DISTRIBUTION OF FISHES IN SOUTHEASTERN MONTANA

Cooperatively Compiled
by

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INTRODUCTION

Montana's streams have traditionally supplied water for irrigation, domestic and livestock consumption, recreation, and industry. But a new industry spawned by the energy crisis of the early 70's threatens to alter Montana's streams and streamflow to an even greater extent. In 1971, the North Central Power Study (North Central Power Study Coordinating Committee, 1971) identified 42 potential power plant sites in the northern Great Plains, 21 of them in Montana. These plants, all to be fired by Northern Great Plains Coal, would generate 200,000 megawatts of electricity, consume 3.4 million acre-feet of water per year and result in a large population increase.

Energy development in eastern Montana will affect not only land use but the water resources of the area. Water will be pumped from streams and used to cool steam generators, heated effluents will be added; stream discharge patterns will be altered, run-off from strip mined areas will increase turbidity and change the chemical make up of many streams. Fish populations inhabiting the streams of eastern Montana could undergo great changes in species composition, distribution and abundance as a result of coal and energy development.

The objective of this report is to compile available baseline data on the distribution of fishes in southeastern Montana. Then, as decisions are made concerning resource development, protection of the aquatic environment can be adequately considered.

DESCRIPTION OF AREA

History

The first white men to enter southeast Montana were Pierre and Louis Verendyre and two other men in 1742, in search of a route to the Pacific. From the party's sketchy journals, it appears they entered the Yellowstone basin north of Miles City, traveling the Yellowstone, Powder, Tongue and Little Missouri River Valleys. Francois Larocque led another party into the area in 1805, a year earlier than the Lewis and Clark Expedition, pushed by the fears that fur trading activities would be affected by the planned expedition. When Larocque crossed the Powder River, he observed: "The current of the river is very strong and the water so muddy that it is scarcely drinkable. The savages say that it is always thus and that it is for this reason that they call the river Powder; for the wind rises and carries from the slope a fine sand which obscures and dirties the water." The Powder hasn't changed in the 185 years since Larocque visited its banks.

The third expedition and most famous was the Lewis and Clark Expedition. In the latter part of June 1806, the party split; Lewis returned via the Missouri, exploring the Marias River, while Clark explored the Yellowstone. Expeditions that followed were for mercenary reasons rather than the scientific purposes of Lewis and Clark.

The Northern Pacific Railroad came into the area from the east in 1881. Construction of military forts and the railroad brought cattlemen into the area. Irrigation developed slowly in eastern Montana, since the practice was not essential to most crops grown in the early days. Surveys for the Lower Yellowstone Irrigation Project were completed in 1902. Construction began in 1905 and initial water was available in 1909. And so agriculture remained the top user of water until "King Coal" threatened that spot in the 70's.

Physiography and Geology

The lower Yellowstone and Little Missouri basins lie in the unglaciated Missouri plateau. The majority of this area is classified as Northern Rolling High Plains, followed by Northern Smooth High Plains, Pierre Shale Plains and Badlands and Rolling Soft Shale Plains. Nearly all of this is a plains area of one kind or another - a factor that certainly affects water resources and the quality of these resources (Missouri River Basin Commission, 1978).

Most of the lower Yellowstone basin is underlain by the Fort Union Formation, the remainder by the Hell Creek Formation. The Little Missouri drainage lies above the Montana and Colorado sedimentary rock groups. The Fort Union Formation was formed 50-60 million years ago in a vast shallow water lake. Broad swamps and lowlands supported thick forests which formed the base for extensive coal beds.

The northern most part of the lower Yellowstone basin came under continental glaciation twice. Prior to glaciation, the Missouri and Yellowstone Rivers flowed north through Canada to the Arctic Ocean. With glacial advance, the north-flowing rivers were dammed, changed course and started their eastward flow across Montana in front of the ice and then southward across the Dakotas. Thus a new drainage pattern was formed and the continental divide (flow to the Arctic Ocean) was moved north. (Missouri River Basin Commission, 1978).

Climate

The climate of this region is continental with severe temperatures in summer and winter. Most precipitation falls during the April-September growing season which makes dryland farming possible. On the average, places near the mainstem of the Yellowstone receive 30-35 cm of precipitation annually.

River Basins

Yellowstone Basin. The Yellowstone River heads near Yellowstone National Park and flows some 1091 km to its confluence with the Missouri River in North Dakota. Of this length, 885 km are in Montana and 410 km

are within the scope of this report. Total watershed area is 182,336 sq. km with slightly over half of that in Montana (92,981 sq. km).

Flow regimens of the lower Yellowstone are typical of prairie streams with two peaks of runoff. The first occurs in late winter and early spring as a result of low land runoff from snow melt, followed by an early summer peak due to higher elevation snowmelt. Stream gradient in the lower basin is 0.53 m/km. Streamflows vary greatly from year to year, with an average annual discharge of 11.6 billion m^3 (1.16 million ha-m) at Sidney. Extremes range from 13.3 m^3/sec to 4502.9 m^3/sec. Water quality is considered generally good above Miles City, while below Miles City dissolved solids and sulfate concentrations may restrict some uses of water. Total suspended solids (TSS) and turbidity increase with progression downstream.

The dominant land use of the lower basin is agriculture with emphasis on irrigated crops. Irrigation returns result in an increased sediment load and concentration of total dissolved solids (TDS). The surrounding terrestrial environment is an impressive cottonwood-willow bottom land.

The lower Yellowstone River supports a diverse and productive fishery which is dependent on good water quality and adequate flows. A total of 46 species of fish representing 12 families has been collected in this reach of the river.

Tongue River. The headwaters of the Tongue River rise on the eastern slope of the Bighorn Mountains of Wyoming and flow generally northeast through Montana to join the Yellowstone at Miles City. The length of the Tongue River from the Montana-Wyoming border to it's confluence with the Yellowstone is 337 km. Flow in Montana is controlled by the Tongue River dam. The dam, completed in 1940 for irrigation and flood control, stores about 85 million m3 (8,512 ha-m) of water with a full pool area of 1416 surface ha.

Drainage area of the Tongue basin is 13,932 sq km, with 70% in Montana. Average annual discharge is 11.9 m^3/sec, with a maximum of 377 m^3/sec in 1962. Flow from the Tongue is generally less than 6 percent of the Yellowstone at Miles City, with its greatest contribution occurring in March.

The Tongue River basin is comprised of narrow stream valleys, plateaus and gently rolling uplands. Relief grows less rugged towards the mouth of the river. Major land uses are agricultural with cattle ranching dominating, followed by dryland and irrigated farming. Water quality of the Tongue is better than other prairie streams of the lower basin. TDS in the Tongue average near 500 mg/l.

Fish populations vary from a cold-water mixed population downstream from the dam to a slow-water assemblage near the mouth. Migrant fish from the Yellowstone depend on high spring flows to allow good passage.

Powder River. The Powder River basin drains an area of approximately 34,318 sq. km of northeast Wyoming and southeast Montana. Over half of the drainage is in Wyoming. In general, the Powder flows north to its confluence with the Yellowstone River near Terry. The river, including the South Fork, is approximately 780 km. Typical of prairie streams, the Powder is silt-laden and subject to erratic flow fluctuations with much of its substrate constantly shifting as bed load.

Historically, the Powder was much the same as it is now. Early settlers knew it as "a mile wide and an inch deep, too thin to plow and too thick to drink." The river develops only shallow pools and lacks vegetation. Discharge averages 17.6 m^3/sec, with an extreme of 878 m^3/sec in 1943. The Powder is naturally saline and exhibits an average annual TDS concentration of 1100 mg/l. A major factor affecting the quality of water in the Powder is suspended sediment. Effects of the Powder on the Yellowstone are most pronounced during the peak prairie runoff in March and April. March flow contributions of sediment from the Powder have been noticed as far downstream as Sidney.

Livestock and irrigated farming are the dominant land uses in the basin. Fish populations in the Powder are limited in diversity and abundance due to water quality and quantity.

Minor Yellowstone River Tributaries

Rosebud Creek rises in the Wolf and Rosebud Mountains, flowing northerly some 326 km to its confluence with the Yellowstone near the town of Rosebud. It drains an area of over 3,100 km^2 with an elevation drop of 530 m. Rosebud Creek has its largest average monthly discharge during March.

O'Fallon Creek originates in the rolling foothills southwest of Baker, Montana, flowing generally northward to it's confluence with the Yellowstone River near Fallon. The O'Fallon Creek drainage is large, with the stream flowing about 212 km. The stream is considered intermittent with some reaches flowing year around. Water is sodium-sulfate burdened, with best quality during high flows.

Other minor creeks flowing south include: Greater Porcupine Creek, Little Porcupine Creek, Sunday Creek, Sevenmile Creek, Burns Creek and Fox Creek. The north flowing creeks include: Sarpy Creek, Armells Creek, Cabin Creek, Cedar Creek, Glendive Creek and Box Elder Creek.

Little Missouri River

The Little Missouri passes through a small corner of Montana; entering at Alzada and leaving at Capitol, flowing in a northeasterly direction. The Little Missouri River has highly erratic flows and greatly varying annual discharges. Water quality is poor to fair, with a sodium-sulfate content, very hard water. Turbidities are moderate to high.

LITERATURE REVIEW

Earliest records of fish in eastern Montana come from the Lewis and Clark Expedition of 1803 to 1806. According to Brown (1971), many of their diary descriptions were inadequate for positive identification of species. However, the following Yellowstone species were credited to them: goldeye, longnose sucker, mountain sucker, channel catfish and sauger.

Scientific investigation of fishes in southeastern Montana was only an incidental part of the westward expansion until well into the twentieth century. The Pacific Railroad surveys of 1853-1855 collected several species which were sent to the Smithsonian Institute (Brown 1971). Additional collections were made in 1870-71 by the U.S. Geological Survey, followed by reconnaissance surveys under the direction of the U.S. Fish Commissioner in 1889.

Limited collections were made during the late 1950's and early 1960's by Dr. C.J.D. Brown and his associates while preparing the Fishes of Montana (Brown 1971).

Early interest and the high esteem placed on Montana's prime trout waters resulted in a scarcity of information on warm water fish until recently. Since Montana is nationally known as a "trout fishing paradise", the warm water species were ignored. Another factor was the greater difficulties encountered in sampling warm water streams with their more diversified habitats with larger and more varied fish populations.

Increased interest in coal and its rapidly expanding development in the early 1970's brought the prairie fishes into forcus. The earliest concerted sampling effort occurred on the Yellowstone River near Forsyth to evaluate possible impacts of water withdrawals for Colstrip Generating plants 1 and 2. From there, sampling efforts expanded throughout the coal fields with extensive sampling being conducted on major drainages and many smaller streams as well. Ranges and distribution patterns of prairie fishes were clarified greatly with this sampling effort.

METHODS

Sampling techniques varied widely among the numerous references used in this report. Some of the sites were sampled in depth using electrofishing gear, seines, gillnets and trapnets. More extensive sampling on some streams may find that sites sampled only with a dip net or small seine have a greater fish diversity than shown here. Table (1) lists the gear used for fish sampling in each of the studies used as a reference. Baited fish traps included hoop nets and/or home made catfish traps.

Table 1. Sampling Gear.

Gear	Literature Cited Numbers
Electrofishing Boat	4, 7, 8, 12, 14, 16, 20
Boat Mounted Mobile Electrode	6, 21, 22, 26, 27
Bank Shocker	3, 5, 6, 7, 14, 16, 23, 24, 27
Gillnet	3, 4, 6, 7, 10, 12, 14, 16, 20, 21, 22, 26, 27
Seine	4, 5, 6, 8, 9, 10, 11, 12, 14, 16, 21, 22, 23, 24, 25, 26
Baited Fish Traps	4, 6, 7, 8, 12, 14, 16, 21, 22
Minnow traps	4
Dip Net	5, 6, 9, 14, 16, 21, 22, 23, 24, 25
Hook and Line	12

Sampling Sites

Figure 1 shows the major drainages in the state of Montana. The creeks and rivers of the southeastern portion of Montana which are covered in this report are exhibited in Figures 2 and 3. On these two maps, the location of each collection site is identified and numbered. Originally 253 sites were included. With this revision, 17 new sites have been added. In order to keep sites consecutively numbered, new sites include the number of the nearest previous original site and a decimal number. Table 2 lists the township, range and section of each site, where known; data references are indexed by collection site in this table. Stock ponds, reservoirs and other water impoundments where game species have been stocked in this area were not included as part of the distribution of these fishes.

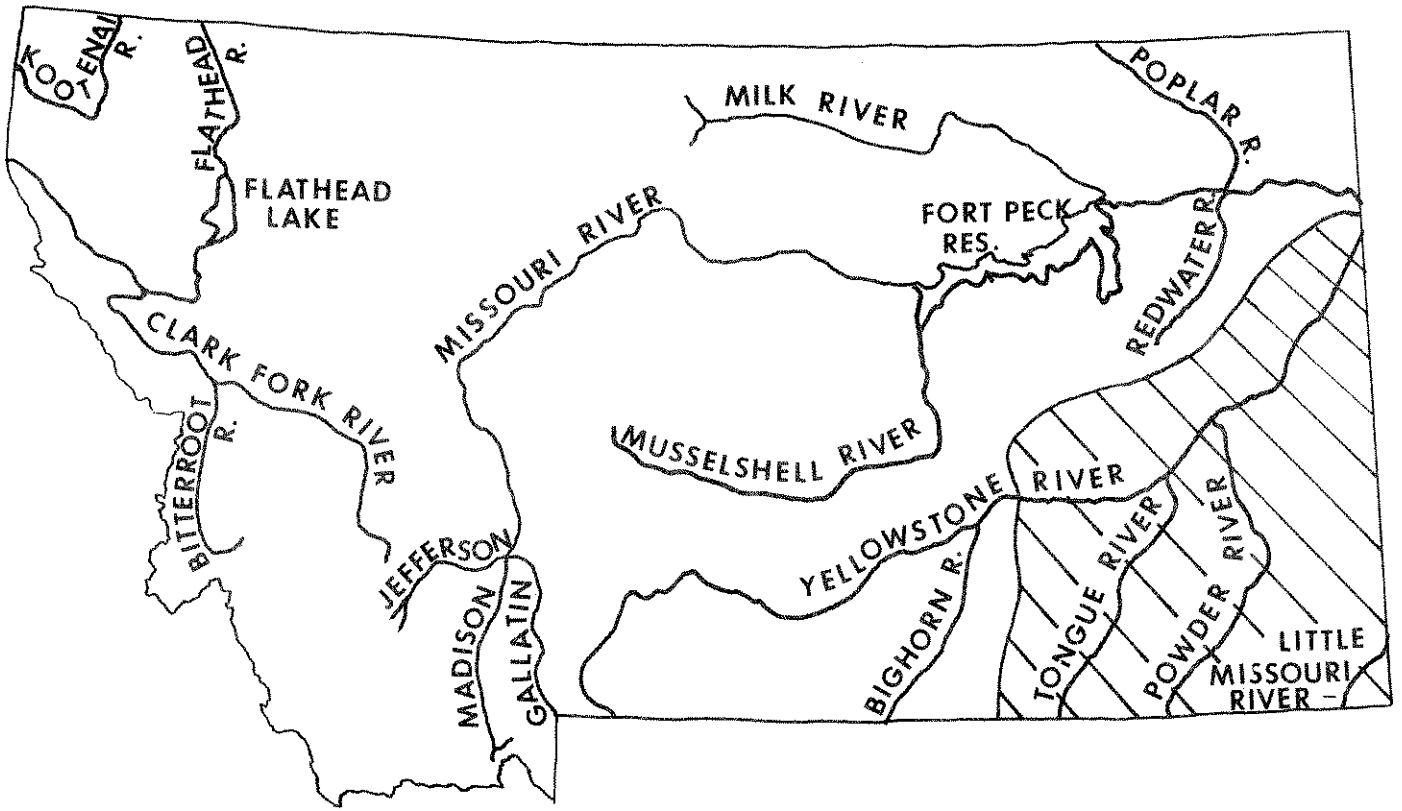
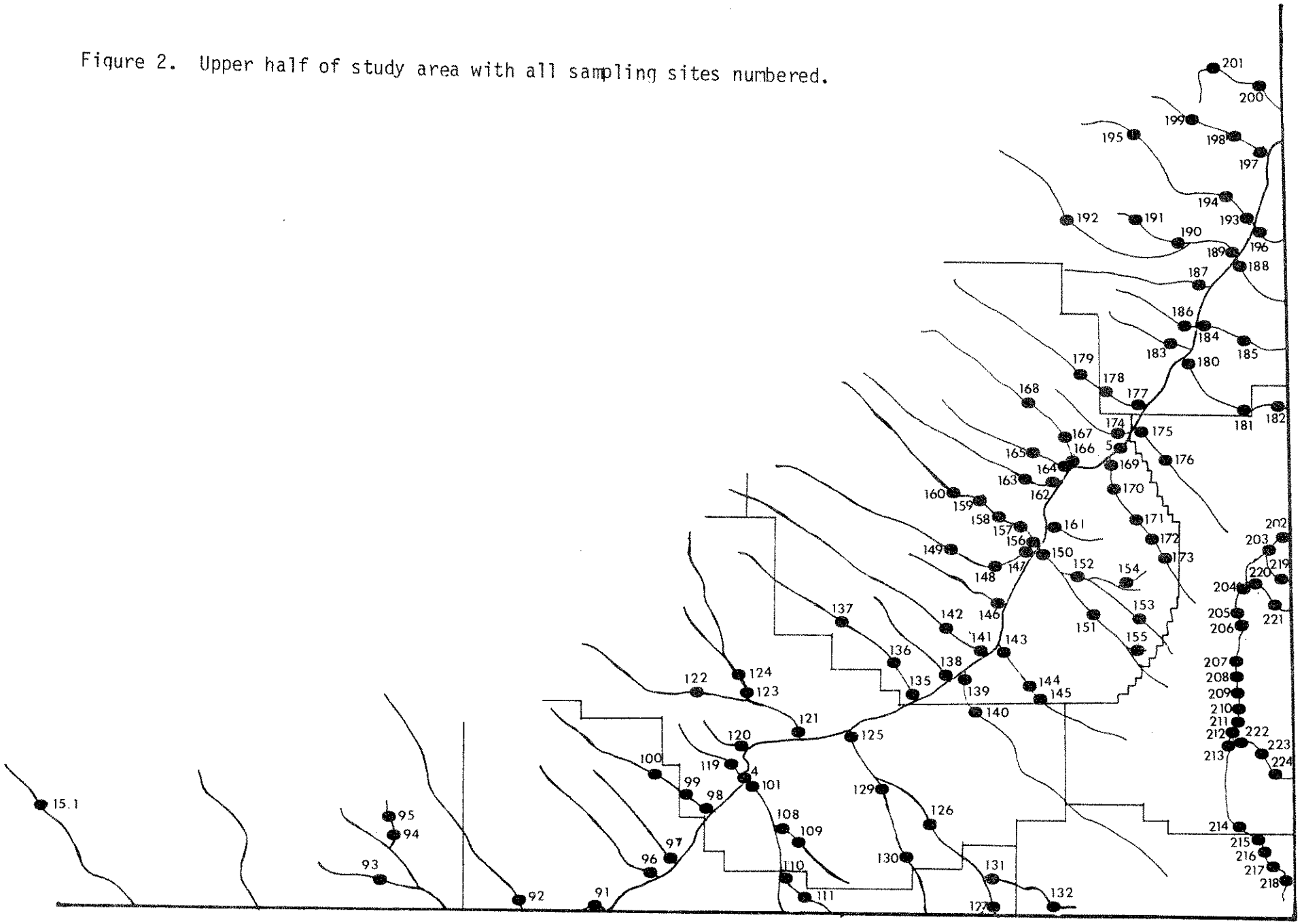


Figure 1. Major drainages in Montana. The area included in this report is shaded.

Figure 2. Upper half of study area with all sampling sites numbered.



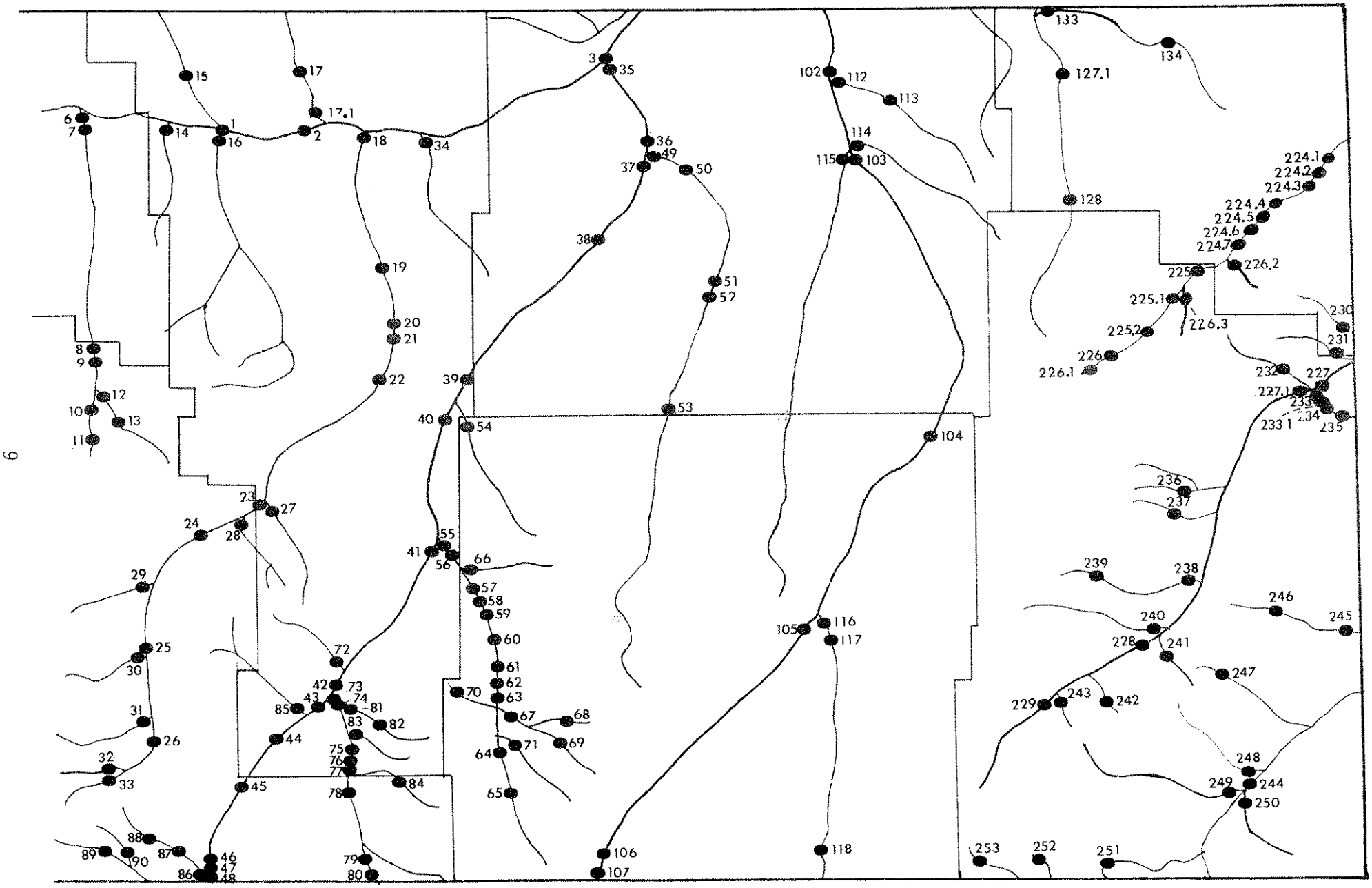


Figure 3. Lower half of study area with all sampling sites numbered.

Table 2. Locations of sampling sites.

Site	Location	Literature Cited
	YELLOWSTONE RIVER DRAINAGE	
1	Yellowstone River above & below Armell's Creek	12, 18, 20, 26
2	Between Armell's & Rosebud Creeks	12, 18
3	Above & below mouth of Tongue River	12, 18
4	Above & below mouth of Powder River	12, 18, 19
5	Near mouth of Box Elder Creek & downstream to Mouth	12, 18
	SARPY CREEK	
6	S7,T6N,R37E	3,15
7	S30,T6N,R37E	3
8	S16,T2N,R37E	3
9	S21,T2N,R37E	3
10	S10,T1N,R37E	3
11	S33,T1N,R37E	3
	EAST FORK SARPY CREEK	
12	S12,T1N,R37E	3
13	S22,T1N,R38E	3
	RESERVATION CREEK	
14	S23,T6N,R38E	15
	GREAT PORCUPINE CREEK	
15	S19,T7N,R39E	9,
15.1	S32,T10N,R37E	10
	ARMELL'S CREEK	
16	S23,T6N,R39E	15
	LITTLE PORCUPINE CREEK	
17	S30,T8N,R41E	9
17.1	S3,T6N,R41E	10
	ROSEBUD CREEK	
18	S16,T6N,R42E	8
19	S8,T3N,R43E	8
20	S4,T1N,R43E	8
21	S8,T1N,R43E	8
22	S34,T1N,R42E	8
23	S28,T1S,R41E	8
24	- T3S,R39E	8
25	S8,T6S,R39E	8
26	S22,T7S,R39E	8

Table 2 Continued.

Site	Location	Literature Cited
LAME DEER CREEK		
27	S17,T2S,R41E	8
MUDDY CREEK		
28	S35,T2S,R40E	8
THOMPSON CREEK		
29	S26,T5S,R38E	8
CACHE CREEK		
30	S7,T6S,R39E	8
INDIAN CREEK		
31	S31,T6S,R39E	8
NORTH FORK ROSEBUD CREEK		
32	S24,T7S,R38E	5
SOUTH FORK ROSEBUD CREEK		
33	S30,T7S,R39E	5
SWEENEY CREEK		
34	S22,T6N,R43E	15
TONGUE RIVER		
35	S4,T7N,R47E	7
36	S14,15, T7N,R47E	7
37	S15,T4N,R47E	7
38	S36,T3N,R45E	7
39	S2,T1S,R44E	7
40	S10,15,T2S,R44E	4,7
41	S5,8,T4S,R44E	4,7
42	S7,T6S,R43E	4,7
43	S32,T6S,R42E	4,7
44	S27,28, T7S,R41E	7
45	S7,T8S,R41E	7
46	S22,27, T9S,R40E	7
TONGUE RIVER RESERVOIR		
47	-,T8,9S, R40,41E	5,7

Table 2. Continued

Site	Location	Literature Cited
TONGUE River		
48	S34,T9S,R40E	5,27
PUMPKIN CREEK		
49	S29,T6N,R48E	14
50	S35,T6N,R48E	14,15
51	S7,T4N,R50E	5
52	S30,T4N,R50E	23
53	- T1N,R49E	23
BEAVER CREEK		
54	S10,T1S,R45E	15
OTTER CREEK		
55	S2,T3S,R44E	4, 14, 24
56	S12,T3S,R44E	14,23,24
57	S19,T3S,R45E	14
58	S4,T4S,R45E	4, 14, 24
59	S9, T4S,R45E	14
60	S2,T5S,R45E	4, 14
61	S26,T5S,R45E	14
62	S19,T6S,R46E	14
63	S30,T6S,R46E	4, 14, 23, 24
64	S13, T7S, R45E	14
65	S19,T8S,R46E	14
EAST FORK OTTER CREEK		
66	S16,T3S,R45E	23
TAYLOR CREEK		
67	S33,T6S,R46E	14
NORTH FORK TAYLOR CREEK		
68	S35,T6S,R46E	14
SOUTH FORK TAYLOR CREEK		
69	- T7S,R46E	14
COW CREEK		
70	S22,T6S,R45E	14
INDIAN CREEK		
71	-T6S,R46E	14

Table 2 Continued

Site	Location	Literature Cited
COOK CREEK		
72	S25,T5S,R43E	4
HANGING WOMAN CREEK		
73	S18,T6S,R43E	4,14, 24
74	S18,T6S,R43E	4,14, 24
75	S5,T7S,R43E	4,14, 24
76	S17,T7S,R43E	4,24
77	S30,T7S,R43E	14
78	S20,T8S,R43E	14,23
79	S15,T9S,R43E	14
80	S2,T10S,R43E	14
EAST FORK HANGING WOMAN CREEK		
81	S20,T6S,R43E	14
82	S29,T6S,R43E	14
LEE CREEK		
83	S32,T6S,R43E	14
STROUD CREEK		
84	S2,T8S,R43E	14
BULL CREEK		
85	S28,T6S,R42E	14
SQUIRREL CREEK		
86	S32,T9S,R40E	5
87	S29,T9S,R40E	5, 14
88	S14,T9S,R39E	5
YOUNG'S CREEK		
89	- T9S,R39E	25
LITTLE YOUNG'S CREEK		
90	- T9S,R39E	25
SUNDAY CREEK		
91	- T9N, R47E	11

Table 2 Continued

Site	Location	Literature Cited
	NORTH FORK SUNDAY CREEK	
92	- T8N, R47E	11
	LOUIE & SCOTTIE CREEK	
93	- T9N, R43E	5
	LONE TREE CREEK	
94	- T10N,R43E	5
95	S21,T11N,R43E	9
	MUSTER CREEK	
96	S10,T9N,R48E	16
	HARRIS CREEK	
97	S30,T10N,R49E	16
	CUSTER CREEK	
98	S18,T11N,R50E	16
99	S9,T11N,R49E	16
100	S35,T12N,R48E	16
	POWDER RIVER	
101	S3,T11N,R50E	21, 22
102	S8,T9N,R51E	21, 22
103	S30,T6N,R52E	21, 22
104	S17,T1S,R54E	21, 22
105	S3,T5S,R51E	21, 22
106	S17,T9S,R48E	21, 22
107	S36,T9S,R47E	21, 22
	TENMILE CREEK	
108	S32,T11N,R51E	16
109	S3,T10N,R51E	16,22
	COAL CREEK	
110	S29,T10N,R51E	16,22
111	S3,T9N,R51E	16
	LOCATE CREEK	
112	S2,T8N,R51E	16
113	S22,T8N,R51E	16

Table 2 Continued

Site	Location	Literature Cited
SHEEP CREEK		
114	S36,T7N,R51E	16
MIZPAH CREEK		
115	S24,T6N,R51E	14,21, 22
LITTLE POWDER RIVER		
116	S29,T4S,R52E	23
117	S32,T4S,R52E	21, 22
118	S27,T8S,R52E	23
CROOKED CREEK		
119	S33,T12N,R51E	16
LOST MAN'S CREEK		
120	S15,T12N,R51E	16
CHERRY CREEK		
121	S12,T12N,R51E	16
122	S12,T13N,R48E	16
BRAKETT CREEK		
123	S23,T13N,R50E	16
124	S34,T14N,R50E	16
O'FALLON CREEK		
125	S33,T13N,R52E	16, 24
126	S30,T11N,R54E	16, 23
127	S17,T9N,R55E	16
127.1	S30,T8N,R56E	16
128	S17,T5N,R56E	16, 23
WHITNEY CREEK		
129	S31,T12N,R53E	16
130	S9,T10N,R53E	16
PENNEL CREEK		
131	S6,T9N,R55E	16
132	S34,T10N,R55E	16

Table 2 Continued

Site	Location	Literature Cited
SANDSTONE CREEK		
133	S6,T8N,R56E	16
134	S26,T8N,R57E	16
BAD ROUTE CREEK		
135	S16,T13N,R53E	16
136	S24,T14N,R52E	16
137	S36,T15N,R51E	16
CRACKERBOX (TIMBER) CREEK		
138	S6,T13N,R64E	16
CABIN CREEK		
139	S34,T14N,R54E	16
140	S3,T12N,R54E	16
CLEAR CREEK		
141	S19,T14N,R55E	16
142	S35,T15N,R53E	16
CEDAR CREEK		
143	S20,T14N,R55E	16
144	S2,T13N,R55E	16
145	S20,T13N,R56E	16
SAND CREEK		
146	S29,T15N,R55E	16
UPPER SEVENMILE CREEK		
147	S34,T16N,R55E	16
148	S36,T16N,R54E	16
149	S10,T16N,R53E	16
GLENDIVE CREEK		
150	S20,T16N,R56E	6
151	S24,T15N,R56E	6
KRUG CREEK		
152	S33,T16N,R56E	6
153	S14,T15N,R57E	6

Table 2 Continued

Site	Location	Literature Cited
GRIFFITH CREEK		
154	S31,T16N,R57E	6
HODGES CREEK		
155	S9,T14N,R58E	6
DEER CREEK		
156	S5,T16N,R56E	16
157	S12,T16N,R55E	16
158	S6,T16N,R55E	16
159	S19,T17N,R54E	16
160	S10,T17N,R53E	16
COTTON CREEK		
161	S4,T16N,R56E	6
LOWER SEVENMILE CREEK		
162	S18,T17N,R56E	16
163	S4,T17N,R55E	16
MORGAN CREEK		
164	S5,T17N,R56E	16
165	S35,T18N,R55E	16
THIRTEENMILE CREEK		
166	S35,T18N,R56E	16
167	S7,T18N,R56E	16
168	S20,T19N,R55E	16
BOX ELDER CREEK		
169	S31,T18N,R57E	6
170	S18,T17N,R57E	6
171	S6,T16N,R58E	6
172	S8,T16N,R58E	6
173	S27,T16N,R58E	6
WAR DANCE CREEK		
174	S2,T18N,R57E	16

Table 2. Continued

Site	Location	Literature Cited
COTTONWOOD CREEK		
175	S11,T18N,R57E	16
176	S6,T17N,R58E	16
BURNS CREEK		
177	S25,T19N,R57E	16
178	S32,T19N,R57E	16
NORTH FORK BURNS CREEK		
179	S26,T20N,R56E	16
SMITH CREEK		
180	S3,T19N,R58E	6
181	S29,T19N,R59E	6
182	S36,T19N,R59E	6
DUNLAP CREEK		
183	S27,T20N,R58E	16
SHADWELL CREEK		
184	S7,T20N,R59E	16
185	S24,T20N,R59E	16
SEARS CREEK		
186	S27,T21N,R58E	16
CRANE CREEK		
187	S14,T21N,R58E	16
O'BRIEN CREEK		
188	S10,T21N,R59E	16
FOX CREEK		
189	S19,T22N,R59E	16
NORTH FORK FOX CREEK		
190	S20,T22N,R58E	16
191	S14,T22N,R57E	16

Table 2. Continued

Site	Location	Literature Cited
	SOUTH FORK FOX CREEK	
192	S17,T22N,R56E	16
	LONE TREE CREEK	
193	S10,T22N,R59E	16
194	S36,T23N,R58E	16
195	S19,T23N,R58E	16
	BENNIE PEER CREEK	
196	S1,T22N,R59E	16
	FIRST HAY CREEK	
197	S31,T24N,R60E	16
198	S32,T24N,R59E	16
199	S16,T24N,R58E	16
	FOUR MILE CREEK	
200	S23,T25N,R59E	16
201	S11,T25N,R58E	16
	LITTLE MISSOURI RIVER DRAINAGE	
	BEAVER CREEK	
202	S18,T16N,R61E	6
203	S27,T16N,R60E	6
204	S17,T15N,R60E	6
205	S36,T15N,R59E	6
206	S12,T14N,R59E	6
207	S24,T14N,R59E	6
208	S31,T14N,R60E	6
209	S6,T13N,R59E	6
210	S24,T13N,R59E	6
211	S36,T13N,R59E	6
212	S7,T12N,R60E	6
213	S19,T12N,R60E	6
214	S30,T11N,R60E	6
215	S5,T10N,R60E	6
216	S23,T10N,R60E	6
217	S36,T10N,R60E	6
218	S4,T9N,R61E	6
	LITTLE BEAVER CREEK	
219	S11,T15N,R60E	6

Table 2. Continued

Site	Location	Literature Cited
HAY CREEK		
220	S21,T15N,R60E	6
221	S33,T15N,R60E	6
LAME STEER CREEK		
222	S9,T12N,R60E	6
223	S15,T12N,R60E	6
224	S23,T12N,R60E	6
LITTLE BEAVER CREEK		
224.1	S9,T5N,R61E	14
224.2	S13,T5N,R60E	14
224.3	S34,T5N,R60E	14
224.4	S2,T4N,R60E	14
224.5	S16 & 17,T4N,R60E	14
224.6	S36,T4N,R59E	14
224.7	S2&3,T3N,R59E	14
225	S34,T3N,R58E	14, 24
225.1	S8,T3N,R59E	14
225.2	S7,T2N,R58E	14
226	S14,T2N,R57E	14, 24
226.1	S28,T2N,R57E	14
FLETCHER CREEK		
226.2	S11,T3N,R59E	14
HS CREEK		
226.3	S2,T2N,R58E	14
BOX ELDER CREEK		
227	S17,T1N,R61E	5, 14, 23
227.1	S27,T1N,R60E	14
228	S19,T5S,R58E	5, 9
229	S7,T6S,R57E	9
NORTH FORK COAL BANK CREEK		
230	S12,T2N,R61E	9
HORSE CREEK		
231	S23,T2N,R61E	9
COAL CREEK		
232	S11,T1N,R60E	9
SPRING CREEK		
233	S16,T1N,R61E	9, 23
233.1	S21,T1N,R61E	14
234	S6,T1S,R62E	9, 14
235	S8,T1S,R62E	9, 14
LONE TREE CREEK		
236	S5,T2S,R59E	9
DEAD BOY CREEK		
237	S27,T2S,R58E	9

Table 2 Continued

Site	Location	Literature Cited
CORRAL CREEK		
238	S17,T4S,R58E	9
239	S23,T4S,R58E	9
MUSKRAT CREEK		
240	S4,T5S,R58E	9
HAWKSNEST CREEK		
241	S22,T5S,R58E	9
WEST FORK T.L. CREEK		
242	S23,T6S,R57E	9
PORK CREEK		
243	S8,T6S,R57E	9
LITTLE MISSOURI RIVER		
244	S10,T8S,R60E	5, 9
TIE CREEK		
245	S31,T3S,R62E	9
246	S15,T4S,R62E	9
COTTONWOOD CREEK		
247	S9,T5S,R60E	9
NORTH BUTTE CREEK		
248	S24,T7S,R60E	9
COTTONWOOD CREEK		
249	S9,T8S,R60E	9
SEVENMILE CREEK		
250	S27,T8S,R60E	9
THOMPSON CREEK		
251	S19,T9S,R58E	9

Table 2 Continued

Site	Location	Literature Cited
DEADMAN CREEK		
252	S19,T9S,R57E	9
NORTH FORK THOMPSON CREEK		
253	S8,T9S,R56E	9

FISH DISTRIBUTION

For each species of fish collected in southeastern Montana, there is a distribution map (Figures 4 through 58). The dots on each map represent the sites from Figures 2 and 3, at which that particular species has been found. Also, these sites are listed by number following the short statement about each species. A cross-reference between each site and the sources of information is available in Table 2. A reproduction of the map from Brown (1971) shows the former known distribution of each species in Montana. Common and scientific names of fish correspond to those presented by the American Fisheries Society (1970).

PALLID STURGEON

This species is apparently rare in Montana. It has been collected in the large turbid rivers of eastern Montana. The pallid sturgeon is classified as a fish of special concern in the state.

