

# ARKANSAS REGISTER

## Proposed Rule Cover Sheet



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Agency or Division Name Legal Division

Other Subdivision or Department, If Applicable \_\_\_\_\_

Previous Agency Name, If Applicable \_\_\_\_\_

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Name of Rule J1.01 Approved Commercial Aquaculture Species List

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Location and Time of Public Meeting 2 Natural Resources Drive, Little Rock AR 72205, 9:00 a.m.

## J1.01 Approved Commercial Aquaculture Species List

The intent of this list is to delineate species that pose minimal threat to Arkansas' aquatic biota. These farm reared species may be freely imported into the state once appropriate permits and health certificate requirements have been met, and traded within the state, for commercial aquaculture purposes. ~~This does not approve the release of any species into the public waters of the state.~~ All imported species must comply with health certification requirements (AGFC Codes 35.11, 35.12, and Addendum I1.00)

\*Denotes non-native species

### Class Crustacea

#### Family Cambaridae

*Procambarus acutus* (White River crayfish)

*Procambarus clarkii* (Red Swamp crayfish)

#### ~~Family Palaemonidae~~

~~\**Macrobrachium rosenbergii* (Malaysian prawn) — certified disease free (certification must be posted onsite)~~

### Class Osteichthyes

#### Family Polyodontidae

*Polyodon spathula* (Paddlefish)

#### Family Lepisosteidae

*Lepisosteus oculatus* (Spotted gar)

*Lepisosteus osseus* (Longnose gar)

*Lepisosteus platostomus* (Shortnose gar)

#### Family Amiidae

*Amia calva* (Bowfin)

#### Family Anguillidae

*Anguilla rostrata* (American eel)

#### Family Clupeidae

*Alosa chrysochloris* (Skipjack herring)

*Dorosoma cepedianum* (Gizzard shad)

*Dorosoma petenense* (Threadfin shad)

## Family Salmonidae

- \* ~~*Oncorhynchus clarki* (Cutthroat trout)~~
- \* ~~*Oncorhynchus mykiss* (Rainbow trout)~~
- \* ~~*Salmo trutta* (Brown trout)~~
- \* ~~*Salvelinus fontinalis* (Brook trout)~~
- \* ~~*Salvelinus namaycush* (Lake trout)~~

## Family Esocidae

*Esox americanus* (Grass pickerel)  
*Esox niger* (Chain pickerel)

## Family Cyprinidae

- \* *Carassius auratus* (Goldfish, including ornamentals)
- \* *Ctenopharyngodon idella* (Grass carp) - USFWS CERTIFIED TRIPLOIDS ONLY
- \* ~~*Mylopharyngodon piceus* (Black carp)~~
- Cyprinella venusta* (Blacktail shiner)
- \* *Cyprinus carpio* (Common carp, including koi) – Koi must be obtained from a permitted source and species spawned and reared only in the United States.
- Hybognathus nuchalis* (Mississippi silvery minnow)
- Luxilus chrysocephalus* (Striped shiner)
- Lythrurus umbratilis* (Redfin shiner)
- Notemigonus crysoleucas* (Golden shiner)
- Notropis atherinoides* (Emerald shiner)
- Notropis boops* (Bigeye shiner)
- Notropis buechanani* (Ghost shiner)
- Notropis volucellus* (Mimic shiner)
- Opsopoeodus emiliae* (Pugnose minnow)
- Pimephales notatus* (Bluntnose minnow)
- Pimephales promelas* (Fathead minnow)
- Pimephales vigilax* (Bullhead minnow)
- Semotilus atromaculatus* (Creek chub)

## Family Catostomidae

*Erimyzon oblongus* (Creek chubsucker)  
*Erimyzon sucetta* (Lake chubsucker)  
*Hypentelium nigricans* (Northern hogsucker)  
*Ictiobus bubalus* (Smallmouth buffalo)  
*Ictiobus cyprinellus* (Bigmouth buffalo)  
*Ictiobus niger* (Black buffalo)  
*Minytrema melanops* (Spotted sucker)  
*Moxostoma erythrurum* (Golden redhorse)  
*Catostomus commersoni* (White sucker)

