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PREFACE

The West Nile Virus outbreak of 2002 affected the citizens of Louisiana tremendously. Concern for public health was intensified throughout the entire state. Many local, state, and federal agencies became involved with the effort to minimize the negative effects of this vector borne disease. The Office of Public Health launched an intense media campaign to educate the public regarding prevention and present individual control measures to help reduce the possibility of contracting this sometimes deadly disease.

Organized mosquito abatement districts were overwhelmed with daily activities in their own areas making them unavailable to assist other areas of the state. Without the proper equipment, technology, and organization, parish governments were at a severe disadvantage. In a joint effort with the Louisiana State University Agricultural Center (LSU AgCenter), the Louisiana Office of Public Health (LOPH) was able to expand its media coverage through the LSU AgCenter's Cooperative Extension Service and its 4-H programs. The LOPH and the LSU AgCenter were also able to provide valuable technical assistance to those parishes without organized mosquito abatement districts and to those with confirmed cases of this disease.

In continuing the fight against this and other arboviral diseases, LOPH has once again joined forces with the LSU AgCenter by providing funding from the Centers for Disease Control for the development of the Louisiana Mosquito Abatement Plan document. This planning document will provide parish governments a tool with which they can be better prepared to combat these vector borne diseases through the design and implementation of mosquito abatement programs. The LOPH, along with the LSU AgCenter, will present this planning document at eight scheduled workshops throughout the state beginning April 1, 2003. At these workshops, the LOPH also will present possible grant opportunities for funding to those parishes choosing to create an organized mosquito abatement district.

The Office of Public Health will continue to make available resources to local parish governments in an effort to combat arboviral diseases and thus improve public health in Louisiana.

A handwritten signature in cursive script that reads "Madeline W. McAndrew".

Madeline McAndrew
Assistant Secretary
Office of Public Health



From The LSU AgCenter

Mosquitoes are a year-round menace in Louisiana. They are responsible for spreading diseases to humans, livestock and wildlife – and they sometimes make outdoor activities almost impossible. It's clear there are many reasons to attempt to control them.

Disease outbreaks the past few years and the potential threat of even more serious mosquito-borne diseases make it clear the time for action has come. That's why we in the LSU AgCenter have worked with the Louisiana Department of Health and Hospitals' Office of Public Health to develop strategies and plans for mosquito control. Louisiana needs mosquito abatement, and, for it to be successful, the fight must be across larger areas and must use an integrated approach.

Recognizing those needs, we are proud to have continued our partnership with the state Department of Health and Hospitals to address these issues. That partnership began last summer when we conducted mosquito surveillance programs in some of the hard-hit areas and presented educational and outreach programs for 4-H'ers and the elderly to help Louisiana citizens become more aware of how to reduce the risks of mosquito-borne diseases. Since that time, our experts have continued working to provide technical assistance to local governments that don't have active mosquito control efforts and to educate the public about the threat of diseases spread by mosquitoes.

What you are about to review is a result of some of the efforts of that partnership. This template for organizing and instituting mosquito abatement districts – known as the Louisiana Mosquito Abatement Plan or LAMAP, for short – was developed by LSU AgCenter experts in cooperation with the Louisiana Department of Health and Hospitals, the Louisiana Mosquito Control Association and Louisiana Department of Agriculture and Forestry.

Though it is written with a large, well-funded district in mind, this plan could be adjusted, so it has great potential for any area or parish governing body that desires to organize a mosquito abatement district. Better yet, because its budget figures include averages from current mosquito abatement districts in the state and breakdowns of the typical expenses of those districts, we believe we are providing you with useful and realistic estimates of the costs of initiating and operating an abatement district.

We are glad to be able to serve you by providing this material, and we hope you find it useful as we all try to reduce the threat of mosquito-borne diseases in our state.

A handwritten signature in black ink that reads "William B. Richardson". The signature is written in a cursive, flowing style.

William B. "Bill" Richardson, Chancellor
LSU AgCenter

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Introduction

Because of the impact of mosquitoes in Louisiana on humans and domestic and wild animals, the negative effect on tourism and especially their potential as carriers of organisms that cause diseases, the first mosquito abatement districts were established in the early 1960's. Since then, with the help of the Louisiana Mosquito Control Association (LMCA) and the Louisiana State University Agricultural Center (AgCenter) entomologists, several other parishes have established mosquito control programs.

According to a survey of several Louisiana Mosquito Control Association (LMCA) members, including directors of currently active Mosquito Abatement Districts, conducted by the AgCenter in May 2002, 13 parishes have in-house mosquito control programs, 8 parishes have programs conducted by contract mosquito control companies, 9 parishes are actively pursuing development of abatement programs, and 2 parishes have passed measures to fund abatement but have no programs in place. These statistics are dynamic because of the West Nile virus situation, which, as of January 2003, has resulted in over 329 confirmed cases, with 24 deaths associated with this form of encephalitis. Even though efforts are being made to establish abatement programs throughout Louisiana, as of the fall of 2002, over one-half of the state's parishes remains without some form of an organized mosquito management strategy. The severity of the West Nile virus outbreak, the continued threat of St. Louis and Eastern Equine Encephalitis, and the potential threat of even more serious mosquito-borne diseases such as dengue and malaria make the need for mosquito abatement throughout Louisiana imperative.

A template for a mosquito abatement plan called Louisiana Mosquito Abatement Plan (LAMAP), was developed by a team of AgCenter scientists based on the members' expertise and after analyzing existing plans through a survey of those parishes already involved in organized mosquito abatement programs. This plan draws on information in the LMCA Training Manual and its Integrated Mosquito Management policy. In addition, members of the LMCA and its Technical Advisory Committee, personnel from the Louisiana Office of Agricultural and Environmental Sciences of the Louisiana Department of Agriculture and Forestry (LDAF) and the Department of Health and Hospitals Office of Public Health (DHH/OPH) have provided input into the development of this template. It is hoped that parishes will use this planning tool to develop mosquito control programs designed to meet their specific needs (see Appendix A. The State Enabling Act, which allows for the creation of such programs).

The Components of Louisiana Mosquito Abatement Plan are: (1) Mosquito Sampling and Surveillance, (2) Mapping, (3) Physical Control (Source Reduction), (4) Biological Control, (5) Chemical Control (Larvicides & Adulticides), (6) Resistance Surveillance, (7) Disease Surveillance, (8) Public Education & Community Outreach and (9) Budget. The following is an outline that details those LAMAP components.

I. Sampling and Surveillance

1 Mosquito Sampling and Surveillance – Mosquito surveillance is a continuing process of inspection to monitor changes in mosquito population density, diversity, ecology and behavior (see Appendix B for description of Mosquito Life Cycle). The evaluation of the incidence of mosquitoes within an area of interest, the relative abundance of various species, and the information in relation to breeding sites and habits of the resident species, can be used to decide on the control strategies and timing of control, as well as to justify applications, withhold control measures and conduct post treatment assessments.

A. Larval mosquito surveillance - Larval surveys are conducted with a standard pint size dipper and are used to locate the exact areas in which the mosquitoes breed and to estimate their relative abundance. Surveillance is of special value in control operations to determine areas to be treated, to evaluate treatment efficacy and for resistance monitoring.

1. Inspection sites include rural and urban sites:

a. Rural - swamps, salt & freshwater marshes, woodland pools, flooded fields/pastures, roadside ditches, storm water retention structures, tree holes, rice fields.

b. Urban – flower pots, tires, trash containers holding water, gutters, tree-holes, septic ditches, roadside ditches, swales, non-functional swimming pools, etc.

2. Data recorded should include number of larvae per dip, mosquito species, stage of development, type and size of breeding area, map location of positive larval sites and GPS coordinates.

3. Data are analyzed to evaluate treatments and to decide on control strategies.



B. Adult mosquito surveillance - Data are collected to estimate adult mosquito population species, densities, age structure, distribution, to decide on control strategies, to time control measures, to evaluate treatments, and for arboviral surveillance purposes. Methods of collection include:

1. Light traps - Various types of mechanical devices that employ a light to attract flying mosquitoes and a suction fan to draw them into a container.

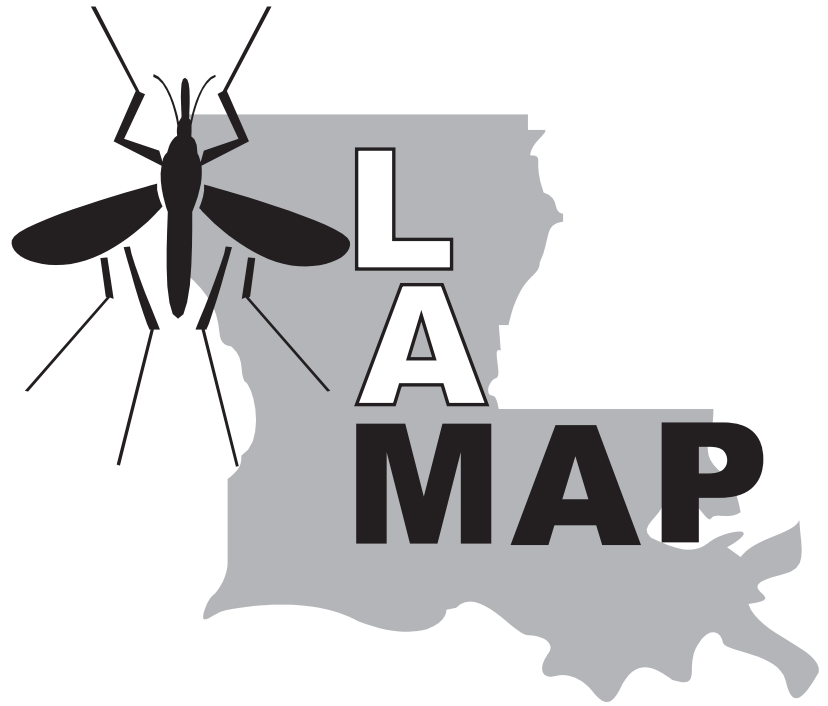
a. Some types are permanently stationed and run several times per week (e.g., New Jersey light trap).

b. Some are portable and run periodically for special data gathering purposes (e.g., CDC miniature light trap).

c. Portable light traps are generally operated using attractants such as CO₂ (dry ice, compressed cylinder gas), and octenol.

d. Light trap collections are sorted by species, gender, number and location.

e. Data are utilized to decide on control strategies and form a baseline for treatment efficacy assessment.



CHAPTER 1
Sampling
and
Surveillance

I. Sampling and Surveillance

2. Landing rates - Inspectors use themselves as bait and record the number and species of adult mosquitoes that land on them in a given period of time.

a. Landing rates are taken daily and are used in conjunction with other surveillance data to determine if treatment is necessary.

b. The data also are used to determine the proper control strategy and provide a baseline for treatment efficacy assessment.

3. Resting stations - Resting stations may be natural or man-made sheltered situations, e.g., rotted tree stumps, barns, culverts, and resting boxes (open-end red/black painted wooded boxes, 1 ft³), from which mosquitoes are collected by aspiration.

a. Resting stations are utilized in the surveillance of selected adult mosquito species.

b. This sampling method is used in specialized situations such as surveillance for *Culiseta melanura*, vector for eastern equine encephalitis (EEE), *Anopheles* spp. vectors of malaria and certain arboviruses.

4. Gravid traps – Traps which use an ovipositional attractant (hay infusion, fish emulsion oil) to sample female mosquitoes which have at least taken one blood meal and are seeking a site to lay eggs.

a. Gravid traps are used primarily for mosquito species such as Southern house mosquito (*Culex quinquefasciatus*), the primary vector of St. Louis Encephalitis (SLE) and West Nile virus (WN), and the Asian Tiger Mosquito (*Aedes albopictus*), also a vector of WN (see **Appendix C** for a list of common names of important mosquitoes from Louisiana).

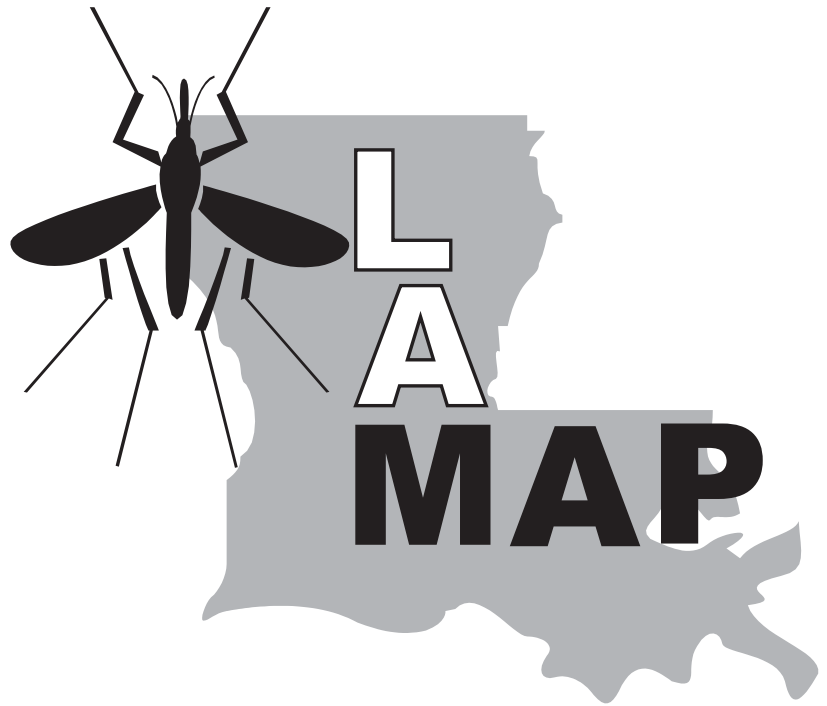
C. Ovipositional sampling – Ovipositional traps are various containers (glass/plastic cups with paddle boards or paper strips for females to lay eggs on) designed to sample populations of selected container breeder mosquito species, specifically *Aedes albopictus* (vector of WN) and *Aedes aegypti* (vector of dengue and yellow fever).

D. Operational factors

1. Collection of mosquitoes is carried out by one or a team of trained inspectors, who also perform systematic surveillance for new or previously unidentified mosquito breeding sites and adult mosquito populations.

2. A mosquito identification specialist (biologist/entomologist) normally has the task of identifying mosquitoes to species, assessing the physiological age of the females (gonotrophic cycle; important in assessing capacity to transmit diseases), etc.

3. Frequency of collection will vary from several times a week to once a month depending on time of the year, sampling method, purpose of surveillance, mosquito species of interest and availability of personnel



CHAPTER 2

Mapping

2. Mapping

2 Mapping - Maps provide information for field survey and control activities, program evaluation, and reporting and budgeting purposes.

A. Maps are used for orientation, for locating and plotting larval breeding places and adult sampling stations, for plotting rainfall data to determine flood water species emergence, to keep track of premises inspected, and to locate areas of active viral transmission.

B. The plotting of weekly or biweekly counts of larvae and adults at sampling stations indicate at any given time the abundance of mosquitoes, species involved, possible flight range from breeding sites and habitats, and disease potential. This information identifies areas requiring high priority for treatment.

C. Global Positioning Systems (GPS) compute the longitude, latitude and altitude of any point on the Earth's surface using a satellite ranging technique. GPS coordinates are reliable for accurate location of sampling stations and areas of interest. GPS tracking capability makes field recording processes more efficient.

D. Geographic Information Systems (GIS) are computer based systems capable of assembling, storing, manipulating, analyzing and displaying data identified by their geographical coordinates (spatial reference). Spatially referenced data from various sources can be presented in the form of maps.

1. Maps are used to present and aid in analyses of information on the spatial distribution of mosquito breeding sites, species diversity, flight ranges, and location of positive mosquito borne disease cases or clusters.

2. GIS tools aid in making spatially-informed decisions to improve resource allocation for mosquito control.

3. In combination with GPS tracking systems, GIS can be used to monitor insecticide applications and personnel, to create simple routes and assignments.

4. Remote sensing (such as satellite images and aerial photography) data can be analyzed with GIS to accurately identify and map potential mosquito breeding habitats, and to predict increases in mosquito populations (see **Appendix D** for sources of GIS data).

E. Operational factors

1. Inspector(s) should routinely record geographic information such as location of sampling sites (recorded with the aid of GPS or indicated on road maps) while performing mosquito surveillance activities.

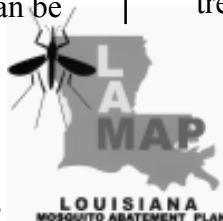
2. The person designated to supervise night time spraying should monitor personnel while in the process of applying insecticides when adulticiding is warranted.

3. Ideally, a person with data management experience, geography and GIS training should manage the data. A computer literate person may be trained for computer operations with hardware-software applications of GIS.

4. GIS technology is a cost efficient method which can be used to estimate the areas to be treated.

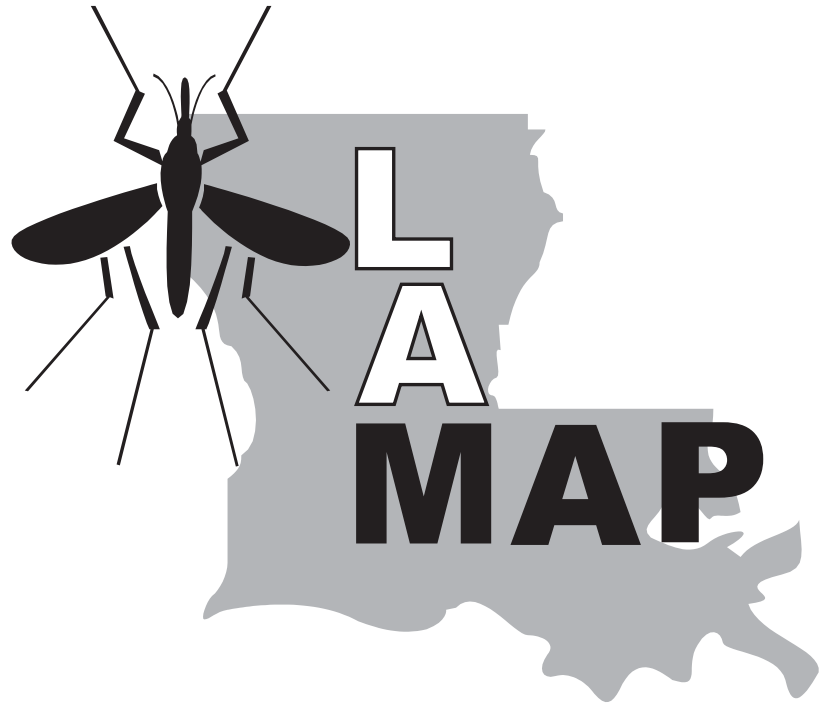
a. It provides a digital record of all activities (e.g., using GPS tracking devices on trucks and aircraft), which allow for auditable treatment of the data and accountability of operation.

b. High-quality, high-resolution aerial photography can be used to dramatically reduce the number of man hours in the field, by giving visual access to areas not easily available because of road limitations, vegetative cover or terrain features.



2. Mapping





CHAPTER 3
Physical Control
(Source Reduction)

3. Physical Control (Source Reduction)

3 Physical Control (Source Reduction) -

Source reduction refers to any method of physically altering a mosquito breeding site to render it unsatisfactory for the completion of the mosquito life cycle. Source reduction projects will vary in size and cost depending on the type, but typically are the most effective and economical long-term method of mosquito control.

A. Sanitation is a continual process of eliminating man-made mosquito breeding locations. To a large extent, the public can be educated to play an integral part in this process. It includes:

1. Removal of water holding containers such as tires, to prevent the breeding of mosquitoes, mainly *Aedes albopictus* and *Culex p. quinquefasciatus*; removal of debris; elimination of ornamental ponds and swimming pools which are no longer being used and properly maintained.

2. Maintenance and repair of broken sewer lines, leaking elevator shafts, catch basins, storm water lift stations in some areas and ditches.

B. Water Management is a method of control where the mosquito source or body of water is altered in such a way that it either is made unsuitable for mosquitoes to complete their life cycle or provides habitat for predators of mosquitoes.

1. Impoundment Management - Impoundments are mosquitoproducing (deleted salt) marshes around which dikes are constructed to allow water to be pumped onto the marsh surface from the adjacent estuary. This eliminates the egg laying opportunities of both permanent and flood water marsh mosquitoes and effectively reduces their populations.



2. Open Marsh Water Management (ditching or runneling) - Shallow ditches are excavated to connect mosquito producing locations on the marsh surface to deep water habitats (e.g., tidal creeks, deep ditches), allowing predator access to mosquito-producing depressions or conversely, the draining of these locations before adult mosquitoes can emerge. Ditches or runnels usually follow natural drainage depressions and so resemble natural channels.

3. Storm Water Retention Structure Management – These impoundments are mandated for new construction to handle runoff from the development and prevent flooding of existing waterways. Many of these impoundments become choked with emergent vegetation and begin breeding mosquitoes after a few years.

4. Filling of low-lying depressions to eliminate the potential of standing water.

5. Ditching to promote rapid runoff of rainwater.

C. Operational factors

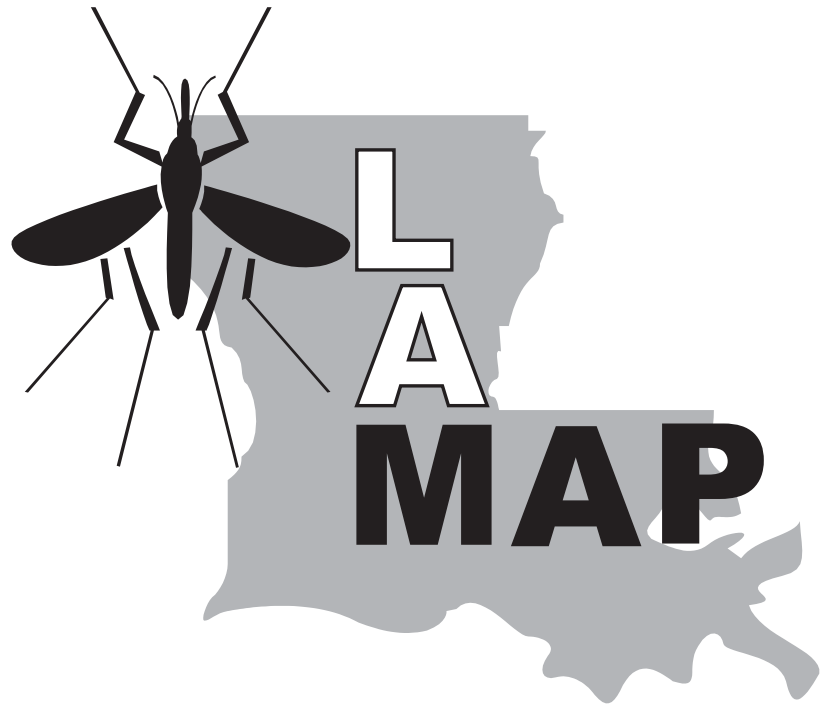
1. Inspectors routinely perform the removal of water from containers while advising the homeowner in the process.

2. Other Sanitation processes will, at the request of the director, require governmental assistance from the appropriate agency or department, such as state highway department, parish street and drainage and/or parish health unit.

3. Water Management projects are generally very costly and require compliance with federal / state government regulations. Local government can mandate that developers maintain storm water retention structures as a provision of local building and construction guidelines and permitting.

3. Physical Control (Source Reduction)

Notes



CHAPTER 4

Biological Control

4. Biological Control

4 **Biological control** – Biological control is a control methodology that involves the use of either native or introduced predators and/or parasites of mosquitoes.

A. Predator fish are used to control immature mosquitoes in permanent waters (ponds, ornamental ponds, ditches) or semi-permanent waters (rice fields, ditches). Some of the species used include:

1. *Gambusia affinis*, primary top minnow for mosquito control,

2. *Poecilia reticulata*, the common guppy, another top minnow species,

3. *Heterandria formosa*, the least killfish, a common native LA species.

B. The fungal mosquito pathogen *Lagenidium giganteum* is used for specific water habitats (fresh water, from temperatures of 16-32°C). Besides being host specific, *L. giganteum* has the ability to recycle for weeks, months, or even years in a given breeding habitat after a single application.

C. Other biocontrol agents such as the predaceous mosquito *Toxorhynchites*, predacious copepods, and the parasitic nematode *Romanomermis*, have been shown effective by researchers, but are presently not widely used or commercially available.



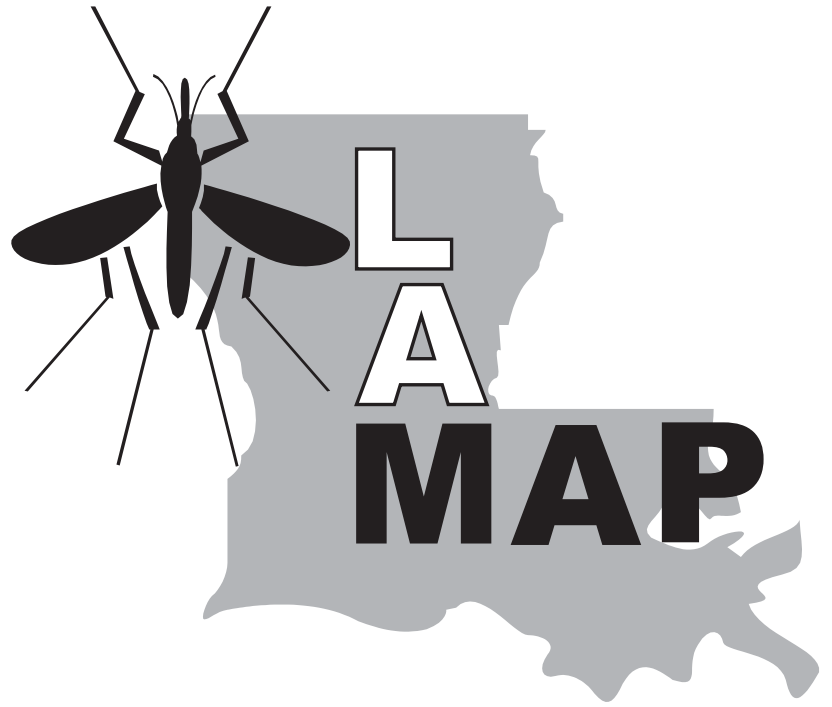
D. Operational Factors

1. **Inspector(s)** who perform larviciding activities should also implement biological control when directed.

2. **Biological control** is routinely performed throughout the mosquito season and is dependent on the specific target species and body of water.

4. Biological Control

Notes



CHAPTER 5

Chemical Control

5. Chemical Control

5 Chemical Control – Chemical control is a strategy that involves the use of biorational products and insecticides to kill mosquitoes. The products aimed at the immature stages (larvae and pupae) are called **larvicides**, while products aimed at controlling the adult flying population are called **adulticides**.

A. Larvicide - This approach is utilized where practical, so as to reduce the amount of adulticide (See Section **V.B. Adulticide**) usage. It is typically more effective and target-specific than adulticiding, but less permanent than source reduction. Biorational products (see **Glossary**) such as *Bacillus thuringiensis israeliensis* (*B.t.i.*), *Bacillus sphaericus*, and methoprene (an insect growth regulator) and oils are the products of choice to be used against the mosquito larvae. A list of recommended larvicides and oils is available in The Insect Pest Management Guide published by the Louisiana Cooperative Extension Service of the LSU AgCenter (see complete reference below under **Further References** and **Appendix D**).

A list of prospective sites and pertinent facts are as follows:

1. Treatment of roadside ditches - Primarily for the control of the Southern House Mosquito, but also for freshwater species breeding in permanent water and for floodwater species.

a. Ditches are treated by the use of conventional or right hand drive vehicles.

b. Granular or liquid formulations are utilized.

c. Treatments are routinely performed throughout the mosquito season.

d. It is the primary control method of the Southern House Mosquito.

2. Treatment of swales, permanent ponds, storm water retention structures, flood-water pools, and depression areas in pastures, vacant lots, wooded areas and flooded rice fields.

a. Aerial ultra low volume (ULV) or low volume (LV) liquid or granular treatments are applied by aircraft or truck.

b. Ground LV liquid or granular treatments are applied by power sprayers, or back pack sprayers.

c. Various formulations of biorational mosquito larvicide products are applied by hand.

3. Treatment of marshlands – Marshlands are treated when found to be conducive to mosquito breeding in sufficient quantities so as to impact human life in and adjacent to those areas.

a. Aerial ULV or LV liquid or granular larvicides are applied by helicopter or fixed wing aircraft.

b. Ground ULV or LV liquid or granular treatments are applied by airboats or other marsh equipment.

B. Adulticide – This control strategy is used as the last resort, after utilizing as much as practical permanent control and biorational larvicides.

1. Treatment thresholds are triggered based on the analysis of adult mosquito surveillance data (See **I. B. Adult Mosquito Surveillance**). Insecticide selection and time of application should be based on the distribution and behavior of the target mosquito species. Minimum factors to be considered when deciding the scope of adulticiding effort include:

5. Chemical Control

a. The general ecology of the area (key habitat types, presence of natural barriers),

b. The flight range of vector and nuisance mosquitoes of importance in the area,

c. The activity period of the target species, which is dependent on such factors as:

- i.** the season of the year, which affects the “window of treatment” (period of greatest mosquito activity and abundance),
- ii.** the time of the day or night is crucial because most adulticides treat mosquitoes while they are in flight and vulnerable to the application, and the target species may be diurnal (active in the day time) or crepuscular (active after dusk),
- iii.** in the case of disease vectors, the length of time between the transmission risk and the diapause phase.

d. Once arbovirus activity is detected, the following factors should be considered:

- i.** the human population at risk,
- ii.** the mosquito population density and age,
- iii.** evidence of persistent transmission activity,
- iv.** evaluation of effectiveness of control of targeted disease mosquito vector.

1. Efficacy of adulticides is extremely important. There are many factors that can adversely affect efficacy. These are:

a. droplet size, must be maintained within the optimum range to avoid efficacy problems.

- i.** Nozzle selection and correct operational engine pressure will be critical to assure the correct droplet size in hand foggers and ground ULV

units. Selection of aerosol generators (nozzles, rotary atomizers, etc.), location and placement of the aerosol generators on the aircraft fuselage, operating pressure and airspeed are all critical in generating the proper droplet sizes in aerial applications.

ii. Droplet measurements should be taken on each spray unit several times during the year to assure droplet size is within optimum size for the product being used.

b. Flow rate must be as prescribed in the label to achieve maximum efficacy and avoid overdosing,

c. Concentration of adulticide must be as prescribed in label. Under dosing reduces efficacy and may lead to development of resistance.

d. Weather conditions, for example, too high wind speeds or no winds blowing, or temperature inversions will hinder adequate droplet dispersion.

e. Equipment maintenance is necessary to provide properly operating equipment essential for maintaining droplet size.

3. Adulticide products of choice are all applied at ultra low volumes (ULV) (except thermal foggers, which are utilized as hand-held units and in some underground applications) by either ground equipment or aircraft. The Environmental Protection Agency (EPA) has determined that insecticides registered nationally for this type of application pose minimum risks to human health and the environment when used according to the pesticide label. A list of recommended adulticides is available in The Insect Pest Management Guide published by the Louisiana Cooperative Extension Service of

5. Chemical Control

the LSU AgCenter (see complete reference below under **Further References** and **Appendix D** for websites).

4. Equipment falls in the following 3 categories dependent on the type of terrain:

a. Truck-mounted ULV sprayers, used in areas where there is good accessibility by roads,

b. Aircraft ULV applications, used in areas where there is little accessibility for truck usage or in situations where ground ULV treatments would not be sufficient to successfully reduce the adult mosquito populations. Aircraft applications allow for coverage of larger areas in shorter periods of time, but it is the most costly of the equipment types,

c. Portable hand held units, used in localized situations such as barns, around the outside of the homes, or in backyards.

C. Operational Factors

1. All personnel (seasonal, part-time) do not need to be certified if they are working under the direct supervision of a certified individual (section **D.** below). However, these personnel, especially the truck drivers, need to be trained. LMCA strongly recommends the use of “Spray Truck Drivers’ Training Program” and has produced an accompanying tape entitled “Spraying Safely” (see **Appendix D**).

2. A night supervisor or designated fulltime employee shall observe and assist the seasonal part-time employees. Seasonal, part-time personnel normally perform adulticiding at night, including dusk or dawn and should be trained by fulltime personnel.

3. An operational plan must be filed with the state health officer of the DHH/OPH Vector

Control Program (see **Appendix F** and **Appendix A** section 7725 on approval of ordinances by state health officer).

4. Inspector(s) shall routinely perform larviciding throughout the mosquito season with special emphasis when disease activity occurs (see **VII. Disease Surveillance**).

