

FRESH-WATER COMMERCIAL FISHERIES OF THE SOUTHEASTERN STATES

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Commercial fishing is steadily becoming more widespread in its acceptance as a technique in fresh-water fisheries management throughout the Southeast. Primarily there are three definite advantages in the use of commercial fishing equipment. One, it permits a partial harvesting of the rough fishes. Two, it aids in the reduction of intra-specific competition, and three, it is a means of partial and total income for many families in the Southeastern States.

This paper is designed to summarize the status of commercial fishing activities in the Southeastern States. It makes no effort to evaluate the effects of commercial fishing activities within each state. Considered in this paper are the commercial fish species taken, revenue received from commercial fishing license, types of gear legalized and regulations pertaining to the operation of each type gear.

The cooperation of each State was solicited in completing questionnaires concerning legal commercial fishing operations within their state. At time of compilation returns had not been received from North and South Carolina. All tabular data herein is as reported by each agency.

COMMERCIAL FISH SPECIES

Depicted in Table 1 are the fishes taken commercially in each state and the average annual price per pound received by the fisherman for the predominant species taken.

All states, with the exception of two, reported either Catfishes or Buffalo-fishes as the predominant species taken commercially. Carp and Shad formed the predominant fish catch in Virginia and Georgia, respectively.

It will be noted that out of the five states bordering the Mississippi River, three reported Buffalo-fishes while two reported Catfishes. The natural distribution of Buffalo-fishes preclude its utilization as a commercial species of the Atlantic Coast States.

Catfishes and Bullheads formed the bulk of the fresh-water take in Alabama, Florida, Louisiana, and Tennessee. The average annual price per pound received for these fishes was fairly consistent in all of the states excepting Florida, where the price received per pound was considerably lower. It is likely the lower price in Florida was due to market conditions and the grade of fish.

Kentucky reported an average annual price of 30 cents per pound received by the commercial fishermen for Buffalo-fishes. This price approximately doubles that received by Arkansas and Mississippi for the same species.

Crappie were reported as a commercial species by Tennessee and are taken in this state only at Reelfoot Lake. The Atlantic Shad and Mullet were the only two marine fishes reported as taken in fresh-water.

Table 1. Fishes classed as commercial species in the Southeastern States.

State	Species												Avg. Annual Price per Pound ^b	
	Bowfin	Buffalo	Catfishes & Bullheads	Drum	Gar	Quillback	Shad	Spoonbill	Sturgeon	Suckers	Crappie	Mullet		Carp
Alabama		X	X ^a	X									X	0.30
Arkansas		X ^a	X	X	X	X		X	X				X	0.18
Florida			X ^a				X					X		0.11
Georgia			X				X ^a							
Kentucky		X ^a	X							X			X	0.30
Louisiana	X	X	X ^a	X				X					X	0.20
Mississippi	X	X ^a	X	X	X		X	X					X	0.15
North Carolina														
South Carolina														
Tennessee		X	X ^a	X		X		X	X	X	X ^c		X	0.25
Virginia			X										X ^a	0.05

^aPredominant species taken.

^bAverage price per pound of predominant species, rough weight.

^cTaken only in Reelfoot Lake.

LICENSE REVENUE

Two states, Florida and Tennessee, license the fisherman while the remaining states license the tackle. Florida and Tennessee permits a fisherman the use of all legal gears for a \$5.00 and \$15.00 commercial fishing license, respectively.

Table 2 depicts the revenue received from the sale of commercial fishing license by each state. Arkansas reports the highest annual revenue (\$30,182.00) with Georgia reporting the lowest revenue (\$678.00) for the year of 1950. Those states reporting incomes for the last three years show a small general increase in revenue.

Table 2. Total amount received by each state from the sale of commercial fishing license for 1948, 1949, and 1950.

