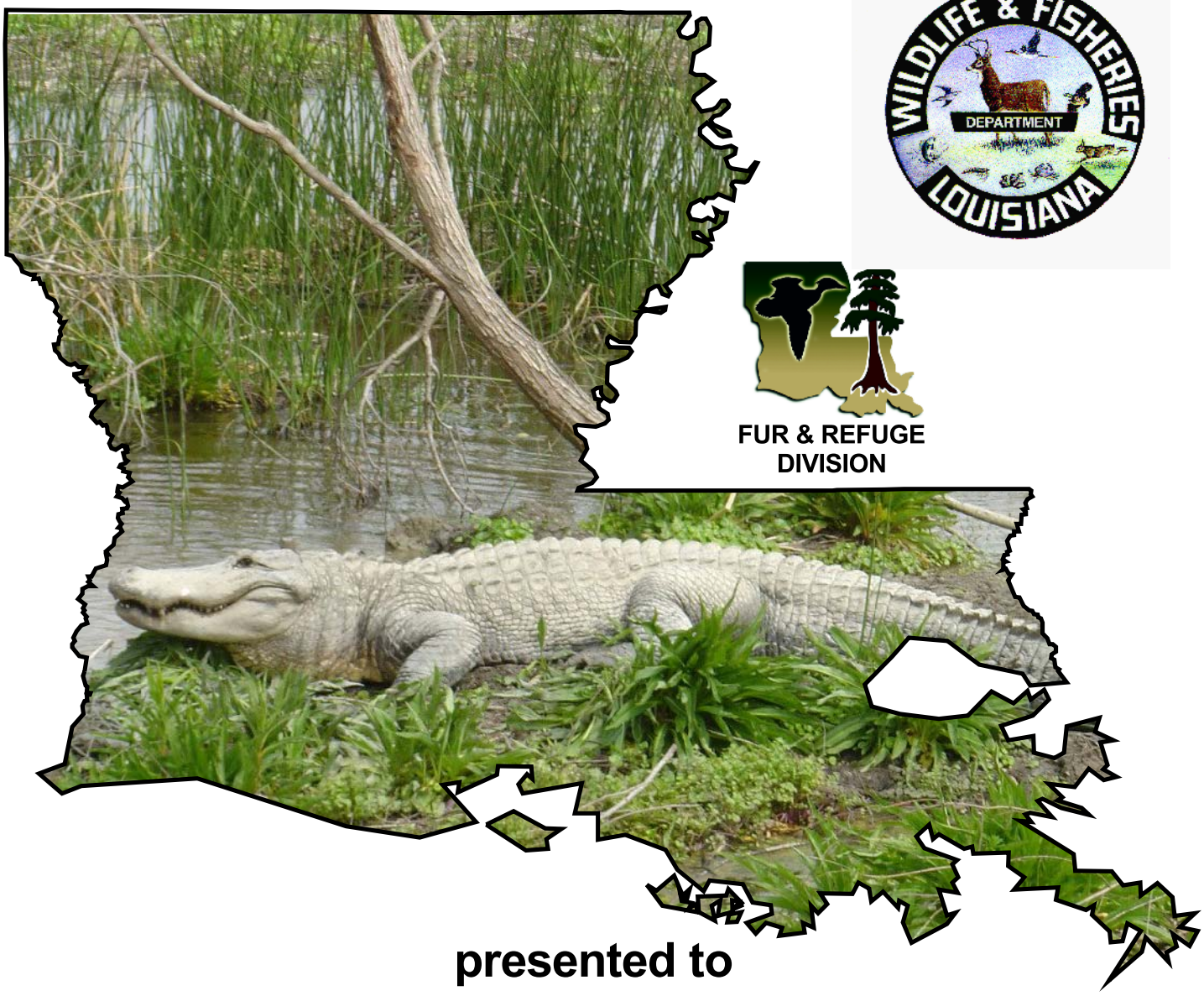
LOUISIANA'S ALLIGATOR MANAGEMENT PROGRAM

2004-2005 ANNUAL REPORT



FUR & REFUGE DIVISION

presented to

HOUSE AND SENATE NATURAL RESOURCES COMMITTEES

Prepared by
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Office of Wildlife, Fur and Refuge Division
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Introduction

The Louisiana Department of Wildlife and Fisheries (Department) manages the American alligator (*Alligator mississippiensis*) as a commercial, renewable natural resource. The Department's sustained use program is one of the world's most recognizable examples of a wildlife conservation success story. Louisiana's program has been used as a model for managing various crocodilian species throughout the world. Since the inception of the Department's program in 1972, over 668,000 wild alligators have been harvested, over 4.7 million alligator eggs have been collected, and over 2.4 million farm raised alligators have been sold bringing in millions of dollars of revenue to landowners, trappers and farmers. Conservative estimates have valued these resources at over $410,000,000, providing significant, direct economic benefit to Louisiana.

This report, per R.S. 56:279 (E), provides an historical perspective; outlines the basis and philosophy of the Department's management program; reviews the federal government's oversight and approval role for management of the alligator in the United States; discusses wild, farm and nuisance alligator programs; lists research activities; and reviews the revenue and expenditure information associated with the management program and the Louisiana Alligator Resource Fund. A separate report, furnished by the Department, details the activities and expenditures of the Fur and Alligator Advisory Council.

Historical Perspective

Alligators have been used commercially for their valuable leather since the 1800s. This harvest was generally unregulated throughout the 1900s, until a gradual population decline resulted in severely reduced harvests in the early 1950s. In 1962, the alligator season in Louisiana was closed, and research studies, focusing on basic life history factors, were undertaken which led to development of a biologically sound management program. Of tremendous importance was the establishment of a rigorous survey method to estimate and monitor population trends.

From 1962 through August 1972, alligators were totally protected. During this time a myriad of state and federal laws regulating harvest distribution and allocation of take, methods of harvest and possession, transportation and export of live alligators, alligator skins and their products was enacted. Similarly, in 1970 the Louisiana legislature recognized that the alligator's value, age at sexual maturity, and vulnerability to hunting required unique consideration and passed legislation providing for a closely regulated experimental commercial harvest.

The goals of the Department's alligator program are to manage and conserve Louisiana's alligators as part of the state's wetland ecosystem, provide benefits to the species, its habitat and the other species of fish and wildlife associated with alligators. The basic philosophy was to develop a sustained use management program which, through regulated harvest, would provide long term benefits to the survival of the species, maintain its habitats, and provide significant economic benefits to the citizens of the state. Since Louisiana's coastal alligator habitats are

primarily privately owned (approximately 81%), our sustained use management program provides direct economic benefit and incentive to private landowners, and alligator hunters who lease land, to protect the alligator and to protect, maintain, and enhance the alligator's wetland habitats. One of the most critical components of the management program was to develop the complex set of regulations which required individual applications for each property to be considered for tag allocation, landowner permission, proof of ownership and detailed review of habitat quality related to alligator abundance, all of which combined to equitably distribute the harvest in relation to population levels.

During the period of total protection (1962-1971) alligator populations increased quickly and by 1972 the Department was ready to initiate its new sustained use management program. On September 5, 1972 the alligator season was reopened in Cameron Parish and a total of 59 hunters harvested 1,350 alligators. The season was expanded to include Vermilion Parish in 1973, Calcasieu Parish in 1975, all nine coastal parishes in 1979 and statewide in 1981 (Table 1). In 2004, over 33,900 wild alligators were harvested by over 1,850 commercial license holders.

Oversight by the U.S. Fish and Wildlife Service

Five years after Louisiana closed the alligator harvest season, the alligator was listed on the federal Endangered Species Act in 1967. At this time the alligator was considered an endangered species throughout its range. In March of 1974, Louisiana petitioned the Secretary of the Interior, requesting that populations of the alligator in Louisiana be removed from the list of threatened and endangered species in Cameron, Vermilion and Calcasieu Parishes. In subsequent years, similar petitions sought to reclassify the alligator, first in the nine coastal parishes in 1978 and then statewide in 1981. Each of these petitions was based on results of detailed scientific study and the demonstrated success of the early harvest programs.

Export of alligator skins and products out of the United States is regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This treaty, which became effective in 1975, regulates the international trade in protected species; its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The U.S. Fish and Wildlife Service (USFWS) administers CITES requirements and controls for the United States. The species covered by CITES are listed on one of three Appendices, according to the degree of protection needed by each species. Currently, the alligator is listed on Appendix II of CITES, because of the similarity of their appearance to other crocodilians that are truly endangered or threatened.

In order to fulfill CITES requirements, the USFWS through a series of rulemakings, has developed a complex set of requirements that the individual states, including Louisiana, must comply with in order to be granted export approval for harvested alligators skins and products. The most critical component in these requirements is that the Department must certify, on an annual basis, that the harvest programs we administer will not be detrimental to the survival of the species. The "no detriment" finding is predicated on our assessment of the current condition of the alligator population, including trends, population estimates or indices, data on total harvest and harvest distribution and habitat suitability evaluation. Additionally the management

program must provide for a rigorously controlled harvest with calculated harvest level objectives. All alligators and eggs harvested must be taken from specifically identified properties and all hides individually tagged (with approved, serially marked CITES export tags furnished by the USFWS). The USFWS requires strict accountability for each tag allocated to the harvester, requiring all unused tags be returned at the close of the season.

Wild Alligator Management Program

In 1970, the Louisiana State Legislature (Act 550) gave the Department of Wildlife and Fisheries full authority to regulate the alligator season in Louisiana. Since that time, the Department has annually inventoried alligator nest production throughout coastal Louisiana in order to assess the status of alligator populations (Figure 1). Results of annual alligator nest surveys are compiled to provide estimates of nest density (acres per nest) by parish and by habitat type (brackish, intermediate, or fresh). Private and publicly owned lands (State and Federal Refuges, and Wildlife Management Areas) are compiled separately.