## Family Ictaluridae

*Ictalurus furcatus* (Blue catfish)  
*Ameiurus melas* (Black bullhead)  
*Ameiurus natalis* (Yellow bullhead)  
*Ameiurus nebulosus* (Brown bullhead)  
*Ictalurus punctatus* (Channel catfish)  
*Noturus gyrinus* (Tadpole madtom)  
*Noturus nocturnus* (Freckled madtom)  
*Pylodictis olivaris* (Flathead catfish)

### **Family Aphredoderidae**

*Aphredoderus sayanus* (Pirate perch)

### **Family Cyprinodontidae**

*Fundulus notatus* (Blackstripe topminnow)  
*Fundulus olivaceus* (Blackspotted topminnow)

### **Family Poeciliidae**

*Gambusia affinis* (Mosquitofish)

### **Family Atherinidae**

*Labidesthes sicculus* (Brook silverside)

### **Family ~~Percichthyidae~~ Moronidae**

*Morone chrysops* (White bass)  
*Morone mississippiensis* (Yellow bass)  
\* *Morone saxatilis* (Striped bass)

### **Family Centrarchidae**

*Centrarchus macropterus* (Flier)  
*Lepomis cyanellus* (Green sunfish)  
*Lepomis gulosus* (Warmouth)  
*Lepomis humilis* (Orangespotted sunfish)  
*Lepomis macrochirus* (Bluegill)  
*Lepomis marginatus* (Dollar sunfish)  
*Lepomis megalotis* (Longear sunfish)  
*Lepomis microlophus* (Redear sunfish)  
*Lepomis punctatus miniatus* (Red Spotted sunfish)  
*Micropterus dolomieu* (Smallmouth bass)  
*Micropterus punctulatus* (Spotted bass)  
*Micropterus salmoides* (Largemouth bass)  
*Pomoxis annularis* (White crappie) —less than 6 inches  
*Pomoxis nigromaculatus* (Black crappie)  
*Elassoma zonatum* (Banded pygmy sunfish)

## Family Percidae

*Percina caprodes* (Logperch)

~~*Stizostedion canadense*~~ *Sander canadensis* (Sauger)

~~*Stizostedion vitreum*~~ *Sander vitreus* (Walleye)

## Family Sciaenidae

*Aplodinotus grunniens* (Freshwater drum)

**Family Cichlidae – Species must be obtained from a permitted source and species spawned and reared only in the United States.**

\* *Oreochromis aureus* (Blue tilapia)

\* *Oreochromis mossambicus* (Mozambique tilapia)

\* *Oreochromis niloticus* (Nile tilapia)

## **Class Amphibia**

### **Family Ranidae**

~~*Rana catesbeiana*~~ (Bullfrog)

~~*Rana sphenoccephala*~~ (Southern leopard frog)

## Class Bivalvia

### Family Unionidae

~~*Pygandon*~~ *Pyganodon grandis* (Giant Floater)

~~\* Denotes nonnative species~~

### **VHS Fish Farm Health Inspection Permit:**

It shall be unlawful for any person to import, transport or otherwise receive into the state of Arkansas live fish and/or fertilized eggs from any VHSV-positive state (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and Ontario and Quebec) without first obtaining **appropriate permit (Code 35.01) in addition to** a valid Fish Farm Health Inspection Permit issued by the Arkansas Game and Fish Commission and complying with the provisions of said permit. All persons wishing to ship live fish or fish eggs into Arkansas from VHSV-positive states must first obtain the Fish Farm Health Inspection Permit and a copy of the permit must accompany all shipments into the state, even if the fish are transported by a third party. Furthermore, any person hauling live fish through Arkansas from VHS-positive states are prohibited from discharging water from fish-hauling tanks while within the state. All shipments of live fish or eggs coming into Arkansas must be accompanied by an invoice, ~~or~~ bill of lading, **and appropriate health certificates that clearly describes the origin(s) of all fish and/or eggs in the shipment in compliance with Code 35.03.** Additionally, the fish health inspection report must be no more than 60 days old from date of reported test results at time of application for Fish Farm Health Inspection Permit from Commission.