State	Amount (\$)		
	1948	1949	1950
Alabama			
Arkansas			30,182.00
Florida	11,338.00	15,409.00	17,892.00
Georgia	449.00 ^a		678.00
Kentucky			18,000.00
Louisiana	25,405.00	27,480.00	
Mississippi	21,167.00	21,941.00	21,939.00
North Carolina			
South Carolina			
Tennessee	19,745.00	16,182.00	23,647.00
Virginia			8,010.00

^a 1948 and 1949 combined.

In most cases, the license fees contained in the Table are for the initial piece of equipment. Additional equipment is generally licensed at a lower rate.

TYPES OF GEAR

As shown in Table 3, Florida and Georgia rank high and low, respectively, in permitting the use of more diversified types of gear. All states reporting, permit the use of trot lines. Five states allow some use of gill nets, trammel nets, hoop nets, and seines. Slat Baskets are legal in three states, Wire Baskets in two states, and Pound nets in one state.

Trot Line

Trot lines are legal in all the Southeastern States included. As revealed in Table 4, catfishes are the predominant species taken with the exception of Kentucky which reported the taking of Suckers. Only three states limit the number of hooks per license and only one state has a closed season. In general, all the states permit the use of this gear in streams, lakes, and reservoirs. Louisiana and Alabama are the only two states in which the operation of trot lines is regulated by Legislative Law. In general, all states concurred this gear helps in the harvesting of

Table 3. Legal freshwater commercial fishing gear in the Southeast.

State	Gear														
	Gill Nets	Trammel Nets	Seines	Hoop Nets	Fyke Nets	Hearts & Leads	Shad Nets	Pound Nets	Wire Traps	Slat Baskets	Set Hooks	Trot Lines	Snag Lines	Grabbling	Harpoon Rod
Alabama	X	X	X	X						X		X			
Arkansas	X	X	X	X		X						X	X		
Florida	X	X	X	X			X	X	X	X		X			
Georgia							X					X			
Kentucky			X	X								X	X		
Louisiana	X	X	X	X							X	X	X	X	X
North Carolina															
Tennessee	X ^a	X		X	X					X		X	X		
Virginia	X		X		X							X			

^aLegal in Reelfoot Lake only.

Table 4. Characteristics, regulations for use, and location of use for trotlines in the Southeast.

State	Predominant Species Taken By Gear	Equipment Regulations		Regulated By		Season	Permitted In			License Fee (\$)
		Number of Hooks/Lic.	Spacing of Hooks (in.)	Commission Code	Legislative Law		Streams	Lakes	Reservoirs	
Alabama	Catfish	500	12		X	Open	X	X	X	1.50
Florida	Catfish	§		X		Open	^{e,f} X	X	X	5.00
Georgia	Catfish	§		X		Open	X ^b	X	X	1.25
Kentucky	Catfish									
	Suckers	§		X		Open	X	X	X	2.00
Louisiana	Catfish	§	24		X	Open	X	X	X	5.00
Mississippi	Catfish	1000	36	X		Open	X	X	X	5.00 ^c
N. Carolina										
Tennessee	Catfish	§		X		Open Mar. 1 - Dec. 31	X	X	X	15.00
Virginia	Catfish	§		X			X ^d	X ^e	X ^e	
Arkansas	Catfish	1000		X		Open	X ^a	X	X	2.50

^aNot permitted below dams.

^bCannot reach across over ½ of stream.

^cA combination license for 15 Hoop-Nets and 1000 yds. of trot line.

^dCannot reach across stream.

^ePermitted only in selected waters.

^fMost.

^gUnlimited.

rough fishes, however, by their use alone trot lines are an inefficient harvesting method.

Hoop Nets

Hoop or Barrel Nets are permitted in all Southeastern States with the exception of Georgia (Table 5). The minimum square mesh of this gear, in states where legal, varies from 1½" to 3" with the exception of Kentucky and Virginia which reported no restrictions on mesh size. Florida permits the use of a one and one-half inch mesh in that the predominant species harvested is the Catfishes. Kentucky reports the Suckers to be the predominant species taken by this gear, while in the remaining states Buffalo-fishes predominant the catch. Hoop nets are utilized in Virginia only for the taking of Shad in the tidewater counties. Five states allow the fishing of leads with this tackle. Only two of these regulate the lead length while three states regulate the distance apart these nets can be fished. Virginia is the only state having a closed season. This season varies with the Shad runs in the tidewater counties.

