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**INVENTORY AND CLASSIFICATION OF STREAMS
IN THE BIG SANDY RIVER DRAINAGE**

Department of Fish and Wildlife Resources

Arnold L. Mitchell, Commissioner

INVENTORY AND CLASSIFICATION OF STREAMS
IN THE BIG SANDY RIVER
DRAINAGE

by

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ABSTRACT

Streams of fishery importance in the Big Sandy River Drainage have been listed and classified on the basis of stream order. Some physical, chemical and biological characteristics of the streams are described as well as the general characteristics of the fishery.

The Big Sandy Drainage includes a total of 4,290 square miles with approximately one half of this (2,284 square miles) being in Kentucky. Of this, a total of 766 linear miles has been found to be capable of supporting a stream fishery. Five streams (120 miles) are considered to be of outstanding quality, while approximately 191 miles (25%) have been degraded by pollution. Siltation is the primary form of pollution in the drainage.

A total of 57 species representing 11 families have been identified from the Big Sandy River Drainage. The bluntnose minnow has been the most frequently collected and most abundant species found in the drainage. The most abundant game species has been the spotted bass with the longear sunfish being the most abundant pan fish.

INTRODUCTION

The increased competition for water usage in Kentucky has created a growing concern for the future of streams and stream fishing. Each year Kentucky loses many miles of significant fishing streams due to pollution, impoundments and the withdrawal of excessive amounts of water for agricultural, domestic and industrial uses at critical times of the year.

The objectives of this study were to provide a check list of the streams which are of fishery importance and to determine the existing physical, chemical and biological characteristics of the more important streams.

The information obtained from this survey will constitute the background of reference material required for effective management of fish populations in the various streams of the Big Sandy River Drainage. In addition, these data will contribute to the protection of the existing habitat as the competition for water usage intensifies.

DESCRIPTION OF DRAINAGE

The Levisa and Tug Forks, which contain the headwaters of the Big Sandy River, rise in southwestern Virginia and flow in a general northerly direction. These two forks join at Louisa, Kentucky, to form the Big Sandy River which in turn joins the Ohio River at Catlettsburg, Kentucky.

The drainage area totals 4,290 square miles with about half of this (2,284 sq. mi.) being located in Kentucky. Levisa Fork has a drainage area totaling 2,325 square miles with 1,471 sq. mi. of this in Kentucky, while the Tug Fork drainage area totals 1,555 sq. mi. of which 476 sq. mi. are located in Kentucky.

The entire drainage area is located in the mountains or eastern coal fields. Generally rugged topography typifies the Big Sandy Drainage. Nearly all the stream valleys are narrow and steep, especially in the headwaters. Between the confluence of the forks and the Ohio River, the stream valleys are wider with more rounded hills. Elevations generally range from 500 feet above sea level at the mouth to 3,500 feet above sea level in the head water region with practically no level upland surface in the entire watershed.

The drainage area in Kentucky encompasses all or portions of nine counties. The major tributaries to the Big Sandy River proper in Kentucky are Blaine Creek, Levisa Fork and Tug Fork. Tributaries of importance to the two forks are as follows: On Levisa Fork, the largest ones are Paint Creek, John's Creek, Beaver Creek, and Russell Fork; while on Tug Fork, Rockcastle Creek, Wolf Creek, and Big Creek are the largest.

PROCEDURES

A list of the streams of fishery importance in the Big Sandy River Drainage was compiled by interviewing each conservation officer in the drainage and by reviewing files of the Kentucky Division of Fisheries. The streams were then

classified on the basis of stream order by working from U. S. Geological Survey topography maps which were scaled 1:24,000. The stream order method of classification is based on branching (Horton, R. E., 1945). The headwater streams are classified as Order I and the union of two such streams forms an Order II stream. Whenever two streams of equal order join, they form a stream of the next highest order.

Project personnel inspected the streams which were considered to be of fishery importance and selected sampling areas on the basis of stream order, access, and anticipated changes in habitat. An effort was made to locate one sampling area within each designated order of the more important fishing streams. The streams of lesser importance were sampled one time, usually within the section designated as their highest order. Some streams of minor importance were not sampled, but were described and included in the listing.

Chemical Characteristics

Dissolved oxygen was determined by the Modified Winkler Method. Total alkalinity was determined by using brom cresol-green, methyl-red as an indicator and titrating with 0.02N sulfuric acid. The hydrogen-ion concentration was determined using a portable electric meter.

Physical Characteristics

Stream transparency or turbidity was measured in inches with a secchi disk. The surface water temperature and air temperature was determined with a pocket-type alcohol thermometer. Stream velocity was determined by floating a partially submerged object through a 100-foot section of stream three times and taking an average of the time in feet per second the float required to traverse this distance. The characteristic bottom type of each study area was determined and the volume of flow was calculated from the formula:

$$V = wdfc$$

where: V = volume of flow

w = the average width

d = the average depth

f = the velocity in feet per second

c = co-efficient of roughness (0.9 smooth bottom; 0.8 rough bottom).

Biological Characteristics

The dominant forms of aquatic vegetation were determined by observation. The macrobenthos was recorded merely by inspecting the riffles and listing the dominate forms found. The fish population composition of sampling areas was determined by using standard fish toxicants or seine. Small mesh nets were stretched across the width of the stream at each end of the sampling area. Toxicants were applied to the sampling areas at a concentration of 1.0 ppm. Potassium permanganate was used to oxidize the rotenone and eliminate downstream fish kills. This was accomplished by applying an amount of permanganate equal to twice the strength of rotenone to the stream immediately below the lower block net and distributing the same amount of permanganate through the sampling area upon completion of the study. Fishes were recovered with dip nets and the easily identified species were then grouped as fingerling, intermediate or harvestable and then counted and weighed on the site. Small fishes as well as questionable larger specimens were preserved in 10 percent formalin and subsequently identified in the laboratory.

Most fish population samples were considered qualitative due to the small size of the sampling areas. When quantitative samples were obtained, the standing crop was computed on a per-acre basis. Previous stream studies conducted by the Kentucky Division of Fisheries were used where applicable.

FINDINGS

Stream Order

All streams of fishery importance were of Order III or greater. This does not mean that the Order I or II streams were not significant to the fishery, but merely that they were too small to support a population of sport fishes. Many of the Order III streams were also too small to support a population of sport fishes, however, a few do support a fishery in short sections.

Nineteen of the streams of fishery importance were classified as Order IV. These range up to 26 miles in length and are primarily tributaries to the principal streams in the drainage. Some of the more important Order IV streams are: Hood Creek in Johnson and Lawrence Counties; Jenny's Creek in Johnson County; Little Paint Creek in Johnson County; and Mud Lick Creek in Johnson County.

The Order V streams range up to 59 miles and generally support the better stream fisherys in the drainage. Of the 10 streams in the Big Sandy River Drainage classified as Order V, the most important ones are Blaine Creek in Lawrence County, Paint Creek in Johnson County, Rockcastle Creek in Martin County, and John's Creek in Pike and Floyd Counties.

Russell Fork and Levisa Fork are both Order VI when they enter Kentucky. They form an Order VII at their junction and Levisa Fork remains an Order VII until its confluence with Tug Fork.

Distribution of Fishing Streams by County

The Big Sandy River Drainage encompasses all or a portion of 10 counties and includes approximately 766 miles of streams capable of providing a sport fishery (Table 1). Four counties have fishable waters exceeding 100 miles in length: Lawrence County has 153 miles of fishable streams, Johnson County has 104 miles, Floyd County has 112 miles, and Pike County has 272 miles.

Five streams (120 miles) in the Big Sandy River Drainage were considered to be of high enough quality to provide an important fishery potential in this area. These streams were also considered important because of their water quality and/or uniqueness (Table 2).

Access

Throughout the Big Sandy River Drainage the roads generally follow the course of streams through narrow valleys providing good access to the streams. In some areas, permission to enter through private land is needed.

Levisa Fork, Russel Fork, Tug Fork, and the Big Sandy River itself have potential for float fishing. However, very few places exist along these rivers to launch a boat without carrying it over the bank. Access points could possibly be developed in conjunction with highway construction projects in some areas. This and possibly other methods for developing access should be considered.

Table 1. Linear Miles of Fishing Streams by County

<u>County</u>	<u>Miles</u>
Boyd	20.2
Lawrence	153.4
Magoffin	2.7
Johnson	103.7
Martin	76.5
Floyd	112.8
Knott	9.8
Letcher	-
Pike	272.1
Morgan	<u>14.6</u>
Total	765.8

Table 2. The Highest Quality Streams in the Big Sandy Drainage

<u>Stream</u>	<u>Miles</u>	<u>County</u>
Blaine Creek	58.9	Lawrence
Hood Creek	12.0	Johnson-Lawrence
Paint Creek	23.7	Johnson
Russel Fork	14.5	Pike
Rockcastle Creek	11.1	Martin-Lawrence

Fish Populations

A total of 57 species representing 11 families were identified from the Big Sandy River Drainage (Table 3). Four of these species were not collected, but are known to exist in the drainage because of recent stockings or from actual observations. Studies conducted during the late 1950's and early 1960's by project F-16-R-2 personnel found some additional species not collected in the studies conducted for this report (Turner, 1961).