A Fish Farm Health Inspection Permit shall be an annual permit that is issued in 2 ~~6~~ six-month intervals (refer to Addendum D1.01). The first interval will cover the period of January 1 -June 30, and the second interval will cover the period of July 1 -December 31. The second interval of the permit will be issued only after new semi-annual testing results are submitted to the Commission. For additional information, please refer to Addendum D1.01, I1.01, and Code 35.11.

#### **Health Certificates:**

See Addendum I1.00 for fish health requirements for all live fish and/or fertilized eggs being imported into the state of Arkansas. Required documented must be submitted to the Commission and reviewed prior to importation.

#### **Hybrids:**

It is our intent that production ~~or~~ and offer for sale of any hybrid fish species is permissible if both parent species are included on the Approved Commercial Aquaculture Species List.

#### **Wild Crayfish:**

The harvest and sale of native Arkansas crayfish species that naturally colonize aquaculture ponds and are cultured incidental to production of other aquaculture species is allowed.

#### **Wild Turtles:**

Depredation or relocation of aquatic turtles naturally colonizing in aquaculture ponds and impacting fish production is allowed on aquaculture facilities possessing a valid Resident Fish Farmer Permit, unless the turtle species is otherwise protected. The harvest and sale of native Arkansas aquatic turtle species that naturally colonize aquaculture ponds and are cultured incidental to production of other aquaculture species is allowed with an Aquatic Turtle Harvest Permit or Aquatic Turtle Dealer Permit, unless the species is otherwise protected ~~by other codes~~. See Code Chapter 34.00.

#### **Aquarium Species:**

It is not the intent of this policy to constrain aquarium trade. Marine and tropical ~~aquatic species~~ fish commonly distributed in the aquarium trade may be sold without special permit, as long as they are held only in closed systems (aquaria, tanks, or pools) and are not otherwise prohibited ~~by other codes (e.g. Code 26.13)~~. These species cannot be released into waters in Arkansas.

#### **Aquaponics/ Hydroponics:**

It is not the intent of this policy to constrain aquaponics/ hydroponic production. If live fish and/or fertilized fish eggs are being possessed, propagated, offered for sale, ~~sold~~ or conditional species are being utilized in the system at minimum a fish farm permit is required. Any approved species imported for aquaponics/hydroponics must comply with all requirements set forth in AGFC Code 35.00, Addendums I1.00, J1.00, and V1.00; including health certificate, invoice, and bill of lading requirements.

#### **Restricted Species Conditional Species:**

~~Some species are well established in Arkansas aquaculture but under criticism at regional and/or national levels. While we do not currently restrict the trade in these species, persons possessing or desiring to possess these species are required to apply to AGFC for a Restricted Species Possession Permit. This permit will detail the location of their facilities, measures taken to eliminate the possibility of escape, and the numbers and species to be held (these numbers are best estimates and will only be updated when permit is renewed for the next year). The~~

~~permitted culture of any restricted aquaculture species shall be conducted in a responsible manner that minimizes the possibility of escape. Permitted aquaculturists are required to construct a barrier that prevents escape of juvenile and adult fishes from culture ponds. Pond drainpipes should be double screened prior to any pond drainage with at least one screen being of a mesh size small enough to prevent the passage of any permitted fish present in the pond. These and any other measures listed on the application to eliminate the possibility of escape will be considered the “best management practices” that the applicant agrees to implement. AGFC will maintain records of the number and location of these species in the state, and determine if sufficient precautions are taken to prevent escape into the waters of the state. AGFC will review applications based on the best information available to evaluate the potential for escape. If this potential is acceptably low, AGFC will grant a no-cost special holding permit for these species, renewable annually. In the event that restricted aquatic organisms are released or escape from a permitted facility into waters of the state, the permittee shall notify the AGFC immediately. The permittee shall not be responsible for unforeseen occurrences such as floods, lightning or sabotage. Facilities with ponds prone to flooding shall limit culture of Restricted Species to areas least likely to become inundated. Holders of Restricted Species Possession Permits are expected to assure that buyers of these species in Arkansas also have an approved permit. Failure to comply with permit terms or inability to show adequate measures of escape prevention may result in permit denial or revocation.~~