Arkansas, Mississippi, and Tennessee are the only states permitting general use of this gear in streams, lakes, and reservoirs.

One advantage of this net is its adaptability to areas not suitable to other types of gear. Two, it is highly successful in taking Carp and Buffalo-fishes during their spawning movements. Three, it is a relatively inexpensive and an easily fished gear. The main disadvantage to the use of this net is that it will take Crappie, White Bass, and other game fishes. This holds true especially during the spawning of the first two mentioned species.

Gill Nets

Georgia and Kentucky were the only two states reporting gill nets as illegal while Alabama reported only that this gear was not used to any extent. Gill nets utilized in Florida and Virginia were mainly for the taking of Mullet and Shad, respectively (Table 6). Tennessee reported the predominant species taken to be Catfishes, while the remaining states used the gear primarily to take Buffalo-fishes. Virginia has no minimum mesh size requirement, Florida requires a minimum of one and one-half inches, and the remaining states specified a three or four inch minimum square mesh size. Equipment is regulated by Commission Code in all states except Louisiana. Arkansas and Virginia are the only two states having a closed season. Areas in which this gear can be fished varies with the state as is shown in Table 6. The larger mesh sizes provide an excellent means for taking premium grade fishes and take only a small percent of game fishes. The smaller mesh size can present a disadvantage in that the majority of game species taken are usually injured.

Trammel Nets

Trammel Nets are not allowed by law in Georgia, Kentucky, and Virginia (Table 7). The predominant species harvested by this gear is Buffalo-fishes in Louisiana, Mississippi, and Tennessee; Carp in Alabama and Arkansas; and Mullet in Florida. Again Florida has a one and one-half inch minimum square mesh,

Table 5. Characteristics, regulation for use, and location of use for hoop nets in the Southeast.

State	Predominant Species Taken By Gear	No. Nets Per License	Min. Square Mesh Legal (in.)	Equipment Regulations			Regulated by		Permitted in				Lic. Fee (\$)
				Leads Permitted	Length of Leads (Yds.)	Required Net Spacing (Yds.)	Commission	Legislative	Season	Streams	Lakes	Reservoirs	
Alabama	Buffalo	1	2	No		No		X	Open	X	No	X ^a	1.00
Arkansas	Buffalo	1	2½	Yes	100	100	X		Open	X	X	X	1.00
Florida	Catfish		1½	No			X		Open	X ^b	No	No	5.00
Georgia						Gear Not Legal							
Kentucky	Suckers		None	Yes ^c				X	Open		X ^d	No	5.00
Louisiana	Buffalo	15	3	Yes				X	Open	X			5.00
Mississippi	Buffalo	15	3	Yes ^e	35	100	X		Open	X	X	X	5.00 ^f
N. Carolina													
Tennessee	Buffalo	^h	2	Yes	^h	50	X		Open	X	X	X	15.00
Virginia	Shad	1	None	No		No	X		^g	X	No	No	1.00

^a Only in T.V.A. Lakes.

^b Allowed only in St. John's River.

^c In Mississippi River only.

^d Allowed only in navigable waters.

^e Maximum of 7 leads.

^f Includes 15 hoop nets, 7 leads, and 1,000 yards of trot line.

^g Varies with tidewater.

^h Unlimited.

Table 6. Characteristics, regulation for use, and location of use for gill nets in the Southeast.

