, BBS were conducted from April 2005 through the first week of July 2005 at Boeuf Wildlife Management Area (Caldwell and Catahoula Parishes). A total of 189 point counts were conducted on 22 transects in managed and unmanaged forests as well as new plantations. Species richness and diversity were compared across treatments. A list of confirmed breeding birds on the WMA is being generated as well as a checklist of all avian species encountered to include those detected outside the constraints of the BBS. This study is supported by funds provided by LDWF & USFWS, Division of Federal Aid through State Wildlife Grants Program.

Nest Parameters of Alligator Snapping Turtles (*Macrochelys temminckii*) at Black Bayou Lake National Wildlife Refuge in Northeast Louisiana. *Lori B. Woosley and Dr. John L. Carr, College of Arts and Sciences, Department of Biology, University of Louisiana at Monroe.*

The Alligator Snapping Turtle (*Macrochelys temminckii*) is a predominantly aquatic turtle, with females exiting the water only to lay eggs. Oviposition takes place over approximately two weeks between the months of April and June. Nest surveys of a population of *M. temminckii* have been conducted intermittently since 1997. In 2004, monitoring became more regular and intensive. In this preliminary study, a total of 22 intact or partially intact/destroyed nests were found between 1997 and 2004 (9 intact, 13 destroyed). Clutch size averaged 33.4 eggs (N = 9, range 28-44). Mean egg weight for 13 clutches was 31.26 g, with mean egg length and width of 38.41 and 36.81 mm, respectively (N = 12). In 2004, 10 nests were found along a railroad embankment abutting the lake and three along a wooded, old-field margin. Fourteen ovipositional sites were an average of 8.28 m from the water's edge, with a slope of 12.9° above the horizon, and with 43 percent canopy cover. This study is supported in part by funds provided by LDWF and USFWS, Division of Federal Aid through State Wildlife Grants Program.

Restoration Efforts of the Louisiana Coastal Prairie in Southwest Louisiana.

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The Coastal Prairie was once a rich and valuable ecosystem to Louisiana, the United States, the Western hemisphere, and the biosphere. Unfortunately, the Coastal Prairie has been terribly fragmented and endangered due to human development. Since the 1890's, the geographic range of the Prairie has dwindled from 2.5 million acres to a few acres of railroad right of ways (USGS 2001). In essence, many of the wetland and Prairie plant species ecotypes have been extirpated from the native range. These ecotypes are naturally adapted species to the localized conditions of South

Louisiana (McMillian 1960). The McNeese Wetland Station has developed a collaborative project to provide plant life histories and materials for expansion of remnant coastal and educational outreach. The project provides a selected seed and stock source of endangered plant materials that are utilized in restoration efforts of the coastal prairie.