

AQUACULTURE AND FISHERIES CENTER OF EXCELLENCE

STATION AND SAFETY GUIDELINES



Station and Safety Guidelines Table of Contents

I.	STATI	ON RULES	3
	A.	Facilities Assignments	3
	В.	Scheduling Assistance	3
	C.	General Use Items	3
		1. Boats, Motors, Trailers	3
		2. Motor Vehicles	3
		3. Water Usage	4
		4. Harvesting Equipment	5
		5. Construction Materials	5
		6. Equipment/Tools	5
		7. Feed Building	5
	_	8. Oxygen	5
	D.	Equipment Designated for a Project or Researcher	6
	E.	Introduction of Animals to the Fish Station	6
	F.	Fish Mortalities and their Disposal	6
	G.	Monitoring	6
	H.	Security	6
II.	SA	FETY	7
	A.	Water Safety	7
	В.	Ambulance	8
	C.	Tetanus Immunizations	8
	D.	Fire Extinguisher	8
	Е.	Vehicle and Equipment Safety	8
	F.	Electrical Safety	8
	G.	Chemical Safety	9
	H.	Weather Safety	9
	I.	Gun Safety	9
	J.	Alcohol and Drug Policy	9
	К.	Classroom Safety	10
	L.	Fisheries Biology Fieldwork	10
	M.	Miscellaneous Safety	10
	IN.	Safety worksnops	10
III	. Ap	opendix A	12
	A.	Responsibility Affirmation Form	
		and Swimming Statement	13
	В.	Arkansas State Driver Statement	14
	C.	Arkansas State Driving Safety Tips	15
	D.	Experimental Protocol	16
	E.	Request For Indoor Laboratory Space	17
	F.	Chemical Use Form	18

IV. Appendix B

Procedure for Facilities Assignment	20
Plumbing in the Hatchery	22
Feed Use	23
Power Outage Procedure	24
Entergy Meters at the Fish Station	25
Animal Welfare Policy	26
Station Map and Adresses	28
Station General Use Buildings Map	29
Use of Station Alarm System	32
Phone Numbers	33
Policy for Organism Importation	34
	Procedure for Facilities Assignment Plumbing in the Hatchery Feed Use Power Outage Procedure Entergy Meters at the Fish Station Animal Welfare Policy Station Map and Adresses Station General Use Buildings Map Use of Station Alarm System Phone Numbers Policy for Organism Importation

19

STATION RULES

The following are some general "station rules" for researchers, staff and student workers. This list is by no means all-encompassing and will be revised periodically as various situations arise. In order to work on the station in any capacity you must complete the **Responsibility Affirmation Form** (Appendix A). These Guidelines will be issued to new students, faculty, staff and extrahelp by their primary supervisor.

A. Facilities Assignments

All facilities including ponds, hatchery tanks and pools are assigned by Dr. Rebecca Lochmann. As a general rule, Dr. R. Lochmann supervises the wet lab in the S.J. Parker Research Center. Dr. Grace Ramena supervises the wet lab in S.J. Parker Extension Center. Dr. Herbert Quintero supervises the ponds and hatchery facility.

Facilities are assigned once per year. All facilities requests require submission of an **Experimental Protocol** (Appendix A). An Experimental Protocol must accompany any facilities request at any time. Please refer to the **Facilities Assignment Policy** (Appendix B) to understand how to get research and storage space. Facilities that are not assigned to you should be left alone. **Please do not engage in activities that will have a negative impact on facilities or research.**

B. Scheduling Assistance

If you need assistance with a project (construction for an experiment, stocking, harvesting, transporting, etc.) please let the Station Manager know two weeks in advance. The longer you wait to arrange for assistance, the less likely the Station Manager will be able to provide you with items you need (tools, equipment, manpower, etc.) Last minute requests are at your own risk.

C. General Use Items

1. Boats, motors, trailers

All boats, boat trailers, motors and the fishing trailer are arranged by Dr. S. Lochmann, Dr. Eggleton, and Scott Jones. Usage should be arranged through them. Boats may be used for research or class. These items are stored at the Fish Shop Complex (aka The Boat Barn).

2. Motor vehicles

In order to drive a UAPB motor vehicle, a driver must fill out an **Arkansas State Driver Statement** (Appendix A, form VSP-1). If one is not filled out, a person may not drive any UAPB vehicles. UAPB does not allow undergraduates to drive state vehicles. Other drivers must be at least 18 to drive state vehicles. If you cannot drive a vehicle and/or do not have a driver's license you must arrange for your driving lessons off station property. Station personnel will not teach you how to drive.

Station trucks are used for field research and project needs off-station. Conferences do not qualify. Vehicles may not be kept overnight at your home. These vehicles must be checked out on the calendar in the VAPD Building and their logs must be filled in. Choose your truck based on the type of truck required first and availability second. When these vehicles are returned, they must be **backed in** under the truck shed.

If you return the vehicle during normal working hours, fuel it up at the Motor Pool on your way to the station. If you return the vehicle outside normal working hours, come back and fill it up as soon as the Motor Pool opens. You need a pin number from Motor Pool personnel to operate the gas pump. Also, write gallons of gas received in the truck log.

If the road vehicles are not available, you may make arrangements with the University Motor Pool to rent a vehicle.

All vehicles will have keys removed and stored in the VAPD Building office next to the office door each day.

Do not smoke in the vehicles.

Credit cards for gas may be checked out from the Controller's Office.

All personal vehicles will be parked in the parking lots, including the central lot between Office Trailer 1, the booster pump shed and the Feed Building; the base of the levee near pond 94; the Water Quality Lab between the staircase and the east end of the building.

c) Golf Carts

Golf carts can carry 300lbs in the bed. Each time you unplug a cart from the charger, hang the plug up. **Do not leave the plug on the ground.** Each time you finish with a golf cart, clean it out and plug it into the charger.

d) Utility Vehicles (e.g. Kubotas)

These vehicles may be used for pulling seines, taking Dos, feeding, and other station duties. The beds can carry 700lbs.

e) Trucks Chevrolet S-10 H (365 HKI) and S-10 F (547 FIF)

These trucks are for use on station and around Pine Bluff only.