In 2004-2005, over 3,500 miles of transects were flown, surveying 150,000 acres of wetland habitat. The sampling intensity covers approximately 3.4% of 2.4 million acres of private coastal wetlands, and 4.2-10.4% of some 567,000 acres of public coastal wetlands. During summer 2004 we estimated that 42,791 alligator nests were present in the coastal marsh habitat, a slight decrease from the previous year.

A data entry and manipulation software package is utilized for summary and analysis of the nest survey data. A supporting data base contains information related to land ownership, total area and acres transected by marsh type and management unit. Data analysis involves the simple computation of transected nest density figures and the extrapolation of these data according to distinct geographic areas (16 coastal parishes) which then become the basic coastal marsh alligator management units. The number of nests transected by marsh type, land ownership, parish, and region of the state are converted to acres per nest for each unit.

In addition to nest surveys an extensive computerized data base is maintained for all harvested alligators. Various harvest parameters provide insight into alligator population dynamics and characteristics. Important harvest parameters include sex ratios, proportion of alligator tags utilized, average size of alligators harvested, and size class frequency distribution (SCFD) of harvested alligators. Additional data is gathered on harvested alligators through field checks of hunters and at processing plants.

Nest density and alligator population estimates are combined with a detailed review of harvest parameters and a general assessment of environmental factors observed during each survey to determine final harvest level objectives. Over 50 individual alligator harvest quotas are developed annually in order to distribute the harvest in relation to alligator abundance in the various habitats across the state. A listing of the 2004 wild alligator harvest quotas is appended as Exhibit 1. In the best habitat one alligator is harvested per 65 acres, while in the poorer habitats one alligator is harvested per 500 acres. Alligator hunters annually submit a description of the property on which they have permission to hunt. The Department assesses the habitat quantity and quality and determines the number of alligators that can be harvested by each hunter. This methodology ensures that alligators are harvested in proportion to their population levels and that the harvest will not negatively impact populations at any location. The currently approved quota system represents an allowable wild alligator harvest, which coupled with the state authorized wild alligator egg harvest program represents a level of population utilization currently unparalleled in the world of crocodilian management.

Under this sustained use alligator program, over 668,000 wild alligators have been harvested since 1972 (Table 2). The annual harvest takes place in September to specifically target the adult males and immature segments of the alligator population. Adult females, which typically inhabit interior marshes in September, would be more susceptible to harvest if the season was scheduled during the spring or summer. During the 2004 wild season, a total of 30,447 alligators were harvested, averaging 7.2 feet in length, with an estimated value of $8.1 million. Approximately 96% of the tags issued were utilized.

In 1999, the Department initiated the “Bonus Alligator Harvest Program” designed to better utilize alligators in the 4’-5’ size classes. Starting in 1999, trappers were issued an additional quantity of “bonus” tags to be used on alligators less than 72 inches in length. The number of “bonus” tags issued is 10% of the trapper’s regular quota. Some 3200 – 3300 bonus tags have been issued annually since 1999. In 2004, we harvested an additional 3,477 bonus alligators which averaged 5.83 feet in length, valued at nearly $816,000.

As the wild harvest expanded over the years, centralized processing facilities were established by dealers. The alligator meat has become a valuable secondary source of revenue to benefit trappers, landowners and dealers. Trappers bring their harvested alligators to the processing facilities, or dealers transported alligator carcasses from rural collecting points to the processing facility in refrigerated trucks. Refinements in the alligator skinning procedure and care of the hide have been developed to try to minimize damages in transport, skinning, and storage, to maintain and improve the quality of the raw hides. The Department's goal is to ensure that each alligator harvested is utilized for the skin, meat and other parts. The wild harvest in Louisiana has developed into a multi-million dollar source of income for the state's landowners, trappers and dealers (Table 2).

Evaluating each hunter's personal property or land owned by large private corporations and determining the acres of habitat by marsh type is very labor intensive. One piece of property may have divided interest ownership as the property was passed down from generation to generation. Property descriptions are obtained from tax assessors offices in each parish to determine exact locations and boundaries for each piece of property. Maps of vegetative/marsh types and ownership are compared to calculate how many acres of each marsh type exist on each piece of property to be evaluated for alligator tag issuance. Until recently this has been done "by hand", an extremely labor intensive process considering the magnitude of the alligator habitat and number of commercial hunters in Louisiana.

In conjunction with the U.S. Geologic Survey, National Wetlands Research Center, a computer based GIS/Arc View system was developed in 2000-2001. This GIS Alligator Tag Allocation System (GATAS) involves plotting digital files of each landowner's property, with superimposed vegetative type delineations. Alligator program staff began plotting land owner information during 2002-2003 and by 2004-2005 approximately 90% of the wetlands enrolled in the wild harvest program have been entered into GATAS. This system allows Department biologists to accurately assess habitat quality and to automatically incorporate the new marsh types/vegetative changes when new surveys are flown.

Each year the alligator program staff works closely with landowners and alligator hunters to provide assistance regarding alligator management on their respective properties. The establishment of the GATAS system resulted in plotting of property boundaries which will further our ability to assess alligator habitat quality and allow us to relay that detailed information to each respective landowner. We have provided numerous habitat base maps to landowners for their use in participation of both the wild and alligator egg harvest programs. Harvest reports summarizing average lengths and size class frequency distribution of harvested alligators are frequently provided and are available for every participant in the wild harvest program.

Farming/Ranching Program

Early alligator farms in Louisiana were generally small, family owned operations; and often run more as a hobby/curiosity than a commercial enterprise. Extensive studies done by Department biologists showed alligators could be efficiently cultured and grown in captivity.

Egg ranching (collection of alligator eggs from the wild) proved more economical and successful than captive breeding; private egg collections were first permitted, on a limited basis, in 1986.

Louisiana's alligator ranching program increased dramatically between 1986 and 1990. To ensure wild alligators were not depleted as a result of egg collections, and to ensure future recruitment of sub-adult alligators to the breeding population, the Department initially required a quantity of juvenile alligators equal to 17% of the eggs hatched by the rancher be returned to the wild within two years of hatching. In the first three years of the release program (1988-1990) returns were limited to fewer than 15,000 alligators. Sizes at release were generally small, and averaged 36-38 inches.

In 1991, a variable return rate was established based on the estimated 17% survival from hatching to 48 inches predicted for wild juvenile alligators. Using the relationship of survival between size classes, we extrapolated return rates based on expected survival rates for alligators from 36 to 60 inches. More alligators must be returned if the average total length is smaller, and fewer animals are required if the average length is larger.

Our research and review of the ranching program documented that the released alligators are able to forage for food in the wild, grow well, have high survival rates, and successfully nest in the wild. Thus, we decreased the return percentage to 14% of the eggs hatched, starting with the 2000 egg permit collection. Thus, our management program was adapted when available data warranted a change; although very close monitoring of the effects of this change will continue.

Enormous effort has been made by the Department to monitor the fate of the alligators released to the wild. In 2004-2005 we released a total of 36,420 farm raised alligators into the

wild to maintain wild alligator populations. Each alligator released is measured, sexed, tail-notched, tagged and recorded prior to release to the same area where they harvested alligator eggs. Although it is costly to the ranchers to fulfill the "returns to the wild" obligation, it is an integral necessity of the program, considering the large number of eggs collected. In recent years, over 350,000 eggs have been collected when weather conditions/water levels led to excellent nesting efforts (Table 3).

Over time, many of the new, less experienced, and smaller farms were unable to compete with the more established farms, whose larger inventories and other factors led to their ability to maintain successful operations in years of more modest prices. The number of farmers/ranchers in Louisiana has leveled off at around 55 farms (Figure 2 and Table 4). However, the inventory on farms is far higher now (533,045 in December 2004) than when there were over 120 farms (318,000 alligators in December 1991). During the 2003 tag year (September 2003 through August 2004) a total of 276,566 farm alligators were harvested, averaging 3.8 feet in length. The total estimated value of these alligators was nearly $29 million. Although the data is still being compiled as skins are exported out of Louisiana, we estimate that in the 2004 tag year nearly 300,000 farm skins will be harvested.

In order to better meet the needs of the alligator industry, in December 2004 the Department sponsored a facilitated discussion for all segments of the industry (farmers, hunters, and landowners). The two day meeting at Rockefeller Refuge was designed to give the industry participants an opportunity to prioritize the current issues facing the state's alligator program. The issues identified included:

- Quality Control
    - Alligator Disease
    - Water Quality Discharge
    - Husbandry Research
    - Cooperative Extension
- Habitat Loss
- Education and Marketing
- Industry Unification

The alligator program staff was charged with several action items and has been working on these since December.

- Expand the Department's efforts to work closely with alligator farmers on various husbandry issues
- Evaluate hide grade data from 2002 through 2004 and evaluate farm released alligator survival data for possible rule changes
- Review the issue of allowing live alligators to be imported into the state for release into the wild
- Review the previously submitted New and Expanded Budget Request to increase alligator program staffing

- Develop periodic newsletters to inform the industry of alligator program activities

Following the facilitated discussion meeting, the Department intensified pre-existing efforts in the area of extension work to alligator industry personnel, other agency personnel, domestic and international researchers, and the general public. The alligator program staff worked closely with alligator farmers in 2004-05. Approximately 71 visits to 22 farms were made to conduct releases to the wild in 2005. Additionally numerous staff personnel visited alligator farms to discuss a variety of farm issues including stocking densities, feeding and cleaning regimens, growth rates, disease issues, market demand, skin prices, tag fees, etc. Detailed questionnaires were developed and additional visits to alligator farms were scheduled and conducted, so an exchange of ideas could be initiated. In addition to the on site visits, the staff communicates with farmers on a regular basis to schedule releases, hide inspections, live animal inspections, coordinate farm transfers, alligator egg collection permits, issue and follow up on CITES tags and other paper work.