The bluntnose minnow was the most frequently collected (in 81% of the samples) and most abundant species represented. Three other species occurred in more than 50% of the studies. These are stoneroller (72%), common shiner (61%), and creek chub (61%). The most abundant game species was the spotted bass occurring in 28% of the studies. The longear sunfish was the most frequently recorded (in 47% of the studies) and most abundant panfish collected. Only one specimen of each of the following species was recorded: river carp-sucker, southern redbelly dace, bigeye chub, river shiner, and brook silversides. The black bullhead was taken in only one study (Table 4).

Table 3. List of fishes in the Big Sandy River Drainage

PETROMYZONTIDAE

***Lampetra lamottei* (LeSueur) American brook lamprey

CLUPEIDAE

**Alosa chrysochloris* (Rafinesque) Skipjack herring
Dorosoma cepedianum (LeSueur) Gizzard shad

SALMONIDAE

***Salmo gairdneri* Richardson Rainbow trout

CYPRINIDAE

Campostoma anomalum (Rafinesque) Stoneroller
Chrosomus erythrogaster (Rafinesque) Southern redbelly dace
Cyprinus carpio Linnaeus Carp
Ericymba buccata Cope Silverjaw minnow
Hybopsis amblops (Rafinesque) Bigeye chub
Hybopsis micropogon (Cope) River chub
Notropis ardens (Cope) Rosefin shiner
Notropis atherinoides Rafinesque Emerald shiner
Notropis blennius (Girard) River shiner
Notropis cornutus (Mitchill) Common shiner
Notropis rubellus (Agassiz) Rosyface shiner
Notropis spilopterus (Cope) Spotfin shiner
Notropis stramineus (Cope) Sand shiner
Notropis volucellus (Cope) Mimic shiner
Notropis sp.
Phenacobius mirabilis (Girard) Suckermouth minnow
Pimephales notatus (Rafinesque) Bluntnose minnow
Rhinichthys atratulus (Hermann) Blacknose dace
Semotilus atromaculatus (Mitchill) Creek chub

CATOSTOMIDAE

Carpiodes carpio (Rafinesque) River carpsucker
Carpiodes cyprinus (LeSueur) Quillback
Catostomus commersoni (Lacépède) White sucker
Hypentelium nigricans (LeSueur) Northern hog sucker
Minytrema melanops (Rafinesque) Spotted sucker
Moxostoma breviceps (Cope) Shorthead redhorse
Moxostoma erythrurum (Rafinesque) Golden redhorse

ICTALURIDAE

Ictalurus melas (Rafinesque) Black bullhead
Ictalurus natalis (LeSueur) Yellow bullhead
Ictalurus punctatus (Rafinesque) Channel catfish
Noturus miurus Jordan Brindled madtom
Pylodictis olivaris (Rafinesque) Flathead catfish

Table 3. (continued)

SERRANIDAE	
** <i>Roccus chrysops</i> (Rafinesque)	White bass
CENTRARCHIDAE	
<i>Ambloplites rupestris</i> (Rafinesque)	Rock bass
<i>Lepomis macrochirus</i> Rafinesque	Bluegill
<i>Lepomis megalotis</i> (Rafinesque)	Longear sunfish
<i>Lepomis microlophus</i> (Günther)	Redear sunfish
<i>Micropterus dolomieu</i> Lacépède	Smallmouth bass
<i>Micropterus punctulatus</i> (Rafinesque)	Spotted bass
** <i>Micropterus salmoides</i> (Lacépède)	Largemouth bass
* <i>Pomoxis annularis</i> Rafinesque	White crappie
* <i>Pomoxis nigromaculatus</i> (LeSueur)	Black crappie
PERCIDAE	
<i>Etheostoma blennioides</i> Rafinesque	Greenside darter
<i>Etheostoma caeruleum</i> Storer	Rainbow darter
<i>Etheostoma flabellare</i> Rafinesque	Fantail darter
<i>Etheostoma nigrum</i> Rafinesque	Johnny darter
<i>Etheostoma variatum</i> Kirtland	Variegate darter
<i>Etheostoma zonale</i> (Cope)	Banded darter
<i>Etheostoma</i> sp.	
<i>Percina caprodes</i> (Rafinesque)	Logperch
<i>Percina maculata</i> (Girard)	Blackside darter
<i>Percina phoxocephala</i> (Nelson)	Slenderhead darter
SCIAENIDAE	
<i>Aplodinotus grunniens</i> Rafinesque	Freshwater drum
ATHERINIDAE	
<i>Labidesthes sicculus</i> (Cope)	Brook silverside

*Collected in previous studies but not collected in studies conducted under this project.

**Species not collected but known to have been stocked or known to exist in this drainage.

Table 4. Total number of each species of fish collected in Big Sandy River Drainage during 1971 and 1972.

Species	Total No. of Fish Collected	No. of Studies Species Taken	% of Studies Species Taken
Smallmouth bass	29	9	25
Spotted bass	35	10	28
Rock bass	51	11	31
Bluegill	8	4	11

Table 4. (continued)

Species	Total No. of Fish Collected	No. of Studies Species Taken	% of Studies Species Taken
Longear sunfish	321	17	47
Redear sunfish	8	3	8
White crappie	8	2	6
Channel catfish	139	9	25
Flathead catfish	106	7	19
Yellow bullhead	14	4	11
Black bullhead	2	1	3
Brindled madtom	120	10	28
Quillback	7	4	11
River carpsucker	1	1	3
White sucker	62	16	44
Hog sucker	106	13	36
Spotted sucker	6	3	8
Shorthead redhorse	5	2	6
Golden redhorse	119	14	39
Carp	2	2	6
Drum	2	2	6
Gizzard shad	32	2	6
Stoneroller	812	26	72
Southern redbelly dace	1	1	3
Silverjaw minnow	683	19	53
Bigeye chub	1	1	3
River chub	20	2	6
Rosefin shiner	26	3	8
Emerald shiner	108	10	28
Common shiner	1182	22	61
Rosyface shiner	11	5	14
Spotfin shiner	22	5	14
Sand shiner	216	15	42
Mimic shiner	6	2	6
River shiner	1	1	3
Suckermouth minnow	155	4	11
Bluntnose minnow	2372	29	81
Blacknose dace	165	6	17
Creek chub	787	22	61
<i>Notropis sp.</i>	24	1	3
Brook silversides	1	1	3
Greenside darter	68	11	31
Rainbow darter	331	13	36
Fantail darter	290	15	42
Johnny darter	203	14	39
Variegated darter	9	3	8
Banded darter	11	3	8
Logperch	23	7	19
Blackside darter	56	14	39
Slenderhead darter	3	2	6
<i>Etheostoma sp.</i>	2	2	6
TOTALS	8772	36	

Trout Streams

Fish Trap Reservoir tailwater in Pike County has been stocked with trout since 1970. This is the primary trout stocking area in the Big Sandy Drainage in Kentucky.

In 1972, trout were stocked in Hood Creek in Johnson County on a monthly basis from April through June. Reports from the Conservation Officer indicate that fishing has been good and success high in this area. Logging operations occurred in late summer of 1972 immediately above stocking sites on Hood Creek. The influence this alteration will have on this stream has not yet been determined, but it will probably limit the stockings to the early spring periods.

Two other streams in Johnson County (Upper Laurel and Little Laurel Creeks) seem to have potential as trout streams. The main drawbacks to these streams appear to be access to stocking sites.

Other streams in the Big Sandy drainage have either too much pollution or too high a surface temperature to be considered as trout habitat.

Pollution

The primary form of stream degradation in the Big Sandy Drainage is siltation resulting from strip mining and coal washing operations. Most streams in this drainage are affected to some extent by these activities (Table 5). Pike County and Floyd County have the largest amount of this type of pollution in this drainage.

Another type of pollution occurring in the northern portion of this drainage is oil and salt water resulting from oil drilling and pumping operations. This type of pollution is not as extensive as the pollution due to mining, but it is significant in some streams.

Generally, most of the streams in the Big Sandy River Drainage in Kentucky have either not changed or have declined in fishing quality over the past few years. The main exception to this is Levisa Fork immediately below Fishtrap

Reservoir which now supports a trout fishery. Many streams could recover and improve if the pollution problems could be abated.

Table 5. Fishing streams which have been significantly degraded by pollution

Stream	County	Stream Miles Polluted	Type Pollution
Beaver Creek	Floyd	33.3	Siltation
Middle Creek	Floyd	15.2	Acid
Shelby Creek	Pike	26.4	Acid
Elkhorn Creek	Pike	21.6	Limestone
John's Creek	Pike-Floyd	48.4	Siltation
Greasy Creek	Johnson	5.7	Siltation
Pond Creek	Pike	10.7	Coal fines, Black water and Siltation
Raccoon Creek	Pike	6.9	Litter and Siltation
Blackberry Creek	Pike	6.0	Siltation
Big Creek	Pike	11.7	Siltation
Peter Creek	Pike	5.6	Siltation

Stream Alterations

Two major flood control reservoirs now exist in Kentucky on the Big Sandy River Drainage: Dewey Lake on John's Creek in Floyd County and Fish Trap Reservoir on Levisa Fork in Pike County. Other stream alterationa now completed on this drainage in Kentucky are 0.4 miles of concrete flood wall located on Tug Fork at Williamson, West Virginia; earth levee on Levisa Fork (utilizes existing roadway fill) at Prestonsburg, Kentucky; and 2.5 miles of

channelization on Rockcastle Creek at Inez, Kentucky. Snagging and clearing projects are completed on Right Fork of Beaver Creek at Langly, at Wayland-Garrett, and at Bosco, and on Left Fork of Beaver Creek from McDowell-Drift.