3. Water Usage

- a) The **Reservoir** provides water for:
 - 1. *Ponds 0- 112* which rely on gravity flow from the reservoir. Anytime water is used to fill ponds, pools or tanks, the Station Manager should be notified. Increasing or reducing usage alters flow to any existing open valves. Saran screens are useful to prevent trash fish introduction into the ponds. Any researchers needing them must provide their own. Notification of water usage also ensures that water levels in the reservoir can be managed and maintained.
 - 2. *The Holding Facility (aka The Vats)* that can be supplied by gravity flow or pumped water. If too many valves are open on the ponds, gravity flow will not work here.
 - 3. *Hatchery* water that is pumped through a small sand and gravel filter system located on the north wall of the Maintenance Shed.

- b) The two shallow wells (200feet) provide water for the reservoir.
- c) The **4**" deep water well (800 feet) provides water for the Hatchery.
- d) The **large deep water well** (800 feet) normally provides water for Ponds 71-112. Valves may be adjusted to route this water to ponds 41-70, the hatchery, and the holding facility.
- e) The **booster pump** may be used to push reservoir water through the lines at a faster pace. When it is in use, it fills all lines that receive reservoir water (vats, ponds, hatchery, etc.) so it is important to have valves closed at the vats. When the booster pump is on, the vats should be checked for flow.

Be sure you understand the attached *Plumbing in the Hatchery* document (Appendix B, page 22).

4. Harvesting Equipment

At least one week's notice is necessary prior to harvesting/sampling. Seine, dip net, vehicle and equipment repair may be necessary within this timeframe. Upon completion of harvest, **the person responsible for the study harvested must ensure all equipment is cleaned and put back in the correct place** (*please do not confuse "correct" with "where you found it"*). Seine nets will be hung immediately after a harvest is complete. Do not leave nets out on the levees, they are expensive and their repair is time consuming. Treat them with care.

5. Construction Materials

Appropriation of any general use construction materials (lumber, pipe, electric, etc.) should be cleared with the Station Manager first. We have a supply of materials to help meet station needs and emergencies. Station supplies are available to prevent delays while waiting for a purchase order. If you use station supplies, please restore them with your next Purchase Order.

6. Equipment/Tools

All tools, equipment and tractors should be replaced after use each day. They should be cleaned. Any damaged or broken tools should be reported to the Station Manager. Many tools are under lock and key due to Walking Tools Syndrome. Ask the Station Manager to assist you with their liberation.

7. Feed Building

All bagged feed must be stored on the metal pallets. Do not use wood pallets for feed storage. Keep all open feed contained in closed plastic containers. **Sweep up all feed from the floor as it falls.** No researcher should have more than 20 empty bags on their pallet at any given time and all these bags must be completely empty of feed and folded.

8. Oxygen

All oxygen bottles in the Maintenance Building should be labeled FULL, IN USE, or EMPTY. Notify the Station Manager if an oxygen bottle has 500 psi or less in it. Assume all oxygen bottles on tank trailers are IN USE and check their fill status before using.

D. Equipment Designated for a Project or Researcher

Such equipment should be stored in a researcher's lockup/lab when not in use. This equipment should not be used without the consent of the primary investigator. The equipment should have the **researcher's name** on it. **Simply coloring an object is insufficient**. The Station Manager can assist in identifying what equipment belongs with what project. Please replace cleaned equipment after use.

E. Introduction of Animals to the Fish Station

Fish can carry diseases. To prevent the introduction of diseases not currently experienced at the Station, all imports must be health checked by one of UAPB's Diagnostic Labs before they are brought on to the station. This includes fish from other farms in and out of state as well as fish from labs on campus. The entire process is explained and regulated by the Organism Importation Needs Committee (OINC) and is found in Appendix B, page 32.

F. Fish Mortalities and Their Disposal

Fish mortalities will be placed in the composter near Pond 43. If you are unfamiliar with the composter, please contact the Station Manager for instructions. If you have more than 500 lbs of mortalities at a time, please contact the Station Manager for assistance. All equipment used to collect mortalities must be disinfected. Fish found on the ground that are not dead may not be returned to the tank or pond without permission from the responsible primary investigator.

G. Monitoring

Each researcher is responsible for his/her own feeding and water quality. If the physical plant aspect (e.g. electricity, water delivery, air delivery, landscaping, pest control) of your pond, pool or tank is not to standard, contact the station manager. The Station Manager and crew do not feed your fish, take D.O. readings, turn on your aerators or manage your pond, pool or tank.

H. Security

All buildings have an alarm system (See Appendix B *Use of Station Alarm System*, page 30). If a building is locked, assume the alarm is armed and be ready to use your code. When you are finished with your building, lock it and set the alarm. At the end of the day, the designated station employee will check that all the buildings are locked, arm the alarms for which s/he is responsible, and assure the vehicle keys are inside the hatchery. This employee must do the lock down even if people remain on the station. Be sure you have keys and access codes to do your work and remember to lock and arm everything behind you.

The alarm system locks both gates at all times after hours (4:30 pm – 8:15 am and all weekend). When you work on the station after hours you must call UAPB Police (575-8102 or 8103) to notify them of your arrival and again of your departure.

SAFETY

Aquaculture and fisheries are two rewarding occupations. They can also be quite dangerous if safety rules and precautions are not followed. An environment, which mixes water, electricity and equipment, deserves everyone's undivided attention. Do not reward yourself with injury or death.

Be safe. Do not use equipment or chemicals if you do not know how to do so safely. **If** you are asked to do something and you have not been trained to do it, inform the asker. If you plan to do something you have never done before, allow twice as much time as you think it might take. Do not endanger yourself. Be sure you are familiar with the station safety rules.

A. Water Safety

Faculty/Staff: Aquaculture and fisheries research often takes place on, in or near water. Research and support personnel should remain aware of the drowning hazard posed by their work environment. The ability to swim is a critical skill for personnel in this field. If you do not know how to swim, or are a weak swimmer, you are strongly urged and encouraged to take swimming lessons. Work time release for up to one semester of swimming lessons will be granted to personnel who enroll as a student in the UAPB physical education swimming class (Swimming 1112). All AQFI personnel are required to sign the Swimming Statement on page 13.