~~The species covered by these permits include the following:~~

### ~~Family Cyprinidae~~

~~*Hypophthalmichthys molitrix* (Silver carp)  
*Hypophthalmichthys nobilis* (Bighead carp)  
*Diploid Mylopharyngodon piceus* (Black carp)  
*Scardinius erythrophthalmus* (European rudd)~~

### ~~\*\*\*NOTE\*\*\* The species listed below are listed as injurious species~~

~~*Hypophthalmichthys molitrix* (Silver carp)  
*Hypophthalmichthys nobilis* (Bighead carp)  
*Mylopharyngodon piceus* (Black carp)~~

~~The injurious wildlife listing means that under the Lacey Act it is illegal to import or to transport live silver, bighead, or black carp, including viable eggs or hybrids of the species, across state lines, except by permit for zoological, education, medical, or scientific purposes.~~

~~EXAMPLE 1: A producer maintains diploid black carp to produce triploid black carp for sale to catfish farmers to control snails in their ponds. The individual has previously applied for a Restricted Species Possession Permit for diploid black carp, documenting sufficient measures to prevent escape and been issued a no-cost permit. The individual may sell triploid black carp to his customers and may sell diploid black carp to other black carp producers after ensuring that they also have Restricted Species Possession Permits to possess diploid black carp.~~

~~EXAMPLE 2: A food fish producer purchases bighead carp, holds them in raceways for a few days, then ships them to an out-of-state fish market. The individual has previously applied for a Restricted Species Possession Permit for bighead carp, easily documenting sufficient measures to prevent escape (held in raceways with blocked egress) and been issued a no-cost permit.~~

~~The individual is then able to purchase the fish, hold them, and ship them to other markets (assuming it is in compliance with regulations of the destination state).~~

Conditional species are species that are permitted for specific purposes provided the additional terms set forth by AGFC Fisheries Division and biosecurity measures are met. Individuals possessing or desiring to possess these species are required to apply for a Conditional Species Possession Permit in addition to the appropriate permit in AGFC Code 35.01. The permit application will detail the location of the facilities, biosecurity measures taken to prevent the possibility of escapement, and the numbers and species to be held (these numbers are best estimates of broodfish and expected production for upcoming year). Some species may be limited to specific types of permit holders based on species evaluation. The permitted culture of any conditional aquaculture species shall be conducted in a responsible manner that minimizes the possibility of escapement and adheres to any additional requirements set forth by the AGFC. Permitted individuals are required to construct a barrier that prevents escapement of juvenile and adult life stages of these species from culture units. Drainpipes from holding and culture units where these species are held must be screened at all times when water is being released from the culture unit with a screen of adequate mesh size to prevent the passage of any permitted species present. Double screening is required during water release for units with bighead carp and black carp species. These and any additional measures listed on the application to eliminate the possibility of escapement will be considered as part of the best management practices that the applicant agrees to implement for their facility. AGFC will maintain records of the number and location of these species in the state. AGFC will review initial applications and inspect facilities to evaluate the potential for escapement; facilities will be randomly re-inspected once in a three year period of time to ensure escapement measures are still meeting the requirements at the facility. Permittee will be notified a minimum of 5 days in advance of an inspection and an employee of the farm is requested to accompany the AGFC personnel during the inspection. This permit must be renewed annually and is non-transferrable. In the event that conditional aquatic species are released or escape from a permitted facility, the permittee shall notify the AGFC immediately. The permittee shall **not** be responsible for unforeseen occurrences such as floods, lightning or sabotage. Holders of Conditional Species Possession Permits are expected to assure that buyers of these species in Arkansas also have appropriate permits. Conditional species permit holders are required to submit an annual report on a form provided to the permit holder by the AGFC with the permit renewal request, indicating the number of each conditional species produced (farmers), or sold (dealers) in the state of Arkansas. Failure to comply with the terms of the permit may result in permit denial or revocation.