SITES: 4, 5

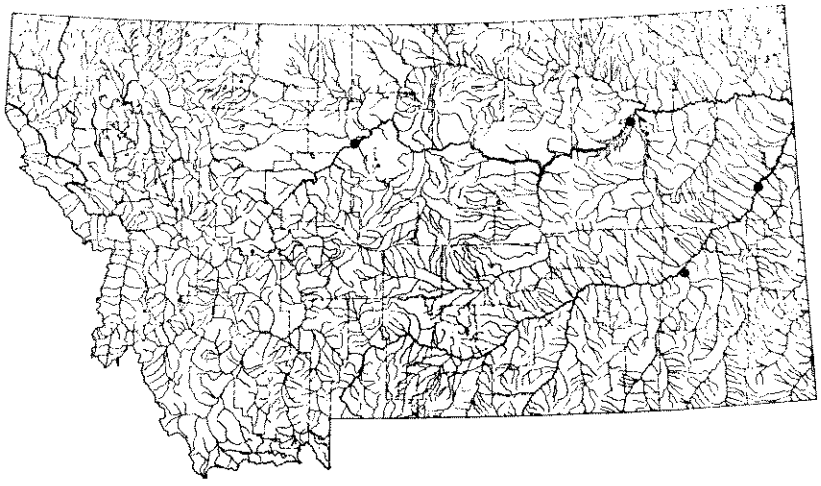
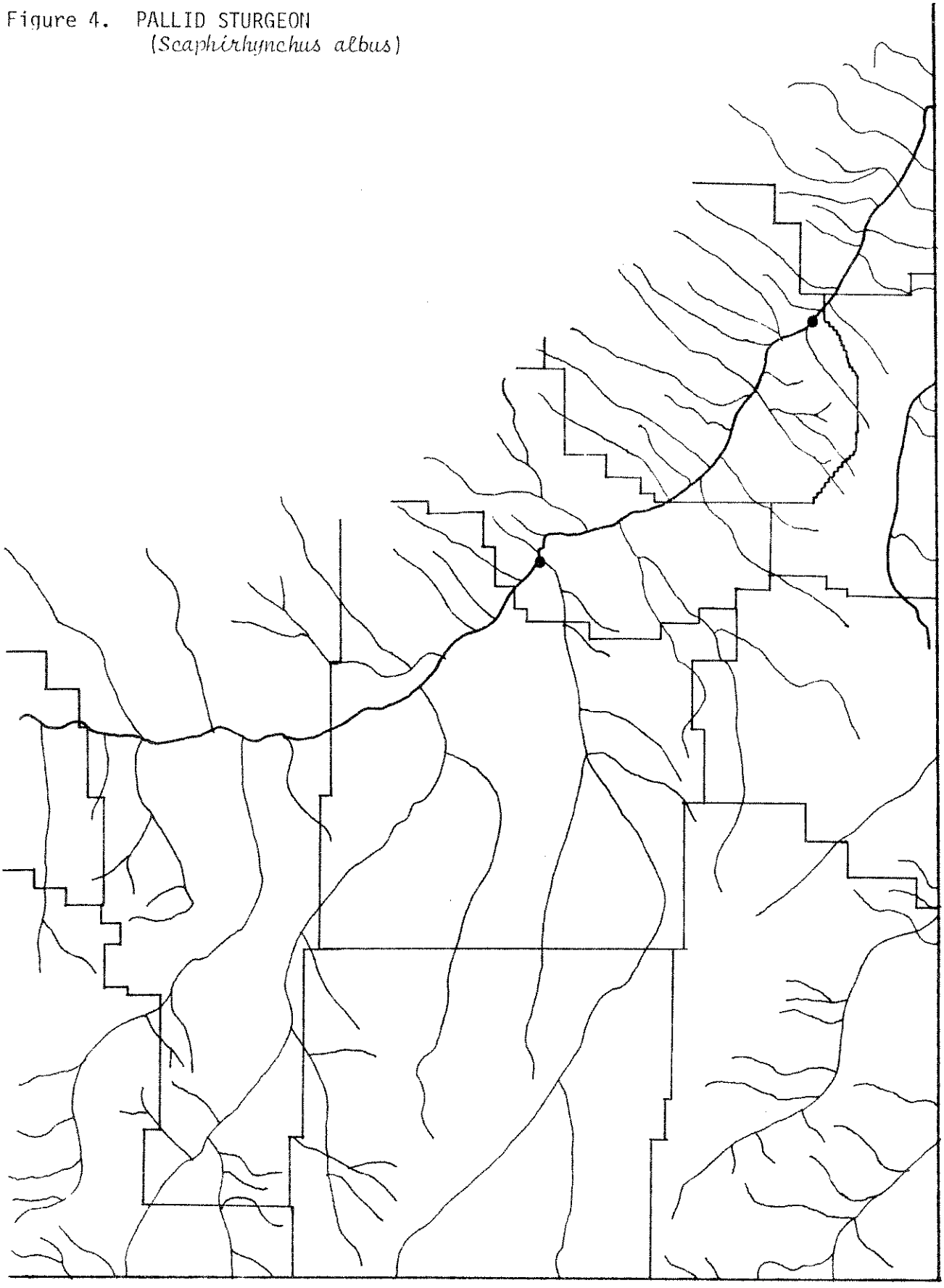


Figure 4. PALLID STURGEON
(*Scaphirhynchus albus*)



SHOVELNOSE STURGEON

Although the shovelnose is found mainly in the Yellowstone River, major spring spawning runs on the lower Powder and Tongue rivers have been recorded. This sturgeon is not widely distributed in southeastern Montana.

Sites: 2-5, 35, 36, 101, 102, 103

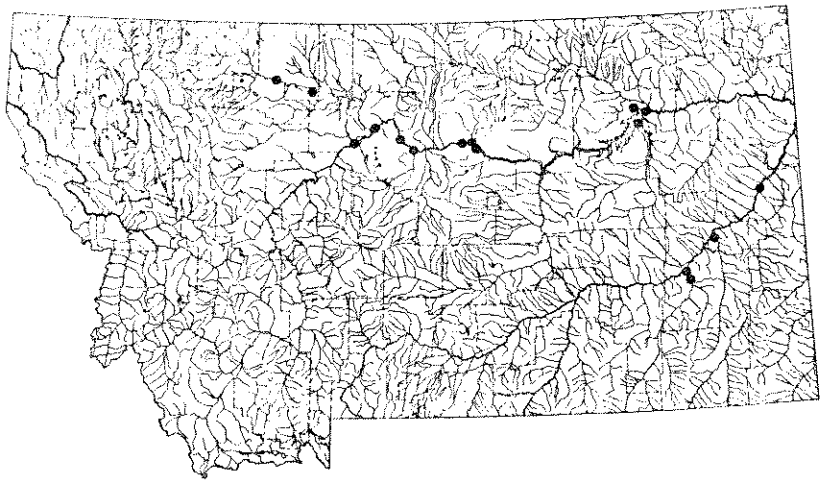
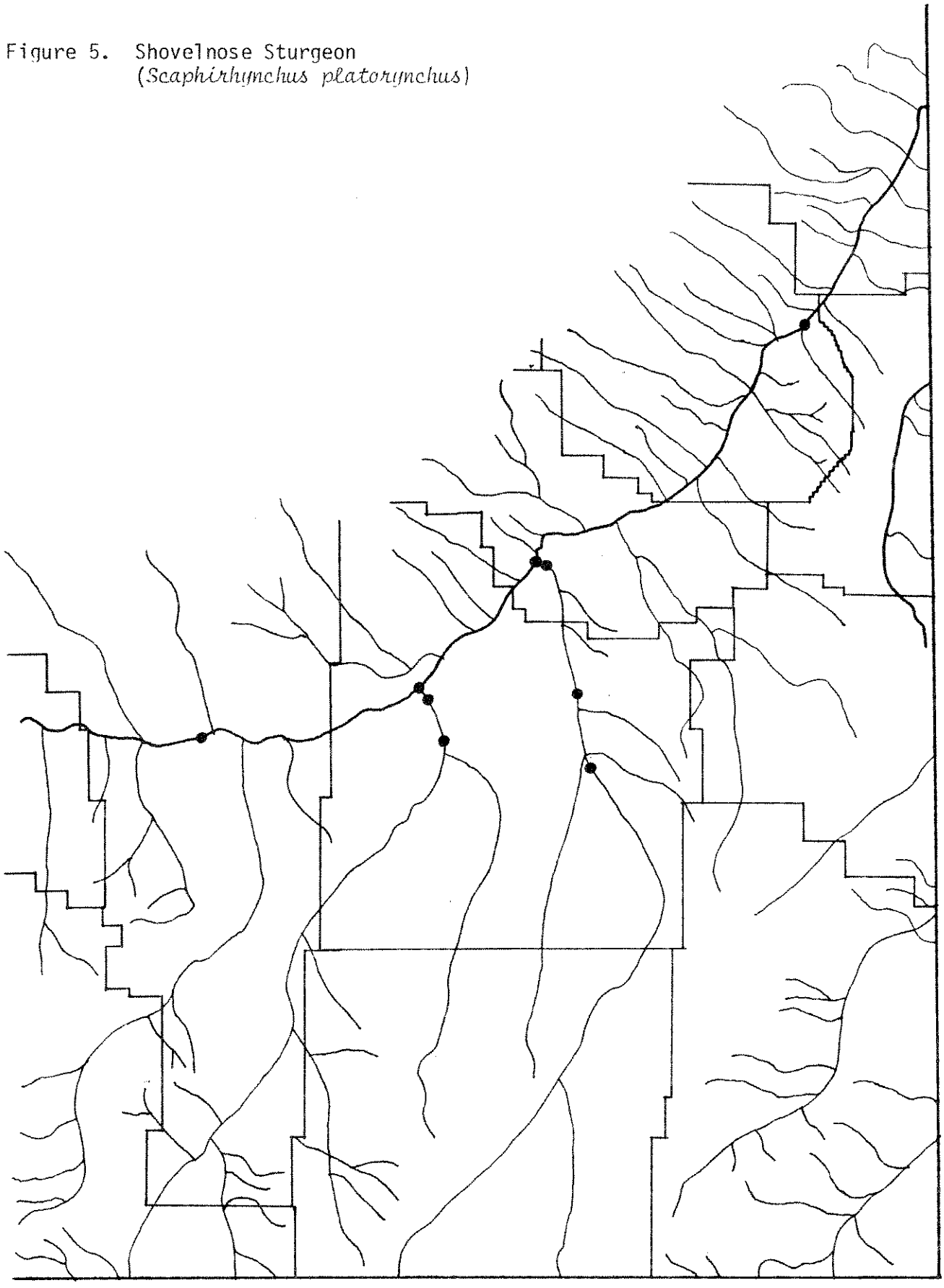


Figure 5. Shovelnose Sturgeon
(*Scaphirhynchus platorynchus*)



PADDLEFISH

This species is restricted to large rivers. Their access to certain areas of historic spawning runs has been reduced by dam construction. A very popular sport fishery has developed around spring concentrations at Intake, collection site #5. The paddlefish is classified as a state fish of special concern.

Sites: 2-5, 35, 101

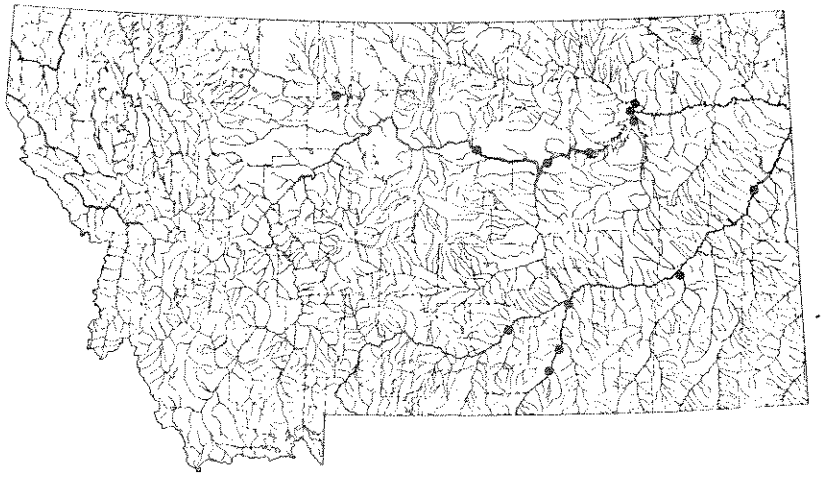


Figure 6. Paddlefish
(*Polydon spathula*)

GOLDEYE

Goldeye are widely distributed throughout southeastern Montana. Although collected at only 17% of the sites, they are very common in large streams and rivers.

Sites: 1-6, 18, 35, 36, 49, 50, 91, 101, 102, 106, 107, 115, 117, 125-127, 134, 135, 139, 141, 156, 166, 175, 177, 183, 187, 189, 196, 203-213, 227, 227.1, 228, 233, 236.

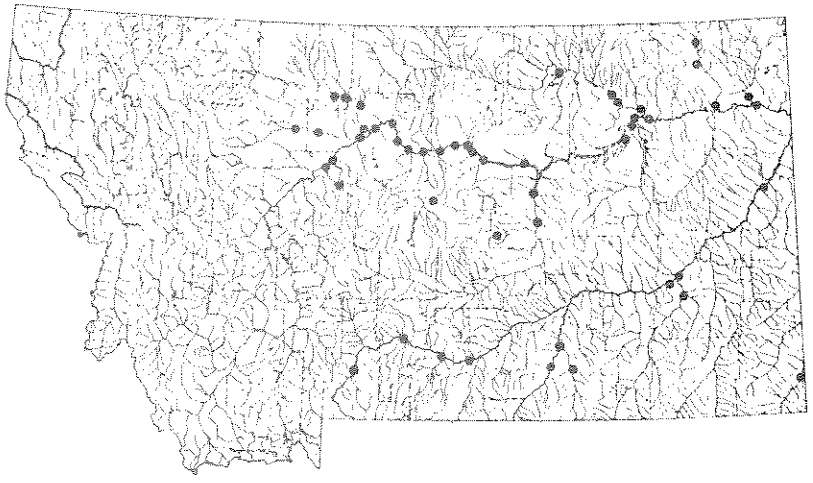
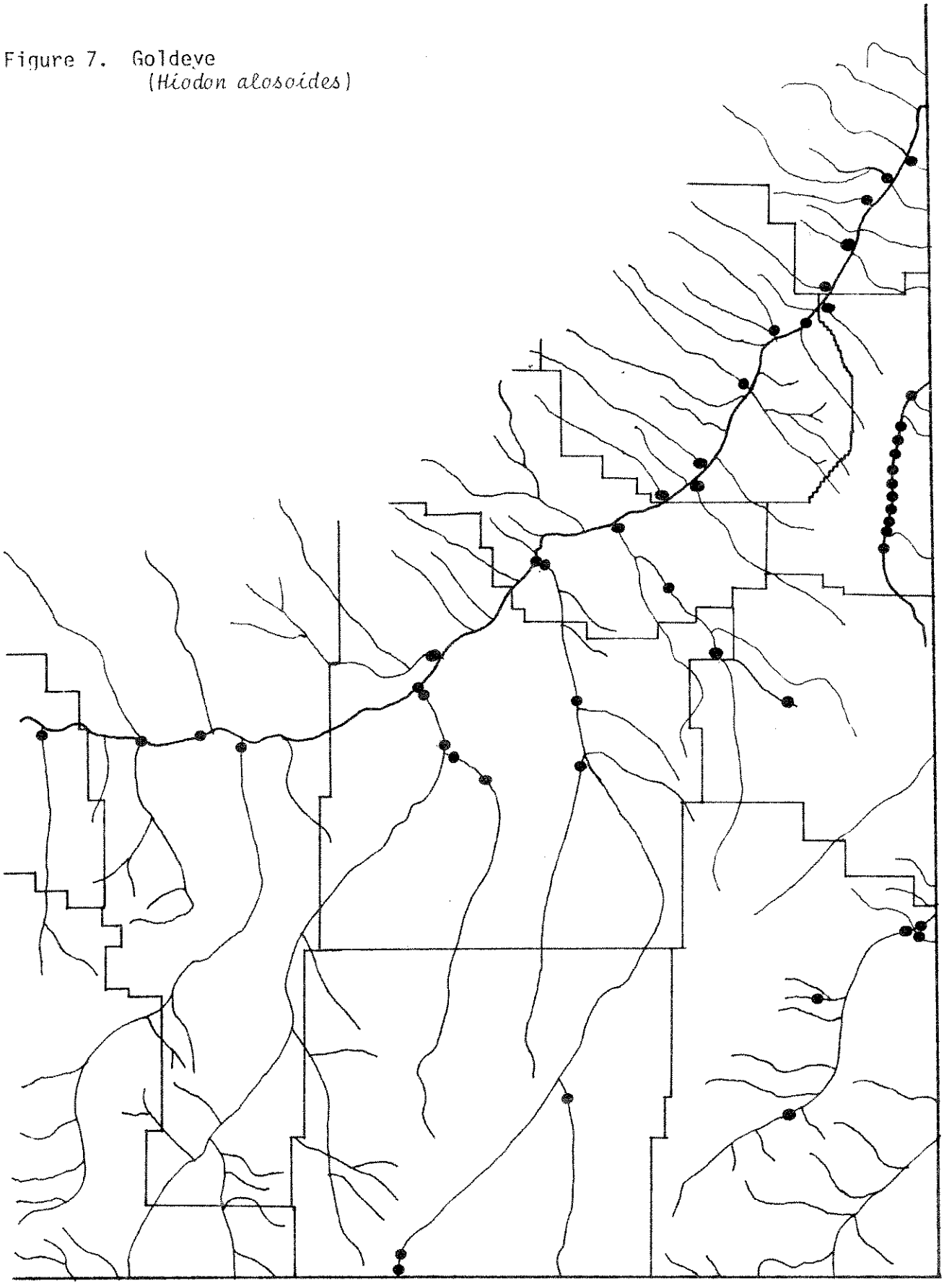


Figure 7. Goldeye
(*Hiodon alosoides*)



MOUNTAIN WHITEFISH

This species is common to the cold mountain streams of western Montana. It is rare in southeastern Montana due to a lack of suitable habitat. Mountain whitefish were identified at two sites on the Tongue River. Brown (1971) recorded this species from only one site in this area - Rosebud Creek.

Sites: 44 and 46

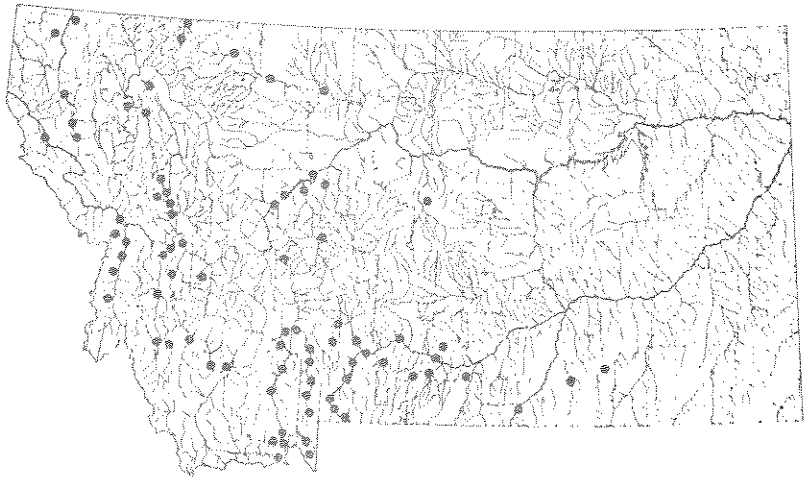
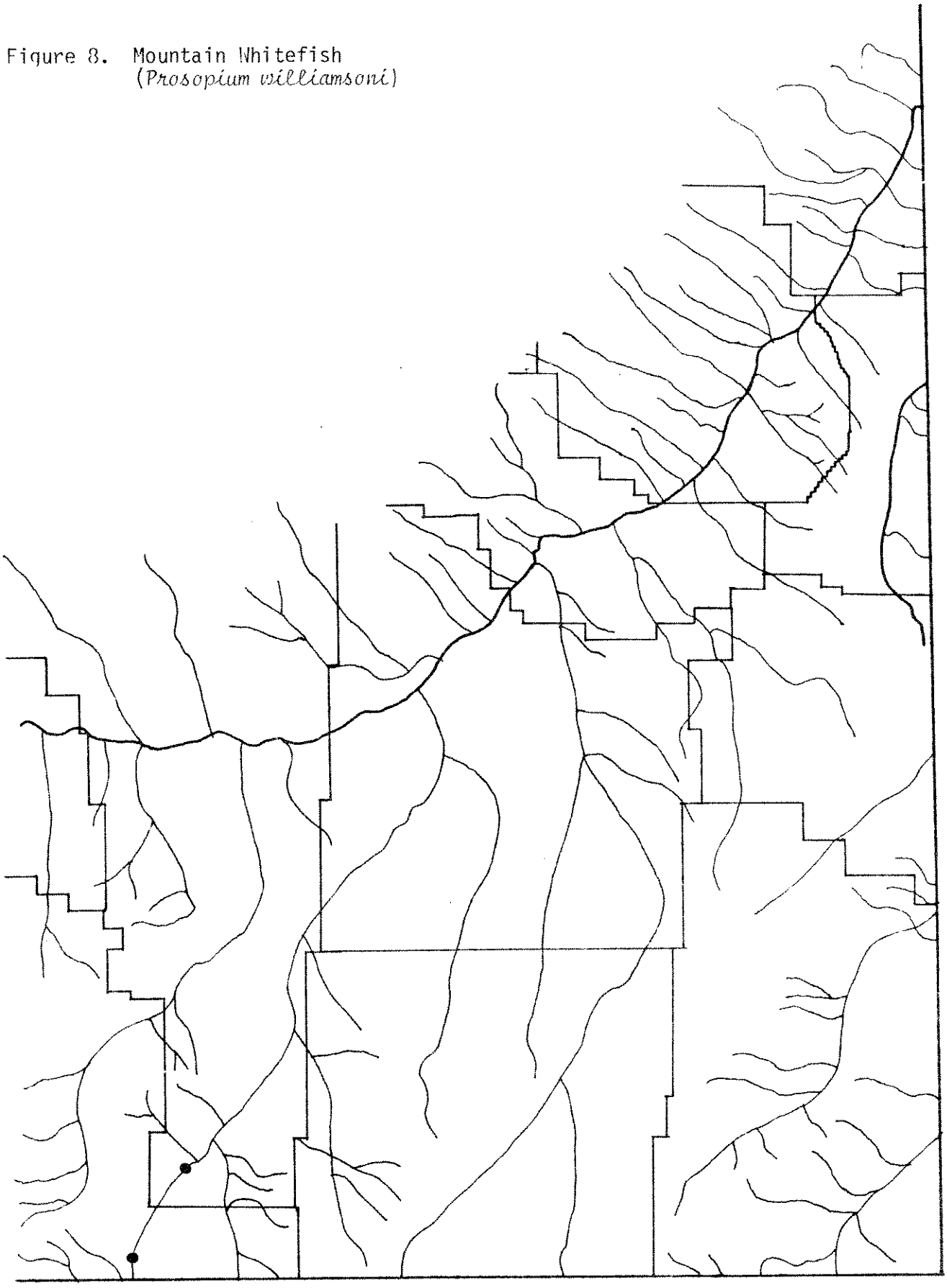


Figure 8. Mountain Whitefish
(*Prosopium williamsoni*)



RAINBOW TROUT

Rainbow trout have been planted in many ponds in southeastern Montana as well as above and below the Tongue River Reservoir dam. A few individuals are caught each year in the lower Yellowstone River, but overall, rainbows are not common to the area.

Sites: 2-5, 42, 44, 45, 47

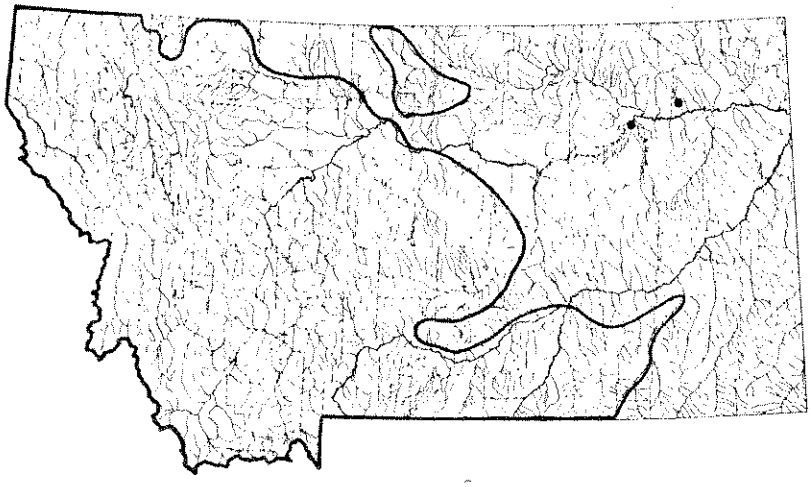
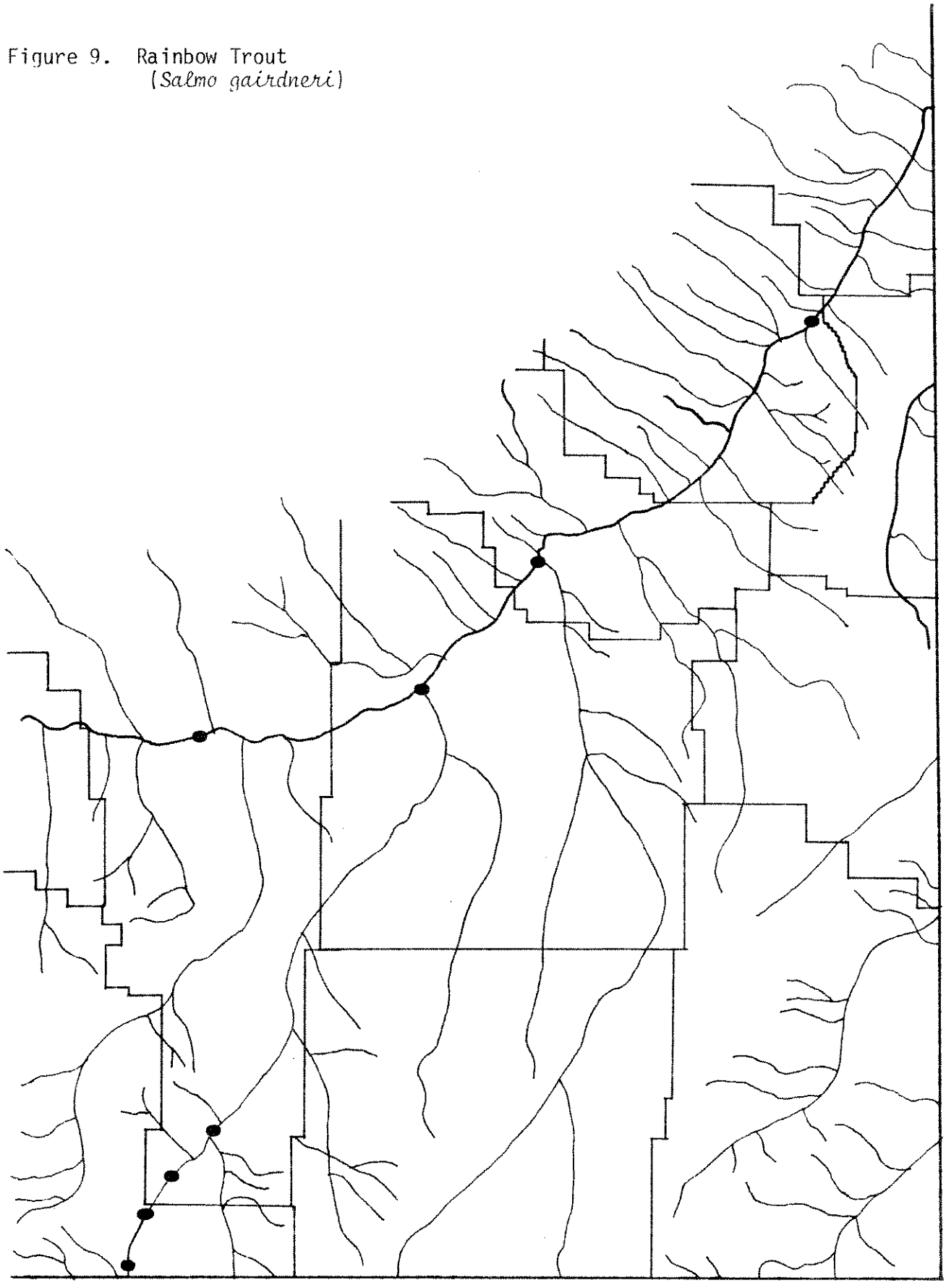


Figure 9. Rainbow Trout
(*Salmo gairdneri*)



BROWN TROUT

This species was planted in the Tongue River Reservoir (1958-1960). A few individuals are caught in the lower Yellowstone River each year. Overall, the brown trout is not common in southeastern Montana.

Sites: 2, 3, 5, 35, 45-47 and 146.

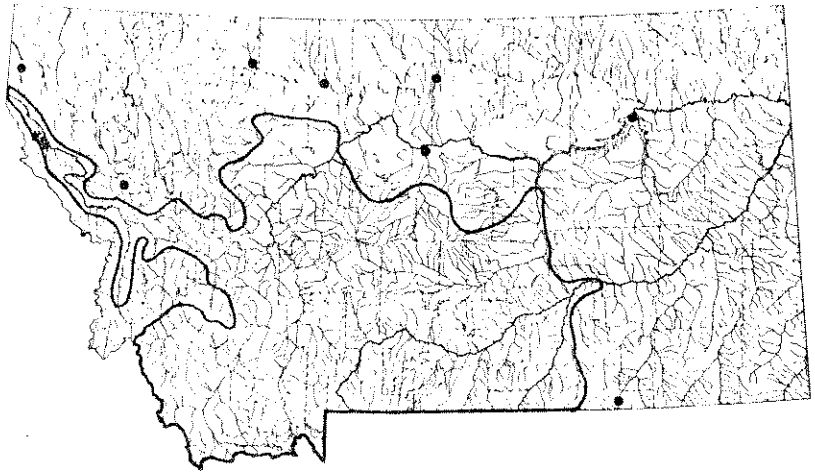
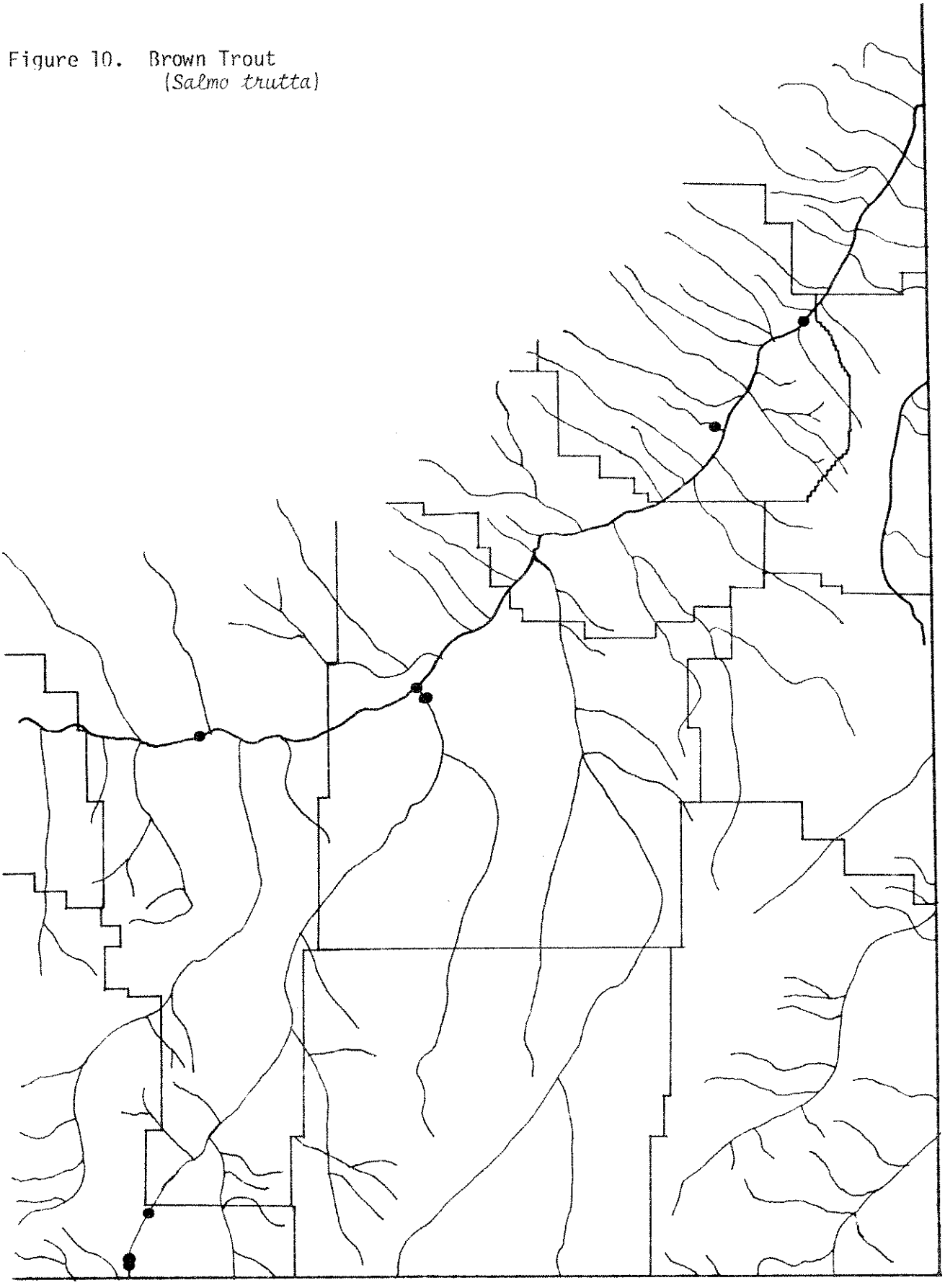


Figure 10. Brown Trout
(*Salmo trutta*)



BROOK TROUT

This species has been planted in a number of ponds in southeastern Montana. However, due to lack of suitable habitat, brook trout are rare in this part of the state.

Sites: 25, 30, 90, 190,194 and 195.

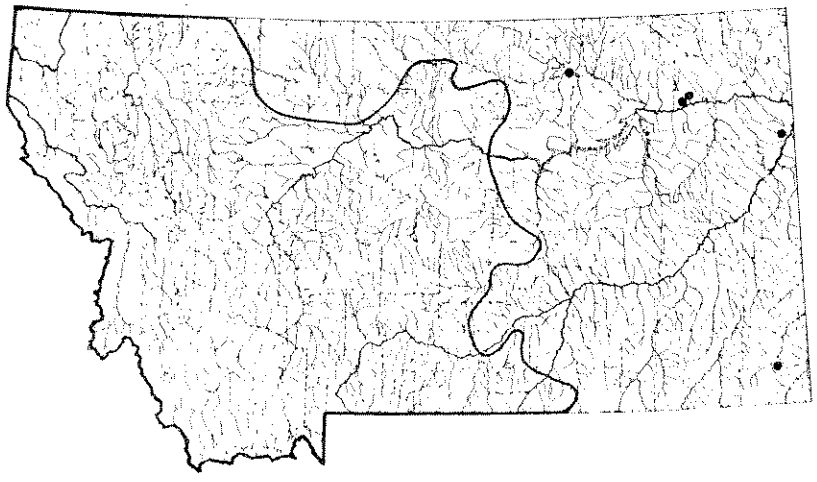
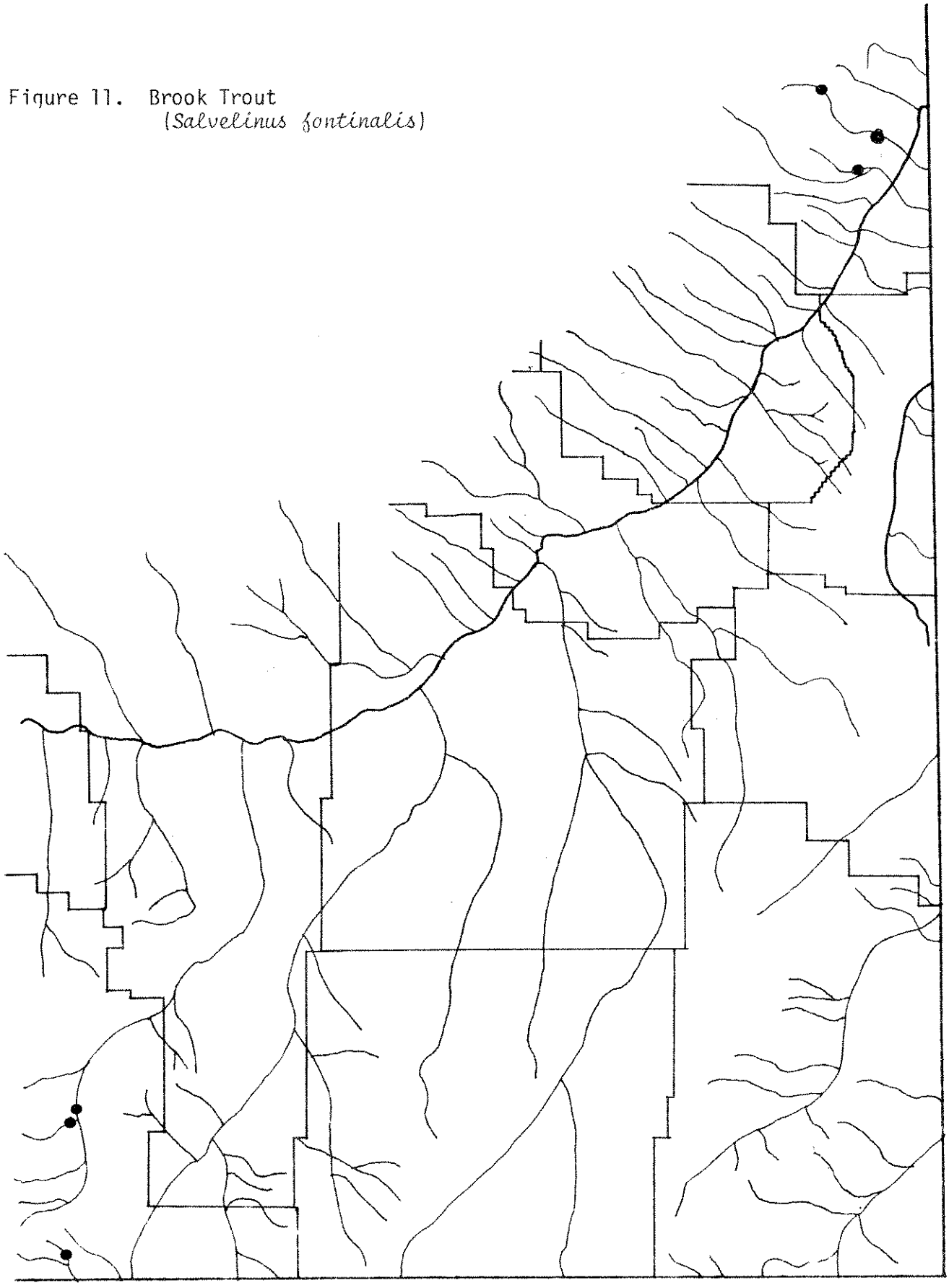


Figure 11. Brook Trout
(*Salvelinus fontinalis*)



RAINBOW SMELT

The rainbow smelt is a recent addition to the lower Yellowstone River. This species was introduced into Lake Sakakawea in 1971 by the North Dakota Game and Fish Department as a forage base. Penkal (personal communication) identified this species in 1980 and indicated that they were found in large numbers.