Proposed future stream alterations include two authorized reservoirs, one on Blaine Creek at Yatesville and one on Paint Creek at Paintsville. Thirteen smaller upstream watershed projects have been proposed. Beaver Creek at Martin has 4.3 miles of channelization authorized and Pond Creek at Pond Creek, Kentucky has a potential for 6.9 miles of stream channelization.

The two proposed reservoirs will impound much of the good stream fishing waters in the respective streams. This will reduce the available stream fish of the area but could in turn provide both a reservoir and tailwater fishery if managed properly. The other proposed projects do not involve streams of significant fishery importance.

RECOMMENDATIONS

1. It is recommended that consideration be given to the development of fisherman access sites on the larger streams in this drainage, especially launching ramps for float fishing in areas where this is possible: Russell Fork, Levisa Fork, Tug Fork, and the Big Sandy, primarily.

2. The possibility of developing more streams for a put and take trout fishery should be investigated, especially if some of the pollution can be controlled.

3. Develop a management program on the two proposed reservoir construction projects including both the reservoirs proper and the tailwaters.

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T H E A P P E N D I X

The findings at each sampling location and a general description of the streams of fishery importance not sampled are found in the appendix. Here the streams are arranged in order of tributary progression, upstream sequence. Thus the first tributary stream listed is Blaine Creek, the furthest downstream tributary of fishery importance in the drainage. When more than one sampling area was established on a given stream, the findings from each of these areas were described in upstream sequence before the order of tributary progression was resumed. For example: 3 sampling locations were established on Blaine Creek and the results of these 3 samples precede the section on Hood Creek, the first tributary of fishery importance to Blaine Creek (see pages 16-18).

Stream length in miles designates the approximate length of that stream from its mouth upstream to the point where it becomes an Order II stream as shown on a topography map. The stream order classification for each stream is given as well as the length and surface acres of the sample area. The terms qualitative and quantitative are arbitrary terms which refer to the size and success of the fish population sample. The three columns of numerals in the fish fauna list designate the total number of each species collected in each of the size groups--fingerling, intermediate, and harvestable.

An index to the streams listed in the inventory is provided in the rear of the text. The abbreviation N.D. appearing in the study area data sections of the studies means that that parameter was not determined. The data marked by an asterisk (*) was not taken during the initial study, but was collected June 18-19, 1973.

BIG SANDY RIVER (Boyd County)

The Big Sandy River is formed by the junction of Levisa Fork and Tug Fork at Louisa, Kentucky and flows north to enter the Ohio River at Catlettsburg, Kentucky. Siltation from mining operations is heavy in this river. Catfish and suckers are the primary fish found in the creel. Pressure on this stream is light and the reputation is fair. The following data was taken by personnel under Project F-13-R (Charles, 1958).

Study Area Data

Date - June 5, 1958
Location - Lock No. 1, Catlettsburg
Acreage - 0.20

Method - Chemicals
Length of sample area - 160 ft.

Physical and Chemical

D.O. - N.D.
pH - N.D.
Total alk. - N.D.
Temperature - 75°F
Avg. width - 54 ft.
Avg. depth - 5.5 ft.
Velocity - N.D.
Volume - N.D.
Secchi disk - N.D.
Bottom type - N.D.
Fish shelter - N.D.
Shade - N.D.

Fish Fauna

Black crappie	0-1-0
White crappie	6-0-0
Channel catfish	103-6-17
Flathead catfish	0-0-2
Skipjack herring	0-0-2
Bluegill	1-1-0
River carpsucker	1-0-0
Redhorse sp.	0-0-1
Black bullhead	1-0-0
Drum	2-3-0
Gizzard shad	0-10-11
Misc. minnows	29-0-0

Fish Food

N.D.

Aquatic Vegetation

N.D.

BLAINE CREEK (Lawrence County)

Order - V
Stream Length - 58.9 miles

Blaine Creek originates in western Lawrence County and northwestern Johnson County and flows northeast to join the Big Sandy River approximately six miles north of Louisa, Kentucky. Most of the fishing pressure is concentrated around Fallsburg where a large pool of water exists below the falls. Access to Blaine Creek is limited with the best locations being through private land. Smallmouth bass and Rock bass are the dominate species in the creel with a good run of suckers occurring in the spring. Pollution problems occur infrequently and are not considered a limiting factor on this stream.

Study Area Data

Date - June 10, 1971
 Location - 1185 Bridge
 Acreage - 0.23

Method - Chemicals
 Length of sample area - 200 ft.
 Qualitative

Physical and Chemical

D.O. - 7.8 ppm
 pH - 7.2
 Total alk. - 29 ppm
 Temperature - 65°F
 Avg. width - 50 ft.
 Avg. depth - N.D.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear
 Bottom type - Boulders-gravel-sand-silt
 Fish shelter - Boulders-logs-brush
 Shade - 75%

Fish Food

Decapoda-Ephemeroptera

Aquatic Vegetation

Justica sp.

Fish Fauna

Smallmouth bass	1-3-0
Spotted bass	1-0-0
Longear sunfish	2-9-0
Golden redhorse	0-2-2
Brindled madtom	11-12-0
Bluntnose minnow	11-6-0
Common shiner	3-0-0
Stoneroller	3-0-0
Sand shiner	6-0-0
River shiner	1-0-0
Rosyface shiner	0-1-0
Logperch	2-0-0
Greenside darter	4-0-0
Blackside darter	1-2-0
Banded darter	1-0-0
Fantail darter	3-0-0

BLAINE CREEK (Lawrence County)

Study Area Data

Date - June 9, 1971
 Location - Above mouth San Branch
 Acreage - 0.25

Method - Chemicals
 Length of sample area - 180 ft.
 Qualitative

Physical and Chemical

D.O. - 8.8 ppm
 pH - 7.1
 Total alk. - 23 ppm
 Temperature - 72°F
 Avg. width - 58 ft.
 Avg. depth - 1.9 ft.
 Velocity - 0.41 ft./sec.
 Volume - 37 cfs
 Secchi disk - Clear
 Bottom type - Bedrock-boulders-
 gravel
 Fish shelter - Boulders-brush
 Shade - 75%

Fish Fauna

Smallmouth bass	0-0-1
Rock bass	0-2-0
Longear sunfish	0-5-0
Golden redhorse	10-1-0
Hog sucker	0-2-0
White sucker	1-0-0
Bluntnose minnow	4-2-0
Creek chub	2-0-0
Stoneroller	1-0-0
Common shiner	47-7-0
Emerald shiner	21-0-0
Sand shiner	3-0-0
Brindled madtom	0-1-0

Fish Fauna (cont.)

Fish Food

Ephemeroptera-Decapoda

Aquatic Vegetation

Justica sp.

Fantail darter	1-0-0
Rainbow darter	1-0-0
Banded darter	3-0-0
Johnny darter	1-0-0
Blackside darter	3-0-0

BLAINE CREEK (Lawrence County)

Study Area Data

Date - June 10, 1971

Location - One mile below Brushy Creek

Acreage - 0.23

Method - Chemicals

Length of sample area - 225 ft.

Qualitative

Physical and Chemical

D.O. - 7.0 ppm

pH - 7.2

Total alk. - 26 ppm

Temperature - 70°F

Avg. width - 43 ft.

Avg. depth - N.D.

Velocity - .17 ft./sec.

Volume - 16.2 cfs

Secchi disk - Clear

Bottom type - Boulders-rubble-sand-silt

Fish shelter - Undercut banks-boulders-brush-logs

Shade - 75%

Fish Food

Ephemeroptera

Aquatic Vegetation

None

Fish Fauna

Smallmouth bass	0-0-1
Spotted bass	2-0-0
Rock bass	5-4-0
Longear sunfish	17-19-1
Golden redbreast	0-4-1
White sucker	0-5-0
Spotted sucker	1-0-0
Brindled madtom	28-7-0
Bluntnose minnow	61-4-0
Common shiner	69-1-0
Creek chub	2-0-0
Silverjaw minnow	1-0-0
Rosefin shiner	6-0-0
Emerald shiner	3-0-0
Logperch	1-0-0
Johnny darter	12-0-0
Banded darter	7-0-0
Blackside darter	3-0-0

HOOD CREEK (Johnson-Lawrence Counties)

Order - IV

Stream Length - 11.9 miles

Hood Creek rises in northern Johnson County and flows north to its confluence with Blaine Creek at Blaine, Kentucky. This stream is cold through most of the summer and could possibly support a put and take trout fishery at least in the early part of the summer. Access is fair along Hwy. 201. Pollution is virtually absent in this stream.

Study Area Data

Date - August 25, 1971
 Location - Confluence of Hood and
 Rockhouse Creeks

Method - Chemicals
 Length of sample area - 100 ft.
 Qualitative

Physical and Chemical

D.O. - 7.8 ppm
 pH - 6.6*
 Total alk. - 41 ppm
 Temperature - 59°F
 Avg. width - 10 ft.
 Avg. depth - 1.5 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear to bottom
 Bottom type - Gravel-bedrock
 Fish shelter - Ledges-brush-undercut
 banks
 Shade - 95%

Fish Food

Decapoda-Ephemeroptera

Aquatic Vegetation

None

Fish Fauna

Spotted bass	1-3-0
Rock bass	0-1-1
Bluegill	0-1-0
Longear sunfish	0-1-0
White sucker	8-19-0
Hog sucker	11-4-0
Creek chub	27-11-1
Common shiner	174-16-0
Bluntnose minnow	103-0-0
Blacknose dace	1-0-0
Silverjaw minnow	8-0-0
Stoneroller	12-8-0
Rosefin shiner	0-1-0
Johnny darter	48-0-0
Greenside darter	6-4-0
Rainbow darter	12-0-0
Fantail darter	22-0-0
Blackside darter	0-7-0

LITTLE LAUREL CREEK (Johnson-Lawrence Counties)
 Order - III
 Stream Length - 7.5 mi.