The species covered by these permits include:

### **Family Palaemonidae**

*\*Macrobrachium rosenbergii* (Malaysian prawn) – certified disease-free (certification must be posted onsite). This species must meet the same disease certification requirements as members of Family Penaeidae.

### **Family Penaeidae**

*\*Litopenaeus vannamei* (Pacific White Shrimp) – specific pathogen-free (certification must be posted onsite)



## Requirements for culture of marine shrimp species: *Litopenaeus vannamei* in Arkansas

1. All culture must be in an indoor closed recirculating system- with **NO** discharge. This will provide biosecurity protection against pathogens, predators, and undesirable species from entering or exiting the facility. Predators are an issue in shrimp culture in two ways, first they impact production by feeding on shrimp and secondly they also serve as vectors for transmitting pathogens to and from the farm. An indoor facility will eliminate the impact of predators on production.

a. Floor drains- If needed, must have appropriate sized mesh/screens to prevent any escapement by any sized cultured organism since they are noted to be incredible jumpers. Triple screening is recommended. Discharge from floor drains must enter into the containment tank that can be chlorinated and dechlorinated prior to release into an approved municipal sewer system whose effluent is treated within the system. These measures will also serve as a biosecurity measure preventing any live organisms from exiting the biosecure culture facility or any live wild organism from entering into the biosecure facility. Pathogens have the ability to move both directions, in or out of a facility. The desired goal is to prevent pathogen impact on the resources of the state and on the cultured species as well.

b. Catastrophic failure- In the event of a catastrophic failure/event the floor drain containment tank must be large enough to accommodate the water volume of at least 1.5 times the volume of the largest individual tank in use within the operation to prevent any escapement of organisms or pathogens into the wild. For example, if the largest individual tank in use within the operation is 1000 gallons, the catastrophic containment tank must hold a minimum of 1500 gallons of water. The containment tank must be chlorinated and dechlorinated prior to discharge. Any possible escapement must be reported immediately to Arkansas Game and Fish Commission Fisheries Division. This species is classified as a non-native species that does have adaptive capabilities as described in the Invasive Species Compendium for *Litopenaeus vannamei*. Establishment in wild is unlikely, but all escapements must be documented.

2. All solids are to be placed in sealed containers and are for permitted landfill disposal only.

3. Water sources must be municipal or well water source. This will serve as a biosecurity measure to prevent any outside pathogen or organisms from entering the biosecure facility through the water source and impacting the cultured species. No connection to above ground freshwater source will be permitted.

4. All live shrimp must be placed in ice water prior to leaving the facility or processed prior to leaving the facility.

5. Facilities permitted for the culture of *L. vannamei* culture will not be approved for simultaneous culture of any other crustacean species. This is standard practice in shrimp farming operations. Many species can be difficult to distinguish from one another and it also increasing the possibility of transference of a pathogen from one species to another.

6. All post-larval shrimp, nauplii, or brood imported into Arkansas must be obtained from a **Domestic** US Marine Shrimp Farming Program Specific Pathogen Free (SPF) or Specific Pathogen Resistant (SPR) certified disease free culture facility (No wild caught shrimp permitted: brood, post-larvae, or nauplii). All shrimp imported must be from a SPF or SPR certified facility with at least two consecutive years of disease free certification for all crustacean pathogens listed with the US Marine Shrimp Farming Program and OIE. All testing must be conducted by approved shrimp disease testing facilities. For facilities propagating *L. vannamei* routine disease testing must be conducted. Copies of disease certification must be submitted to Arkansas Game and Fish Commission and posted on-site.