Multiple research contracts were administered by the program staff with the LSU and Florida Veterinary Schools. On numerous occasions the staff arranged for transportation of sick or problem alligators and sample skins from farms to the LSU and Florida Vet Schools for necropsy. One of these contracts provides for the availability of a veterinarian to respond to farm related problems. Farmers know they can contact the program staff or Dr. Nevarez and get a rapid response to their problem. We arranged collection and delivery of alligator research specimens to numerous graduate students and university faculty. Numerous wildlife groups, including university and graduate students, were hosted at Rockefeller Wildlife Refuge for educational purposes; as were professional representatives from domestic and international organizations such as CITES, IAFWA, and others. Presentations were made at various civic organizations and captive alligators were often loaned out for educational purposes. Several night counts were made at landowner's requests relative to alligator harvest quotas.

Dr. Nevarez and Scooter Trosclair examine a farm raised alligator

An alligator program newsletter titled ***"Gator Notes"*** was first developed in April 2005, and will be mailed to all alligator industry personnel three times annually. The newsletter provides a description of current alligator program activities, harvest statistics, research activities and reminders for due dates for hunting applications, alligator egg collection permits, license renewals and reporting requirements.

Nuisance Alligator Program

The Louisiana Department of Wildlife and Fisheries operates a statewide nuisance alligator control program. The nuisance program is designed to remove problem alligators in order to avoid potential human/alligator conflicts. Through the process of nuisance alligator hunter appointments and annual renewals the Department maintains a statewide network of qualified nuisance alligator hunters. Nuisance alligator complaints are phoned into various Department offices, where complaints are recorded and then forwarded to a nuisance alligator hunter in the vicinity of the complaint. Nuisance hunters respond promptly and catch and remove the alligator as deemed necessary. Hunters are allowed to harvest the nuisance alligator and to process the meat and skin of the alligator for commercial sale. This process provides for immediate response to the problem alligator and for payment to the nuisance alligator hunter, thereby minimizing the program operating cost to the Department. During 2004-2005, a total of 64 nuisance alligator hunters were enrolled in the program. During the 2004 tag year (September 2004 to August 2005) they answered an estimated 5,000 complaints and harvested approximately 2,500 alligators.

Research Activities

The following list provides a summary of the various research and monitoring projects that the alligator program staff conducted and/or participated in during the 2004-2005 fiscal year.

Monitoring

1. Evaluation of survival, growth, and reproduction in farm released alligators

This activity involves numerous projects related to survival analysis, growth and reproductive success (farm-released vs. native wild). Due to the recent reduction to the 14% release rate, it is imperative to monitor survival closely. Although some growth information has been published we plan to evaluate growth rates in more detail; we now have "retraps" that were captured over 10 years since release, and this is undoubtedly one of the largest mark-recapture projects currently in progress. Dr. Moser (LSU Department of Experimental Statistics) assists with annual evaluation of survival based on farm "retraps" recovered in September harvests. We are also evaluating dispersal of animals from release sites.

2. Coastwide nest survey

The annual coastal nesting survey is essential for monitoring our alligator population, and

is used annually to determine wild harvest quotas (for the adult harvest each September as well as egg ranching quotas). This is an integral part of our required “finding of no detriment” needed for export authority.

3. Evaluation of statewide harvest program

We continue to closely analyze size class frequency distribution, average size, sex ratios, etc. for alligators harvested each year. This project, coupled with coastwide nest survey will be continued as long as a harvest program is in place. Data generated from these projects provides the basis for evaluating the impact of our current harvest strategies, and for establishment of annual wild harvest quotas. Due to addition of "bonus tags" and increased harvest rates (despite droughts in 1996, 1998, and 2000) this remains a high priority task.

4. Alligator harvest monitoring

We continue to evaluate data generated from alligator harvest programs on Salvador WMA as well as other coastal WMAs and refuges. This data is instrumental in improving our ability to estimate alligator populations in coastal Louisiana.

5. Evaluation of alligator nest density

LDWF biologists work with selected cooperating alligator farmers to gain access to their GPS data from annual egg collections. This study will facilitate comparisons between our coast wide nest survey and estimates of nest density as recorded by the farmer during egg collections. Some farmers have advised staff of reduced nest production on selected wetlands; this study will allow us to evaluate nest distribution and density changes over time. Data from 2004-2005 will be particularly important for comparisons with data after the massive impacts of Hurricanes Katrina and Rita in late 2005.

6. Hide quality analysis

Evaluation of grading data will provide information necessary to evaluate the need to make regulation changes regarding size of farm released alligators. This project is ongoing and preliminary findings were presented to the Louisiana Wildlife and Fisheries Commission (LWFC). We are now analyzing data from recent years as per industry requests.

7. Landowner case histories

This project may enable us to develop a comprehensive, long term data base with cooperating land owners to tract all aspects of their participation in the alligator program. The data base would include evaluation of wild alligator harvest statistics (size class frequency distribution, average size, sex ratios, hunter success, bonus tags) and egg harvest statistics. This will allow us to make updated management recommendations to individual landowners.

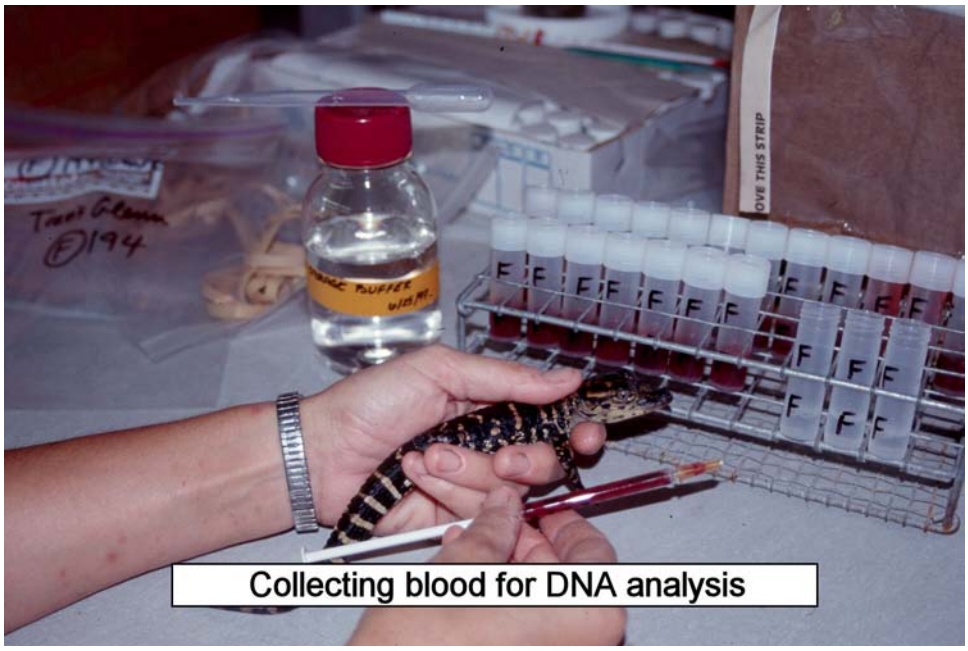
8. WNV (West Nile Virus)

The Department, in conjunction with LSUSVM, continues to monitor occurrence of WNV on alligator farms in Louisiana. Initial mortality related to WNV occurred in fall/winter 2003. Aggressive mosquito control on farms has reduced mosquito populations and seems to have reduced the incidence of WNV in 2004-2005.

Contracts

1. DNA studies: evaluate multiple paternity in alligators (Dr. Travis Glenn)

This study will provide a better understanding of alligator reproduction. Determining if multiple males father a single clutch of eggs or if a single male breeds with several females may have wild harvest quota implications. We are attempting to collect "repeat" samples (several "retraps" were obtained in 2004 and 2005), to determine if pair bonds exist in wild alligators. Now we are trying to evaluate more male samples, to see if very large males in the study site father several clutches in repeated years. We still have additional samples to analyze and would like to expand the study for repeat nesting females and further evaluate the male contribution; Dr. Travis Glenn is at one of the few labs with capability for this complex analysis, and we established a contract with him in late 2003 for this work. We may be able to determine if there are genetic reasons for "superior" clutches of hatchlings, or genetic defects causing common abnormalities (scoliosis, twisted tails, etc.).



2. PIX/LPSA etiology - LSUSVM (Dr. Mitchell, Dr. Nevarez)

This project was established to determine if PIX is infectious, by feeding hatchling

alligators ground tissues from an alligator(s) with PIX/LPSA. Due to the biohazard of infectious tissues, this study was conducted under strict protocols at the approved facility at LSU's Life Sciences Building. Multiple complicating factors (metabolic bone disease, temperature irregularities, and hatchling mortality) resulted in a contract extension to allow researchers to continue this project.

3. Evaluate HSV as the possible cause of PIX/LPSA - LSUSVM (Dr. Mitchell, Dr. Neveraz)

This contract was initiated to determine if Herpes Simplex Virus (HSV) might be the cause of PIX, as preliminary data from necropsies suggest PIX is viral in origin, rather that bacterial or fungal. Viruses are more difficult to isolate and treat than are bacterial organisms, and collaborators at LSU with expertise in virology are assisting. Molecular biology techniques are being developed and tested for use diagnostically in alligators.

4. Develop a PCR test for a possible fungal cause of PIX/LPSA (Dr. Paul Cardeilhac)

Preliminary work by Dr. Paul Cardeilhac at the University of Florida's School of Veterinary Medicine suggests PIX may be caused by a fungal organism (H. werneckii). However fungal organisms can be slow growing and difficult to isolate in pure culture. Dr. Cardeilhac is continuing to attempt to develop a polymerase chain reaction (PCR) test for H. werneckii, which might be used as a diagnostic tool for alligators infected with PIX.