D. Louisiana Pesticide Law/Advisory Commission on Pesticides - Rules and Regulations

1. Certification Requirements. Under the authority of the Louisiana Pesticide Law, R.S. 3:3201, et seq., and in accordance with the provisions in R.S. 49:950, et seq., the commissioner of agriculture adopts pesticide regulations. Under these Rules and Regulations (see **Appendix E.**), specifically Subchapter F., Section 125., Part B. Subpart h., the Louisiana Department of Agriculture and Forestry (LDAF) requires commercial applicators and state, federal and other government employees using or supervising the use of pesticides in public health programs for the management and control of pests having medical and public health importance to be certified in Category 8. There are two subcategories in Category 8 applicable to mosquito control:

a. Subcategory 8a Mosquito Control: Applicator. This subcategory is for commercial applicators and government employees who are applicators in mosquito control programs.

b. Subcategory 8d Mosquito Control: Program Supervisor. This subcategory is for commercial applicators and government employees who are program supervisors in organized mosquito control programs.

5. Chemical Control

An individual applying for certification in Category 8d must have either:

- i. a bachelor's degree with at least 12 hours in entomology; or
- ii. at least four years of experience in mosquito control working under supervision of a person certified in Category 8d. Required experience must be substantiated by a notarized statement acceptable to the commissioner.

2. Pesticide Record Keeping Requirements.

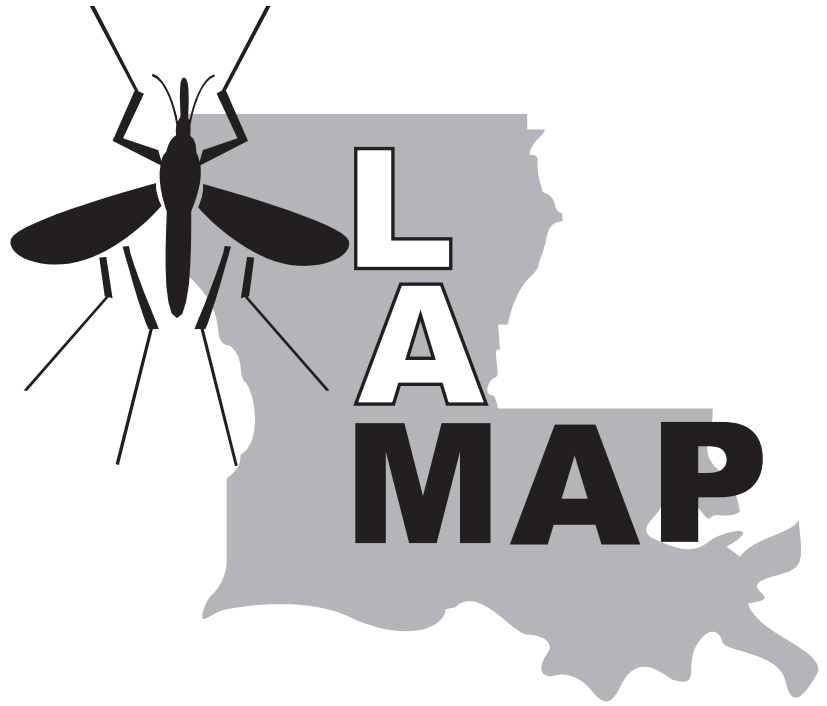
Any person applying pesticides as a commercial applicator including those described above in Category 8, shall accurately maintain, for a period of two years, records of pesticide applications on a record keeping form or record keeping format approved by LDAF. Records described herein must be maintained, within three days of the application, at the physical address of the employer or the physical address on the owner/operator license. A copy of these records shall be provided to any employee of LDAF upon request at a reasonable time during normal working hours. The following information shall be included on that form:

- a. owner/operator name, address, and license number;
- b. certified applicator, name, address, and certification number;
- c. customer name and address;
- d. product/brand name;
- e. EPA registration number;
- f. restricted/general use pesticide;
- g. application date;
- h. crop/type of application;

- i. location of application;
- j. size of area treated (acres, square feet, or minutes of spraying);
- k. rate of application;
- l. total amount of product (concentrate) applied;
- m. applicator;
- n. certification number of applicator (if applicable).

3. Handling Pesticide Spills/Emergencies by Commercial Applicators. All uncontained spills of more than one gallon liquid or four pounds dry weight must be reported to the director of Pesticides and Environmental Programs at LDAF within 24 hours by telephone and by written notice within three days. The spill hotline telephone number is (225) 925-3763, available 24 hours a day.





CHAPTER 6
Resistance
Monitoring

6. Resistance Monitoring

6 Resistance monitoring – Resistance monitoring is routine testing of mosquito populations to detect changes in their susceptibility to the insecticides used, in order to delay or prevent the development of insecticide resistance.

A. Larvicide Resistance

1. Evaluation of treatment efficacy may be accomplished by monitoring the survival of contained larvae or monitoring larval densities before and after treatment using surveillance methods as in Section **I. A. Larval mosquito surveillance** above.

2. Dosage mortality bioassays are used to measure changes in lethal doses necessary to kill 50% (LD50) and 90% (LD90) of the population.

3. Biochemical microplate assays directly measure for esterases and oxidases, enzymes responsible for resistance, as well as the insensitive acetylcholine esterase altered target site mechanism. There is no microplate assay to detect the sodium channel altered target site mechanism.

4. Molecular tools such as Polymerase Chain Reaction (PCR) and real time RT-PCR measure increased copies of enzyme genes or mutations altering target sites.

B. Adulticide Resistance

1. Evaluation of treatment efficacy may be achieved by monitoring pre and post treatment mosquito densities inside the control area using surveillance methods as in Section **I. B. Adult Mosquito Surveillance** above. Monitoring caged mosquitoes in the spray area may also be used to evaluate treatment efficacy.

2. Wind tunnel systems and other topical treatments provide data on changes in LD50 and LD90 levels.

3. Centers for Disease Control and Prevention (CDC) Bottle bioassays or World Health Organization (WHO) susceptibility bioassay kits can be used to test for resistance (see **Appendix D** for CDC & WHO websites). Bottle bioassays are easily combined with synergist, to determine underlying mechanism(s).

4. Biochemical microplate assays directly measure for esterases and oxidases, enzymes responsible for resistance, as well as the insensitive acetylcholine esterase altered target site mechanism. Identification of resistance mechanisms helps determine cross-resistance spectrum and facilitates the choice of alternative insecticides.

5. Molecular tools work similarly on adults as they do on larvae.

C. Operational Factors

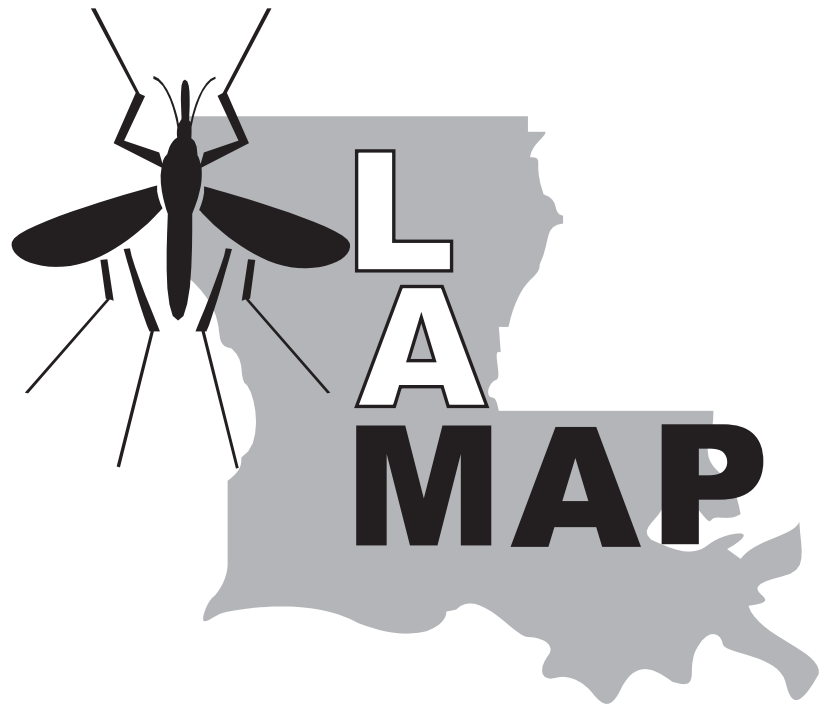
1. The biologist/entomologist should routinely perform evaluations of treatment efficacy, as listed in **A. 1** and **B. 1** above. In addition, at least one of the other testing methods should be done on a regular basis.

2. When resources are limited, universities or other established mosquito control districts may be contacted to assist with biochemical microplate assays and other susceptibility assays.

3. Inspector(s) should assist with field collections.

6. Resistance Monitoring

Notes



CHAPTER 7
Disease Resistance
Surveillance

7. Disease Surveillance

7 Disease Surveillance - Primarily used for the detection of arthropod borne viruses such as Saint Louis Encephalitis (SLE), Eastern Equine Encephalomyelitis (EEE), Western Equine Encephalitis (WEE), West Nile Virus (WNV), and La Crosse (LAC). Disease surveillance is performed throughout the mosquito season by the biologist/entomologist and/or inspector(s), and is accomplished using one or several of the following:

A. Vertebrate Host Surveillance

1. Sentinel flocks (chicken, quail, pheasant), a common means of surveillance employed by organized mosquito control in Louisiana, are established and routinely serologically tested throughout the mosquito season.

2. Free ranging wild birds are captured using walk in traps, ground mist nets, or other trapping devices and are bled, banded and released for possible later recapture to check seroconversions (primarily for EEE, SLE, WEE and WNV).

3. Nestling birds are bled and banded to provide early season indication of transmission intensity.

4. Equine cases in areas with susceptible horse populations may provide a practical and sensitive tool for recognition of potential public health problems (e.g., EEE, WNV, WEE). Veterinarians are required to report to the state veterinarian the occurrence of suspected equine cases (see **Appendix G**).

3. Wild mammals (rodents, squirrels, rabbits, etc.) are captured and blood samples taken for serology testing (e.g., LAC, Keystone virus, WNV).

B. Vector Surveillance

1. Adult mosquito species, density, age structure and minimum infection rates (MIR) are monitored (see section **I. B. Adult mosquito surveillance** above for adult surveillance).

2. Adult mosquitoes are collected, placed in pools of 10-50 and sent to the laboratory for virus isolation.

3. Vec Test Kits may be used in-house to test for West Nile virus and St. Louis Encephalitis virus.

4. State and local public health officials need to be contacted immediately if evidence is found of increased arbovirus activity in a mosquito or vector host population.

C. Human Case Surveillance

1. Contacting State Public Health Officials
a. Immediately contacted by Louisiana Veterinary Medical Diagnostic Laboratory - Arboviral Surveillance Laboratory, School of Veterinary Medicine, Louisiana State University (LVMDL) if evidence is found of increased arbovirus activity in a mosquito or vector host population.

b. Vector Control Officials shall notify immediately the Office of Public Health, Infectious Disease Epidemiology Section should evidence of increased activity be learned through sources other than LVMDL.

2. Contacting Vector Control Officials
a. The Infectious Disease Epidemiology Section of the Office of Public Health will notify vector control officials of laboratory confirmed suspect human cases of arboviral encephalitis within the respective mosquito control districts.

7. Disease Surveillance

b. Vector control officials should contact the Infectious Disease Epidemiology section for information concerning suspected human cases in their jurisdictions.

2. Contacting Parish Officials

a. Regional public health officials will report confirmed human cases to parish officials.

D. Louisiana ARBONET - A website (see **Appendix D**) hosted by Tulane School of Public Health and Tropical Medicine (TSPHTM) in collaboration with the LMCA, DHH/OPH and LSU School of Veterinary Medicine.

1. TSPHTM maintains a repository of laboratory information concerning all animal surveillance, including mosquitoes.

2. TSPHTM coordinates the sharing and reporting of information to all parties concerned.

E. Operational Factors

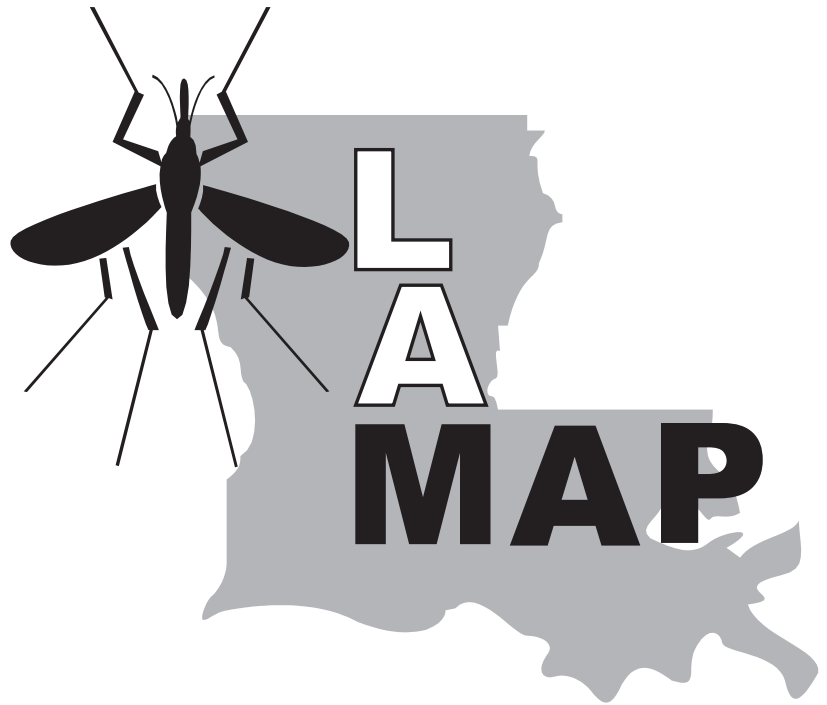
1. Mosquito pool specimens, sentinel chicken blood samples and blood samples from a number of wild birds can be submitted to the LVMDL, for arbovirus surveillance testing, as resources are available.

2. Should a mosquito control district establish a laboratory for serologic screening, arrangements can be made with CDC to transfer existing Enzyme-Linked Immunosorbent Assay (ELISA) technology and reagents, and to obtain appropriate training (see **Appendix D**).

3. The biologist/entomologist shall, with the assistance of inspector(s), routinely perform disease surveillance activities throughout the mosquito season (normally from March through October dependent on climatic conditions).

4. Both federal and state permits shall be required when obtaining blood samples from the wild and when banding (see **Appendices H, I and J**).





CHAPTER 8

Public Education and Community Outreach

8. Public Education & Community Outreach

8 Public Education & Community Outreach (PE&CO) – Year round task of informing and educating the general public on mosquitoes and their control.

A. Importance of public education in the program:

1. Public education of virus transmission can play an important role in the prevention of mosquito borne diseases by increasing awareness and changing human behavior habits (e.g. maintaining premises, scheduling outdoor activities, using repellents)

2. Reduction of mosquito breeding around the home by homeowners reduces insecticide use and allows mosquito abatement personnel to concentrate efforts in other areas (e.g. barrier spraying against long-range mosquitoes).

3. Attitudes toward mosquito abatement programs and willingness to economically support them can be positive when appropriate information is delivered properly and on a timely basis.

B. Suggested activities:

1. News releases are regularly used for informing the public of ongoing mosquito control activities. These include television, newspaper and radio, as either Public Service or paid ads and in some cases Public Access channels.

2. Educational presentations and hands on information are given to students by personnel who go to schools and daycare facilities throughout the community. Depending upon age, this will include biology, control strategies, mosquito rearing kits, disease information, and games (a number available through AMCA and CDC, see **Appendix D** for websites).

3. Displays may be set at libraries and other various community settings.

4. Brochures describing specific activities of the operation are available and distributed to the general public. Distribution can be door to door, in utility bills, and by other means.

5. Civic presentations of information on mosquitoes and their control are given by personnel at civic organizations, garden clubs, chambers of commerce, etc.

6. Premises inspection by personnel who explain their findings to homeowners, when they respond to service requests.

7. Video programs produced in house.

8. Websites give information on various concerns regarding abatement activities (mosquito control, biology, services, etc.), and may offer links to other information sources such as local, state and federal government sites (see **Appendix D**).

9. Other public education programs include open houses and tour of district mosquito abatement facilities, presentations of awards to students who develop the best mosquito poster or project at local science fairs, hosting information booths at fairs and festivals, etc.

C. Resources for PE & CO

1. Resources for educational materials may be available through other agencies such as AMCA, CDC, DHH/OPH, EPA, LMCA, LSU AgCenter (see **Appendix D**).



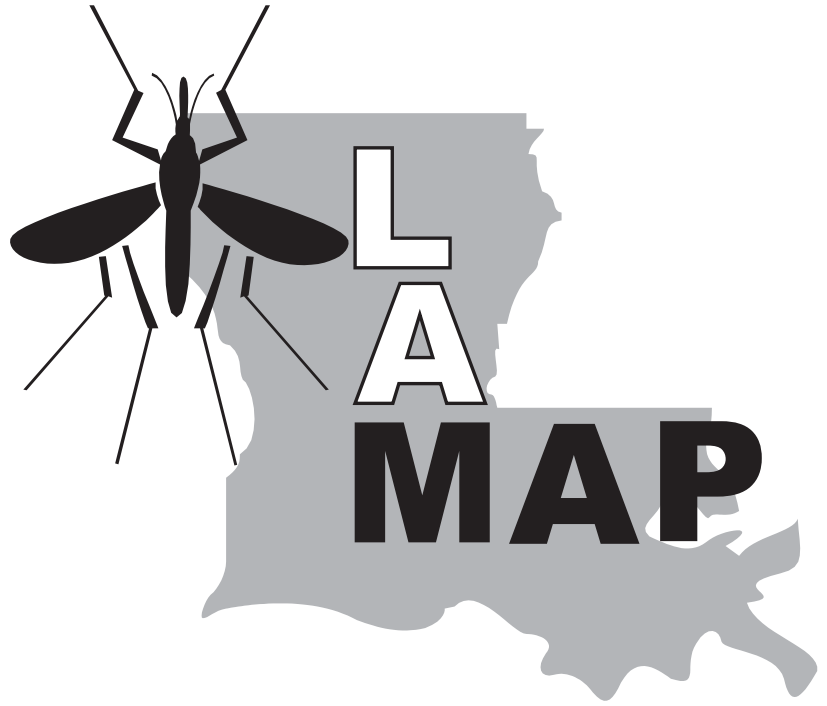
8. Public Education & Community Outreach

D. Operational Factors

1. The director and/or biologist/entomologist should perform or supervise the performance of all educational activities conducted by the mosquito abatement district.

2. The inspector(s) shall perform premises inspections and assist with other educational activities as directed. Every contact the Inspector has is an opportunity to disseminate information on prevention and control.





CHAPTER 9

Budget

9. Budget

9 Budget – Community-wide mosquito control operations must be a continuing program with a stable source of funding. A crucial element in continued public support for a mosquito abatement program is **accountability** of the program. Regardless if the mosquito abatement program is conducted in-house or contracted with private companies, the administrators of the program must assure that public funds are being efficiently and effectively utilized. The ability to accurately account for and track all expenses of the program is crucial. This is not only important for maintaining current funding levels but also for obtaining additional funding that will likely be required for future expansion of the program.

A. The operating and capital expenses for initiating and operating a mosquito abatement district depend heavily on several factors.

1. Availability of funding

a. Potential Sources of funding

i. Local: majority of funding will come from local sources, such as significant investment of local tax dollars, dedicated millage, fixed charges collected on each household utility meter (water or electricity), local sales taxes, etc. (see **Appendix A §7726** on service charges for mosquito control).

ii. State: state agencies may provide one-time only funding to parish governments starting mosquito control programs or to provide enhancement funding for parishes that already have established mosquito programs.

iii. Federal: funds may be available for emergencies such as flooding and during epidemics. (These funds may require matching funds from local government).

2. The geographic size and characteristics of the district. Districts with natural mosquito habitats (i.e. rice fields, marsh, etc) making up

a large percentage of total land area could be expected to have higher requirements for proper abatement and control and, therefore, higher per capita expenses. In addition, the geographic location of the district may present unique circumstances (i.e. districts located close to Gulf of Mexico must deal with tidal surges, districts located in the southern part of the state often have longer mosquito seasons due to climate, etc.) which could lead to higher requirements and additional expenses.

3. The scope and depth of the abatement program to be developed. While an effective abatement and control program requires a minimum number of components, there is a great deal of flexibility in costs.

a. The ability or use of intergovernmental agreements and cost sharing among governmental entities within the district.

b. Contracting services with an existing abatement district may offer considerable reduction in costs over providing all services in-house.

c. A regional mosquito abatement program (grouping 2 or more parishes) may allow for some cost sharing and for a more efficient and effective use of limited resources (see **Appendix A §7725** on combination of administrative personnel of two or more districts).

d. A parish government may choose to contract the mosquito abatement services to a private entity, however, the governing body should employ someone certified in Category 8D – Mosquito Control Supervisor to monitor the services performed. This Contract Monitor should be independent of the contractor and responsible to the parish.

9. Budget

B. Factors to be considered when examining possible sources of funding

1. Variability of funds. Ideally, the funding source chosen would have minimal variance in its revenue generating ability, to properly manage and expand a mosquito abatement program. For example, sales taxes are directly correlated to the economic well being of the district. A downturn in economic activity for a prolonged period of time could drastically impact the revenue generating ability of a sales tax.

2. Total revenue generating ability of the assessment chosen.

a. A more rural, less densely populated district may not be able to generate sufficient funds with a publicly accepted sales tax rate.

b. A district with a small land base or with a high percentage of land falling in tax exempt status would find it difficult to generate sufficient funds with publicly accepted ad valorem tax rate.

3. Public acceptability. While there may be several avenues in which a district could generate sufficient funds, any avenue chosen must be accepted and approved by the public.

C. Expense categories of a mosquito abatement program

1. Personnel costs (salaries and benefits).

a. One of the largest cost categories (approximately 40 % of a typical budget).

b. May be flexible in that developing districts may require personnel to take on multiple responsibilities, but limiting personnel can limit the effectiveness of a program.

2. Chemicals.

a. The second largest cost category (approximately 28 % of a typical budget).

b. Chemical expenses may be modified slightly; however, extreme care should be taken to limit the impact of reduced costs on the program's effectiveness.

3. Other operating expenses (approximately 22 % of a typical budget).

a. Include supplies, fuel, insurances, repairs and maintenance, etc. (see **Appendix K** for examples).

b. Contractual services for aerial application and/or other purposes can be a very costly expense and considered as an either/or proposition (see **Table 5** in **Appendix K**).

c. Educational and community outreach activities should be considered in operating expenses. The availability of educational materials through other agencies could limit the costs associated with conducting these activities for developing districts with limited resources. In addition, these activities could be incorporated with other activities such as premises inspections and surveillance to limit expenses.

4. Capital expenses (approximately 10 % of a typical budget).

a. May be highly variable given funding availability.

b. Initial investment may be minimal and increase with district growth in the services provided.

9. Budget

c. Capital investment decisions can drastically affect the adequate provision of services.

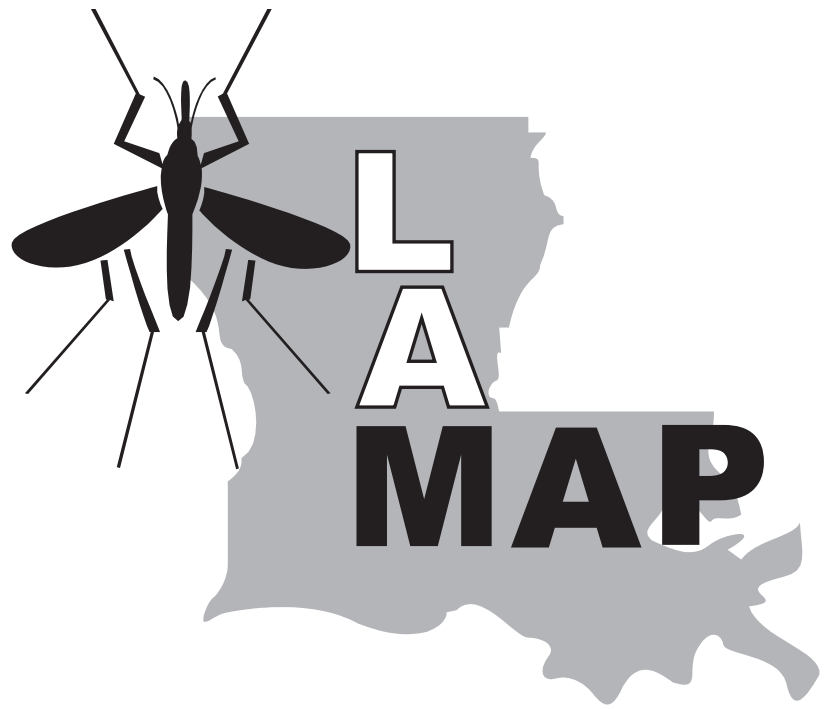
D. Contracting entire mosquito abatement program with private firm

1. An alternative to establishing an in-house abatement program is to contract the entire program with a private firm.
2. If the entire mosquito abatement program is contracted with a private firm, all components of the program should be maintained.
3. There will likely be some flexibility in expenses as with in-house programs.
4. If contracted, the parish should hire an independent Contract Monitor (see IX. A 3 d, above) to assure efficient and effective operation of the program.



9. Budget

Notes



Further References

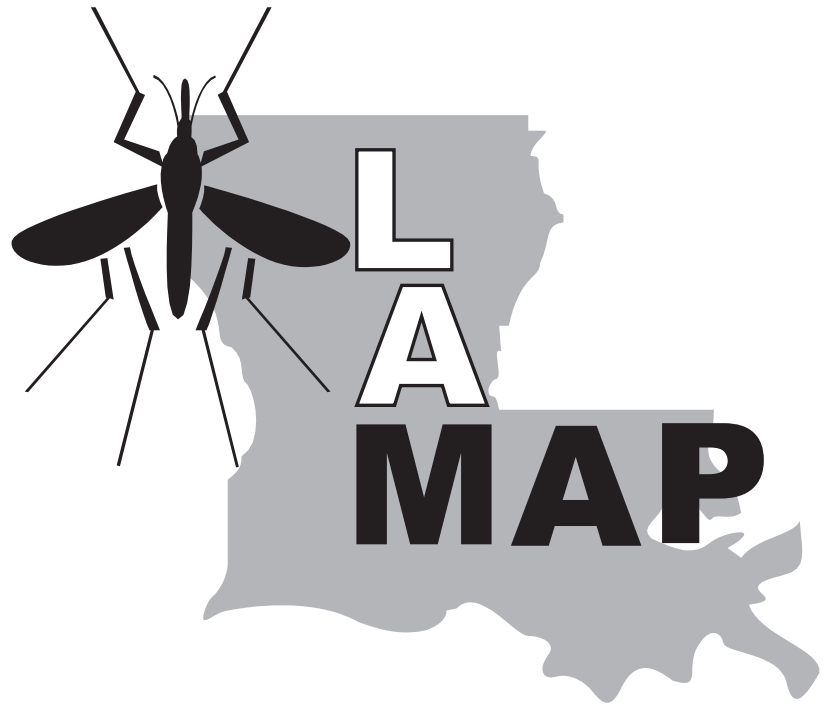
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References

Notes



Glossary

Glossary:

Bioassay: Determination of relative strength of a substance by testing on an organism.

Biorational products: Pesticides of natural origin that have limited or no adverse effects on the environment or beneficial organisms.

Efficacy: The ability of a pesticide product when used according to label directions to control, kill, repel, or induce the desired action in the target pest as claimed.

Enzyme-Linked Immunosorbent Assay (ELISA): ELISA is a sensitive laboratory method used to detect the presence of antigens (Ag; e.g. a virus) or antibodies (Ab) of interest in a wide variety biological samples. An antigen-antibody binding is detected using an antibody complexed with an enzyme that forms a colored product from a colorless substrate.

Minimum infection rate (MIR): of each mosquito species is calculated by the standard formula: (number of WNV positive mosquito pools/total number of mosquitoes tested) x 1000.

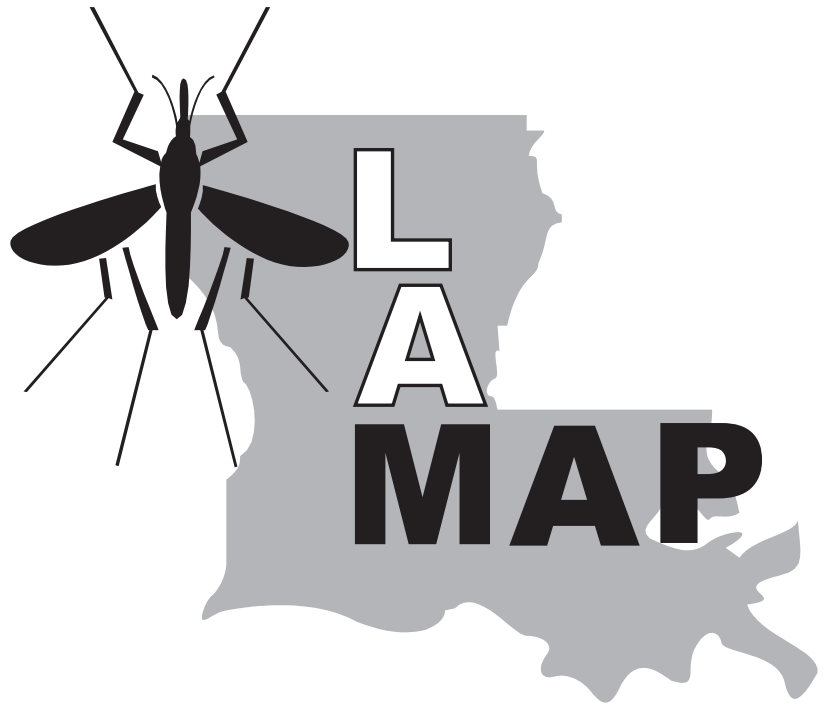
Mosquito Pool: Group of mosquitoes collected at the same site, on the same date and usually from the same species that are processed together for tests such as serology and virus isolation purposes.

Polymerase chain reaction (PCR): The PCR technique is basically a primer extension reaction for amplifying specific nucleic acids in vitro. It allows a short stretch of DNA (usually fewer than 3000 bp) to be amplified to about a million fold so that one can determine its size, nucleotide sequence, etc.

Seroconversion: Development of detectable specific antibodies in the serum as a result of infection or immunization.

Glossary

Notes



APPENDIX A

Appendix A. State Enabling Act

Appendix A. State Enabling Act

CHAPTER 23. MOSQUITO ABATEMENT DISTRICTS

§7721. Creation of districts as political subdivisions

The governing authority of any parish may by ordinance create mosquito abatement districts composed of any part or all of the territory lying wholly within the parish. Such districts shall be political and legal subdivisions of the state, with power to sue and be sued in their corporate names. Added by Acts 1975, No. 512, § 1.

§7722. Purposes

The purposes for which mosquito abatement districts may be organized and the nature of the business to be carried on by them are as follows: the abatement, control, eradication, and study of mosquitoes and other arthropods of public health importance, and all activities incidental thereto. Added by Acts 1975, No. 512, § 1.

§7723. Board of commissioners; membership; qualifications and terms

When any such district is created, the parish governing authority creating it shall appoint a board of commissioners, composed of five members, to govern its affairs, and shall fix the domicile of the board at any point within the parish. The members of the board shall be qualified electors of the district, two of whom shall be appointed for terms of two years and three for terms of three years, dating from the date of the adoption of the ordinance creating the district. Thereafter, all appointments of the members shall be for terms of three years. Such boards shall serve without compensation, but the members shall be reimbursed for reasonable expenses incurred in connection with their official duties. Added by Acts 1975, No. 512, § 1.

§7724. Powers of board

A. Each board of commissioners has authority to manage and control the affairs of its district, to adopt ordinances reasonably necessary to further

the purposes for which the district is created, and to fix penalties for violations of such ordinances by fine or imprisonment within the limits fixed by law for violations of ordinances of the parish governing authority.

B. Each board has authority to purchase, maintain, and operate machinery and equipment necessary or useful in the eradication, abatement, or control of mosquitoes and other arthropods of public health importance, and to maintain an adequate administrative staff.

Added by Acts 1975, No. 512, § 1.

§7725. Combination of administrative personnel of two or more districts; approval of ordinances by state health officer

To effect economy of operation, any two or more districts may combine the use of administrative and operative personnel and equipment upon such basis of compensation therefor as is mutually agreed to by all such boards of commissioners participating. The methods to be used in the eradication, abatement, and control of mosquitoes and other arthropods shall be submitted to the division of health of the Louisiana Health and Human Resources Administration annually for approval by the state health officer or his successor, and the ordinances of any such board of commissioners hereinabove referred to shall not be legally effective without such approval.

Added by Acts 1975, No. 512, § 1.

§7726. Service charges for mosquito control

A. A mosquito abatement district created under the provisions of this Chapter may levy and collect special taxes, including monthly service charges to customers of waterworks districts within the mosquito control district, to finance its programs. It may use legal, proper, necessary, and expedient means to collect and enforce the collection of such taxes, including the contracting with a waterworks district located within the same parish

Appendix A. State Enabling Act

to collect a monthly service charge for mosquito control.