Site: 5

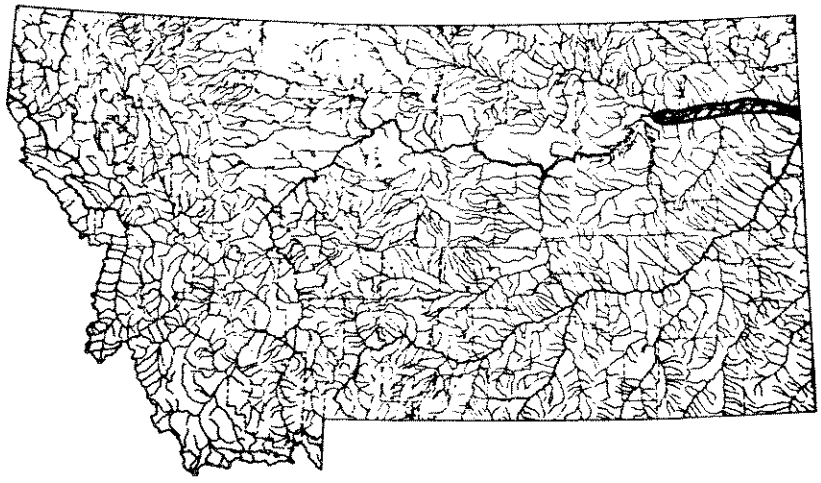
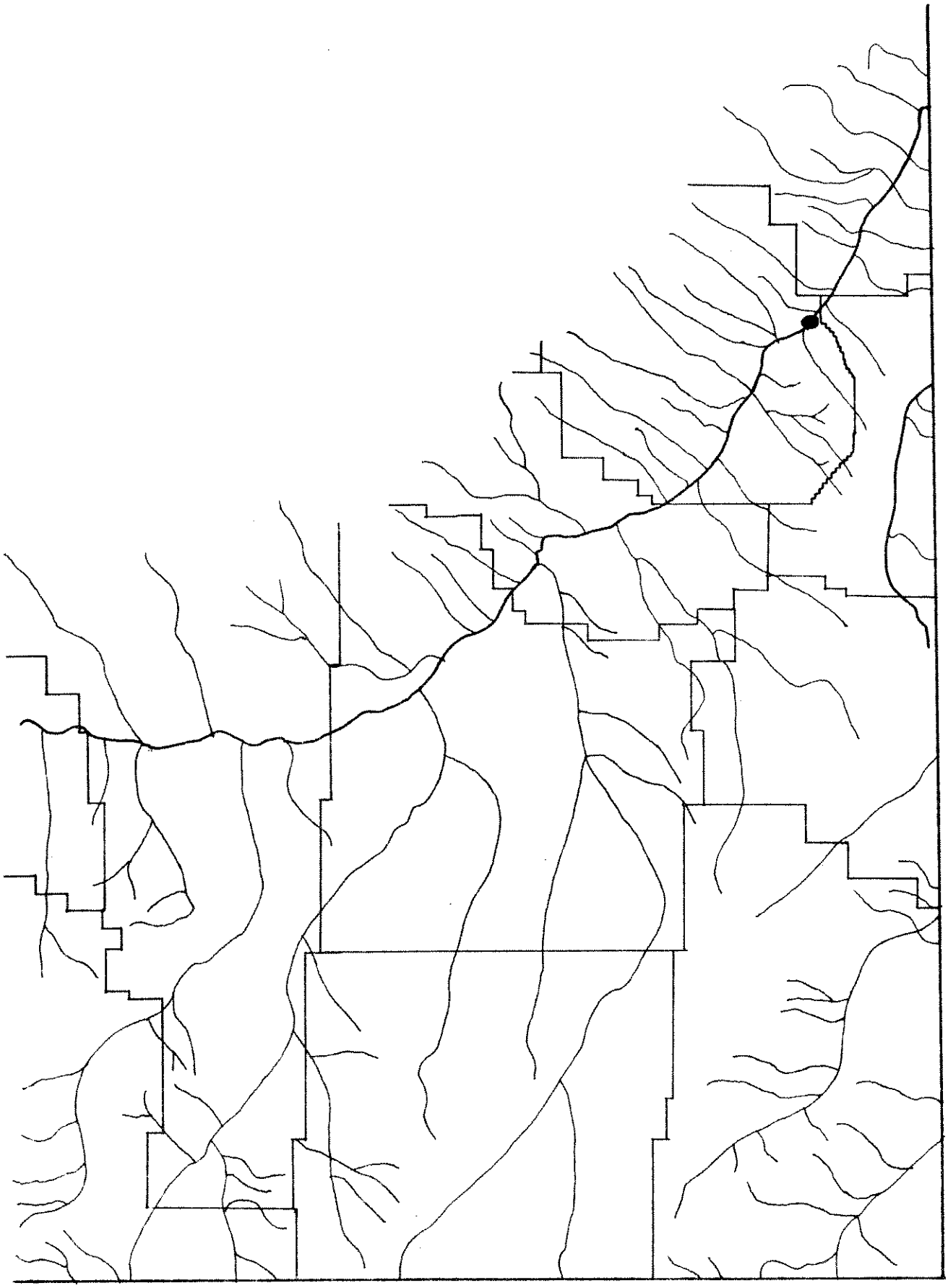


Figure 12. Rainbow Smelt. (*Osmerus mordax*)



NORTHERN PIKE

Northern pike have been widely planted in the ponds and lakes of southeastern Montana including periodic plants in the Tongue River Reservoir. As a result of these plantings, some stream dwelling populations have developed. Pike in the larger rivers apparently move into weedy tributaries to spawn in the spring. Some of these tributaries are used by the young-of-the-year as nursery grounds.

Sites: 2-5, 19-25, 35, 42, 45, 46, 47, 55, 73, 114, 127, 134, 139, 147-149, 156-158, 166, 174, 182, 183, 187, 189, 190, 192, 196, 198, 199, 204, and 236.

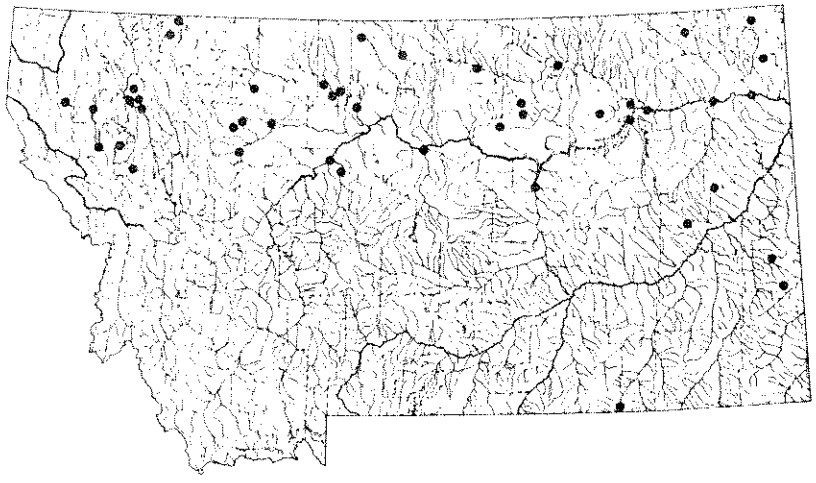
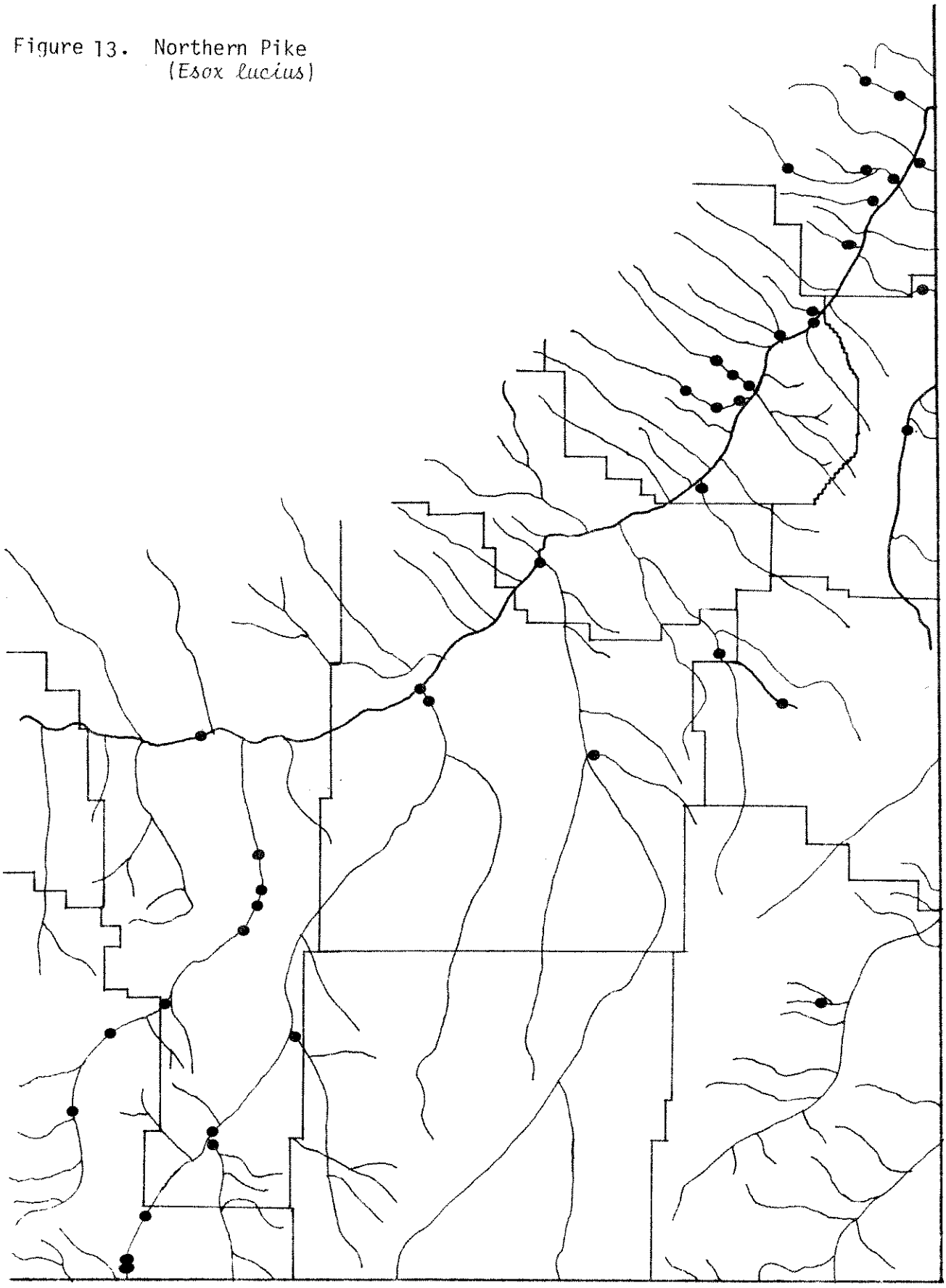


Figure 13. Northern Pike
(*Esox lucius*)



CARP

The carp has a wide distribution in southeastern Montana. Its habitat preference for warm shallow waters with aquatic vegetation typically is found in many streams and ponds in this part of the state.

Sites: 1-6, 8, 9, 17-24, 34-53, 55, 56, 58, 63, 66, 72-76, 79, 80, 86, 87, 91, 97, 98, 101, 105-107, 110, 112, 114-118, 121, 125-128, 131, 132, 134, 139-142, 146-148, 152, 153, 156-160, 162, 164, 166, 175-177, 179, 180, 183, 184, 186, 187, 189, 196,197, 204-210, 212-217, 222-224.5, 225.1, 227, 227.1, 233 and 236.

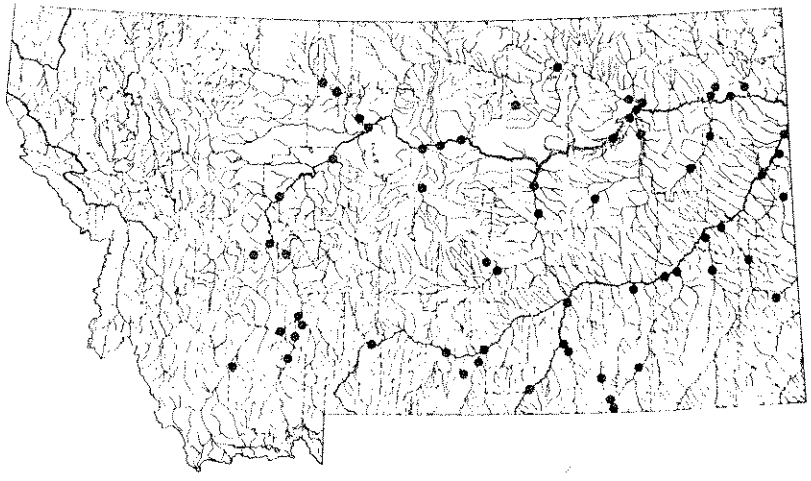
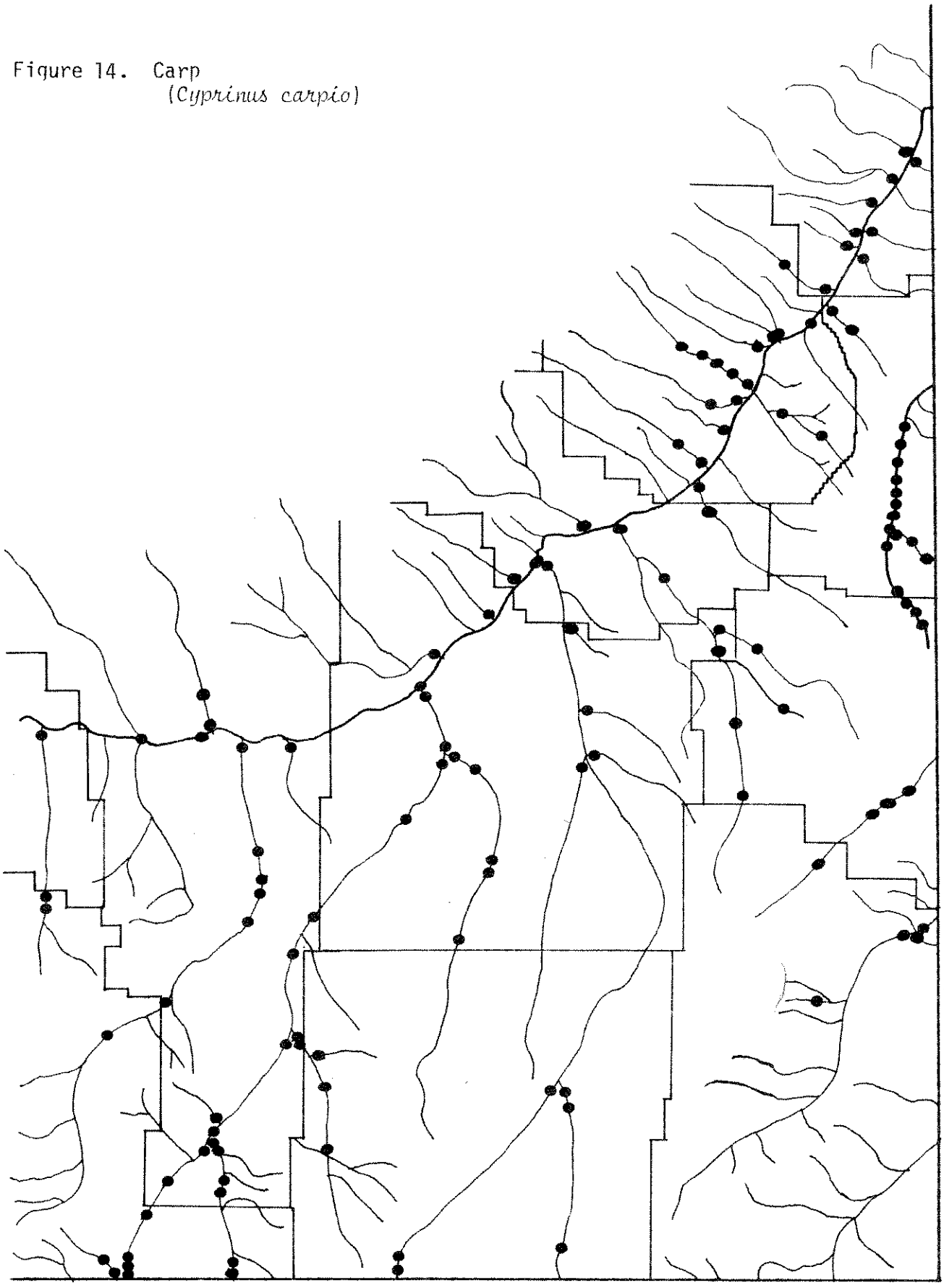


Figure 14. Carp
(*Cyprinus carpio*)



GOLDFISH

This introduced species is rare in southeastern Montana. It coexists with carp at all sites where it has been found.

Sites: 45, 47, 212, 222 and 223.

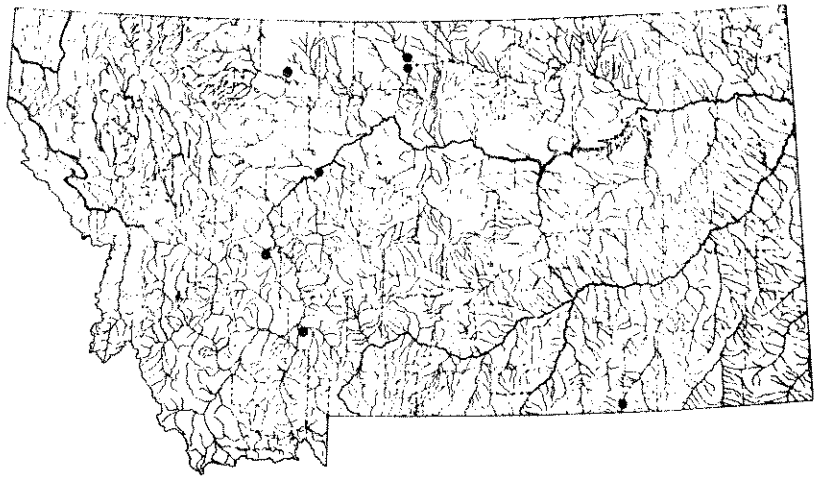
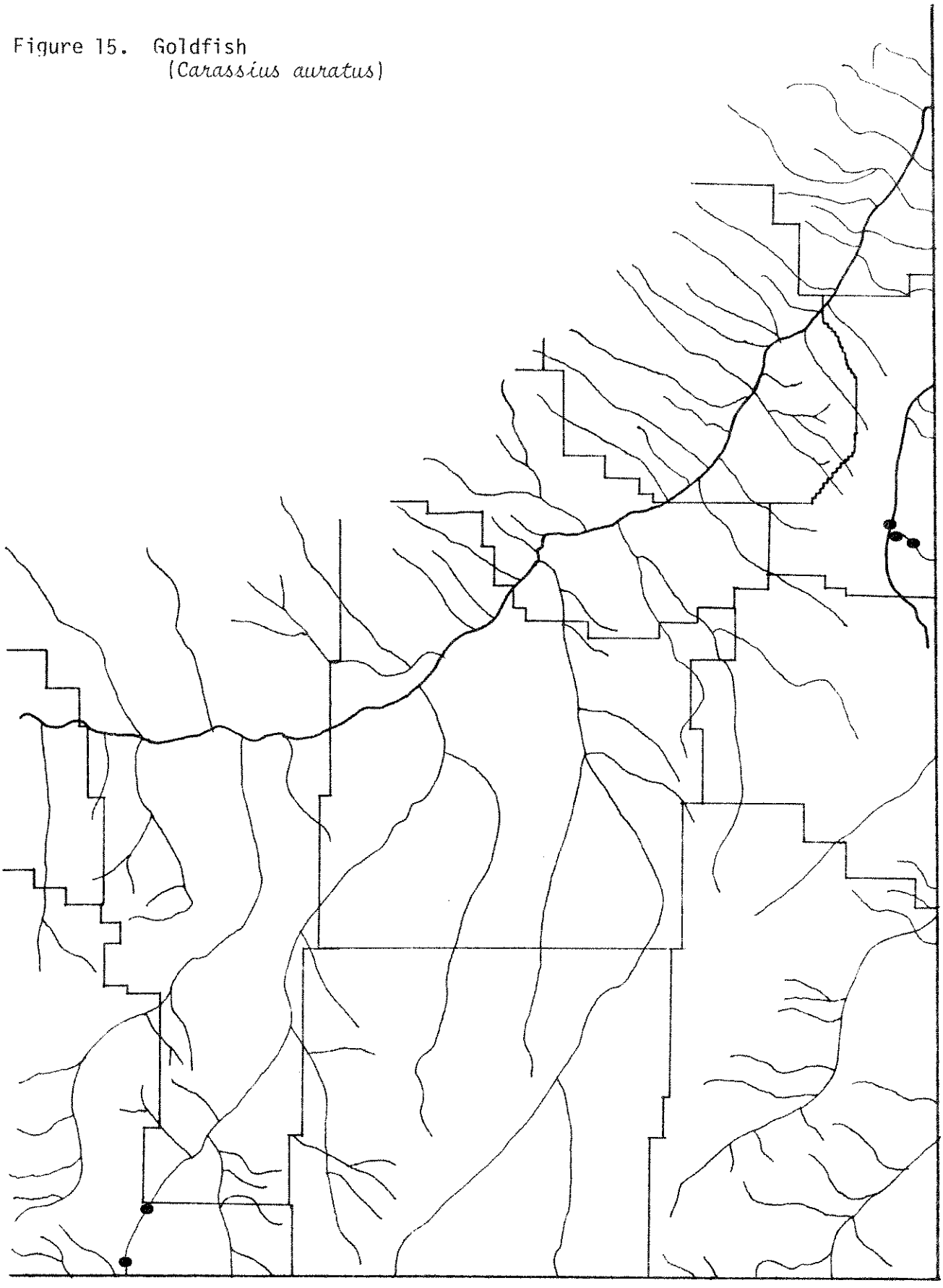


Figure 15. Goldfish
(*Carassius auratus*)



GOLDEN SHINER

The golden shiner has been used as a forage fish in stocking programs which may account for its sporadic distribution over the area. This minnow tends to be plentiful where found.

Sites: 6, 42, 45, 47, 55, 56, 58-60, 72-76, 78, 97, 125-127, 175,196,227,233, 233.1, and 239.

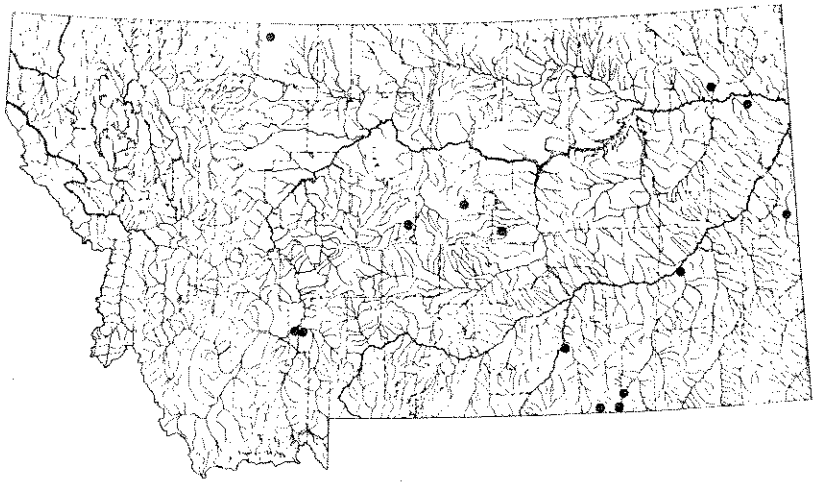
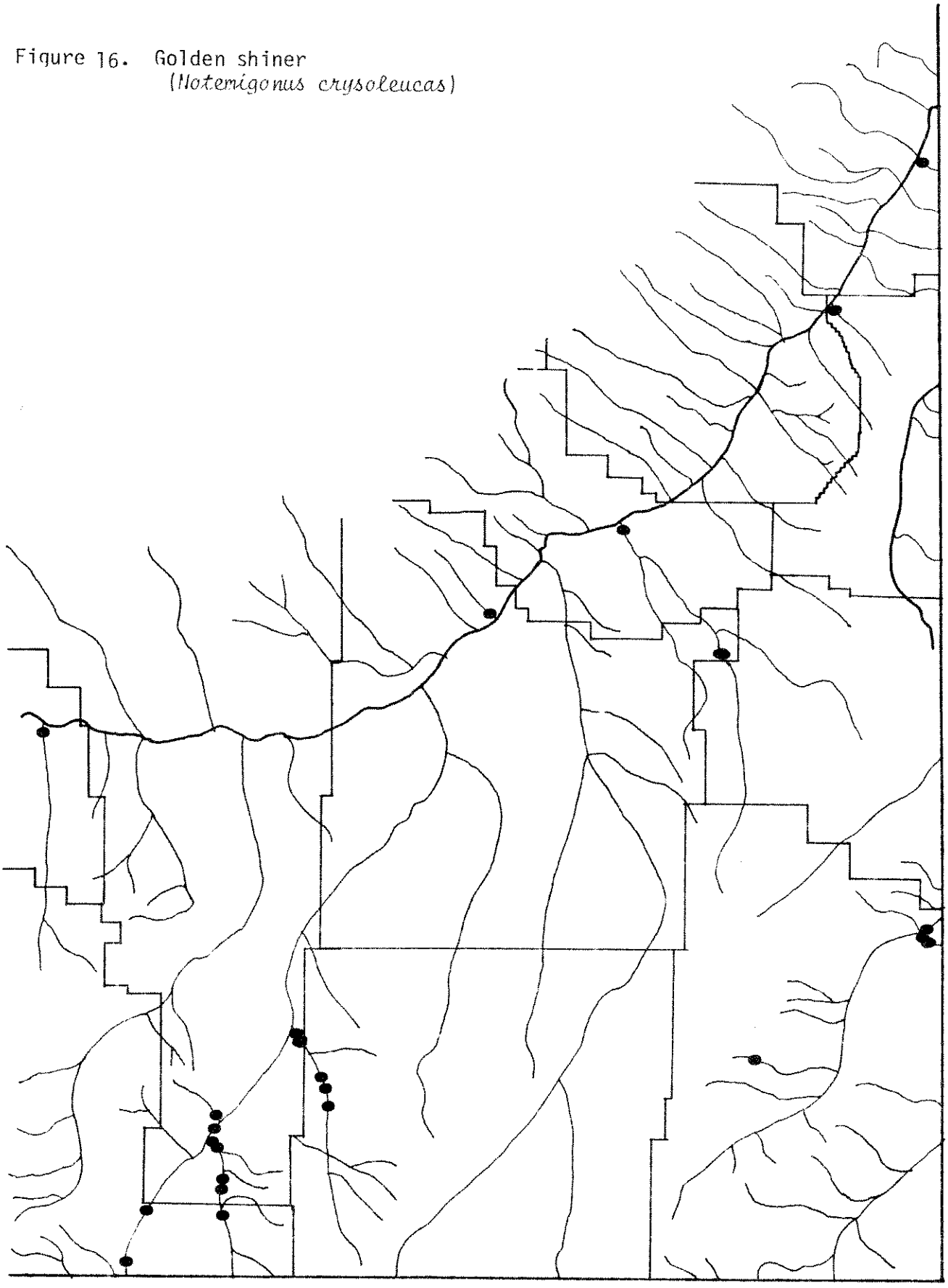


Figure 16. Golden shiner
(*Notemigonus crysoleucas*)



PEARL DACE

We have no data to expand the known distribution of this species in southeastern Montana. Brown listed only one site on the Yellowstone River for the pearl dace.

Sites: None

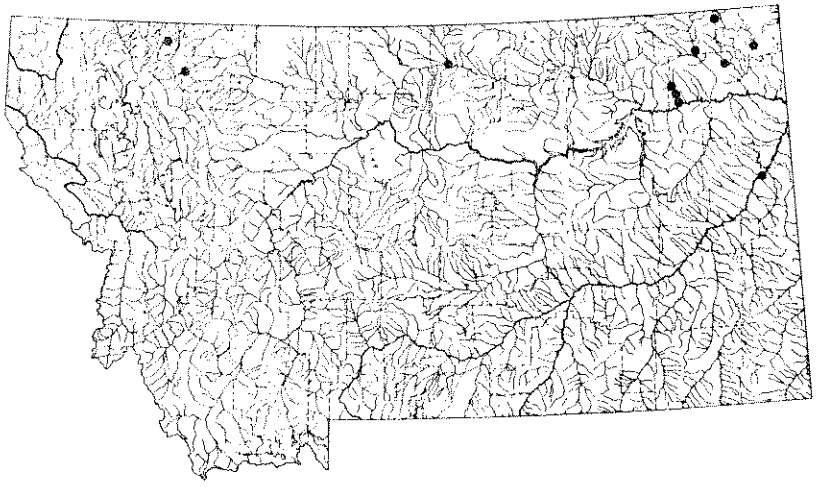
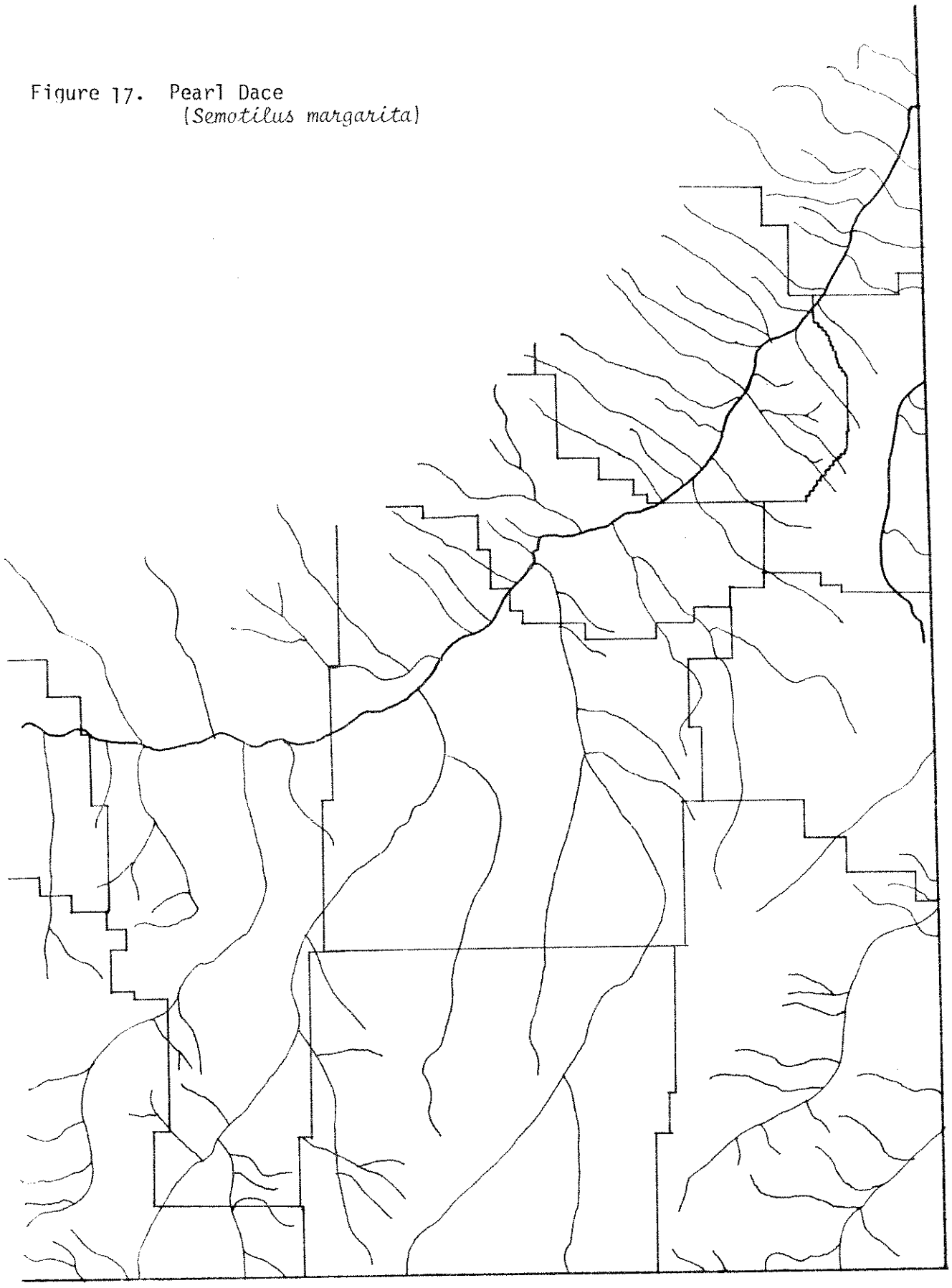


Figure 17. Pearl Dace
(*Semotilus margarita*)



CREEK CHUB

This species is much more common in southeastern Montana than prior information indicated. Recently, the creek chub has been removed from Montana's list of species of special concern due to an awareness of their wider distribution. Specimens up to 29 cm long have been collected in this part of the state.

Sites: 50,59, 60, 62, 81, 87, 97-100, 102, 108-115, 121, 123-129, 131, 132, 135-142, 144, 146-148, 153, 154, 156, 158-172, 174-184, 187, 189, 191, 193, 194, 197, 200, 202-220, 224.1 -224.4, 224.6-226.1, 226.3, 227, and 233-234.

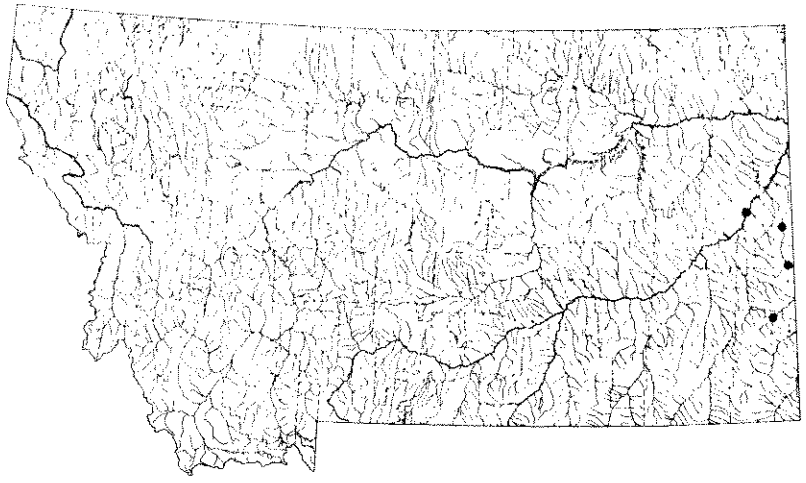
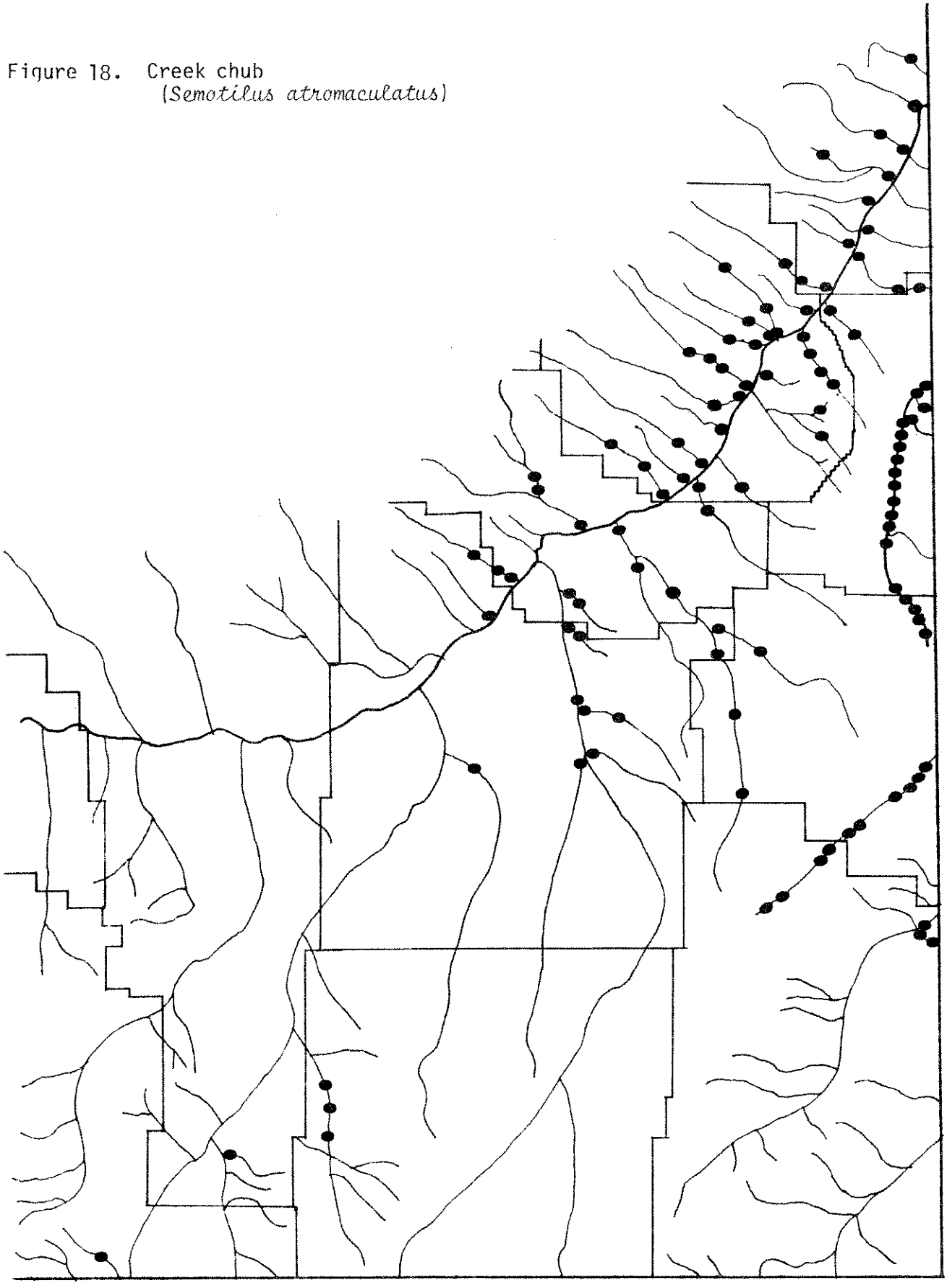


Figure 18. Creek chub
(*Semotilus atromaculatus*)



NORTHERN REDBELLY DACE

The northern redbelly dace prefers small slow-flowing creeks with clear cool water and abundant vegetation. It is not common in southeastern Montana, but is often plentiful where found. Its distribution in this part of the state seems to be limited to a small grouping of tributaries in the lower Yellowstone basin. Brown did not list any collection sites from southeastern Montana.

Sites: 158, 160, 163, 164-172, 174,175,180,191 and 200.

