

Fisheries Division Policy

Approved Aquaculture Species List

October 1, 2002

Approved Species List

The intent of this list is to delineate species that pose minimal threat to Arkansas' aquatic biota. These species may be freely imported into the state, and traded within the state, for aquaculture purposes. This does NOT approve the release of any species into the public waters of the state.

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 on-site)

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)

* *Mylopharyngodon piceus* (Black Carp) – TRIPLOIDS ONLY

Cyprinella venusta (Blacktail Shiner)

* *Cyprinus carpio* (Common Carp, including koi)

Hybognathus nuchalis (Miss. Silvery Minnow)

Luxilus chrysocephalus (Striped Shiner)

Lythrurus umbratilis (Redfin Shiner)
Notemigonus crysoleucas (Golden Shiner)
Notropis atherinoides (Emerald Shiner)
Notropis boops (Bigeye Shiner)
Notropis buchmanii (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

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* (Spotted Sunfish)
- Micropterus dolomieu* (Smallmouth Bass)
- Micropterus punctulatus* (Spotted Bass)
- Micropterus salmoides* (Largemouth Bass)
- Pomoxis annularis* (White Crappie) – < 6 inches
- Pomoxis nigromaculatus* (Black Crappie)
- Elassoma zonatum* (Banded Pygmy Sunfish)
- Family Percidae**
 - Percina caprodes* (Logperch)
 - Stizostedion canadense* (Sauger)
 - Stizostedion vitreum* (Walleye)
- Family Sciaenidae**
 - Aplodinotus grunniens* (Freshwater Drum)
- Family Cichlidae**
 - * *Oreochromis aureus* (Blue Tilapia)
 - * *Oreochromis mossambicus* (Mozambique Tilapia)
 - * *Oreochromis niloticus* (Nile Tilapia)

Class Amphibia

- Family Ranidae**
 - Rana catesbeiana* (Bullfrog)
 - Rana sphenoccephala* (Southern Leopard Frog)

* Denotes nonnative species

Hybrids

It is our intent that production or sale of any hybrid is permissible if both parent species are included on the Approved 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

The harvest and sale of native Arkansas turtle species that naturally colonize aquaculture ponds and are cultured incidental to production of other aquaculture species is allowed, unless the species is protected by other codes (see AGFC Code Section 39).

Aquarium Species

It is not the intent of this policy to constrain aquarium trade. Marine and tropical aquatic species commonly distributed in the aquarium trade may be sold without special permit, as long as they are held only in closed aquarium systems and are not prohibited by other codes (e.g. AGFC Code 32.13 CERTAIN EXOTIC FISH PROHIBITED).

Restricted 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 requested 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, the Chief of Fisheries 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 Arkansas Game & Fish Commission (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 within 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:

Class Osteichthyes

Family Cyprinidae

Hypophthalmichthys molitrix (Silver Carp)

Hypophthalmichthys nobilis (Bighead Carp)

Diploid *Mylopharyngodon piceus* (Black Carp)

Scardinius erythrophthalmus (European Rudd)

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).

Turtles

There exist businesses in Arkansas that specialize in the captive propagation of 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 (see AGFC Code Section 39).

Class Reptilia

Family Chelydridae

Chelydra serpentina (Common Snapping Turtle)

Family Emydidae

Chrysemys picta dorsalis (Southern Painted Turtle)

Deirochelys reticularia miaria (Western Chicken 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.

Class Reptilia

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 and culture species not listed in this policy will be evaluated on a case-by-case basis. The burden of proof will rest with the applicant to show that measures are in place to essentially prevent the possibility of escape, or that escapement will have no significant ecological impact (i.e. species can not 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 from culture ponds. Permitted aquaculturists are required to construct a barrier that prevents escape of juvenile and adult fishes from culture facilities. 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 Arkansas Game & Fish Commission (AGFC) immediately.