B. Any monthly service charge so levied shall be uniform upon the customers of the waterworks district, but each separate water meter or connection to the waterworks district's water supply lines shall be treated as a separate customer for purposes of the service charge. The waterworks district, acting as collection agency for special taxes of the mosquito abatement district, may add the tax levied by said mosquito abatement district to the water bills of its customers. On or before the tenth day of the month following the collection of the taxes, the waterworks district shall remit to the mosquito abatement district all funds collected for the purposes of mosquito control, less a small and reasonable service charge for administrative purposes of collection.

Acts 1969, No. 155, § 1, 2. Amended by Acts 1972, No. 613, § 1; Acts 1975, No. 512, § 2.

§7727. Boards of commissioners in Ouachita Parish; appointment of additional members
Notwithstanding the provisions of R.S. 33:7723, the governing authority of Ouachita Parish is hereby authorized to increase the membership of boards of commissioners of mosquito abatement districts in Ouachita Parish from five to seven members. The two additional members authorized by this Section shall be appointed by the governing authority of Ouachita Parish and shall serve initial terms of two and three years respectively; thereafter, their successors shall serve three-year terms as provided in R.S. 33:7723. All other provisions of law relative to members of the board shall apply to the additional members and their successors. Acts 1984, No. 549, § 1.

§7728. Board of commissioners of St. Tammany Parish Mosquito Abatement District No. 2; expenditure of district funds; extension of service

A. Notwithstanding any other provision of law to the contrary, the board of commissioners of St. Tammany Parish Mosquito Abatement District

No. 2 shall exercise sole authority for determining the manner in which funds of the district may be expended for purposes of mosquito abatement, control, eradication, and study, subject to the approval of the director of the district.

B. The board of commissioners of St. Tammany Parish Mosquito Abatement District No. 2 may extend any service authorized by this Chapter outside the territorial boundaries of the district in accordance with the terms of a service agreement between the board and the governing authority of any parish or municipality. Said agreement shall be concluded pursuant to the Local Services Law (R.S. 33:1321-1334) and shall include a statement of the financial obligations of each party to the agreement. In order to meet its financial obligations under such an agreement, any such parish or municipal governing authority may assess special taxes or service charges against persons within its jurisdiction provided the service.

C. The board of commissioners may pay the health insurance claims of district employees when the district's employee health insurance carrier becomes insolvent and is unable to satisfy those claims. The board may use surplus funds of the district to pay the unpaid claims.

D. The St. Tammany Parish Police Jury may include within the boundaries of St. Tammany Parish Mosquito Abatement District No. 2 all or any portion of Wards 3, 4, and 7 of said parish, and that portion lying within Ward 2, to wit: From the intersection of the section line common to sections 37 and 38, Township 5 South, Range 10 East, and the Tchefuncte River, also the point of beginning, go east along said section line to the section corner common to sections 6, 37, and 38, Township 5 South, Range 10 East; thence follow the eastern section line of section 38 to the corner common to sections 38, 39, and 18, Township 5 South, Range 10 East; thence go south along the eastern boundary of section 39 approximately 800 feet to a point approximately 200 feet north of

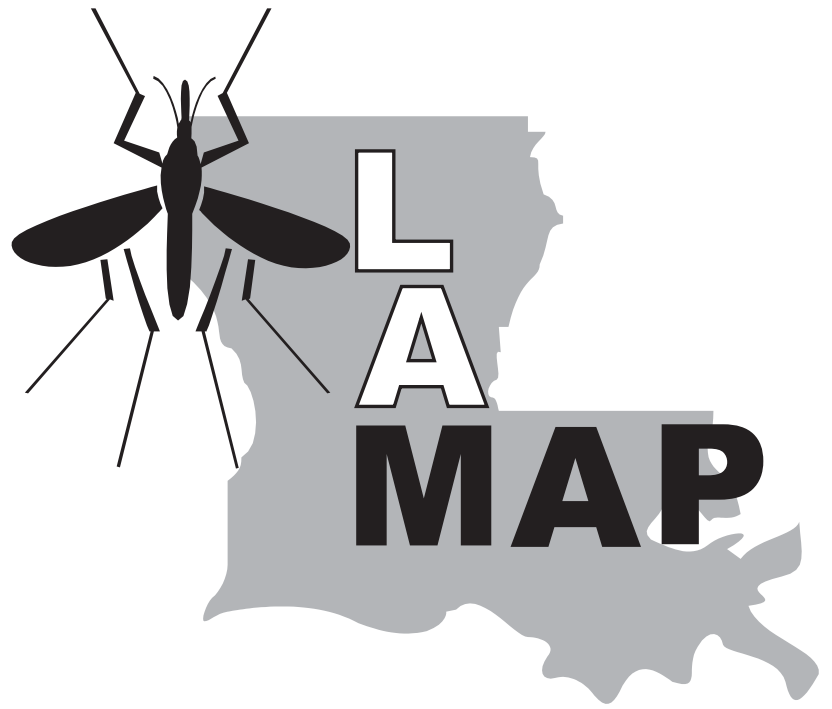
Appendix A. State Enabling Act

Park Lane; thence go south 40 degrees east approximately 2200 feet to a point on the southern right of way of Louisiana Highway 40 approximately 200 feet east of Albert Thompson Road; thence go south and southeast along a line 200 feet east of and parallel to the eastern right of way of Albert Thompson Road to a point approximately 200 feet east of Delaune Road; thence go southeast and east along the line 200 feet east of and parallel to Delaune Road to a point 200 feet north of the eastern end of Delaune Road; thence go south 57 degrees east 1800 feet; thence go south 15 degrees and 30 minutes east 2500 feet; thence go south 14 degrees west approximately 500 feet to La. Hwy. 1078; thence follow said highway southeast to its intersection with the township line common to Townships 5 and 6 South, also the southern boundary of Ward 2; thence go west along said township line to its intersection with the Tchefuncte River; thence follow the meanderings of said river upstream in a generally northward direction in its intersection with the section line common to sections 37 and 38, Township 5 South, Range 10 East, and the point of beginning;

provided that the imposition therein of all previously authorized taxes of the district shall have been first approved by a majority of voters of the area proposed to be included at an election held for such purpose.

Acts 1985, No. 87, § 1, June 29, 1985; Acts 1986, No. 310, § 1; Acts 1991, No. 713, § 1; Acts 1993, No. 910, § 1, eff. June 23, 1993.

Appendix A. State Enabling Act



APPENDIX B

Appendix B. Mosquito Life Cycle

Appendix B. Mosquito Life Cycle

All mosquitoes have four stages of development: **egg**, **larva**, **pupa** and **adult**, and spend their larval and pupal stages in water.

Eggs may be laid singly (e.g. *Anopheles*) or in groups or rafts (e.g. *Culex*) on the water surface, or they may be laid singly out of the water on a surface that will subsequently flood (e.g. *Aedes*, *Ochlerotatus*, *Psorophora*).

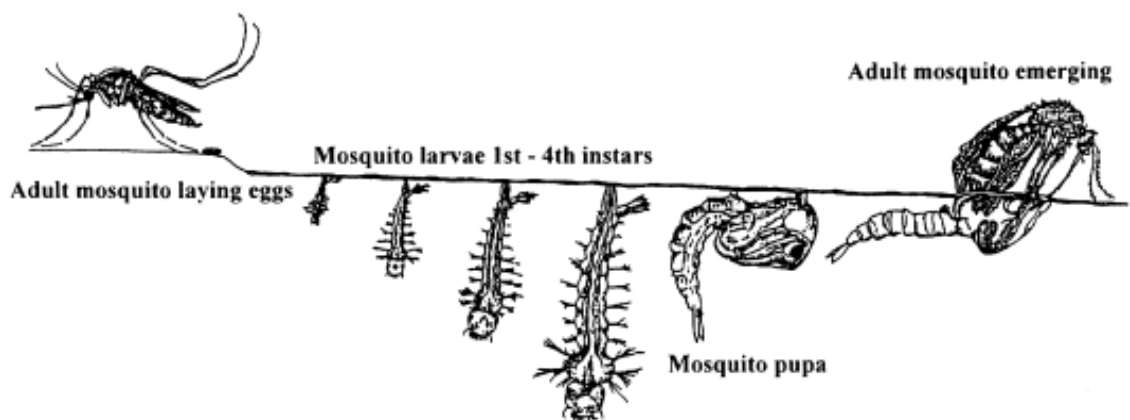
Although larvae and pupae develop in the water, they are not completely aquatic because they breathe atmospheric oxygen, which is obtained in most species by a siphon tube that penetrates the water surface or, in some species, pierces the roots of aquatic plants (*Anopheles* larvae possess no air tube, instead they have a cluster of small plates and lie suspended horizontally just beneath the water surface). **Larvae** feed on microorganisms and particles of organic matter, and shed their skin four times (each of those 4 developmental periods is called an **instar**), growing larger after each molting.

Pupae do not feed, but unlike most other insect pupae, are extremely active. Pupae of a number of mosquito species can complete development on a moist surface.

Development times from egg to adult depend on species characteristics as well as on temperature, and can range from 4 days to more than a month.

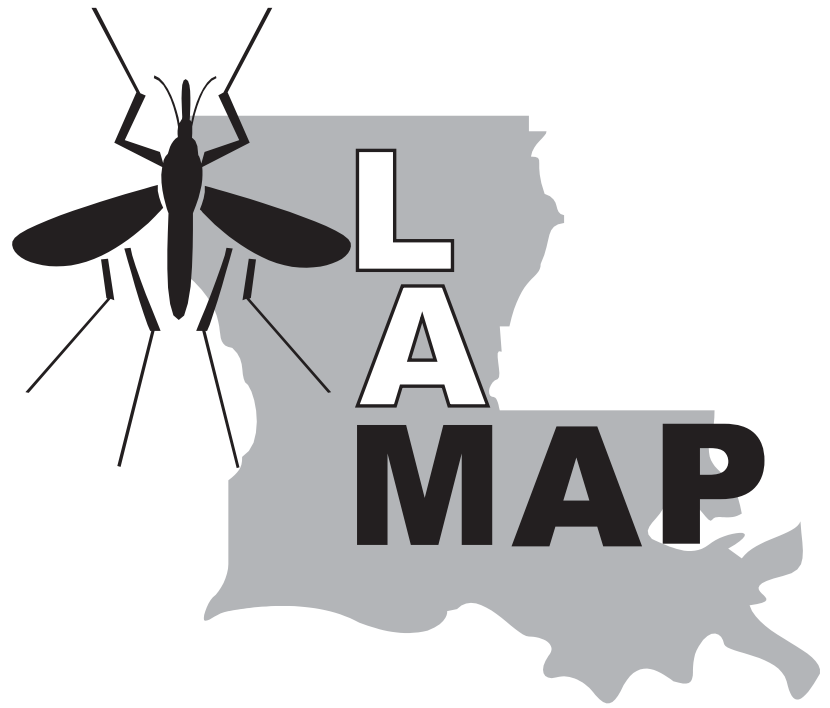
Shortly after **adults** emerge from the pupal case they mate, and the female seeks a blood meal to obtain the protein necessary for the development of her eggs. A few species may produce a first batch of eggs without this first blood meal, but will seek a blood meal to produce second and further batches of eggs.

Adult mosquitoes, both males and females, rely on plant sugar to help meet their metabolic needs. Only female mosquitoes take blood meals as an excellent protein resource for the development of the eggs. In fact, male mouthparts are not suited for piercing skin.



Appendix B. Mosquito Life Cycle

Notes



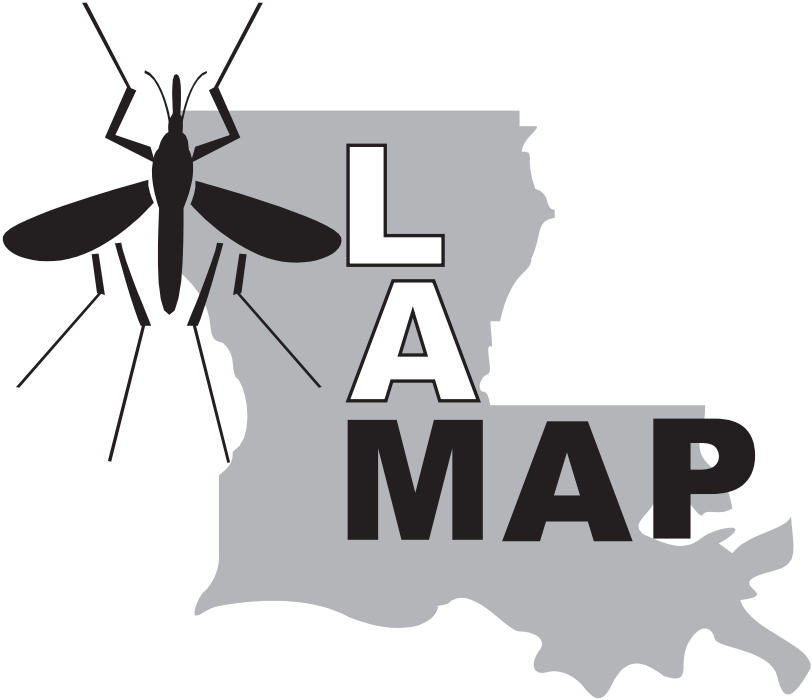
APPENDIX C

Appendix c. Mosquito Species

Appendix C. List of common names of important mosquito species from Louisiana

Scientific name	Common name
<i>Aedes aegypti</i>	Yellow Fever Mosquito
<i>Aedes albopictus</i>	Asian Tiger Mosquito
<i>Aedes vexans</i>	Floodwater Mosquito
<i>Anopheles quadrimaculatus s.l.</i>	Malaria Mosquito
<i>Coquillettidia perturbans</i>	Salt and Pepper Mosquito
<i>Culex quinquefasciatus</i>	Southern House Mosquito
<i>Culiseta inornata</i>	Winter Mosquito
<i>Ochlerotatus sollicitans</i>	Tan Salt Marsh Mosquito
<i>Ochlerotatus taeniorhynchus</i>	Black Salt Marsh Mosquito
<i>Ochlerotatus triseriatus</i>	Tree Hole Mosquito
<i>Psorophora columbiae</i>	Dark Rice Field Mosquito
<i>Psorophora ferox</i>	Woodland Mosquito

Appendix C. Mosquito Species



APPENDIX D

Appendix D. Web sites

Appendix D. Websites

Atlas: The Louisiana State Wide GIS: <http://atlas.lsu.edu/>

American Mosquito Control Association (AMCA): <http://www.mosquito.org/>

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov/>

Department of Health and Hospitals Office of Public Health (DHH/OPH):
<http://www.oph.dhh.state.la.us/>

Environmental Protection Agency (EPA): <http://www.epa.gov/pesticides/>

Free Geographic Information Systems resources (FreeGIS): <http://freegis.org/index.en.html>

LSU AgCenter - Mosquito: <http://www.lsuagcenter.com/mosquito>

Louisiana ARBONET: <http://arbonet.caeph.tulane.edu/>

Louisiana Department of Agriculture & Forestry (LDAF): <http://www.ldaf.state.la.us/>

Louisiana Mosquito Control Association (LMCA) <http://www.lmca.us/>

Louisiana Pesticide Law:
<http://www.ldaf.state.la.us/divisions/aes/pesticide&ep/pesticidelaws.pdf>

Louisiana Pesticide Rules and Regulations:
<http://www.ldaf.state.la.us/divisions/aes/pesticide&ep/pesticiderules®ulations.pdf>

National Pesticide Information Center (NPIC): <http://npic.orst.edu/>

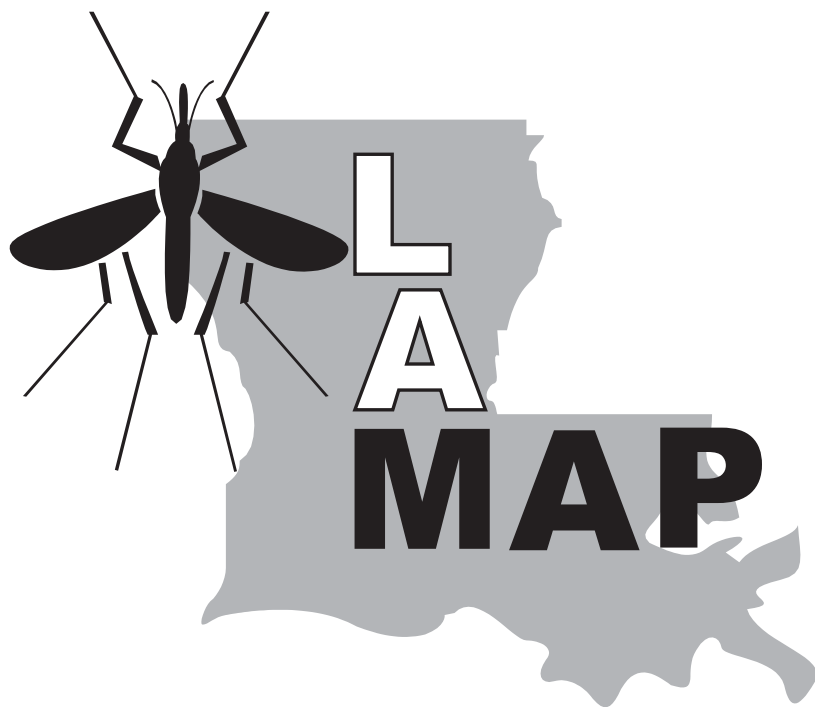
United States Geological Survey (USGS): <http://www.usgs.gov/>

USGS National Biological Information Infrastructure (NBII) Mosquito Control and West Nile virus: <http://westnilevirus.nbii.gov/mosquitoes.html>

World Health Organization (WHO): <http://www.who.int/en/>

Appendix D. Web sites

Notes



APPENDIX E

Appendix E.

1. Louisiana Pesticide Law
2. LA Pesticide Rules and Regulations.

Appendix E. Pesticide Law

Notes

(6) The adulteration or contamination of any pesticide sold in this state.

(7) The sale, offering for sale, or distribution of any pesticide without a label or of any pesticide which bears an illegible or inaccurate label.

(8) Violations of a stop order issued by the commissioner.

(9) Any violation of any provision of this Part or of any rule or regulation adopted under the provisions of this Part.

B. The commissioner may assess a civil penalty of not more than five thousand dollars for each violation of any of the prohibitions in Subsection A of this Section. Each day on which a violation occurs shall be considered a separate offense. In addition to civil penalties, the commissioner may assess the proportionate costs of the adjudicatory hearing against the offender. The commissioner by rule shall determine the amount of costs to be assessed.

C. The commissioner may suspend or revoke the registration of a pesticide for any violation of the provisions of Subsection A of this Section.

D. Penalties may be assessed, and registration suspended or revoked, only by a ruling of the commissioner based on an adjudicatory hearing held in accordance with the provisions of Section 3214 of this Chapter.

E. The commissioner may institute civil proceedings to enforce his rulings in the district court for the parish in which the violation occurred.

F. The commissioner may institute civil proceedings seeking injunctive relief to restrain and prevent the violation of the provisions of this Part, or of the rules and regulations adopted under the provisions of this Part, in the district court for the parish in which the violation occurred.

' **3227. Notice**

The commissioner shall notify each person who is affected by a suspension or revocation of a registration, or by civil penalties, by certified mail, return receipt requested.

' **3228. Exclusions**

Except as otherwise provided in specific agreements between the commissioner and the E.P.A., the provisions of this Part shall not apply to:

(1) Chemical components to be used in the manufacture of pesticides.

(2) Pesticides processed or manufactured in this state and intended for sale or distribution in other states or countries.

(3) Pesticides being transported through this state and destined for use in other states or countries.

PART IV. SALE AND APPLICATION OF PESTICIDES

' **3241. Certification of private applicators**

No person shall apply or supervise the application of any restricted use pesticide as a private applicator unless that person has the proper certification. Certification shall be issued only after the applicant has satisfactorily passed an examination or has satisfactorily demonstrated his knowledge of the laws, rules and regulations, and safety practices governing the sale and application of restricted use pesticides in accordance with the rules and regulations adopted by the commissioner. Certification shall be valid for three years and may be renewed in accordance with rules adopted by the commissioner. Private applicators may supervise the application of restricted use pesticides by competent uncertified individuals who are under the direct supervision of the private applicator.

' **3242. Certification of commercial applicators**

A. No person shall apply or supervise the application of any restricted use pesticide as a commercial applicator unless that person has the proper certification. Certification shall be issued only after the applicant has satisfactorily passed an examination. The commissioner shall establish categories and subcategories for certification in different areas of commercial application and shall establish specific standards for each category and subcategory. Certification shall be valid for three years and shall be renewed in accordance with rules adopted by the commissioner. The commissioner by rule shall provide for the issuance of annual certification cards. Commercial applicators may supervise the ground application of restricted use pesticides within the commercial applicator's certification by competent uncertified individuals who are under the direct supervision of the commercial applicator. Commercial applicators shall not supervise the aerial application of any pesticide by any uncertified person.

B. No person shall apply or supervise the application of any herbicide, rodenticide, insecticide, or restricted use pesticide, on a non-fee basis for grass and weed control, and rodent and general pest control in, on, or around structures or grounds of government subsidized and administered housing and multiplex housing, unless that person owns, leases, or rents the property or has proper certification as provided in Subsection A of this Section and the rules and regulations adopted thereunder.

' **3243. Licensing of owner-operators**

A. No person shall own or operate a business engaged in the application of pesticides for a fee unless that person has the proper license. Licenses shall be valid for one year and shall be renewed in accordance with rules adopted by the commissioner. There shall be three classes of licenses:

- (1) Ground applicators
- (2) Aerial applicators who do not apply phenoxy herbicides
- (3) Aerial applicators who apply phenoxy herbicides

B. All aerial applicators employed by the owner-operator shall be commercial applicators. All ground applicators employed by the owner-operator shall be commercial applicators or shall work under the direct supervision of a commercial applicator.

C. Prior to obtaining a license, each owner-operator shall post a surety bond with the commissioner. The amount of the bond for owner-operators engaged in ground applications shall be twenty-five thousand dollars. The amount of the bond for owner-operators engaged in aerial applications who apply phenoxy herbicides shall be fifty thousand dollars. The amount of the bond for owner-operators engaged in aerial applications who do not apply phenoxy shall be twenty-five thousand dollars. The bond shall be in favor of the commissioner and shall be conditioned on the licensee fulfilling his obligations to persons who suffer damages as a result of the application of pesticides by the owner-operator

or his employees. The bond shall be written by a bonding company approved by the commissioner. Bonds shall not be canceled except by ninety days written notice to the commissioner. Each person who suffers damages caused by any action of an owner-operator in connection with any application of a pesticide may sue on the bond in any court of competent jurisdiction to recover the damages. The aggregate liability of the surety shall not exceed the principal amount of the bond. Cash bonds, certificates of deposit, property bonds, or irrevocable letters of credit may be used to satisfy the bond requirement.

D. Each owner-operator may obtain liability insurance in lieu of the surety bond. The amount of the insurance shall be equal to the amount of the bond otherwise required. The commissioner by rule shall provide for the requirements for insurance.

E. All mechanically powered equipment used by an owner-operator shall be inspected annually by the commissioner and shall have the inspection decal prominently displayed.

F. Each aircraft and each rotor craft which is used to apply pesticides shall be identified with numerals, or letters, or both, which shall be in accordance with the Federal Aviation Administration's rules and regulations.

- (1) The aircraft or rotor craft is repainted; or
- (2) Until the numerals or letters are repainted, restored, or changed; or
- (3) Until January 1, 1989, whichever occurs first.

G. Owner-operators shall keep records for two years accurately reflecting the application of pesticides. The records shall be furnished to the commissioner upon his request. These records shall include:

- (1) The name of the pesticide applied.
- (2) The rate of each application.
- (3) The date of each application.
- (4) The place of application.
- (5) Such other information as the commissioner may require.

' 3244. Certification of pesticide salespersons

No person shall sell or supervise the sale of restricted use pesticides as a pesticide salesperson unless that person has the proper certification. Certification shall be issued only after the applicant has satisfactorily passed an examination. Certification shall be valid for three years and shall be renewed in accordance with rules adopted by the commissioner. The commissioner by rule shall provide for the issuance of annual certification cards. Pesticide salespersons may supervise the sale of restricted use pesticides by competent uncertified individuals who are under the direct supervision of the pesticide salespersons.

' 3245. Licensing of pesticide dealers

A. No person shall own or operate a business engaged in the sale of restricted use pesticides unless that person has the proper license. Licenses shall expire on December thirty-first of each year and may be renewed in accordance with rules adopted by the commissioner. Each pesticide dealer shall obtain a license for each location at which restricted use pesticides are sold.

B. Each person who is employed by a pesticide dealer and who sells restricted use pesticides shall be a pesticide salesperson or shall work under the direct supervision of a pesticide salesperson.

C. Pesticide dealers shall keep records for two years accurately reflecting their possession and disposition of restricted use pesticides. The records shall be furnished to the commissioner upon his request. These records shall include:

- (1) The name of the pesticide purchased and sold.
- (2) The amount of the pesticide purchased and sold.
- (3) The date of transactions.
- (4) The name, address, and certification number of the purchaser.
- (5) Such other information as the commissioner may require.

D. Each pesticide dealer shall maintain records of the storage of pesticides by that dealer. The commissioner shall adopt rules and regulations governing the records required by this Subsection. The rules and regulations shall require the pesticide dealers to maintain sufficient records to comply with the Hazardous Material Information Development, Preparedness, and Response Act, > [FN1] shall specify the length of time the records shall be maintained, and may require the dealer to report to the commissioner the information in the records which are required to be maintained.

' 3246. Certification and licensing of agricultural consultants

A. No person shall be employed as an agricultural consultant unless that person has the proper certification. Certification shall be issued only after the applicant has satisfactorily passed an examination. Certification shall be valid for three years and shall be renewed in accordance with rules adopted by the commissioner. The commissioner by rule shall provide for the issuance of annual certification cards.

B. Applicants for certification as agricultural consultants shall elect to be examined for certification in one or more of the following categories:

- (1) Control of insects, mites, nematodes, or other invertebrates.
- (2) Control of plant pathogens.
- (3) Control of weeds.
- (4) Soil management.
- (5) Such other categories as the commissioner by rule may establish.

C. The commissioner by rule may establish such other categories as he deems necessary.

D. No new applications for an agricultural consultant's certificate shall be accepted unless the applicant furnishes satisfactory evidence that he meets the following requirements:

- (1) He holds a bachelor's, master's, or a doctor's degree from an accredited college or university.
- (2) He has earned at least thirty semester hours of college credit in agronomy, soil science, weed science, entomology, plant pathology, horticulture, plant physiology, or other biological science, or any

combination of such.

(3) He has earned at least four hours of college credit in each discipline area for which certification is sought. The four discipline areas requiring certification are entomology, plant pathology, weed science, and soil science.

(4) He has, with a master's or doctor's degree, at least one crop season of experience, and with a bachelor's degree, at least two crop seasons of experience, in the field for which he requests certification, employed by a certified agricultural consultant.

E. All experience shall be documented in such manner as the commissioner may require. The commissioner may waive the requirement of experience while employed by an agricultural consultant for applicants with a master's or doctor's degree who demonstrate other comparable experience.

F. Every field scout employed by a licensed agricultural consultant shall be registered with the Department of Agriculture. This registration shall be valid only as long as the individual is employed by the agricultural consultant indicated on the face of the registration certificate.

G. Agricultural consultants shall put all recommendations in writing with two copies each. One copy shall be signed, dated, and furnished to the person for whom the recommendation is being made. The consultant shall retain one copy which shall be furnished to the commissioner upon his request. When a pesticide use is recommended, the recommendation shall include:

- (1) The pesticide or pesticides recommended.
- (2) The recommended rate of application.
- (3) The date on which each application is recommended.
- (4) The area to be treated.
- (5) A brief statement of the reason or reasons for the recommendations.
- (6) Such other information as the commissioner may require.

H. No person shall engage in business as an agricultural consultant for a fee unless that person holds a license as an agricultural consultant. The commissioner by rule shall provide the requirements for an agricultural consultant's license. Each agricultural consultant's license shall expire on December thirty-first of each year and may be renewed in accordance with rules adopted by the commissioner.

I. The provisions of this Section shall not apply to employees of the state or federal government conducting research or demonstrations in their official capacities.

' **3247. Use of certificates**

The commissioner by rule may provide that persons who hold more restrictive certificates may use those certificates in lieu of less restrictive certificates.

' **3248. Direct supervision**

Persons who hold certificates issued under the provisions of this Chapter may provide direct supervision for the

application or sale of a restricted use pesticide by competent uncertified persons. The certified person shall be fully responsible for the actions of the uncertified persons under his direct supervision. The certified person shall give instruction and direction to the uncertified persons and shall be available when and if his presence is needed. The certified person need not be physically present at all times unless the commissioner by rule requires the physical presence of the certified person at the time the restricted use pesticide is sold or applied.

' 3249. Examinations

A. Each applicant for a certificate issued under the provisions of this Chapter shall satisfactorily pass an examination prior to being issued a certificate. The commissioner by rule shall provide for the preparation, administration, and grading of all examinations. The commissioner shall review and approve all proposed examinations and shall determine the minimum score necessary to satisfactorily pass each examination.

B. The commissioner may designate individuals or associations who may submit proposed questions for examinations.

C. The commissioner shall fix the dates for all examinations and may establish a date prior to each examination which shall be the last date on which applications to take examinations will be accepted. The commissioner may refuse to administer examinations to persons whose applications are received after the cutoff date.

D. The commissioner by rule may require holders of certificates to attend a course of instruction or satisfactorily pass an examination in order to renew the certification.

' 3250. Applications

A. Each application for examination shall be in writing and shall be on forms prescribed by the commissioner. Each application shall be accompanied by the examination fee and such information and documents as the commissioner may require.

B. Each application for a license, certificate, or registration shall be in writing and shall be on forms prescribed by the commissioner. Each application shall be accompanied by the license, certificate, or registration fee, proof of passing the examination, proof of financial responsibility where required, and such other information and documents as the commissioner may require.

C. Each applicant shall indicate on each application the street address of his place of business. If the place of business does not have a street address, the applicant shall provide sufficient information to establish the physical location of the place of business.

' 3251. Fees

A. The examination fee for each examination shall be established by the commissioner by rule in an amount not to exceed one hundred dollars. In establishing the amount of the examination fee, the commissioner shall consider the cost incurred in obtaining, administering, and grading the examination.

B. The fees for the licenses and certificates issued or reissued by the commissioner shall be as follows:

(1) The resident license fee shall be one hundred dollars. For the purposes of this Paragraph, a "resident" means any person who has been domiciled in Louisiana for a period of at least ninety days immediately preceding the date of application for the license and who has not claimed residence in any

other state for any other purpose.

(2) The nonresident license fee shall be two hundred dollars. For the purposes of this Paragraph, a "nonresident" means any person who does not qualify as a resident under Paragraph (1) above.

(3) The certification fee, except as provided in Subsection C of this Section, shall be fifteen dollars.

(4) The fee for issuing the annual certification card shall be fifteen dollars. This provision shall not apply to private applicators.

(5) The fee for inspecting each item of mechanically powered equipment shall be twenty-five dollars.

(6) The fee for registering each field scout shall be five dollars.

C. The certification fee for private applicators shall be ten dollars. The certification fee for employees of local, state, and federal governments for the application of pesticides in the course of their public employment shall be ten dollars.

D. The commissioner by rule shall establish procedures for the payment of fees.

' 3252. Violations, enforcement

A. Violations of this Part shall include but shall not be limited to the following:

(1) Making false or fraudulent claims not in accordance with the label through any media misrepresenting the efficacy of pesticides or methods to be utilized.

(2) Making a pesticide recommendation or application inconsistent with the labeling or in violation of the E.P.A. or state restrictions on the use of that pesticide.

(3) Knowingly operating faulty or unsafe equipment.

(4) Operating in a faulty, careless, or negligent manner.

(5) Neglecting or, after notice, refusing to comply with the provisions of this Chapter or rules and regulations adopted under the provisions of this Chapter.

(6) Refusing or neglecting to keep and maintain the records required by this Part.

(7) Knowingly making false or fraudulent records or invoices.

(8) Selling or supervising the sale of any restricted use pesticide to a person who does not have the proper certification.

(9) The application of a restricted use pesticide by a ground applicator who does not hold the appropriate certification or who is not under the direct supervision of a person who holds the appropriate certification, or the application of any pesticide by an aerial applicator who does not hold the appropriate certification.

(10) Supervising the sale or application of a restricted use pesticide without the proper certification.

(11) Allowing the application of restricted use pesticides by uncertified persons without the physical presence of a certified applicator, when the physical presence of the certified applicator is required by the commissioner.