5. Diagnostic services - LSUSVM (Dr. Nevarez)

Dr. Nevarez is on contract to conduct PIX/LPSA research and to provide diagnostic services as needed for the alligator industry. Several farmers have requested assistance in evaluation of alligators; their work led to the discovery of West Nile Virus in some alligator farms.

6. LSU Experimental Statistics (Dr. Barry Moser)

The LSU Department of Experimental Statistics is under contract to provide technical statistical expertise for numerous alligator projects; most importantly the evaluation of survival of farm-released alligators, population trends from survey data, and more recently hide grade/length correlations.

7. Food Habits (non-Alligator Resource Fund)

We collaborated with Dr. Steven Gabrey at Northeastern Louisiana University to evaluate alligator food habits in areas that participate in the nutria harvest incentive program compared to wetlands without a nutria harvest program. The third and final collections for the study were made in September 2004. Dr. Gabrey and his students plan several presentations for the SEAFWA meeting to be held in October 2005.

8. Nutria/Zinc phosphide (non-Alligator Resource Fund)

A pilot study was conducted in October/November 2004 to see if this chemical (if used as a nutria control agent) would have adverse effects on alligators that might consume the nutria carcass. At massive (pathological) doses alligator mortality was significant, a follow up study in early 2005 using physiological doses showed far lower mortality.

Research

1. Determination of sexual maturity in wild alligators

In collaboration with Dr. Val Lance, we collected and analyzed a large series of blood samples from male and female alligators throughout the year, to see when alligators become sexually mature (presumed approximately six feet for females; less is known about males). This study is particularly relevant with "bonus tag" implementation and harvest of more alligators in the 5'-6' size class, some of which may be capable of reproduction. We have completed plasma analysis including measuring sex steroids and stress hormone levels. We hope to do additional work on calcium and nutritional parameters such as cholesterol, triglycerides, etc., to evaluate body condition and reproductive readiness. Funding for this project ended on June 30, 2004. Numerous manuscripts have been published by Dr. Lance, with LDWF biologists as co-authors. We collected additional samples in May 2004 and spring 2005 (in anticipation of a new project on this subject for which we needed spring samples for histology). Dr. Lance has been working on the samples without reimbursement and submitted an abstract with Ruth Elsey and Phillip Trosclair as co-authors (to the Society for Integrative and Comparative Biology Meeting) held in January 2005. Major findings were that testosterone levels are seasonally elevated in all size classes, including 2' and 3' alligators. Average testosterone levels are correlated with size but even the smallest alligators had measurable testosterone. Dr. Lance has also been instrumental in serving as a liason to establish our ultrasound project with Dr. Dave Rostal, our telomere project with Dr. Carol Vleck, and others.

2. Ultrasound of female alligators

As part of the prior project with Dr. Lance, we began collaborating with Dr. Dave Rostal (unfunded) to do ultrasounds of female alligators, to determine if reproductive status can be confirmed by this non-invasive technique, and correlated with the plasma analysis from female alligators. This study may help refine the estimate of the proportion of the adult female population nesting each year. We have published abstracts and presented preliminary results at scientific meetings and a full paper is now being written for submission to the scientific literature.

3. Immunology/wound healing/husbandry

We are currently collaborating on projects with Dr. Mark Merchant (unfunded) to evaluate anti-microbial properties of alligator plasma. Although diseases are generally rare in alligators, this work may help on the rare occasion of disease in farmed alligators, in terms of

evaluating cause and treatment options. Dr. Merchant has published several manuscripts co-authored by Department biologists on the antimicrobial activity of alligator blood; and a paper on the amoebacidal activity was recently published. We are also evaluating a possible complement system, which is part of the innate immune system, and we recently initiated studies on wound healing in alligators (two manuscripts published).

4. Telomeres as aging techniques

We investigated the use of blood telomere lengths (DNA fragments) as a tool to determine age of alligators. With collaborators at Iowa State University we submitted a manuscript for publication. We would like to expand this study to determine how old a female alligator can be and still successfully nest in the wild. It is unknown if female alligators become senescent or if they are able to nest at age 30, 35, 40, or 45 years. This is a less invasive technique than trying to count annular growth rings in alligator femora.

5. Toxicology

We collaborated with Dr. Val Lance (unfunded since July 1, 2004) and his colleagues to analyze reproductive failure in captive adult alligators and a manuscript has recently been accepted for publication. Samples collected at Rockefeller are being analyzed by the veterinary pathology group at SDZS. Tissue lead levels were being evaluated by a graduate student (Master's degree completed) and the lead manuscript written by Dr. Lance with a Department biologist as a co-author was accepted for publication. Another manuscript on laser ablation ICP-MS analysis of the microdistribution of lead in alligator femora was prepared for publication. We have a contract proposal for further work to determine if any environmental contaminants exist in wild alligators; we anticipate documenting low levels or none detected. Yolk/embryo sample for this project were collected in summer 2005.

6. Nest site fidelity - using DNA "retraps"

We have found many females nest in nearly the exact same spot as in a prior year. Data collection is ongoing for this long-term project. Prior studies have evaluated nesting spacing patterns relative to habitat/geography, but this study provides nesting data for specific tagged females over a number of years. Additional samples were collected in 2004-2005.

7. Trap evaluation

During our DNA study, we designed a new live walk-in trap for alligators. We recently published the preliminary results, and are adding 2003-2005 data on trap effectiveness, number of man-days/catch etc.

8. Sex ratios of hatchling alligators

We are working with Dr. Jeff Lang on a manuscript on sex ratios and temperature dependent sex determination in alligator eggs left in the wild to incubate. Field work is

complete; analysis and writing will follow. This project will provide needed data on wild sex ratios which is critical to population estimation.

9. Alligator testis ultrastructure

In collaboration with Dr. Kevin Gribbins of Wittenberg University, we conducted a morphological study on the ultrastructure of the alligator testis and the cytological evaluation of germ cell development. A manuscript was prepared and is accepted for publication in Acta Zoologica. Additional samples for more detailed electron microscopy were collected in spring 2005.

10. Mercury analyses

Samples previously collected by Rockefeller biologists in an impounded area on Rockefeller Wildlife Refuge were analyzed by a Master's student and found to be of very low and safe levels. Two abstracts are being prepared for the October 2005 SETAC (Society of Environmental Toxicology and Chemistry) meeting.

11. Alligator dispersal

In collaboration with Dr. Val Lance, we have three years of data on alligator dispersal (caught live on Rockefeller, and subsequently harvested "off" Rockefeller). Several have migrated very long distances (20-36 miles) which is important data to consider in evaluating our farm "release to the wild" program.

12. Alligator distribution

A very unusual occurrence of an alligator located offshore (63 km from the nearest point on mainland Louisiana) was documented and a manuscript published in the scientific literature.

13. Alligator thermoregulation

In collaboration with Dr. Frank Seebacher, we evaluated thermoregulation in alligators (vs. crocodiles) of varying masses to determine how they adapt to climactic changes and how various enzyme activity changes seasonally. Two manuscripts were published in physiology journals. We plan to expand the study to cover physiological adaptations (heart rate, respiratory rate, etc) utilizing surgically implanted internal data loggers with Dr. Seebacher and Dr. Craig Franklin if they can secure grant funding.

General Assistance to Researchers

1. Neuroanatomy

We are collaborating with Dr. Mike Pritz to evaluate embryology and development of certain regions of the brain.

2. Tooth development

We are collaborating with Dr. Mishima and now Dr. Kosawa (Nihon University School of Dentistry) on various aspects of tooth development in alligators. A Department biologist was a co-author on several abstracts and a paper with Dr. Mishima and his colleagues.

3. Paleontology

We assist numerous graduate students and university faculty members with samples for studies related to dinosaurs/paleontology. A Department biologist was a co-author on a manuscript published in the Journal of Vertebrate Palentology on femoral size and size of extinct crocodilians.

4. Alligator Reproduction

Numerous samples from reproductive female alligators were collected in May-June 2005, to evaluate femora/calcium metabolism for eggshell deposition (Dr. Mary Higby-Schweitzer), and to determine if sperm storage structures exist (Dr. Dan Gist)

Revenue and Expenditure Information

In recognizing that the Louisiana alligator industry is a vital aspect of Louisiana's economy and recognizing the many, varied national and international impediments to industry development, and the need to develop and maintain a total alligator conservation program, the Louisiana legislature established the Louisiana Alligator Resource Fund in 1991 (R.S. 56:279). This Act established a dedicated source of revenue intended to help defray the costs of the alligator program within the Fur and Refuge Division of the Department. The specific goals of the legislation are:

1. To provide salaries and financial support including associated indirect cost for the following positions, to provide a minimum of two full-time technical positions (biologists) and eight nontechnical positions such as computer operators, secretaries, and wildlife specialists existing within the Fur and Refuge Division of the Louisiana Department of Wildlife and Fisheries.
2. To assist with funding for law enforcement activities associated with the alligator farm industry when surplus funds are available and recommended by the Louisiana Fur and Alligator Advisory Council.
3. To assist with funding marketing programs recommended by the Louisiana Fur and Alligator Advisory Council when surplus funds are available.
4. To actively fund research on all aspects involved with alligator conservation and to develop the techniques needed to enhance the commercial alligator industry.
5. To assist in funding management of the alligator population through proper management, harvest and farm facility management.