Students: All AQFI students must enter and pass the UAPB swimming class (Swimming 1112 or 1113), or must pass a swimming test administered by the swimming class instructor. Passing the test without taking the class will fulfill the department swimming safety requirement, but will not render any class credits.

For those who cannot swim, **life preservers** are available for your use at the **Hatchery** building or **Fish Shop Complex**.

Using common sense around the station will prevent dangerous situations from occurring. When lowering standpipes or working underwater, we recommend working in pairs. Most ponds at the station are shallow. If you find yourself in trouble, <u>do not panic</u> and do stand up! If you feel a situation is too dangerous, do not be afraid to ask for help from someone who is more qualified.

If you are working from a boat, you must wear a life preserver. Failure to do so will result in automatic dismissal. There will be no exceptions.

B. Ambulance

Emergency Ambulance Services, Inc. (EASI), 118 North University (536-1124), is the ambulance service that is closest to the ponds. They know how to get to the ponds. Their phone number is next to each phone at the station. Call EASI, if an ambulance is needed. If you call 911 and use a cell phone, you must know your location. 911 emergency services can only track your correct location when you use a land-line telephone.

<u>C. Tetanus Immunizations</u>

All faculty, staff and students who work at the ponds should be vaccinated against tetanus and have an immunization that is biologically effective. Tetanus shots can be obtained from the Health Center (23rd and Hazel).

D. Fire Extinguisher

Fire extinguishers are located on the station near the major access doors of the buildings. These extinguishers are good for paper, wood, gas, oil and electrical fires.

E. Vehicle and Equipment Safety

No one may drive any state vehicle assigned to the Aquaculture Research Station without a valid driver's license, proper insurance, and having filled out the *State Authorization to Operate a Vehicle* form (page 14). Permission to drive one vehicle does not mean that you can drive all vehicles. If you drive a vehicle and have not been cleared to do so, you will be disciplined. Other farm equipment, such as but not limited to the tractors, backhoe, etc. are not to be driven unless you have been cleared by the Crew Chief, Otis Johnson. For those interested, lessons on handling farm equipment are available.

NO vehicle may be driven faster than 20 miles per hour on the Station.

NO one may ride on a pickup truck tail gate. If you ride in the back of a pickup truck, you must sit in the bed in a safe manner.

Report all damaged or unsafe vehicles and what's wrong with them to the Station Manager so that they can be repaired.

The Station Manger may rule a vehicle off limits to you; s/he may designate that a vehicle may be driven only by certain people. If you drive a vehicle that you are not cleared to drive or for which you do not have permission, that act will result in the following disciplinary action to be administered by the Station Manager. The first time, you will receive a warning. The second time, you will be suspended from the station for one week. The third time, you will be barred from working at the station for a period of at least one semester. If you have an accident in a station vehicle and do not have permission to drive that vehicle, you may, at the discretion of the Station Manager, be permanently barred from the fish station, even if it is your first offense.

Any person driving vehicles on <u>wet</u> pond levees will be given a warning upon their first offense and will have their driving privileges suspended for a <u>two-month</u> period upon their second offense. Offenses include, but are not limited to getting stuck and /or rutting up levees when getting unstuck.

F. Electrical Safety

Keep all electrical cords off the ground so others, especially mowers, know where they are. Mowers must be sure electrical cords are off the ground before mowing.

You should only plug electrical devices into ground fault outlets. When an aerator or other electrical device is in a tank or pond, unplug the device before entering the water.

For those involved in electrofishing/boating, a safety course will be conducted by the researchers and their assistants involved in projects requiring electrofishing/boating. No student will be allowed to participate in electrofishing/boating without this course. Students <u>not</u> participating in projects requiring electrofishing/boating <u>may</u> participate in this course.

G. Chemical Safety

Do not use or handle a chemical unless you are cleared to do so by the faculty or the Station Manager. Before using a chemical, make sure you know about the danger(s) that a chemical possesses (e.g., explosive, toxic fumes, etc). Safety equipment is available from the Station Manager. Use appropriate personal protective equipment (PPE) as indicted by the chemical label.

Store chemicals only in authorized places. Label all containers so that everyone knows what chemicals they contain. Unlabeled containers will be disposed of according to safety and toxic waste procedures. Use of ANY CHEMICAL on the station must be reported to the Station Manager. Use the **Chemical Use Form** (Appendix A). Waste chemicals are collected by UAPB Physical Plant contractors. Ask the Station Manager to request this service.

H. Weather Safety

In the event of a thunderstorm, leave the ponds at once, and either leave the station or go into a building.

In the event of a tornado, lie down in a ditch if you cannot make it to a building (bathroom) or other secure structure. The VAPD, HRD and Hatchery all have bathrooms that will provide the best protection.

I. Gun Safety

The only people who may shoot scare devices at the station are the Station Manager, or approved researchers. They can, at their discretion, authorize others to shoot at approved animals. When shooting a scare device, make sure that no one is in your line of sight. Do not shoot towards an electrical outlet, an aerator, a pump or any building. Anyone not authorized to shoot a scare device but who does will be disciplined. Disciplinary action will be determined by the Station Manager and may range from work probation to dismissal.

Check with the Station Manager to learn what firearms may be used on the station. Logs must be kept for rounds fired and snakes or birds killed. All fauna fired upon must be covered by a depredation permit. Only people cleared by the Station Manager may use weapons.

J. Alcohol and Drug Policy

No alcoholic beverages or illegal drugs may be consumed at work. No one who is under the influence of alcohol or drugs will be allowed to work at the station. Violators of this policy will be terminated from work, and will not be eligible to work for at least one full semester. In severe cases, the person will no longer be eligible for employment. Supervisors who allow people to work at the station under the influence of drugs or alcohol will be disciplined.

K. Classroom Safety

Each teacher must create a safety plan for a lab course, regardless if the lab takes place in the field or in a classroom. A copy for this plan must be given to each student on the first day of class. Each student must sign a form indicating that s/he has read the plan, understands it, and agrees to abide by the safety rules. Students who act in an unsafe manner in labs and/or who refuse to abide by the safety rules will be disciplined. The instructor will decide what the discipline will be and will inform the students about this at the beginning of the course.