(12) The aiding or abetting, or conspiring to aid or abet, by any licensed or certified person, of the violation of the provisions of this Chapter, or of the rules and regulations adopted under the provisions of this Chapter, by any unlicensed or uncertified person.

(13) Allowing a license or certificate to be used by another person.

(14) Impersonating any federal, state, parish, or city inspector or official who has authority to enforce pesticide laws, ordinances, rules, or regulations.

(15) Interference with the commission, the commissioner, the state chemist, or their representatives in the performance of their duties in connection with this Part.

(16) Performance of a service or function by any person whose license or certificate has been suspended or revoked, or by any person who has been denied a license or certificate, or failure by any person to obtain the necessary license or certificate for any activity requiring a license or certificate under the provisions of this Chapter.

(17) Application of phenoxy herbicides by any aerial applicator who does not have the proper license or the proper bond or insurance.

(18) Any violation of any provision of this Chapter or of any rule or regulation adopted under the provisions of this Chapter.

(19) The sale of a restricted use pesticide by a person who does not hold the appropriate certification or who is not under the direct supervision of a person who holds the appropriate certification.

(20) The purchase of a restricted use pesticide by a person who does not hold the appropriate certification.

(21) Any evasion of payment of any fines legally imposed by the commissioner.

B. The commissioner may assess a civil penalty of not more than five thousand dollars for each violation of any of the prohibitions in Subsection A of this Section. Each day on which a violation occurs shall be considered a separate offense. In addition to civil penalties, the commissioner may assess the proportionate costs of the adjudicatory hearing against the offender. The commissioner by rule shall determine the amount of costs to be assessed.

C. The commissioner may suspend or revoke any license or certificate issued under the authority of this Part, or impose probation on any person who holds a license or certificate, for any violation of any of the prohibitions in Subsection A of this Section.

D. Civil penalties may be assessed, licenses and certificates may be suspended or revoked, and probation may be imposed, only by a ruling of the commissioner based on an adjudicatory hearing held in accordance with the provisions of Section 3214 of this Chapter.

E. The commissioner may institute civil proceedings to enforce his rulings in the district court for the parish in which the violation occurred.

F. The commissioner may institute civil proceedings seeking injunctive relief to restrain and prevent the violation of the provisions of this Part or of the rules and regulations adopted under the provisions of this Part in the district court for the parish in which the violation occurred.

' **3253. Notice**

A. The commissioner shall notify each person who is affected by a suspension or revocation of a license or certificate, or by probation, or by civil penalties, by certified mail, return receipt requested.

B. Each person whose license or certificate has been revoked or suspended shall return the license or certificate to the commissioner within fifteen days of the date on which the notice was received.

' **3254. Special exemptions for certain applications and recommendations of pesticides**

As used in > R.S. 3:3252(A)(2), the reference to recommendations or applications inconsistent with the labeling of a pesticide shall not include the following:

(1) The application of a pesticide at any dosage, concentration, or frequency less than that specified on the labeling.

(2) The application of a pesticide against any target pest not specified on the labeling, if the application is to the crop, animal, or site specified on the labeling, unless the E.P.A. has required that the labeling specifically state that the pesticide may be used only for the pests specified on the labeling.

(3) The use of any method of application not prohibited by the labeling.

(4) The mixing of a pesticide or pesticides with a fertilizer when the mixture is not prohibited by the labeling.

' **3255. Complaints**

A. Any person who believes that he has suffered damages as a result of any action by any person regulated by the provisions of this Part may file a damage complaint with the commissioner.

B. All damage complaints shall be in writing, shall be on forms prescribed by the commissioner, shall be signed by the complainant, and shall be filed within fifteen days of the action by the alleged offender or the discovery of the damage, whichever occurs later. Failure to file a timely complaint shall not affect the right of the person to institute legal proceedings for the damages.

C. Each person who files a damage complaint shall permit the commissioner, the alleged offender, or the representative of either, such as bondsmen or insurers, to observe within reasonable hours the lands, crops, or nontarget organisms alleged to have been damaged in order to determine any damages. Failure of the claimant to permit such observation and examination of the damaged property shall automatically bar the claim against the alleged offender under this Section.

D. The commissioner may undertake such monitoring activities, including but not limited to monitoring of the air, soil, water, plants, and animals as may be necessary for the administration and enforcement of this Section.

' **3256. Exemptions**

A. The commissioner by rule shall delegate to the Structural Pest Control Commission the authority to examine

and certify all structural pest control operators required to be certified under the provisions of > R.S. 3:3301 et seq.

B. No governmental entity or employee thereof shall be exempt from the certificate, enforcement, or record-keeping provisions of this Part, except as otherwise provided herein.

' **3257. Reciprocal agreements**

The commissioner may waive all or part of the examination requirements for applicants for certification on a reciprocal basis with any other state which has substantially the same requirements for examinations.

PART V. PESTICIDE WASTES

' **3271. Administration**

A. The provisions of this Part shall be administered by the Department of Agriculture and Forestry through the division of pesticide and environmental programs within the office of agricultural and environmental sciences.

B. The commissioner shall adopt such rules and regulations as are necessary to implement the provisions of this Part. The rules and regulations shall be adopted in accordance with the Administrative Procedure Act. > [FN1]

C. The commissioner may employ such personnel as are necessary to administer the provisions of this Part.

' **3272. Cooperative agreements**

In order to accomplish the objectives of this Part, the commissioner may enter into cooperative agreements with appropriate governmental agencies.

' **3273. Monitoring**

The commissioner shall establish a program for monitoring pesticide wastes in the state.

' **3274. Determinations**

A. When the commissioner determines that the concentrations of pesticide wastes exceed promulgated federal or state standards, or when the commissioner determines that the concentrations of pesticides pose a threat or reasonable expectation of a threat to human health or to the environment, the commissioner shall determine the appropriate action to be taken under the provisions of this Part.

B. The commissioner shall adopt rules to establish procedures for making determinations under the provisions of Subsection A of this Section.

C. The determinations made under Subsection A of this Section shall be based on scientific and technical

Title 7
AGRICULTURE AND ANIMALS
Part XXIII. Pesticide

**Chapter 1. Advisory Commission on
Pesticides**

Subchapter A. Authority

§101. Authority

A. Under the authority of the Louisiana Pesticide Law, R.S. 3:3201, et seq., and in accordance with the provisions in R.S. 49:950, et seq., the commissioner of agriculture adopts the following regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983).

Subchapter B. Definitions

§103. Definitions

Bulk Storage of Pesticides? the storage of any pesticide which is held in an individual container in undivided quantities of greater than 55 U.S. gallons liquid measure or 100 pounds net dry weight.

Director? the director of the pesticide commission or his duly authorized representatives acting at his direction.

District Office? any office of the department other than the Baton Rouge main office.

Herbicide? any substance or mixture of substances intended for use in preventing or inhibiting the growth of, killing, or destroying plants and plant parts defined to be pests by the commissioner. The term "herbicide" shall for the purposes of these regulations include a substance or mixture of substances intended for use as a plant growth regulator, defoliant, or desiccant.

Inorganic Arsenical? any herbicide containing a compound formed by a reaction between arsenic and any substance which does not contain a carbon-hydrogen (organic) group (radical). Examples are arsenic trioxide, sodium arsenate, and arsenic acid.

Insecticide? any substance or mixture of substances intended for preventing or inhibiting the establishment, reproduction, development, or growth of; destroying; or repelling any member of the class insecta or other allied classes in the phylum arthropoda that is defined as a pest by the commission.

Phenoxy Herbicides? any herbicide as defined above that contains a phenoxy derivative of lower aliphatic acid as an ingredient thereof.

Public Utility? a business or service which is engaged in regularly supplying the public with a service which is of public consequence and need, such as electricity, gas, water, transportation, or telephone or telegraph service.

Resident? any person who has been domiciled in Louisiana for a period of at least 90 days immediately preceding the date of application for the license and/or certification and has not claimed residence elsewhere for any purpose.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3202 and 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 15:76 (February 1989).

**Subchapter C. Operation of the
Commission**

§105. Filings with the Commission

A. All notices, petitions, documents, or other correspondence to the commission or the commissioner shall be addressed and mailed to: Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, Advisory Commission on Pesticides, Baton Rouge, Louisiana 70806.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983).

§107. Chairman; Presiding Officer

A. The chairman shall serve a term of one year or until a successor is elected. In the absence of the chairman, the vice-chairman shall preside. In the absence of both the chairman and the vice-chairman, the chairman's duly appointed representative shall preside.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3212.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983).

§109. Expulsion

A. Each member being considered for expulsion and his sponsoring group, if any, shall be notified of the upcoming action at least 15 days before the commission meeting at which the action is to be considered. This notice shall be by certified mail. The commission may excuse an absence of a member.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3211.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983).

Subchapter D. Registration of Pesticides

§111. Registration Required

A. No pesticide shall be sold, offered for sale, or distributed in this state without being registered by the manufacturer annually with the department. This registration shall expire on December 31 of each year.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3221.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983).

§113. Chart of Tolerances

A. Content of active ingredients on all pesticides should be at the level of guarantee. However, determination of compliance based on assay of a single sample shall be made as follows.

1. A single sample whose assay deviates below the stated guarantee shall be considered in compliance except as noted in Paragraph 2, below, if its active ingredients are found to be within the following ranges:

Active Ingredient % Guaranteed	Allowable Deviation Below Guarantee
Up to 1.00%	15% of Guarantee
1.01%?19.99%	0.1 plus 5% of Guarantee
20.00%?49.99%	0.5 plus 3% of Guarantee
50.00%?100.00%	1.0 plus 2% of Guarantee

2. A single sample whose assay deviates below the stated guarantee beyond the above limits may not be considered *deficient* if special sampling problems such as those associated with fertilizer-pesticide mixtures and granular formulations or if problems associated with accuracy, specificity or reproducibility of the method of analysis can reasonably be expected to have contributed to the lower assay.

3. A single sample whose assay ranges above the stated guarantee shall be judged individually. However, an assay ranging above the stated guarantee shall not be considered violative if:

a. no illegal residue can be expected to result when product is used according to label directions;

b. no significant increase in hazard to man or the environment can be expected to result when product is used according to label directions;

c. stability of the formulation or ingredients thereof require over-formulation to insure that assay over a period stated on the label shall not fall below the minimum provided in Paragraph 1, above.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3225 and R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission of Pesticides, LR 11:942 (October 1985).

§115. Standard Registrations

A. Application for registration shall consist of two types, namely initial registration and renewal registration. Initial registration application may be filed at any time of the year. Renewal registration application shall be filed by the first day of December each year. Application shall be made on forms or formats prescribed by the commissioner; or on forms or formats which have the prior, written approval of the commissioner.

1. Each application for the initial registration of a pesticide and for the re-registration of a pesticide for which the label has been changed shall be accompanied by the following information:

a. the brand of the pesticide;

b. the name, address and contact person of the manufacturer of the pesticide;

c. two complete copies of the labeling of the pesticide, containing:

i. the specific name of each active ingredient in the pesticide;

ii. the percentage of the active ingredients in the pesticide;

iii. the percentage of the inert ingredients in the pesticide;

iv. the net contents of each package in which the pesticide will be sold;

v. a statement of claims made for the pesticide;

vi. directions for the use of the pesticide, including warnings or caution statements;

d. the material safety data sheet prepared in accordance with the requirements of the Environmental Protection Agency;

e. such other information as the commissioner may require.

2. Application for re-registration of a pesticide for which the label has not been changed shall be accompanied by the following information:

a. the brand of the pesticide;

b. the name, address and contact person of the manufacturer of the pesticide;

c. such other information as the commissioner may require.

3. The registration requirements as described in LAC 7:XXIII.115.A. shall be resubmitted for any pesticide for which the label has been changed within 60 days of the change.

B. Any registration may be denied by the commissioner if he determines that:

1. the composition of the pesticide is not sufficient to support the claims made for the pesticide;
2. the label on the pesticide does not comply with state and federal requirements;
3. use of the pesticide may produce unreasonable adverse effects on the environment;
4. information required in LAC 7:115.A has not been furnished to the commissioner by the manufacturer.

C. Any pesticide registered in Louisiana must comply with the following.

1. Any pesticide sold or offered for sale or distribution must bear a label consistent with the label submitted in the registration application.
2. Each shipping container must bear the lot or batch number of the pesticide.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3221.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 15:76 (February 1989), LR 23:192 (February 1997), LR 23:853 (July 1997).

§117. Special Registrations

A. The commissioner may issue the following registrations:

1. State Experimental Use Permits (5f, FIFRA). If the EPA authorizes the commissioner to issue state experimental use permits, the following terms and conditions shall apply:
 - a. each person wishing to accumulate information necessary to register a pesticide for a special local need in this state shall file five copies of an application containing the following information:
 - i. the manufacturer's name;
 - ii. the name, address and telephone number of the applicant;
 - iii. the proposed date of shipment or proposed shipping period not to exceed one year;
 - iv. the percentage of the active ingredients in the pesticide;
 - v. the percentage of the inert ingredients of the pesticide;
 - vi. a statement of the approximate quantity to be tested;
 - vii. available summary of test results on the acute toxicity of the pesticide;
 - viii. a statement of the scope of the proposed experimental program, including:
 - (a) the type of pests or organisms included in the study;
 - (b) the crops, animals or commodities to be included in the study;
 - (c) the areas of the state in which the study is to be conducted;
 - (d) the results of any previous tests conducted by the applicant of the pesticide in this or any other state.

(a) the type of pests or organisms included in the study;

(b) the crops, animals or commodities to be included in the study;

(c) the areas of the state in which the study is to be conducted;

(d) the results of any previous tests conducted by the applicant of the pesticide in this or any other state.

ix. When the pesticide is to be used on food or feed, a temporary tolerance must be obtained from the EPA or evidence that the proposed experiment will not result in injury to man or animals, or in illegal residues entering the food chain.

x. The proposed labeling which must bear:

(a) the prominent statement *For Distribution and Experimental Use Only Within Louisiana* on each container label and any labeling that accompanies the pesticide;

(b) an adequate caution or warning statement to protect those who may handle or be exposed to the pesticide;

(c) the name and address of the manufacturer;

(d) the point of destination of the pesticide;

(e) directions for use;

(f) a statement listing the name and percentage of each active ingredient and the total percentage of inert ingredients.

b. after an application has been received, the commissioner shall review it for completeness. If the commissioner determines that an application is not complete, the applicant shall be allowed to submit such subsequent data as required by the commissioner for review. If the commissioner determines that an application is complete, he shall assign the application to an ad hoc advisory committee consisting of:

i. director, Pesticides and Environmental Programs, Department of Agriculture and Forestry, or his designee;

ii. assistant commissioner, Office of Agricultural and Environmental Sciences, Department of Agriculture and Forestry, or his designee;

iii. director, Louisiana Cooperative Extension Service, or his designee;

iv. director, Louisiana Agricultural Experiment Station, or his designee;

v. the member of the commission who represents the Louisiana Wildlife Federation, or his designee.

c. the committee shall consider the application based on the following criteria:

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i. the applicant's need for the permit in order to accumulate data to support a special local needs registration;

ii. that the labeling is complete and correct as required in §117.A.1.a.x;

iii. that use of the pesticide under the permit will not cause unreasonable adverse effects on the environment;

iv. that either the applicant has supplied evidence that a tolerance or exemption from the requirement of a tolerance has been established for residues of the pesticide on such food or feed under Section 408 of the Federal Food, Drug and Cosmetic Act; or that the applicant shall destroy all food or feed crops involved in the project.

d. After receiving the recommendations of the committee, the commissioner may: grant the request, in which event he shall prescribe the terms, conditions, and period of time of the permit; or deny the permit.

e. The commissioner may revoke a permit if he finds that:

i. the terms and conditions of the permit have been violated, or are inadequate to avoid unreasonable adverse effects on the environment;

ii. any required tolerance under the Federal Food, Drug, and Cosmetic Act (12 U.S.C. 301, et seq.) has been revoked by EPA or any exemption from the requirements for tolerance has been withdrawn by EPA;

iii. the permittee or any cooperator has failed to comply with any other federal or state law or regulation concerning state experimental use permits.

2. Special Local Needs Registration (24-C FIFRA)

a. Each person wishing to register a pesticide for a special local need in this state shall file five copies of an application containing the following:

i. name and address of the applicant and any other person whose name will appear on the labeling or in the directions for use;

ii. the name of the pesticide product, and, if the application is for an amendment to a federally registered product, the EPA registration number of that product;

iii. a copy of proposed labeling, including all claims made for the product as well as directions for its use to meet the special local need, consisting of:

(a). for a new product, a copy of the complete proposed labeling; or

(b). for an additional use of a federally registered product, a copy of proposed supplemental labeling and a copy of the labeling for the federally registered product;

iv. the active ingredients of the product, if the application is for a new product registration;

v. the appropriate application fees as required by §131 of these regulations.

b. The issuance or denial of a registration of a pesticide under this Section shall be done in accordance with federal regulations. The commissioner may refer this application to an ad hoc committee composed of:

i. director, Advisory Commission on Pesticides, or his designee;

ii. director, Louisiana Cooperative Extension Service, or his designee;

iii. director, Louisiana Agricultural Experiment Station, or his designee;

iv. one agricultural consultant;

v. one farmer;

vi. such other members appointed by the commissioner as the commissioner deems necessary.

c. The committee shall consider the application based on the following criteria:

i. that the labeling is complete and correct;

ii. that use of the pesticide under the permit will not cause unreasonable adverse effects on the environment;

iii. that there is no other pesticide product registered with EPA for the same use;

iv. that no other pesticide product is registered with EPA which would be as safe and as efficacious, under the conditions of use proposed for a special local need;

v. that there is no EPA registered product available;

vi. that there is an EPA tolerance established for the product, if it is to be used on a food or a feed crop;

vii. that the special local needs application is based on a changed use pattern;

viii. that the product shows promise of efficacy for the condition under which it will be used;

ix. such other considerations as the commissioner deems appropriate.

d. After receiving the recommendation of the committee the commissioner may:

i. grant the registration, in which event he may prescribe the terms and conditions of use; or

ii. deny the registration.

e. The commissioner may amend or revoke a registration if he finds that:

i. the terms and conditions of the registration have been violated, or are inadequate to avoid unreasonably adverse effects on the environment;

ii. any required tolerance under the Federal Food, Drug, and Cosmetic Act (12 U.S.C. 301, et seq.) has been revoked by EPA or any exemption from the requirements for tolerance has been withdrawn by EPA;

iii. the registrant has failed to comply with any other federal or state law or regulation concerning state experimental use permits.

3. Special Exemptions

a. Specific exemption applications shall be completed in accordance with federal requirements after receiving the recommendations of the director the Louisiana Cooperative Extension Service or his designee and the director of the Louisiana Agricultural Experiment Station, or his designee.

b. Quarantine-Public Health Exemption. The commissioner may apply to EPA for a quarantine and/or public health exemption to allow the application of a pesticide if the commissioner finds that a foreign pest or a pest not previously known to be established in Louisiana threatens to become established. This application will be completed in accordance with federal requirements.

c. Crisis Exemption. The commissioner may issue a crisis exemption in accordance with federal regulations for the use of an unregistered pesticide if he finds that:

i. a situation involving the unpredictable outbreak of pests in the state is occurring;

ii. there is no readily available pesticide registered for the particular use to eradicate or control the pest; and

iii. the time element with respect to the application of the pesticide is so critical that there is no time to request a registration under any other Section of this Subchapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3222.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 15:76 (February 1989).

§119. Supervision of Use

A. The sale, use, storage, distribution, transportation, or disposal of pesticides registered under this Subchapter shall be subject to the supervision by the department.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission Pesticides, LR 9:169 (April 1983).

Subchapter E. Applicators, Salespersons and Agricultural Consultants

§121. Examinations of Applicators, Salespersons and Agricultural Consultants

A. The minimum score necessary for successful completion of examinations for certifications under these rules shall be 70 points.

B. The director, in cooperation with the director of the Cooperative Extension Service or his designee, shall be responsible for the preparation of all examinations.

C. The director shall be responsible for the administration and grading of all examinations.

D. Each applicant who fails to receive a passing score on any test in any category or subcategory shall wait a minimum of 10 days before being eligible for re-examination.

E. No person shall be allowed to take an examination in any category more than three times in a 12-month period.

F. Louisiana citizens who have failed any examinations under these standards shall not be permitted to receive certification under a reciprocal agreement with another state.

G All applicants for private applicators' certification must be at least 16 years of age or an emancipated minor. All applicants for salesperson certification must be at least 18 years of age or an emancipated minor.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3241 and 3:3249.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 11:943 (October 1985), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 15:76 (February 1989).

Subchapter F. Certification

§123. Certification of Private Applicators

A. Certification for private applicators shall be issued only after the applicant has satisfactorily passed an examination or has satisfactorily completed a training course approved by the commissioner.

B. Examinations for certification for private applicators or pesticides will be given during office hours upon request of the applicant, in Baton Rouge, at the office of Pesticides and Environmental Programs, at any district office of the department, or at the office of the county agent in any parish of the state.

C. Each person that has been certified as a private applicator and whose certification has not been revoked or suspended may renew that certification by attending a recertification meeting or passing an examination as designated by the commissioner.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3249.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 15:76 (February 1989).

§125. Certification of Commercial Applicators

A. The commissioner hereby establishes the following standards as qualifications required for certification.

1. Standards applicable to all categories:

a. must be at least 18 years of age or an emancipated minor;

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b. must be able to read and write the English language with sufficient proficiency to demonstrate comprehension of label and labeling content and instructions;

c. must submit an application for certification in the form required by the commissioner;

d. must be able to demonstrate knowledge of the principles and practices of pest control and the safe use of pesticides. Applicants must demonstrate these capabilities by successfully completing the general standards examinations;

e. must be able to successfully complete an examination in the specific category in which certification is sought;

f. all prior certifications, if any, must be in good standing at the time that the application for any examination is filed.

2. An individual applying for certification in Category 7c (see §125.B.2) must have two years of experience in the phase of work in which he is making application. Required experience must be substantiated by a notarized statement acceptable to the commissioner.

3. An individual applying for certification in Category 8d (see §125.B.2) must have either:

a. a bachelor's degree with at least 12 hours in entomology; or

b. at least four years of experience in mosquito control working under supervision of a person certified in Category 8d. Required experience must be substantiated by a notarized statement acceptable to the commissioner.

4. Commercial aerial pesticide applicators, with the single exception of aerial mosquito pest control applicators, who have been found to have violated a provision of the Louisiana Pesticide Law or any of the rules or regulations adopted pursuant to that law by the Advisory Commission on Pesticides or the commissioner, or who received a "warning letter" from the department during the past calendar year, shall attend a department-approved off-target training course prior to making any application in the following year, in order to maintain their certification as a commercial aerial applicator.

5. Commercial aerial pesticide applicators who are certifying for the first time or who have not been certified within the past three years, with the single exception of aerial mosquito pest control applicators, must attend a department-approved off-target training course prior to making any application.

B. Categories are established on the basis of the location where the application of pesticides will be made, and each applicant for certification is required to successfully complete an examination in the category in which the applicant desires certification.

1. Certification in a category authorizes the commercial applicator to make application of or supervise

the application of restricted use pesticides in the areas listed for each category.

2. The commissioner hereby establishes the following categories and subcategories of certification for commercial applicators.

[Note: The classifications in this Subsection reflect national categories established by EPA.]

a. Agricultural Pest Control (Category 1). This Category includes commercial applicators using or supervising the use of restricted use pesticides on agricultural lands, grasslands and non-crop agricultural lands.

i. This Category also includes commercial applicators using or supervising the use of restricted use pesticides on animals and to places on or in which animals are confined.

ii. This Category includes Doctors of Veterinary Medicine engaged in the business of applying pesticides for hire, publicly holding themselves out as pesticide applicators, or engaged in large scale use of pesticides.

b. Forest Pest Control (Category 2). This Category has been subdivided into the following three Subcategories:

i. General Forestry (Subcategory 2a). This Subcategory includes commercial applicators using or supervising pesticides with restricted use to control pests in the regeneration, management, and production of forest stands.

ii. Forest Tree Seed Orchards and Nurseries (Subcategory 2b). This Subcategory includes commercial applicators using or supervising the use of restricted use pesticides to control pests and undesirable plants in the production of forest tree seed, seedlings, and cuttings.

iii. Wood Processing (Subcategory 2c). This Subcategory includes wood or fiber processing firms such as sawmills, veneer plants, plywood plants, wood preservation plants and pulping facilities which use restricted use pesticides in the manufacturing process of wood products.

c. Ornamental and Turf Pest Control (Category 3). This Category includes commercial applicators using or supervising the use of restricted use pesticides to control pests in the maintenance and production of ornamental trees, shrubs, flowers, and turf.

d. Seed Treatment (Category 4). This Category includes commercial applicators using or supervising the use of restricted use pesticides on seeds.

e. Aquatic Pest Control (Category 5). This category is subdivided into two subcategories:

i. Subcategory 5a includes commercial applicators using or supervising the use of any restricted use pesticide purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in Category 8 (§125.B.2.h);

ii. Subcategory 5b includes commercial applicators using, or supervising the use of, any restricted use pesticide containing Tributyltin (TBT) in paints to be applied to vessel hulls and other marine structures to inhibit the growth of aquatic organisms such as barnacles and algae.

f. Right-of-way Pest Control (Category 6). This Category includes commercial applicators using or supervising the use of restricted use pesticides in the maintenance of public roads, electric power lines, pipelines, railway rights-of-way or other similar areas.

g. Industrial, Institutional, Structural, and Health Related Pest Control (Category 7). This category includes commercial applicators and nonfee commercial applicators using, or supervising the use of, pesticides with restricted uses in, on, or around food-handling establishments; human dwellings; institutions, such as schools and hospitals; industrial establishments, including warehouses and grain elevators; and any other structures and adjacent area, public or private; and for the protection of stored, processed or manufactured products. This category has been subdivided into four subcategories:

i. Subcategory 7a is for pest control operators who are, or will be, certified and licensed by the Structural Pest Control Commission. The commissioner hereby delegates to the Structural Pest Control Commission the authority to examine and certify all persons in this subcategory. The commissioner hereby delegates to the Structural Pest Control Commission the authority to enforce all federal and state laws and regulations as they apply to persons certified under this subcategory.

ii. Subcategory 7b is for applicators who apply or supervise the application of restricted use pesticides on a nonfee basis in, on or around institutions, motels, hotels, hospitals and like places as the owner or in the employ of the owner and for persons applying or supervising the application of any herbicide, rodenticide, or insecticide for grass and weed control and rodent and general pest control in, on, or around structures or grounds of government subsidized and administered housing and multiplex housing.

iii. Subcategory 7c is for applicators who apply, or supervise the application of, restricted use pesticides on a nonfee basis in, on, or around commercial grain elevators and other grain handling establishments, feed mills, flour mills, food processing plants, and other places where processed or unprocessed foods are stored, as the owner or in the employ of the owner. This subcategory is divided into three separate areas of certification:

- (a). (7c1) general pest control;
- (b). (7c2) vertebrate control;
- (c). (7c3) stored grain pest control.

iv. Subcategory 7d is for applicators who apply or supervise the application of pesticides on a nonfee basis for grass and weed control and rodent and general pest control (roaches, wasps, and ants) or restricted use pesticides, in, on, or around structures and grounds of schools that provide

education for classes kindergarten through 12. Pesticide applications for wood destroying insects shall be applied by licensed structural pest control operators. Each 7d certified applicator shall annually train all persons applying pesticides under his/her supervision in the proper handling, storage, use, application and disposal of pesticides.

h. Public Health Pest Control (Category 8). This category is for commercial applicators and state, federal and other government employees using or supervising the use of pesticides in public health programs for the management and control of pests having medical and public health importance. This category has been subdivided into six subcategories, as follows.

i. Mosquito Control: Applicator (Subcategory 8a). This subcategory is for commercial applicators and government employees who are applicators in mosquito control programs.

ii. Rodent Control (Subcategory 8b). This subcategory is for commercial applicators and government employees who are applicators in rodent control programs.

iii. Community Public Health (Subcategory 8c). This subcategory is for commercial applicators and government employees who are applicators concerned with the control of all arthropods and rodents of public health importance.

iv. Mosquito Control: Program Supervisor (Subcategory 8d). This subcategory is for commercial applicators and government employees who are program supervisors in organized mosquito control programs.

v. Antimicrobial Pest Control (Subcategory 8e). This subcategory is for commercial applicators engaged in antimicrobial pest control using restricted use pesticides.

vi. Sewer Root Control (Subcategory 8f). This subcategory is for commercial applicators and government employees who are applicators engaged in root control in sewers using restricted use pesticides.

i. Regulatory Pest Control (Category 9). This category includes state, federal or other governmental employees using or supervising the use of pesticides with restricted uses in the control of regulated pests.

j. Demonstration and Research Pest Control (Category 10). This category includes individuals who demonstrate to the public the proper use and techniques of application of pesticides with restricted uses, or supervise such demonstrations and persons conducting field research with pesticides, and in doing so, use or supervise the use of pesticides with restricted uses. This category has been subdivided into eight subcategories:

- i. agricultural pest control;
- ii. forest pest control;
- iii. ornamental and turf pest control;
- iv. seed treatment;
- v. aquatic pest control;

- vi. right-of-way pest control;
- vii. industrial, institutional, structural and health related pest control;
- viii. public health pest control.

C. In addition to a determination of competence in a specific category or subcategory, each commercial applicator shall demonstrate practical knowledge of the principles and practices of pest control and safe use of pesticides. In order to meet this requirement, each commercial applicator, at the time of initial certification in at least one category, must take a general standards exam.

D. Examinations for certification for commercial applicators will be given upon request of the applicant in Baton Rouge at the Division of Pesticides and Environmental Programs or in any district office of the department during office hours. Request for exams in district offices must be made seven days in advance.

E. Each person that has been certified in any category or subcategory as a commercial applicator, and whose certification has not been revoked or suspended, may renew that certification by attending a recertification meeting or training course for that category as designated by the commissioner.

F. The commissioner shall issue a certification card to each commercial applicator showing the categories or subcategories in which the applicator is certified. This certification card shall expire on December 31 of each year. Each person wishing to renew a certification card shall do so by submitting an application form prescribed by the commissioner and by submitting the proper fee.

G. Each person who is certified as a commercial applicator need not be certified as a private applicator or a pesticide salesperson to apply or supervise the application of any restricted use pesticide as a private applicator, or to sell or supervise the sale of restricted use pesticides.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3242 and R.S. 3:324.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:193 (March 1984), amended by the Department of Agriculture and Forestry, Office of Agriculture and Environmental Sciences, LR 19:735 (June 1993), LR 20:641 (June 1994), LR 21:928 (September 1995), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 23:193 (February 1997), LR 24:280 (February 1998).

§127. Certification of Pesticide Salespersons

A. Examinations for certification for pesticide salespersons will be given upon request of the applicant in Baton Rouge, at the Division of Pesticides and Environmental Programs, or at any district office of the department. Each person who has been certified as a pesticide salesperson, and whose certification has not been revoked or suspended, may renew that certification by attending a recertification meeting as designated by the commissioner. The commissioner shall issue a certification

card to each pesticide salesperson. This card shall expire on December 31 of each year. Each person wishing to renew a certification card shall do so by submitting an application form and the proper fee, as prescribed by the commissioner.

B. No pesticide salesperson shall sell or distribute any restricted use pesticide to any person who does not hold a valid certification card.

AUTHORITY NOTE: Promulgated In accordance with R.S. 3:3203, R.S. 3:3244 and R.S. 3:3249.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:193 (March 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:280 (February 1998).

§129. Certification of Agricultural Consultants

A. The agricultural consultant application experience requirements shall be substantiated by a notarized statement from the person who was responsible for the applicant during the time this experience was gained.

B. Each application for an agricultural consultant's examination shall be reviewed by an ad hoc committee appointed by the chairman of the commission. The committee shall consider the application and make its recommendation to the commission.

C. Each application for an agricultural consultant's examination shall be approved by the commission before an examination is administered. Examinations for agricultural consultants shall be administered only in Baton Rouge at the Division of Pesticides and Environmental Programs during office hours and shall be administered only after payment of the proper fee.

D. Certification of Agricultural Consultants

1. Certification in a category authorizes the agricultural consultant to make recommendations in the areas listed for each category.