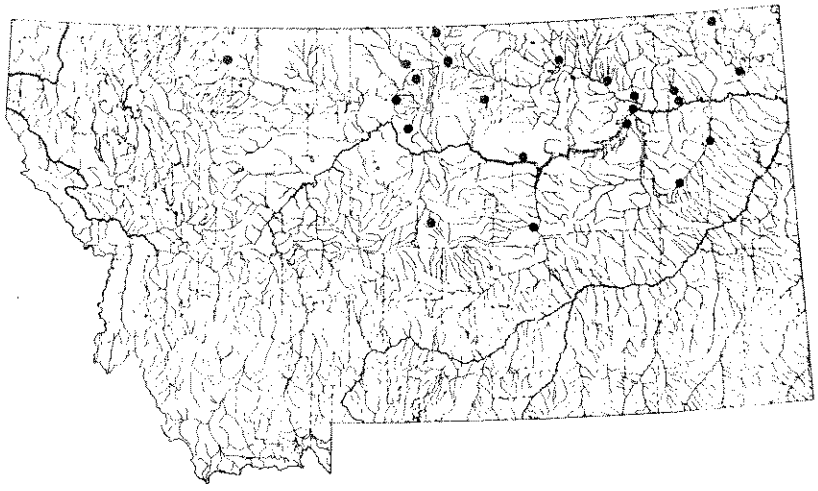


Figure 19. Northern Redbelly Dace
(*Phoxinus eos*)

FLATHEAD CHUB

The flathead chub is abundant in the prairie streams of southeastern Montana; it is the fourth most common species in this report. Although widely distributed, the flathead chub is more common in the larger flowing streams than in intermittent creeks.

Sites: 1-7, 17-24, 35-42, 45, 46, 49, 50, 52, 53, 55, 56, 58, 53, 66, 73-76, 78, 86, 87, 92, 94, 96-112, 114-121, 125-129, 131-133, 135, 138, 139-141, 143, 144, 146, 147, 150-154, 157, 162, 164, 166, 169, 174, 177, 178, 180, 183, 186, 187, 189, 193, 194, 196, 197, 203, 204, 210, 214-217, 220, 224.1-224.5, 227, 230, 233 and 244.

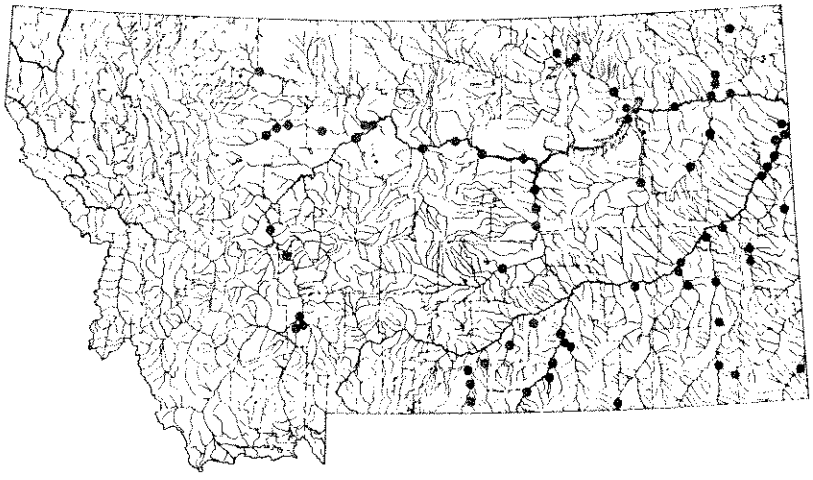
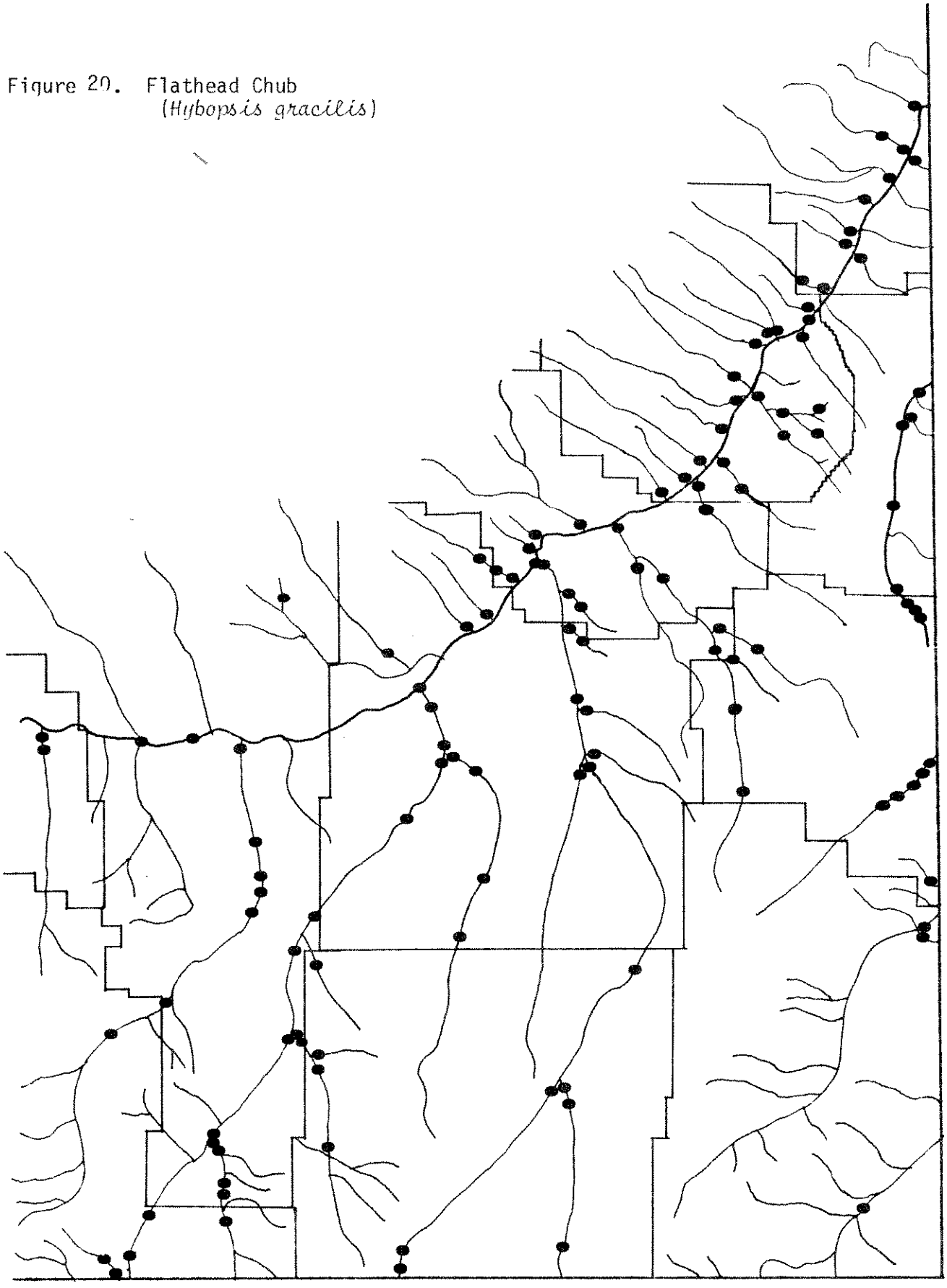


Figure 20. Flathead Chub
(*Hybopsis gracilis*)



STURGEON CHUB

This species is rare in Montana. It has been collected mainly in the Yellowstone and Powder Rivers, generally in areas characterized by moderate to strong currents over a gravelly substrate. Although widely distributed in the large rivers of southeastern Montana, the sturgeon chub is not common where found. This species is classified as a state species of special concern in Montana.

Sites: 3, 4, 5, 36, 101-107,169 and 228.

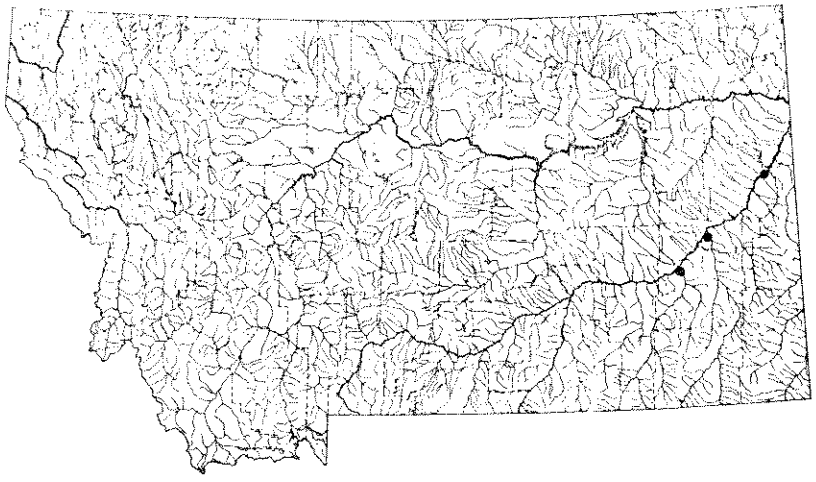
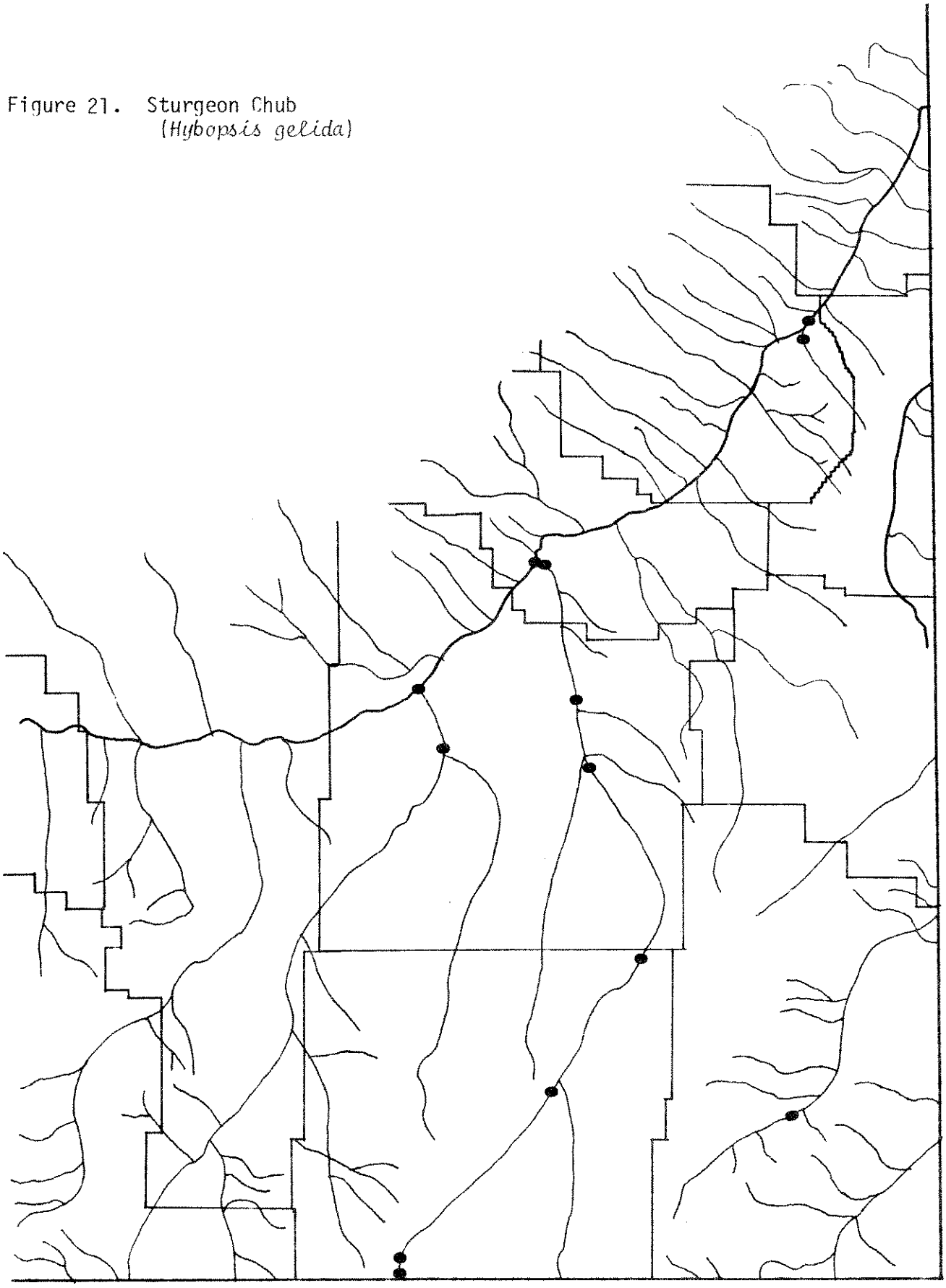


Figure 21. Sturgeon Chub
(*Hybopsis gelida*)



LAKE CHUB

The lake chub is abundant and widely distributed in southeastern Montana. It is found mainly in smaller creeks rather than in large rivers. It is the fifth most common fish in this report having been found at about 42% of the sampling sites.

Sites: 6-14, 18-30, 32, 33, 52-54, 56, 57, 60, 62-75, 78, 80-82, 84, 85 87-90, 94, 99 , 100, 109-112, 116, 118, 121-129, 131, 132, 134-139, 141, 142, 144, 145, 153, 154, 162, 163, 165-168, 170-176, 178, 179, 180, 184, 187, 191, 194, 195, 210-212, 219, 224.2, 224.3, 227, 228, 230 and 251.

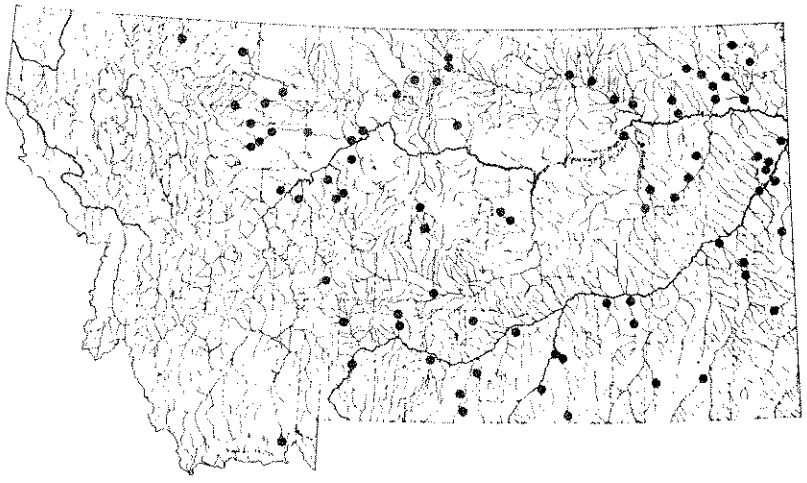
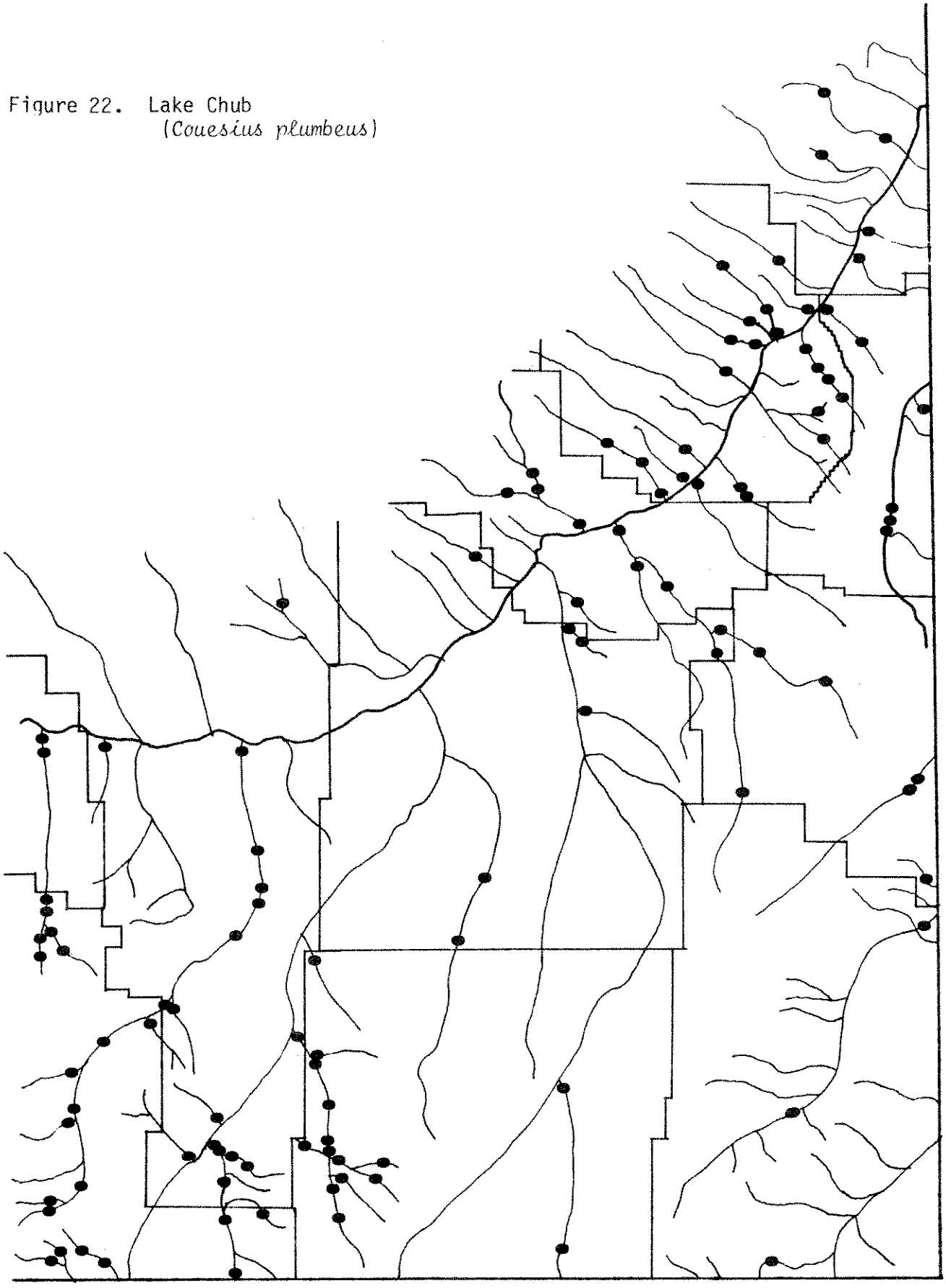


Figure 22. Lake Chub
(*Couesius plumbeus*)



EMERALD SHINER

The emerald shiner is widely distributed in southeastern Montana. This species has been collected primarily from the lower sections of small prairie streams in this part of the state.

Sites: 6, 16, 18, 56, 73, 98, 99, 126-127.1, 133, 139, 141, 144, 150, 162, 173, 174, 177, 180, 183, 186, 189, 193, 196, 213, 214, 217-219 and 227.1

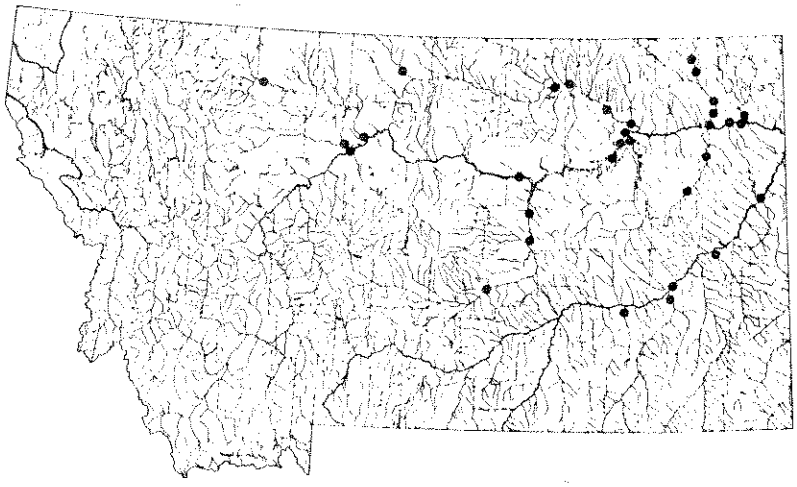
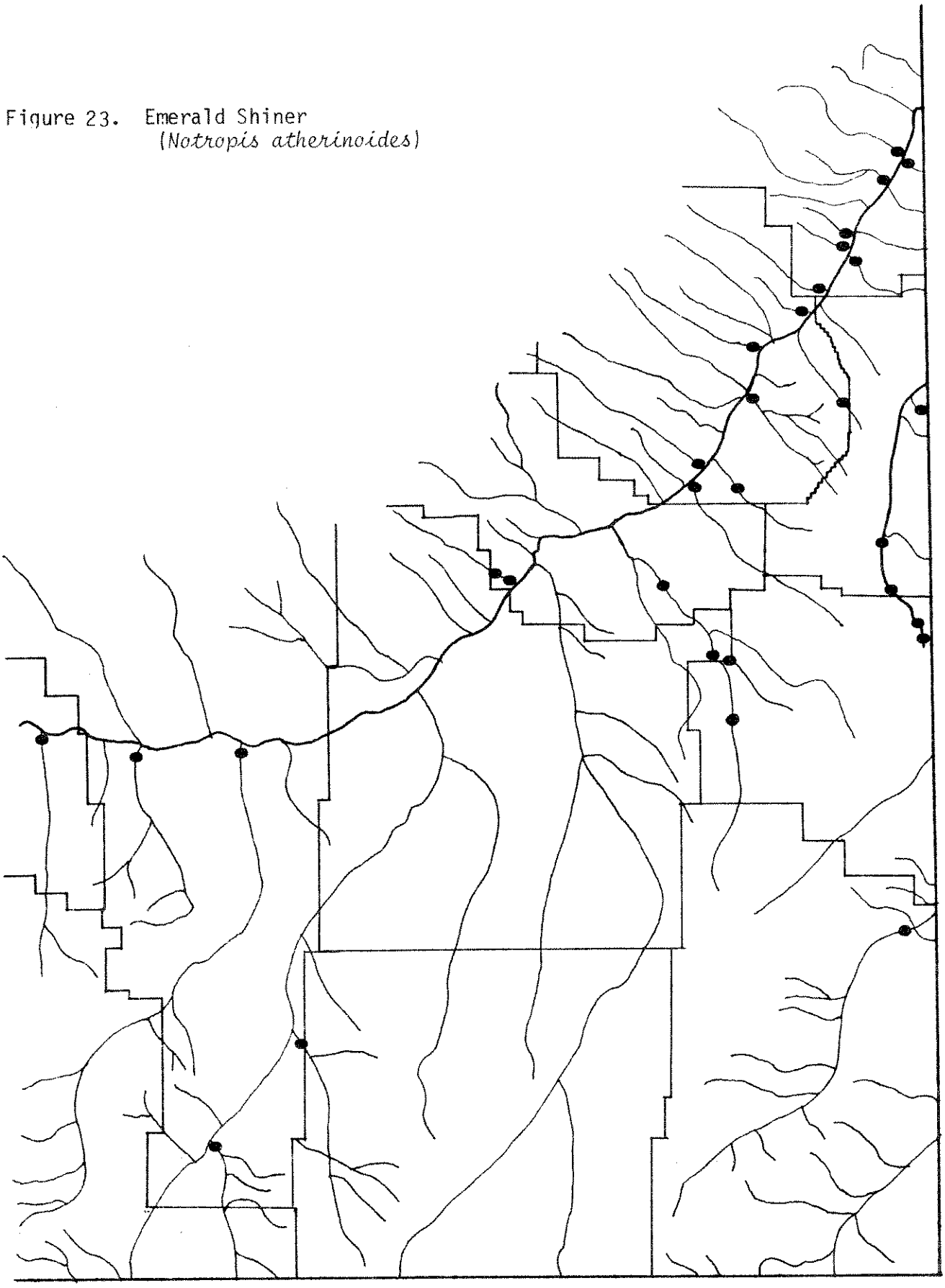


Figure 23. Emerald Shiner
(*Notropis atherinoides*)



SAND SHINER

This hardy species is common in southeastern Montana and can be locally abundant. It was collected at about 26% of the sites in this report. The sand shiner has not been found upstream of the Tongue River in the Yellowstone drainage.

Sites: 50, 56-59, 63, 75, 79, 80, 97-100, 106, 114-116, 118, 121, 125-128, 129, 131-134, 135, 139-141, 144, 146-148, 150, 151, 155, 158, 159, 163, 166, 169, 173, 175, 177, 178, 180-182, 184, 186, 189, 193, 196, 203-205, 207-218, 224.1-226, 227-228, 233, 244 and 251.

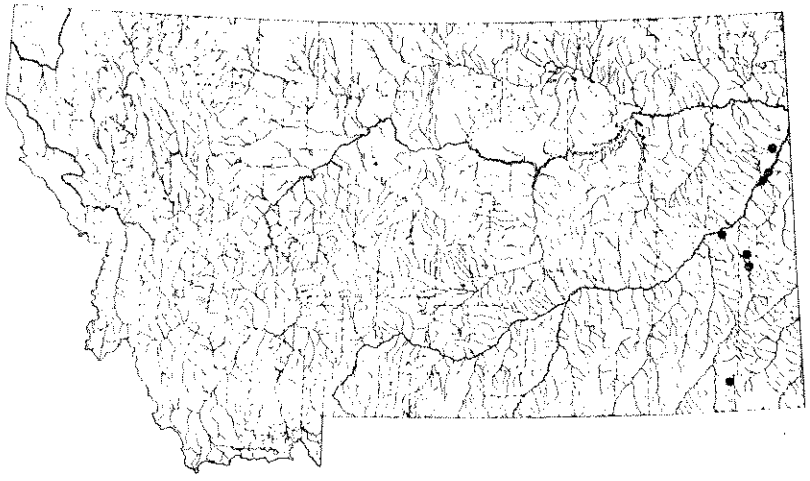
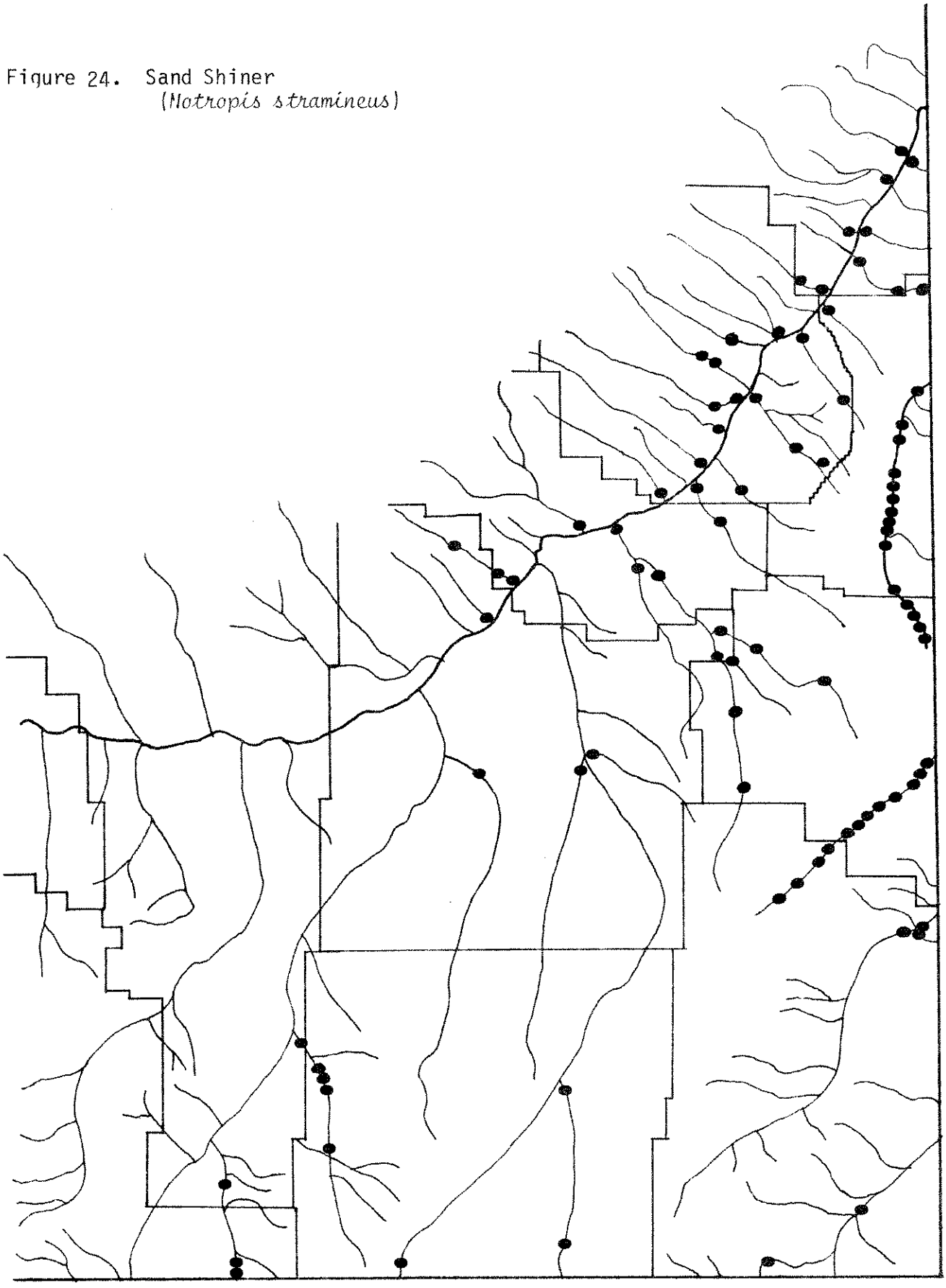


Figure 24. Sand Shiner
(*Notropis stramineus*)



BRASSY MINNOW

The brassy minnow is common in southeastern Montana. It was collected at about 1/4 of the sites in this study, widely expanding the known distribution of the species in the Yellowstone drainage.

Sites: 34, 50, 56, 57, 59-61, 63, 67, 68, 75, 78, 80, 81, 83-85, 87, 89, 90, 96-98, 102, 108, 110, 111, 115, 121-132, 136, 137, 139, 140-142, 144, 145, 147, 148, 160, 166, 168, 171, 175-179, 182-184, 187, 193-196, 197, 200, 201,203,205,210,213,215,216,219,226,226.1,226.3, 230, 233 and 233.1.

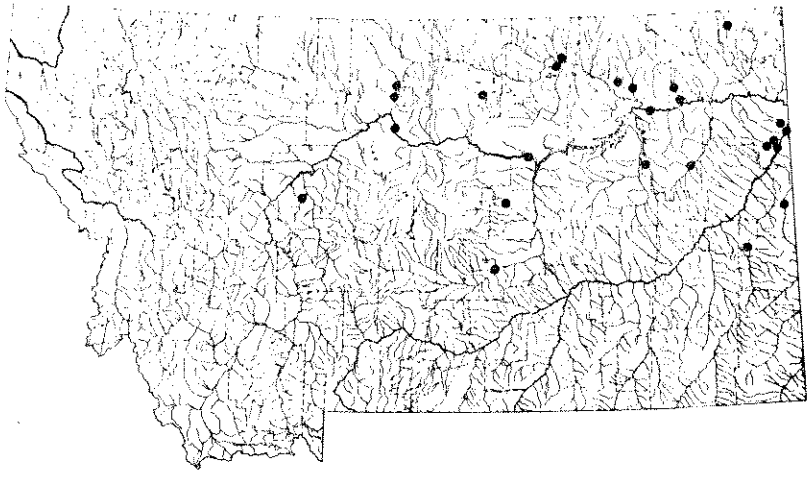
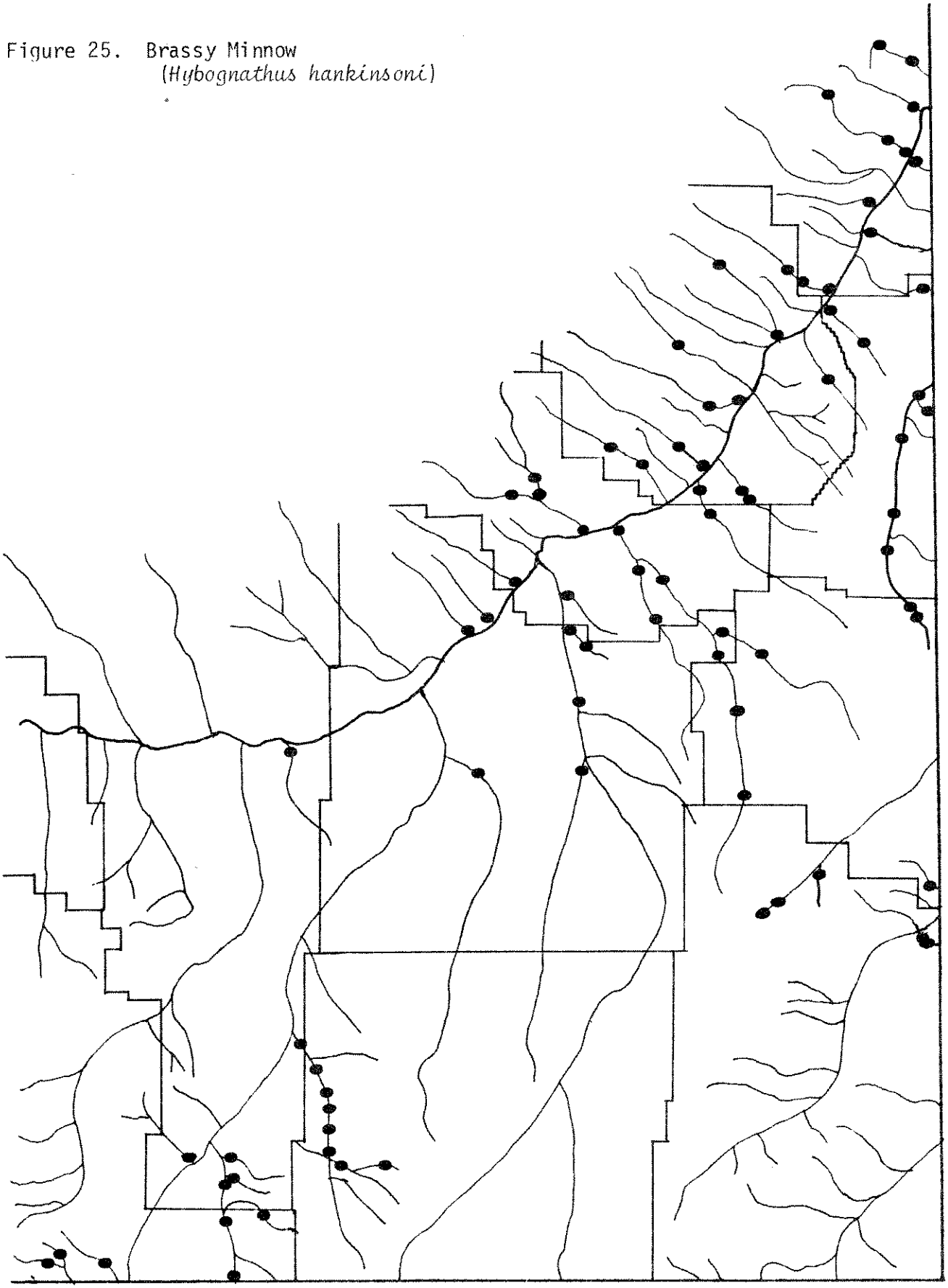


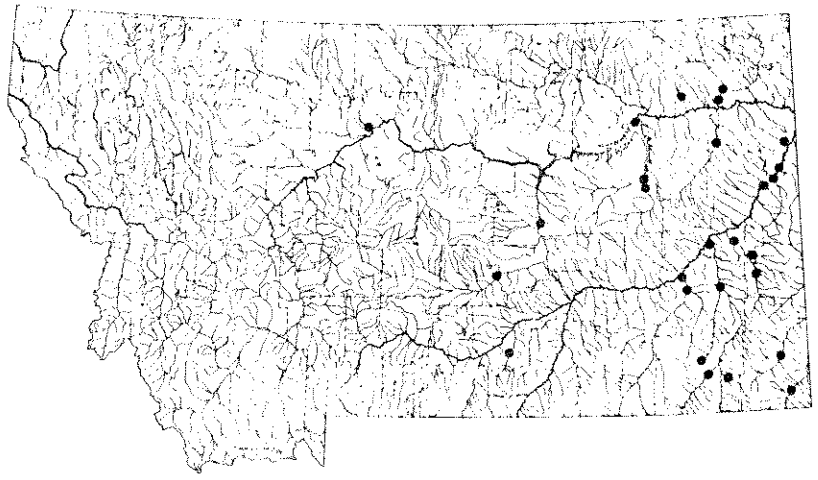
Figure 25. Brassy Minnow
(*Hybognathus hankinsoni*)



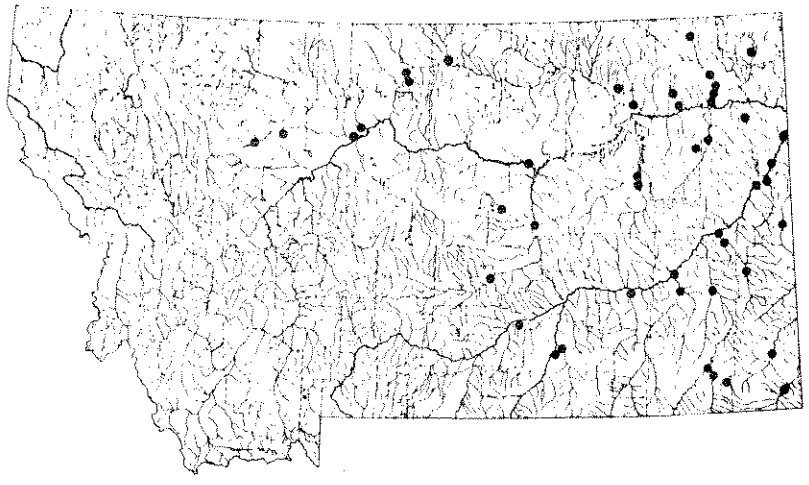
PLAINS MINNOW/WESTERN SILVERY MINNOW

The plains minnow and the western silvery minnow are combined since not all available distribution data differentiates between the two species. These species are widely distributed in southeastern Montana and are often abundant.

Sites: 2-6, 17, 17.1, 34,36,39,40, 52-56, 58, 59, 66, 71, 73-75, 80, 91, 97, 99-112, 115-119, 123, 125-127, 129, 133, 139, 140, 141, 143-147, 150-155, 162, 169-171, 175, 177, 180 , 181, 183, 186, 187, 189, 196, 202, 203, 205, 212, 214, 215, 217, 219, 224.1, 224.2, 227, 227.1 and 233.