A copy of the plan must be submitted to the Safety Committee.

L. Fisheries Biology Fieldwork

All faculty, staff and students must wear a life jacket when working on ponds, lakes, reservoirs and rivers and when electrofishing.

Students must receive special training with electrofishing equipment before they are allowed to use it, and they may use it only with proper supervision. See Electrical Safety section, page 8.

No one may drive a vehicle with a boat and trailer unless s/he passed a driving test administered by the crew chief or by a fisheries research leader. No student may drive a boat unless s/he has passed a test administered by a faculty member and/or attended a short course specifically on boat safety. Additionally, **Arkansas law requires all people born after January 1, 1986 to attend a Boater Safety Course. See Safety Workshops below**.

M. Miscellaneous Safety

If you notice anything that appears to be unsafe or any unsafe condition, try to rectify it. If you can't, report it to the Station Manager (or appropriate supervisor) so it may be rectified. In the meantime, warn others about it. If you see inappropriate behavior, e.g., drinking alcoholic beverages, use of illegal drugs, inappropriate use of equipment, horseplay that could result in injury, inappropriate handling of firearms, or any activity that looks dangerous, put a stop to it immediately or notify the proper authorities. Write up the report of any incident-names, times, place and what is going on and give it to the Safety Committee. We need to document this type of behavior in case there is a serious injury. We are trying to prevent accidents or a fatality. Our obligation is to ensure the safety of the students and others who work here.

N. Safety Workshops

CPR, First Aid, AED	We recommend that faculty, staff and students receive CPR training. Training may be obtained via the American Red Cross (534-7312), Jefferson Regional Medical Center (541-8735), or the Arkansas Department of Labor (501- 682-4520)
Annual Safety Meeting:	There will be a yearly safety workshop conducted in the early summer. All AQFI personnel who work in labs or around water are required to attend the Annual Safety Meeting. Those who cannot attend the meeting must watch the department

	safety video. Each year everyone must fill out the Responsibility Affirmation Form and the Swimming Statement. The date of the meeting determines the point after which personnel may not work on AQFI lab or water premises without having attended the meeting or viewed the video. Exceptions must be approved by the Safety Committee.
Electrofishing/Boating:	A workshop will be conducted by Fisheries personnel for all students involved in projects requiring collection of fishes by electrofishing/boating. This workshop will be open to other students as well. Only people who have taken the Boater Safety Course may drive a boat.
Boater Safety:	The Boater Safety Course is available at the Delta Rivers Nature Center in Pine Bluff (534-0011). More information is available at <u>www.agfc.com</u> , at <u>www.boat-ed.com\ar</u> , or call 501 223 6377.

APPENDIX A

Responsibility Affirmation Form

I, ______(Printed Name)

read the latest version of the Station and Safety Guidelines. I understand I am responsible for comprehending these guidelines and agree to abide by them. If I am unclear or unsure of any guidelines or action I may want to take on the station, I will consult the Station Manager BEFORE I proceed. I also acknowledge I am familiar with the following items included in the safety packet issued to me:

- 1) Arkansas State Vehicle Safety Program Driving Safety Tips
- 2) Experimental Protocol Form
- 3) Chemical Use Form
- 4) Procedure For Facilities Assignments
- 5) Feed Use
- 6) Power Outage Procedure
- 7) Animal Welfare Policy
- 8) Use of Station Alarm System
- 9) Animal Importation Policy

AQFI Swimming Statement:

I hereby certify that (check one):

 \Box I can swim. I recognize that even those personnel who do know how to swim should take care not place themselves in situations where they might be at risk from drowning.

 \Box I cannot swim or am not a strong swimmer. I will make sure my supervisor knows this and will not place myself or let myself be placed in a situation where I might be at risk of drowning.

Date:

Signature: _____

ARKANSAS STATE VEHICLE SAFETY PROGRAM AUTHORIZATION TO OPERATE STATE VEHICLES AND PRIVATE VEHICLES ON STATE BUSINESS The following must be completed and signed before authorization to drive on state business will be given.

Agency Code___160____

Agency___University of Arkansas at Pine Bluff – Department of Aquaculture and Fisheries

Employee Name

Drivers License Number_____

Initial Each of The Following:

I understand that as permitted by Arkansas Code Ann. §27-50-906 (6)(A), the Office of Driver Services will notify my employer each time a new violation is added to my driving record. I also understand that my employer has access to my driving record through the SVS System (State of Arkansas Website) through Information Network of Arkansas.

I understand that because of my driving record I may not be permitted to drive on state business.

____I will participate in all required Defensive Driving Classes.

_I will report all accidents that occur on state business to my employer 1) within 24 hours of the occurrence or by the next working day if the accident occurs in a state vehicle and 2) within 7 working days if the accident occurs in a private vehicle.

_____I have read the Driving Safety Tips provided by my employer.

I understand that I must maintain liability coverage, as required by state law, on my personal vehicles that I drive on state business.

Employee Signature

./____/____ Date

VSP-1

ARKANSAS STATE VEHICLE SAFETY PROGRAM

DRIVING SAFETY TIPS

August, 2000

- *Observe Speed Limits and Traffic Laws* Allow sufficient time to reach your destination without violating speed limits or traffic laws.
- Seat Belts Each driver and front seat passenger in any motor vehicle operated on a street or highway in this state is required by law to wear a properly adjusted and fastened seat belt.
- **Cellular Phones** The use of cellular phones by the driver while the vehicle is in motion is strongly discouraged. Even with "hands free" equipment, conversing on the phone takes your attention away from driving, making you less likely to notice hazardous situations.
- **Backing Crashes** Most backing accidents are preventable. Whenever possible, park your vehicle where backing is not required. Know what is beside and behind your vehicle before you begin to back. Back slowly and check both sides as well as the rear as you back. Continue to look to the rear until the vehicle has come to a complete stop.
- Intersection Crashes When approaching and entering intersections, be prepared to avoid crashes that other drivers may cause. Take precautions to allow for the lack of skill or improper driving habits of other drivers. Potentially dangerous acts include speeding improper turn movements, and failure to yield the right of way.
- Weather Related Crashes Rain, snow, fog, sleet or icy pavement increase the hazards of driving. Slow down and be especially alert when driving in adverse conditions.
- **Passing Crashes** When you pass another vehicle, look in all directions, check your blind spots, and use your signal. As a general rule, only pass one vehicle at a time.
- Front End Crashes By maintaining a safe following distance at all times, the driver can prevent front-end collisions in spite of abrupt or unexpected stops of the vehicle ahead. Observe the "two second rule" by following the vehicle ahead at a distance that spans at least two seconds. The following distance should be increased when driving in adverse conditions.
- Security State vehicles should be locked whenever they are unoccupied.
- Engines The engine of a State vehicle should always be turned off before the driver exits the vehicle.