State	Predominant Species Taken By Gear	Equipment Regulations				Regulated by			Permitted in			Lic. Fee (\$)
		No. Nets Per License	Min. Square Mesh Size	Length per Net (Yds.)	Spacing	Commission	Legislative	Season	Streams	Lakes	Reservoirs	
Alabama					Not used to any extent							
Arkansas	Buffalo	1	3	100	None	X		Oct. 1 - Feb. 28	X	X	X	12.50
Florida	Mullet		1½	100	None	X		Open	X ^a			5.00
Georgia					Not Legal							
Kentucky					Not Legal							
Louisiana	Buffalo	1	3	33	None		X			X		5.00
Mississippi	Buffalo	1	4	400	None	X		Open	X	X	X	25.25
N. Carolina												
Tennessee	Catfish	^d	4	None	None	X		Open		X ^b		15.00
Virginia	Shad	1	None	None	None	X		^c	X			1.00

^a Allowed only in the St. John's River.

^b Only in Reelfoot Lake.

^c Season varies with tidewater counties.

^d Unlimited.

Table 7. Characteristics, regulation for use, and location of use for trammel nets in the Southeast.

State	Predominant Species Taken By Gear	Equipment Regulations			Regulated by			Permitted in			Lic. Fee (\$)	
		No. Nets Per License	Min. Square Mesh Size	Length per Net (Ft.)	Spacing	Commission	Legislative	Season	Streams	Lakes		Reservoirs
Alabama	Carp	1	3	500	None		X	Open Oct. 1 -	X	No	X ^a	10.00
Arkansas	Carp	1	3	300	None	X		Feb. 28	X	X	X	12.50
Florida	Mullet	1	1½	600 ^b	None	X		Open	X			
Georgia					Not permitted by law							
Kentucky					Not permitted by law							
Louisiana	Buffalo	1	3	100	None		X	Open Sept. 1 -		X		5.00
Mississippi	Buffalo	1	4	1200	None	X		Jan. 31	X	X	X	25.00
N. Carolina												
Tennessee	Buffalo	^d	2	150	None	X		Open	X	X	X	15.00
Virginia					Not permitted by law							

^aT.V.A. Lakes only.

^bDepth restriction of 50 meshes.

^cAllowed only in St. John's River.

^dUnlimited.

Tennessee a two inch, and the remaining states a mesh of three or four inches. Arkansas and Mississippi are the only states having a closed season. Waters in which this gear can be utilized varies with the state as is shown in Table 7. This gear provides an efficient means of harvesting the rough fishes. The smaller meshes present a disadvantage in that game species are taken and are usually injured in being released.

Seines

Tennessee and Georgia were the only states in which seines were classed as illegal (Table 8). Alabama reported this gear was not used to any extent. Carp was the predominant species taken in Virginia, Catfishes in Florida, Suckers in Kentucky, and Buffalo-fishes in the remaining states. The minimum square mesh size in the pocket and wing ranged from one and one-half inches to three inches. The only state requiring a larger mesh size in the wing than in the pocket was Florida. This equipment is regulated by Legislative Law in Kentucky and Louisiana while the remaining states are regulated by Commission Code. Only Mississippi and Virginia have closed seasons on the use of this equipment in public waters. Mississippi and Arkansas were the only two states allowing unrestricted legal use of this equipment in streams, lakes, and reservoirs. In areas where the use of this gear is possible, it provides an excellent method for controlling and harvesting the rough fishes. Again the smaller meshes present a disadvantage in that game fishes are captured. Ordinarily the capture of game fishes by the smaller meshes is of little importance, however certain factors such as high water temperatures, shallow water, composition of the catch, and size of the catch may occasionally result in a high mortality of the game fishes captured.

Slat Baskets

Only three states, Alabama, Florida, and Tennessee class the slat basket as legal (Table 9). The predominant species taken by this gear in these states are Catfishes. Alabama and Tennessee require a minimum of two inches distance between slats. None of these states have a closed season and the gear is regulated by Commission Code. Only Tennessee allows unrestricted use of this equipment in streams, lakes, and reservoirs. This gear is considered efficient in capturing rough fishes, predominantly the Catfishes, and is inefficient in the taking of game fishes.