2. Applicants for certification as agricultural consultants shall elect to be examined in one or more of the following categories:

[NOTE: The classifications in this Subsection reflect national categories as established by EPA.]

a. Control of Insects, Mites, Nematodes or Other Invertebrates (Category 1).

i. Agricultural Entomology (Subcategory 1a). Making recommendations for the control of pests of agronomic crops, especially cotton, rice, soybeans, sugarcane, vegetables, pasture and forage, and grain crops.

ii. Forest Entomology (Subcategory 1b). Making recommendations for the control of forest plants.

iii. Household, Structural and Industrial Entomology (Subcategory 1c). Making recommendations for the control of household pests, structural and industrial pests (such as termites, in stores, warehouse and transportation facilities).

iv. Medical, Veterinary and Public Health Entomology (Subcategory 1d). Making recommendations for control of arthropods affecting man and animals.

v. Orchard and Nut Tree Entomology (Subcategory 1e). Making recommendations for the control of orchard pests.

vi. Ornamental Entomology (Subcategory 1f). Making recommendations for the control of pests of ornamentals, lawns, turf and shade trees.

b. Control of Plant Pathogens (Category 2).

i. Agricultural Plant Pathology (Subcategory 2a). Making recommendations for the control of diseases of agronomic crops, especially sugarcane, cotton, rice, soybeans and home garden plants.

ii. Turf, Ornamental, Shade-tree and Floral Plant Pathology (Subcategory 2b). Making recommendations for the control of diseases of turf, ornamentals, shade-trees and floral plants. Also includes greenhouse and nursery plant disease control.

iii. Forest Pathology (Subcategory 2c). Making recommendations for the control of diseases of trees in plantations, nurseries and managed or unmanaged forests wherein the principal value lies in the production of wood fiber.

iv. Orchard Pathology (Subcategory 2d). Making recommendations for the control of diseases of wood vines and trees wherein the principal value lies in the production of fruits or nuts.

c. Control of Weeds (Category 3).

i. Agricultural Weed Control (Subcategory 3a). Making recommendations for the control of weeds and grasses in field crops, vegetable crops, pastures and rangeland.

ii. Turf, Ornamental and Shade-Tree Weed Control (Subcategory 3b). Making recommendations for the control of weeds and grasses in ornamentals, turf areas, cemeteries and other similar areas.

iii. Forest Weed Control (Subcategory 3c). Making recommendations for the control of weeds and grasses in forest lands.

iv. Right-of-Way and Industrial Weed Control (Subcategory 3d). Making recommendations for the control of weeds and grasses in and around industrial and commercial sites.

d. Soil Management (Category 4).

i. Agricultural Field Soil Management (Subcategory 4a). Knowledgeable in symptoms of soil and/or tissue nutrient problems; sampling techniques for soil and/or tissue analysis; interpretation of laboratory results; and recommendations for soil and/or tissue amendments.

ii. Agricultural Soil, Water and Tissue Laboratory Analysis (Subcategory 4b). Knowledge of all diagnostic

procedures pertaining to analysis of soil, water and/or tissue samples.

iii. Agricultural Soil Reclamation (Subcategory 4c). Knowledge of techniques, methods, etc. for restoring or attempting to restore soil productivity as a result of physical and/or chemical disturbance or natural causes such as severe erosion or contaminated soils.

iv. Agricultural Water Management (Subcategory 4d). Knowledge of irrigation scheduling practices and techniques for various enterprises requiring water on a regular or intermittent basis.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3246 and R.S. 3:3249.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 11:943 (October 1985), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:281 (February 1998).

Subchapter G. Fees

§131. Fees

A. Fees required under the pesticide statutes and these regulations are as follows:

1. Annual Registration of Pesticides \$300
2. Special Local Need Registration Application Fee \$100
3. Annual License Fee
Resident \$100
Non-Resident \$200
4. Annual Equipment Inspection (each item) \$ 25
5. Annual Field Scout Registration Fee \$ 5
6. Consultant Certification Application Fee \$ 15
7. Certification Fees
Private Applicator? for three years \$ 10
Employees of Local, State and Federal Government in course of public employment ? annual \$ 10
All other Commercial Applicators? annual \$ 15
8. Examination Fees (for each exam? Private Applicator exempt)
In Baton Rouge \$ 10
At Meeting Outside Baton Rouge \$ 15
At District Offices \$ 20
9. Duplicate Licenses and/or Certification Cards same as original
10. Requested Lists and Copies postage + minimum of \$1 or postage + 25 cents/page

B. Fees for licensing shall be paid at the time of application for said license.

C. Fees for registration for field scouts and for equipment inspections shall be paid at the time of application for the appropriate license.

D. Fees for registrations, examinations, and certifications shall be paid at the time the application is submitted.

E. No application shall be processed until all criteria for which the application is made has been met.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3221, R.S. 3:3222 and R.S. 3:3251.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:194 (March 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 15:76 (February 1989), LR 24:281 (February 1998).

Subchapter H. Licensing Requirements

§133. Owner-Operators

A. Every owner-operator of a pesticide application business must have a current license issued by the commissioner before making any applications of pesticides.

B. No person required by the provisions of R.S. 3:3243 to be licensed by the commissioner shall be licensed as an owner-operator unless such person:

1. has a current commercial applicator certification; or
2. employs a person having a current commercial applicator certification. All persons applying pesticides under an owner-operator license must maintain their commercial applicator certification in current status at all times.

C. No person may apply pesticides under an owner-operator license unless:

1. such person is named on the application for license; or
2. if employed subsequent to issuance of the license or on a temporary basis, the owner-operator has notified the commissioner of such employment prior to the first day of such employment. Initial notification of employment subsequent to issuance of the license may be made by telephone but must be confirmed, in writing, by the owner-operator within three days after the first day of employment.

D. Prior to issuance of the license, the applicant for an owner-operator license shall file proof of financial responsibility with the commissioner, as follows.

1. Ground applicators\$25,000
2. Aerial applicators who do not apply phenoxy herbicides\$25,000
3. Aerial applicators who apply phenoxy herbicides\$50,000

E. Proof of financial responsibility may be made by any of the following means:

1. filing a surety bond in the proper amount, written by a company authorized to do business in Louisiana and conditioned upon the licensee fulfilling his obligations to persons proven to have suffered damages as a result of actions of the owner-operator or any of his employees. Such surety bond shall provide for 90 days written notice to the commissioner prior to cancellation;

2. filing a certificate of insurance, in the form prescribed by the commissioner, in the same amount as required for a surety bond. Such insurance shall be payable to the benefit of persons proven to have suffered damages as a result of the actions of the owner-operator or any of his employees and shall provide for 30 days written notice to the commissioner. Such insurance shall not be applied to damages or injury to agricultural crops, plants, or land being worked upon by the commercial applicator. An owner-operator shall not change the amount of such insurance during the period of the license without the prior written approval of the commissioner;

3. filing a certificate(s) of deposit in the same amount as required for a surety bond. Such certificates of deposit shall be assigned to the commissioner, endorsed, and deposited with the commissioner. Holders of such certificates shall continue to draw all interest thereon. Upon the request of the certificate holder, certificates of deposit may be exchanged at maturity, under procedures acceptable to the commissioner.

4. filing an irrevocable letter of credit, issued by a guarantor and in a form acceptable to the commissioner, which shall be non-cancelable during the term of the license for which the irrevocable letter is offered as security;

5. depositing cash equal to the amount required for the surety bond with the commissioner, which cash shall remain on deposit until replaced by other security acceptable to the commissioner or until expiration, suspension, or revocation of the license.

F. Failure to maintain the required security in full force and effect throughout the license period, as required under §133.D, shall subject a licensee to immediate suspension or revocation of his license.

G Applicants for owner-operator license must satisfactorily complete the application form prescribed by the commissioner and pay the fee specified under §131 prior to issuance of the license.

H. Prior to issuance of the license and/or during the period of licensure, persons applying for owner-operator license under a corporate name must provide proof of compliance with Louisiana's Corporation Laws upon the commissioner's request.

I. Each application for owner-operator license must list all commercial applicators employed on a regular basis when the application is filed. Commercial applicators hired

after the license is issued must be certified to the commissioner as required under §131 hereof.

J. All mechanically powered pesticide application equipment used by any person required by the provisions of R.S. 3:3243 to be licensed by the commissioner must be inspected by the department prior to May 31 following issuance of the license, or within 30 days after issuance of any license dated after January 1. The inspector shall affix a decal to all equipment found to be in compliance with these regulations. It is the responsibility of the licensee to make certain that his equipment is inspected and approved, and a decal is affixed prior to May 31, or, if licensed after January 1, within 30 days after the date of the license. Failure to have decals on pesticide application equipment within the time prescribed under this rule shall subject a licensee to immediate suspension or revocation of his license.

K. Owner-operator licenses shall be valid until December 31 following date of issue and must be renewed annually by filing the application form prescribed by the commissioner, together with the fee specified in §129.C, prior to December 31. A late fee of \$50 shall be imposed on any applicant filing application for renewal of an owner-operator license after December 31.

L. Licensed owner-operators who apply any pesticides which, upon disposal, are classified as hazardous wastes must comply with all rules adopted by the commissioner to regulate the handling of such pesticides prior to renewal of the license. If licensed after January 1, the owner-operator must comply with all rules regulating the handling of pesticides, which upon disposal are classified as hazardous wastes, within 30 days after issuance of the license.

M. Any person whose license or required certification has been suspended or revoked may be required to appear before the Advisory Commission on Pesticides prior to issuance of a new license or certification. No owner-operator license or required certification shall be reinstated after suspension or revocation unless the applicant for reinstatement has complied fully with all requirements of this rule.

N. The commissioner may deny an owner-operator license or commercial applicator certification to any person who:

1. fails to demonstrate a knowledge of pesticides necessary for the safe and efficacious use thereof;
2. fails or has previously failed to comply with any requirement of these regulations and/or the pesticides statutes;
3. has previously been adjudged, in a properly conducted adjudication procedure, to have violated any provisions of the pesticide statutes and/or these regulations; and/or
4. has failed to apply for and receive a decal for every item of mechanically powered pesticide application equipment used in the operation of the business.

O. Grass-Cutter Exemption. A person, when applying a general use pesticide to the lawn or ornamental plants of an individual residential property owner using pesticides and pesticide application equipment owned and supplied by the property owner, is exempt from licensing provided the person does not advertise for or solicit herbicide (grass or weed control) application business and does not hold oneself out to the public as being engaged in herbicide (grass or weed control) application. The person shall not supply his/her own pesticide application equipment, use pesticide applying power equipment, or use any equipment other than a hand held container when applying the pesticide.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3243.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission of Pesticides, LR 9:169 (April 1983), amended LR 10:194 (March 1984), LR 12:87 (February 1986), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 23:194 (February 1997).

§135. Pesticide Dealers Selling Restricted Use Pesticides

A. Pesticide dealers must be licensed by the commissioner prior to making any sale of restricted use pesticides.

B. No person shall be licensed as a pesticide dealer unless such person:

1. holds a current pesticide salesperson certification;
2. employs at least one person who holds a current pesticide salesperson certification; or
3. holds a current commercial applicator certification.

C. No person shall sell restricted use pesticides unless:

1. his/her name is listed on the application for pesticide dealer license; or
2. if employed after issuance of the license, the licensed pesticide dealer has notified the commissioner of such employment, in writing, within 30 days after the first day of such employment. Such subsequent notification shall contain the name, address, and certificate number of certified pesticide salespersons who are employed after the license is issued.

D. No licensed pesticide dealer may sell, offer for sale, or hold for distribution any pesticide which has not been registered with the department as required by R.S. 3:3221.

E. Applicants for pesticide dealer license shall satisfactorily complete the application form prescribed by the commissioner and pay the fee required under §131 hereof prior to issuance of the license.

F. Each application for pesticide dealer license shall contain the name, address, and certificate number of all certified pesticide salespersons.

G. Within 30 days after the termination of any certified pesticide salesperson listed on the license application form and/or certified to the commissioner after issuance of the

pesticide dealer license, the licensee must notify the commissioner, in writing, of such termination.

H. Whenever such termination results in no certified pesticide salesperson at a licensed pesticide dealer's business, the pesticide dealer license shall be revoked 30 days after such termination, unless the licensee employs another certified pesticide salesperson within 30 days after termination of the original employee. In such event, the licensee may request the administration of an examination for pesticide salesperson certification on a priority basis, and the examination shall be immediately administered.

I. Pesticide dealer licenses shall be valid until December 31 following date of issue and must be annually renewed by filing the application form prescribed by the commissioner, together with the fee required under §131, prior to December 31. A late fee of \$50 shall be imposed on any applicant filing application for renewal of a pesticide dealer license after December 31.

J. Any person whose license or required certification has been suspended or revoked may be required to appear before the Advisory Commission on Pesticides prior to issuance of a new license or certification. No pesticide dealer license shall be reinstated after suspension or revocation unless the applicant for reinstatement has complied fully with all requirements of this rule.

K. The commissioner may deny a pesticide dealer license or pesticide salesperson certification to any person who:

1. fails to demonstrate a knowledge of pesticides necessary for the safe and efficacious use thereof;
2. fails or has previously failed to comply with any requirement of these regulations and/or the pesticides statutes; and/or
3. has previously been adjudged, in a properly conducted adjudication procedure, to have violated any provisions of the pesticides statutes and/or these regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3245.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:195 (March 1984).

§137. Pesticides Dealers; Restrictions on Cash Sales

A. Pesticide dealers shall not sell the following restricted use pesticides for currency without first visually inspecting and confirming that the person seeking to purchase said pesticide holds the proper certification:

1. methyl parathion

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3252 (A)(8).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 19:609 (May 1993).

§139. Agricultural Consultants

A. No person shall be licensed as an agricultural consultant unless such person:

1. is currently certified as an agricultural consultant; or
2. employs a person currently certified as an agricultural consultant.

B. No person shall make pesticide recommendations for a fee unless:

1. his/her name is listed on the application for agricultural consultant license; or
2. if employed after issuance of the agricultural consultant license, the licensee has notified the commissioner in writing within 30 days after the first day of such employment. Notification of employment after the license is issued shall include the name, address, and certificate number of agricultural consultants employed by the licensee.

C. All applicants for agricultural consultant licenses shall complete the application form prescribed by the commissioner and pay the fee required under §131 hereof prior to issuance of the license.

D. Each application for agricultural consultant license shall include the name, address, and certificate number of all certified agricultural consultants and the name and address of all field scouts employed by the applicant when the application for license is filed.

E. Each licensed agricultural consultant shall register every field scout employed under his/her license with the commissioner within 30 days after the first day of the scout's employment. The registration shall remain valid during the scout's employment by the agricultural consultant applying for field scout registration, without renewal, but shall be canceled upon termination of such employment. Each agricultural consultant shall notify the commissioner, in writing, within 30 days after termination of any field scout.

F. Each field scout registered by a licensed agricultural consultant shall be issued a registration card. The field scout shall carry the registration card on his/her person when engaged in field counts and shall display the registration card upon reasonable request.

G. Agricultural consultant licenses shall be valid until December 31 following date of issue and shall be renewed annually by filing the application form prescribed by the commissioner, together with the fee required under §131, prior to December 31 of each year. A late fee of \$50 shall be imposed on any applicant filing application for renewal of an agricultural consultant license after December 31.

H. Any person whose license or required certification has been suspended or revoked may be required to appear before the Advisory Commission on Pesticides prior to issuance of a new license or certification. No agricultural consultant license shall be reinstated after suspension or

revocation unless the applicant for reinstatement has complied fully with all requirements of this rule.

I. The commissioner may deny an agricultural consultant license or certification to any person who:

1. fails to demonstrate a knowledge of pesticides necessary for the safe and efficacious use thereof;
2. fails or has previously failed to comply with any requirement of these regulations and/or the pesticides statutes; and/or
3. has previously been adjudged, in a properly conducted adjudication procedure, to have violated any provisions of the pesticides statutes and/or these regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3246

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:195 (March 1984).

Subchapter I. Regulations Governing Application of Pesticides

§141. General Requirements

A. No person shall apply pesticides as a commercial applicator unless such person is:

1. licensed as required under §133 hereof;
2. employed by a person licensed as required by §133 hereof;
3. making ground applications of pesticides under the direct supervision of a person certified as a commercial applicator; or
4. certified in demonstration and research.

B. No person shall apply any pesticide which is not registered with the department and the EPA, provided that this restriction shall not apply to:

1. activities conducted by persons certified in demonstration and research; and
2. activities conducted under an approved experimental use permit.

C. No person who is required under the provisions of R.S. 3:3243 to be licensed by the commissioner shall apply pesticides with mechanically powered pesticide application equipment which does not bear a current decal affixed by the commissioner, except as provided under §133.J.

D. No person shall apply any ester compound of phenoxy herbicide containing an aliphatic alcohol radical with less than six carbon atoms at any location within Louisiana.

E. All pesticides shall be applied in accordance with label and labeling requirements.

F. All persons who apply pesticides aerially must be certified as commercial applicators.

G. No person who is required under the provisions of R.S. 3:3243 to be licensed by the commissioner may dispose of any unused portions of pesticides and/or rinsate of pesticides at any location other than a site approved by the commissioner.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:196 (March 1984).

§143. Restrictions on Application of Certain Pesticides

A. The commissioner hereby declares that, in addition to all other pesticides classified by EPA as restricted use pesticides, the pesticides listed in §143.B are classified as restricted use pesticides within the state of Louisiana, except:

1. when formulated in concentration of 2 percent or less; or
2. when formulated with fertilizer for use by homeowners; or
3. when formulated in containers of one quart or less or two pounds dry weight or less.

B. The following pesticides may not be applied by commercial applicators during the times set forth in this rule in the areas listed in §143.C, D and E hereof.

Chemical Name	Common Name
1. 4-amino-3, 5,6-trichloro-picolinic acid	Picloram
2. Arsenic trioxide	---
3. 3-chlorophenoxy-alpha-propionamide	3-CPA
4. 4-chlorophenoxy acetic acid	4-CPA
5. 2,4-dichlorophenoxy acetic acid	2,4-D
6. 4-(2,4-dichlorophenoxy) butyric	2,4-DB
7. 2-methoxy-3, 6-dichlorobenzoic acid	Dicamba
8. 2-methyl-4-chlorophenoxyacetic acid	2, 4-MCPA
9. 4-(2 methyl-4-chlorophenoxy) butyric acid	---
10. 2-(2 methyl-4-chlorophenoxy)	2-MCPP
11. Arsenic acid	Arsenic
12. Sodium arsenite	---
13. 2-(2,4,5-trichlorophenoxy) ethyl 2,2 dichloropropionate	---
14. Tris (2,4-dichlorophenoxy ethyl) phosphite	---
15. A mixture of tri-, tetra-, and polychlorobenzoic acid	---

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C. The pesticides listed in §143.B shall not be applied by commercial applicators between March 15 and September 15 in the following parishes:

- | | |
|-------------------------------------|--|
| 1. Avoyelles | 14. Madison |
| 2. Bossier | 15. Morehouse |
| 3. Caddo | 16. Natchitoches |
| 4. Caldwell | 17. Ouachita |
| 5. Catahoula | 18. Pointe Coupee, Ward 1, 2,
3, 4 and 10 |
| 6. Claiborne, Ward 4 | 19. Rapides |
| 7. Concordia | 20. Red River |
| 8. DeSoto, Ward 7 | 21. Richland |
| 9. East Carroll | 22. St. Landry, Wards 1, 4, 5,
and 6 |
| 10. Evangeline, Wards 1, 3
and 5 | 23. Tensas |
| 11. Franklin | 24. Union |
| 12. Grant | 25. West Carroll |
| 13. LaSalle | 26. Winn, Ward 7 |

D. The pesticides listed in §143.B shall not be applied by commercial applicators between March 1 and June 15 in the area between the Mississippi River and Highway 61 in the Parishes of St. James and St. John the Baptist.

E. The pesticides listed in §143.B shall not be applied by commercial applicators in the Parish of Plaquemines.

F. In any application of the pesticides listed in §143.B in any of the areas listed in §143.C, D and E, the wind speed at the time of application shall determine the distance which must separate the center of the swath from the nearest inhabited structure and/or susceptible crop, as follows:

Minimum Distance		
Wind Speed	Aerial Equipment	Ground Equipment
0 - 3 mph	1/2 mile downwind 1/2 mile crosswind 50 feet upwind	1/2 mile downwind 1/2 mile downwind 20 feet upwind
3 - 6 mph	1 mile downwind 1/2 mile crosswind 50 feet upwind	1/4 mile downwind 1/2 mile crosswind 5 feet upwind
6 - 10 mph	2 miles downwind 1/2 mile crosswind 50 feet upwind	1/2 mile downwind 1/2 mile crosswind 5 feet upwind
Above 10 mph	Prohibited	Prohibited

[NOTE: *Crosswind* means 90 degrees (+ or - 10 degrees from the flight path or the direction of the application.)]

G. No commercial applicator may make application of the following pesticides when the wind speed is at 10 miles per hour or above:

- | | |
|--|----------|
| 1. 3 ¹ 4 ¹ -Dichloropropionanilide | Propanil |
| 2. 1:1-Dimethyl-4, 4 ¹ -Bipyridinium (cation) | Paraquat |

H. Whenever an inhabited structure at the site of application is located at a distance less than the distance between the swath of the application and an inhabited structure shall not apply when the owner, renter, or lessee occupying the structure grants written authorization for the pesticide application.

I. Hand injections of pesticides are exempt from the requirements of §143.C.

J. If label and labeling requirements relative to wind speed are more restrictive for the pesticide being applied than the restrictions set forth in §143.F, label and labeling requirements shall determine the minimum distance from inhabited structures and susceptible crops.

K. Commercial aerial pesticide applicators who apply mixtures containing 1:1-Dimethyl-4, 4¹-Bipyridinium (cation) dichloride, Isopropylamine salt of glyphosate, Sulfosate Trimethylsulfoniumcarboxymethylaminomethylphosphonate, 4-(2, 4-Dichlorophenoxy) butyric acid, and 2,4-Dichlorophenoxyacetic acid (commonly known as Gramoxone, Roundup, Touchdown, 2, 4 DB and 2, 4D, respectively) must register with the department once yearly on department approved forms prior to making any applications of these chemicals. Effective January 1, 1993, N-(3,4-dichlorophenyl) propionamide (commonly known as Propanil) must be registered under the provisions of this Subsection.

L. Commercial aerial pesticide applicators applying any concentrations of the agricultural chemicals shall not apply these chemicals from a height of greater than 18 feet above the target field crops.

M. No person shall apply, use, or incorporate the use of any herbicide, as defined in §103, including but not limited to, those registered with and/or approved by the U.S. Environmental Protection Agency or the department, for the management, control, eradication or maintenance of weeds, grass, trees, shrubs, foliage, vegetation or other natural growth in any parish right-of-way, ditch, servitude, drainage area, roadside, road shoulder, green area, buffer zone, waterway, neutral ground or median in the unincorporated areas of St. Tammany Parish.

1. Definitions as used in this Subsection M:

Ditch? natural or dedicated area which provides for the containment or flow of water from rain or adjacent drainage areas or waterways such as streams, creeks, ponds, lakes or rivers.

Drainage Area? an area maintained for the purpose of channeling or preventing accumulation of water from surrounding land.

Easement? a designated right to use the property of another for a specific purpose, i.e., drainage, utility easement.

Median/Neutral Ground? the area dividing or separating a roadway and not used for right of passage.

Right-of-Way? any public way, street, road, alley, easement, servitude or access, which was dedicated to or acquired by the St. Tammany Parish to provide means of access to abutting properties; whether paved, improved or unimproved, including those areas dedicated for proposed or future uses.

Roadside/Road Shoulder? natural or dedicated areas which are parallel, contiguous to, abut, adjoin, border, edge, connect or approach any public right-of-way, road, street or highway.

Servitude? a right-of-way through or across property belonging to another.

2. Exemptions are hand held manual pump sprayers up to a maximum 3-gallon capacity.

N. Reserved.

O. Reserved.

P. Regulations Governing Aerial Applications of 2,4-D or Products Containing 2,4-D

1. Registration Requirements

a. The commissioner hereby declares that prior to making any aerial application of 2,4-D or products containing 2,4-D, the aerial owner/operator must first register such intent by notifying the Division of Pesticides and Environmental Programs (DPEP) in writing.

b. The commissioner hereby declares that prior to making any aerial application of 2,4-D or products containing 2,4-D, the aerial owner/operator must have in his\her possession and shall be a part of the record keeping requirements, a written permit from the Division of Pesticides and Environmental Programs (DPEP).

2. Grower Liability. Growers of crops shall not force or coerce applicators to apply 2,4-D or products containing 2,4-D to their crops when the applicators,

conforming to the Louisiana Pesticide Laws and Rules and Regulations or to the pesticide label, deem it unsafe to make such applications. Growers found to be in violation of this section shall forfeit their right to use 2,4-D or products containing 2,4-D on their crops, subject to appeal to the Advisory Commission on Pesticides.

3. 2,4-D or products containing 2,4-D Application Restriction.

Aerial appl

4. Procedures for Permitting Applications of 2,4-D or Products Containing 2,4-D

a. Prior to any application of 2,4-D or products containing 2,4-D, approval shall be obtained in writing from the Louisiana Department of Agriculture and Forestry (LDAF). Such approval is good for two days from the date issued. Growers or aerial applicator shall obtain approval from the DPEP.

b. The determination as to whether a permit for application is to be given shall be based on criteria including but not limited to:

- i. weather patterns and predictions;
- ii. wind speed and direction;
- iii. propensity for drift;
- iv. distance to susceptible crops
- v. quantity of acreage to be treated;
- vi. extent and presence of vegetation in the buffer zone;
- vii. any other relevant data.

5. Monitoring of 2,4-D or Products Containing 2,4-D

a. Growers or aerial owner/operators shall apply to the DPEP, on forms prescribed by the commissioner, all request for aerial applications of 2,4-D or products containing 2,4-D.

b. Aerial owner/operators shall maintain a record of 2,4-D or products containing 2,4-D applications.

6. Determination of Appropriate Action

a. Upon determination by the commissioner that a threat or reasonable expectation of a threat to human health or to the environment exists, he may consider:

- i. stop orders for use, sales, or application;
- ii. label changes;
- iii. remedial or protective orders;

- iv. any other relevant remedies.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3242 and R.S. 3:3249.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:196 (March 1984), LR 11:219 (March 1985), LR 11:942 (October 1985), amended by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:953 (September 1992), amended LR 19:791 (June 1993), LR 21:668 (July 1995), LR 24:281 (February 1998), LR 24:2076 (November 1998), LR 26:1428 (July 2000), LR 26:1966 (September 2000), LR 27:279 (March 2001).

§145. Fixed Wing Aircraft; Standards for Commercial Aerial Pesticide Applications

A. Commercial aerial pesticide applicators, with the single exception of aerial mosquito pest control applicators, shall adhere to the following standards for fixed wing aircraft, regarding boom configurations, nozzle angles, and volume of pesticides per acre.

1. The effective spray boom length shall not exceed 75 percent of the length of the wing (wing tip to wing tip) on which the boom is attached.

2. Except as follows, all spray nozzles shall be oriented to discharge straight back toward the rear of the aircraft. When applying insecticides by aircraft, with a maximum flying speed of less than 120 miles per hour, the applicator shall have the option to position nozzles at an angle of 45 degrees down from straight back or 45 degrees back from straight down.

3. The spray boom pressure shall not exceed a maximum of 40 pounds per square inch (40 PSI).

4. When disc and core type nozzles are used for herbicide, desiccant, or defoliant applications, a number 46 or larger core must be used.

5. Unless further restricted by other regulations or labeling, the chemicals listed in §143.K above shall be applied in a minimum of five gallons of total spray mix per acre. With the following exceptions:

a. insecticides applied in the Boll Weevil Eradication Program, which shall be applied in accordance with their labels, all other agriculture pesticides, unless further restricted by other regulations or labeling, shall be applied in a minimum of one gallon of total spray mix per acre;

b. malathion insecticide applied with the following conditions to control boll weevil in cotton

i. The commissioner hereby declares that prior to making any aerial application of ULV Malathion to cotton, the aerial owner/operator must

first register such intent by notifying the Division of Pesticides and Environmental Programs ("DPEP") in writing. Upon notification, LDAF shall inspect the aircraft prior to any ULV applications.

ii. Spray shall be applied, handled, and stored in accordance with all conditions specified by State or Federal regulations, including the strict observance of any buffer zones that may be implied.

iii. Aerial applicators shall strictly comply with any and all restrictions or mitigative factors, in regard to sensitive areas, including occupied buildings (churches, schools, hospitals, and homes), lakes, reservoirs, farm ponds, parks, and recreation areas that may be identified by Commissioner, and such restriction and mitigation are to be strictly complied with and observed by said aerial applicators.

iv. Aerial applicators will adjust flight patterns, to the degree possible, to avoid or minimize flying over sensitive areas. This restriction does not apply to overflight between take-off and the commencement of spray operations, or overflight between termination of spray operations and landing.

v. Aerial applicators shall be alert to all conditions that could cause spray deposit outside field boundaries and use their good faith efforts, including adjustment or termination of operations, to avoid spray deposit outside field boundaries.

vi. There shall be no aerial spraying when wind velocity exceeds 10 miles per hour.

vii. Aerial applicators will terminate application if rainfall is imminent.

viii. Insecticide spray will not be applied in fields where people or animals are present. It is the applicator's responsibility to determine if people are present prior to initiating treatment.

ix. Spraying will not be conducted in fields where other aircraft are working.

x. All mixing, loading, and unloading will be in an area where an accidental spill can be contained and will not contaminate a stream or other body of water.

xi. All aerial applications of insecticide shall be at an altitude not to exceed five feet above the cotton canopy. However, in fields that are not near sensitive areas, if infield obstructions make the five-foot aerial application height not feasible, then the aerial height may be extended to such height above the cotton canopy as is necessary to clear the obstruction safely.

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xii. The aircraft tank and dispersal system must be completely drained and cleaned before loading. All hoses shall be in good condition and shall be of a chemical resistant type.

xiii. Insecticide tank(s) shall be leak-proof and spray booms of corrosion resistant materials, such as stainless steel, aluminum, or fiberglass. Sealants will be tested before use.

xiv. The tank(s) in each aircraft shall be installed so the tank(s) will empty in flight. Sight gauges or other means shall be provided to determine the quantity contained in each tank before reloading.

xv. A drain valve shall be provided at the lowest point of the spray system to facilitate the complete draining of the tanks and system while the aircraft is parked so any unused insecticide can be recovered.

xvi. A pump that will provide the required flow rate at not less than 40 pounds per square inch (psi) during spraying operation to assure uniform flow and proper functioning of the nozzles. Gear, centrifugal or other rotary types, will be acceptable on aircraft with a working speed above 150 miles per hour.

xvii. ULV spraying systems with a pumping capacity that exceeds the discharge calibration rate shall have the bypass flow return to the tank bottom in a manner that prevents aeration and/or foaming of the spray formulation. Pumps utilizing hydraulic drive or other variable speed drives are not required to have this bypass, provided the pump speed is set to provide only the required pressure and the system three-way valve is used for on/off control at full throw position. Any bypass normally used to circulate materials other than the ULV will be closed for ULV spraying.

xviii. Spray booms will be equipped with the quantity and type of spray nozzles specified by the Boll Weevil Eradication Program. The outermost nozzles (left and right sides) shall be equal distance from the aircraft centerline and the distance between the two must not exceed three-fourths of the overall wing span measurement. For helicopters, the outermost nozzles must not exceed three-fourths of the rotorspan. For both fixed wing and helicopters, the program will accept the outermost nozzles between 60 percent and 75 percent of the wingspan/rotorspan. Longer spray booms are acceptable provided modifications are made to prevent the entrapment of air in the portion beyond the outermost nozzle. Fixed wing aircraft not equipped with a drop type spray boom may require drop nozzles in the center section that will position

the spray tips into smother air to deliver the desired droplet size and prevent spray from contacting the tail wheel assembly and horizontal stabilizer. Most helicopters will be required to position the center nozzles behind the fuselage and dropped into smooth air in order to achieve the desired droplet size.

xix. Nozzles, diaphragms, gaskets, etc. will be inspected regularly and replaced when there is evidence of wear, swelling, or other distortion in order to assure optimum pesticide flow and droplet size. Increasing pressure to compensate for restricted flow is unacceptable. A positive on/off system that will prevent dribble from the nozzles.

xx. A positive emergency shut-off valve between the tank and the pump, as close to the tank as possible. This valve shall be controllable from the cockpit and supplemented by check valves and flight crew training which will minimize inadvertent loss of insecticide due to broken lines or other spray system malfunction.

xxi. Bleed lines in any point that may trap air on the pressure side of the spraying system.

xxii. An operational pressure gauge with a minimum operating range of 0 to 60 psi and a maximum of 0 to 100 psi visible to the pilot for monitoring boom pressure.

xxiii. A 50-mesh in-line screen between the pump and the boom and nozzle screens as specified by the nozzle manufacturer.

xxiv. Aircraft equipped so nozzle direction can be changed from 45 degrees down and back to straight back when it is necessary to change droplet size.

xxv. All nozzles not in use must be removed and the openings plugged.

xxvi. Nozzle tips for all insecticides shall be made of stainless steel.

xxvii. Aircraft shall have an operational Differentially Corrected Global Positioning System (DGPS) and flight data logging software that will log and display the date and time of the entire flight from take-off to landing and differentiate between spray-on and spray-off.

xxviii. Aircraft shall have a DGPS with software designed for parallel offset in increments equal to the assigned swath width of the application aircraft. Differential correction may be provided by fixed towers, portable stations, satellite, Coast Guard, or other acceptable methods. However, the differential signal must cover the entire project area. In fringe areas from the generated signal, an

approved repeater may be used. The system shall be sufficiently sensitive to provide immediate deviation indications and sufficiently accurate to keep the aircraft on the desired flight path with an error no greater than 3 feet. Systems that do not provide course deviation updates at one second intervals or less will not be accepted.

xxix. A course deviation indicator (CDI) or a course deviation light bar (also CDI) must be installed on the aircraft and in a location that will allow the pilot to view the indicator with direct or peripheral vision without looking down. The CDI must be capable of pilot selected adjustments for course deviation indication with the first indication at 3 feet or less.

xxx. The DGPS must display to the pilot a warning when differential correction is lost, the current swath number, and cross-track error. The swath advance may be set manually or automatically. If automatic is selected, the pilot must be able to override the advance mode to allow respraying of single or multiple swaths.

xxxi. The DGPS must be equipped with a software for flight data logging that has a system memory capable of storing a minimum of 3 hours of continuous flight log data with the logging rate set at one second intervals. The DGPS shall automatically select and log spray on/off at one second intervals while ferry and turnaround time can be two second intervals. The full logging record will include position, time, date, altitude, speed in M.P.H., cross-track error, spray on/off, aircraft number, pilot, job name or number, and differential correction status. The flight data log software shall be compatible with DOS compatible PC computers, dot matrix, laser, or ink jet printers and plotters. The system must compensate for the lag in logging spray on/off. The system will display spray on/off at the field boundary without a sawtooth effect. Must be capable to end log files, rename, and start a new log in flight.

xxxii. The software must generate the map of the entire flight within a reasonable time. Systems that require five minutes or more to generate the map for a three hour flight on a PC (minimum a 386 microprocessor with 4 MB of memory) will not be accepted. When viewed on the monitor or the printed hard copy, the flight path will clearly differentiate between spray on and off. The software must be capable of replaying the entire flight in slow motion and stop and restart the replay at any point during the flight. Must be able to zoom to any portion of the flight for viewing in greater detail and print the entire flight or the zoomed-in portion. Must have a measure

feature that will measure distance in feet between swaths or any portion of the screen. Must be able to determine the exact latitude/longitude at any point on the monitor.

xxxiii. Flight information software provided by the applicator must have the capability to interface with MapInfo (version 3.0 or 4.0). The interface process must be "user friendly", as personnel will be responsible to operate the system in order to access the information.

xxxiv. Application of ULV malathion shall be at an application rate of 12 oz. per acre with no dilutions or tank mixes.

xxxv. Applications of ULV malathion shall not be made prior to May 20.

xxxvi. Applications of ULV malathion shall be restricted to seven day intervals.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:953 (September 1992), amended LR 21:927 (September 1995), LR 26:1964 (September 2000).