EXPERIMENTAL PROTOCOL

Year:		Amount Budgeted for Current Year:		
Researcher: _		Funding Source :		
Title of Study	:			
Hypothesis:				
Procedures:	1) 2) 3) 4)	Stocking dates:		
Supplies:	Please	e specify type, size and number of fish needed by date:		
Facilities:	Please study	e specify # and types of ponds, pools and tanks (at hatchery) for this		
Construction	Needs:			
Anticipated B	enefits	: (in lay person's terms):		

Request for Indoor Laboratory Space

Name of Scientist: _				
Space Requested (see designation)	e attached listing f	or appropriate I	Building/room	number and
Buildi	ng/Room Number	:: Hatchery		
Desig	nation:			
Intended Use:	Т	eaching		Research
If Teaching, i	ndicate which clas	SS:		
If Research, i Protocol; no s	ndicate which prograce will be assig	ject (use approp ned without a p	priate title from rotocol on file)	Experimental):
Dates needed:	Beginning: _			
	Ending: _			
Brief justification:				

CHEMICAL USE FORM

This form must be turned into the Station Manager after each and every use of any chemical on the Aquaculture Research Station.

1.	D 	ate applied
2.	— T ar	ime oplied
3.	Location where chemical was appli	ed
4.	Area (sq. ft., acres, etc.) treated	
5.	Product name	
6.	Active ingredient	
7.	EPA registration number (on label)	
8.	Total amount of chemical used (gal	, ml, oz. etc)
9.	Air temperature	
10.	Wind speed and direction	
11.	Type of equipment used (tractor sprayer,	backpack sprayer, bucket, etc)
12.	Name of applicator	

APPENDIX B

Procedure for Facilities Assignments

A number of different scientists, support staff, graduate students, and undergraduate students use facilities at the Aquaculture Research Station. These facilities include ponds, tanks, vats, nets, and an assortment of equipment. It is critical for everyone to abide by a common set of rules with regard to use of facilities to avoid chaos and, more importantly, to avoid damages to research studies, research organisms, and to the facilities themselves. The following outlines explicitly the common-sense rules and procedures governing use of ponds, tanks, and vats at the Aquaculture Research Station.

Requesting Facilities During the Scheduled Request Periods

The responsibility for assigning ponds, tanks, and vats for research studies lies with the Director of the Aquaculture/Fisheries Center. Thus, use of ponds, tanks, and vats for studies must be approved by the Director.

The Director sends out a request for **Experimental Protocols** (Appendix A) once a year in the fall and they are due December 15. This serves as the request for facilities for the following calendar year. The request for facilities should include space needed for temporary storage of fish. Scientists are notified of facilities assignments by January 31. Indoor laboratory space needs require submission of the **Request for Indoor Laboratory Space** (Appendix A)

Facilities used for long-term projects should be specified as such during the initial request, but need to be requested during each facilities-request period. This will avoid conflicts over double assignment of those facilities.

It is important that scientists carefully think through all facilities needed, including ponds needed for broodstock, fingerlings, or spawning and tanks and vats for temporary storage of fish. The more carefully thought out the facilities requests, the less last-minute shuffling and trading of tanks that will be needed.

Requesting Facilities at Times Other than the Request Periods

There are many times when new, unanticipated studies may need to be initiated after facilities have been assigned. This should happen only rarely because research studies should be planned in advance of the assignment periods in use and every effort should be made to request facilities during the regular periods. If necessary, however, an experimental protocol must be submitted to the Center Director that includes the request for facilities and must be approved before facilities can be used.

Additional Requests for Temporary (several days) Storage of Fish

Every attempt should be made to include temporary storage needs in the regular facilities requests. However, as new issues arise, it may be necessary to temporarily store fish in other tanks or ponds. Requests for temporary storage should be addressed directly to the Station Manager.

Trading Facilities With Other Scientists

Requests to use facilities assigned to another scientist must be addressed directly to that scientist. If the other scientist agrees to the trade, the Station Manager must be notified in writing, either electronically or with a hard copy. When the pond or vat is returned to the original user, the Manager must be notified again in writing.

Staff and students, both graduate and undergraduate, do not have the authority to trade ponds, tanks, or vats. They should suggest any trade to the scientist they work for and all negotiations for facilities handled between scientists.

Careful planning of the season's research should minimize the need to trade facilities.

Emergencies

Sometimes, power failures, equipment failures, and errors, require immediate rescue and transfer of fish to other tanks. Fish should <u>never</u> be moved to a tank with water in it not assigned to that scientist. Fish can be moved to an empty tank, filled for the emergency situation, only if there clearly is no time to contact the Manager and the scientists involved both with the fish in danger and the facilities in question. However, as soon as possible, the Manager, the scientist to whom that tank is assigned, and the scientist for whom that individual works, must be notified. Home and office telephone numbers are posted at the Station specifically for that purpose. Every effort must be made to return the facilities to the individual to whom they have been assigned as soon as possible.

No action should ever be taken that endangers another study, even to save one's own. Problems with two studies are worse than problems with just one.

Posting Facilities Assignments

The Station Manager will provide both electronic and hard copies of facilities assignments after each allocation has been made. An electronic copy will be made available on the network neighborhood and a hard copy posted in the hatchery building.

PLUMBING IN THE HATCHERY

The plumbing system is an amalgamation of almost three decades of making a better mousetrap. What does this mean for you? As you learn the system it will be incomprehensible that a university would construct such a beast. Due to small amounts of money available at different points on the timeline and changing needs, the system is a patchwork quilt. Do not rail against it. If you can, figure out ways to improve it and discuss your ideas with the station manager.