This legislation provides all the enabling language required to establish the Louisiana Alligator Resource Fund including sources of income, investing of the fund, and expenditures from the fund. Further R.S. 56: 253 establishes the alligator hide tag fee and the alligator shipping label fee, specifies the details of collection of these fees, and establishes that these fees shall be no more than $4.00 per hide or live alligator. R.S.56:256, provides for the collection of a $0.25 severance tax on each alligator hide taken within the state. R.S. 56:279 C (1) provides that all revenues received by the state from tag fees, alligator shipping label fees, and from the severance tax on alligator skins shall be credited to the Louisiana Alligator Resource Fund. During the 2004-2005 fiscal year, $1,106,868 was deposited into the Louisiana Alligator Resource Fund. The alligator industry should be applauded for supporting these legislative endeavors to create a self-generated source of revenue to develop and maintain the state's alligator management program. Annual income and expenditure data for the Louisiana Alligator Resource Fund is reported in Table 5.

Table 6 summarizes the Louisiana Alligator Resource Fund expenditures by the alligator management program for the 2003-04 and 2004-2005 fiscal years. Expenditures by the alligator management program totaled $875,333 for 2003-2004 and $929,445 in 2004-2005. Salary and related benefits constituted 63% of total expenditures in 2004-2005. Currently the alligator program staff consists of six biologists, four wildlife technicians, and two administrative specialists (Exhibit 2). Additionally we annually supplement the permanent staff with two part time wildlife technicians, hired as six-month restricted appointments to assist in the farm alligator release program.

Other major expenditure categories included $113,420 for various research contracts pertaining primarily to farm skin quality, $82,842 in Operational Services (of which $69,092 was spent on helicopter rental for the annual alligator nest survey), and $70,119 for general supplies used for a multitude of daily program activities. As provided for in R.S. 56:279, the Fur and Alligator Advisory Council expended $235,893 of Louisiana Alligator Resource Funds during 2004-2005. Details of the alligator educational and technical activities approved and conducted through the Fur and Alligator Advisory Council are provided in their annual report to the Legislature.

All expenditures from the Louisiana Alligator Resource Fund are provided for in R.S. 56:279. The Department carefully approves and monitors all expenditures to ensure compliance with all legal requirements. The Department's fiscal office can produce a variety of expenditure and budget reports upon request.

Habitat Concerns

One threat or potential limiting factor to Louisiana's alligator population is habitat loss. Because the vast majority of Louisiana's alligators are in the coastal parishes, saltwater intrusion and wetlands/marsh deterioration from numerous causes are very real threats.

Vast resources by numerous state and federal agencies have been expended to attempt to limit these losses. Projects to restore/enhance marshes include construction of earthen terraces

(to reduce wave action and turbidity), "breakwaters" and protection levees along coastlines, and freshwater diversions. The alligator benefits indirectly from these efforts to maintain/enhance wetlands. The freshwater diversion projects (Davis Pond and Caernarvon) shift water from the Mississippi River in hopes of re-establishing more favorable salinity conditions for numerous fish and wildlife species. Some preliminary data suggests alligator nesting has improved in the areas enhanced by lower marsh salinity levels. It is critical that habitat changes are monitored, mapped and incorporated periodically into the alligator program. This will ensure that our harvest programs are adjusted accordingly for corresponding alligator population changes.

Summary

Louisiana's alligator management programs have clearly illustrated that controlled sustained use of the species is feasible. The alligator is alive and well in Louisiana. The wild harvest has been in place over 30 years and the egg ranching program for nearly 20 years and may appear to operate unchanged every year. However, constant adaptations are made to try to improve both programs. The annual nest production surveys lead to review of harvest quotas and possible changes for each parish as marsh types change and nesting efforts are affected. Constant requests by user groups (farmers, egg ranchers, trappers, landowners, buyers, dealers and other industry personnel) are received and considered as the Department strives to safely manage the alligator resource to the benefit of many user groups with varied interests.

Louisiana's alligator industry is unique. It has recognized the necessity of establishing a self-generated revenue source to provide the necessary regulatory and management efforts to effectively manage the alligator resource. The Department will continue to protect the alligator resource while striving to ensure long term, sustainable harvest programs. During 2004-2005 the Department, through the use of the Louisiana Alligator Resource Fund, has worked toward achievement of the goals established by the Louisiana Legislature.