USMSFP List of Pathogens & Diseases for SPF Penaeid Shrimp

<u>Pathogen Type</u>	<u>Pathogen</u>	<u>Pathogen Group</u>	<u>Category<sup>A</sup></u>
<b><u>VIRUS</u></b>	*TSV	dicistrovirus	C-1
	*WSSV	nimavirus (n.f.)	C-1
	*YHV/GAV/LOV	ronivirus (n.f.)	C-1,2
	**IHHNV	parvovirus	C-2
	**BP	occluded baculovirus	C-2
	**MBV	occluded baculovirus	C-2
	**BMN	unclassified nonoccluded BV	C-2
	HPV	parvovirus	C-1, 2
	IMN	totivirus	C-1, 2
<b><u>PROCARYOTE</u></b>	NHP	alpha proteobacteria	C-2
<b><u>PROTOZOA</u></b>	Microsporidians	microsporidia	C-2
	Haplosporidians	haplosporidia	C-2
	Gregarines	apicomplexia	C-3

<sup>A</sup> C-1 pathogens defined as excludable pathogens that can potentially cause catastrophic losses in one or more American penaeid species; C-2 pathogens cause economically significant disease

and are excluded from breeding centers, hatcheries, and some types of farms.

\*Listed by Office of International Epizootics as a “Notifiable Disease” as of May 1999

\*\*Listed by Office of International Epizootics with “Other Significant Diseases” as of May 1999

### OIE Crustacean diseases

- Acute hepatopancreatic necrosis disease
- Crayfish plague (*Aphanomyces astaci*)
- Yellowhead virus
- Infectious hypodermal and haematopoietic necrosis
- Infectious myonecrosis
- Necrotising hepatopancreatitis
- Taura syndrome
- White spot disease
- White tail disease

7. Propagation of species. Propagation of the species will be permitted with the requirement the Aquaculturist develop and implement a health management plan that includes conducting at a minimum annual routine disease inspection through an approved shrimp disease testing laboratory. The Aquaculturist will be responsible for submitting copies of disease inspection reports to Arkansas Game and Fish Commission and having current disease inspection certificate(s) posted on-site. Additionally the Aquaculturist must notify Arkansas Game and Fish Commission Fisheries Division and the State of Arkansas Veterinarian immediately should an above listed pathogen be detected.

8. Discharge from facility- Should a facility need to be drained in an emergency situation ADEQ needs to provide additional information on discharge limits, site location, and any permits required regarding EPA guidelines.

9. Facility must develop a biosecurity plan, hazard analysis critical control point (HACCP) plan, and a catastrophic failure management plan to have on file as part of Best Management Practices.

### Family Salmonidae

- \* *Oncorhynchus clarki* (Cutthroat trout)
- \* *Oncorhynchus mykiss* (Rainbow trout)
- \* *Salmo trutta* (Brown trout)
- \* *Salvelinus fontinalis* (Brook trout)

Specific requirements regarding importation or stocking salmonid species are located in AGFC Code 27.00 and Addendum V1.00. Health certificates are required for all salmonid species. All sellers of these species are responsible for ensuring buyers have obtained appropriate permits prior to importation and/or stocking.

## Family Cyprinidae

*Hypophthalmichthys nobilis* (Bighead carp)- Resident Fish Farm Permit holders that held a valid conditional species permit for this species by January 31<sup>st</sup>, 2021 may continue to obtain an annual conditional species permit for this species for the duration to which they are the owner of the fish farm and continue to meet the terms of the permit. Permits are non-transferrable. Stocking in Arkansas restricted to only on approved fish farms and research/educational facilities meeting terms and requirements of conditional species. Species may be transported by permittee or independent hauler with appropriate permits if required. This regulation does not prohibit the movement of bighead carp to a legally licensed facility in another state.

\* Diploid *Mylopharyngodon piceus* (Black carp) – Stocking in Arkansas restricted to only on approved fish farms and research/educational facilities meeting terms and requirements of conditional species. Species may be transported by permittee or independent hauler with appropriate permits if required. This regulation does not prohibit the movement of diploid black carp to a legally licensed facility in another state.

\* *Mylopharyngodon piceus* (Black carp) – Triploids – Stocking in Arkansas restricted to only on approved fish farms and research/educational facilities meeting terms and requirements of conditional species. Species may be transported by permittee or independent hauler with appropriate permits if required. This regulation does not prohibit the movement of triploid black carp to a legally licensed facility in another state.