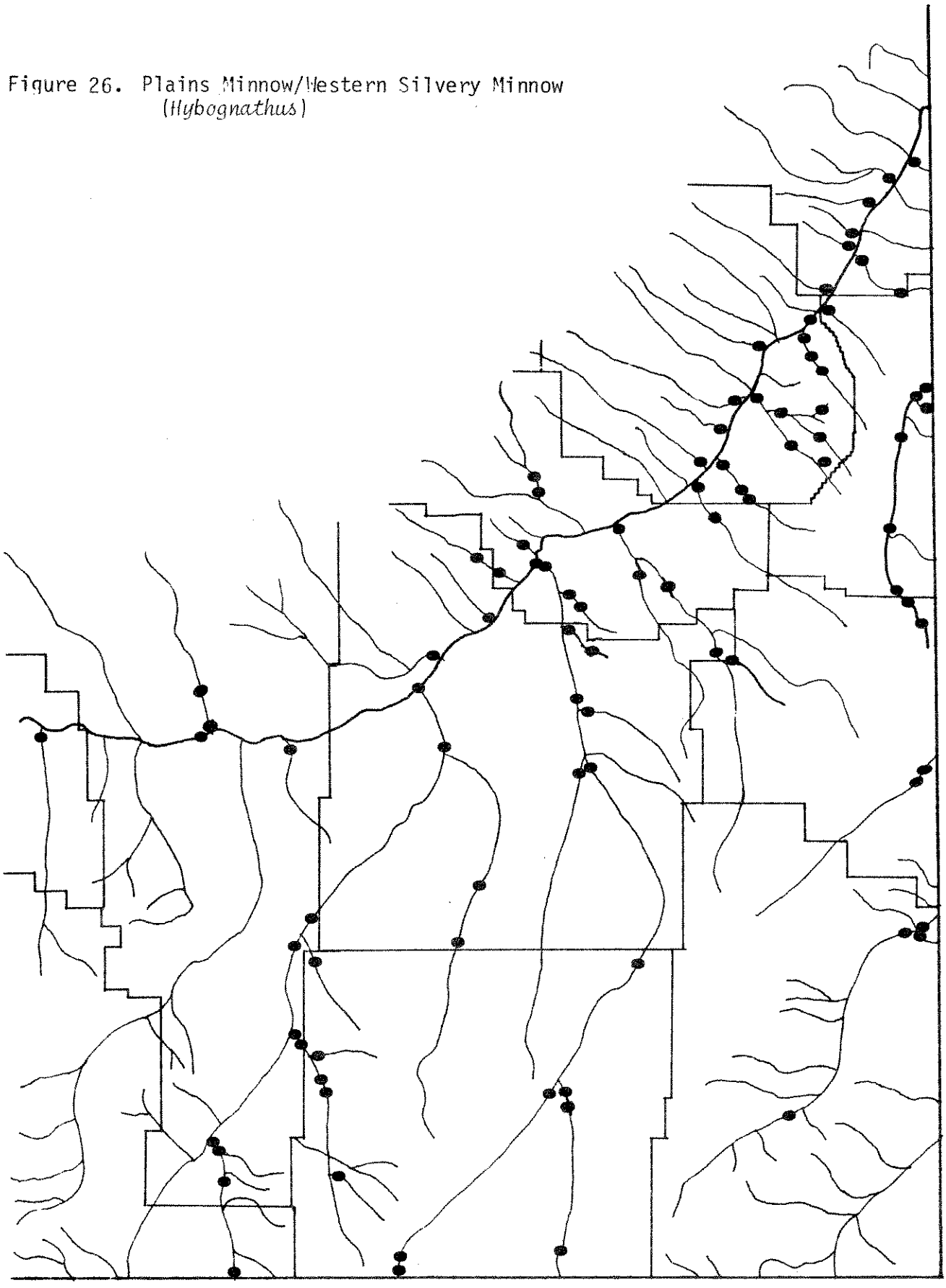


PLAINS MINNOW



WESTERN SILVERY MINNOW

Figure 26. Plains Minnow/Western Silvery Minnow (*Hybognathus*)



FATHEAD MINNOW

This species is widely distributed, and it is very abundant in southeastern Montana. The fathead is the second most common fish in this report, having been collected at about 64% of the sites. This hardy minnow is well suited to the extremes encountered in prairie streams where conditions range from flowing water to ephemeral pools.

Site: 6-18, 25, 27, 34, 38, 50, 53, 56-58, 62, 64,66, 72-76, 78-81, 84-90, 96-100, 108-116, 118, 119, 121-137, 139-148, 151, 153-160, 162-166, 169-179, 180, 184-187, 189, 193-197, 200-222, 224-227, and 253

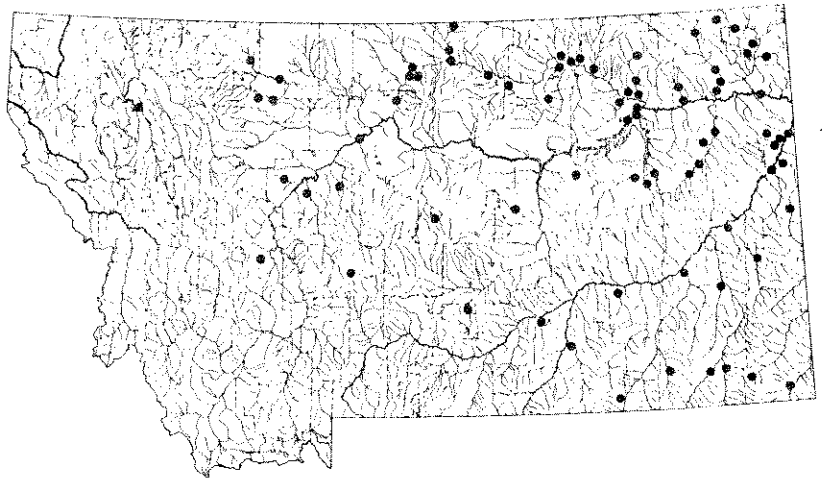
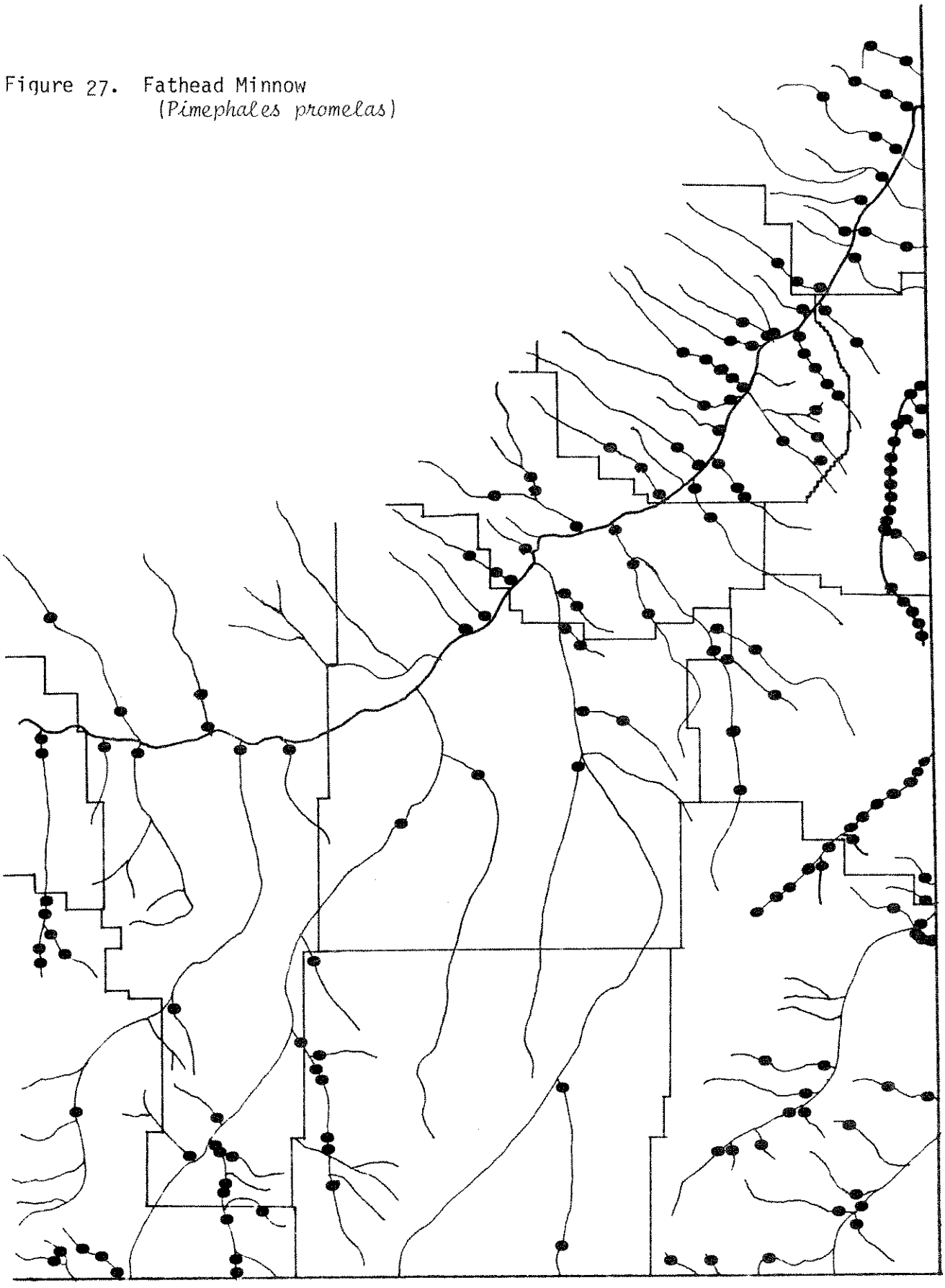


Figure 27. Fathead Minnow
(*Pimephales promelas*)



LONGNOSE DACE

This species is widely distributed and abundant in southeastern Montana. The longnose dace was collected at about 54% of the sites; it is the third most common species in this report. Although it occurs in a wide variety of habitats, this minnow prefers flowing water with a rocky substrate.

Sites: 2-7, 17-29, 31-34, 36, 38-42, 44-46, 49, 50, 53, 56, 58, 63, 64, 66, 70-75, 78, 81, 82, 84, 86-90, 94, 96-100, 102-106, 108-112, 114-116, 118, 120, 121, 125, 127-129, 131, 132, 134-144, 146-148, 153, 154, 158-170, 174, 175, 177-181, 186, 187, 189, 193-195, 197, 202, 204-207, 210-212, 224.1-224.3, 224.5-224.7, 225, 225.1, 227,230,233.1, 235, 244, 245, and 251.

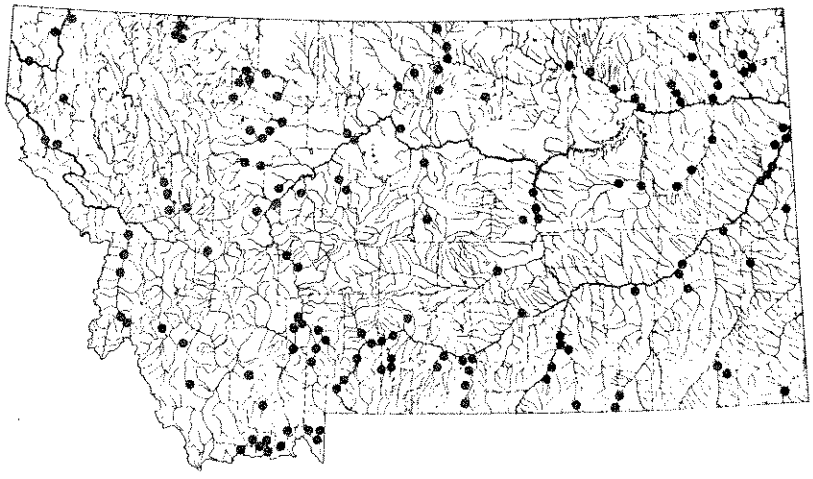
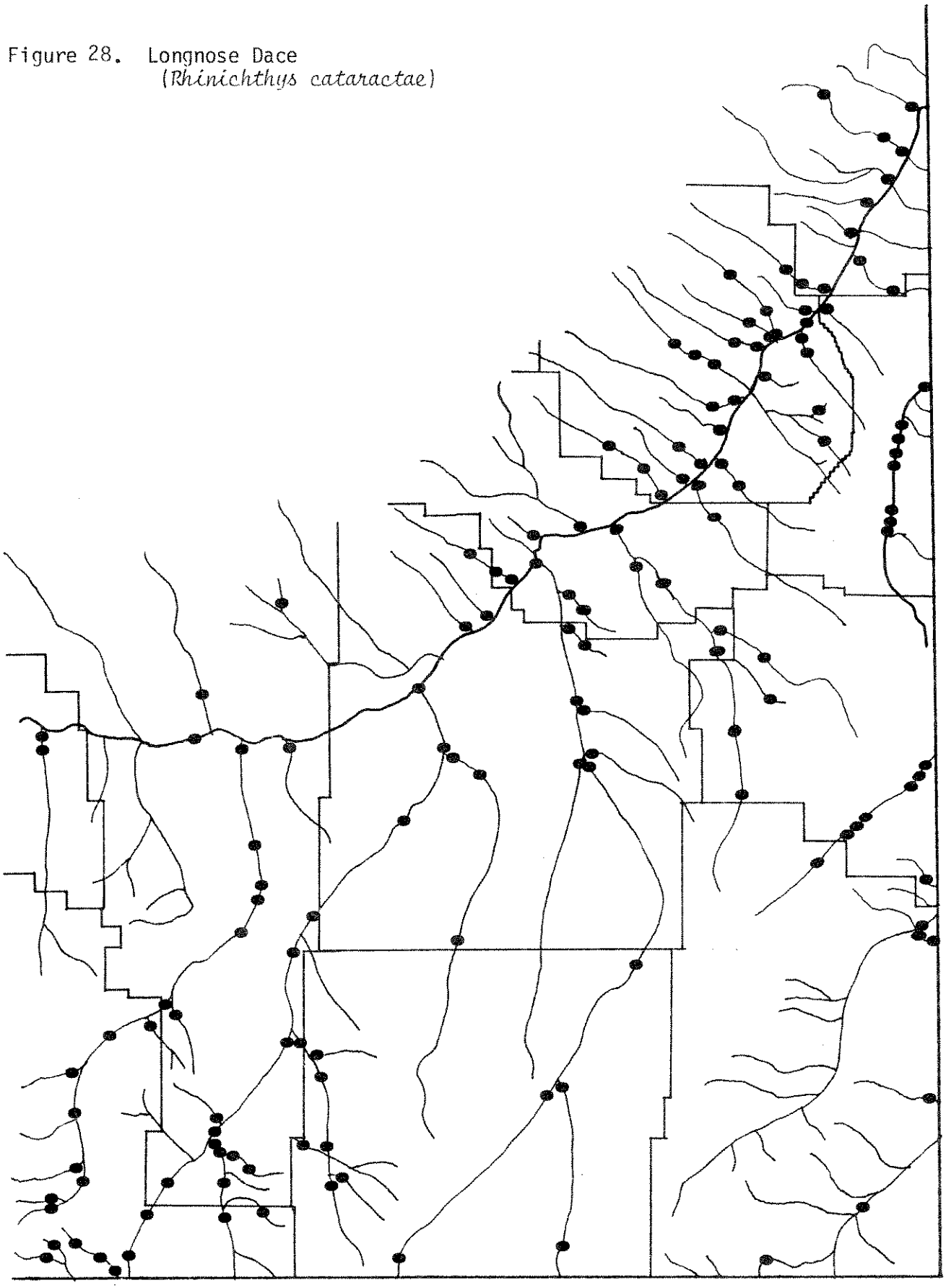


Figure 28. Longnose Dace
(*Rhinichthys cataractae*)



RIVER CARPSUCKER

This species is widely distributed and abundant in southeastern Montana. Carpsuckers are usually found in the pools and backwaters of the rivers and lower reaches of the streams.

Sites: 1-6, 17-18, 35-42, 45-47, 49, 50, 52, 55, 66, 73, 78, 91, 97-99, 101, 102, 104-108, 110, 112, 115-117, 121, 125-127, 128, 133, 134, 139, 141, 143, 147, 150, 162, 164, 166, 169, 175, 177, 183, 184, 186, 189, 196 and 227, 227.1.

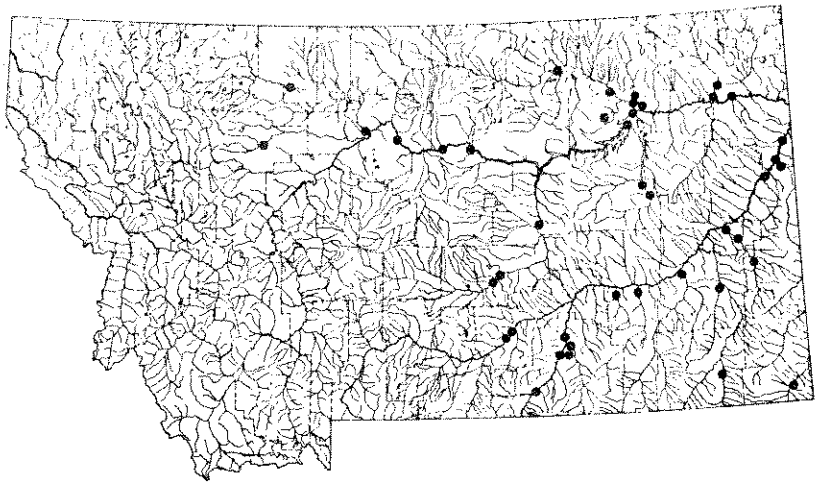
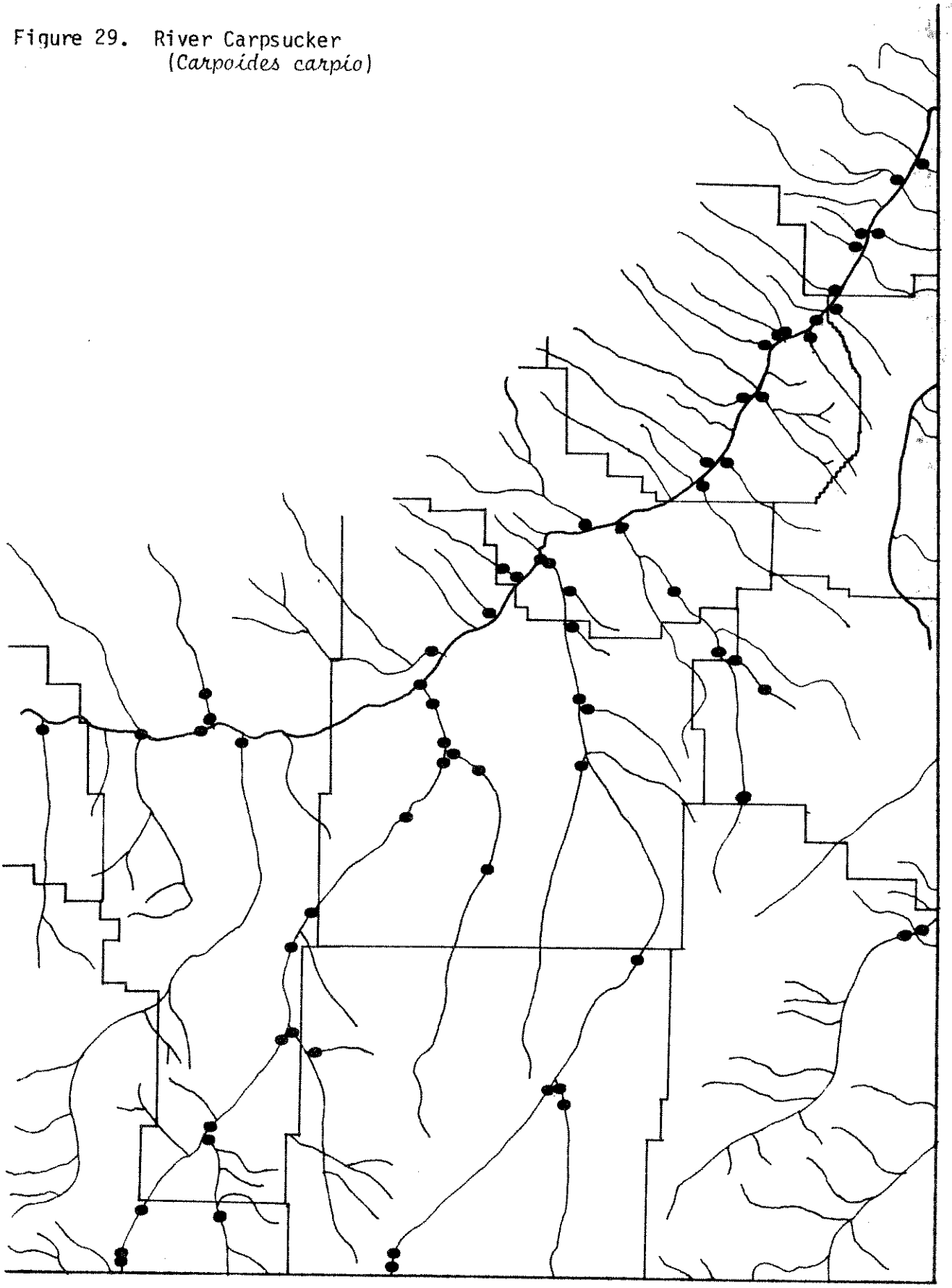


Figure 29. River Carpsucker
(*Carpoides carpio*)



BLUE SUCKER

The blue sucker is apparently rare in southeastern Montana. Its distribution is confined to large streams and rivers. The blue sucker has been removed from the state list of fishes of special concern because of recent documentation of high population levels in the Missouri drainage.

Sites: 2-5, 35, 36, and 125.

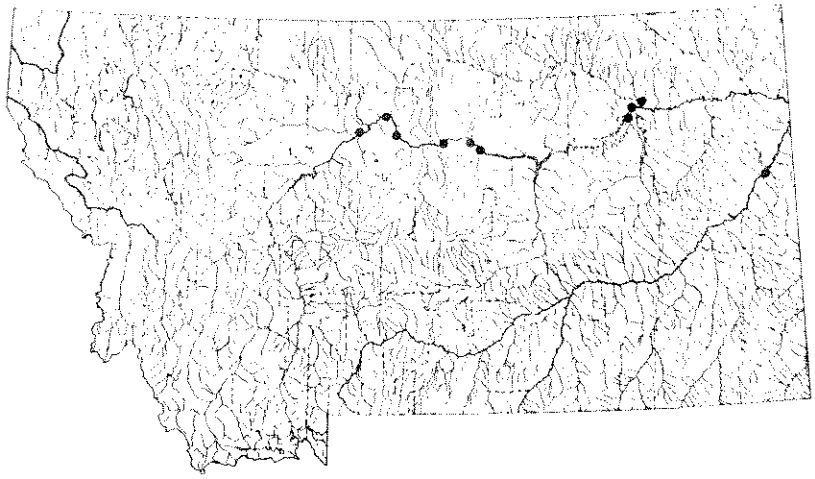


Figure 30. Blue Sucker
(*Cycleptus elongatus*)

SMALLMOUTH BUFFALO

This species is not common in southeastern Montana. It was found at only about 6% of the sites in this report. The smallmouth buffalo has been collected mainly from larger streams and rivers. Brown (1971) listed one site on Rosebud Creek for this species.

Sites: 1-5, 35, 55, 110,120,125,127,147,150,156, 166, 180, 187, 189 and 204.

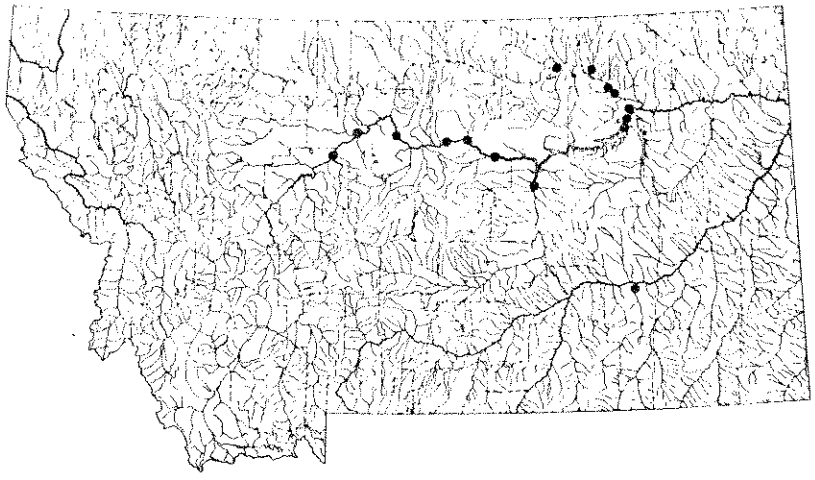
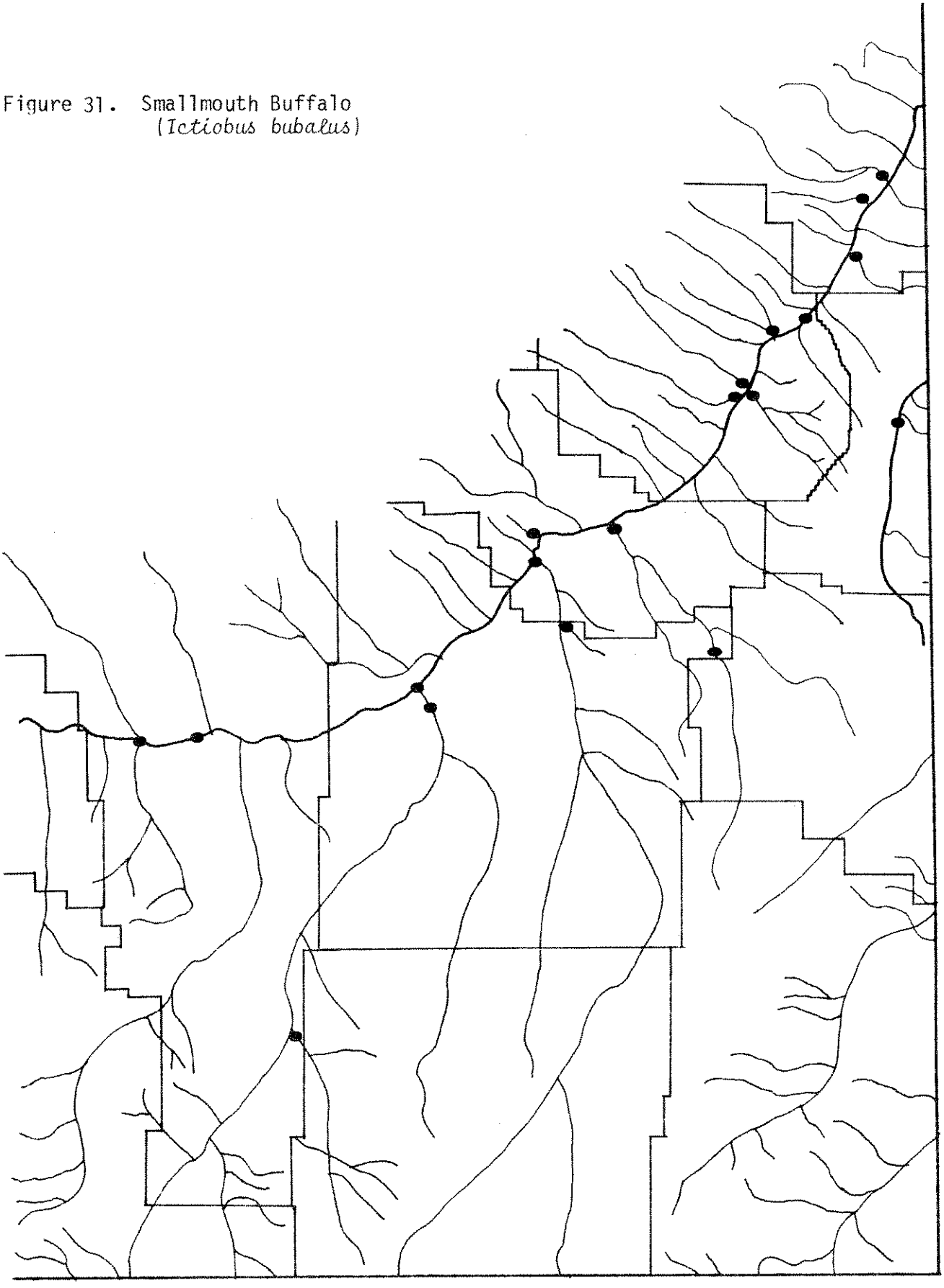


Figure 31. Smallmouth Buffalo
(*Ictiobus bubalus*)



BIGMOUTH BUFFALO

Although this species occurs throughout the lower mainstem Yellowstone River, its distribution in the smaller rivers and streams of southeast Montana is limited. The bigmouth buffalo was collected at only about 2% of the sites in this report. Brown (1971) listed no sites for this species in southeastern Montana.

Sites: 1-5, 35, 125, 166, 175, 176 and 184.

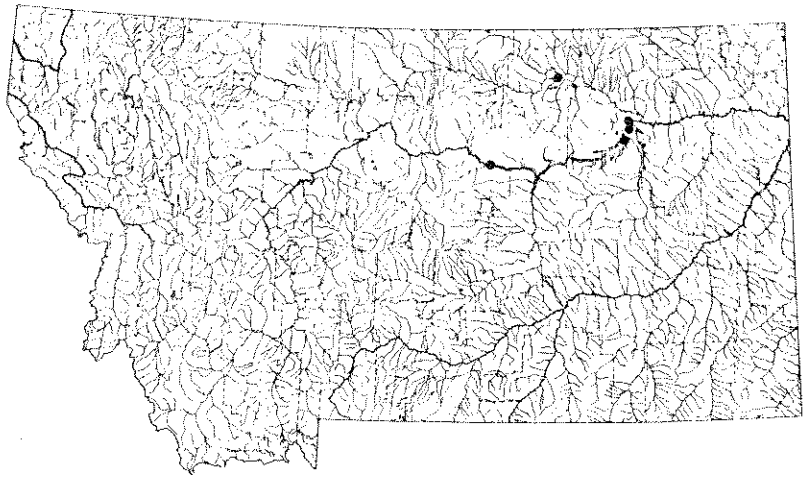
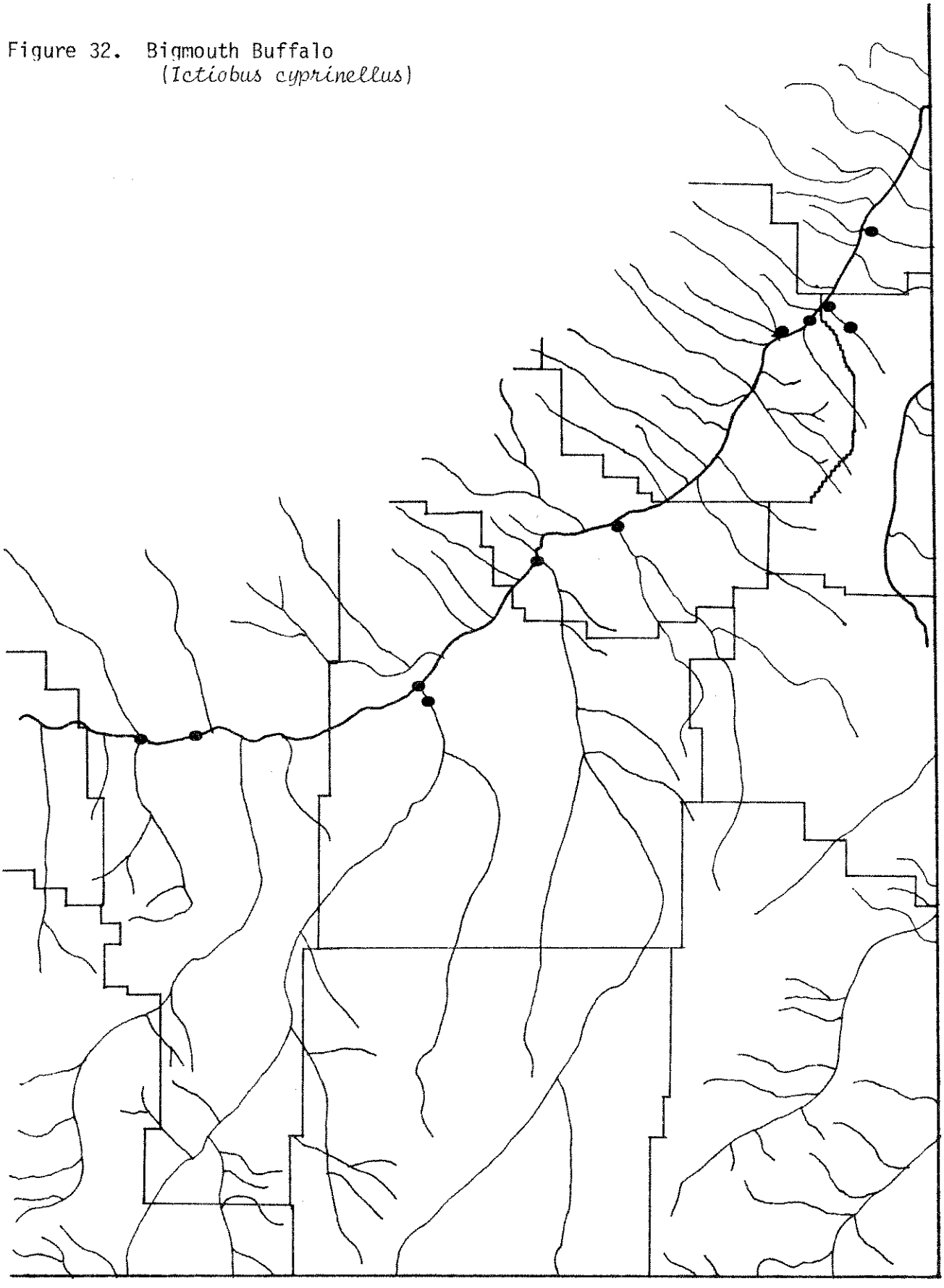


Figure 32. Bigmouth Buffalo
(*Ictiobus cyprinellus*)



SHORTHEAD REDHORSE

This species is widely distributed in the larger streams in southeastern Montana. It is locally abundant. The shorthead redhorse is the most common fish in the mid-section of the Tongue River, sites 40 to 43 (Clancey 1980).

Sites: 1-7, 17.1-25, 35-50, 52, 53, 55-59, 63, 66, 73-75, 78, 101, 106, 107, 115, 117, 121, 125-128, 134, 139, 141, 147, 156, 166, 174, 175, 177, 180, 184, 187, 202-213, 224.1-224.5, 225, 225.2, 227, 227.1, 228 and 233.

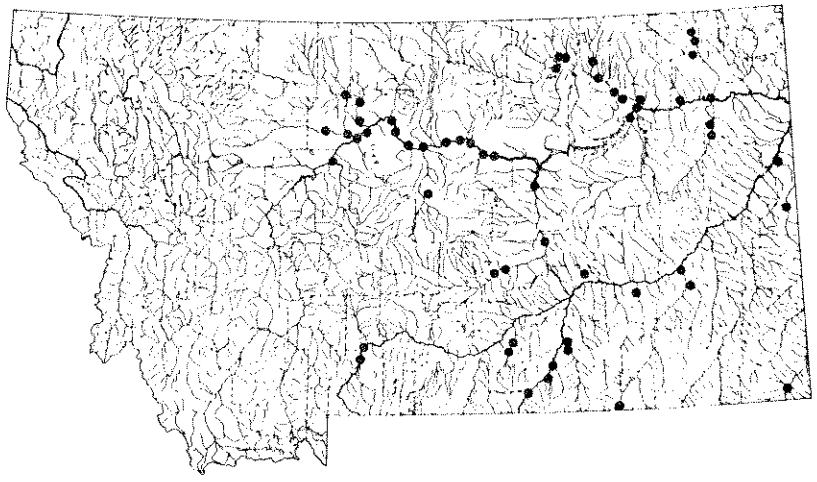
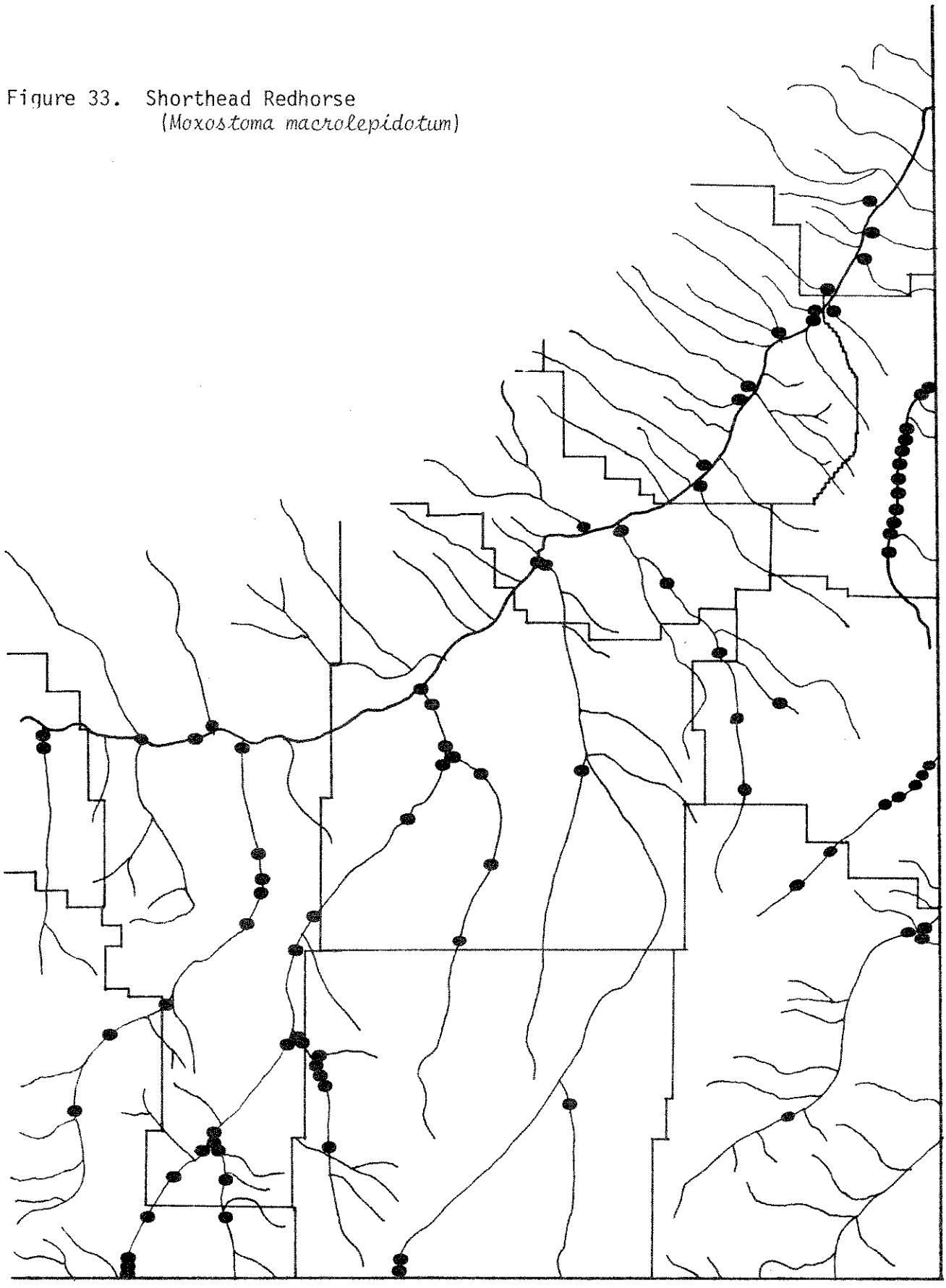


Figure 33. Shorthead Redhorse
(*Moxostoma macrolepidotum*)



LONGNOSE SUCKER

This species is common in the cold water streams of western Montana. In the southeastern part of the state, the longnose sucker is found mainly in the larger and cooler streams.

Sites: 2-7, 16, 18, 35-47, 73, 86, 87, 97, 108, 116, 125, 126, 127, 135, 139, 147, 158, 165, 166, 174, 187, 189, 197 and 227.