Hatchery Deep Well

A four inch line enters the north-most room of the hatchery from a deep-water well. This low-iron-content/low alkalinity/low hardness water is aerated, run through a sedimentation tank, filtered with sand and gravel and then carbon. All lines in the hatchery building with WELL written on them have this water.

Reservoir

Two-high-iron content/high alkalinity/high hardness wells deliver water to the reservoir. The reservoir delivers water to ponds 1-70 and can deliver to ponds 71-112. This water also comes to the hatchery, is filtered with sand and gravel. The lines in the hatchery building with RES written on them have this water.

Hot Water

At one time the hatchery was outfitted for boilers and hot water delivery. Some of the pipes have RES and HOT written on them. These pipes do not have hot water. There is no hot water. The hot water lines were reused as Reservoir lines. So you have two water choices: RES or WELL.

Ponds Deep Well

This well normally provides low iron/low oxygen/low hardness/low alkalinity content water to ponds 71-112. It can also provide this water to ponds 41-70. If well water is routed to 41-70, a valve must be closed to prevent the Hatchery from delivering well water in the reservoir lines. This well can also provide water to the vats.

FEED USE

How do I order feed?

Your major professor should guide you in this matter. UAPB procures bulk feed on a contract basis, but bagged feed may be purchased at any time. All bulk feed is ordered through the station manager. Individual researchers will order their own bagged feed by contacting the vendor and using the current market price.

How do I transport feed?

A station truck can be used for this. Trailers are also available.

Where do I store feed?

Most feed is stored in the Feed building at the station. Each researcher has been given an area to store feed. Never take feed from another researcher's area. You may end up with a bizarre feed. Besides, it's not a very nice thing to do. The manager can usually arrange for some feed.

POWER OUTAGE PROCEDURE

Power is out at the hatchery and the generator did not work:

- 1. Call Entergy
 - a. 800 766 1648
 - b. Tell the operator you are at UAPB. Tell the operator your location is identified by meter number 3244328 and account number 4998357.
 - c. Read this to the operator:

This is the University of Arkansas at Pine Bluff Fish Research Station. We have a power outage and we are in danger of fish dying. We need quick response.

d. Ask the operator when the repair trucks should arrive.

Power is out at the ponds:

- 1. Call Entergy
 - a. 800 766 1648
 - b. Tell the operator you are at UAPB. Use the Station Meter chart to tell the operator your location. Use the meter and account numbers that relate to the ponds that have no electricity.
 - c. Read this to the operator:

This is the University of Arkansas at Pine Bluff Fish Research Station. We have a power outage and we are in danger of fish dying. We need quick response.

- d. Ask the operator when the repair trucks should arrive.
- e. If you are alone, call people to help you before you begin part 2.
- 2. Begin emergency aeration.
 - a. Hook tractors up to the Black Cat pump and the PTO driven paddlewheels. If enough tractors are available, hook up the relift pump and the fish graders
 - b. Take the paddlewheels directly to a pond and begin aeration.
 - c. Take the Black Cat pump directly to a pond and begin aeration.
 - d. Take the fish graders to a pond and drop the graders in the water. Now move the pump portion to a pond and begin aeration. Use the relift pump in a similar fashion.
 - e. Once the large pumps are in action, all the small gasoline engine pumps should be collected for distribution to other ponds. The pump, a suction hose, oil and gas are needed. Check oil before starting the pumps.
- 3. One person needs to check DOs. As DO rises in a pond, the pumps or paddlewheel should be moved to another pond requiring aeration.
- 4. The person checking DOs needs to keep the tractor drivers informed of where they need to be.

ENTERGY METERS AT THE FISH STATION

Meters at Aquaculture Research Station, 2101 Oliver Rd, Pine Bluff, AR

		Account	Well
Entergy Meters	Meter Number	Number	Number
Well 1, near pond 0	3449823	44925840	130001
Well 2, west of reservoir	3266614	5011796	
Well 4, deep well near pond 73	3247064	6833685	
Ditch Pump	3428847	5011960	
Booster Pump	3424544	85272680	130425
Power pole, pond 0	3363341	89263743	
Power pole, pond 20	3363339	89263966	
Power pole, pond 26	7936168	2397438	
Power pole, pond 42	5317997	8291478	
Power pole, pond 70	3248481	4824041	
Power pole, pond 92	3227102	5862024	
Power pole, pond 104	3218389	5861810	
Hatchery, Maintenance, Well 3	3244328	4998357	
Truck shed	3436446	5352281	
Feed building	3246822	5352505	
Value-Added Product & Demo (VAPD)	3561294	2614493	
Aquaculture Engineering Demo (AEDB)	3456028	1896893	
Water Quality Lab Trailer	3458770	9367558	
Fisheries Shop	3205856	6990493	
Hatchery Research and Demonstration			
(HRD)	3181020	43494806	
Office Trailer 1	3478636	55838577	
Office Trailer 2	3248480	55838676	
Maintained Shop	3418711	77981637	
Contacts:			
Entergy phone number	800 368-3749		
Entergy for UAPB	800 766-1648		
Entergy for UAPB FAX	800 223-3017		
Physical Plant	575-8831		

Aquaculture/Fisheries Center Animal Welfare Policy 2005

The faculty, staff, and students of the UAPB Aquaculture/Fisheries Center conduct scientific research using living animals and recognize that the welfare of those animals is of paramount importance both for ethical reasons and to insure the quality of research results. In order to insure that animal welfare concerns are adequately addressed, all research done at the Center adheres to the following principles.

1) Fish are animals and must be treated with care and respect.

2) While there is significant scientific evidence showing that fish do not experience pain in the same way as do higher animals, there is sufficient controversy that we will always err on the side of caution. Fish will be handled as gently as possible and anesthetizing prior to procedures that would be reasonably expected to cause significant pain in a higher animal.

3) Studies will be designed to minimize trauma to experimental animals to the greatest practical extent.