Figure 1. Louisiana Coastal Marsh Alligator Nest Production, 1970-2004

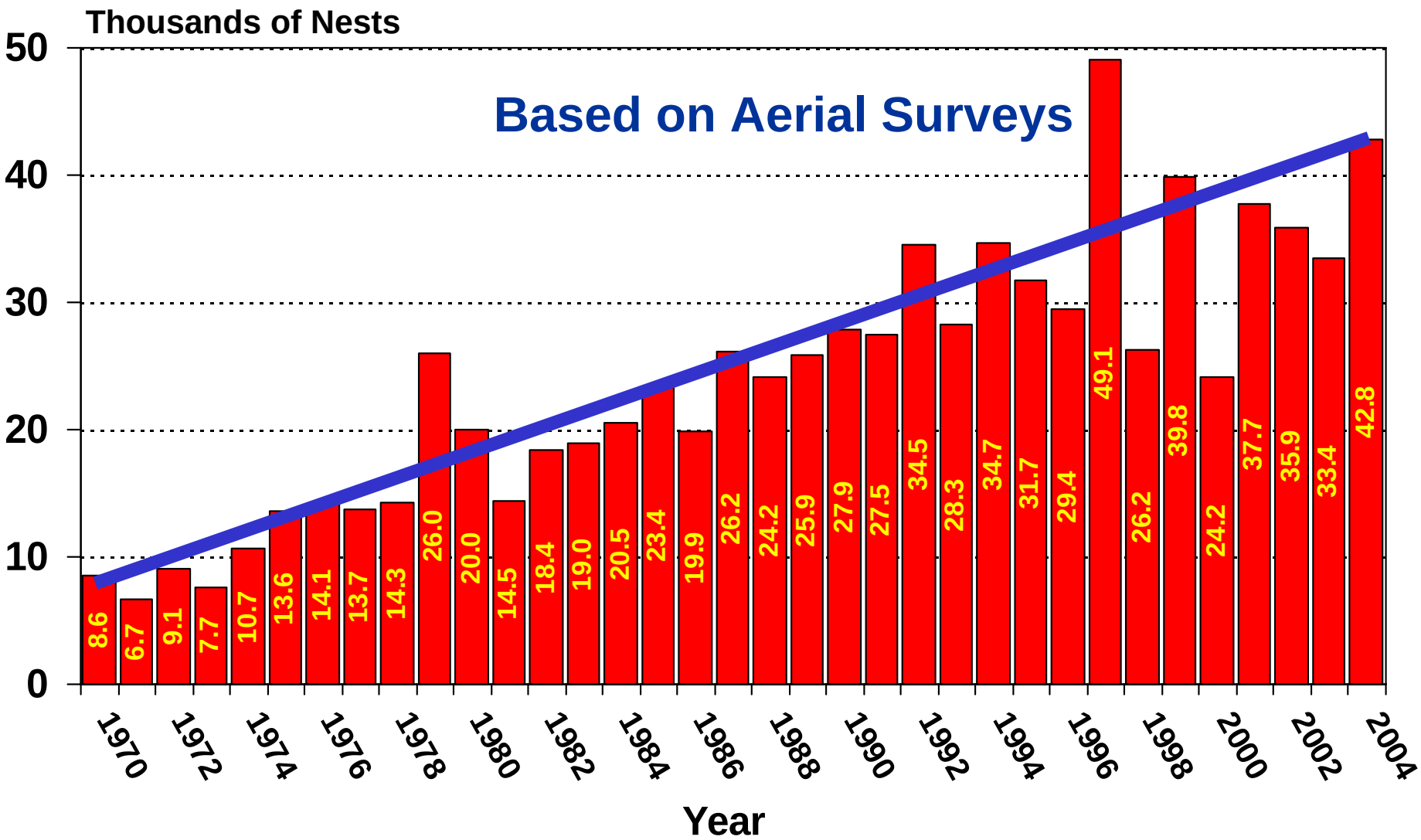


Figure 2. Louisiana Alligator Farm Inventory, December 2004

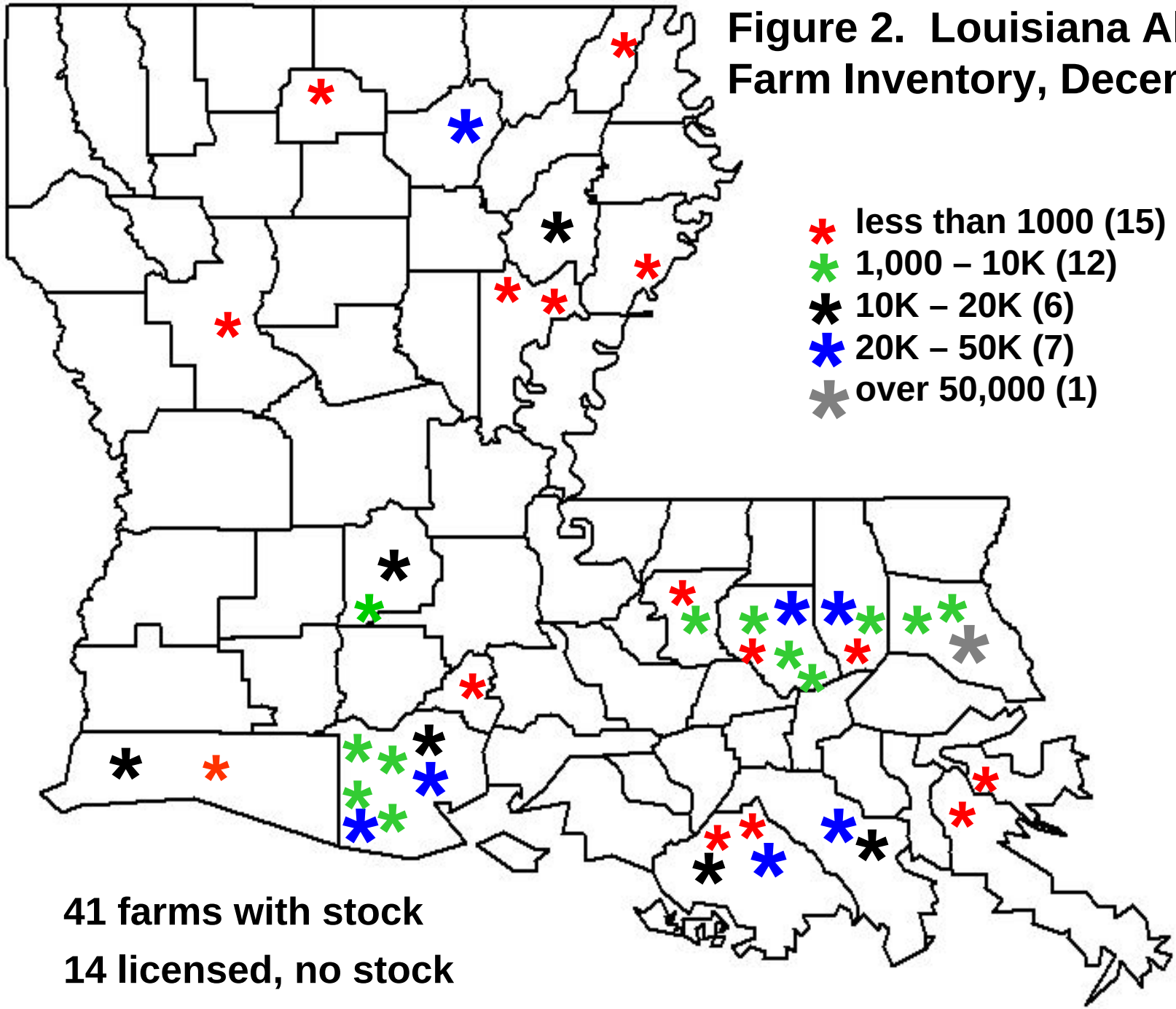


Table 1. Louisiana Alligator Season Dates, Area Open, Harvest Level and Tag Cost, 1972-2004

Year	Season Dates	No. of Days	Parishes	Tag Fee	
				Amount	Paid By
1972	5 Sept – 17 Sept	13	Cameron	$5.00 **	hunter/farmer
1973	10 Sept – 28 Sept	19	Added Vermilion	$5.00 **	hunter/farmer
1975	20 Sept – 19 Oct	30	Added Calcasieu	$5.00 **	hunter/farmer
1976	9 Sept – 8 Oct	30	No change	$5.00 **	hunter/farmer
1977	1 Sept – 30 Sept	30	No change	$5.00 **	hunter/farmer
1979	7 Sept – 7 Oct	31	Coastwide *	$5.00 **	hunter/farmer
1980	4 Sept – 4 Oct	31	No change	$5.00 **	hunter/farmer
1981	31 Aug – 30 Sept	31	Statewide	$5.00 **	hunter/farmer
1982	4 Sept – 3 Oct	30	Statewide	$5.00 **	hunter/farmer
1983	10 Sept – 9 Oct	30	Statewide	$5.00 **	hunter/farmer
1984	8 Sept – 7 Oct	30	Statewide	$5.00 **	hunter/farmer
1985	31 Aug- 30 Sept	31	Statewide	$5.00 **	hunter/farmer
1986	6 Sept – 6 Oct	31	Statewide	$5.00 **	hunter/farmer
1987	5 Sept – 5 Oct	31	Statewide	$5.00 **	hunter/farmer
1988	10 Sept – 10 Oct	31	Statewide	$2.00/tag	hunter/farmer
1989	9 Sept – 8 Oct	30	Statewide	$4.00/tag	hunter/farmer
1990	1 Sept – 30 Sept	30	Statewide	$4.00/tag	hunter/farmer
1991	31 Aug – 29 Sept	30	Statewide	$4.00/tag	hunter/farmer
1992	10 Sept – 4 Oct	25	Statewide	$4.00/tag	hunter/farmer
1993	11 Sept – 10 Oct	30	Statewide	$4.00/tag	fur dealer/shipper
1994	3 Sept – 2 Oct	30	Statewide	$4.00/tag	fur dealer/shipper
1995	2 Sept – 1 Oct	30	Statewide	$4.00/tag	fur dealer/shipper
1996	7 Sept – 6 Oct	30	Statewide	$4.00/tag	fur dealer/shipper
1997	6 Sept – 5 Oct	30	Statewide	$4.00/tag	fur dealer/shipper
1998	2 Sept – 1 Oct	30	Statewide	$4.00/tag	fur dealer/shipper
1999	1 Sept – 30 Sept	30	Statewide	$4.00/tag	fur dealer/shipper
2000	30 Aug – 30 Sept	32	Statewide	$4.00/tag	fur dealer/shipper
2001	29 Aug – 30 Sept	33	Statewide	$4.00/tag	fur dealer/shipper
2002	28 Aug – 30 Sept	34	Statewide	$2.00/tag	fur dealer/shipper
2003	3 Sept – 2 Oct	30	Statewide	$2.00/tag	fur dealer/shipper
2004	1 Sept – 30 Sept	30	Statewide	$3.00/tag	fur dealer/shipper

* Added Iberia, St. Mary, Terrebonne, Lafourche, St. Charles, Jefferson, Plaquemines, St. Bernard and St. Tammany
** Per issuance, regardless of number

Table 2. September Wild Alligator Harvest in Louisiana, 1972-2004 *

Year **	Commercial Hunters	Tags Issued	Number Taken	Percent Success	Avg T. L. in Feet	Skin Value		Meat ****	
						Avg/foot	Total	Amount (lbs)	Value
1972	59	1,961	1,350	68.8	6.92	$8.10	$75,670	***	***
1973	107	3,243	2,921	90.1	7.58	$13.13	$290,714	***	***
1975	191	4,645	4,420	95.2	7.51	$7.88	$261,570	***	***
1976	198	4,767	4,389	92.1	7.09	$16.55	$515,003	***	***
1977	236	5,760	5,474	95	7.35	$12.23	$492,061	***	***
1979	708	17,516	16,300	93	6.92	$15.00	$1,691,940	100,089	$125,000
1980	796	19,134	17,692	92.5	6.59	$13.00	$1,515,674	100,089	$125,000
1981	913	15,534	14,870	95.7	6.92	$17.50	$1,800,757	100,089	$125,000
1982	1,184	18,188	17,142	94.2	6.82	$13.50	$1,578,264	100,089	$125,000
1983	945	17,130	16,154	94.3	6.92	$13.00	$1,453,214	100,089	$125,000
1984	1,104	18,386	17,389	94.6	6.99	$21.00	$2,552,531	100,089	$125,000
1985	1,076	17,466	16,691	95.6	7.09	$21.00	$2,485,123	150,133	$675,000
1986	1,207	23,267	22,429	96	6.92	$23.00	$3,569,800	310,275	$1,395,000
1987	1,370	24,635	23,892	97	7.09	$40.00	$6,775,771	500,444	$2,250,000
1988	1,545	24,111	23,526	98	7.25	$48.00	$8,187,048	600,533	$3,000,000
1989	1,769	25,492	24,846	97.4	7.25	$50.00	$9,006,675	747,448	$3,000,000
1990	1,921	26,051	25,575	98.2	7.25	$57.00	$10,568,869	701,063	$3,000,000
1991	1,995	24,532	23,870	97.3	7.45	$32.00	$5,690,608	684,109	$2,935,000
1992	1,686	25,378	24,000	94	7.25	$23.00	$4,002,000	687,835	$2,951,520
1993	1,702	24,805	23,991	96.7	7.25	$23.00	$4,000,499	687,615	$2,889,000
1994	1,774	27,694	27,120	97.9	7.35	$37.00	$7,375,284	771,610	$3,243,000
1995	1,877	28,931	28,442	98.3	7.35	$41.00	$8,570,997	809,088	$3,400,000
1996	1,948	26,578	25,789	97	7.41	$25.00	$4,777,412	734,793	$3,967,800
1997	1,973	29,900	29,085	97.3	7.08	$18.00	$3,706,592	828,423	$4,473,000
1998	1,888	30,198	28,639	94.8	7.08	$15.00	$3,041,462	804,679	$4,350,000
1999 regular	1,902	33,279	32,097	96.4	7.17	$22.00	$5,062,981	909,398	$4,881,000
1999 bonus		3,308	3,173	95.9	5.75	$15.50	$282,794	44,335	$237,250
2000 regular	1,941	31,999	30,532	95.4	7.17	$27.00	$5,910,690	1,061,903	$5,702,419
2000 bonus		3,299	3,146	95.4	5.75	$23.00	$416,059	56,785	$303,801
2001 regular	1,916	32,738	31,935	97.5	7.33	$22.00	$5,149,838	734,505	$3,305,273
2001 bonus		3,333	3,213	96.4	5.83	$20.00	$374,636	73,899	$332,546
2002 regular	1,955	31,847	30,487	95.7	7.25	$16.00	$3,536,492	701,201	$3,155,405
2002 bonus		3,280	2,896	88.3	5.83	$16.00	$270,139	66,608	$299,736
2003 regular	1,873	30,533	28,570	93.6	7.17	$13.00	$2,663,010	657,110	$2,956,995
2003 bonus		3,270	3,011	92.1	5.83	$13.00	$228,204	69,253	$311,639
2004 regular	1,859	31,573	30,447	96.4	7.17	$22.50	$4,911,862	700,281	$3,151,265
2004 bonus		3,662	3,477	94.9	5.83	$22.50	$456,095	79,971	$359,870

* Does not include Salvador WMA harvests from 1972-2003 and Marsh Island experimental, nuisance, and farm harvests from 1972-present.