Pound Nets

Florida, the only state reporting pounds nets as a legal commercial fishing gear, allows their use in only certain streams and lakes within the state. Predominant species taken include Catfishes and Bullheads.

Regulations permit a square mesh of 1½" with a net 20 foot square and 16 feet deep. The use of leads is permitted only in the St. John's River.

This gear has been found useful in taking Gar and Gizzard Shad.

Table 8. Characteristics, regulation for use, and location of use for seines in the Southeast.

State	Predominant Species Taken By Gear	Equipment Regulations			Regulated by			Permitted in			Lic. Fee (\$)	
		No. Nets Per License	Min. Square Mesh Pocket (in.)	Min. Square Mesh Wing (in.)	Max. Length Permitted	Commission	Legislative	Season	Streams	Lakes		Reservoirs
Alabama					Not used to any extent							
Arkansas	Buffalo	100 yd.	2½	2½	f	X			X	X	X	12.50
Florida	Catfish		1½	2	1600	X		Open ^a	X	X	No	5.00
Georgia					Only shad nets legal ^b							
Kentucky	Sucker Family	100 ft.	2	2	f		X	Open	^c	^c	^c	2.00
Louisiana	Buffalo	100 ft.	3	3	None		X	Open		X		5.00
Mississippi	Buffalo	1	3	3	1000	X		Sept. 1 - Jan. 31	X	X	X	25.00 ^d
N. Carolina												
Tennessee					Not legal							
Virginia	Carp	1	1½	1½	250	X		Nov. 1 - Mar. 31		^e		

^a July 1 - Feb. 28 on privately owned lakes.

^b Shad nets, 3½" sq. mesh, are the only seines permitted within state. License fee, \$1.00 each.

^c Allowed in navigable streams only and not above boat dock and dam.

^d Per 400 yards. Each additional 100 yards, \$15.00.

^e Used only in selected bays and lakes.

^f No limit.

Table 9. Characteristics, regulations for use, and locations of use for slat Baskets in the Southeast.

State	Predominant Species Taken By Gear	Equipment Regulations			Regulated by			Permitted in			License Fee
		Length	Diameter	Distance Between Slats	Commission	Legislative	Season	Streams	Lakes	Reservoirs	
Alabama	Catfish	^a	^c	2 in.	X		Open	X	No	No	^d
Florida	Catfish	6 ft.	20 in.		X		Open	X ^b			5.00
Tennessee	Catfish			2 in.	X		Open	X	X	X	15.00

^a Not less than 18" opposite muzzle.

^b Only in certain streams.

^c None.

^d Only in TVA waters.

Wire Baskets

Florida and Arkansas reported wire baskets as a legal commercial fishing gear.

Arkansas permits the use of 3' × 3', maximum size, baskets having a mesh of ¼ inch for the taking of minnows. License fees are established on a capacity basis. Such traps having one gallon, or over, capacity are licensed for \$5.00. Those of less capacity for \$1.00.

Wire baskets 7 feet long, 32 inches in diameter, and with a 1 inch minimum mesh, are permitted in Florida. Fishing is allowed the entire year in lakes and rivers. This equipment must be fished at a depth minimum of 4 feet.

This state reports the equipment is advantageous in that it takes a low percent of game species.

CONCLUSIONS

1. This paper is primarily designed to summarize the types of legal fresh-water commercial fishing gear in the Southeastern States.
2. Fresh-water commercial fishing is becoming more recognized as a fish management technique.
3. All states have some form of fresh-water commercial operations. Florida permits the use of more diversified types of gear, Georgia the less.
4. The predominant fresh-water commercial species of the Southeast are Buffalo-fishes and Catfishes.
5. Species distribution apparently is the standard on which commercial fishing regulations are based.
6. In general, the actual effects of commercial fishing operations being used in the Southeast on game and commercial fish populations are not known — there is a need for determination of these effects.