Little Laurel Creek rises in northern Johnson County and flows north to its confluence with Blaine Creek approximately 1.5 miles above Blaine, Kentucky. Access to this stream is limited and thus restricts the fishing pressure, which is light, on this stream. Rock bass are the most important species in the fishermen's creel.

Study Area Data

Date - August 26, 1971
 Location - 2 mi. above Johnson-Lawrence
 County line

Method - Chemicals
 Length of sample area - 100 ft.
 Qualitative

Physical and Chemical

D.O. - 6.2 ppm
 pH - 6.8*
 Total alk. - 35 ppm
 Temperature - 63°F

Fish Fauna

Rock bass	0-6-0
Hog sucker	1-4-0
Bluntnose minnow	13-0-0
Creek chub	198-24-1

Physical and Chemical (cont.)

Avg. width - 15 ft.
 Avg. depth - 1 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear to bottom
 Bottom type - Bedrock-gravel-sand
 Fish shelter - Ledges-brush
 Shade - 95%

Fish Food

Decapoda-Ephemeroptera-Diptera

Fish Fauna (cont.)

Blacknose dace	45-0-0
Common shiner	35-0-0
Stoneroller	3-0-0
Rosefin shiner	17-2-0
Brindled madtom	1-0-0
Fantail darter	78-0-0
Rainbow darter	15-0-0
Greenside darter	7-2-0
Blackside darter	8-0-0
Johnny darter	23-0-0

Aquatic Vegetation

None

LEVISA FORK (Lawrence County)

Order - VII

Stream Length - 24.5 miles in Lawrence County

Levisa Fork flows northeast through Lawrence County and junctions with Tug Fork at Louisa, Kentucky. These forks form the Big Sandy River. Fishing pressure is considered light with success being fair. The pressure is limited mainly by the minimum of access. Catfish and suckers make up the predominant species in the creel. This river is fished either from the bank or by boat.

Study Area Data

Date - June 8, 1972
 Location - 1 mi. below mouth of George's
 Creek

Method - Chemicals
 Length of sample area - N.D.
 Qualitative

Physical and Chemical

D.O. - 7.6 ppm
 pH - 7.0
 Total alk. - 50 ppm
 Temperature - 68°F
 Avg. width - N.D.
 Avg. depth - N.D.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 2 in.
 Bottom type - Rubble-gravel-sand
 Fish shelter - Boulders-logs-brush
 Shade - 15%

Fish Fauna

Channel catfish	2-0-2
Flathead catfish	1-1-0
Golden redhorse	0-4-4
Drum	0-0-1

Fish Food

N.D.

Aquatic Vegetation

N.D.

GREASY CREEK (Johnson County)

Order - III

Stream Length - 5.7 miles

Greasy Creek originates in eastern Johnson County and flows west to join Levisa Fork at Offutt, Kentucky. This stream is heavily silted from strip mines on the head end. Spring sucker runs offer the gig fisherman limited sport and are the main source of pressure that is applied to this stream.

Study Area Data

Date - May 24, 1972

Location - 2 miles above mouth

Method - Seine

Length of sample area - 50 ft.

Qualitative

Physical and Chemical

D.O. - N.D.

pH - 7.2 *

Total alk. - N.D.

Temperature - 68°F

Avg. width - 15 ft.

Avg. depth - 6 in.

Velocity - N.D.

Volume - N.D.

Secchi disk - 6 in.

Bottom type - Bedrock-sand-silt

Fish shelter - Brush

Shade - 50%

Fish Fauna

Hog sucker 0-1-0

Stoneroller 0-2-0

Fish Food

Decapoda

Aquatic Vegetation

None

LEVISA FORK (Johnson County)

Order - VII

Stream Length - 21.7 miles in Johnson County

This section of Levisa Fork is very similar to that in Lawrence County. Catfish and suckers make up the predominant species in the creel. All sections of this river are affected by heavy siltation from strip mines and road construction along its length. Access is limited mainly to points where Highway right-of-way join the stream bank.

Study Area Data

Date - June 7, 1972

Location - Below mouth of Paint Creek

Method - Chemicals

Length of sample area - 400 ft.

Qualitative

Physical and Chemical

D.O. - 7.5 ppm

pH - 6.9

Total alk. - 50 ppm

Temperature - 68°F

Fish Fauna

White crappie 3-0-1

Rock bass 0-1-0

Channel catfish 1-0-19

Flathead catfish 23-9-36

Physical and Chemical (cont.)

Avg. width - 200 ft.
 Avg. depth - N.D.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 10 in.
 Bottom type - Rubble-gravel-sand
 Fish shelter - Boulders-logs-brush
 Shade - 5%

Fish Food

N.D.

Aquatic Vegetation

N.D.

Fish Fauna (cont.)

Shorthead redhorse	0-1-0
Golden redhorse	0-1-0
White sucker	1-0-0
Bluntnose minnow	7-1-0
Creek chub	3-0-0
Common shiner	1-0-0
Spotfin shiner	6-1-0
Emerald shiner	36-0-0
Mimic shiner	5-0-0
Slenderhead darter	2-0-0
<i>Etheostoma</i> sp.	1-0-0

 PAINT CREEK (Magoffin-Johnson Counties)

Order - V

Stream Length - 23.7 miles

Paint Creek rises in northeastern Magoffin County and flows east through Johnson County to join Levisa Fork at Paintsville, Kentucky. This stream is virtually free of pollution and supports a good black bass fishery at the mouth and in the middle section. Bank fishing and wading are the best methods. This stream has a low human inhabitation and access is limited to where roads cross the stream or are located in its valley. Much of the pristine beauty remains in the stream valley.

Study Area Data

Date - June 9, 1972

Location - 2 mi. below Rock Quarry
 on Mine Fork, Magoffin County

Method - Chemicals

Length of sample area - 150 ft.
 Qualitative

Physical and Chemical

D.O. - 8.4 ppm
 pH - 6.8
 Total alk. - 53 ppm
 Temperature - 72°F
 Avg. width - 20 ft.
 Avg. depth - 1 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear
 Bottom type - Boulders-gravel-sand
 Fish shelter - Boulders
 Shade - 50%

Fish Fauna

Smallmouth bass	0-1-0
Rock bass	1-0-0
Longear sunfish	4-0-0
White sucker	1-0-0
Hog sucker	2-4-0
Stoneroller	28-20-0
Bluntnose minnow	350-20-0
Creek chub	17-0-0
Common shiner	86-11-0
Silverjaw minnow	30-0-0
Sand shiner	56-0-0
Greenside darter	27-1-0

Fish Food

N.D.

Aquatic Vegetation

None

Fish Fauna (cont.)

Rainbow darter	31-0-0
Johnny darter	16-0-0
Fantail darter	3-0-0

JENNY'S CREEK (Johnson County)

Order - IV

Stream Length - 10.6 miles

Jenny's Creek rises in southern Johnson County and flows north to join Paint Creek approximately 3 miles above Paintsville, Kentucky. Fishing pressure on this stream is limited by access which is available only through private land along a gravel road which runs along its course from Collista, Kentucky, to the mouth of Jenny's Creek. The aesthetic value of this stream is very good due to the limited access. Some siltation has occurred in this stream from agricultural practices in the bottom lands and coal washers in the headwaters. Wading appears to be the best method of sport fishing.

Study Area Data

Date - June 7, 1972

Location - 1 mi. above mouth

Method - Chemicals

Length of sample area - 150 ft.
QualitativePhysical and Chemical

D.O. - 8.2 ppm

pH - 7.5

Total alk. - 39 ppm

Temperature - 64°F

Avg. width - 20 ft.

Avg. depth - 1.0 ft.

Velocity - N.D.

Volume - N.D.

Secchi disk - Clear

Bottom type - Gravel-sand

Fish shelter - Boulders-brush

Shade - 65%

Fish Food

Decapoda

Aquatic Vegetation

None

Fish Fauna

Smallmouth bass	0-1-1
Spotted bass	0-1-0
Rock bass	4-2-0
Longear sunfish	1-15-0
Hog sucker	2-6-0
Golden redhorse	3-15-0
Stoneroller	1-17-0
Bluntnose minnow	138-29-0
Silverjaw minnow	30-0-0
Common shiner	57-22-0
Southern redbelly dace	1-0-0
Creek chub	2-0-0
Emerald shiner	3-2-0
Rosyface shiner	7-0-0
Sand shiner	4-0-0
Brindled madtom	22-8-0
Logperch	0-6-0
Varigate darter	7-0-0
Greenside darter	5-0-0
Fantail darter	155-0-0
Rainbow darter	23-0-0
Johnny darter	41-0-0
Blackside darter	14-0-0

MIDDLE FORK JENNY'S CREEK (Johnson County)

Order - II

Stream Length - 3.8 miles

This stream is a headwater tributary to Jenny's Creek and does not support any sport fishing but does have a population of minnows.