4) Fish in studies will be protected from disease by biosecurity guidelines administered by the Center Organism Importation Needs Committee. In the event that fish show signs of diseases, the Center Fish Disease Laboratory will be consulted and the fish provided with disease treatments most appropriate to the study and to their potential food animal status. All dead animals will be promptly removed from ponds, tanks or other fish holding containers.

5) Environmental conditions will be maintained to provide oxygen levels and water quality consistent with good fish health. In the event that water quality deteriorates below acceptable levels, every practical effort will be made to re-establish acceptable conditions. The nature of these efforts will be chosen based on the study design.

6) When fish are sampled, harvested, or handled, they will be kept submerged as much as possible and tranquilizers, salt, and prophylactic disease treatments used as appropriate to mitigate the effects of stress. Fish will be gradually acclimated to temperature changes.

7) Wild vertebrate animals (snakes, turtles, amphibians, mammals, birds) invading experimental ponds or other experimental facilities will be harassed into leaving the experimental site, returned to the wild, or (if allowed by state and federal law) killed by the most humane practical method.

8) When studies are completed, remaining live animals will be sold for aquaculture or food use, donated to state or federal agencies, or euthanized by an overdose of a suitably labeled fish anesthetic and disposed of according to station policy.

9) When wild fish are sampled they will be handled gently, maintained in suitable containers with sufficient oxygen and water quality. If they are to be preserved, they will be euthanized with a suitable labeled fish anesthetic prior to preservation. If they are to be measured, tagged, or subjected to other procedures prior to live release, the fish will be tranquilized if such treatment decreases trauma experienced by the animals and their release to the wild does not conflict with drug use regulations. When wild fish are released, it will be into an appropriate habitat as close to their site of capture as practical.

10) Electrofishing procedures will be periodically reviewed and equipment updated if necessary to ensure the least harm to fish during sampling procedures. For more details see *Snyder*, *D. E. 2003*. *Electrofishing and its harmful effects on fish*. *Information and Technology Report USGS/BRD/ITR-2003-0002*, U. S. Government Printing Office, Denver, CO.

11) All research will be conducted with all of the permits, licenses, and animal welfare oversight required by state and federal law.

12) For more detailed guidance than that provided by this policy, the American Fisheries Society "Guidelines for the Use of Fishes in Research" (currently at <u>http://www.fisheries.org/html/Public_Affairs/Sound_Science/Guidelines2004.shtm</u>) will be followed. Those desiring additional information on fish welfare may consult this comprehensive review.

Erickson, H. S. 2003. Information resources on fish welfare 1970-2003. Animal Welfare Information Center Resource Series N. 20, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, MD.

AQUACULTURE



Office Trailer 1	2490 UAPB Farm Road	HRD	2510 UAPB Farm Road
Office Trailer 2	2492 UAPB Farm Road	Hatchery	2520 UAPB Farm Road
Water Quality Lab	2498 UAPB Farm Road	VAPD	2540 UAPB Farm Road



HATCHERY - ROOM 1 & ROOM 2



30

UAPB-Aquaculture Experimental Research Station



42 44 41 43	46 48 44 47	50 52 49 51	54 56 53 55 8	5860 6	2 64 66 63 66	68 7D
71	74	77	80	83	86	89
72	75	78	81	84	87	90
73	76	79	82	85	88	91
92	95	98	101	104	107	110
93	96	99	102	105	108	111
94	97	100	103	106	109	112

USE OF THE STATION ALARM SYSTEM

Most buildings at the Fish Station are equipped with an alarm system. To enter you must have a key and a valid code to deactivate the alarm system. There are two system devices. The Storage Facility and Entrance Gates use one type of keypad and the other buildings use a different type of keypad.

Entrance Gates:

These keypads require you to enter your code number and press Enter.

Storage Facility:

This keypad requires you to enter your code number. This will disarm your storage room. Every time you need to open a door, you must enter the code. You never arm this system, it reactivates itself.

AEDB and Shop:

The outside keypads at the door require you to enter your code number to enter the building. This also disarms the alarm system so you can use the building. They do not arm the system; use the keypads inside the building for that (see next paragraph).

Office Trailer 1 and 2, VAPD, Hatchery, Feed Building, HRD, Maintenance Building, and Water Quality Lab:

Keypads in these buildings may be armed and disarmed. To arm a building you must have all the doors closed and enter your code and press ARM. The one minute countdown will commence and after 60 seconds, the system will be armed. This one minute period allows you to exit the building without setting off the alarm.

In order to disarm the system, you need only enter your code. You have 30 seconds to do this successfully. If your code is rejected, press CLEAR before trying the code again.

Things to remember with the system:

- 1) Do not share your code with other people.
- 2) If a door to a building is locked, do not unlock it without being prepared to use your code to disarm the system.
- 3) If you set an alarm, you must also lock the building, otherwise others who come after you may not be prepared to disarm the system you have armed.
- 4) If you trigger the alarm accidentally, you must call UAPB police at 575-8102 and let them know who you are and what you have done. This phone number is listed by every phone on the station. Then call the Station Manager at 870.718.7998.
- 5) The VAPD, Feed building, Hatchery, Maintenance Building and Shop are on the same system. If you arm one of these buildings, you arm them all. Make sure people are not in another building when you do so.
- 6) The AEDB and Trailer 2 are on the same system.
- 7) Office Trailer 1 and HRD South are on the same system.
- 8) All other areas have their own system.

PHONE NUMBERSNAMEWORK PHONE HOME/CELL PHONE

Dr. Herbert Quintero	870-575-8121	870-341-0471
Mr. David Bush	870-575-8967	870-489-5708
Mr. David Brewer	870-575-8967	870-489-8418
Faculty Members		
Dr. Rebecca Lochmann	870-575-8124	870-692-3624
Dr. Steve Lochmann	870-575-8165	870-692-3623
Dr. Michael Eggleton	870-575-8100	
Dr. Amit Sinha	870-575-8136	870-209-1635
Dr. Lin Xie	870-575-8157	
Dr. Uttam Deb	870-575-8108	
Dr. Grace Ramena	870-575-8137	
Extension Faculty		
Dr. Anita Kelly	501-676-3124	
Dr. Nilima Renukdas	501-676-3124	
Mr. Bauer Duke	870-575-8143	870-718-7998
Mr. Scott Jones	870-575-8185	

EMERGENCY

UAPB Police	575-8102
UAPB Police	575-8103
EASI Paramedic/ambulance	536-1124
Entergy (Identify with meter 3244328)	1-800-766-1648

If you are at the station between 6:00 pm and 6:00 am, please call UAPB Police to let them know you are here.