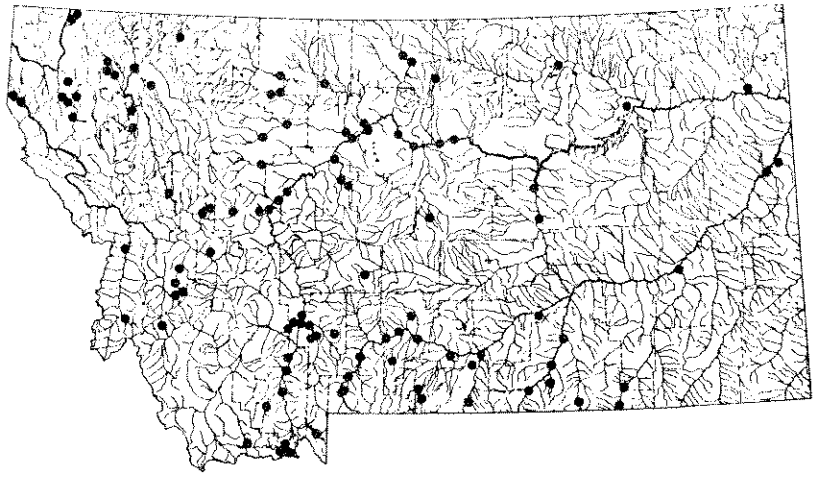
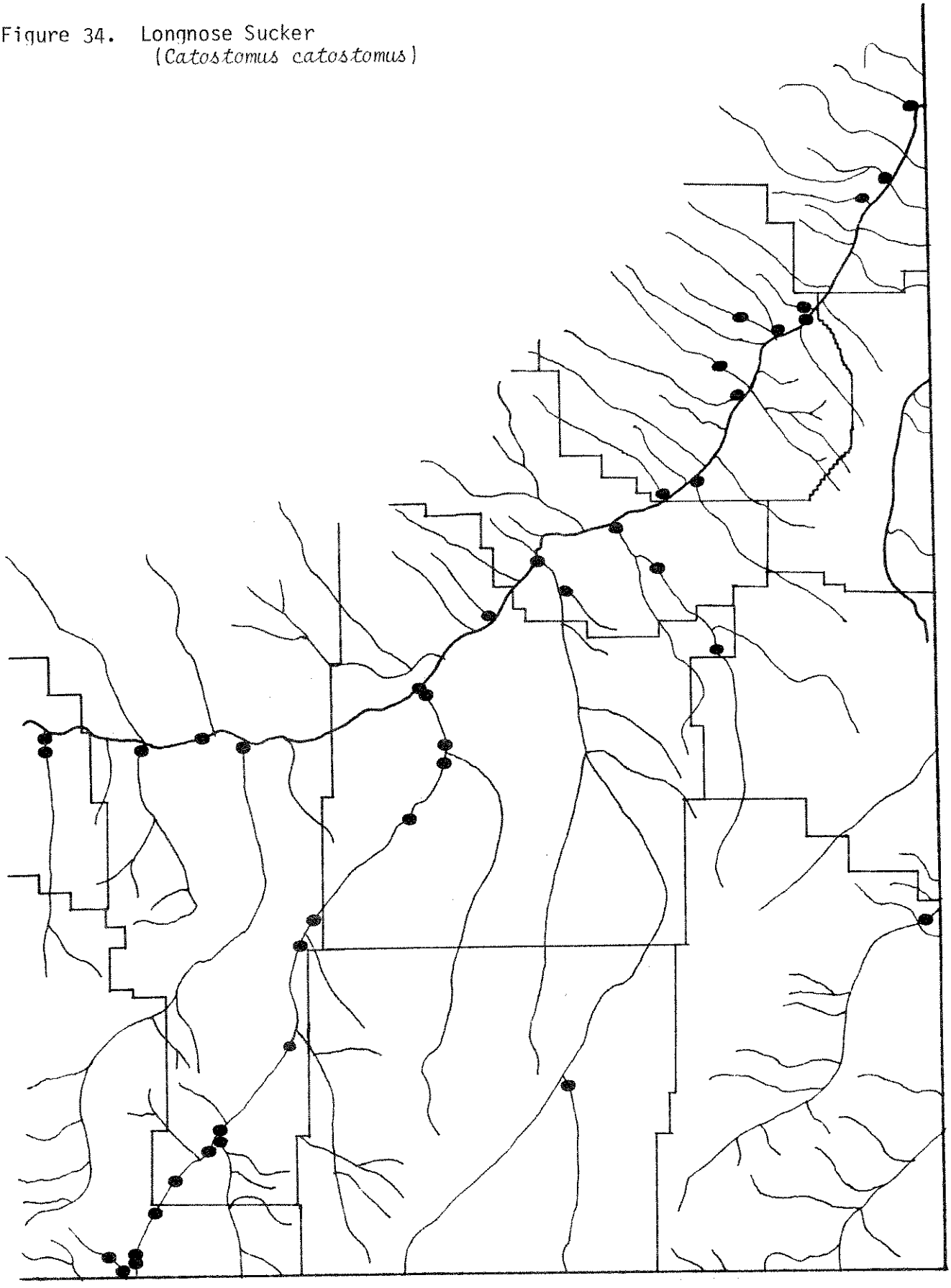


Figure 34. Longnose Sucker
(*Catostomus catostomus*)



WHITE SUCKER

The white sucker is widely distributed and abundant in southeastern Montana. It was collected at about 73% of the sites in this report, ranking it as the most common species.

Sites: 1-10, 12-14, 16,17,18-50, 52, 53, 55-69, 71-81, 83, 85-89, 96-100, 108-118, 121-144, 146-148, 151-153, 156-172, 174-183, 184, 186, 187, 189-198, 200, 202-219, 222, 223, 224.1-226.2, 227, 233 and 233.1.

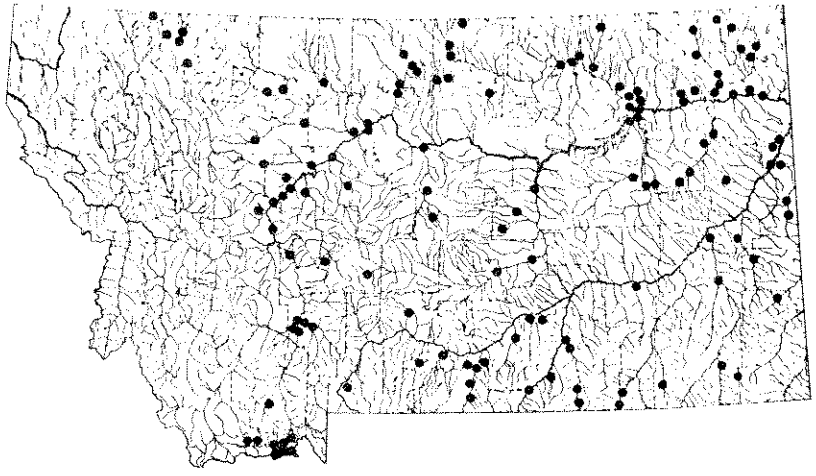
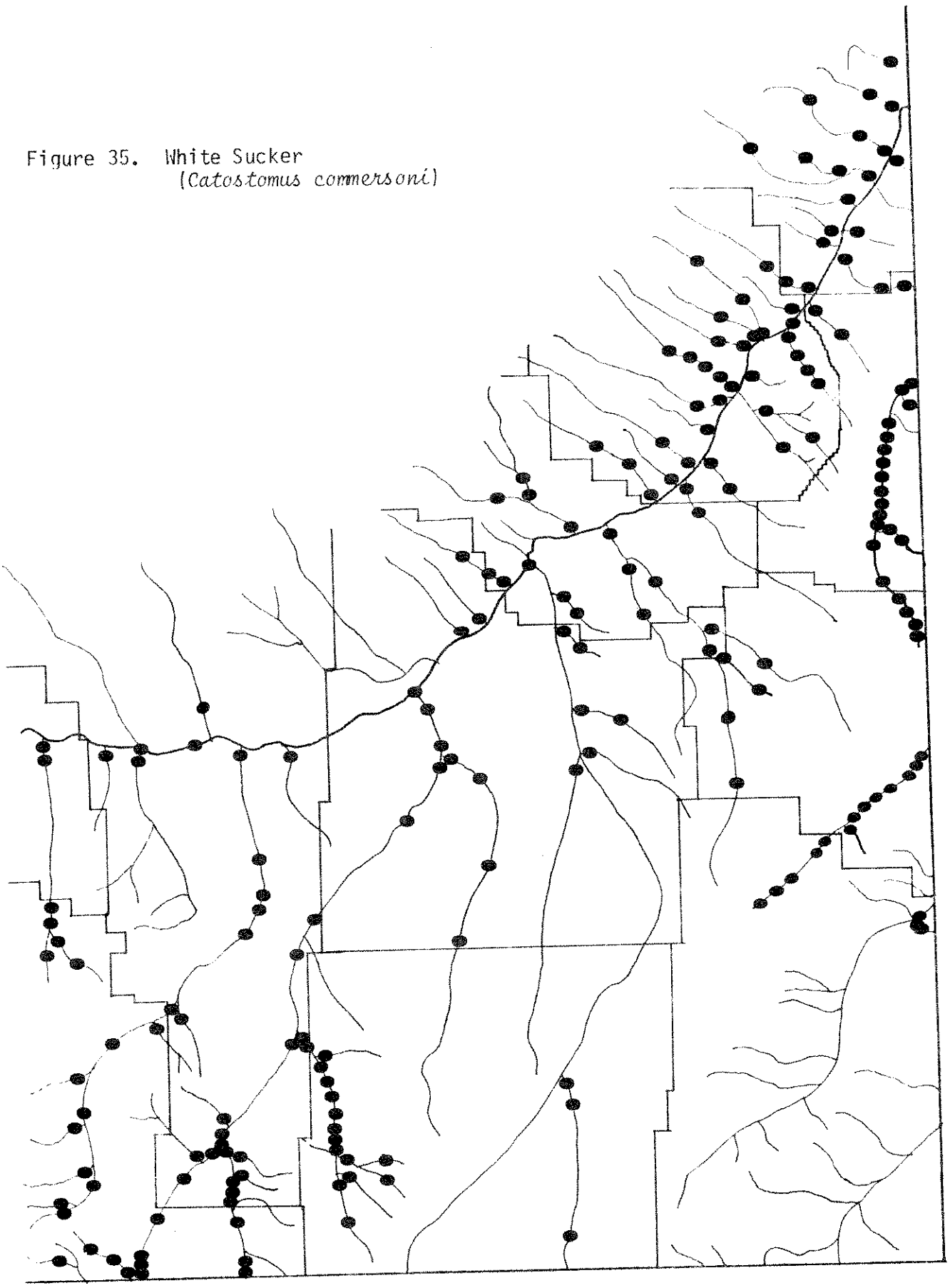


Figure 35. White Sucker
(*Catostomus commersoni*)



MOUNTAIN SUCKER

This species is common in the Rosebud and Tongue River drainages, where it finds the cool clear waters it prefers. With the exception of these streams and the Yellowstone River, the mountain sucker is rare in this corner of the state.

Sites: 1-7, 18-27, 30, 31, 36, 38-41, 43-45, 49, 50, 86, 121,125,142,163,167, and 168.

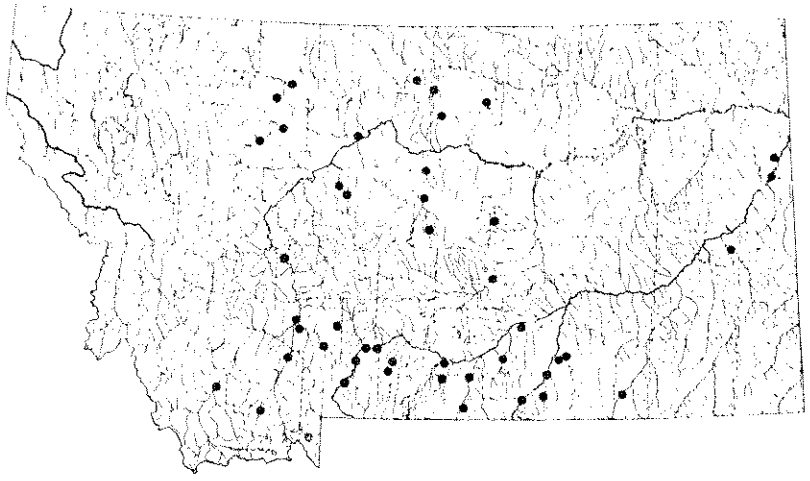
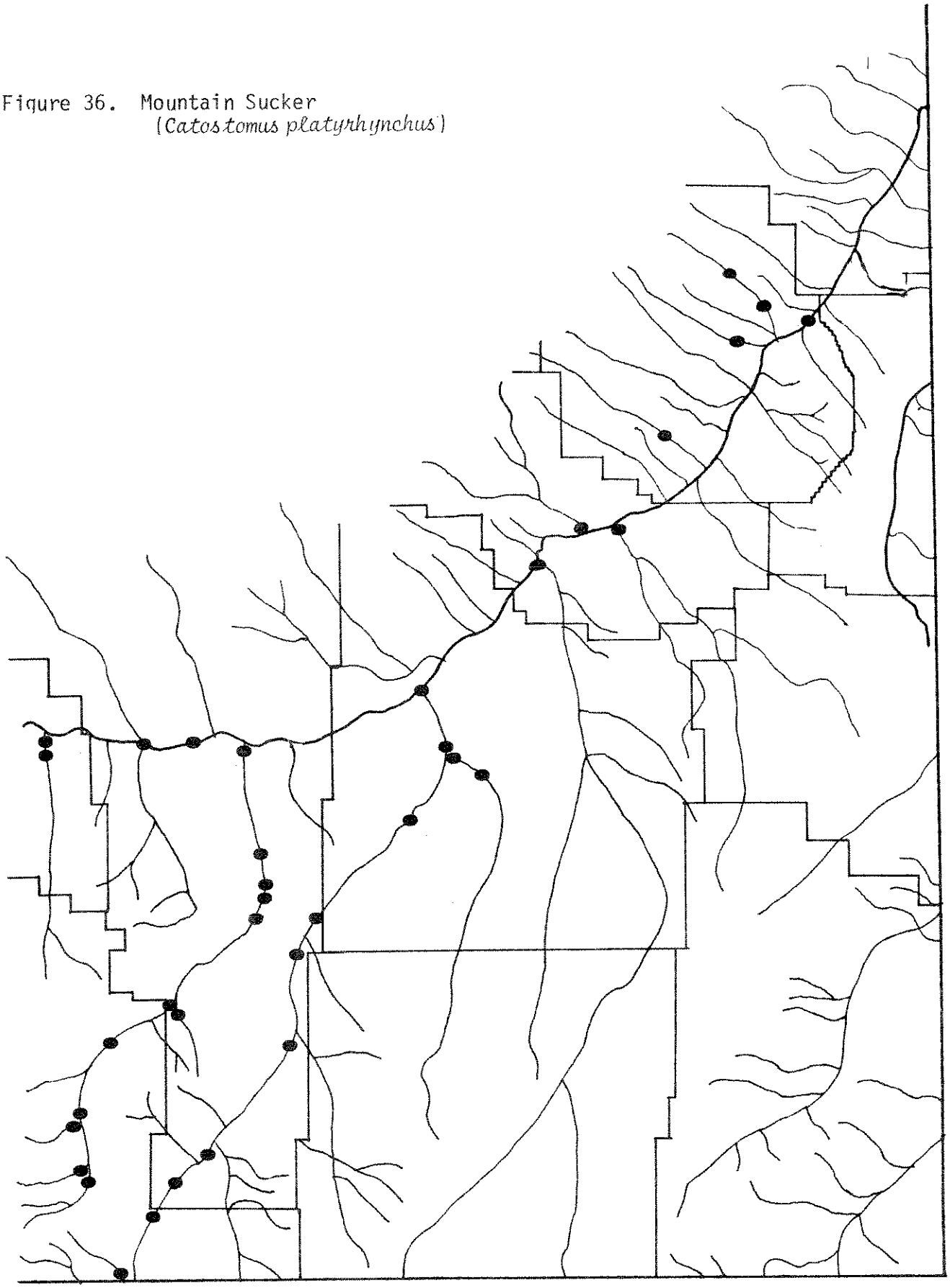


Figure 36. Mountain Sucker
(*Catostomus platyrhynchus*)



BLACK BULLHEAD

This species is widely distributed and abundant in southeastern Montana. It was collected at almost 1/3 of the sampling sites in this report. Habitats in which it was found varied from large rivers to pools in small intermittent streams.

Sites: 2, 3, 6, 8-10, 15, 15.1, 18, 39, 40, 42, 45, 47, 52, 53, 55-63, 66, 72-76, 78, 86, 109, 111, 113-116, 118, 121, 126,127,129,133,134,140, 147, 149, 153, 157-160, 166, 174-176, 179-182, 184, 194-196, 198, 200, 202-204, 208-219, 222, 224.2, 224.7, 225.2-226.2, 227, 229, 233, 234, 236,237, 240, 247, and 251.

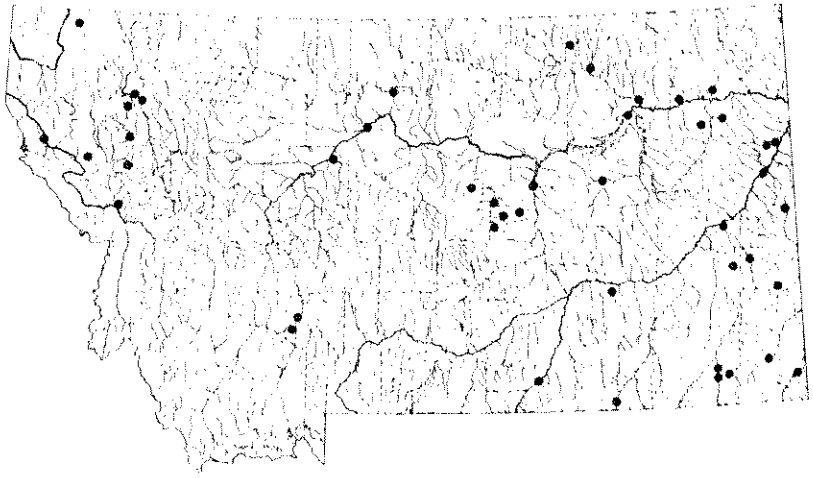
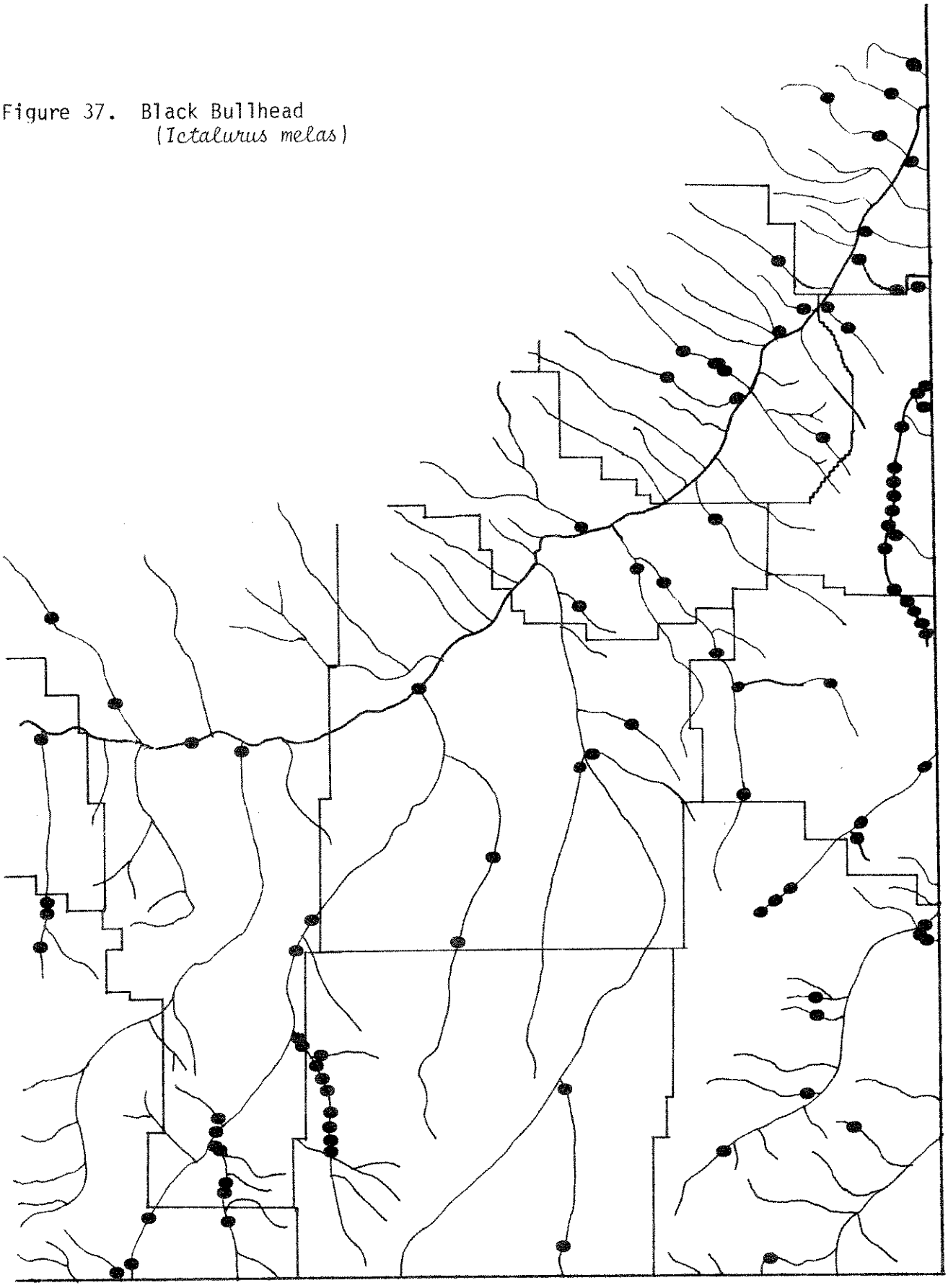


Figure 37. Black Bullhead
(*Ictalurus melas*)



YELLOW BULLHEAD

This species is only about 1/3 as widely distributed in southeastern Montana as the black bullhead. It was found in combination with the black bullhead in 20 of the 26 collection sites in this report. Brown (1971) listed only one site for the yellow bullhead in this part of the state.

Sites: 36, 39, 40, 42, 45-47, 55, 73, 75, 111, 114,129, 153, 157, 175, 177, 180-182,184, 196, 202, 205, 210, 212, 214, and 217.

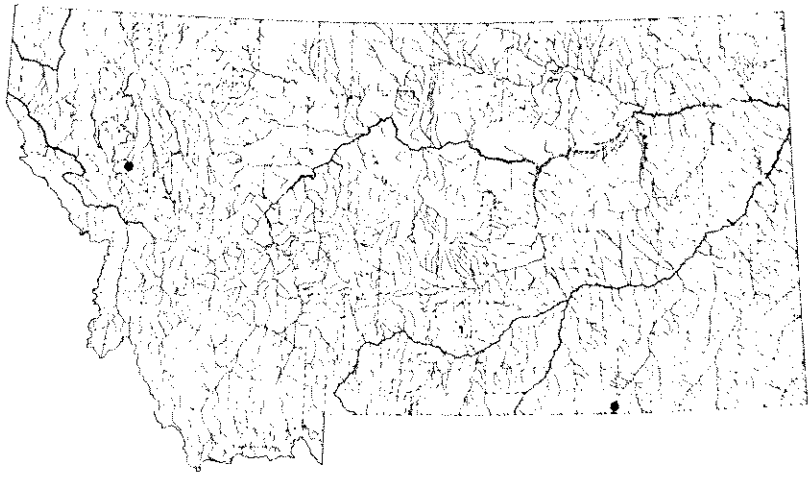
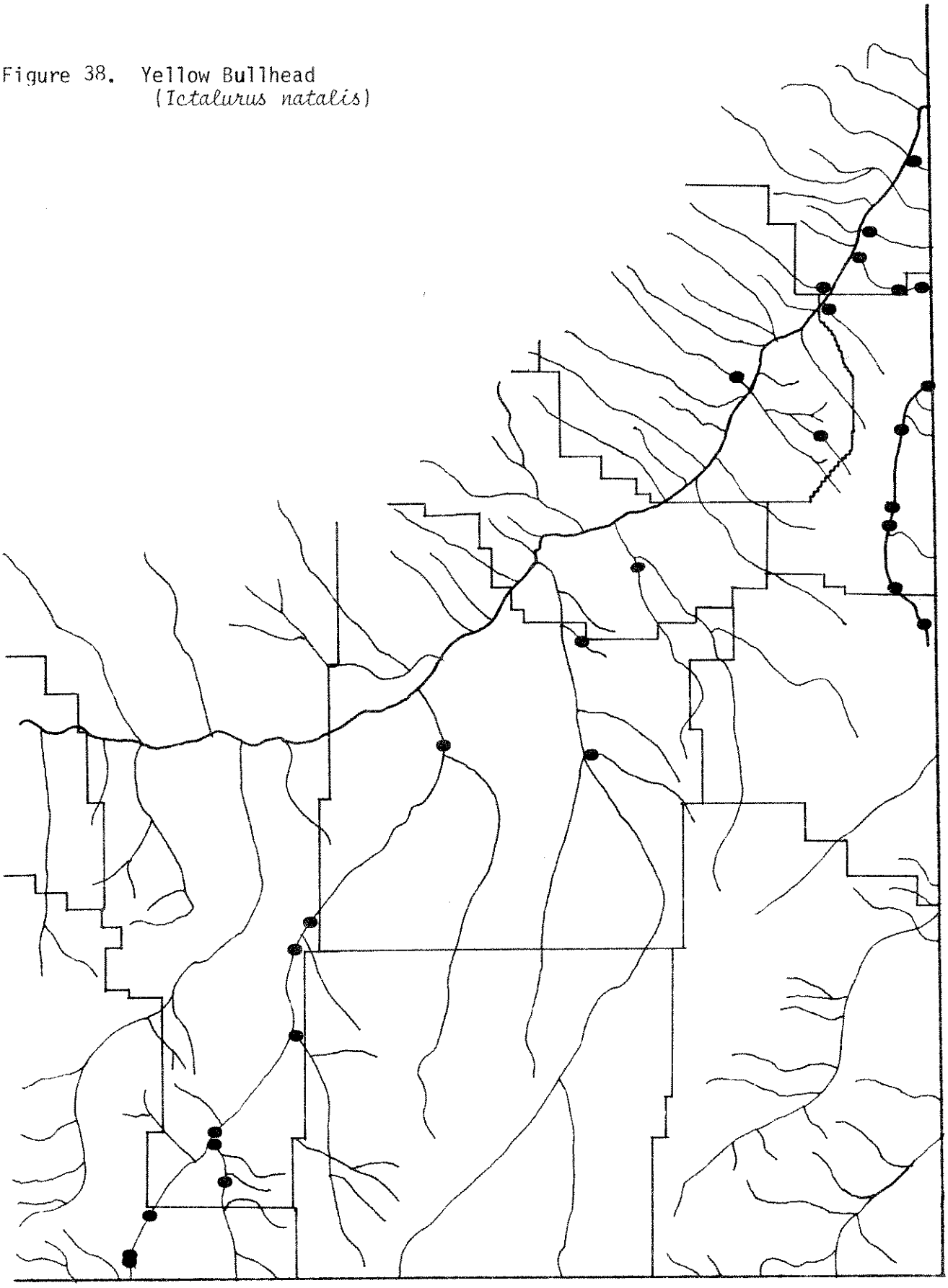


Figure 38. Yellow Bullhead
(*Ictalurus natalis*)



CHANNEL CATFISH

The channel cat is one of the major game fish in southeastern Montana. It was collected at only about 17% of the sites in this report, mainly in the larger rivers and creeks. Much of the sampling in the lower reaches of tributaries coincided with spring spawning migrations.

Sites: 1-5, 17-18, 35-38, 47, 49-52, 55, 56, 66, 73, 74, 91, 101-106, 115-118 125-127.1, 133, 139, 147, 156, 166, 175, 180, 187, 189, 197, 224.5, 227, 227.1 and 233.

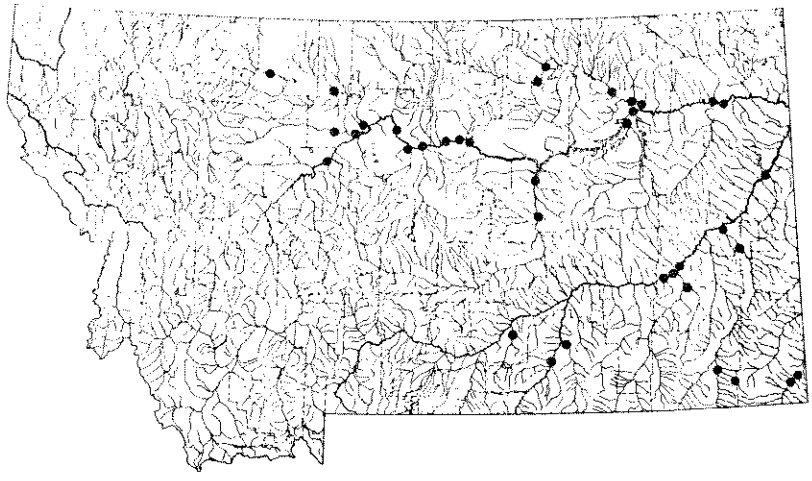
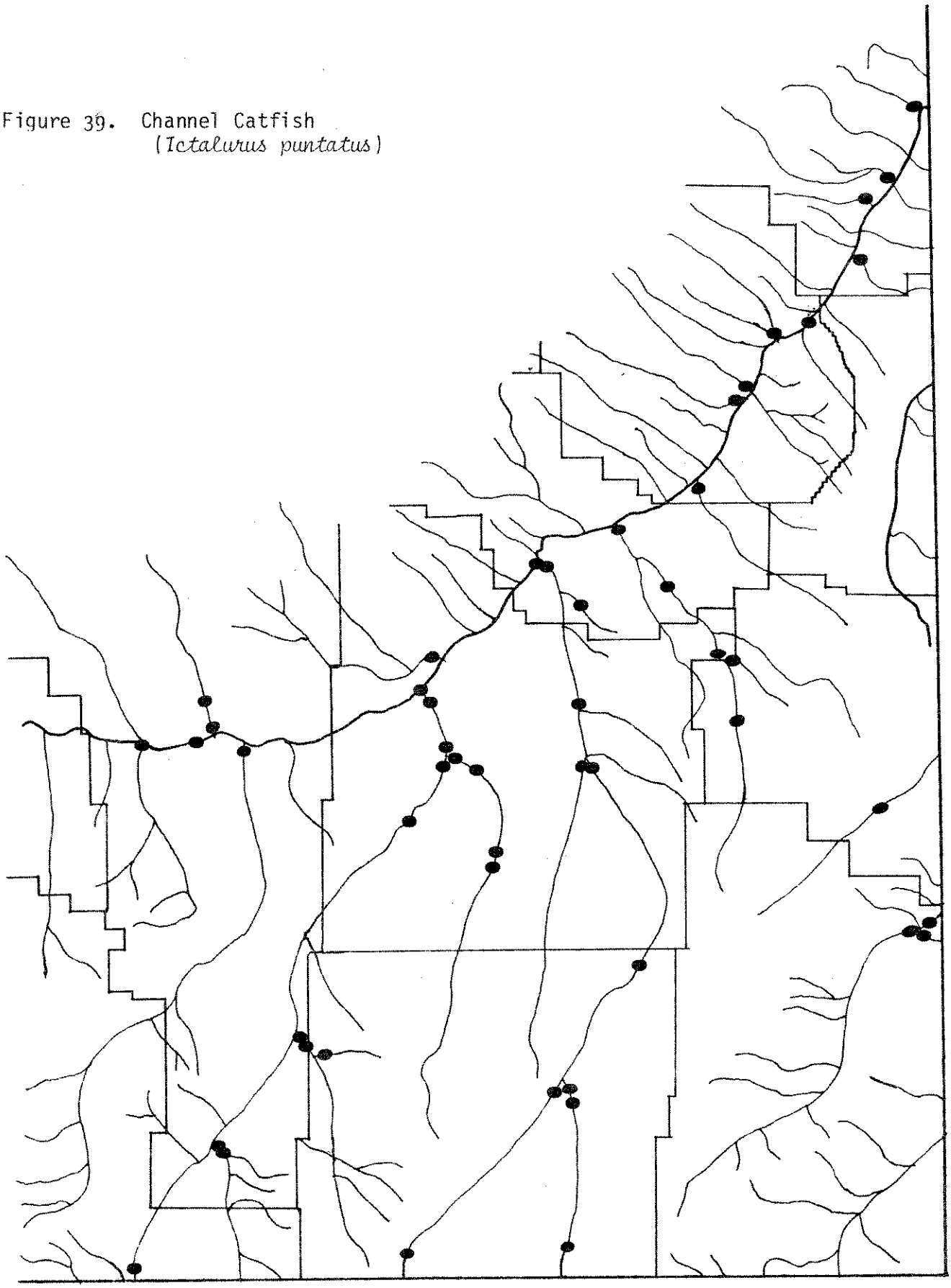


Figure 39. Channel Catfish
(*Ictalurus punctatus*)



STONECAT

This species has a fairly wide distribution in southeastern Montana. It was found at about 26% of the sites, mainly in flowing water over rocky substrates.

Sites: 1-6, 18-24, 35-50, 55, 56, 58, 63, 73, 74, 86, 97, 101-105,107 109, 117, 125 -127, 131, 133, 141, 146, 147, 156, 166, 169, 175, 181, 182, 189, 202, 204, 207-213, 224.1-224.7, 227, and 244.

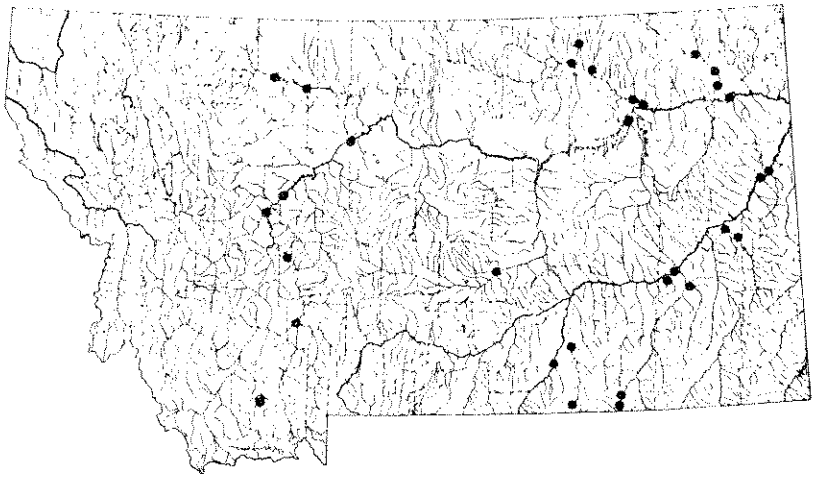
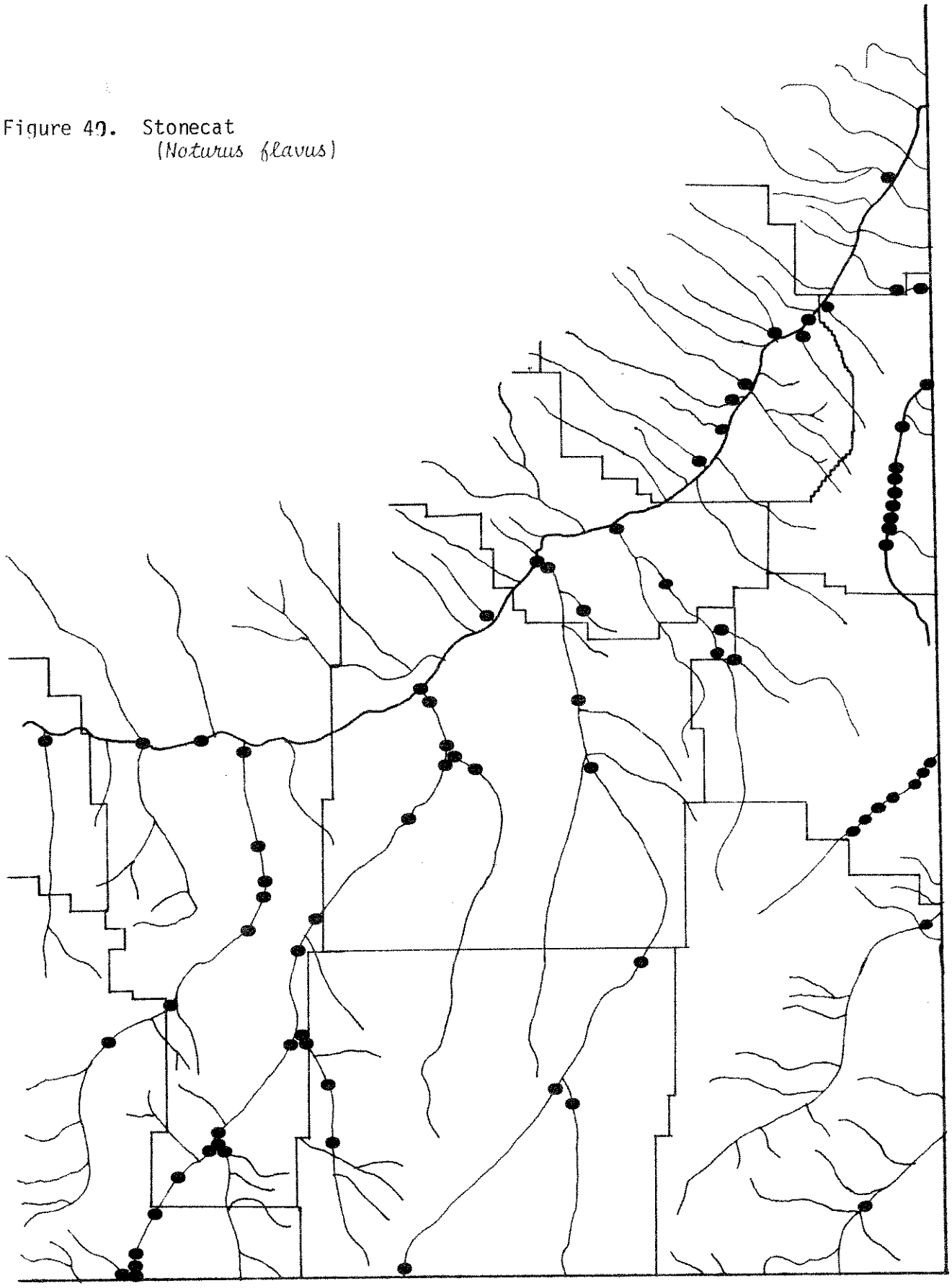


Figure 49. Stonecat
(*Noturus flavus*)



BURBOT

This species is found in the larger rivers of southeastern Montana. It was identified at approximately 5% of the sites. The burbot is a popular winter and spring game fish in southeasten Montana.

Sites: 1-5, 18, 35, 36, 38, 101, 102 and 157.