Study Area Data

Date - August 8, 1971

Location - 2 miles above mouth

Method - Chemicals

Length of sample area - 75 ft.

Qualitative

Physical and Chemical

D.O. - 6.8 ppm

pH - 7.7

Total alk. - 84 ppm

Temperature - 66°F

Avg. width - 4 ft.

Avg. depth - 6 in.

Velocity - N.D.

Volume - N.D.

Secchi disk - Clear to bottom

Bottom type - Rubble-gravel

Fish shelter - Undercut banks-brush

Shade - 60%

Fish Fauna

Redear sunfish 1-0-0

White sucker 1-0-0

Bluntnose minnow 23-0-0

Creek chub 20-2-0

Silverjaw minnow 7-0-0

Stoneroller 2-0-0

Common shiner 7-3-0

Johnny darter 5-0-0

Fantail darter 12-0-0

Fish Food

Dacapoda-Ephemeroptera

Aquatic Vegetation

None

MUDLICK CREEK (Johnson County)

Order - IV

Stream Length - 7.3 miles

Mudlick Creek originates in northwestern Johnson County and flows southeast to join Paint Creek at Staffordsville, Kentucky. Although this stream does have some deep holes that support a fishable population of sport fish, most of this stream can only be classified as a minnow stream. The lower two miles provide the best fishable water, but access is mainly through private land.

Study Area Data

Date - May 23, 1972

Location - 1 mi. above State Hwy. Garage

Method - Chemicals

Length of sample area - 175 ft.

Qualitative

Physical and Chemical

D.O. - 9.4 ppm

pH - 7.5

Total alk. - 26 ppm

Fish Fauna

Bluntnose minnow 21-0-0

Stoneroller 6-7-0

Common shiner 29-1-0

Physical and Chemical (cont.)

Temperature - 66°F
 Avg. width - 20 ft.
 Avg. depth - 1.0 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear to bottom
 Bottom type - Rubble-gravel-sand
 Fish shelter - Boulders-logs-brush
 Shade - 65%

Fish Food

Ephemeroptera-Decapoda-Plecoptera- and
 Megaloptera

Fish Fauna (cont.)

Creek chub	1-2-0
Blackside darter	1-0-0
Johnny darter	2-0-0
Greenside darter	1-0-0
Fantail darter	3-0-0
Rainbow darter	6-0-0

Aquatic Vegetation

None

JOHN'S CREEK (Floyd-Pike Counties)

Order - V
 Stream Length - 40.0 miles

John's Creek rises in central Pike County and runs northwest to join Levisa Fork at Johnson-Floyd County line. This stream is heavily silted from strip mines and coal washers located along its length. John's Creek does support a fishery for suckers and catfish above Dewey Lake as well as provide a limited sport and pan fishery with fish coming from Dewey Lake.

Study Area Data

Date - August 11, 1971
 Location - Mouth Walker's Branch
 Acreage - 0.19

Method - Chemicals
 Length of sample area - 215 ft.
 Qualitative

Physical and Chemical

D.O. - N.D.
 pH - 6.9*
 Total alk. - 53 ppm
 Temperature - 72°F
 Avg. width - 42 ft.
 Avg. depth - 2.5 ft.
 Velocity - 0.10 ft./sec.
 Volume - 10 cfs
 Secchi disk - Clear
 Bottom type - Sand-silt
 Fish shelter - Brush
 Shade - 50%

Fish Food

Decapoda-Ephemeroptera

Aquatic Vegetation

None

Fish Fauna

Spotted bass	3-9-0
Bluegill	0-1-3
White crappie	1-3-0
Longear sunfish	8-4-0
Redear sunfish	1-3-0
Channel catfish	1-1-20
Flathead catfish	16-2-0
Golden redhorse	3-13-9
Hog sucker	3-15-0
Brindled madtom	10-1-0
Gizzard shad	0-24-6
Bluntnose minnow	2-0-0
Creek chub	1-1-0
Spotfin shiner	0-2-0
Stoneroller	3-0-0
Silverjaw minnow	2-0-0
Sand shiner	2-0-0
Logperch	0-6-0
Fantail darter	1-0-0

JOHN'S CREEK (Floyd-Pike Counties)

Study Area Data

Date - August 11, 1971
 Location - 1 mi. above Meta, Kentucky

Method - Chemicals and seine
 Length of sample area - 100 ft.
 Qualitative

Physical and Chemical

D.O. - N.D.
 pH - 6.7*
 Total alk. - N.D.
 Temperature - 79°F
 Avg. width - 15 ft.
 Avg. depth - 6 in.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - N.D.
 Bottom type - Rubble-gravel-sand
 Fish shelter - Boulders
 Shade - 25%

Fish Fauna

Spotted bass	0-0-1
Smallmouth bass	1-0-0
Hog sucker	2-0-0
Bluegill	2-0-0
Brindled madtom	2-0-0
Bluntnose minnow	70-0-0
Common shiner	25-0-0
Silverjaw minnow	45-0-0
Emerald shiner	9-0-0
Stoneroller	4-0-0
Sand shiner	5-0-0
Greenside darter	2-0-0
Fantail darter	1-0-0
Johnny darter	2-0-0

Fish Food

Decapoda-Megaloptera

Aquatic Vegetation

None

RACCOON CREEK (Pike County)

Order - III
 Stream Length - 6.9 miles

Raccoon Creek rises in central Pike County and flows north to join John's Creek two miles below Meta, Kentucky. This small stream supports primarily minnow populations. The shorelines of this stream are heavily littered and the stream bed is silted from strip mine activity.

Study Area Data

Date - August 4, 1971
 Location - Bridge 2.5 mi. above mouth

Method - Chemicals
 Length of sample area - 100 ft.
 Qualitative

Physical and Chemical

D.O. - 8.4 ppm
 pH - 7.4
 Total alk. - 77 ppm
 Temperature - 72°F
 Avg. width - 15 ft.

Fish Fauna

Smallmouth bass	5-2-0
Longear sunfish	12-23-5
White sucker	0-1-0
Hog sucker	0-2-0
Black bullhead	0-2-0

Physical and Chemical (cont.)

Avg. depth - 6 in.
Velocity - N.D.
Volume - N.D.
Secchi disk - Clear to bottom
Bottom type - Rubble
Fish shelter - Brush
Shade - 25%

Fish Food

Decapoda

Aquatic Vegetation

None

Fish Fauna (cont.)

Bluntnose minnow	547-0-0
Stoneroller	139-41-0
Silverjaw minnow	106-0-0
Common shiner	34-4-0
Blacknose dace	27-0-0
Sand shiner	20-0-0
Rainbow darter	25-0-0
Pantail darter	2-0-0

MIDDLE CREEK (Floyd County)
Order - V
Stream Length - 15.2 miles

Middle Creek originates in western Floyd County and eastern Magoffin County and flows east to its junction with Levisa Fork at Prestonsburg, Kentucky. Access is fair along new Hwy. 114. Fishing pressure is light with dominant species being suckers in the spring. This stream has been partially channelized and the lower sections are heavily polluted with acid originating from deep mines at David, Kentucky.

Study Area Data

Date - August 18, 1971
Location - Clark School above fork

Method - Chemicals
Length of sample area - 150 ft.
Qualitative

Physical and Chemical

D.O. - 6.2 ppm
pH - 6.8 *
Total alk. - 67 ppm
Temperature - N.D.
Avg. width - 6 ft.
Avg. depth - 6 in.
Velocity - N.D.
Volume - N.D.
Secchi disk - Clear to bottom
Bottom type - Sand-silt
Fish shelter - Brush
Shade - 75%

Fish Food

Decapoda-Ephemeroptera

Aquatic Vegetation

None

Fish Fauna

Smallmouth bass	4-0-0
Spotted bass	4-4-0
Longear sunfish	1-7-2
Yellow bullhead	1-0-0
White sucker	0-1-0
Hog sucker	8-8-0
Stoneroller	7-1-0
Common shiner	12-26-0
Bluntnose minnow	9-0-0
Creek chub	1-0-0
Brook silversides	1-0-0
Rainbow darter	20-0-0
Johnny darter	7-0-0
Blackside darter	1-0-0

LEFT FORK OF MIDDLE CREEK (Floyd County)
Order - III
Stream Length - 8.4 miles

This stream rises in eastern Magoffin County and western Floyd County and flows north to junction with Middle Creek at the junction of Kentucky Highways 114 and 404. This stream receives mine acid from the mines around David, Kentucky. Minnows are the only fish found in this stream and then only in the areas above the acid conditions.

Study Area Data

Date - August 17, 1971
Location - 0.5 mi. above Goodloe, Kentucky

Method - Chemicals
Length of sample area - 100 ft.
Qualitative

Physical and Chemical

D.O. - 7.0 ppm
pH - 7.1
Total alk. - 15.5 ppm
Temperature - N.D.
Avg. width - 5 ft.
Avg. depth - 6 in.
Velocity - N.D.
Volume - N.D.
Secchi disk - Clear to bottom
Bottom type - Sand-silt
Fish shelter - Boulders-brush
Shade - 50%

Fish Fauna

Longear sunfish	1-0-0
Bluntnose minnow	174-0-0
Stoneroller	44-7-0
Creek chub	146-9-0
Silverjaw minnow	12-0-0
Johnny darter	29-0-0

Fish Food

Decapoda-Ephemeroptera-Diptera

Aquatic Vegetation

None

BEAVER CREEK (Floyd County)
Order - V
Stream Length - 7.1 miles

Beaver Creek originates at the confluence of Left Fork and Right Fork of Beaver Creeks near Martin, Kentucky and flows north to its junction with Levisa Fork at Allen, Kentucky. This stream is continuously polluted with coal washer silt or oil from a railroad yard located at Martin, Kentucky. Black bass, sunfish, suckers, and catfish are the dominant species caught with success considered only fair. Access is good along Route 80.