§147. Waiver of Restrictions

A. No commercial applicator shall apply any of the pesticides listed in §143.B in the parishes and during the periods specified in §143.C, D and E without written authorization from the commissioner prior to such application, except as described in §143.P.

B. The commissioner may waive the time restrictions on application of pesticides listed in §143.B upon written request, as follows.

1. Any commercial applicator desiring a waiver of any restriction contained in §143 shall apply to the commissioner at least 24 hours prior to the date scheduled for application of the pesticide.

2. The application for waiver shall be submitted on a form provided by the commissioner and shall contain the following information:

a. the name and address of the person requesting the application;

b. the name of the applicator who will actually make the application;

c. the name of the owner-operator, if different from the applicator making the application;

d. the location where the application will be made, including the crop and name and address of the landowner;

e. the proposed date and hour when the application is scheduled; and

f. any other information pertinent to the specific waiver application which may be required by the commissioner.

C. Both the commercial applicator and the person for whom the pesticide application will be made must sign and date the waiver application.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:197 (March 1984), amended by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 27:279 (March 2001).

§149. Special Restrictions on Commercial Aerial Pesticide Applications; Applications in the Rain and Buffer Zones

A. All aerial pesticide applicators are prohibited from making an application of any pesticide while it is raining. This prohibition shall not apply to a drizzle of rain so light as to not cause puddling or run-off water from the field.

B. Unless further restricted by other regulations or labeling, commercial aerial pesticide applicators, with the single exception of aerial mosquito pest control applicators, are prohibited from making an application of any pesticide within 100 feet from the edge of the swath to any inhabited structure, including but not limited to inhabited dwellings, hospitals, nursing homes and places of business. No aerial applicator, with the single exception of aerial mosquito pest control applicators, shall apply pesticides within 1000 feet of any school grounds during normal school hours.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agriculture and Environmental Sciences, LR 18:953 (September 1992).

§151. Aerial Application of Pesticides to Rights of Way for Control of Woody Vegetation

A. This rule applies only in parishes whose governing bodies have appeared in public hearing before the Advisory Commission on Pesticides and thereafter secured the approval of the commissioner for enforcement of this rule.

B. The commissioner will notify each owner-operator who is certified in right-of-way pest control, in writing, whenever a parish governing authority is approved to enforce the provisions of this rule.

C. Each applicator intending to make an aerial application of pesticides to control woody vegetation on public utility rights-of-way in such parishes must notify the Office of Pesticides and Environmental Programs, in writing, at least 15 days prior to the anticipated date of the application. That notice shall contain:

1. anticipated dates and times of application;

2. description of the area(s) where the application will be made;

3. a telephone number and address of the applicator's office to which citizens can report sensitive areas to the applicator prior to the scheduled application; and

4. the pesticides to be applied.

D. Within five days after receipt of notice from an applicator, the department shall:

1. notify the governing authority of any parish which has secured the approval of the commissioner for enforcement of this rule, such notice to include all information required under §151.C; and

2. issue a news release to all media within such parish, which news release shall contain all information required under §151.C.

E. The governing authority may make additional publications of the notice by any means considered appropriate by the governing authority. The governing authority shall notify the Office of Pesticides and Environmental Programs of the media utilized for such additional public notice concerning the scheduled application.

F. No commercial applicator may make aerial application of pesticides to control woody vegetation on public utility rights-of-way in any manner inconsistent with label and labeling requirements for the pesticide applied.

G. Before pesticides are applied to rights-of-way for control of woody vegetation, the applicator shall fly a reconnaissance flight over the right-of-way to be sprayed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 9:169 (April 1983), amended LR 10:197 (March 1984).

§153. Special Restrictions on Pesticide Applications in Schools

A. Any person who applies or supervises the application of pesticides on a nonfee basis for grass and weed control and rodent and general pest control (roaches, wasps, and ants) or restricted use pesticides, in, on, or around school structures and grounds shall be a certified commercial applicator or under the supervision of a certified commercial applicator.

B. School systems with 10 or more schools shall employ a minimum of two certified commercial applicators. School systems with less than 10 schools shall employ a minimum of one certified commercial applicator.

C. The governing authority (including but not limited to superintendents, headmasters, school boards, board of directors, chief executive officer, or principals) shall prepare and submit in writing, for each school under its authority, to the director, an annual integrated pest management (IPM) plan for pest control for grass and weed control and rodent and general pest control (roaches, wasps, and ants) in, on, or around school structures and grounds. The IPM plan shall include all pest control methods employed, including pesticide and non-pesticide methods and strongly recommends the least toxic methods of control. The first IPM plan shall be submitted prior to any application of pesticides beginning March 1, 1995 and shall be submitted on an annual year of August 1 through July 31. The plan shall be available for review, upon request, by the commissioner and the general public, during normal school hours, at each school, in the business office. The annual IPM plan shall include, but not be limited to the following:

1. school name and mailing address, physical address, telephone number and contact person;
2. name and license or place of business number of company(s) and certification numbers of applicators, if contracted;
3. name and certification number of certified commercial applicator(s) of school system;
4. brand name and EPA registration number of all pesticides to be used;
5. for each pesticide to be used a list of the following:
 - a. pest to be controlled;
 - b. type of application to be used;
 - c. location of application;

d. restricted use pesticide or general use pesticide.

6. proposed location and date for non-certified applicator training;

7. other methods of pest control.

D. Any deviation from the integrated pest control management plan submitted shall be submitted in writing to the department, Director, 24 hours prior to any application.

E. Records of pesticide applications shall be maintained according to §167 and records of inspections, identification, monitoring, evaluations, and pesticide applications for grass and weed control and general pest control, shall be maintained by the school and submitted with the annual integrated pest management plan to the department annually on a form prescribed by the department in accordance with §167.

F. No pesticides shall be applied for general pest control inside school buildings when students are present or expected to be present for normal academic instruction or extracurricular activity for at least eight hours after application.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3242 and R.S. 3:3249.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 21:928 (September 1995), amended LR 23:194 (February 1997).

§155. Damage Complaints

A. Persons filing damage complaints shall, at the same time the complaint is filed, execute a consent form granting access to the property alleged to have been damaged.

B. Each person filing a damage complaint must notify the commissioner at least 24 hours before the start of harvest of the property alleged to have been damaged.

C. Whenever any person filing a damage complaint fails to provide the required prior notice before the start of harvest, no final production assessment shall be made by the department.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3255.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:197 (March 1984).

Subchapter J. Bulk Pesticides

§157. Bulk Pesticides

A. Definitions

Bulk Pesticide? any registered pesticide which is transported or held in an individual container in undivided quantities of greater than 55 U.S. gallons liquid measure or 100 pounds dry weight.

Bulk Repackaging? the transfer of bulk quantities of a registered pesticide from one bulk container to another bulk container in an unaltered state in preparation for sale to another person.

B. No person shall install or operate facilities engaged in bulk distribution of restricted use pesticides to owner-operators or private applicators in this state unless such person has made written notification of such activity by completing the form prescribed by the commissioner. In addition, manufacturers are prohibited from selling bulk pesticides to dealers that do not have proper facilities.

C. Storage of Bulk Pesticides

1. Only products registered with the department may be stored in bulk.

2. Bulk pesticide storage facilities shall be located a suitable distance from adjacent buildings, property lines, or public access roads.

3. Bulk pesticides must be stored on a foundation which meets the following requirements:

a. must be solidly constructed of a material sufficiently impervious to contain leaks, spills, and accumulated pesticides and/or rinsate of pesticides;

b. must be free of leaks;

c. must be sloped to facilitate clean-up of inadvertent spills; and

d. must be constructed with a rim of sufficient height to contain runoff from clean-up activities of inadvertent spills and prevent run on of flood waters.

4. Containers and accessory equipment used for storage and handling of bulk pesticides shall be of materials and construction compatible with the pesticide stored and the conditions of storage.

5. Permanent liquid bulk storage container installations shall be constructed with a secondary means of containment.

a. Secondary containment shall be constructed of materials of sufficient thickness, density and composition to contain any discharged material.

b. Secondary containment for outside storage must provide a minimum of 110 percent of the capacity of the largest single container. Suitable

measures shall be used for containment of tanks stored under roof or within other enclosures.

c. All rinsate and/or minor spillage in a secondary containment shall be disposed of as provided by the product's label and labeling requirements when feasible or deposited in a closed containment system as herein required. If the pesticide is classified, upon disposal, as a hazardous waste, such rinsate/spillage shall be disposed of in a permitted hazardous waste facility.

6. Bulk storage containers must be equipped with locking devices and other appropriate measures such as lighting or security fencing to discourage ready access by unauthorized persons to the bulk container storage area when unattended.

7. Bulk storage containers shall be equipped with suitable sample points; official samples drawn from such containers shall be accepted without question as being representative of the contents of such containers.

8. The registered product label shall be affixed in a prominent location on the outside of all bulk storage containers.

9. Underground storage of bulk pesticides is prohibited.

D. Transportation of Bulk Pesticides

1. Containers used to transport pesticides must meet all applicable standards of the Department of Transportation and Development.

2. Containers must be secured to prevent significant movement during transportation.

3. A label for the registered pesticide product must accompany each shipment of the pesticide.

E. Loading and Handling of Bulk Pesticides

1. Bulk pesticides shall be handled and/or loaded so as to prevent damage to persons, livestock, crops, and/or environment.

2. Toxicity and volatility of bulk pesticides shall be considered in loading practices.

3. Prior to refilling bulk storage containers, the containers must be thoroughly rinsed, under procedures equivalent to triple-rinsing procedures, except when a container is refilled with the same pesticide.

F. Distribution of Bulk Pesticides

1. Transfer of a registered bulk pesticide from one size container to another for sale or delivery in bulk quantities may be made, provided:

a. the person making such transfer has filed the bulk pesticides notification form prescribed by the commissioner; and

b. there is no change in the pesticide formulation, the product label (except addition of the required EPA establishment number and net contents statement), or the party responsible for maintaining the integrity of the product.

2. Bulk pesticides may be repackaged for sale only in containers which meet the requirements of this rule.

3. Scales or meters used for sales of bulk pesticides shall meet the specifications of the department's Weights and Measures Division; appropriate measures shall be taken to prevent contamination of the product during transfer with scales or meters.

G Notification of Spills. If any spill of bulk pesticides occurs, immediate telephone notification must be made to the director. The telephone notification must be confirmed in writing within three days after the spill.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:197 (March 1984).

Subchapter K. Mechanically Powered Pesticide Application Equipment

§159. Commercial Applicators

A. The following systems or controls must be present and in good operating order prior to the issuance of a decal.

1. Aerial and Ground Application Equipment

a. The hopper must be free of leaks and in good working order; and

b. all equipment must include a properly functioning pressure gauge(s).

2. Aerial Application Equipment

a. The booms, nozzles, and hose fittings must be free of leaks;

b. the emergency dump, if present on an aircraft, must be free of leaks when in the closed position;

c. there must be a main fluid filter between the main tank and the boom system; and

d. the distance between the outermost nozzles on the boom of a fixed-wing aircraft shall not be more than 75 percent of the wing span of the aircraft. The boom on the rotary-wing aircraft may not exceed the rotor diameter. The commissioner may waive these requirements for specific aircraft.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3243.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:198 (March 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:281 (February 1998).

Subchapter L. Monitoring of Commercial Applicator Operations

§161. Monitoring of Commercial Applicator Operations

A. Duly authorized representatives of the commissioner may inspect all pesticide applicator operations semi-annually, with or without prior notification, provided that the commissioner may monitor such sites on a more frequent basis whenever, in his sole discretion, he determines that there is a need for more frequent monitoring of any specific commercial applicator.

B. In such monitoring, the authorized representative of the commissioner shall:

1. inspect the physical surroundings of the site to determine that all requirements of these regulations have been complied with;

2. inspect the records required under §§167, 169 and 171;

3. take samples, as determined by the commissioner, at any of the following locations:

a. any site where an application of pesticides has been made by the applicator;

b. any base storage;

c. any containment tank for pesticides which, upon disposal, are classified as hazardous wastes;

d. any surface impoundment;

e. any wash pad;

f. any soils or water, flowing or still, at any location on or adjacent to the base operation; or

g. any application equipment (i.e., hopper tanks and connections, mixing tank, etc.).

C. Any samples taken as provided above shall be marked for identification under chain of custody procedures and shall be analyzed in accordance with procedures approved by the Association of Official Analytical Chemists and/or other methods approved by the U.S. Environmental Protection Agency.

D. The owner-operator from whose operations any sample is taken shall be provided with a copy of the analysis results within 30 days after the analysis is completed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3201.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:198 (March 1984).

Subchapter M. Other Access Requirements

§163. Pesticide Dealers and Pesticide Salespersons

A. The commissioner, upon reasonable request, shall be permitted access to any premises where restricted use pesticides are sold, offered for sale, or held for distribution.

B. The commissioner may examine the records required under §169 and may take samples of any restricted use pesticides found on the premises.

C. Such samples shall be marked for identification by accepted chain of custody requirements and shall be analyzed in accordance with procedures approved by the Association of Official Analytical Chemists and/or other methods approved by the U.S. Environmental Protection Agency.

D. The owner of any restricted use pesticide from which such sample is taken shall be provided with a copy of the analysis results within 30 days after the analysis is completed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3245.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:198 (March 1984).

§165. Agricultural Consultants

A. The commissioner, upon reasonable request, shall be permitted access to the records required under §171.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3246.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:199 (March 1984).

Subchapter N. Record Keeping Requirements

§167. Owner-Operators, Non-Fee Commercial Applicators, and Commercial Applicators

A. Any person applying pesticides for a fee and commercial applicators described in §125, with the single exception of applicators listed in §125.B.2 category 7, shall accurately maintain, for a period of two years, records of pesticide applications on a record keeping form or record keeping format approved by the director. Records described herein must be maintained, within three days of the application, at the physical address of the employer or the physical address on the owner/operator license. A copy of these records shall be provided to any employee of department upon request at a reasonable time during normal working hours. The following information shall be included on that form:

1. owner/operator name, address, and license number;

2. certified applicator, name, address, and certification number;

3. customer name and address;

4. product/brand name;

5. EPA registration number;

6. restricted/general use pesticide;
7. application date;
8. crop/type of application;
9. location of application;
10. size of area treated (acres, square feet, or minutes of spraying);
11. rate of application;
12. total amount of product (concentrate) applied;
13. applicator;
14. certification number of applicator (if applicable).

B. Non-fee commercial applicators as described in §125.B.2, category 7, shall accurately maintain, for a period of two years, records of applications of all herbicides, insecticides, rodenticide, and fumigants on the appropriate record keeping form as described in LAC 7:XXV.14113 and §167.A and approved by the director. Records described herein shall be maintained, within seven days of the application, at the physical address of the employer. A copy of these records shall be provided to any employee of the department upon request, at a reasonable time during normal working hours.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:953 (September 1992), amended LR 21:929 (September 1995).

§169. Pesticide Dealers and Salespersons

A. The requirements of this rule apply to sales of:

1. pesticides classified as restricted use pesticides by the commissioner or the EPA;
2. pesticides which, upon disposal, are classified as hazardous wastes; and
3. pesticides listed in §143.B, except when sales of pesticides listed in §143.B are:
 - a. sold in concentrations of two percent or less; or
 - b. formulated with fertilizers for use by homeowners.

B. Licensed pesticide dealers, certified pesticide salespersons, and/or persons under the direct supervision of a certified dealer or salesperson shall maintain the following records on a current basis for a period of two years:

1. the name and amount of the pesticide purchased and/or sold;
2. the date of all purchase and/or sale transactions;
3. the name, address, and certification number of the purchaser, including the purchaser's name, address, and certification number in all purchases made for cash;
4. the name of the person handling any sales of pesticides covered by this rule.

C. Whenever any pesticides which, upon disposal, are classified as hazardous wastes are delivered to a purchaser, the records required under this rule shall include the name of the purchaser, amount of pesticide purchased, date of delivery, and location to which delivered.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3245.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:199 (March 1984).

§171. Agricultural Consultants

A. Every recommendation made by an agricultural consultant shall be in duplicate original and shall be dated and signed by the agricultural consultant.

B. Each recommendation made by an agricultural consultant shall include the following:

1. the name and address of person purchasing the consultant's services;
2. the location, including the crop, for which the recommendation is made;
3. the pesticide or pesticides recommended;
4. the recommended rate of application;
5. a brief statement as to the reasons for the recommendation; and
6. the date of when the recommendation is given.

C. The pesticide recommendation shall be given to the purchaser of the consultant services or his designee and a copy shall be maintained in the records of the agricultural consultant.

D. The commissioner, or his duly authorized representative, shall be permitted access to such records upon reasonable request.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3246.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:199 (March 1984).

Subchapter O. Penalties

§173. Penalties for Violation of Pesticide Statutes and These Regulations

A. The commissioner may suspend or revoke any license issued under the provisions of R.S. 3:3241-3257 and/or may assess a civil penalty not to exceed \$5,000 for violation of any provision of R.S. 3:3201 through 3:3257 or any violation of any regulation enacted under the authority of said statutes.

B. Each separate day on which any violation occurs may be considered as a separate violation.

C. No penalty may be assessed by the commissioner prior to the holding of an adjudicatory hearing before the Advisory Commission on Pesticides. Such adjudicatory hearing shall be conducted in accordance with the requirements of the Administrative Procedure Act; any person alleged to have violated any provision of the pesticide statutes or these regulations shall be accorded all of the rights and privileges guaranteed under said act.

D. The Advisory Commission on Pesticides shall recommend penalties to be imposed as a result of findings of fact and/or conclusions of law that a violation occurred.

E. Whenever the commissioner fails to accept the recommendations of the Advisory Commission on Pesticides for the imposition of penalties following an adjudicatory proceeding, the commissioner shall notify the commission, in writing, of the reasons for his failure to accept the commission's recommendations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3252.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:199 (March 1981).

Subchapter P. General Requirements for Pesticide Waste

§175. Waste Water Classified as Hazardous Waste

A. Waste water which, upon disposal, is classified as a hazardous waste.

1. On or before December 31, 1984, all commercial applicators applying pesticides which, upon disposal, are classified as a hazardous waste must implement a containment system for reuse or

apply the waste immediately to the site of application.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:397 (May 1984).

Subchapter Q. Handling Spills by Commercial Applicators

§177. Handling Spills by Commercial Applicators

A. All uncontained spills of more than one gallon liquid or four pounds dry weight must be reported to the director of Pesticides and Environmental Programs within 24 hours by telephone and by written notice within three days.

B. Commercial applicators are responsible for the cost of cleanups resulting from pesticide spills in their operations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:397 (May 1981).

Subchapter R. Handling of Pesticide Containers

§179. Procedures Governing Handling of Pesticide Containers by Commercial Applicators (Except Bulk Pesticide Containers)

A. Storage Areas for Full or Partially Full Pesticide Containers

1. Pesticide containers must be stored in a secure, locked enclosure.

2. Pesticide containers must be free of leaks.

3. The storage area must be maintained in good condition, without unnecessary debris.

B. Empty containers must be stored in a secured area. Empty containers may be kept for no more than 90 days after the end of the spraying season.

C. Metal, Glass and Plastic Containers

1. All metal, glass and plastic containers must be triple-rinsed immediately after the pesticide is removed by the following, or equivalent procedures:

a. Using a solvent capable of removing the pesticide, fill each container with solvent equal to

approximately 10 percent of the volume of pesticides originally contained in the container.

b. Agitate the solvent thoroughly on all interior surfaces' of the container. Agitation may be accomplished by use of agitation equipment approved by the department or by manual agitation of the solvent.

c. Repeat the above procedure three times.

d. If the rinsate containing the solvent can be used again in subsequent applications of the pesticide without reducing the effectiveness of the pesticide, place the rinsate in the containment tank specified for that pesticide. If the rinsate is not classified as a hazardous waste upon disposal, it may be placed in an approved surface impoundment.

2. Upon completion of the above triple-rinsing procedures, containers may be disposed of as follows:

a. by disposal in any permitted solid waste facility (sanitary landfill), provided that, prior to disposal in a solid waste facility, the pesticide applicator must pierce all metal and plastic containers in both ends;

b. by prior agreement, by return (for credit or otherwise) to the pesticide sales agent or the pesticide manufacturer;

c. by resale to a third party for recycling or reconditioning; or

d. by return to the person contracting for the pesticide application.

D. Paper and Plastic Bags. All pesticides shall be removed from paper and plastic bags to the maximum extent possible when the pesticide is initially mixed for application. Thereafter, containers shall be disposed of as follows.

1. Cut all sides of the container and open the container fully, without folds or crevices, on a flat surface; shake any pesticides remaining in the opened container into the pesticide mix.

2. After cutting and flattening such pesticide containers, dispose of containers in a solid waste facility (sanitary landfill).

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:398 (May 1984).

Subchapter S. Unused Portions of Pesticides and/or Rinsate of Pesticides Classified as Hazardous Wastes

§181. Constructive Recycling

A. The commissioner shall annually, on or before December 31, publish in the *Louisiana Register* a full and complete list of all pesticides which, upon disposal, are classified as hazardous wastes under regulations of EPA and may supplement such listing at any time when any changes in such classifications are made by EPA.

B. Applicators of pesticides covered under this rule may recover and constructively reuse any unused portions of such pesticides and/or any rinsate of such pesticides by one of the following methods:

1. by immediate reapplication of the unused portion of the pesticide and/or the rinsate in accordance with label and labeling requirements for that pesticide;

2. by transferring to a closed containment system meeting the requirement of §183; or

3. by disposal in a permitted hazardous waste facility.

C. All unused pesticides and/or rinsate from pesticides, classified as a hazardous waste upon disposal, must be removed from containment tanks in less than 90 days after deposit therein.

D. In less than 90 days after the final application for the season of a pesticide which, upon disposal, is classified as a hazardous waste, the applicator must remove the contents of each containment tank; triple-rinse the containment tank by procedures equivalent to triple-rinsing; and apply such tank contents and rinsate in accordance with label and labeling requirements governing the initial application of the pesticide.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:398 (May 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:282 (February 1998).

Subchapter T. Closed Containment Systems

§183. Closed Containment Systems of Commercial Applicators

A. Commercial applicators electing to install closed containment systems for a pesticide which, upon disposal, is classified as a hazardous waste must have such systems completed and operational on or before December 31, 1984. Following the effective date of this rule, any commercial applicator who is certified or licensed after January 1, who elects to install a closed containment system for a pesticide which, upon disposal, is classified as a hazardous waste must have such system completed and operational before the issuance of the certification or license.

B. Containment Tanks

1. Different containment tanks must be installed for different pesticides and/or rinsate of pesticides, except the same containment tanks may be used for two or more pesticides when such pesticides are physically and chemically compatible and when their mixing is not prohibited by their labels.

2. Each containment tank shall meet the following requirements:

a. must be constructed of material of sufficient strength and be compatible with the pesticide and/or rinsate to be placed within the tank;

b. must be free of leaks, cracks, holes, or other deterioration at all times;

c. must be in good operating order at all times;

d. must be designed to allow drainage of the entire contents and be triple rinsed;

e. must be equipped with stopcocks, at appropriate locations, to prevent any leakage of the contents during storage or transfer of the contents;

f. must be equipped with an opening to allow for sampling.

C. Containment Tank Foundation

1. The containment tank foundation shall be solidly constructed of a material sufficiently impervious to contain leaks, spills, and accumulated pesticides and/or rinsate of pesticides.

2. The foundation covering must be free of cracks which might allow leakage.

3. The foundation must be sloped to facilitate cleanup of inadvertent spills.

4. The foundation must be constructed with a rim of sufficient height to contain run-off from cleanup activities or inadvertent spills and be protected from flood waters.

5. The foundation must be so constructed as to discharge all liquids into a sump.

6. Tanks must be located at sufficient elevation to allow visual detection of leakage of the contents.

D. Storage Requirements. All containment tank(s) must be located in a secured area and protected from flood waters.

E. Location Requirements; Submission of Preliminary Site Plans. Containment systems must be located a suitable distance from any adjacent buildings, property lines, or public access roads. Site plans showing location of the containment system must be submitted for the approval of the commissioner prior to construction. These plans may be rudimentary; the purpose of such submission is to avoid unnecessary expense by the applicator.

F. Requirements for Final Approval of Containment Systems. Final plans and specifications for construction of a closed containment system must be approved by the commissioner, and must be filed with the department, subject to the approval of the commissioner, prior to the start of construction. In his consideration for approval of such plans and specifications, the commissioner may, at his discretion, be assisted by an ad hoc advisory committee consisting of such experts as may be appointed by the commissioner.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:398 (May 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:282 (February 1998).

Subchapter U. Surface Impoundments of Hazardous Wastes

§185. Surface Impoundments of Commercial Applicators: Management of Unused Portions of Pesticides and/or Rinsate of Pesticides

A. Unused portions of pesticides and/or rinsate resulting from the application of a pesticide which,

upon disposal, is not classified as a hazardous waste should be handled by one of the following methods:

1. by subsequent, immediate reapplication in accordance with label and labeling requirements for the pesticide;
2. by deposit in a closed containment system which meets the requirements of §173 hereof;
3. by disposal in surface impoundments which meet the requirements of this rule; or
4. by any other methods approved by the commissioner.

B. Surface Impoundment Foundation. Surface impoundments must rest on a foundation or base capable of providing:

1. adequate support for the required liners;
2. sufficient resistance to pressure gradients above and below the liners to prevent failure of the liners due to settlement, compression, or uplift; and
3. double liners must be entirely above the seasonal water table.

C. Surface Impoundment Liners

1. Surface impoundment liners are defined as any continuous layer of material, beneath and on the sides of a surface impoundment, which restricts the downward or lateral escape of pesticides, pesticide rinsate, and/or any leachate.
2. The bottom and all sides of the surface impoundment must be constructed with two liners separated by a barrier of sand or other porous material which is at least one foot thick.
3. Liners must have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with pesticides and/or pesticide residues, rinsate and/or leachate to which they are exposed, stress of installation, and/or stress of daily operation.
4. Liners must have tight seams and joints and cannot contain tears, punctures, or blisters.
5. Liners must extend to the top of the dike required under §185.E.

D. Leachate Detection System

1. A leachate detection system approved by the department must be placed between the liners required in §185.C.

2. The leachate detection system shall be placed above the lower liner at the lowest point of the excavation to assure that any seepage from the upper layer will percolate to this point.

3. The leachate detection system must be so constructed as to permit sampling from an accessible surface location.

4. The leachate detection system must be monitored weekly by the owner-operator; if a leak is detected the impoundment shall be closed as per §187.D.

E. Levees (Dikes)

1. Surface impoundments must be surrounded by levees (dikes) that are designed, constructed, and maintained with sufficient structural integrity to prevent any failure of the levees (dikes).

2. The base of the levee (dike), at land surface level, must be of sufficient width to support the height of the levee (dike).

3. The height of the levee (dike) must be equal to or greater than the requirements of the U.S. Geological Survey's 100-year flood plain.

F. Surface Impoundment Depth Requirements. Surface impoundments must be of sufficient depth to permit a minimum freeboard of at least two feet below the top surface of the dike at all times.

G. Surface Impoundment Cover and Enclosure Requirements

1. Surface impoundments shall be equipped with a cover of translucent material and must be constructed in compliance with all applicable local building codes.

2. Surface impoundments shall be enclosed within a fence of sturdy material, at least six feet in height, with a locked gate. At the option of the owner-operator, containment tanks and container storage may be placed in the same enclosure.

H. Location of Surface Impoundments. Surface impoundments shall be located 100 feet within property lines, and at least 300 feet from personal dwellings and public facilities.

I. Submission of Preliminary Site Plans Required. Site plans shall be submitted for approval by the commissioner prior to any new construction of surface impoundments. These plans may be rudimentary; the purpose of such submission is to avoid unnecessary expense by the applicator.

J. Requirements for Final Approval for Construction of Surface Impoundments. Final plans

and specifications for construction of surface impoundments must be stamped by a licensed engineer who is approved by the commissioner and must be accompanied by the engineer's certification that the surface impoundment to be constructed will meet all requirements of this rule. Final plans and specifications must be filed with the department, subject to the approval of the commissioner, prior to the start of construction. In his consideration for approval of such plans and specifications, the commissioner may, at his discretion, be assisted by an ad hoc advisory committee consisting of such experts as may be appointed by the commissioner.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:399 (May 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:282 (February 1998).

Subchapter V. Surface Impoundments by Commercial Applicators

§187. Schedule for Implementation

A. Commercial applicators may continue to use existing surface impoundments:

1. which, upon monitoring, are approved by the commissioner; or
2. which meet all requirements of §185.

B. Surface impoundments in operation at the effective date of these regulations which can be brought into compliance with the requirements of §185 may be upgraded and thereafter used by commercial applicators. Improvements necessary to bring such existing surface impoundments into compliance with §185 must be completed and in place no later than December 31, 1984. Plans and specifications for bringing such surface impoundments into compliance with §185 must be stamped and certified by a licensed engineer who is approved by the commissioner; the engineer's certificate shall be to the effect that, after completion of the proposed improvements, the surface impoundment will meet all requirements of §185. Plans and specifications for such modifications to existing surface impoundments must be filed with the department, subject to the approval of the commissioner, prior to the start of construction. In his consideration for approval of such plans and specifications, the commissioner may, at his discretion, be assisted by an ad hoc advisory

committee consisting of such experts as may be appointed by the commissioner.

C. Surface impoundments in operation at the effective date of these regulations which, upon monitoring, are not approved by the commissioner and/or which cannot be brought into compliance with the requirements of §185 shall be permanently closed no later than December 31, 1984. The contents of such surface impoundments shall be left undisturbed to evaporate; any solid residues remaining after evaporation of all liquids shall be removed and disposed of at a permitted hazardous waste disposal facility; and the excavation shall be filled under the supervision or with the prior approval of the department.