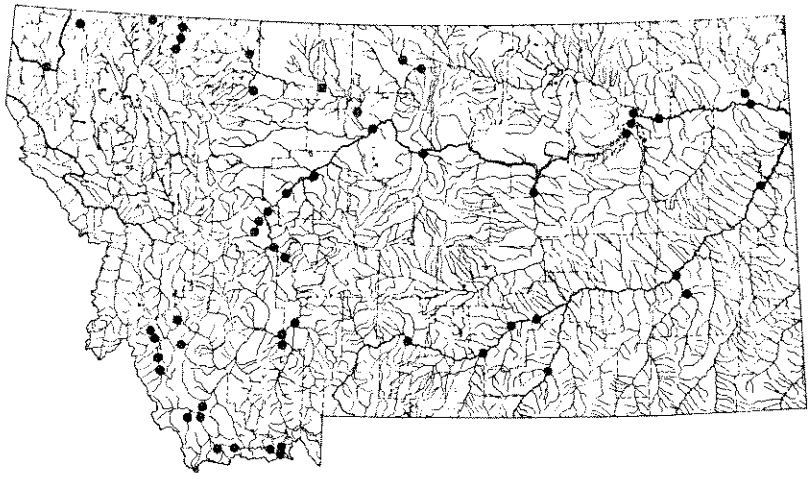
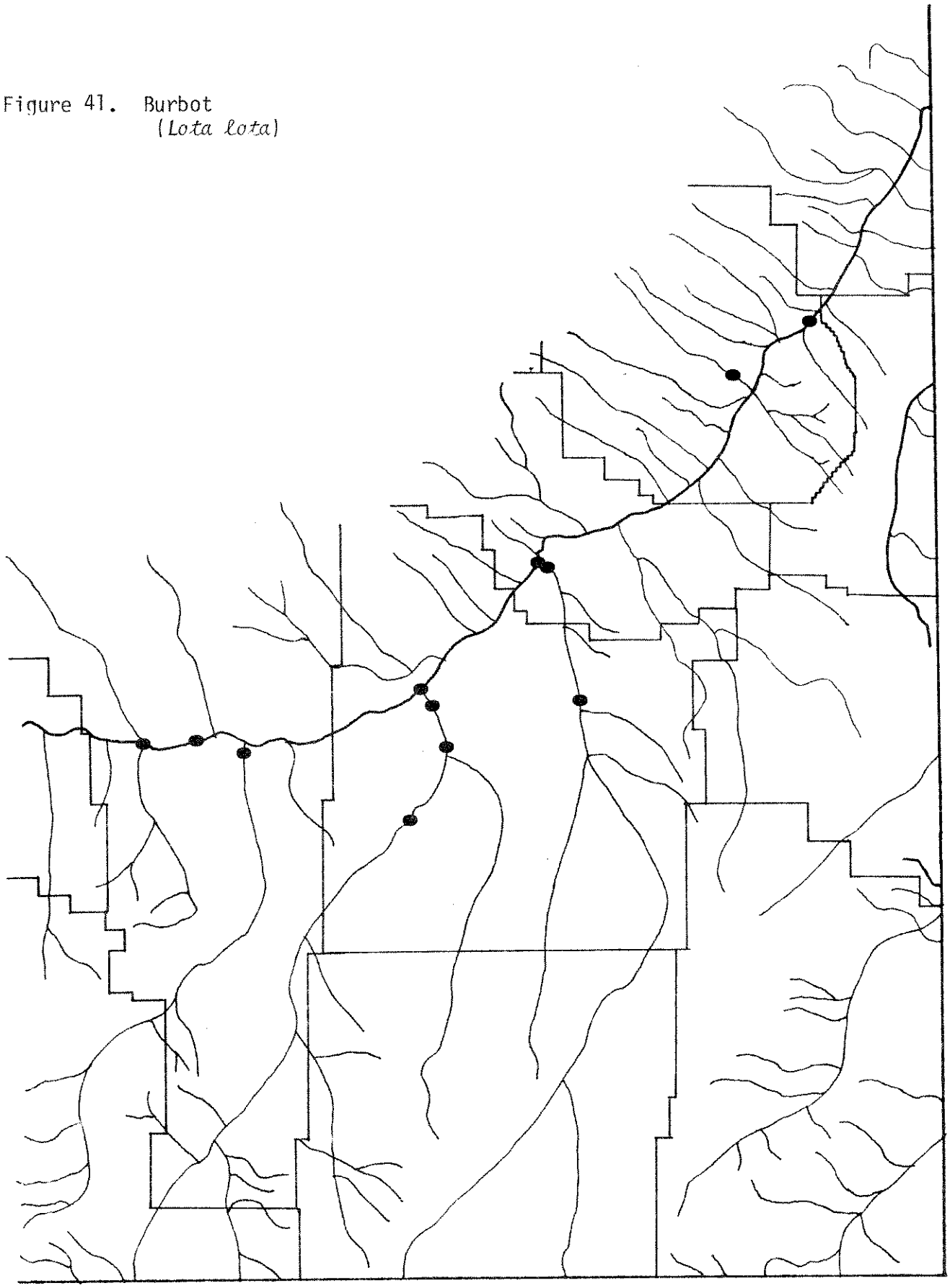


Figure 41. Burbot
(*Lota lota*)



PLAINS KILLIFISH

This species is more common in the lower Yellowstone drainage than was originally thought. Expansion of the known distribution of the plains killifish in Montana has warranted the removal of this fish from Montana's list of fishes of special concern. This species has been collected mainly in small clear water creeks. The killifish is usually locally abundant where found.

Sites: 16, 92-94, 96, 98-100, 119, 121, 125, 129, 135,136,138-140,143-145,147, 152, 157, 158, 161-164, 166, 169, 170, 175, 184, and 244.

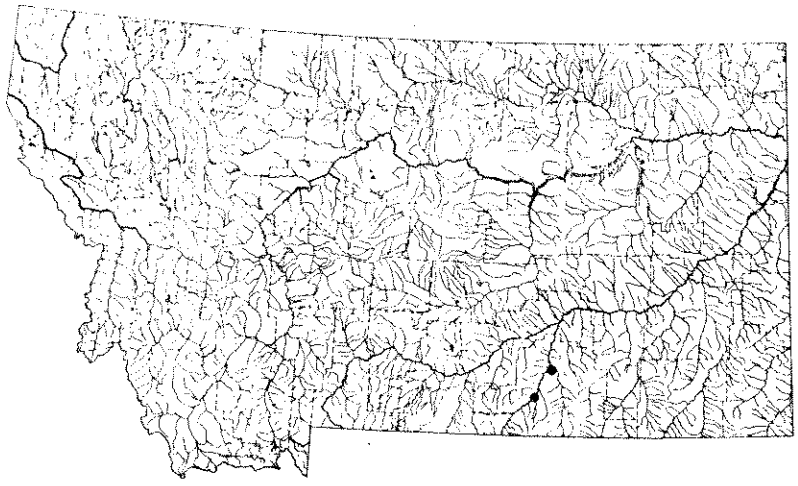
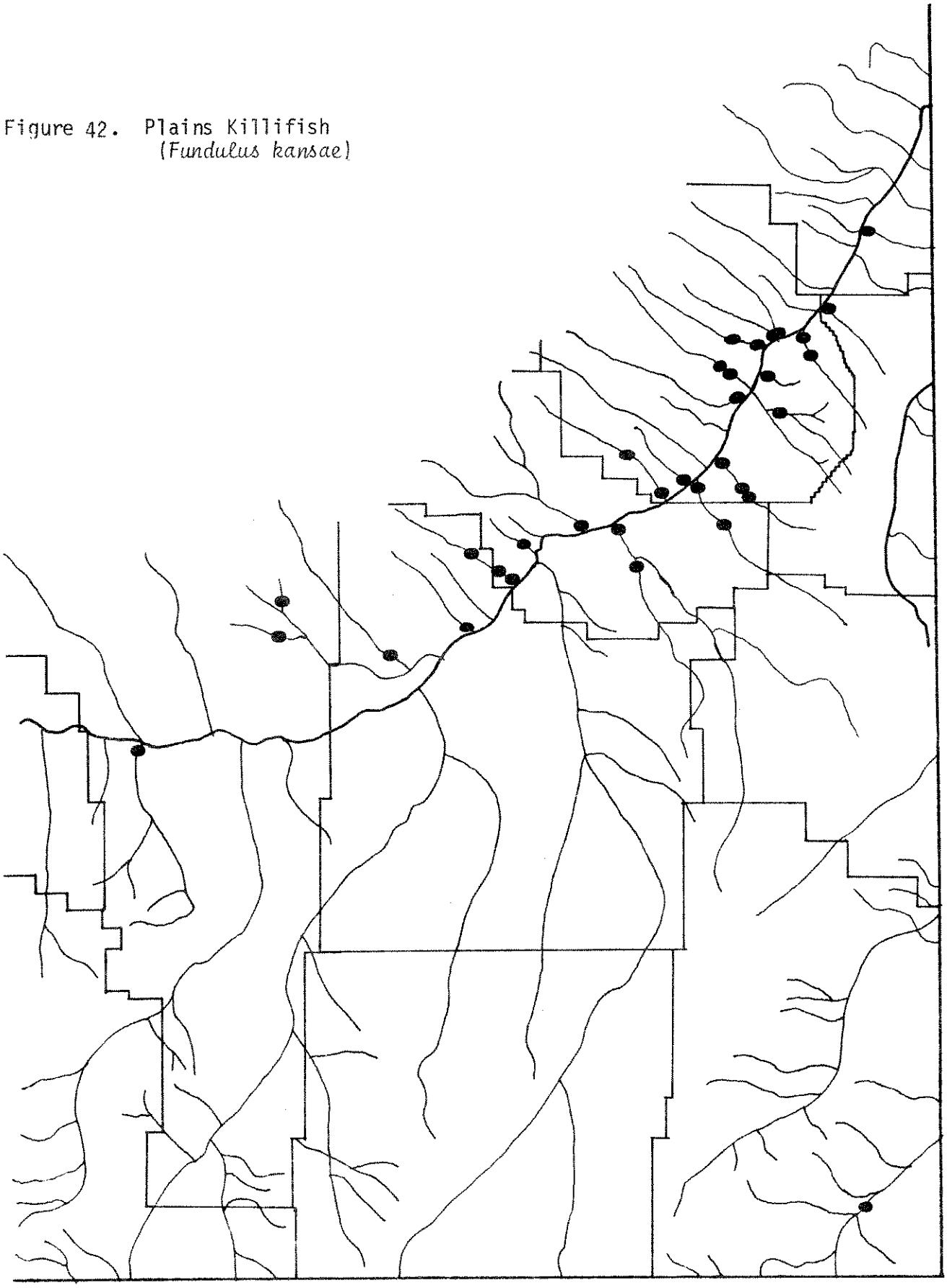


Figure 42. Plains Killifish
(*Fundulus kansae*)



MOSQUITOFISH

Mosquitofish have been collected at Angela Hotsprings which is located at the head of Lone Tree Creek. The year round survival of Gambusia in Montana is restricted to waters with thermal influences.

Sites: 95

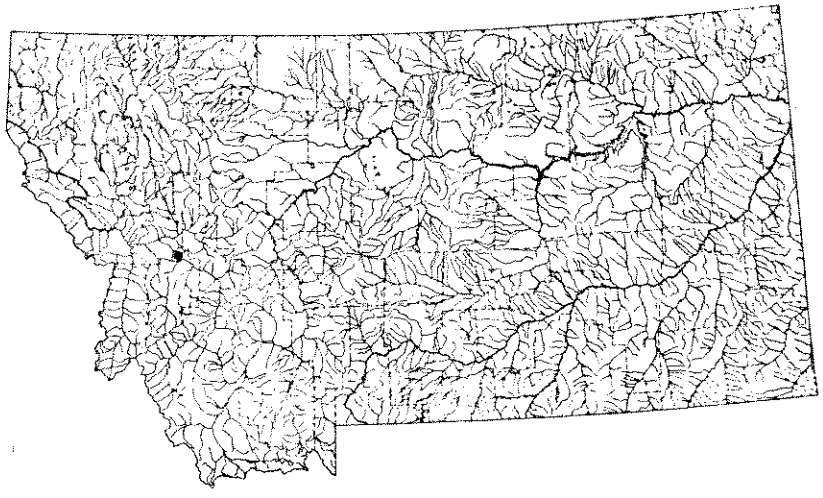
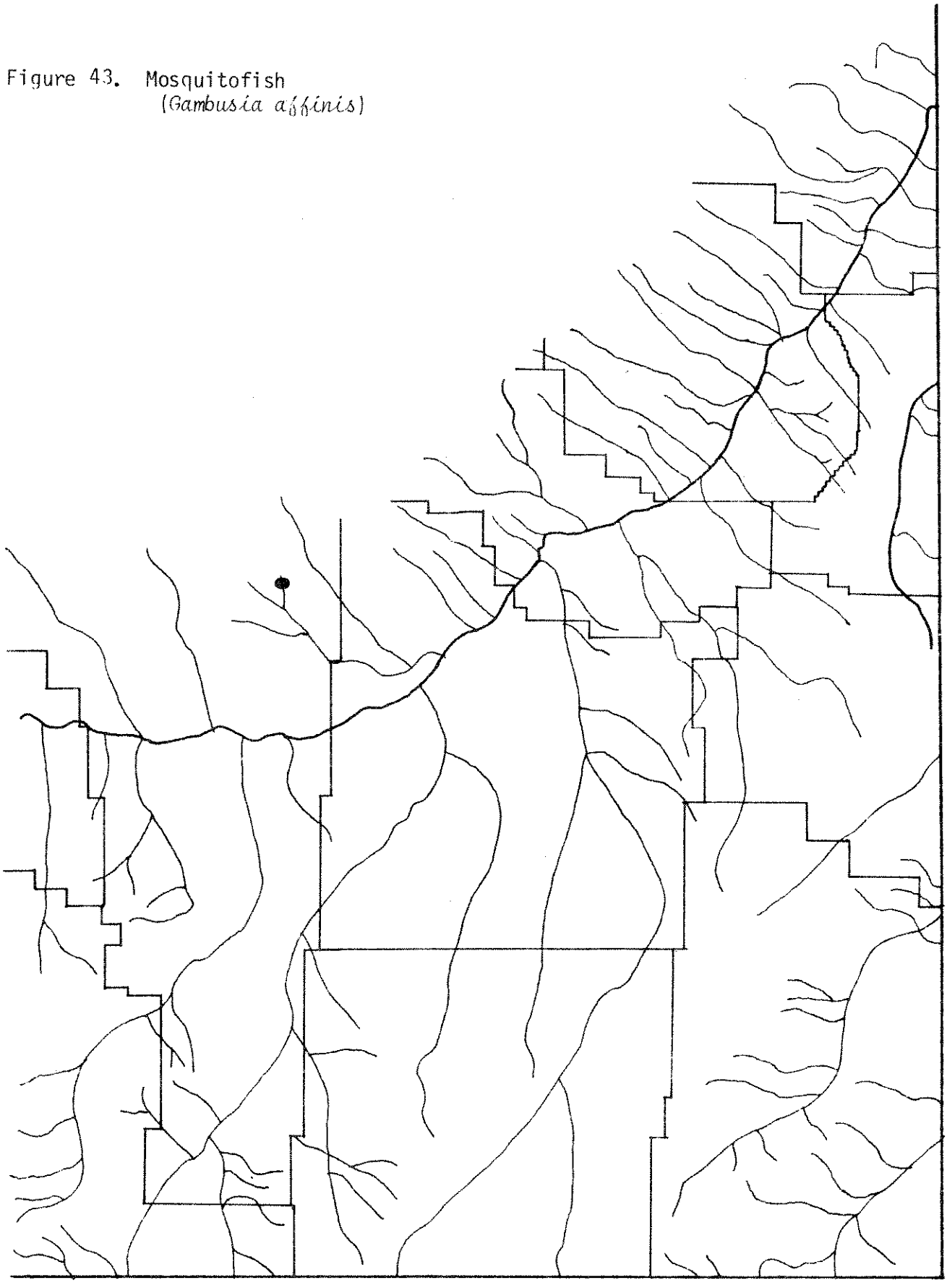


Figure 43. Mosquitofish
(*Gambusia affinis*)



BROOK STICKLEBACK

This species is normally found in small, clear, cool streams. It has been collected mainly in tributaries to the lower Yellowstone and in the Beaver Creek drainage. The apparent distribution of the stickleback does not extend very far up the Yellowstone drainage.

Sites: 113, 136, 137, 141, 142, 147, 150, 151, 153, 156, 160, 161, 164, 166-168, 174-176, 179, 182, 184, 185, 188, 189, 191, 194, 195, 197, 200, 201, 204, 210, 212, 213, 215-220, 222, 224, 224.3, 224.5-224.7, and 225.2-226.2.

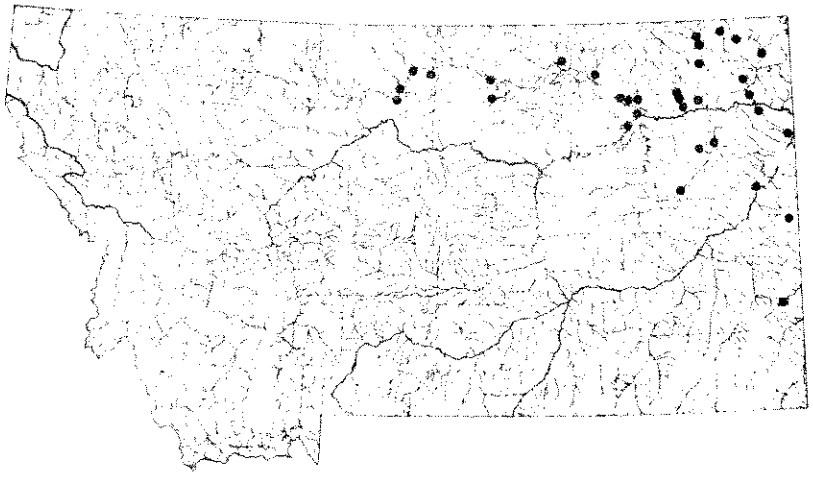
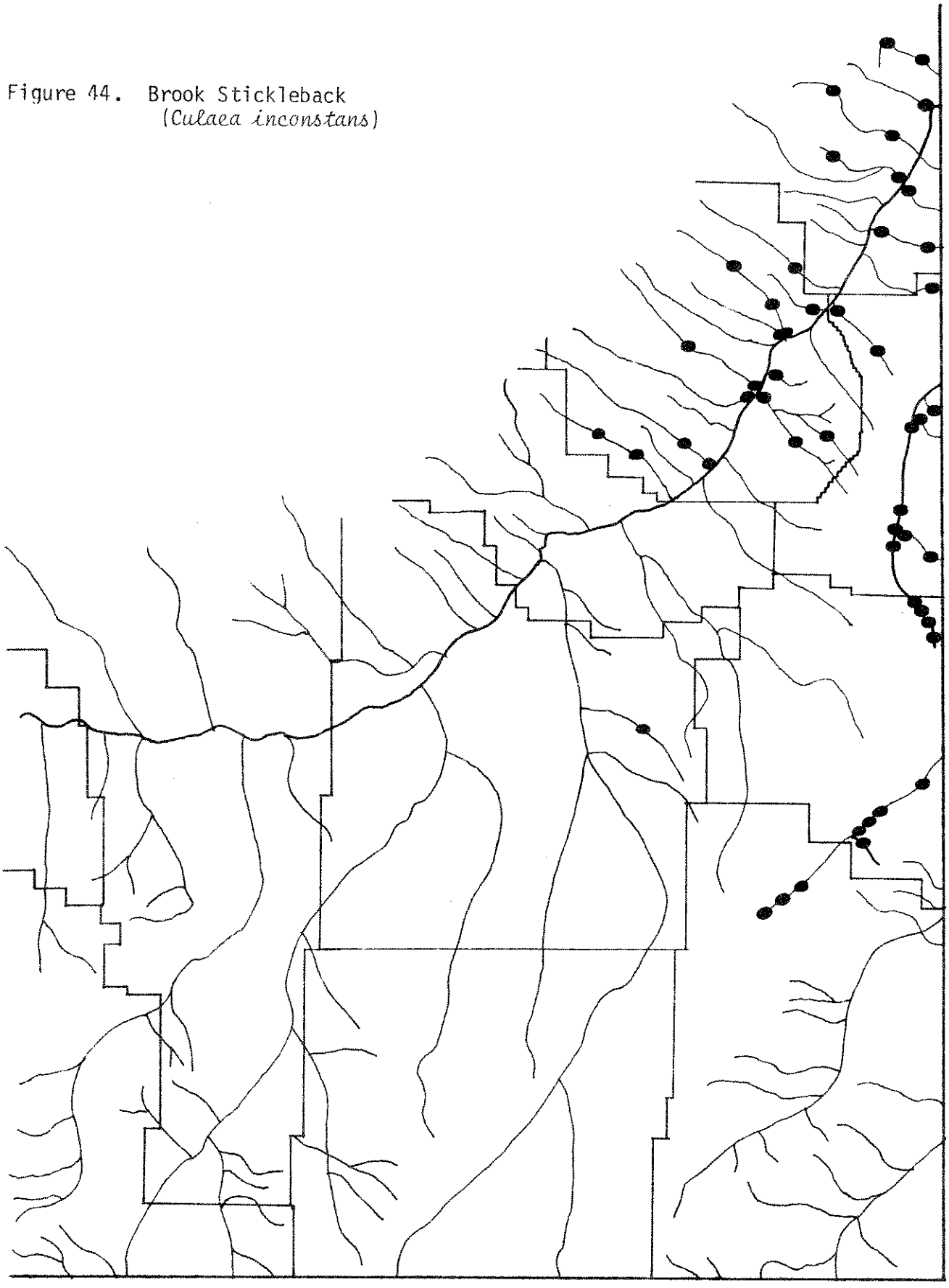


Figure 44. Brook Stickleback
(*Culaea inconstans*)



WHITE BASS

According to Brown, the white bass was not found in Montana. In 1978, Bob Needham, a Montana Fish and Game Department fisheries manager captured and released one white bass at the "dredge cuts" connected to the Missouri River just below Fort Peck Dam. In 1980, Penkal (personal communication) collected and identified one individual in the Yellowstone River at Seven Sisters Island. The presence of white bass in Montana may be due to an upstream movement of these fish from the Garrison Reservoir in North Dakota. Around 1968-69, forty-seven white bass were introduced to the reservoir as forage fish.

Site: 5

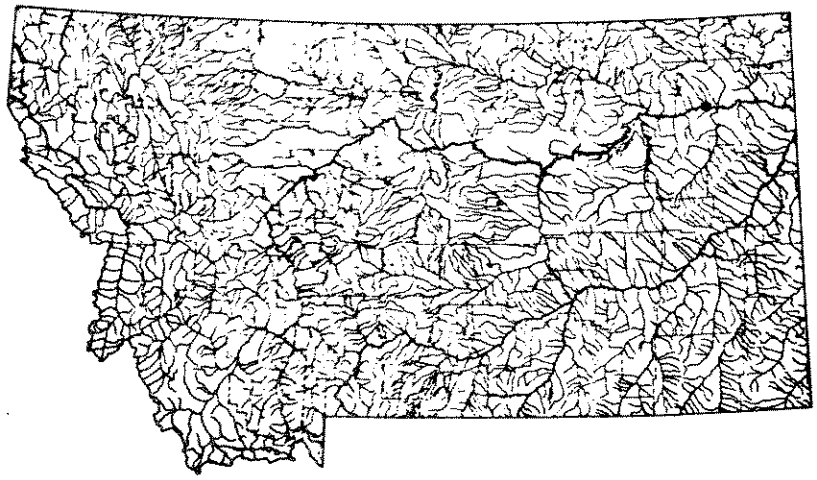


Figure 45. White Bass (*Morone chrysops*)

ROCK BASS

This species has been collected exclusively in the Tongue River and its tributaries in Montana. Rehwinkel (1978) collected rock bass in Clear Creek, a Wyoming tributary to the Powder River, entering the Powder near the state line. It is anticipated it will be found in the Lower Yellowstone River.

Sites: 4, 36-48, 55, 73 and 86.

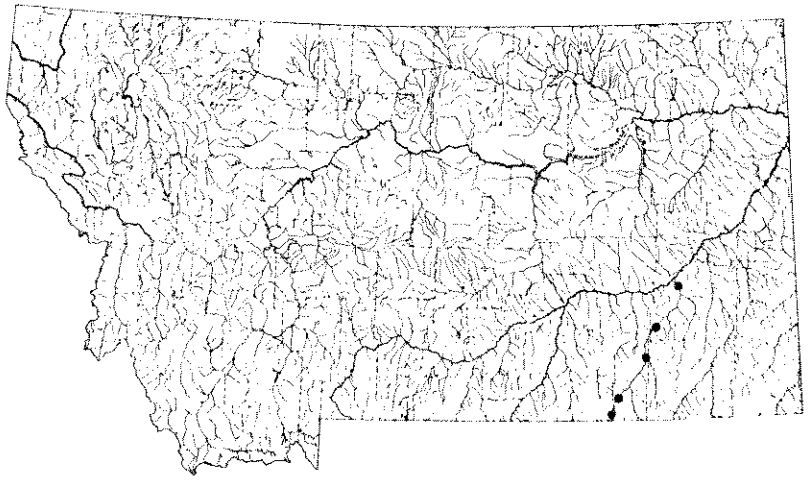
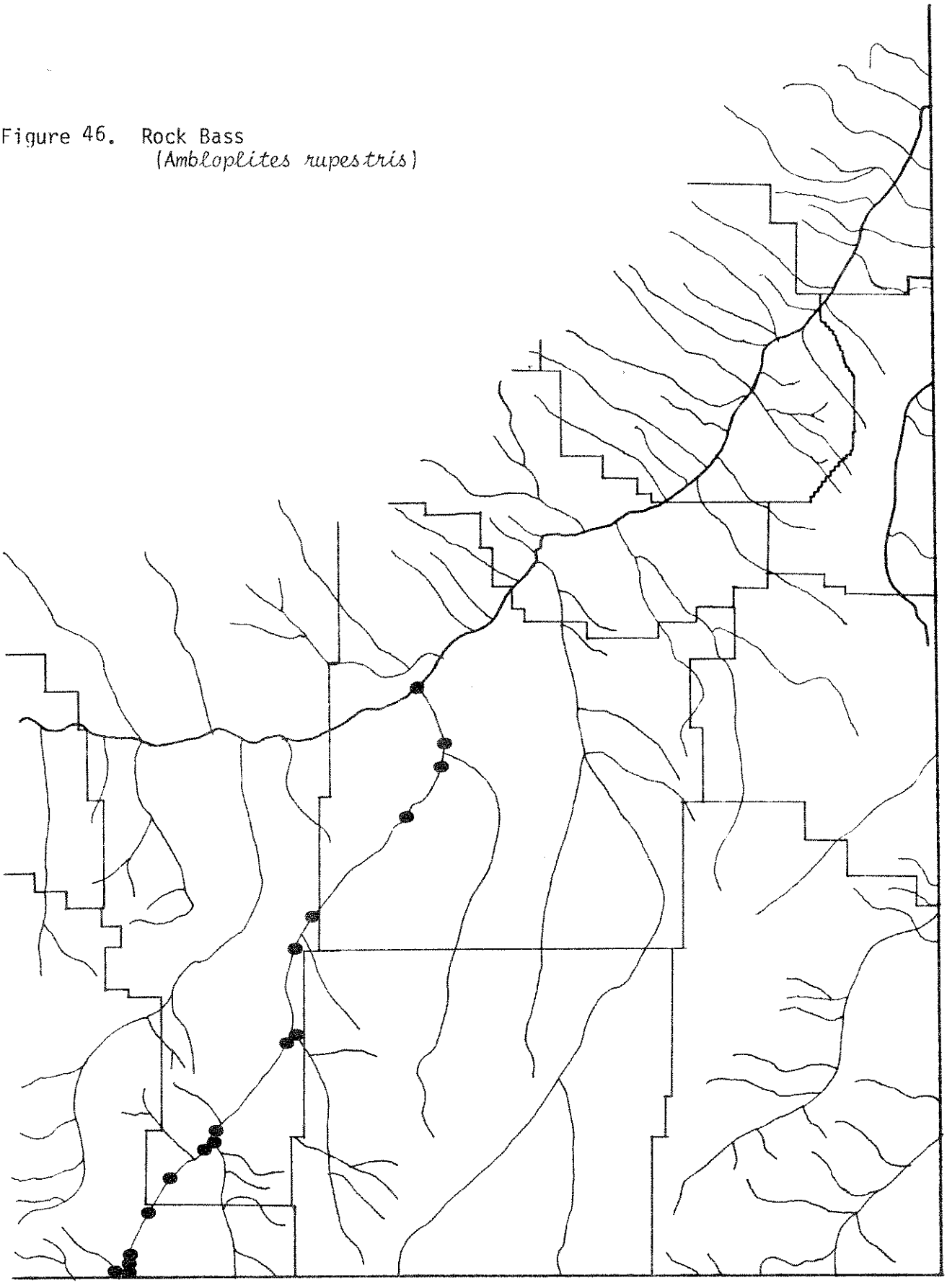


Figure 46. Rock Bass
(*Ambloplites rupestris*)



GREEN SUNFISH

This species is the most widely distributed of the sunfish family in southeastern Montana. It was collected at about 26% of the sites in this report.

Sites: 2, 6-10, 12, 14, 16-17, 34, 38-40, 42, 45, 47, 55, 56, 63, 66, 73-79, 81, 84, 90, 100, 102, 103, 108-110, 112, 115-118, 121, 123, 124, 125-129, 131-134, 136, 137, 139, 140, 142, 147, 148, 156, 157, 160, 166, 175, 179, 182, 207-210, 212, 213, 215, 224.1-226.2, 227, 227.1, and 233-235.

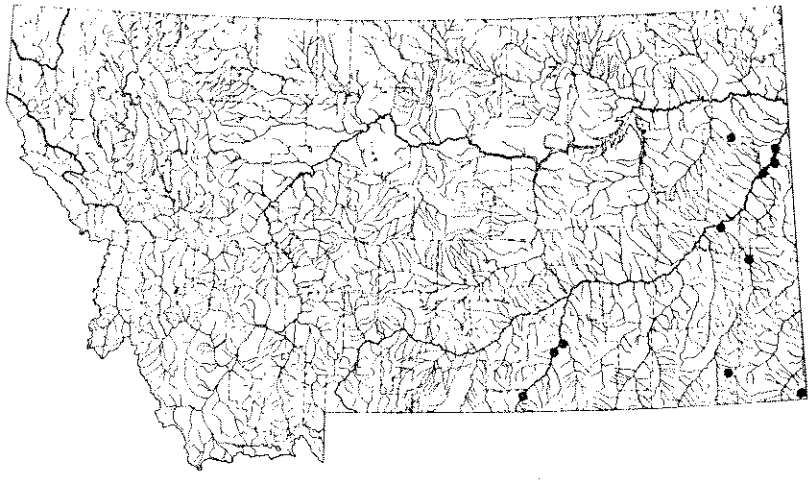
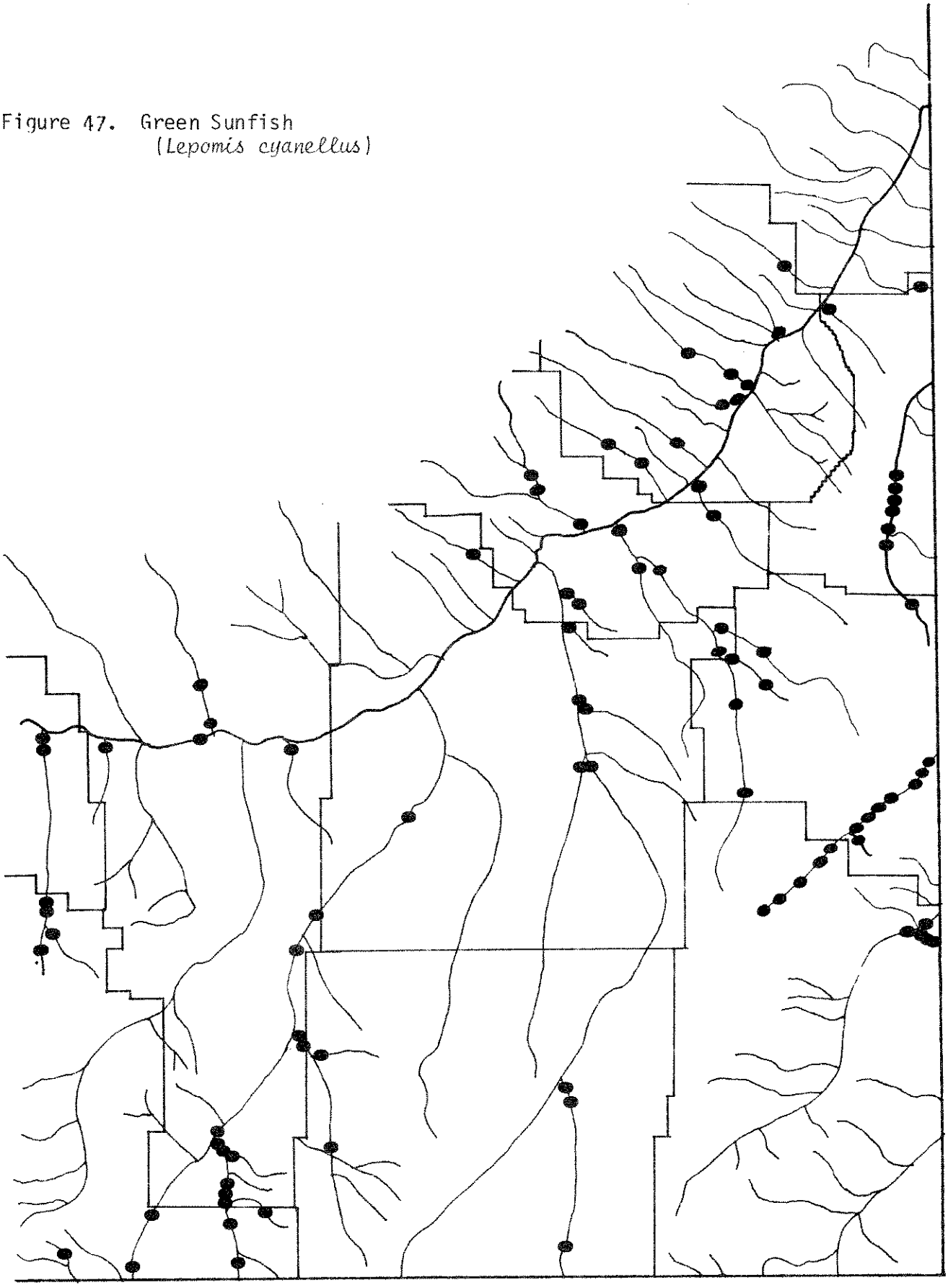


Figure 47. Green Sunfish
(*Lepomis cyanellus*)



PUMPKINSEED

This species has a scattered distribution in southeastern Montana reflecting it's wide utilization as a stock pond fish. It was collected at about 9% of the sites in this report.

Sites: 16, 34, 36, 42, 45, 47, 50, 55-63, 78, 79, 128, 148, 166, 175, 177, 215, 216, and 246.

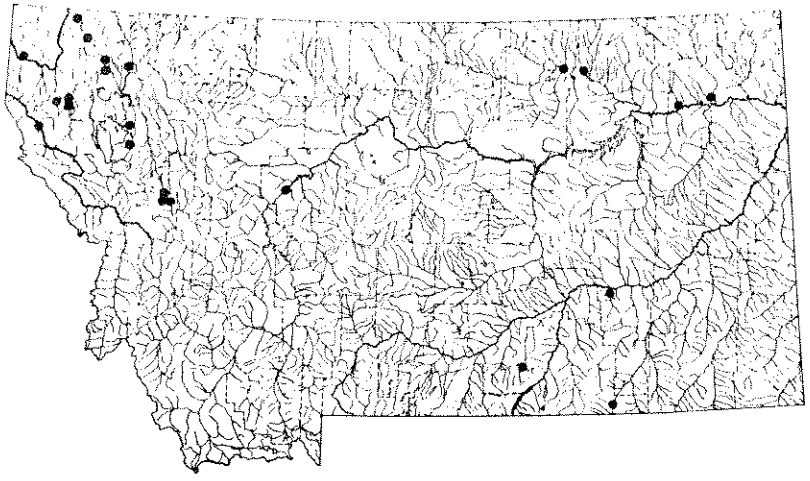
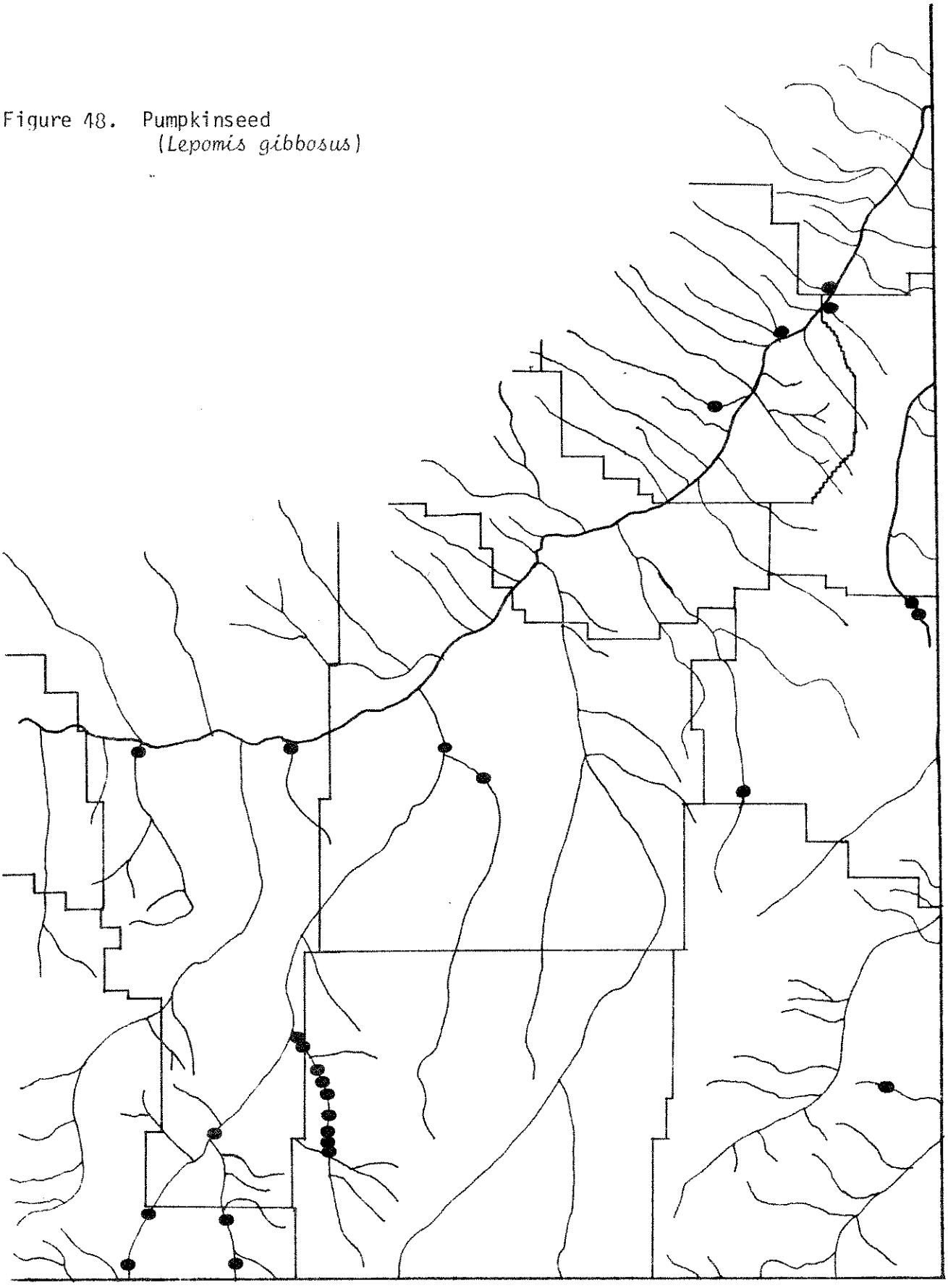


Figure 48. Pumpkinseed
(*Lepomis gibbosus*)



BLUEGILL

This species has a widely scattered distribution in southeastern Montana reflecting its utilization as a stock pond fish. At most sites it is found with other sunfish species.