Study Area Data

Date - August 20, 1971
Location - Just above Almar Theater

Method - Chemicals
Length of sample area - N.D.
Qualitative

Physical and Chemical

D.O. - 6.8 ppm
pH - 6.5

Fish Fauna

Bluntnose minnow	1-0-0
Yellow bullhead	2-0-0

Physical and Chemical (cont.)

Total alk. - 95 ppm
Temperature - 72°F
Avg. width - N.D.
Avg. depth - N.D.
Velocity - N.D.
Volume - N.D.
Secchi disk - N.D.
Bottom type - Sand
Fish shelter - Logs-undercut banks
Shade - 25%

Fish Fauna (cont.)

Golden redbhorse 0-1-0
Sand shiner 2-0-0
Blackside darter 1-2-0

Fish Food

None

Aquatic Vegetation

None

LEFT FORK BEAVER CREEK (Floyd-Knott Counties)
Order - IV
Stream Length - 26.2 miles

Left Fork of Beaver Creek originates in northern Knott County and flows north to a confluence with Right Fork of Beaver Creek near Martin, Kentucky. This stream is heavily silted with coal washer waste. The fishery potential of this stream is mainly suckers with the heaviest pressure being during the spring run.

Study Area Data

Date - August 18, 1971
Location - Old Railroad Bridge
below Drift, Kentucky

Method - Chemicals
Length of sample area - 150 ft.
Qualitative

Physical and Chemical

D.O. - 9.0 ppm
pH - 6.5*
Total alk. - 123 ppm
Temperature - 73°F
Avg. width - 24 ft.
Avg. depth - 10 in.
Velocity - 1.6 ft./sec.
Volume - N.D.
Secchi disk - Clear to bottom
Bottom type - Silt-sand
Fish shelter - Brush
Shade - 25%

Fish Fauna

Longear sunfish 1-2-0
White sucker 1-0-0
Yellow bullhead 8-0-0
Brindled madtom 2-0-0
Stoneroller 33-24-0
Creek chub 85-28-0
Common shiner 24-1-0
Bluntnose minnow 11-5-0
Silverjaw minnow 54-4-0
Suckermouth minnow 146-1-0
Greenside darter 1-1-0
Johnny darter 3-0-0
Rainbow darter 1-0-0
Fantail darter 1-0-0

Fish Food

Decapoda

Aquatic Vegetation

None

RIGHT FORK BEAVER CREEK (Floyd-Knott Counties)

Order - IV

Stream Length - 23.3 miles

Right Fork of Beaver Creek heads in northern Knott County and flows north to join Left Fork of Beaver Creek at Martin, Kentucky. This stream is relatively clean with local residences and communities along its course being the main source of pollution in this stream. Pan fishing is the major sport fishing carried on in this stream, with some populations of black bass available to the sport fisherman. Success is considered fair.

Study Area Data

Date - August 19, 1971

Location - Roadside park 1.5 miles
above Martin, Kentucky

Acreage - 0.19

Method - Chemicals

Length of sample area - 300 ft.

Qualitative

Physical and Chemical

D.O. - 8.5 ppm

pH - 6.7*

Total alk. - 86 ppm

Temperature - 74°F

Avg. width - 29 ft.

Avg. depth - 1.6 ft.

Velocity - 0.26 ft./sec.

Volume - 11.9 cfs

Secchi disk - 16 in.

Bottom type - Gravel-sand

Fish shelter - Logs-brush

Shade - 75%

Fish Food

None

Aquatic Vegetation

None

Fish Fauna

Spotted bass 3-1-0

Longear sunfish 28-85-0

Rock bass 0-7-1

Channel catfish 0-1-1

Flathead catfish 1-0-0

Yellow bullhead 1-1-1

Brindled madtom 10-0-0

White sucker 0-1-0

Hog sucker 7-1-0

Golden redhorse 1-12-0

Quillback carpsucker 0-2-0

Spotted sucker 1-1-0

Stoneroller 0-1-0

Bluntnose minnow 29-3-0

Emerald shiner 0-2-0

Common shiner 0-1-0

Logperch 0-2-0

Blackside darter 2-0-0

Johnny darter 2-0-0

RIGHT FORK BEAVER CREEK (Floyd-Knott Counties)

Study Area Data

Date - August 19, 1971

Location - Dema, Kentucky at Low Water
Bridge

Method - Chemicals

Length of sample area - 300 ft.

Qualitative

Physical and Chemical

D.O. - 9.2 ppm

pH - 6.7*

Total alk. - 86 ppm

Fish Fauna

Smallmouth bass 3-3-2

Spotted bass 1-0-0

Rock bass 2-6-6

Physical and Chemical (cont.)

Temperature - 76°F
 Avg. width - 30 ft.
 Avg. depth - 1.0 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear
 Bottom type - Boulders-gravel-sand
 Fish shelter - Boulders-weeds
 Shade - 60%

Fish Food

Ephemeroptera-Decapoda

Aquatic Vegetation

Justica sp.

Fish Fauna (cont.)

Longear sunfish	7-24-5
Hog sucker	15-5-0
White sucker	0-2-0
Creek chub	26-10-0
Silverjaw minnow	50-1-0
Bluntnose minnow	373-43-0
Stoneroller	28-121-0
Common shiner	320-99-0
Emerald shiner	24-0-0
River chub	19-0-0
Sand shiner	20-0-0
Rainbow darter	30-0-0
Greenside darter	2-0-0
Johnny darter	12-0-0
Blackside darter	1-0-0
Fantail darter	1-0-0

LEVISA FORK (Floyd County)

Order - VII

Stream Length - 32.0 miles in Floyd County

This section of the river is again very similar to those sections previously described. Siltation from mining operations and road construction is very evident in this section.

Study Area Data

Date - June 8, 1972
 Location - Immediately above
 Mare Creek coal dredge

Method - Chemicals
 Length of sample area - N.D.
 Qualitative

Physical and Chemical

D.O. - 6.6 ppm
 pH - 7.1
 Total alk. - 57 ppm
 Temperature - 71°F
 Avg. width - N.D.
 Avg. depth - N.D.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 4 in.
 Bottom type - Gravel-sand-silt
 Fish shelter - Boulders-logs-brush
 Shade - 20%

Fish Food

N.D.

Aquatic Vegetation

N.D.

Fish Fauna

Channel catfish	20-5-6
Flathead catfish	5-3-0
Golden redhorse	0-5-2
Shorthead redhorse	0-2-2
Carp	0-1-0
Drum	0-0-1
Quillback	0-0-1
Bluntnose minnow	4-2-0
Spotfin shiner	3-0-0
Mimic shiner	1-0-0
Emerald shiner	4-0-0
Slenderhead darter	1-0-0
<i>Etheostoma sp.</i>	1-0-0

SHELBY CREEK (Pike County)

Order - V

Stream Length - 26.4 miles

Shelby Creek rises in southwestern Pike County and flows northeast to join Levisa Fork at Shelbiana, Kentucky. This stream receives acid drainage periodically from mines along its course. The sport fishery potential is drastically reduced because of this acid drainage and for the most part it is non-existent except for the lower sections where some fish do move back into the stream during periods of no acid drainage.

Study Area Data

Date - June 27, 1972

Location - 3 mi. above mouth

Method - Chemicals

Length of sample area - 150 ft.

Qualitative

Physical and Chemical

D.O. - 8.4 ppm

pH - 6.7 *

Total alk. - 100 ppm

Temperature - 67°F

Avg. width - 50 ft.

Avg. depth - 1.0 ft.

Velocity - N.D.

Volume - N.D.

Secchi disk - Clear

Bottom type - Gravel-sand

Fish shelter - Brush

Shade - 30%

Fish Fauna

Creek chub 8-0-0

Bluntnose minnow 1-0-0

Stoneroller 1-0-0

Rosyface shiner 1-0-0

Silverjaw minnow 27-0-0

Suckermouth minnow 4-0-0

Bigeye chub 1-0-0

River chub 1-0-0

Sand shiner 2-0-0

Varigate darter 1-0-0

Greenside darter 1-0-0

Blackside darter 1-0-0

Fish Food

Ephemeroptera-Tricoptera-Coleoptera

Aquatic Vegetation

Justica sp.

SHELBY CREEK (Pike County)

Study Area Data

Date - August 8, 1971

Location - Roadside Park above
Sugar Cane Creek

Method - Chemicals

Length of sample area - 200 ft.

Qualitative

Physical and Chemical

D.O. - 9.0 ppm

pH - 3.8

Total alk. - N.D.

Temperature - 66°F

Avg. width - 8 ft.

Avg. depth - 6 in.

Velocity - N.D.

Fish Fauna

No fish present in study area-
rocks discolored with iron
deposits-acid conditions present
in the stream at the time of
study.

Physical and Chemical (cont.)

Volume - N.D.