\* *Ctenopharyngodon idella* (Grass carp) – Diploids –Stocking in Arkansas restricted to only on approved fish farms and research/educational facilities meeting terms and requirements of conditional species. Species may be transported by permittee or independent hauler with appropriate permits if required. This regulation does not prohibit the movement of diploid grass carp to a legally licensed facility in another state.

**\*\*\*NOTE\*\*\* The species listed below are listed as injurious species by the USFWS**

*Hypophthalmichthys nobilis* (Bighead carp)

*Hypophthalmichthys molitrix* (Silver carp)

*Mylopharyngodon piceus* (Black carp)

The injurious wildlife listing means that under the Lacey Act it is illegal to import into the United States live silver, bighead, or black carp, including viable eggs or hybrids of the species, except by permit for zoological, education, medical, or scientific purposes.

## Prohibited Species:

It is unlawful to import for commercial aquaculture any specimen or hybrid from species commonly known as:

- Alewife *Alosa pseudoharengus*
- Blueback herring *Alosa aestivalis*
- Eurasian ruffe *Gymnocephalus cernua*
- Mexican banded tetra *Astyanax aeneus*
- Orfe *Leuciscus idus*
- Piranha Family *Serrasalminidae*
- Roach fish *Rutilus rutilus*
- Round Goby *Neogobius melanostomus*
- Rudd *Scardinius erthrophthalmus*
- Snakehead Family *Channidae*
- Stickleback fish Family *Gasteroseidae*
- Walking catfish *Clarias bacrachus*
  
- Chinese mitten crab *Eriocher sinensis*
- Everglades crayfish *Procambarus alleni*
- Redclaw crayfish Family *Cherax*
- Rusty crayfish *Orconectes rusticus*
- Smooth Marron *Cherax cainii*
- Yabby *Cherax destructor*
  
- Big-Ear radix *Radix auricularia*
- Channeled apple snail *Pomacea canaliculata*
- Chinese mystery snail *Cipangopaludina chinensis*
- Ghost Ramshorn snail *Biomphalaria havanensis*
- New Zealand mud snail *Potamopyrgus antipodarum*
- Quagga mussel *Dreissena bugensis*
- Quilted melania *Tarebia granifera*
- Red-rim melania *Melanooides tuberculata*
- Zebra mussel *Dreissena polymorpha*

#### **Turtles:**

The turtle species listed below are native to Arkansas and may be cultured by those who obtain a Commercial Turtle Dealer/Breeder Permit from the Commission and report production by species (Commission Chapter 34.00).

#### **Family Chelydridae**

*Chelydra serpentina* (Common snapping turtle)

#### **Family Emydidae**

*Chrysemys picta dorsalis* (Southern painted turtle)

*Graptemys geographica* (Common map turtle)

*Graptemys ouachitensis* (Ouachita map turtle)

*Graptemys pseudogeographica kohnii* (Mississippi map turtle)

~~*Pseudemys concinna* (River cooter)  
*Trachemys scripta elegans* (Redeared slider)~~

### **Family Kinosternidae**

~~*Kinosternon subrubrum hippocrepis* (Mississippi mud turtle)  
*Sternotherus carinatus* (Razorback musk turtle)  
*Sternotherus oderatus* (Common musk turtle)~~

### **Family Trionychidae**

~~*Apolone spinifera* (Spiny softshell)  
*Trionyx muticus muticus* (Midland smooth softshell)~~

### **Other Species Covered Under Separate Permits:**

~~The following species are governed by separate code and have their own permit requirements. This policy does not seek to add any further permitting requirements for these species.~~

### **Family Alligatoridae**

~~*Alligator mississippiensis* (American alligator)—Federal Permit required~~

### **Family Chelydridae**

~~*Macrolemys temminckii* (Alligator snapping turtle)—AST Farmer/Dealer Permit required~~