D. Whenever violative levels of pesticides which, upon disposal, are classified as hazardous waste are detected in any sample taken from a surface impoundment, whether the surface impoundment was in operation at the effective date of these regulations or installed after the effective date of these regulations, such surface impoundment may be immediately and permanently closed, and, if closed, all contents thereof shall be removed and disposed of at a permitted hazardous waste disposal facility. The financial responsibility of closing a surface impoundment belongs to the commercial applicator and/or property owner.

E. Insofar as the disposal of a pesticide waste is concerned, commercial applicators who generate hazardous pesticide waste and who do not comply with these regulations shall be subject to the regulations governing hazardous pesticide waste under the jurisdiction of the Department of Environmental Quality until such time as the commissioner of agriculture promulgates regulations governing hazardous pesticide waste.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Advisory Commission on Pesticides, LR 10:399 (May 1984), amended by the Department of Agriculture and Forestry, Advisory Commission on Pesticides, LR 24:24:282 (February 1998).

Subchapter W. Emergency Procedures Related to Pesticides

§189. Definitions

A. In addition to the definitions listed below, and unless otherwise provided, the definitions in R.S. 3:3202 and §103 shall apply to Subchapter W of these regulations.

Complaint? any information or report of any pesticide-related problem which could adversely affect human health or the environment.

Emergency? a situation involving pesticides where there is imminent danger to human health or to the environment.

Environment? includes water, air and land and the interrelationship which exists among and between water, air, land and all living things.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203(A).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:247 (March 1992).

§191. Identification of Emergency

A. Procedure

1. Persons detecting or discovering what they reasonably believe to be an emergency involving the use, misuse or storage of pesticides shall immediately contact the office of Pesticide and Environmental Programs via the 24-hour telephone hotline at (225) 925-3763.

2. Personnel receiving any complaint related to pesticides shall record the information required on department-approved telephone complaint forms.

3. Personnel receiving any complaint that could constitute an emergency shall immediately notify the director.

4. Upon notification, the commissioner shall make a determination as to whether an emergency exists. This determination shall be made as soon as possible. In determining the gravity of the danger, the commissioner shall consider whether the pesticides have resulted in the death of marine life or wildlife and whether the maximum contaminant levels established by §203 have been exceeded.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203(A).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:247 (March 1992).

§193. Declaration of Emergency

A. Upon determining that an emergency exists, the director shall immediately declare in writing that an emergency exists and direct that the following emergency procedures be employed. The director shall notify the appropriate governmental agencies and the media as soon as is practical, and in no case later than eight hours after declaration of emergency.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203(A).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:247 (March 1992).

§195. Response to Emergency

A. Containment. At the earliest possible time, the director shall direct and supervise efforts to accomplish the containment of the emergency.

B. Identification of Pesticide. The pesticide or pesticides involved in the emergency shall be identified. Efforts to identify the pesticide(s) shall include, but not be limited to the following:

1. labels of containers of the pesticides or other substances involved shall be consulted;

2. the point source or non-point source shall be investigated and if determined, the relevant records and storage areas of that source examined;

3. all emergency reports shall be reviewed by the director's staff;

4. if indicated, an investigation shall be made relative to any recalled, suspended or canceled pesticides;

5. samples shall be obtained at the earliest possible time and analyzed in accordance with procedures approved by the Association of Official Analytical Chemists and/or other methods approved by the U.S. Environmental Protection Agency.

C. Reporting Requirements. If it is reasonably believed that a pesticide emergency has taken place, all appropriate requirements for reporting to the department shall be complied with, according to §191.

D. Investigation. In investigating any possible or known pesticide emergencies, the following information shall be sought and recorded:

1. the date, time and location of the incident;

2. the date and time the incident was reported to the department;

3. the department employee receiving the report;

4. from whom the report was received;

5. who initiated the investigation, along with the date, time and place the investigation was initiated;

6. the identity and location of any witness(es);

7. the time, place and circumstances under which each witness' statement was taken and whether such statement was confirmed;

8. the time, description and location of any samples taken;

9. the time, description and location of any other physical evidence; and

10. any information obtained, including that obtained through the inspection of records relevant to causation, identity of pesticide, containment, clean-up, and disposal.

E. Remediation

1. At the earliest possible time, the director shall develop a written plan for clean-up and disposal of pesticide waste as necessary to accomplish remediation of the emergency. In developing said plan, the director shall consider at a minimum, the following information if ascertainable:

a. the location of the land where the pesticide(s) was applied;

b. the year, month, date and time the pesticide(s) was applied;

c. the product name(s) used on the registered label, and the scientific name(s);

d. the inert ingredients contained in the pesticide(s);

e. the United States Environmental Protection Agency and state registration numbers of the pesticide(s) that were applied;

f. the crop and site to which the pesticide(s) was applied;

g. the amount of pesticide(s) applied per acre, or other appropriate measure;

h. the concentration of pesticide(s) that was applied as well as concentrations in the soil and water to indicate extent of contamination;

i. the applicator's business name, if any;

j. the applicator's name, address, and telephone number;

k. if applied aurally, the direction and velocity of the wind at the time the pesticide(s) were applied; and

l. possible hazards to human health that may result from the release considering both direct and indirect effects of the pesticide(s) application.

2. The director shall issue appropriate remedial orders as are necessary to accomplish the plan for clean-up and disposal.

F. Health Related Complaints. Any complaint involving a health-related emergency shall be handled according to the agreement entered into between the Louisiana Department of Agriculture and Forestry and the Louisiana Department of Health and Hospitals.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203(A).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Agricultural and Environmental Sciences, LR 18:247 (March 1992), LR 20:641 (June 1994).

§197. Declaration of Termination of Emergency

A. When remediation is complete or there no longer exists a situation involving imminent danger to human health or the environment, the director shall declare in writing that the emergency has ended. The director shall notify the appropriate governmental agencies and the media as soon as it is practical.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203(A).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:248 (March 1992).

§199. Department Training

A. The department shall train its agricultural and environmental specialists in procedures relating to emergencies.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203(A).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 20:642 (June 1994).

Subchapter X. Water Protection

§201. Definitions

Base Line Conditions? the pesticide level found in the water of a site immediately preceding the pesticide application season.

Maximum Contaminant Level? the maximum permissible concentration level of a pesticide in the waters of the state.

Pesticide Application Season? that period of time during the year that insecticides, herbicides or other pesticides are normally used on agricultural lands in a given area.

Reasonable Expectation of a Threat? a condition that is probable to lead to substantive injury to human health or the environment.

Threat? a condition that would lead to substantive injury to human health or the environment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3303(B) and R.S. 3:3306(B).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:248 (March 1992).

§203. Establishment of Standards for Pesticides in Water

A. The maximum contaminant level standards as published in 40 C.F.R. Parts 141,142, and 143(1991) shall be incorporated as standards for pesticides in waters of the state.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3303(B) and R.S. 3:3306(B).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:248 (March 1992).

§205. Procedures for the Determination of Threats

A. The procedures for determining whether pesticide concentrations exceed maximum contaminant level standards or pose a threat or reasonable expectation of a threat to human health or the environment shall be:

1. The department shall maintain a water monitoring program.

a. Water sample collection sites shall be distributed throughout the state. The locations of said sites shall be selected by criteria including, but not limited to:

- i. those areas that have agricultural land use;
- ii. those areas that have water drainage from agricultural lands;
- iii. the propensity for runoff due to topography, soil types and other characteristics;
- iv. data from aquifer potential maps used to locate well sampling sites in a wide spectrum of the state's aquifers; and
- v. proximity to pesticide application of irrigation wells or shallow private water wells.

b. The water sampling frequency requirements shall be based upon criteria including, but not limited to:

- i. the pesticide application season in the area of the water collection sample site;
- ii. sampling shall be at least monthly during any pesticide application season.

c. Analytical parameters shall be established for each sampling site and shall be based upon, but not limited to, the following criteria:

- i. the major crop(s) grown in the area of the monitoring site;
 - ii. the pesticide(s) most commonly used on the major crop(s) of the monitoring site area; and
 - iii. the base line conditions existent prior to the pesticide application season.
- d. Base line conditions at each water sampling site shall be established by water sampling and analysis prior to the pesticide application season.

e. The analysis of water samples shall be accomplished in accordance with procedures of the Association of Official Analytical Chemists and/or other methods approved by the U.S. Environmental Protection Agency.

f. The department shall sample and test fish tissues once a year, unless the commissioner determines that more frequent testing is needed.

2. The commissioner shall consider results of the analysis of the samples, the criteria established in R.S. 3:3306(C), and/or other relevant data and shall promptly determine whether a threat or reasonable expectation of a threat to human health or to the environment exists and whether the standards as adopted herein have been exceeded.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3303(B) and R.S. 3:3306(B).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:248 (March 1992).

§207. Determination of Appropriate Action

A. Upon determination by the commissioner that a threat or reasonable expectation of a threat to human health or to the environment exists or that the maximum contaminant level standards as adopted herein have been exceeded he shall:

- 1. promptly direct that thereafter the Emergency Procedures established by §189 et seq. be employed.
- 2. complete sufficient investigation as to permit appropriate action.

B. In determining appropriate action as to the pesticide involved the commissioner shall consider:

- 1. registration denial;
- 2. stop orders for use, sales or application;
- 3. label changes;

4. remedial or protective orders;
5. injunctive relief; and
6. any other relevant remedies.

C. In determining appropriate action as to the responsible party the commissioner shall consider:

1. referral for criminal prosecution;
2. referral to the Advisory Commission on Pesticides;
3. remedial or protective orders;
4. injunctive relief; and
5. any other relevant remedies.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3303(B) and R.S. 3:3306(B).

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences, LR 18:249 (March 1992).

Subchapter Y. Pesticide Wastes

§209. Procedures for Monitoring

A. In the course of conducting routine monitoring of pesticide use in accordance with the procedures described in §161, the commissioner shall monitor for the presence of pesticide wastes.

B. Monitoring for the presence of pesticide wastes shall include, but not be limited to, investigations involving canceled or suspended products, spill responses, and citizen complaints.

C. The procedures for monitoring pesticide wastes shall include but not be limited to the following activities:

1. visual or other sensory observations of conditions which may support the probability or actuality of the presence of pesticide wastes;
2. inquiries into the relevant circumstances surrounding the probability or actuality of the presence of pesticide wastes which may include sample taking and analysis; and
3. a preliminary determination as to whether or not there is a presence of pesticide wastes based upon the observations and the inquiries or upon relevant data, shall be made by the director of pesticide and environmental programs.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3271 and R.S. 3:3273.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Science, LR 19:609 (May 1993).

§211. Procedures for Determinations

A. When the director makes a preliminary determination as a result of monitoring or otherwise, that there is a presence of pesticide wastes as a result of monitoring or otherwise, the procedures for determining whether the concentrations of pesticide wastes exceed promulgated federal or state standards, or that the concentrations of pesticides pose a threat or reasonable expectations of a threat to human health or to the environment are as set out below.

1. The commissioner shall take into consideration the following:

- a. the results of the analysis of samples, if available;
- b. the criteria established in R.S. 3:3274(C) as of the adoption date of these regulations;
- c. whether a pesticide concentration exceeds and the degree to which it exceeds the maximum concentration of pesticide contaminants listed in Table 5 of LAC 33:V.4903 as amended through November 1992; and
- d. other relevant data.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203, R.S. 3:3271 and R.S. 3:3274.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Science, LR 19:609 (May 1993).

§213. Appropriate Actions

A. When the commissioner has determined that there is a presence of pesticide wastes and that the pesticide wastes do not exceed promulgated federal or state standards, or when the commissioner determines that the concentrations of pesticides do not pose a threat or reasonable expectation of a threat to human health or to the environment, the commissioner may take one or more of the following actions:

1. issue appropriate orders to provide for proper disposal;
2. take such other action as the commissioner deems appropriate under circumstances.

B. When the commissioner has determined that there is a presence of pesticide wastes and that the pesticide wastes exceed promulgated federal or state standards, or when the commissioner determines that the concentrations of pesticides pose a threat or reasonable expectation of a threat to human health or to the environment, the commissioner may take one or more of the following actions:

1. issue appropriate protective orders to mitigate the further contribution to the accumulation of the pesticide or pesticide wastes;

2. issue remedial orders directing prompt remedial action to correct the offending situation;

3. communicate his determination to any appropriate governmental agency;

4. participate in issuing a public communication concerning the determination. Where a cooperative agreement exists, each public communication shall be issued in accordance with same;

5. take such other action as the commissioner deems appropriate under circumstances.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Science, LR 19:610 (May 1993), amended LR 19:1120 (September 1993).

§215. Record Keeping

A. In addition to the record keeping requirements under §§167, 169 and 171, or otherwise, all persons conducting or having conducted activities of, generating, owning, possessing, storing, transporting, or disposing of pesticide wastes, shall keep copies of all records required by local, state or federal laws or regulations for a period of not less than three years from the receipt of any such record.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Science, LR 19:610 (May 1993).

§219. Transportation of Pesticide Waste

A. All persons transporting pesticide wastes shall transport such wastes in a manner that conforms to the procedures and requirements set forth by the Louisiana Department of Environmental Quality and the Louisiana Department of Public Safety, in addition to all other applicable local, state and federal laws and regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and R.S. 3:3271.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Science, LR 19:610 (May 1993).

Subchapter Z. Health Complaints

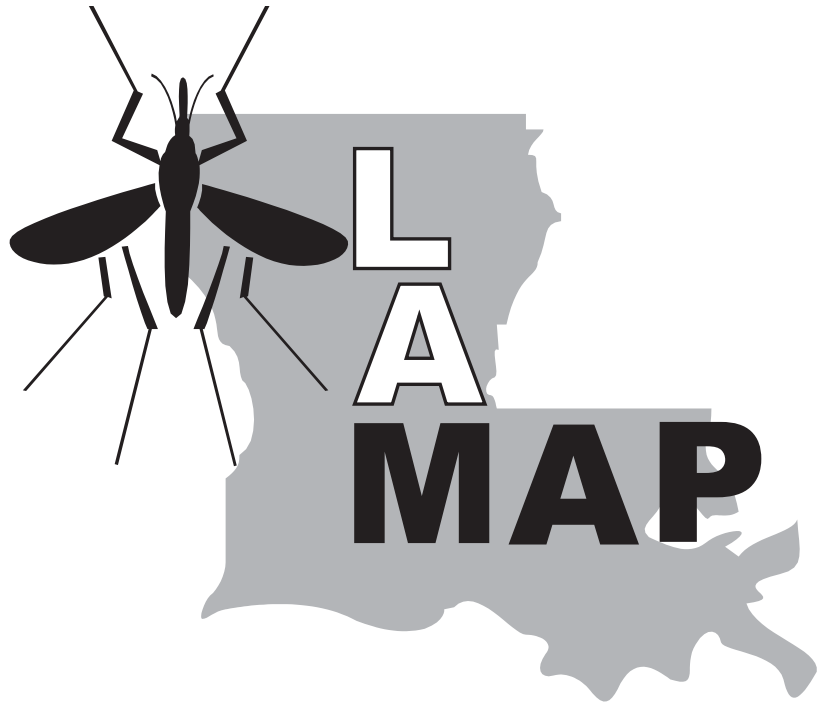
§221. Notification of Pesticide Poisoning

A. Each physician who treats a health complaint that is diagnosed as caused by pesticide poisoning shall provide notice of the poisoning to the director of the Division of Pesticide and Environmental Programs via the 24-hour telephone hotline, (225) 925-3763, within 24 hours of the diagnosis and in writing posted within three days of the diagnosis. Each report shall contain the following:

1. the name, address, and telephone number of the treating physician;
2. the name, address, and telephone number of each patient treated;
3. date of treatment; and
4. the location of the facility where the reporting physician provided treatment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:3203 and 3:3208.

HISTORICAL NOTE: Promulgated by the Department of Agriculture and Forestry, Office of Agricultural and Environmental Sciences Programs, LR 20:642 (June 1994).



APPENDIX F

**Appendix F - Louisiana Sanitary Code - Title 51: Public Health
- Part V: Disease Vector Control**

Appendix F. Louisiana Sanitary Code

Notes

Title 51
PUBLIC HEALTH-SANITARY CODE
Part V. Disease Vector Control

Chapter 1. Mosquito Control

§101. Definitions

[formerly paragraph 5:001]

A. Unless otherwise specifically provided herein, the following words and terms used in this Part of the Sanitary Code and all other Parts which are adopted or may be adopted, are defined for the purposes thereof as follows:

Community Any incorporated area, or in the case of unincorporated areas, either of the following:

- a. a settlement consisting of 25 or more residences within a circle having a 0.5 mile diameter; or
- b. a settlement consisting of 25 or more residences per mile of highway frontage.

Control Measures Any measures approved by the state health officer which are used in the prevention or control of mosquito-borne diseases. These measures include source reduction, application of pesticides, naturalistic (biological) control, exclusion of mosquitoes, and integrated pest management.

Exclusion Exclusion of mosquitoes includes measures of protection against mosquitoes such as screening of openings in dwellings to prevent entry of adult mosquitoes and screening of stored water to prevent egg-laying by mosquitoes and the use of protective clothing and mosquito repellents.

Impounded Any body of water formed by the construction or excavation of a basin or the obstruction of surface water run-off in such a manner as to cause the collection of a body of water which could not have formed under natural conditions. Such impounded waters of less than two acres of water surface, are not included in this definition, except that in the event an outbreak of disease known or suspected to be transmissible by mosquitoes occurs in the vicinity of such a pond, the state health officer may require that it be subject to the same regulations as larger bodies of impounded water.

Integrated Pest Management Integrated pest management as applied to mosquito prevention and control includes a combination of procedures such as exclusion, naturalistic control, source reduction, and the application of pesticides.

Naturalistic Naturalistic control involves the use of predators, pathogens (diseases), and other natural antagonists of mosquitoes.

AUTHORITY NOTE: The first source of authority for promulgation of the Sanitary Code is in R.S. 36:258(B), with more particular provisions found in Chapters 1 and 4 of Title 40. This Part is promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1226 (June 2002).

§103. General Mosquito Control Regulations
[formerly paragraph 5:002]

A. Water in man-made containers or man-made basins within one mile (1.61 km) of communities shall not be permitted to produce mosquitoes. Tanks and other containers used for storage of water shall have all openings larger than 1/18 of an inch (.14 cm) screened with wire mesh not less than 18 strands to the inch each way (seven strands to the centimeter). Standing water in fountains, basins, and urns in parks, cemeteries, and residential and commercial sites, and water in ponds, pools, borrow pits, ditches, or other depressions or excavations must be maintained free from debris, flottage, and emergent vegetation and stocked with mosquito larvae-eating fish or treated at suitable intervals with federal and state approved larvicide if mosquito production becomes imminent.

B. [Formerly paragraph 5:003] In the event of an outbreak or imminent outbreak of mosquito-borne disease, the state health officer, may, in addition to the regulations promulgated elsewhere in this Part, require mosquito prevention or abatement measures applied to less usual sources of mosquito production as considered necessary.

C. [Formerly paragraph 5:004] All persons suspected of having a mosquito-borne infection shall be protected from the bites of mosquitoes unless, and until, the infection is found not to be due to mosquito-borne infection; and if found to be mosquito-borne, protection shall be continued until the infective stage has passed, as determined by the state health officer.

D. [Formerly paragraph 5:005] It shall be unlawful for any person to create, or cause to be created, conditions favorable for producing mosquitoes by impounding of water unless provision has been made for control measures.

E. [Formerly paragraph 5:006] In the event of an outbreak or imminent outbreak of mosquito-borne disease, the state health officer may require that any person proposing to impound water, raise the level of existing impounded water, or re-impound water in areas where previous impoundage has been discontinued for one or more seasons, prior to the institution of any construction activities, shall make written application to the state health officer and receive therefrom a written permit for impoundage construction.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1226 (June 2002).

§105. Approval of Community Abatement Plans
[formerly paragraph 5:025]

A. No person shall conduct operations designed to abate community mosquito problems until plans for such operations have been approved by the state health officer, and a written approval has been secured therefrom. The state health officer will, upon request, provide an applicant with guidelines for the preparation of an operational plan for mosquito control.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1226 (June 2002).

Chapter 3. Rodent Control

§301. Definitions
[formerly paragraph 5:026]

A. Unless otherwise specifically provided herein, the following words and terms used in this Part of the Sanitary Code and all other Parts which are adopted or may be adopted, are defined for the purposes thereof as follows:

Business Building Cany structure which is used in any way for the monetary profit of the occupant or in which persons are employed, or any building the principal use of which is storage.

Dense Concrete Cwhenever concrete is mentioned in these regulations, it shall be taken to mean dense concrete composed of not less than one part by volume of Portland cement to six parts of aggregate consisting of sand mixed in proper proportions with gravel, crushed rock, or crushed slag.

Impervious Material Cthis term shall include glass, non-corrosive steel or iron, non-corrosive metal screen, dense concrete, or other material which may be approved by the Department of Health and Human Resources.

Rat-Proofing Cthe act of rendering a building impenetrable to rodents.

Rodent Cthe term rodent is considered to include all gnawing animals of the order Rodentia such as rats, mice, ground squirrels, etc.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1227 (June 2002).

§303. General Rodent Control Regulations
[formerly paragraphs 5:027]

A. No person shall own, keep, maintain, occupy, or otherwise use any room, warehouse, grain elevator, or other building for the storage, handling, processing, or dispensing of food or food products, or for the quartering of any animal

or fowl, without carrying out measures which will prevent the entrance of rodents into, or the harboring of rodents under, or within the walls of such room, warehouse, grain elevator, or other building.

B. [Formerly paragraph 5:028] Every building, place, and premises shall be kept and maintained by the owner or occupant in a clean and sanitary condition, and free from rodents.

C. [Formerly paragraph 5:029] No rubbish, garbage, or other waste shall be dumped, left, or be permitted to accumulate or to remain in any building, place, or premises in such a manner that the same will, or may, afford food harborage, or a breeding place for rodents. All lumber, boxes, barrels, loose iron, and similar material stored in such places shall be placed on supports elevated not less than 18" (46 cm) above the ground or floor, with a clean intervening space beneath.

D. [Formerly paragraph 5:030] Garbage storage shall conform to requirements of Part XXVII of this Code.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1227 (June 2002).

§305. Regulations for Rodent-Proofing
of Existing Buildings
[formerly paragraphs 5:031]

A. No person shall reconstruct any building or structure, or repair or remodel any building or structure to the extent of 50 percent of the value of the structure, unless the same shall be made rodent-proof by the proper use of impervious material. Provided, that only such repairs or remodeling as affects or may affect the rodent-proof condition of the building or structure shall be considered subject to the provisions of this regulation.

B. [Formerly paragraph 5:032] When rodent-borne diseases have been declared by the state health officer to be prevalent in a community, no alteration or repairs to existing structure to the extent of 50 percent of the value of the structure shall be undertaken without a permit from the state health officer.

C. [Formerly paragraph 5:033] All foundation wall ventilator openings shall be covered for their entire height and width with perforated sheet metal plates of a thickness of not less than 14 gauge, or with expanded sheet metal of a thickness not less than 18 gauge, or with wire cloth of 19 gauge or heavier, or with cast iron grilles or gratings. The openings therein shall not exceed 1/2 inch (1.3 cm) in least dimension.

D. [Formerly paragraph 5:034] All foundation and exterior wall openings, except those used as doors or windows or for purposes of ventilation and light, such as openings due to deteriorated walls or broken masonry or concrete, shall be protected against the ingress of rodents by closing such openings with cement mortar, concrete, or masonry.

E. [Formerly paragraph 5:035] All exposed edges of the lower 10 inches of wooden doors, door sills, and jambs serving as rear or side entrances into business buildings, and other doors accessible to rodents, shall be protected against the gnawing of rodents by covering said doors, door sills, and jambs with solid sheet metal of not less than 24 gauge thickness. All doors on which metal flashing has been applied shall be properly hinged to ensure free swinging. When closed, doors shall fit snugly so that the maximum clearance between any door and the door jamb and sill shall not be greater than 3/8 inch (0.96 cm).

F. [Formerly paragraph 5:036] All windows and other openings for the purpose of lighting or ventilating located in the side or rear of exterior walls and within 2 feet of the existing ground level immediately below such openings shall be covered for their entire height and width, including frame, with wire cloth of 19 gauge or heavier, having a mesh not larger than 1/2 inch (1.3 cm). All windows and exterior walls not covered in the above paragraph, which are accessible to rodents by way of exposed pipes, wires, conduits and other appurtenances, shall be covered with wire cloth of 19 gauge or heavier, having a mesh not larger than 1/2 inch (1.3 cm); or, in lieu of wire cloth covering, said pipes, wires, conduits or other appurtenances shall be blocked from rodent usage by installing solid sheet metal guards of 24 gauge, or heavier. Said guards shall be fitted snugly around pipes, wires, conduits or other appurtenances. In addition, they shall be fastened securely to the exterior wall and shall extend a minimum distance of 12 inches (30.7 cm) beyond and on either side of said pipe, wire, conduit, or appurtenance. This regulation shall not apply in the case of windows which cannot be opened and whose function is solely for the purpose of admitting light.

1. [Formerly paragraph 5:037-1] Light wells with windows in exterior walls, which are located below the outside ground level, shall be protected from the ingress of rodents by the following methods:

a. [Formerly paragraph 5:037-2] Cast iron or steel grilles or gratings, with openings not to exceed 1/2 inch (1.3 cm) in least dimension shall be installed over light wells.

b. [Formerly paragraph 5:037-3] Expanded metal of 18 gauge, or heavier, having openings not greater than 1/2 inch (1.3 cm) in least dimension, 16 gauge, or heavier, wire cloth of 1/2 inch (1.3 cm) mesh shall be used to completely cover existing metal light well grilles where such existing grilles are broken or are otherwise defective or which have openings larger than 1/2 inch (1.3 cm) in least dimension and shall be securely attached to the existing grille.

G [Formerly paragraph 5:038-1] Any business building constructed on piers and having wooden floor sills less than 12 inches (30.7 cm) above the surface of the ground shall have the intervening space between floor sill and ground protected against the ingress of rodents by installing a solid masonry, concrete or solid sheet metal curtain wall of 24 gauge, or heavier, around the entire perimeter of the building, and extending said curtain wall to a depth of not less than 24 inches (61.4 cm) below the surface of the

ground level, and fastening securely to the exterior wall of the building.

H. [Formerly paragraph 5:038-2] In lieu of the installation of curtain walls, any ground floor of wood construction may be replaced with concrete of not less than 3 inches (7.7 cm) thickness, with the exterior walls protected to a height of 24 inches above the concrete floor with masonry, concrete, or solid sheet metal of 24 gauge, or heavier. Exterior wall protection shall be securely tied into the concrete floor at all points.

I. [Formerly paragraph 5:039] Any building constructed on piers, and having wooden floor sills greater than 12 inches (30.7 cm) above the ground level, shall have the intervening space between floor sill and ground protected against the ingress of rodents by installing curtain walls in accordance with the paragraph above, or protecting said building against the ingress of rodents by installing solid sheet metal collars of 24 gauge or heavier snugly around each pipe, cable, wire, conduit, or other utility service passing through wooden ground flooring. The overall diameter of any such metal collar shall be not less than 8 inches (20.5 cm) larger than the diameter of the pipe, cable, wire, conduit, or other utility service, and said collar shall be securely fastened to the wooden floor. All other openings in wooden ground floors through which rodents may gain access into double walls or the interior of a building, such as openings which may exist in floors at double walls above floor sills, shall be closed with 24 gauge or heavier solid sheet metal, or 16 gauge or heavier wire cloth of 1/2 inch (1.3 cm) mesh, or with dense concrete.

J. [Formerly paragraph 5:040] Any necessary opening in an exterior wall, not heretofore enumerated, shall be effectively protected against the passage of rodents in a manner satisfactory to the Department of Health and Human Resources.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1227 (June 2002).

§307. Regulations for Rodent-Proofing New Buildings [formerly paragraphs 5:041]

A. The footing and foundation walls of any new business building shall be of dense concrete or masonry, and shall extend around the entire perimeter of the business building and to a depth of not less than 24 inches (61.4 cm) below the surface of the finished ground.

B. [Formerly paragraph 5:042] Basement and cellar floors of new business buildings shall be constructed of dense concrete having a thickness of not less than 3 inches (7.7 cm) and shall be continuous over the entire floor area. The concrete shall be tightly sealed to the exterior footing and foundation walls.

C. [Formerly paragraph 5:043] Ventilators, windows, doors, and miscellaneous openings shall be treated in the same manner as for existing business buildings, and especially in accordance with Subsections 305.C through J.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1228 (June 2002).

§309. Rodent Control Regulations for Curb or Farmer=s Markets [formerly paragraph 5:044]

A. Curb or farmers' markets, in which fruits or vegetables are exposed and offered for sale on racks, stands, platforms, or in vehicles outside of business buildings which may be a part of curb or farmers' markets shall conform to relevant provisions of these regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1228 (June 2002).

§311. Regulations to Control Rodents from Floating Vessels [formerly paragraphs 5:045]

A. Any floating vessel docking or landing in any port or place in the State of Louisiana where bubonic plague exists, and any vessel coming from a plague infested locality shall, while lying at a dock or landing in the State of Louisiana, be fended off at least 4 feet (1.23 m) at all times while at such dock or landing.

B. [Formerly paragraph 5:046] No gangplank, ladder, skid or other device or structure whereby rodents may find egress from the vessel to a dock or landing shall be allowed to extend from any vessel to such dock or landing except at times when such gang plank, etc., is actually in use, the same to be removed when not actually in use, and in all instances to be removed at night, unless the vessel is actually in the process of discharging or loading cargo or passengers during the night.

C. [Formerly paragraph 5:047] All docks and wharves shall be equipped with fender logs, not less than 24 inches (61.4 cm) in diameter at the smallest part, or other approved means of maintaining a clear distance of at least 24 inches (61.4 cm) between the side of the vessel and the wharf.

D. [Formerly paragraph 5:048] Each spar and each chain, hawser, rope or line of any kind extending from any vessel, steamboat, or other water craft to said dock or wharf, shall be equipped with and have properly and securely attached thereto a rodent shield or guard of a design and in a manner approved by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1228 (June 2002).

§313. Approval of Plans to Abate Community Rodent Problems [formerly paragraph 5:049]

A. No person shall conduct operations designed to abate community rodent problems until plans for such operations have been approved by the state health officer, and a written approval has been secured therefrom. The state health officer will, upon request, provide an applicant with guidelines for the preparation of an operational plan for rodent control.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1229 (June 2002).

Chapter 5. Control of Domestic Flies and Other Arthropods of Public Health Importance

§501. Definitions [formerly paragraph 5:050]

A. Unless specifically provided herein, the following words and terms used in this Chapter of the Sanitary Code and all other Chapters which are adopted or may be adopted are defined for the purpose thereof as follows.

*Arthropod*Ca member of the phylum Arthropoda including, but not limited to, insects, ticks, mites, spiders, and scorpions.

*Breeding Medium*Any warm, moist, organic material which will support the development of domestic flies.

*Domestic Flies*Cinsects of the order Diptera including the families Muscidae (Houseflies and related species), Sarcophagidae (flesh flies), and Calliphoridae (blowflies and bottle flies).

*Public Health Importance*Can arthropod is considered to be of public health importance if it transmits disease organisms or occurs in numbers sufficient to cause significant annoyance to humans.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4(A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1229 (June 2002).

§503. Refuse Regulations [formerly paragraph 5:051]

A. All refuse shall be managed in accordance with the provisions in Part XXVII of this Code so as not to promote the breeding of flies and other arthropods of public health importance.

B. [Formerly paragraph 5:053] The storage, retention, processing, or otherwise accumulation of material not ordinarily considered waste, (such as, but not limited to,

fermentation vats, animal by products, and silage) but which can serve as a fly breeding medium shall not be permitted unless effective means to prevent such breeding are provided. The absence of domestic fly breeding in such material shall be deemed indicative of effective prevention.