** The bonus tag program was initiated in 1999 to increase the overall number of wild alligators harvested without putting any additional pressure on the 6' and over portion of the wild population.

*** Sale of meat not permitted; La. Health Department regulations first allowed meat sales in 1979.

**** Bone in from 1979-1984, deboned from 1985-present.

___ Subject to change, numbers updated November 4, 2005.

Table 3. Louisiana Alligator Ranching, 1986-2004

Year	Total Eggs Permitted	Number Collected	Percent Collected	Number Hatched	Alligators Returned to Wild
1986	2,903	2,903	100.0%	1,985	none
1987	19,641	18,041	91.9%	13,782	none
1988	90,305	64,887	71.9%	50,394	1,680
1989	265,051	181,819	68.6%	137,323	7,078
1990	366,055	293,412	80.2%	231,434	6,088
1991	333,451	198,089	59.4%	165,054	44,405
1992	297,125	164,892	55.5%	133,463	35,531
1993	279,405	155,891	55.8%	123,666	28,512
1994	362,835	266,408	73.4%	223,011	21,633
1995	402,830	314,371	78.0%	261,428	20,749
1996	467,545	279,237	59.7%	233,076	40,919
1997	476,115	377,636	79.3%	321,641	48,171
1998	539,216	280,870	52.1%	240,118	36,733
1999	574,731	382,611	66.6%	332,428	44,169
2000	593,625	279,217	47.0%	236,313	39,559
2001	616,465	354,636	57.5%	294,405	48,288
2002	639,145	354,523	55.5%	304,448	32,716
2003	651,207	357,757	54.9%	307,805	50,417
2004 *	619,730	396,069	63.9%	349,311	47,431
Total	7,597,380	4,723,269	62.2%	3,961,085	554,079

* Updated February 10, 2005

Table 4. Farm Alligator Harvest in Louisiana, 1972-2003 *

	No. Farms		No. Skins	Avg T. L.	Skin Value		Meat ***	
Year *	Licensed	Sold Skins	Sold	in Feet	Avg/foot	Total	Amount (lbs)	Value
1972	8	3	35	5	$8.10	$1,418	**	**
1973	8	5	103	6.33	$13.13	$8,561	**	**
1975	8	3	83	5.5	$7.88	$3,597	**	**
1976	8	3	360	5.75	$16.55	$34,259	**	**
1977	8	4	376	5.25	$12.23	$24,142	**	**
1980	8	1	191	4.67	$13.00	$11,596	957	$3,342
1981	8	3	360	4.67	$17.50	$29,421	1,801	$6,300
1982	8	1	113	4	$13.50	$6,102	452	$1,582
1983	14	6	1,449	4.58	$13.00	$86,273	7,253	$25,357
1984	12	7	2,836	4.25	$21.00	$253,113	11,354	$39,704
1985	15	12	4,430	4.25	$21.00	$395,378	17,736	$79,740
1986	22	15	5,925	4.5	$23.00	$613,238	26,687	$119,983
1987	30	23	10,670	4.42	$24.00	$1,131,874	48,060	$216,067
1988	47	38	27,749	4.25	$36.00	$4,245,597	111,094	$554,980
1989	83	68	66,737	3.98	$32.00	$8,499,624	300,877	$1,202,362
1990	123	80	88,424	4.03	$24.00	$8,552,369	397,732	$1,786,059
1991	134	91	118,976	4.13	$15.00	$7,370,563	536,379	$2,380,000
1992	125	85	128,026	4.04	$12.00	$6,206,700	578,289	$2,566,000
1993	101	70	121,700	3.87	$17.00	$8,006,643	388,010	$1,720,000
1994	89	62	136,126	3.67	$20.00	$9,991,648	277,780	$1,197,000
1995	83	50	125,460	3.88	$20.00	$9,735,696	331,395	$1,323,000
1996	81	51	161,845	3.91	$15.50	$9,808,616	511,668	$2,297,900
1997	75	36	169,988	3.74	$16.75	$10,648,898	542,332	$2,435,700
1998	73	38	154,399	3.79	$17.00	$9,947,928	490,990	$2,209,455
1999	64	35	187,570	3.64	$17.00	$11,606,832	552,693	$2,487,119
2000	66	35	219,827	3.81	$20.50	$17,169,588	659,481	$2,967,665
2001	63	32	180,391	3.79	$20.50	$14,015,479	541,173	$2,435,279
2002	62	32	237,808	3.73	$23.50	$20,845,060	713,424	$3,210,408
2003	61	31	276,566	3.81	$24.00	$25,289,195	829,698	$3,733,641

* Tag year extends from September of the year designated to the next September (example: 1997 = 9/97 to 8/98).

** Sale of meat not permitted; La. Health Department regulations first allowed meat sales in 1979.

*** Deboned from 1980-present.

___ Subject to change, numbers updated November 4, 2005.

Table 5. Alligator Resource Fund Income, Expenditures, and Balance, 1992-2005

	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998
Severance			31,787	39,461	39,642	43,792	49,324
Interest	5,339	10,051	13,028	28,696	40,589	55,587	80,441
Shipping Label Fees	74,420	32,688	11,420	63,744	156,588	103,940	107,272
Tag/collection permit fees	586,427	612,456	522,813	634,264	636,221	703,673	792,742
Misc income					420	500	1,043
Total Revenue	666,186	655,195	579,048	766,165	873,460	907,492	1,030,822
Less Expenditures	-500,346	-475,642	-580,437	-578,058	-576,285	-561,308	-619,779
Net annual income	**165,840**	**179,553**	**-1,389**	**188,107**	**297,175**	**346,184**	**411,043**
Add balance from prior year		165,840	345,393	344,004	532,111	829,286	1,175,470
YEAR-END BALANCE	165,840	345,393	344,004	532,111	829,286	1,175,470	1,586,513

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003 [1]	FY 2004 [1]	FY 2005 [1]
Severance	48,538	54,124	62,220	51,744	64,630	66,006	83,732
Interest	84,776	108,758	132,696	84,081	47,379	25,498	38,120
Shipping Label Fees	123,120	187,948	92,763	100,296	100,540	91,232	94,900
Tag/collection permit fees	779,566	869,551	1,011,688	901,710	633,066	529,642	890,116
Misc income	350	300	400	100			
Total Revenue	1,036,350	1,220,681	1,299,767	1,137,931	845,615	712,378	1,106,868
Less Expenditures	-722,027	-1,102,752	-930,674	-1,070,743	-1,263,509	-1,076,078	-1,165,338
Net annual income	**314,323**	**117,929**	**369,093**	**67,188**	**-417,894**	**-363,700**	**-58,470**
Add balance from prior year	1,586,513	1,900,836	2,018,765	2,387,857	2,455,046	2,037,153	1,673,453
YEAR-END BALANCE	1,900,836	2,018,765	2,387,858	2,455,045	2,037,152	1,673,453	1,614,983

[1] Due to the reduction in the alligator hide tag fee, ARF expenditures exceeded ARF income, thereby resulting in a net annual loss of revenue in the ARF.

Table 6. Alligator Management Program Expenditures for Fiscal Years 2004 and 2005

Budget Category	2004	2005
Personal Services	$544,685	$583,054
Travel	$17,981	$10,920
Operating Services	$70,710	$82,842
Supplies	$74,305	$70,119
Professional Services	-$4,975	$10,078
Other Charges	$119,997	$113,420
Acquisitions	$24,408	$28,153
Major Repairs	$5,258	$14,621
Interagency Billings	$22,964	$16,238
Totals	**$875,333**	**$929,445**

EXHIBIT 1. 2004 MARSH ALLIGATOR TAG ALLOTMENT BY PARISH

	Tag Allotment/Marsh Type		
	Brackish	**Intermediate**	**Fresh**
[A]Cameron	1:170	1:85	1:90
Calcasieu	1:250	1:110	1:90
Jeff Davis			1:90
[B]Vermilion West	1:70	1:70	1:125
[B]Vermilion East	1:225	1:225	1:75
Iberia		1:175	1:175
St. Mary		1:75	1:75
Terrebonne	1:150	1:65	1:65
Lafourche	1:175	1:70	1:80
St. Charles	1:100	1:100	1:70
St. John the Baptist		1:80	1:65
Jefferson	1:250	1:75	1:65
Orleans	1:500	1:500	
[C] Plaquemines West	1:300	1:200	1:65
[D]Plaquemines East	1:500	1:110	1:65
Plaquemines Delta	1:250	1:175	1:160
St. Bernard	1:500	1:110	
St. Tammany	1:175	1:100	1:100
Tangipahoa		1:90	1:140

Cypress-Tupelo Swamp	1:200
Dewatered Marsh	1:700
Transitional Marsh[E]	1:500

[A]Marsh between Calcasieu Lake/Calcasieu River and Mermentau River will be issued at the rate of 1 tag:150 acres in intermediate marsh and 1 tag:200 acres in brackish marsh.
[B]The dividing line for Vermilion East and West is the Vermilion River Cutoff (4-mile cut).
[C]Marsh west of Mississippi River.
[D]Marsh east of Mississippi River.
[E]Marsh areas which are characterized by a generally declining alligator population caused by degradation of habitat.

2004 BONUS TAG ISSUANCE

Special experimental Bonus tags for alligators in the less than 6' (<6') size classes will be issued to the hunter, based upon his 2004 regular tag allocation. Bonus tags will be issued according to the following table:

Number of 2004 Regular Tags Allocated	Number of Experimental Bonus Tags to be Issued
1-9	1
10-19	2
20-29	3
30-39	4
40-49	5
50-59	6
60-69	7
70-79	8
80-89	9
90-99	10
Etc. (multiples of 10)	

Special considerations:

1. Bonus harvest should come from less than 6' (<6') size alligators.

2. Bonus alligators must be tagged according to Department regulations with a special experimental Bonus tag (color = purple).