### **Permits to Culture Unlisted Species:**

Requests to import, **posses, propagate,** and culture species not listed in this policy will be **scientifically** evaluated on a case-by-case basis. The burden of proof will rest with the applicant to provide justification as to the need to import and culture the species, **justify why currently approved species listed in this policy will not fill the need,** and provide information that the requested species will have no significant ecological impact on native species or the resources of the state. ~~show measures are in place to prevent the possibility of escape will have no significant ecological impact (i.e. species cannot survive in waters of Arkansas due to temperature, salinity, or other environmental factor).~~ The permitted culture of any unlisted aquaculture species shall be conducted in a responsible manner that excludes the possibility of **escape escapement from holding and culture ponds units and adheres to the terms set forth in the permit by AGFC.** Permitted **aquaculturists** individuals are required to construct a barrier that prevents escape of juvenile and adult **fish species** from culture facilities, **and meets all** biosecurity, containment, and health certification requirements set forth by AGFC Fisheries Division scientific review of the requested species. ~~The applicant will also need to provide justification as to the need to import the species into the state and why species listed in this policy will not fill the need.~~ In the event that unlisted aquatic organisms are released or escape from a permitted facility ~~into waters of the state,~~ the permittee shall notify the AGFC immediately. ~~Additional screening for aquatic animal health pathogens may be required for unlisted species due to country of origin, water source, or specific pathogens of concern and will be considered on a case by case basis.~~

~~EXAMPLE 1: A producer in southern Arkansas wishes to raise yellow perch. This species is not native to Arkansas and has begun to show up in reservoirs in the north part of the state. Since~~

~~the habitat in the producer's area is hostile to yellow perch (water chemistry and summer temperatures), AGFC issues an Unlisted Aquaculture Species Permit.~~

~~EXAMPLE 2: A producer wants to grow Australian redclaw crayfish. This species is not native to Arkansas (or the U.S.) but is found in comparable latitudes in Australia. The producer's plans are to raise them inside in heated raceways and have no discharge. This is found to eliminate the chance of escape and AGFC issues an Unlisted Aquaculture Species Permit.~~

## **Permit Processing Procedures:**

### **Permit Renewal:**

~~Restricted Conditional~~ Species Possession Permits and Unlisted Aquaculture Species Permits will be issued on an annual basis to correspond with expiration dates of Fish Farmer, Fish Dealer, and Independent Hauler Permits. The Arkansas Game and Fish Commission is responsible for providing renewal notices to permit holders 6 weeks in advance of permit expiration date. Existing permits will remain in effect past listed expiration date if a renewal application is ~~pending~~ submitted by January 31<sup>st</sup> of the renewal year and processing is pending with AGFC.

### **Permit Review:**

~~Restricted Conditional~~ Species Possession Permits and Unlisted Aquaculture Species Permits are granted at the approval of the AGFC Chief of Fisheries. The AGFC may solicit input as needed in the scientific review of individual species and applications.

### **Modification of Lists:**

Any individual may petition AGFC Chief of Fisheries to add or remove species on the *Approved Commercial Aquaculture Species List* or the *Restricted Conditional Aquaculture Species List*. The petition must provide thorough documentation of why a species should or should not be included on a list. Petitions should address the biological threat of the species, including native range, habitats utilized, movement patterns, spawning requirements, reproductive rate, food habits, pathogens of concern, and temperature and water-quality limitations. They should include documentation of any introductions or escapes outside the species' native range. ~~They should also and~~ evaluate the potential impacts to native species through predation, competition, disease transmission, and displacement. Petitions should include copies of all pertinent reference material.

Petitions to add or remove species on the *Approved Aquaculture Species List* or the *Restricted Conditional Aquaculture Species List* will be responded to by the ~~chief~~ Chief of Fisheries after thorough scientific review of the species and a consultation with an advisory board representing appropriate AGFC staff. ~~consultation with an advisory board representing: Arkansas state aquaculture coordinator, Stuttgart National Aquaculture Research Center, Aquaculture/Fisheries Center at UAPB, U.S. Fish and Wildlife Service, Arkansas Natural Heritage Commission, and Arkansas Game and Fish Commission staff.~~