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 US) 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 Species Possession Permits and Unlisted Aquaculture Species Permits will be issued on an annual basis to correspond with expiration dates of Fish Farmer Permits. Arkansas Game and Fish Commission is responsible for providing renewal notices to permit holders six weeks in advance of permit expiration date. Existing permits will remain in effect past listed expiration date if a renewal application is pending.

Permit Review

Restricted Species Possession Permits and Unlisted Aquaculture Species Permits are granted at the approval of the Chief of Fisheries. The Chief of Fisheries will solicit input as needed in the review of individual applications.

Modification of Lists

Any individual may petition AGFC to add or remove species on the *Approved Aquaculture Species List* or the *Restricted 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, and temperature and water quality limitations. They should include documentation of any introductions or escapes outside the species native range. They should also 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 Aquaculture Species List* will be responded to by the Chief of Fisheries after consultation with an advisory board representing: Arkansas State Aquaculture Coordinator, Stuttgart National Aquaculture Research Center, Aquaculture / Fisheries Center at UAPB, U S Fish & Wildlife Service, Arkansas Natural Heritage Commission, and Arkansas Game and Fish Commission staff.



Application for *Restricted Species Possession Permit* Arkansas Game & Fish Commission

Mail completed application to: Arkansas Game & Fish Commission, ATTN: Chief of Fisheries, #2 Natural Resources Dr., Little Rock, AR 72205
Please allow 4-6 weeks for processing.

1. Applicant Information:

Name: _____	Work Phone: (____) _____ - _____
Mailing Address: _____	Home Phone: (____) _____ - _____
_____	FAX Phone: (____) _____ - _____
_____	Email: _____
(City, State)	(Zip Code)

2. Facility Location (*attach map*): _____

3. Means of Confinement (*include measures taken to eliminate escape*):

4. Species to be cultured under this permit

(check all that apply):	Anticipated number to be held:	Anticipated acreage in production:	Scope of Operation (check type of operation for each species):				
			Broodfish holding / spawning	Fingerling production	Foodfish production/ polyculture	Wastewater management	Foodfish broker / distributor
<i>Hypophthalmichthys molitrix</i> (Silver Carp)							
<i>Hypophthalmichthys nobilis</i> (Bighead Carp)							
Diploid <i>Mylopharyngodon piceus</i> (Black Carp)							
<i>Scardinius erythrophthalmus</i> (European Rudd)							

Signature of Applicant: _____ Date: _____

(attach additional sheets as needed)

Amendment 35 of the Arkansas State Constitution charges the Arkansas Game and Fish Commission with "The control, management, restoration, conservation, and regulation of birds, fish, game, and wildlife resources of the State. By administering Restricted Aquaculture Species Permits, we seek to protect the wildlife resources of the State while minimizing impacts on commercial aquaculture ventures in the state."



Application for *Unlisted Aquaculture Species Permit* Arkansas Game & Fish Commission

Mail completed application to: Arkansas Game & Fish Commission, ATTN: Chief of Fisheries, #2 Natural Resources Dr., Little Rock, AR 72205
Please allow 4-6 weeks for processing.

1. Applicant Information:

Name: _____

Work Phone: () - _____

Mailing Address: _____

Home Phone: () - _____

FAX Phone: () - _____

(City, State)

(Zip Code)

Email: _____

2. Aquaculture Facility Location (*attach map*): _____

3. Species (and number) to be cultured under this permit: _____

4. Justification (*why is it necessary to culture this species rather than an approved species?*). Use additional sheets as needed:

5. Means of Confinement (*should make possibility of escape or ecological impact essentially zero*). Use additional sheets as needed:

Signature of Applicant: _____ Date: _____
(attach additional sheets as needed)

Amendment 35 of the Arkansas State Constitution charges the Arkansas Game and Fish Commission with "The control, management, restoration, conservation, and regulation of birds, fish, game, and wildlife resources of the State. By administering Unlisted Aquaculture Species Permits, we seek to protect the wildlife resources of the State while minimizing impacts on commercial aquaculture ventures in the state."