3. Hunter compliance with this experimental program is voluntary; compliance will be monitored through computer analysis of harvest data. Non-compliance may impact allocation of bonus tags for the alligator season in 2005.

2004 NON-MARSH ALLIGATOR TAG ALLOTMENT BY ZONE AND PARISH
LAKE REGION

ZONE	PARISH	HABITAT	ACRES OF HABITAT	TAG ALLOTMENT	REMARKS
Minden	Caddo	Cross Lake	500	10	Public Lake (Experimental Harvest)
SUB TOTAL			**500**	**10**	
Monroe					No Public Lakes No Experimental Harvest
Tioga	Rapides	Indian Creek Lake	500	5	Public Lake (Experimental Harvest)
SUB TOTAL			**500**	**5**	
Ferriday	Concordia	Lower Sunk Lake/ Lac A' Sostein	850	10	Three Rivers WMA (Experimental)
		Silver Lake	400	10	Three Rivers WMA (Experimental)
		Long Bayou	300	10	Three Rivers WMA (Experimental)
		Grand Bay/Lake Moreau	360	5	Three Rivers WMA (Experimental)
		Lake Concordia	800	15	Public Lake (Experimental)
		Catfish Bayou/Whiskey Lk.	300	5	Red River WMA
		Dobb's Bay	200	5	Red River WMA
		Bayou Cocodrie	200	5	Red River WMA
		Union Point Borrow Pits	224	5	Red River WMA
		Big Willow Lakes	200	5	Red River WMA
		Red River Borrow Pits	250	5	Red River WMA
	Tensas	Lake St. Joseph	800	20	Public Lake (Experimental)
		Lake Bruin	2,800	15	Public Lake (Experimental)
		Lake St. John	200	20	Public Lake (Experimental)
		Fool River Lake	250	5	Big Lake WMA
		Lake Marydale	150	5	Buckhorn WMA
	Caldwell	Lafourche Lake	1,300	10	Bouef WMA
		Horseshoe Lake	300	5	Bouef WMA
SUB TOTAL			**9,884**	**160**	

2004 NON-MARSH ALLIGATOR TAG ALLOTMENT BY ZONE AND PARISH CONT'D
LAKE REGION

ZONE	PARISH	HABITAT	ACRES OF HABITAT	TAG ALLOTMENT	REMARKS
Lake Charles	Evangeline	Chicot Lake	1,625	16	State Parks (Experimental Harvest)
	Vernon	Anacoco Lake	1,000	5	Public Lake (Experimental Harvest)
SUB TOTAL			**2,625**	**21**	
Opelousas	Avoyelles	Grassy Lake WMA	1,000	25	Highest Bidder Basis
		Spring Bayou WMA	5,000	65	Highest Bidder Basis
		Pomme-de-Terre	800	6	Highest Bidder Basis
	Assumption	Elm Hall WMA	2,843	14	Highest Bidder Basis
	St. Martin	Atchafalaya NWR Bayou des Ourse Brake	1,300	10	Highest Bidder Basis
Opelousas	Iberville	Atchafalaya NWR Bayou des Glaise Brake	2,000	20	Highest Bidder Basis
	Iberville/ St. Martin	Sherburne WMA	11,780	10	Highest Bidder Basis (Basin)
SUB TOTAL			**24,723**	**150**	
LAKE REGION TOTALS		**Lakes**	**38,232**	**346**	**Experimental Harvests**

2004 NON-MARSH ALLIGATOR TAG ALLOTMENT BY ZONE AND PARISH
CYPRESS-TUPELO SWAMP REGION

ZONE	PARISH	ACRES OF HABITAT	TAG ALLOTMENT	ACRES/TAG	REMARKS
Opelousas	Iberville	29,880	149	200	Tag allotment based upon review of prior years harvest statistics, night counts and alligator model.
	Lafayette	1,200	6	200	
	Pointe Coupee	1,000	5	200	
	W. Baton Rouge	7,040	35	200	
SUB TOTAL		**39,120**	**195**	**200**	
Baton Rouge	Ascension	40,320	202	200	Tag allotment based upon review of prior years harvest statistics, night counts and alligator model.
	E. Baton Rouge	2,000	10	200	
	Livingston	66,720	334	200	
	Tangipahoa	36,181	181	200	
SUB TOTAL		**145,221**	**727**	**200**	
New Orleans	St. Charles	39,340	197	200	Tag allotment based upon review of prior years harvest statistics, night counts and alligator model.
	St. James	76,960	385	200	
	St. John	104,320	522	200	
SUB TOTAL		**220,620**	**1,104**	**200**	
New Iberia - Bourg	Assumption	98,560	493	200	Tag allotment based upon review of prior years harvests statistics, night counts and alligator model.
	Iberia	31,550	158	200	
	Lafourche	112,350	562	200	
	St. Mary	60,190	301	200	
	Terrebonne	43,014	215	200	
SUB TOTAL		**345,664**	**1,729**	**200**	
SWAMP TOTAL		**750,625**	**3,755**	**200**	

ATCHAFALAYA BASIN ALLIGATOR HABITAT

REGION	ACREAGE	DESCRIPTION
A. Henderson Lake	15,000	Bounded on the west by the West Guide Levee, on the North by Little Fordoche Bayou, on the east by the Haha Bay and Gim Slough and on the south by La. Hwy. 3177.
B. Crook Chen Cove-Buffalo Cove	32,000	Beginning at the northwest corner of Attakapas W.M.A.: A line north along Lake Fausse Point Cut to Bayou Benoit; west to the West Guide Levee, north to the East-West Canal located approximately 3 miles south of Catahoula, La.: East approximately 2 miles to canal; southeast on the same canal to Bayou Crook Chene; east to the main channel of the Atchafalaya River; south to the north boundary of Attakapas W.M.A.; west to point of beginning.
C. Spike Bay-Berry Lake	8,000	Beginning at a point 1-1/2 miles northwest of Bayou Sorrel Landing: west along canal 5 miles; south along Spike Bay for 2 miles; east to intersect Bayou Sorrel then continue east along Bayou Sorrel to East Guide Levee; north to point of beginning.
D. Upper Grand River Flats	12,000	Beginning at Upper Grand River Landing: north along East Guide Levee approximately 9 miles to a canal running northwest; northwest along that canal 2-1/2 miles to King's Ditch; south approximately 5 miles to include Billy Little Lakes; southeast approximately 4 miles to intersection of Upper Grand River and Little Tensas Bayou, east along Upper Grand River to point of beginning.
E. Bayou Pigeon-Belle River-Flat Lake	140,000	Beginning at Bayou Pigeon Landing; south along East Guide Levee to Morgan City (excluding Flat Lake); north-northwest along east side of the main channel of Six Mile Lake approximately 10 miles to 21-Inch Canal; northeast on 21-Inch Canal to Bayou Boutte; north on Bayou Boutte to the east boundary line of Attakapas W.M.A.; then north along its east boundary to Grand Lake; north along the east bank of Grand Lake to Keelboat Pass; northeast along Keelboat Pass and Flat Lake Pass to intersection of Williams Canal and a canal running southwest-northeast; northeast along that canal to intersection of Intracoastal Canal (East Guide Levee); south to Bayou Pigeon Landing.
TOTAL ALLIGATOR HABITAT WITHIN BASIN TYPE	207,000	Tags may be issued at the rate of one tag per 600 acres of habitat.

2004 NON-MARSH ALLIGATOR TAG ALLOTMENT BY REGIONS

REGION	ACRES OF HABITAT	ALLOTMENT	ACRES/TAG	REMARKS
Lakes	38,232	346	100*	Includes public lakes as well as private Cypress-Lake habitat. *Tag allotment may vary depending on alligator populations.
Cypress-Tupelo Swamp	750,625	3,753	200	Swamp habitat outside the Atchafalaya Basin.
Atchafalaya Basin	207,000	345	600	That portion of the Atchafalaya Basin determined to be Cypress-Tupelo swamp containing permanent water as determine by aerial observations as well as approximately 400 miles of travel by boat during April-June, 1985.
GRAND TOTAL	**995,857**	4,446		

Additionally: Any private lake region or coastal marsh alligator habitat determined by Department personnel to have a reproducing population may be issued tags at the rate of one tag per 100 acres of habitat; exceptionally dense alligator populations on a localized area may be issued tags at the rate of 1 tag per 50 acres of habitat (requires coordination and annual evaluation with Fur and Refuge Division personnel).

Approved by:

Dwight Landreneau, Secretary
La. Dept. of Wildlife and Fisheries

7/16/04
DATE

EXHIBIT 2. LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES, OFFICE OF WILDLIFE, FUR AND REFUGE DIVISION ALLIGATOR STAFF

CONTACT/TITLE	SPECIALTY
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Robert Love **(Biologist Assistant Division Administrator)** **P.O. Box 98000** **Baton Rouge, La. 70898-9000** **225-765-2814 phone** **225-765-2818 fax** **blove@wlf.louisiana.gov**	**Assistant Division Administrator,** **Fur and Refuge Division**
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Ruth Elsey (Biologist Manager) **Rockefeller Refuge** **5476 Grand Chenier Hwy.** **Grand Chenier, La. 70643** **337-538-2276 phone** **337-491-2595 fax** **relsey@wlf.louisiana.gov**	**<u>Statewide</u>** **Alligator Farming, Research, Permits, Licenses, Exportation/Inspections** **<u>Southwest Louisiana</u>** **Harvests, Hunting, Egg Collections**
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EXHIBIT 2. LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES, OFFICE OF WILDLIFE, FUR AND REFUGE DIVISION ALLIGATOR STAFF

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