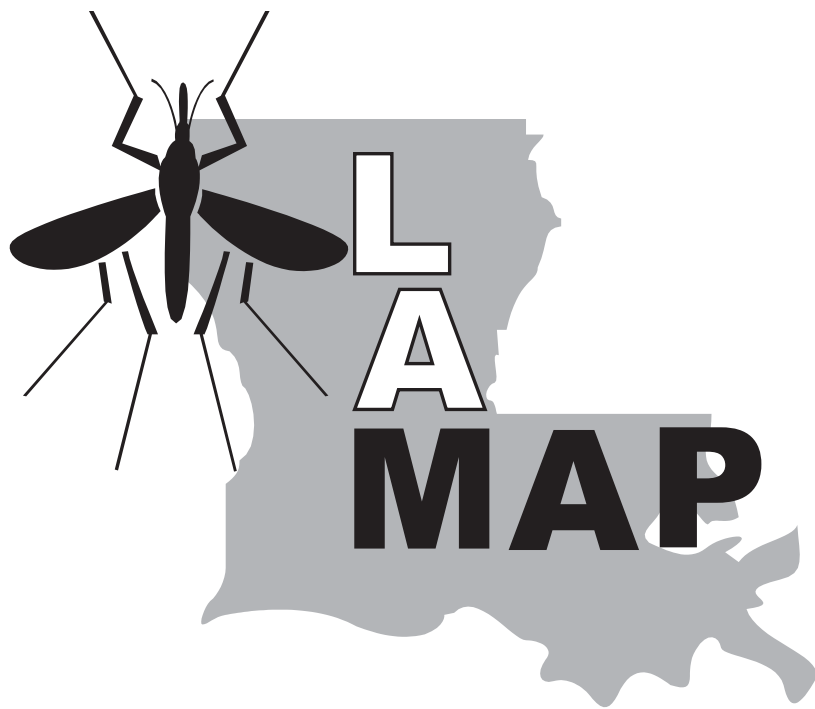
C. [Formerly paragraph 5:054] No owner or lessee of any public or private property nor any agent of such owner or lessee shall create, or allow to be created, upon the property or premises, conditions favorable for the development of arthropods of public health importance.

D. [Formerly paragraph 5:055] When, in the opinion of the state health officer, there exist man-made conditions

favorable for the development of domestic flies or other arthropods of public health importance upon any property or premises, he shall notify the owner, lessee or agent in writing of his findings, specifying a reasonable time in which these conditions are to be corrected. If said conditions are not corrected within the specified time, the owner, lessee or agent shall be considered in violation of this code and subject to the prescribed penalties.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 and R.S. 40:5. In particular, see R.S. 40:4 (A)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1229 (June 2002).



APPENDIX G

Appendix G – Louisiana Administrative Code requiring the reporting of contagious diseases

§121. Requiring the Reporting of Contagious Diseases

A. In order to improve the protection of the livestock industry from the effects of contagious diseases of livestock, all veterinarians licensed in the state of Louisiana, are required to report to the state veterinarian, by telephone or wire, within 24 hours after diagnosis or tentative diagnosis, the occurrence of suspected occurrence of the following contagious diseases: hog cholera, anthrax, vesicular condition, scabies, equine encephalomyelitis, pullorum/typhoid, pseudorabies, Newcastle (OIE List A Diseases), Avian Influenza (OIE) List A Diseases), Ornithosis, Paramyzovirus (Other than Newcastle Disease), Infectious Encephalomyelitis, Infectious Laryngotracheitis (other than vaccine induced), or any other disease condition which may seriously threaten the welfare of the livestock and poultry industry.

B. Reports should include:

1. the name and address of the owner;
2. the location of the premises;
3. the morbidity and mortality rate at the time of reporting;
4. the number of susceptible animals in the immediate area; and
5. the approximate number of livestock or poultry exposed.

C. Reports of disease outbreaks shall not be released to the press until after they have been reported to the state veterinarian.

D. Livestock owners who suspect the occurrence of contagious disease should immediately contact the local practicing Veterinarian or the area veterinarian, district veterinarian or county agent who, in turn, will be responsible for reporting to the state veterinarian.

E. An investigation of the reported contagious disease will be made by representatives of the Livestock Sanitary Board, preferably with the veterinarian who reported the disease. If necessary to protect the livestock and poultry industry, a quarantine will be imposed on involved and exposed herds and the quarantine will remain in effect until the threat to the livestock and poultry industry has been removed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:2093, R.S. 3:2094 and R.S. 3:2095.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Livestock Sanitary Board, LR 11:234 (March 1985), amended by the Department of Agriculture and Forestry, Livestock Sanitary Board, LR 15:813 (October 1989), LR 16:391 (May 1990), LR 23:197 (February 1997).

§123. Intrastate Manufacture, Sale or Distribution of Animal Vaccines

A. No person, firm, association or corporation shall manufacture, sell or distribute any animal vaccine within the state of Louisiana unless such person, firm, association or corporation can prove to the board that he is currently the

holder of a valid federal license to manufacture, sell or distribute such animal vaccine, except as provided hereinafter.

B. The board shall authorize the intrastate manufacture, sale or distribution of animal vaccines on an individual basis to meet emergency situations within the state of Louisiana under special permit of the state veterinarian, provided that no special permit for the intrastate manufacture, sale or distribution of animal vaccines shall be issued by the state veterinarian except under the authorization of the board.

C. The board reserves the right to prohibit the intrastate manufacture, sale or distribution of animal vaccines which, in the judgment of the board, would be detrimental to any phase of the livestock and/or animal health industries of the state.

D. The board shall distribute, through the state veterinarian, on an annual basis, no later than December 31 of each year, a complete list of all vaccines which are prohibited for use within Louisiana, and such list shall be available to any interested person who makes request therefor.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:2093.

HISTORICAL NOTE: Promulgated by the Department of Agriculture, Livestock Sanitary Board, LR 11:235 (March 1985).

§125. Tuberculin Tests

A. Report of Tuberculin Tests. A report of all tuberculin tests, including the individual identification of each animal by ear tag number or tattoo, age, sex and breed, and a record of the size of the responses, shall be submitted in accordance with the requirements of the cooperating state and federal officials.

B. Tuberculin Test Interpretation

1. Reactor *R*: animals showing a circumscribed swelling 5 mm in diameter (3/16 of an inch)(P1) or a diffuse swelling twice as thick as the normal caudal fold (X2) or greater response to tuberculin on routine test should be classified as reactors unless in the professional judgment of the testing veterinarian a suspect classification is justified.

2. Suspect *S*: animals showing a response to tuberculin not classified as reactor with the exception noted below.

3. Negative *N*: animals showing no response to tuberculin.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3:2093

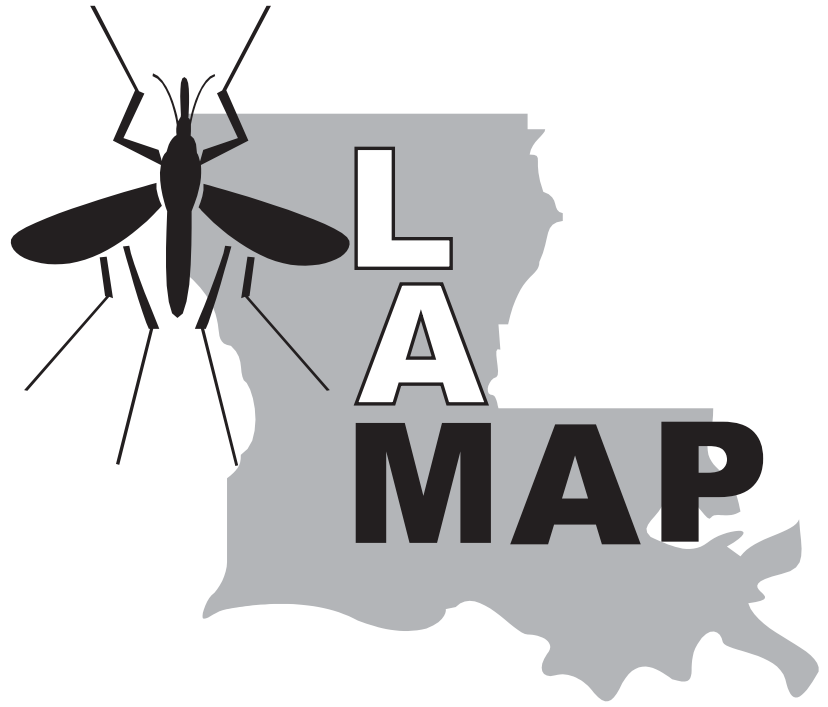
HISTORICAL NOTE: Promulgated by the Department of Agriculture, Livestock Sanitary Board, LR 11:235 (March 1985).

§127. Cooperation with USDA, APHIS, Veterinary Services

A. Upon determination by the state veterinarian of the existence of any infectious and contagious diseases, he is authorized to cooperate with the United States Department

Appendix G. Reporting Contagious Diseases

Notes



APPENDIX H

Appendix H.

Appendix H

Disease Surveillance

Wild Bird Banding and Blood Samples

Scientific Collecting and Bird Banding Permits **Required**

1. Federal Fish and Wildlife Scientific Collecting Permit: Regulations 50 CFR 10.13

50 CFR Part 13

50 CFR 21.23

Dept. of Interior
U. S. Fish and Wildlife Service
Migratory Permit Office
P. O. Box 49208
Atlanta, GA 30359

2. Louisiana Wildlife and Fisheries Scientific Collecting Permit:

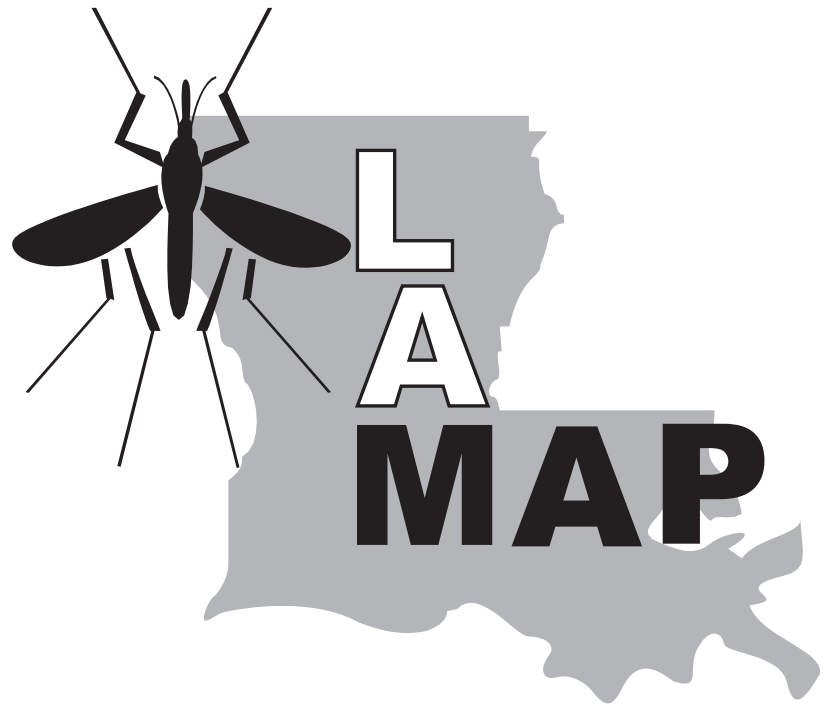
Louisiana Dept. of Wildlife and Fisheries
Louisiana Natural Heritage Program
P. O. Box 98000
Baton Rouge, LA 70898-9000

3. Bird Banding Permits:

Bird Banding Laboratory
US Fish and Wildlife
Laurel, MD 20708
Phone: 301 497 5790
301 497 5799

Appendix H.

Notes



APPENDIX I

Appendix I – Standard Conditions, Scientific Collecting (wild birds): 50 CFR 21.23 Conditions

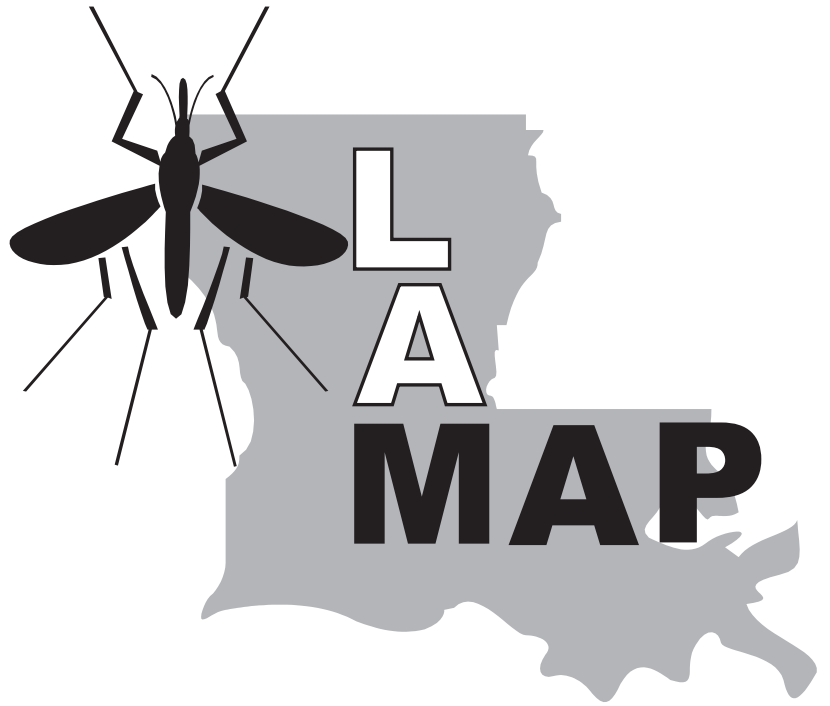
**Standard Conditions
Scientific Collecting
50 CFR 21.23**

1. Permittee, and subpermittees, shall carry and display, upon request, a copy of this permit whenever exercising its authority.
2. Failure to comply with **ANY** of these conditions listed may result in the immediate suspension of this permit. All requirements of 50 CFR 21.23 apply.
3. Authorization granted herein shall not be exercised contrary to the laws of the appropriate State, County, Municipal, Tribal, Foreign or any other applicable laws.
4. Permittee shall maintain records as required in 50 CFR 13.46 and 50 CFR 21.23(c)(41).
5. All required records relating to permitted activities shall be kept at the location as indicated in writing by Permittee to the issuing office.
6. Live birds taken and retained alive must be released at the capture site unless otherwise authorized on the face of the permit.
7. Dead specimens, or any parts thereof, (Except bald and golden eagles, endangered and/or threatened species), shall be promptly destroyed by burial or incineration if they are unsuitable for donation. All suitable carcasses or parts thereof, may be disposed of by donation to a public museum, scientific or educational institution as defined in 50 CFR 10.12, for exhibit, scientific or educational purposes, or as directed by issuing office.
8. This permit **DOES NOT** authorize the take or release of specimens on Federal or State lands or other public or private property without additional written authorization, permission, or permits from the applicable Federal or State agency, landowner, or custodian.
9. This permit **DOES NOT** authorize the take or live trap and release of bald or golden eagles and/or federally listed threatened or endangered species
10. Nontoxic shot must be used with the following exceptions:
 - a. may use lead shot when non-toxic shot is not produced in the small sizes needed to preserve the integrity of the specimens
 - h. may use lead shot in habitats where its use is allowed for sport hunting purposes.
11. Unless otherwise authorized on this permit, all migratory game birds taken during open hunting season must be in compliance with all applicable Federal and State hunting regulations.
12. Each bird collected and/or salvaged shall be tagged by the Permittee. Each tag shall have the following information: (a) date and location specimen was collected, (b) name of person who collected the specimen, and(c) the permit number under which the specimen was collected.
13. The annual report may contain copies of final reports, publications, etc. on the findings that result from the project.
14. If salvage activities are authorized, endangered/ threatened species and bald and/or golden eagles must be reported to the issuing office within 48 hours.
15. Acceptance of this permit authorizes inspection in accordance with 50 CFR 13.47.

3/24/99

ORIGINAL

Appendix I.



APPENDIX J

Appendix J.

Appendix J – Louisiana Dept. of Wildlife & Fisheries Scientific Collecting Permit Information

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES SCIENTIFIC COLLECTING PERMIT INFORMATION

A Permit will not exempt holder from any regulations imposed by other state, federal, parish or municipal agencies.

B A federal collecting permit is required to collect or possess any species covered by the Migratory Bird Treaty Act (List of Migratory Birds 50 CFR10.13).

C All permits shall expire on December 31 of the year of issue unless otherwise noted. The Department may impose time limits and other restrictions on the duration of any collection permit.

D An annual report giving a detailed description and inventory of all specimens collected is due within 30 days following expiration of permit. Information to be included in annual report:

1. Name and permit number of the collector.
2. Name and location of each area where collections were made.
3. Date(s) of collection at each site and area.
4. Number of each species taken (list by collection site or area and date of collection).
5. Method of collection.
6. Disposition of all animals taken.

E If firearms are to be used, the appropriate district law enforcement office must be notified prior to collecting.

F Sale of any organisms collected under the permit or their progeny, is prohibited.

G No item collected under the permit may be used for human consumption, unless specifically approved.

H One of the permittees must be in the company of the samples at all times. Permits are non-transferable but may be issued in more than one person's name.

I Student requests will require endorsement of professor. Apply on official college or university stationery.

J No alligators may be collected with the permit.

K No federally-listed species may be collected with the permit, unless specifically noted.

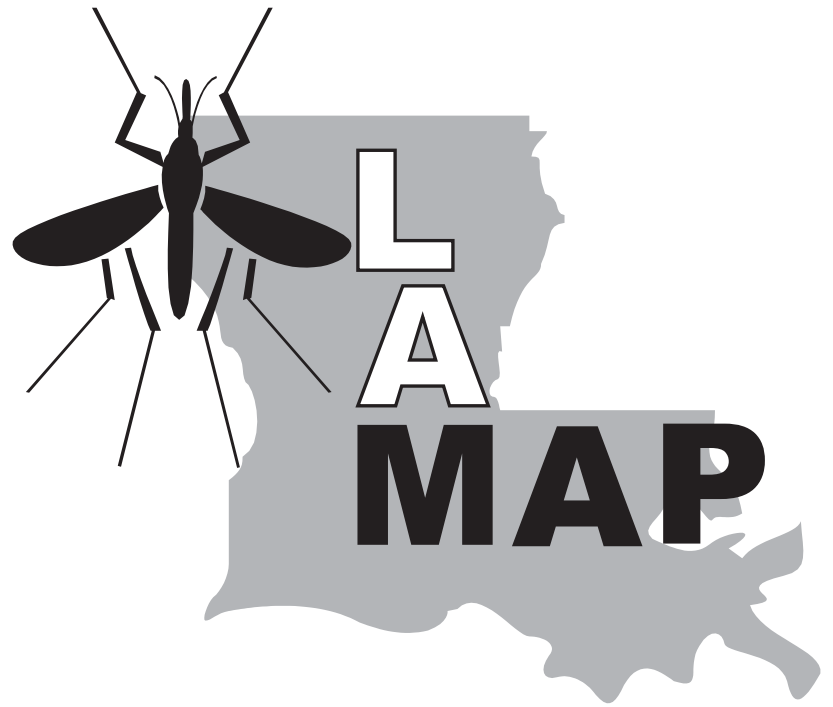
L No S1-ranked species may be taken with the permit, except that:

1. One voucher specimen of these species or subspecies per site may be collected to document range extension or confirm the current occurrence of a species or subspecies suspected been extirpated at a site (i.e., not collected in the past 20 years); collecting more than one specimen shall require written justification submitted to and approved by the Louisiana Department of Wildlife & Fisheries, the approved number then being indicated on the permit.
2. Any number of individuals of these species or subspecies found dead may be salvaged.
3. Any number of individuals of these species or subspecies may be captured, processed (i.e., measured, marked, tissue samples taken by means deemed acceptable by the Louisiana Department of Wildlife & Fisheries, etc.) and released where originally found as part of a legitimate scientific study.

RETURN COMPLETED APPLICATION TO:
LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES
LOUISIANA NATURAL HERITAGE PROGRAM
P.O. BOX 98000
BATON ROUGE, LA 70898-9000
(225) 765-2976/FAX (225) 765-2607

Appendix J.

Notes



APPENDIX K

Appendix K. Budget

Budgetary Information For Mosquito Abatement Districts

In an effort to estimate potential costs associated with developing and operating a mosquito control program, a request was issued to each existing mosquito abatement district in the state.

These existing districts include both in-house and contracted programs. The private firms with mosquito abatement contracts in the state were contacted and requested to provide information regarding costs. The districts were asked to provide the most current year operating budget including any capital outlay expenses incurred. While the costs associated with existing districts could be drastically different from a developing district, the data collected does provide some general basis for anticipated expenses.

Information submitted by participating districts is summarized in the Tables 1 - 4. All of the participating districts had in-house programs. As such, and due to a

lack of data on contracted programs, the data provided in Tables 1 – 4 reflect only the costs associated with in-house programs. As seen in Table 1, there was a high degree of variability in the actual dollar value of the summarized expense categories. The degree of variability found in the data is a function of many factors. As mentioned previously, the size, scope, and depth of the program developed will be highly correlated with program costs. In addition, each abatement district may have unique relationships with other governmental entities within the district. For example, some districts may share equipment, buildings, etc with other governmental entities and therefore have lower operating costs. Again, this goes to prove that there can be and will likely be vast differences in the expenses experienced by developing mosquito control districts.

Table 1. Breakdown Of Expense Items For Established Mosquito Abatement Program-Including Capital Outlay^A

Expense Item	Average	High	Low
Salaries/Benefits	\$680,932	\$1,145,870	\$259,704
Supplies	\$38,278	\$80,310	\$5,200
Chemicals	\$316,480	\$411,540	\$200,000
Fuel	\$34,023	\$54,000	\$16,500
Insurances ^B	\$79,310	\$162,090	\$0
Rentals	\$9,658	\$16,300	\$500
Contractual Services/Aerial Application	\$118,403	\$190,610	\$45,000
Repairs & Maintenance	\$26,833	\$42,100	\$16,000
Utilities/Advertising/Other Miscellaneous ^B	\$34,373	\$58,300	\$4,350
Capital Outlay	\$152,748	\$425,000	\$12,000
Total Expenses	\$1,491,038	\$2,586,120	\$559,254

^A Information obtained from a survey of established mosquito control districts in Louisiana

^B Insurance and Utilities in one district are paid by separate governmental entity resulting in low cost values.

^C Contractual Services may be for aerial applications and/or for other services.

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Furthermore, even when expenses are expressed as a percentage of total costs, there is still evidence, though not as drastic, of the vast differences in expenses among mosquito control districts. **Tables 2 - 4** show each expense item as a percentage of total costs. **Table 2** shows the contribution of each expense item to total expenses. While there is some variability

in the data, a general breakdown of expenses for most abatement districts could be viewed as 40 percent to salaries and benefits, 28 percent to chemicals, 10 percent to capital and 22 percent to other operating expenses.

Table 2. Breakdown Of Expense Items For Established Mosquito Abatement Program-Including Capital Outlay^A

Expense Item	Average	High	Low
Salaries/Benefits	44.99%	50.06%	37.07%
Supplies	1.94%	3.18%	0.73%
Chemicals	25.65%	39.26%	15.02%
Fuel	2.34%	2.52%	2.14%
Insurances ^B	4.20%	6.42%	0.00%
Rentals	0.58%	0.84%	0.07%
Contractual Services/Aerial Application	8.22%	10.71%	6.29%
Repairs & Maintenance	1.99%	2.46%	1.58%
Utilities/Advertising/Other Miscellaneous ^B	2.22%	3.48%	0.62%
Capital Outlay	7.87%	16.82%	1.68%

^A Information obtained from a survey of established mosquito control districts in Louisiana

^B Insurance and Utilities in one district are paid by separate governmental entity resulting in low cost values.

Table 3 and 4 show the contribution of each expense item as a percentage of total costs when capital outlay is removed from the analysis (**Table 3**) and when capital outlay and contractual services/aerial application are removed (**Table 4**). The reason for removing these items from the analysis is the high degree of variability that can exist for these items. Newly developed abatement districts would have drastically different capital outlay requirements than the established districts surveyed. In addition, there can be a high degree of variability in capital outlay for districts given funding availability. A newly established district may be forced to minimize their initial capital investments due to limitations in funding.

Over time, the district could make additional capital investments as part of its growth. The other item removed from the analysis is contractual services/aerial application. Aerial application can be a very costly expense item and may not be feasible for a newly established district. As the district grows and develops and as funds become more available, aerial applications may become a possibility. There is, however, less flexibility in controlling costs associated with aerial application. In general, the decision to begin aerial applications would necessitate a minimum amount of funding level. Therefore, aerial applications can be thought of as an either/or proposition.

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Table 3. Breakdown Of Expense Items For Established Mosquito Abatement Program-Without Capital Outlay^A

Expense Item	Average	High	Low
Salaries/Benefits	48.96%	54.53%	39.74%
Supplies	2.16%	3.82%	0.74%
Chemicals	27.58%	42.08%	18.05%
Fuel	2.54%	2.57%	2.51%
Insurances ^B	4.65%	7.71%	0.00%
Rentals	0.64%	0.85%	0.08%
Contractual Services/Aerial Application	8.92%	11.48%	6.40%
Repairs & Maintenance	2.15%	2.63%	1.69%
Utilities/Advertising/Other Miscellaneous ^B	2.40%	3.54%	0.67%

^A Information obtained from a survey of established mosquito control districts in Louisiana

^B Insurance and Utilities in one district are paid by separate governmental entity resulting in low cost values.

Table 4. Breakdown Of Expense Items For Established Mosquito Abatement Program-Without Capital Outlay and Without Contractual Services/Aerial Application^A

Expense Item	Average	High	Low
Salaries/Benefits	53.68%	59.12%	44.89%
Supplies	2.38%	4.14%	0.79%
Chemicals	30.41%	47.53%	19.57%
Fuel	2.79%	2.85%	2.74%
Insurances ^B	5.07%	8.36%	0.00%
Rentals	0.69%	0.93%	0.09%
Repairs & Maintenance	2.36%	2.97%	1.88%
Utilities/Advertising/Other Miscellaneous ^B	2.62%	3.78%	0.75%

^A Information obtained from a survey of established mosquito control districts in Louisiana

^B Insurance and Utilities in one district are paid by separate governmental entity resulting in low cost values.

Examining Tables 1 - 4 does show one common trend. The two largest expense categories are personnel (salaries and benefits) and chemicals. Fortunately, there is some flexibility in these categories that would allow the developing abatement district to modify costs without drastically reducing the effectiveness of the program. This is particularly true for

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personnel expenses. Newly established districts may be forced to limit the number of employees it hires due to funding limitations. In this case, employees would be asked to take on additional responsibilities rather than limit or eliminate any component of the program.

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While chemical expenses can also be modified slightly, extreme care should be taken to limit the impact of reduced costs on the program's effectiveness.

Using the information taken from the survey of established mosquito abatement districts, a typical operating budget for a mosquito abatement district was developed. Two funding levels were assumed and the relationships between individual cost items to total costs were used to estimate costs for the operating budgets (See Table 5). In addition to the operating expenses, estimated capital outlays for these two funding levels were estimated (See Table 6).

Table 5 shows operating expenses that could be expected for an abatement district at \$1,000,000 and \$500,000 budget

levels. To a large extent, the availability of funding will determine the size and scope of the program developed. However, it is highly unlikely, with few exceptions, that a district will be able to totally eliminate a cost category and still expect to have an effective abatement program. As seen in Table 5, no expense category has been eliminated when comparing the two funding levels. Limiting the number of personnel hired offers the highest cost savings for an abatement district. Doing so, however, generally requires employees to take on multiple responsibilities so that the program continues to offer effective and efficient services. Cost savings in the remaining expense categories can be linked, in general, to a smaller staff.

Table 5. Estimated Operating Expenses Associated With In-House Mosquito Abatement Programs At Two Funding Levels^E

Expense Item	\$1,000,000 Budget Total Cost	\$500,000 Budget Total Cost
Salaries		
Director	\$45,000	\$45,000
Assistant Director	\$0	\$0
Biologist/Entomologist	\$30,000	\$0
Administrative Assistant	\$24,000	\$20,000
Clerical	\$18,000	\$0
Mechanic/Shop Foreman	\$24,000	\$24,000
Inspector	\$18,000	\$18,000
Inspector	\$18,000	\$0
Inspector	\$18,000	\$0
Night Spray Supervisor	\$0	\$0
Spray Systems Supervisor	\$25,000	\$0
Seasonal Labor	\$37,800	\$15,120
Total Salaries	\$257,800	\$122,120
Employee Benefits (Approximately 37% of full time salaries) ^A	\$81,410	\$39,595
Total Salaries and Employee Benefits	\$339,210	\$161,715
Office Supplies		
Office Supplies	\$5,677	\$3,570
Shop Supplies	\$12,607	\$9,967
Laboratory Supplies	\$1,716	\$1,363
Fuel	\$30,000	\$19,583
Chemicals	\$200,000	\$110,000
Insurances ^B	\$50,000	\$14,754
Rentals	\$5,320	\$1,567
Contractual Services/Aerial Applications ^C	\$70,170	\$25,521
Shop Repairs	\$18,108	\$11,488
Other Repairs	\$11,892	\$8,723
Utilities	\$9,000	\$8,000
Advertising	\$5,614	\$1,000
Other Miscellaneous	\$6,386	\$2,000
Total Operating Expenses	\$765,700	\$379,250

^A Employee benefits include retirement contributions, health, dental, and life insurance, social security, workmens comp, and unemployment.^B Insurances include general and auto liability, fire and extended coverage, and miscellaneous other insurance.

^C Developing districts may choose to initially eliminate aerial applications. This would provide funds that could be used to increase capital investment in equipment or placed into a contingency fund. If aerial applications were eliminated, chemical expenses in this budget could be reduced. These cost savings in chemical expenses could also be used to increase capital investment in equipment or placed into a contingency fund.

^D Advertising would include publication and printing of material used in educational and community outreach activities of the district.

^E The estimates provided reflect only potential expenses for operating an in-house program. Parishes that contract the program with a private firm would be expected to have different expense categories. Generally, contracts are based on major program components (i.e. the parish would pay a fee for sampling and surveillance, chemical control, disease surveillance, public education, etc.)

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In addition to limiting staff and limiting other operating expenses, there is some flexibility in and among the expense categories. This flexibility may allow an abatement district to find cost savings in certain categories, which would allow increased spending in other categories. The ability of an abatement district to modify expenses in some or all of the expense categories will be influenced by a number of factors. Specific costs for an abatement district for many of the categories can be influenced by the part of the state in which the district is located. Other factors that can influence costs are the ability or use of intergovernmental agreements and cost sharing among governmental entities within the district. Contracting services with an existing abatement district may offer some costs savings over providing all services in-house. In addition, existing governmental entities (i.e. police juror, etc) may be able to provide some cost sharing for some expense categories.

Table 6 shows the capital investment expenses for an abatement district at two funding levels. As with the operating expenses, there is some flexibility in the amount of investment made in equipment. To a large extent, the amount of investment in equipment will be dependent on the size of the staff of the district. Smaller staffs would be expected to require less equipment. In addition, some equipment can be used for multiple tasks, which can reduce total capital investment. As with operating expenses, there has to be a delicate balance between the amount of capital investment and the effectiveness of the program. Limiting investment in equipment can drastically affect the ability of the abatement district to adequately provide the necessary services. As a result, capital investment decisions, as well as decisions regarding operating expenses, should be made with the effectiveness and efficiency of the program in mind.

Table 6. Estimated Capital Expenses Associated With In-House Mosquito Abatement Program At Two Funding Levels

	— \$1,000,000 Budget —			— \$500,000 Budget —	
	Price Per Unit	Number	Total Costs	Number	Total Costs
Buildings^A			\$0		\$0
ULV Units					
For Trucks	\$9,000	5	\$45,000	3	\$27,000
For ATVs	\$3,000	2	\$6,000	0	\$0
Total ULV Units			\$51,000		\$27,000
Larviciding Units					
For Trucks	\$2,000	2	\$4,000	2	\$4,000
For ATVs	\$200	2	\$400	0	\$0
Total Larviciding Units			\$4,400		\$4,000
Hand Foggers	\$1,500	2	\$3,000	1	\$1,500
Pumps For Insecticide Handling	\$150	1	\$150	1	\$150
Shop Equipment & Tools			\$2,500	0	\$2,500
Light Traps (New Jersey)	\$300	15	\$4,500	10	\$3,000
Communication Equipment			\$16,500	0	\$5,400
Office Equipment^B			\$17,250	0	\$14,200
Vehicles^{C, D}					
Pickups-Adulticiding	\$15,000	3	\$45,000	2	\$30,000
Pickups-Larviciding	\$15,000	2	\$30,000	1	\$15,000
Pickup/Extended Cab- Director	\$18,000	1	\$18,000	1	\$18,000
Pickup-Entomologist	\$15,000	1	\$15,000	0	\$0
Pickup- Mechanic	\$15,000	1	\$15,000	0	\$0
Pickup with lift,wrench	\$18,000	0	\$0	0	\$0
ATVs	\$6,000	2	\$12,000	0	\$0
Total Vehicles			\$135,000		\$63,000
Total Capital Outlay			\$234,300		\$120,750

^A No capital investments in buildings were assumed. Developing districts are often forced to use existing buildings and facilities of other governmental entities due to limited funding. This is often done to ensure adequate investment in equipment needed to provide an effective abatement program.

^B Office and laboratory equipment were combined in one expense category.

^C Under both funding levels, it was assumed that some of the purchased pickups would be used for both adulticiding and larviciding activities.

^D Vehicles and a number of other equipment may be purchased via state contract with significant savings

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