University of Arkansas at Pine Bluff

Aquaculture/Fisheries Center of Excellence

Policy for Organism Importation

Introduction

The UAPB Aquaculture and Fisheries Department conducts a variety of research studies applicable at local, regional, national and international levels. Such research may involve the use of living organisms in the confines of a laboratory or within ponds or tanks at the Aquaculture Research Station. The Organism Importation Needs Committee (OINC) was created by the Aquaculture/Fisheries Center to reduce risk factors associated with the importation of new live animal and plant species to Center facilities. The charge given to the OINC was to set guidelines to prevent possible contamination of these facilities, or worse, public lands and waters, with University-introduced organisms. The following criteria were developed with the goal of creating a measured approval process that increases the required detail and scrutiny corresponding to the perceived increase in potential risk.

It is Aquaculture/Fisheries Center policy that approval must be obtained from the OINC and the Center Director before any new species or strains of live organisms are introduced into Center facilities. This includes the Aquaculture Research Station, the Lonoke Farm, and all other facilities and laboratories, either on or off campus. Please use the provided flowchart to determine your obligation.

Assessment Requirements and Criteria

Researchers are asked to justify bringing in a new organism. This document will provide researchers with the criteria needed by the committee to decide the appropriateness of bringing new organisms to UAPB. Researchers are encouraged to provide information and documentation for each criterion, using Forms 1 and 2, in order to expedite the committee's decision. The committee may respond verbally or through written communication. The OINC hopes this process will help researchers understand the importance in considering issues involved with the importation of new organisms.

Justification

New organisms may be brought into the department for legitimate research and educational purposes only.

Any organism not listed on the Clean List must be evaluated by the OINC.

The requester must provide the committee with a compelling argument for bringing a new organism into the department in order to justify the risk to existing organisms both on and off UAPB property.

The requester must provide the committee with a proposal explaining the general outline of the project, to include (please use Form 1):

species used research facilities required containment strategy proposed length of stay disposal/removal

The requester must give information and documentation to satisfy the following criteria (please use Form 2): (Information on non-indigenous aquatic species is available at http://nas.er.usgs.gov/fishes/fisheslist.htm)

1. Temperature tolerance: what is the range of temperature tolerance of the organism?

2. Natural distribution: where does this organism normally occur; is it native to the area; is it an introduced, but well established species; is it exotic?

3. Ability to disperse on and off site: what is the likelihood the organism will move from pond to pond, tank to tank, out drain pipes, back up through inlet pipes, etc.?

4. Breeding potential: reproductive ability in the research environment and in an environment into which it could escape.

5. Potential to affect other research: e.g. if organism is kept in an aquarium in a lab the potential may be low. The same organism kept in a pond perhaps could negatively impact other research very easily.

Using these criteria, the OINC will assess the risk to current research, facilities, and surrounding environment and make its recommendation to the requester. As this process continues, criteria may be added or deleted.

The researcher should consider the resulting costs if the organism escapes, spreads to other research or destroys facilities.

Remember:

Current Aquaculture/Fisheries Center policy requires that all organisms brought to UAPB must be health checked by the diagnostic lab according to the lab's protocol. This policy

extends to the introduction of new species as well. Always check with the lab before organism importation to verify how many animals may need to be sacrificed.

Organisms Imported to Diagnostic Labs

Due to the frequency of unknown organism importation to the UAPB Center diagnostic labs, these labs will not be required to justify each case. The labs will be responsible for using a standard policy which will receive, contain, and dispose of organisms. This Containment and Sanitation Policy will be developed by the diagnostic labs and approved by the Center Director. No equipment will leave the labs for use at other UAPB facilities unless a sanitation procedure cited in the previously mentioned policy has been utilized. This policy must be posted and all lab workers must understand and use the policy.

No organisms will leave the labs for use at other UAPB facilities unless they have passed through Route 1 of the Flowchart.

Flowchart

Bringing in an organism:

 Is organism going to a diagnostic lab? Yes -> use Route 2 No -> use Route 1

Route 1

1. Is organism on Clean List?

Yes -> a) turn in protocol for facilities space procurement
b) have organisms health checked before entry into facilities space.

No -> Submit Forms 1 and 2 to the OINC

Route 2

1. Is organism destined solely for the diagnostic lab so it may be covered by the Containment and Sanitation Policy?

Yes -> No action with OINC, see Organisms Imported to Diagnostic Labs No -> If the organism may be used/stored at other UAPB facilities, go to Route 1.

Clean List

The Clean List is currently defined as all species listed in the Central Region in the <u>Fishes</u> <u>Of Arkansas</u>.

Policy for Organism Importation

Form 1

Please use Flowchart and read the policy completely before filling this out.

Request to Import Unlisted Species to a UAPB Aquaculture/Fisheries Center for Excellence Facility

 Date_____
 Requester Name_____

1.Species to be imported:_____

2. What research facilities are required?

3. How will you confine the organisms to these facilities?

4. What is the proposed length of stay of the organisms at these facilities?_____

5. What method of disposal/removal will you use when the organisms are no longer needed?______

6. Please give a short outline of your project which requires this species.

7. How does this project fulfill the Aquaculture/Fisheries Center's mandate to its stakeholders in Arkansas?

Policy	for	Organism	Importation
	-		

Please use Flowchart and read the policy completely before filling this out.

Background information for(Si	as listed on Form 1			
Date	Requester Name			
1. What is the range of temperature tole	erance of the organism?			
2a. This species is (circle one) exotic native introduce	d, but well established			
2b. Where does this organism normally occur?				
3. What is the likelihood the organism drain pipes, back up through inlet pipes,	will move from pond to pond, tank to tank, out etc.?			
4. What is the reproductive ability in the research environment and in an environment into which it could escape?				
6. What is the potential effect of this org	ganism on other research?			