Secchi disk - Clear to bottom

Bottom type - Bedrock-rubble-gravel-sand

Fish shelter - Boulders

Shade - 75%

Fish Food

Hemiptera

Aquatic Vegetation

None

RUSSELL FORK (Pike County)

Order - VI

Stream Length - 14.5 miles in Pike County

Russell Fork enters Kentucky at the Breaks Interstate Park and flows northwest to join Levisa Fork at Millard, Kentucky. Although this stream receives mining and domestic pollution both in Kentucky and Virginia, it has remained relatively clean. Native walleye populations have remained in this stream and this is probably one of the few areas where native walleye still exist in Kentucky. Bass, catfish, suckers, and sunfish are also found in the creel.

Study Area Data

Date - September 28, 1960

Location - "Cliff Hole" 1/2 mi. above
Elkhorn City

Acreage - 0.32

Method - Chemicals

Length of sample area - 350 ft.

Quantitative - 1843 fish/acre

32.7 lbs./acre

(Turner, 1961)

MARROWBONE CREEK (Pike County)

Order - III

Stream Length - 4.7 miles

This small stream supports a fair population of minnows and is used by fishermen to seine bait.

Study Area Data

Date - June 23, 1972

Location - 3 mi. above mouth

Method - Chemicals

Length of sample area - 150 ft.

Qualitative

Physical and Chemical

D.O. - 9.4 ppm
 pH - 6.2
 Total alk. - 60 ppm
 Temperature - N.D.
 Avg. width - 25 ft.
 Avg. depth - 6 in.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 6 in.
 Bottom type - Rubble-sand-silt
 Fish shelter - Boulders-brush
 Shade - 40%

Fish Fauna

Creek chub	35-2-0
Stoneroller	110-40-0
Silverjaw minnow	34-0-0
Common shiner	1-0-0
Suckermouth minnow	3-0-0
Varigate darter	1-0-0
Rainbow darter	1-0-0

Fish Food

Decapoda

Aquatic Vegetation

None

ELKHORN CREEK (Letcher-Pike Counties)

Order - IV

Stream Length - 21.6 miles

Elkhorn Creek rises in eastern Letcher County and flows east to join Russell Fork at Elkhorn City, Kentucky. This stream has a high gradient and has many areas of fast water with many large boulders. Sport fishing is considered poor with success fair in the spring for black bass. The potential of this stream is limited by periodic heavy loads of silt originating from limestone washer operations located in the headwaters.

Study Area Data

Date - June 23, 1972
 Location - 3 mi. above Elkhorn City

Method - Chemicals
 Length of sample area - 300 ft.
 Qualitative

Physical and Chemical

D.O. - 9.4 ppm
 pH - 6.5
 Total alk. - 143 ppm
 Temperature - 58°F
 Avg. width - 40 ft.

Fish Fauna

Bluntnose minnow	1-0-0
Stoneroller	5-6-0
Common shiner	0-1-0
Rosyface shiner	1-0-0
Sand shiner	2-0-0

Physical and Chemical (cont.)

Avg. depth - 1.5 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 4 in.
 Bottom type - Boulders-rubble-sand-silt
 Fish shelter - Boulders
 Shade - 20%

Fish Food

Decapoda-Ephemeroptera

Fish Fauna (cont.)

Suckermouth minnow 1-0-0
 Gizzard shad 0-2-0

Aquatic Vegetation

None

ELKHORN CREEK (Letcher-Pike Counties)

Study Area Data

Date - August 12, 1971
 Location - Mouth of Lower Pigeon Creek
 Method - Chemicals
 Length of sample area - 50 ft.
 Qualitative

Physical and Chemical

D.O. - 9.1 ppm
 pH - 6.2
 Total alk. - 155 ppm
 Temperature - 68°F
 Avg. width - 10 ft.
 Avg. depth - 6 in.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear to bottom
 Bottom type - Bedrock-gravel
 Fish shelter - Boulders-ledges
 Shade - 50%

Fish Fauna

Stoneroller 0-1-0
 Emerald shiner 1-0-0

Fish Food

Ephemeroptera-Megaloptera-
 Decapoda

Aquatic Vegetation

Algae -water grasses

TUG FORK (Lawrence County)

Order - N.D.

Stream Length - 19.5 miles in Lawrence County

The Tug Fork flows northwest forming the state boundary between Kentucky and West Virginia. Tug Fork joins with Levisa Fork at Louisa, Kentucky forming the Big Sandy River. Siltation from mining operation is the main pollution problem on this stream. Catfish and sucker populations support the major fishing pressure with boat and bank fishing being the best methods. Fishing pressure is considered light with success being fair.

Study Area Data

Date - August 16, 1972
Location - Mouth Rockcastle Creek

Method - Chemicals
Length of sample area - N.D.
Qualitative

Physical and Chemical

D.O. - 7.0 ppm
pH - 6.1
Total alk. - 112 ppm
Temperature - 75°F
Avg. width - N.D.
Avg. depth - N.D.
Velocity - N.D.
Volume - N.D.
Secchi disk - 2 in.
Bottom type - Gravel-sand-silt
Fish shelter - Boulders-ledges-brush
Shade - 25%

Fish Fauna

Channel catfish	4-5-31
Flathead catfish	0-0-1
River carpsucker	0-0-1
Quillback	0-1-1
Golden redhorse	0-1-1
Carp	0-0-1

Fish Food

N.D.

Aquatic Vegetation

Justica sp.

ROCKCASTLE CREEK (Martin County)
Order - V
Stream length - 11.1 miles

Rockcastle Creek originates in western Martin County and flows north to join Tug Fork at Clifford, Kentucky. This stream has an excellent reputation as a fishing stream with black bass, sunfish, catfish, and suckers being the dominant species in the creel. Pollution is relatively absent from this stream, but mining operations are starting in the headwater sections and may create some problems in the future.

Study Area Data

Date - June 9, 1971
Location - Homer Pack residence
Job, Kentucky
Acreage - 0.09

Method - Chemicals
Length of sample area - 100 ft.
Qualitative

Physical and Chemical

D.O. - 7.4 ppm
pH - 6.8
Total alk. - 33 ppm
Temperature - 75°F
Avg. width - 40 ft.
Avg. depth - 2 ft.
Velocity - 0.27 ft./sec.
Volume - 16.2 cfs

Fish Fauna

Spotted bass	0-1-0
Bluegill	0-1-0
Rock bass	0-1-0
Longear sunfish	15-3-0
Channel catfish	0-1-0
White sucker	1-0-0
Hog sucker	0-3-0
Spotted sucker	0-3-0

Physical and Chemical (cont.)

Secchi disk - N.D.
Bottom type - Sand-silt
Fish shelter - Brush
Shade - 50%

Fish Food

Odonata

Aquatic Vegetation

Justica sp.

Fish Fauna (cont.)

Golden redborse	2-19-0
Brindled madtom	5-0-0
Bluntnose minnow	24-0-0
Sand shiner	6-0-0
Spotfin shiner	8-0-0
Common shiner	0-4-0
Logperch	5-0-0
Blackside darter	8-0-0
Fantail darter	6-0-0

ROCKCASTLE CREEK (Martin County)

Study Area Data

Date - June 10, 1971
Location - Mouth of Middle Fork Creek

Method - Chemicals
Length of sample area - 100 ft.
Qualitative

Physical and Chemical

D.O. - 11 ppm
pH - 7.0 *
Total alk. - 33 ppm
Temperature - 72°F
Avg. width - 20 ft.
Avg. depth - 2 in.
Velocity - N.D.
Volume - N.D.
Secchi disk - Clear to bottom
Bottom type - Gravel-sand
Fish shelter - None
Shade - 5%

Fish Food

Odonata-Diptera

Aquatic Vegetation

None

Fish Fauna

Rock bass	1-0-0
Longear sunfish	8-0-0
Redear sunfish	3-0-0
White sucker	1-0-0
Creek chub	20-0-0
Bluntnose minnow	63-0-0
Spotfin shiner	2-0-0
Emerald shiner	3-0-0
Silverjaw minnow	16-0-0
Blacknose dace	1-0-0
Common shiner	11-0-0
Sand shiner	58-0-0
Rainbow darter	1-0-0
Fantail darter	1-0-0
Blackside darter	1-0-0

TUG FORK (Martin County)
 Order - N.D.
 Stream Length - 27.5 miles in Martin County

This section of Tug Fork is similar to that previously discussed. Again, catfish and suckers predominate the creel. Fishing pressure is moderate and success is fair.

Study Area Data

Date - August 17, 1972
 Location - Below Mouth Big Creek
 Method - Chemicals
 Length of sample area - N.D.
 Qualitative

Physical and Chemical

D.O. - 10.6 ppm
 pH - 6.4
 Total alk. - 85 ppm
 Temperature - 72°F
 Avg. width - N.D.
 Avg. depth - N.D.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 4 in.
 Bottom type - Boulders-gravel-sand-silt
 Fish shelter - Boulders-logs-brush
 Shade - 25%

Fish Fauna

Channel catfish	9-4-5
Flathead catfish	6-1-1
Golden redhorse	0-1-1
Quillback	0-1-1

Fish Food

N.D.

Aquatic Vegetation

Justica sp.

BIG CREEK (Pike County)
 Order - IV
 Stream Length - 11.7 miles

Big Creek rises in central Pike County and flows north to join Tug Fork on the Pike and Martin County line. This stream supports a fair sucker fishery in the lower half. Siltation and some acid originating from mining operations is present in this stream.

Study Area Data

Date - June 26, 1972
 Location - 4 mi. above Mouth
 Acreage - 0.16
 Method - Chemicals
 Length of sample area - 265 ft.
 Qualitative

Physical and Chemical

D.O. - 8.0 ppm
 pH - 6.3 *
 Total alk. - 34 ppm

Fish Fauna

Longear sunfish	4-0-0
White sucker	12-0-0
Golden redhorse	0-1-0

Physical and Chemical (cont.)

Temperature - 68°F
 Avg. width - 27 ft.
 Avg. depth - 1.0 ft.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - 6 in.
 Bottom type - Gravel-sand
 Fish shelter - Brush
 Shade - 35%

Fish Food

Decapoda-Ephemeroptera

Fish Fauna (cont.)

Bluntnose minnow	8-0-0
Stoneroller	1-0-0
Common shiner	2-0-0
Creek chub	51-0-1
Silverjaw minnow	1-0-0
Sand shiner	1-0-0
Logperch	0-1-0
Blackside darter	1-0-0

Aquatic Vegetation

Justica sp.

BIG CREEK (Pike County)

Study Area Data

Date - August 12, 1971
 Location - At Sidney, Kentucky

Method - Chemicals
 Length of sample area - 100 ft.
 Qualitative

Physical and Chemical

D.O. - 9.6 ppm
 pH - 6.5 *
 Total alk. - 68 ppm
 Temperature - 78°F
 Avg. width - 20 ft.
 Avg. depth - 6 in.
 Velocity - N.D.
 Volume - N.D.
 Secchi disk - Clear
 Bottom type - Bedrock-gravel
 Fish shelter - Boulders-ledges-brush
 Shade - 60%

Fish Food

Ephemeroptera-Decapoda

Fish Fauna

Longear sunfish	0-2-0
White sucker	0-1-0
Hog sucker	4-3-0
Bluntnose minnow	161-0-0
Common shiner	47-0-0
Stoneroller	49-10-0
Creek chub	32-0-0
Blacknose dace	90-0-0
Silverjaw minnow	9-0-0
<i>Notropis sp.</i>	24-0-0
Rainbow darter	165-0-0
Greenside darter	2-2-0

Aquatic Vegetation

None

POND CREEK (Pike County)

Order - IV

Stream Length - 10.7 miles

Pond Creek originates in central Pike County and flows northeast to junction with Tug Fork at Goody, Kentucky. This stream carries, almost continuously, a load of silt and blackwater from mining and coal washer operations along its course. Minnows which are used for bait are the only fishery value of this stream.

Study Area Data

Date - June 26, 1972
Location - 3 mi. above mouth

Method - Chemicals
Length of sample area - 200 ft.
Qualitative

Physical and Chemical

D.O. - 8.0 ppm
pH - 6.8 *
Total alk. - 102 ppm
Temperature - 71°F
Avg. width - 15 ft.
Avg. depth - 6 in.
Velocity - N.D.
Volume - N.D.
Secchi disk - Clear
Bottom type - Sand-silt
Fish shelter - Ledges-brush
Shade - 35%

Fish Fauna

Bluntnose minnow	37-0-0
Stoneroller	21-0-0
Creek chub	2-0-0
Silverjaw minnow	231-0-0

Fish Food

Decapoda

Aquatic Vegetation

None

BLACKBERRY CREEK (Pike County)
Order - IV
Stream Length - 6.0 miles

Blackberry Creek is a small stream in southeastern Pike County used by fishermen only for collecting bait minnows.

Study Area Data

Date - June 26, 1972
Location - 4 mi. above mouth at
McCarr, Kentucky

Method - Chemicals
Length of sample area - 200 ft.
Qualitative

Physical and Chemical

D.O. - 8.0 ppm
pH 7.0 *
Total alk. - 30 ppm
Temperature - 76°F
Avg. width - 20 ft.
Avg. depth - 6 in.
Velocity - N.D.
Volume - N.D.
Secchi disk - 6 in.
Bottom type - Gravel-sand-silt
Fish shelter - Brush
Shade - 65%

Fish Fauna

Channel catfish	1-0-0
White sucker	5-0-0
Bluntnose minnow	5-0-0
Stoneroller	1-0-0
Silverjaw minnow	2-0-0
Creek chub	17-0-0
Sand shiner	29-0-0
Rosyface shiner	1-0-0

Fish Food

Decapoda

Aquatic Vegetation

None

PETER CREEK (Pike County)
Order - IV
Stream Length - 5.6 miles

Peter Creek is a small stream that supports a minnow population. Some sport fishing occurs in the spring during the sucker run.

Study Area Data

Date - August 5, 1971
Location - 1.5 miles below Phelps, Kentucky

Method - Chemicals
Length of sample area - 125 ft.
Qualitative

Physical and Chemical

D.O. - 9.2 ppm
pH - 7.2
Total alk. - 57 ppm
Temperature - 68°F
Avg. width - 10 ft.
Avg. depth - 1 ft.
Velocity - N.D.
Volume - N.D.
Secchi disk - N.D.
Bottom type - Bedrock-boulders
Fish shelter - Boulders-ledges-brush
Shade - 60%

Fish Food

Ephemeroptera-Decapoda-Gastropoda-
Megaloptera

Fish Fauna

Silverjaw minnow	13-0-0
Bluntnose minnow	6-0-0
Stoneroller	3-1-0
Creek chub	1-0-0
Blacknose dace	1-0-0

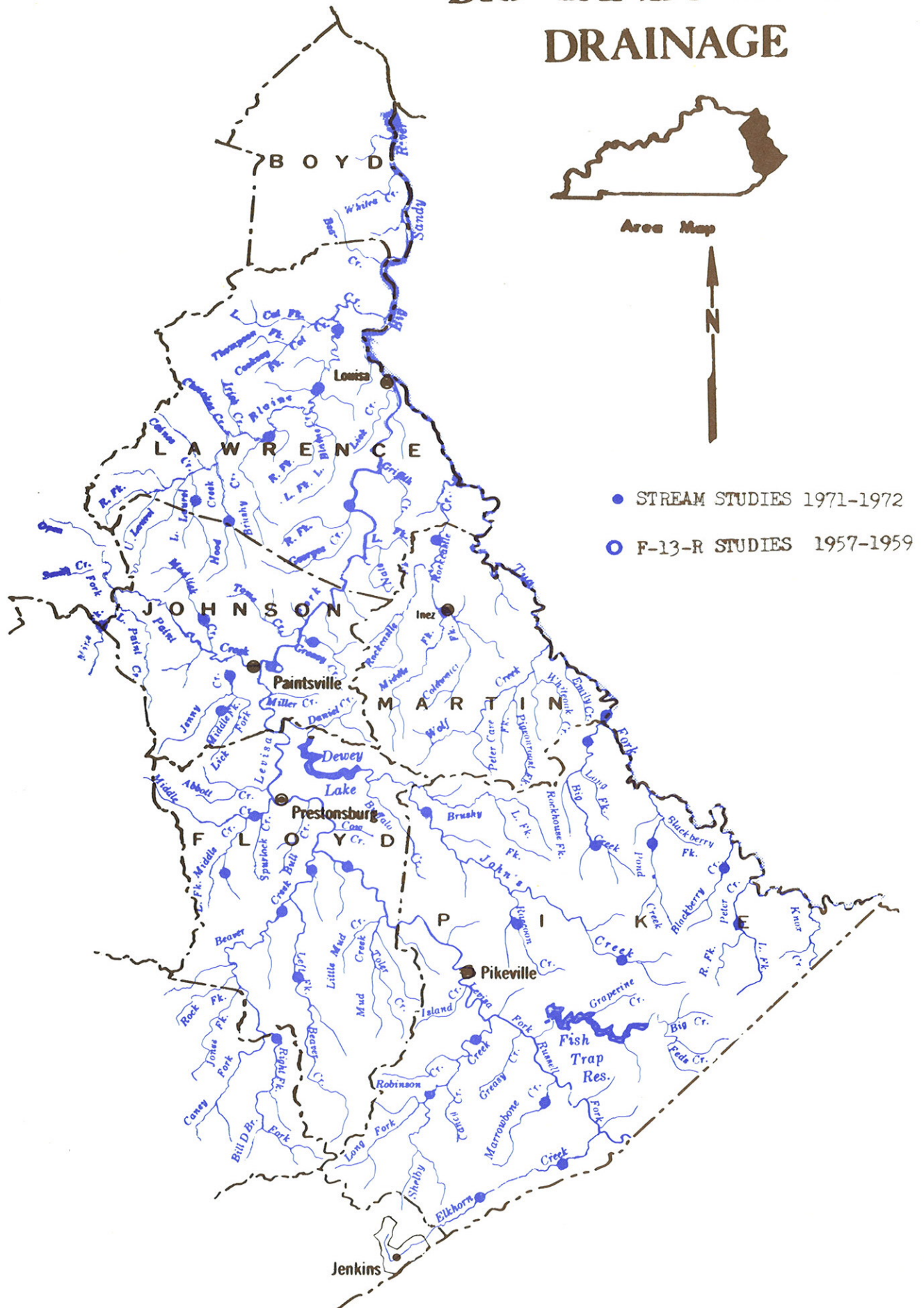
Aquatic Vegetation

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BIG SANDY RIVER DRAINAGE



- STREAM STUDIES 1971-1972
- F-13-R STUDIES 1957-1959