Sites: 42, 50, 52, 74, 75, 78, 79, 81, 127, 194

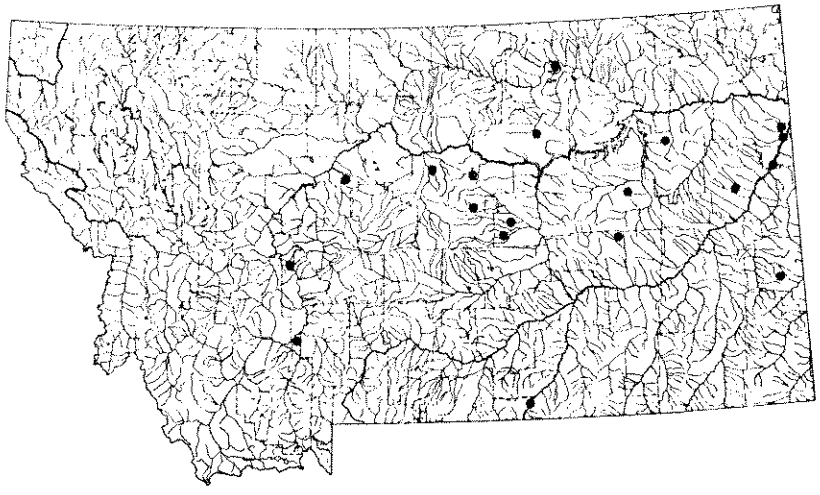
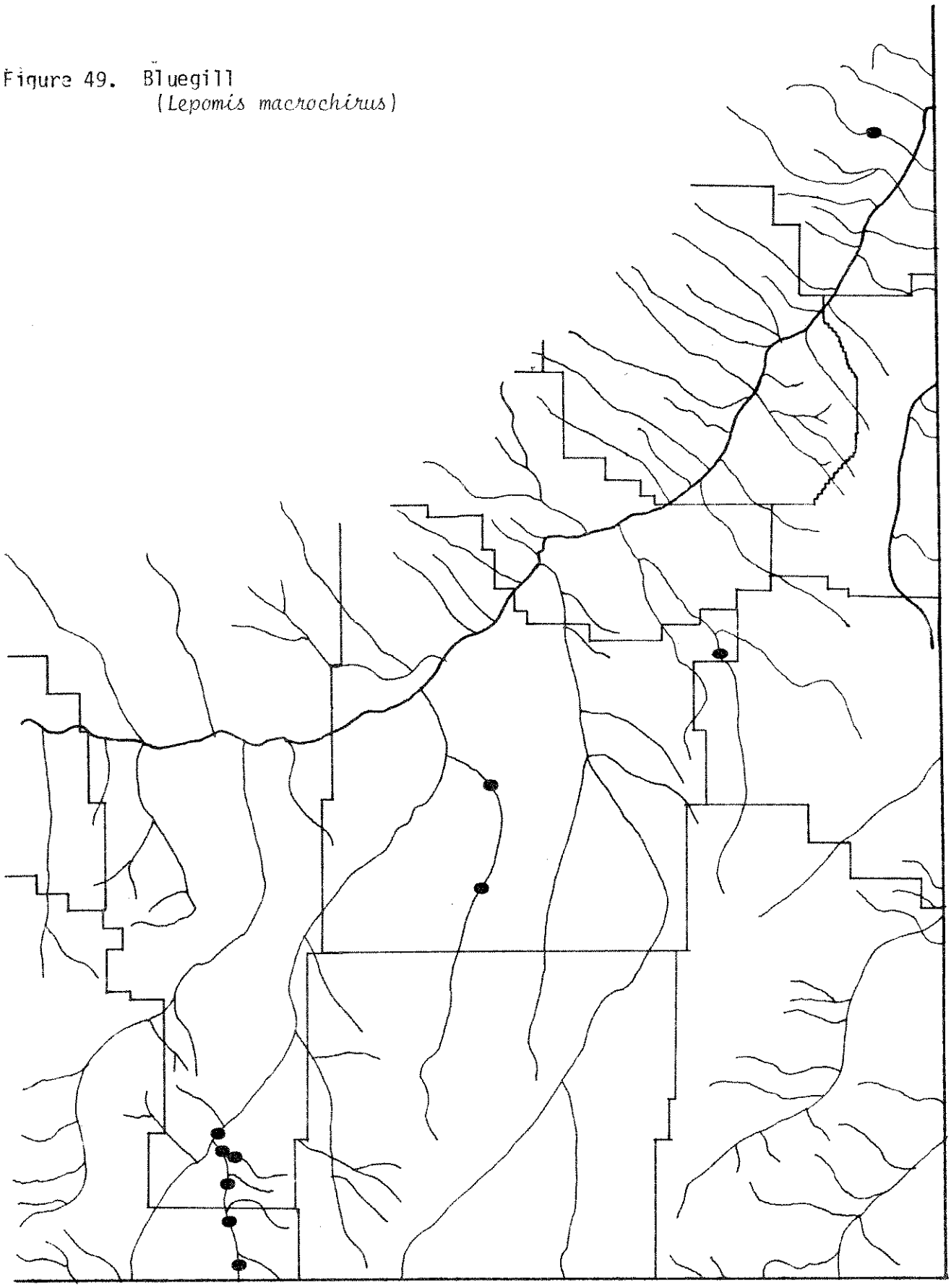


Figure 49. Bluegill
(*Lepomis macrochirus*)



SMALLMOUTH BASS

Smallmouth bass were collected primarily from the Tongue and Yellowstone Rivers. The smallmouth population in the Tongue is thriving and with increased interest is providing excellent angling opportunities. Growth rates of the Tongue River smallmouth are comparable to Missouri smallmouth streams (Clancey 1980). Smallmouth bass have been used in stock water ponds in eastern Montana, but are not reflected on the map.

Sites: 2-4, 35-38, 41-43, 45-47, 55, 57, 73 and 194.

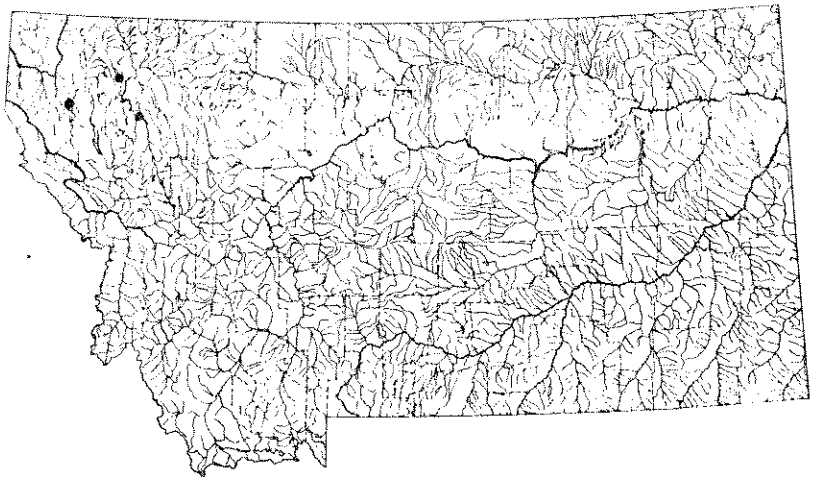
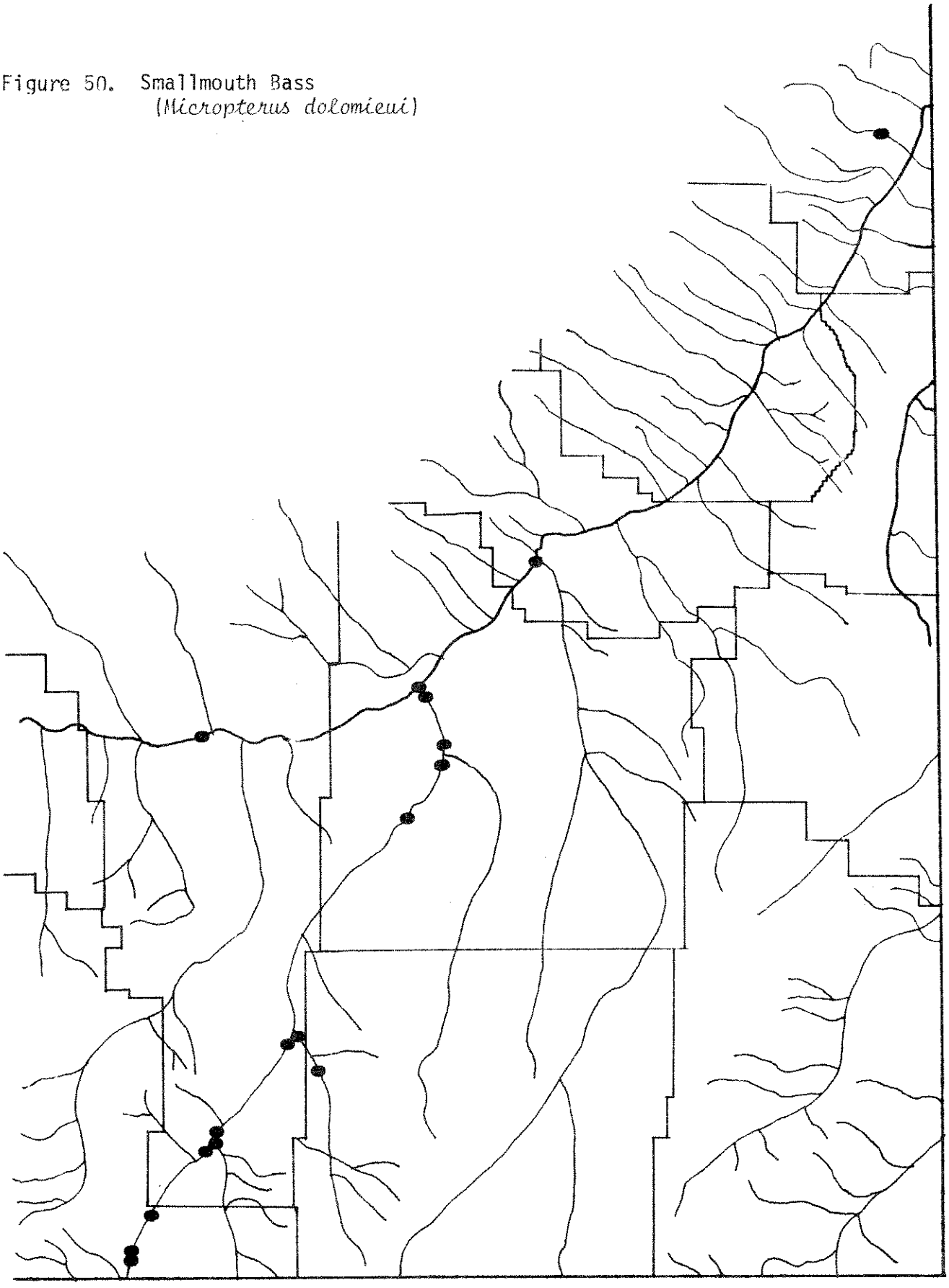


Figure 50. Smallmouth Bass
(*Micropterus dolomieui*)



LARGEMOUTH BASS

This species was collected only on the Tongue and Yellowstone Rivers. Numerous ponds throughout southeastern Montana are stocked with largemouth bass; these are not shown on the distribution map.

Sites: 2-5, 35, 45 and 47.

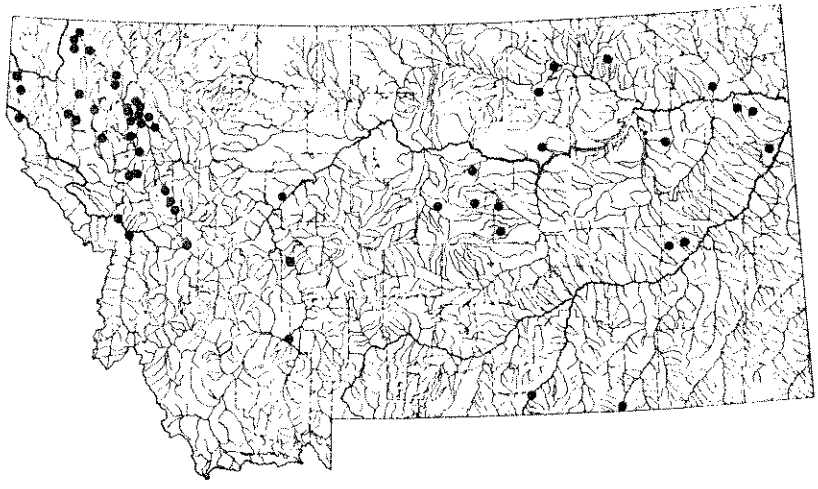
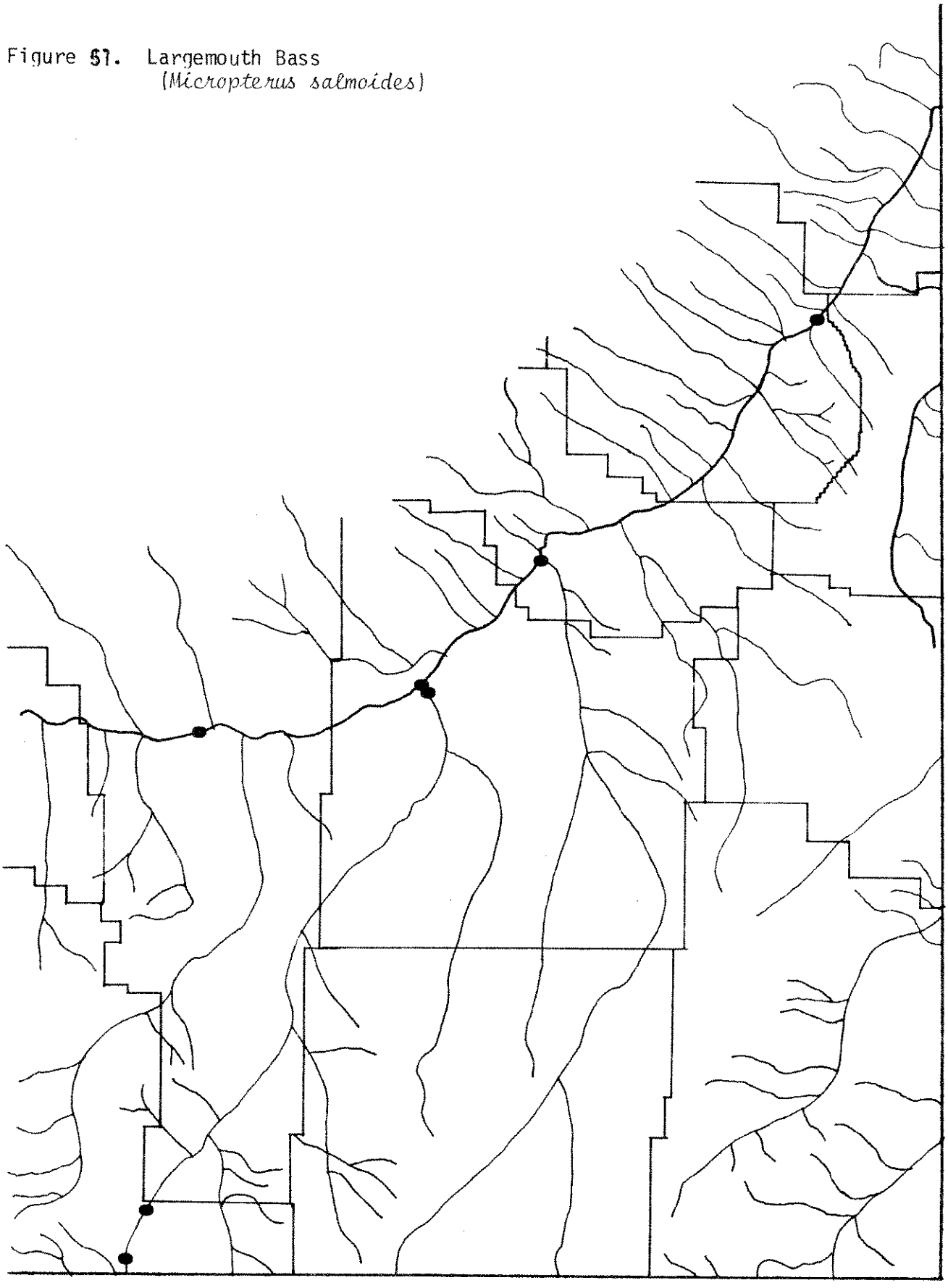


Figure 51. Largemouth Bass
(*Micropterus salmoides*)



WHITE CRAPPIE

White crappie were taken primarily from the Yellowstone and Tongue Rivers. Most of the sites from which white crappie have been collected have also yielded black crappie.

Sites: 2-5, 18, 36, 38-40, 42, 44, 45, 47, 49, 50, 55, 73, 135, 175, 182 and 196.

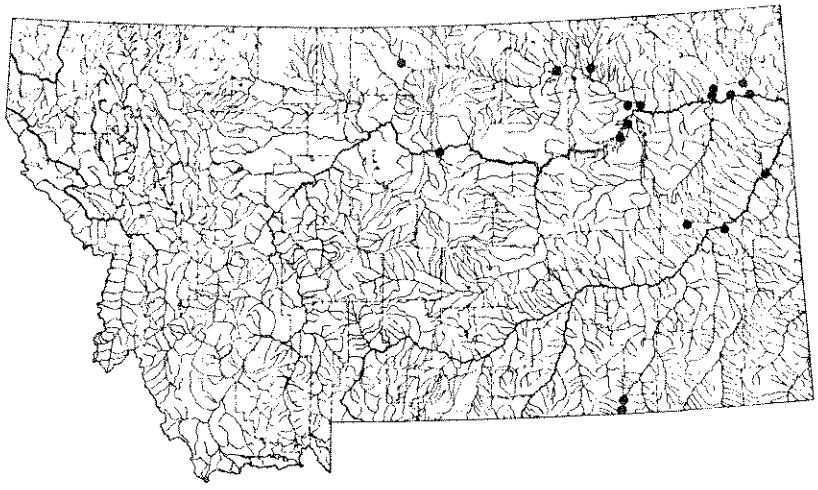
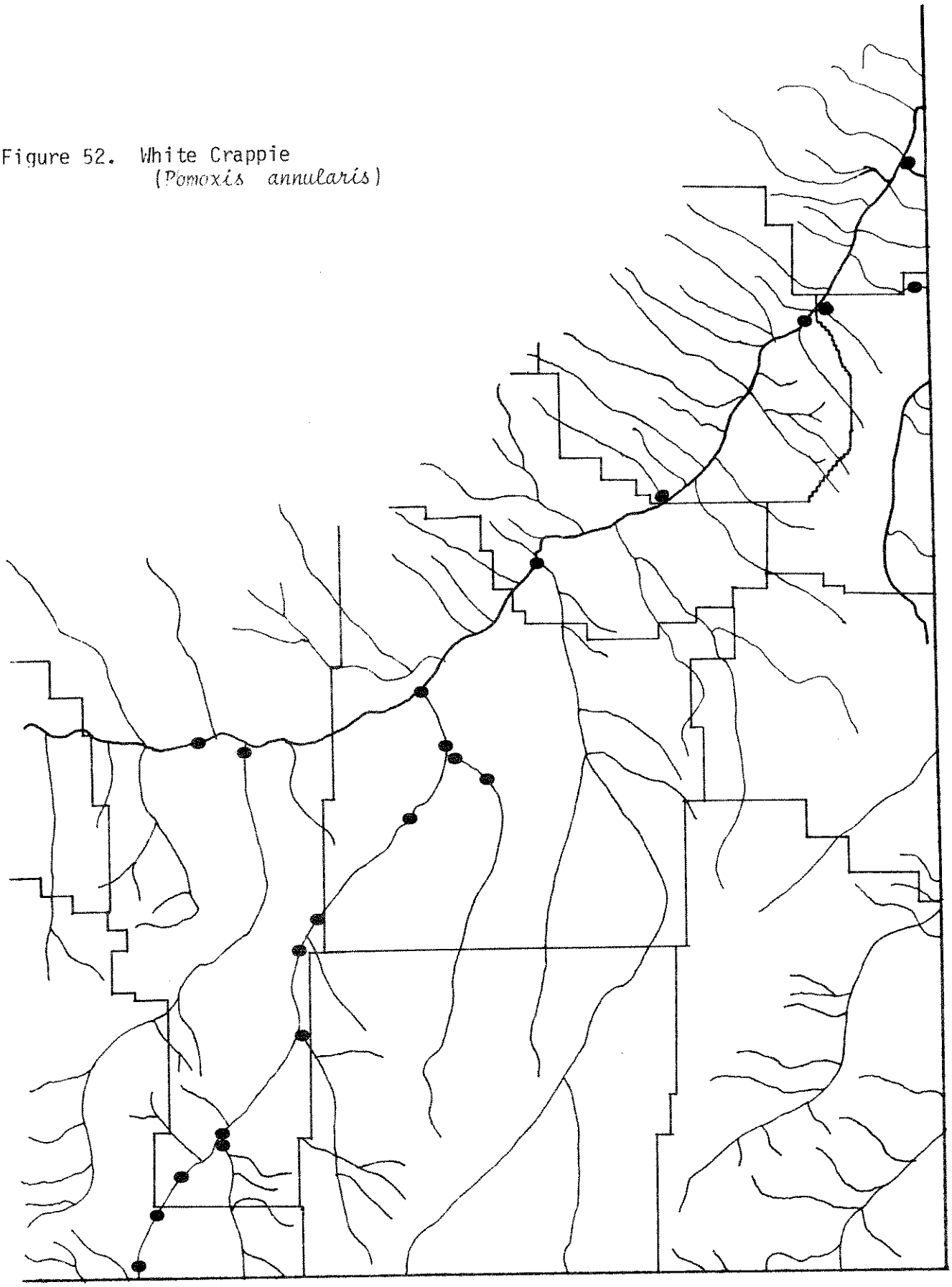


Figure 52. White Crappie
(*Pomoxis annularis*)



BLACK CRAPPIE

This species has been collected mainly on the Yellowstone and Tongue Rivers. In most cases, black and white crappie were collected together.

Sites: 1-5, 36-38, 42, 44, 45, 47, 73, 141, and 175.

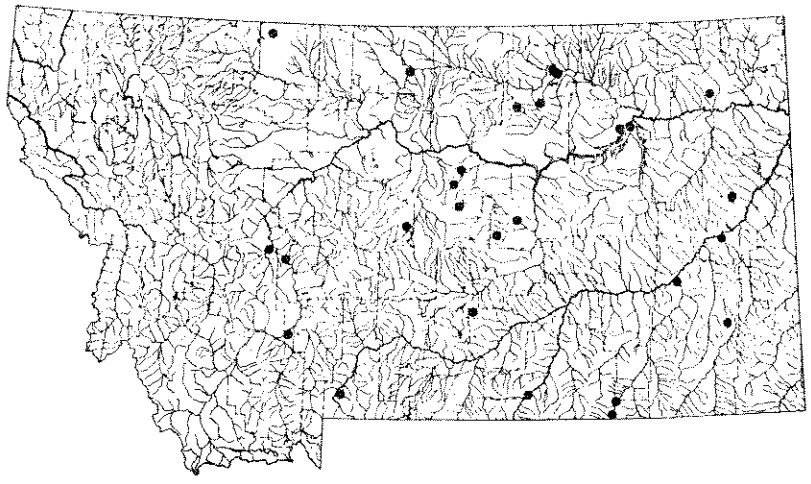
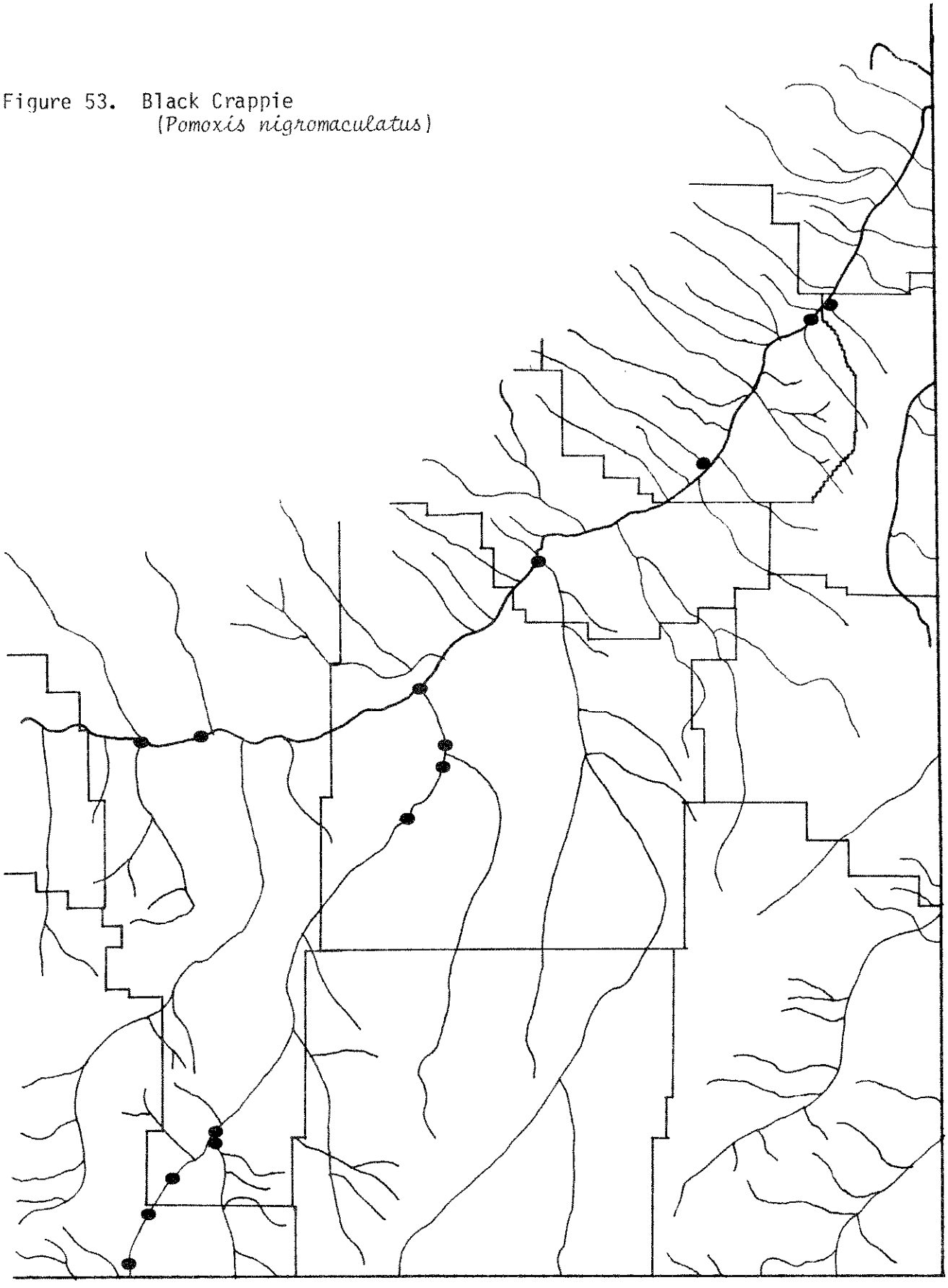


Figure 53. Black Crappie
(*Pomoxis nigromaculatus*)



YELLOW PERCH

Yellow perch were collected mainly in the Yellowstone and Tongue Rivers. The yellow perch has been stocked in a number of ponds throughout southeastern Montana. Ponds are not shown on this distribution map.

Sites: 3, 5, 17.1, 41, 42, 44-47, 55, 73, 125, 210, 212,223 and 226.

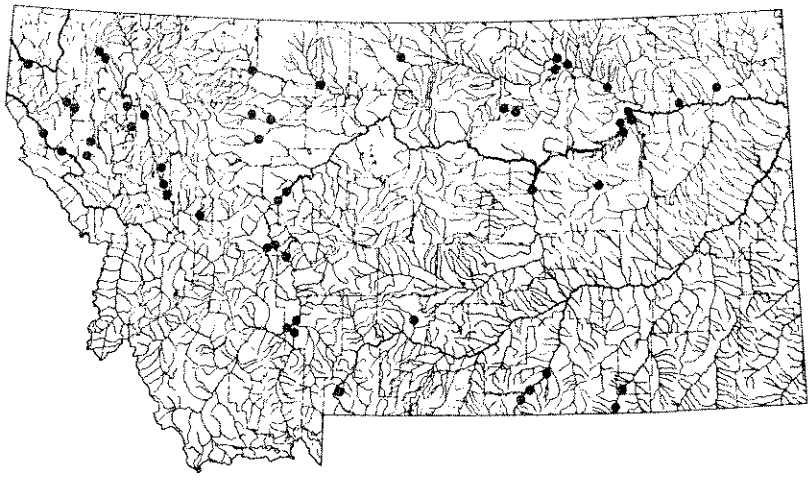
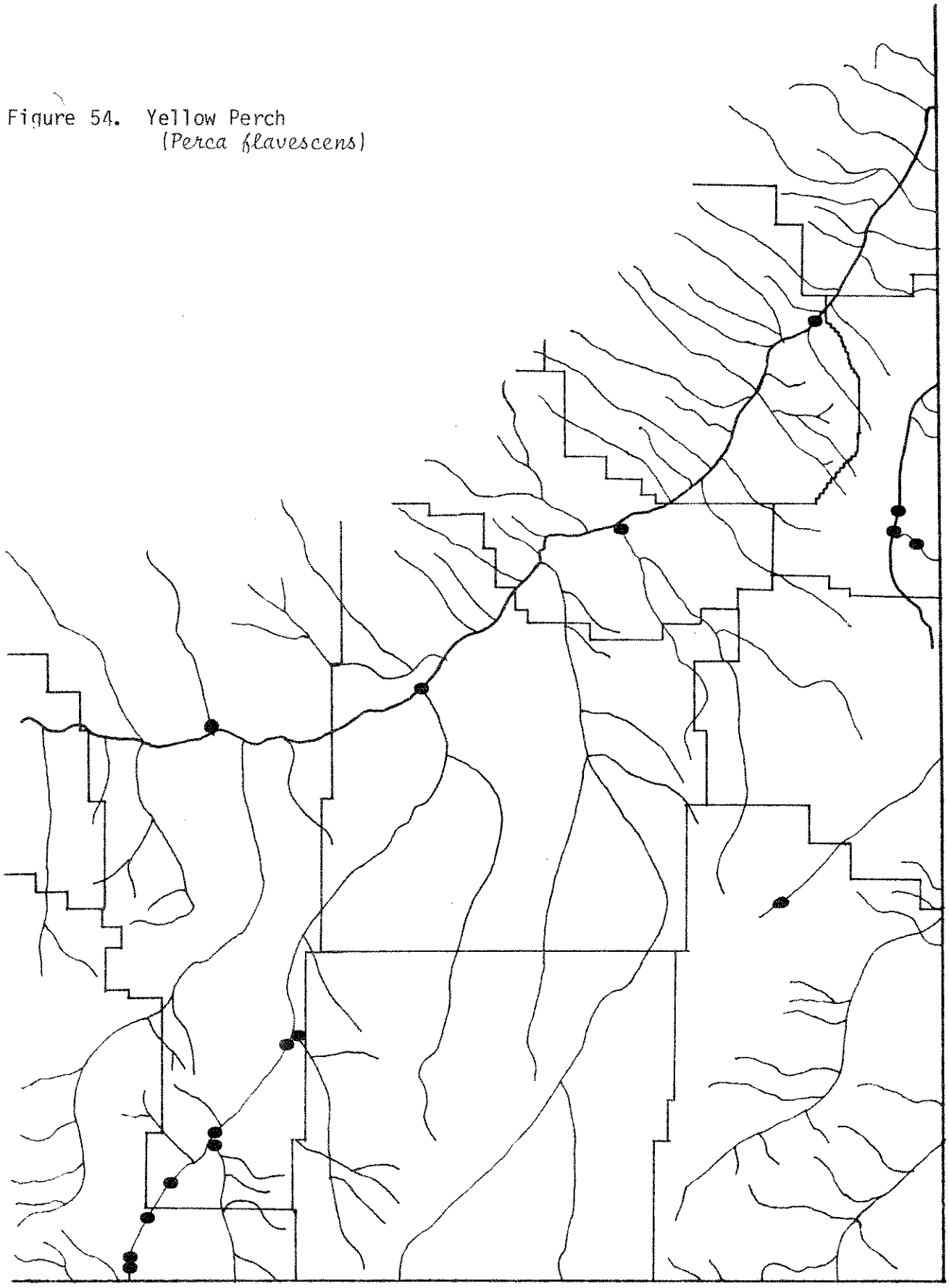


Figure 54. Yellow Perch
(*Perca flavescens*)



SAUGER

This species is one of the most popular gamefish in southeastern Montana. It has been collected mainly on the larger rivers and streams. Sauger are locally abundant offering great angling opportunities during spring spawning runs in Yellowstone tributaries.

Sites: 1-5, 18, 35, 36, 38-40, 42, 45-50, 55, 91, 101-103, 106, 107, 125, 156, 166, 187, 189, 204, 227 and 227.1.

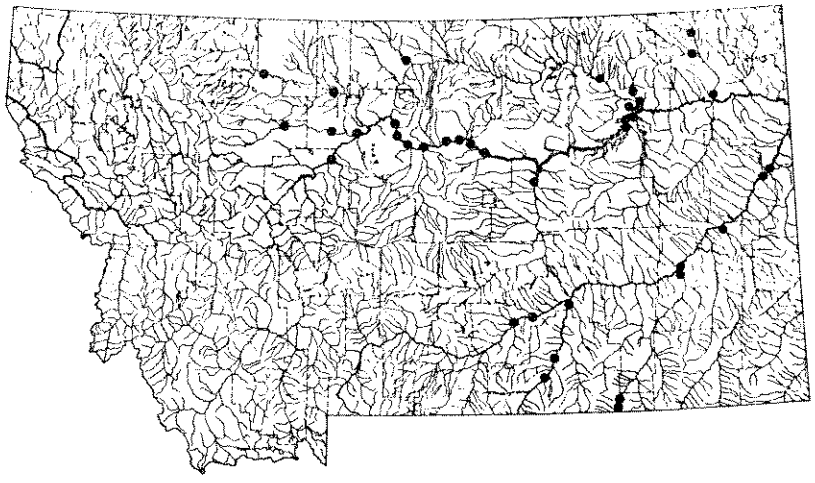
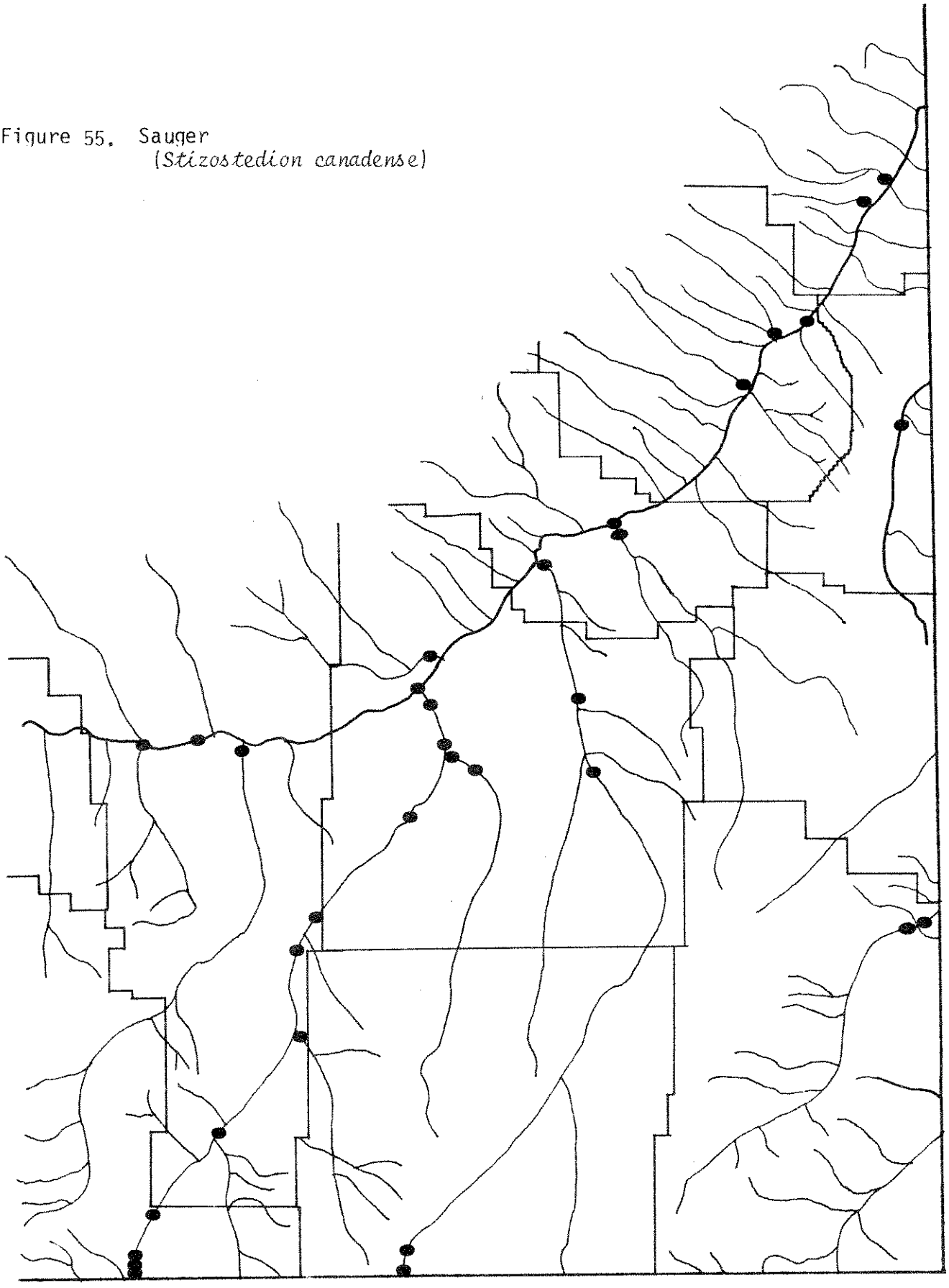


Figure 55. Sauger
(*Stizostedion canadense*)



WALLEYE

The walleye is another important sport fish in eastern Montana, but is not as widely distributed as the sauger. This species was taken at about 9% of the sites, restricted primarily to the larger streams. Walleye have been utilized as a pond fish which is not reflected on the distribution map.

Sites: 2-5, 18, 35, 36, 45, 47, 50, 55, 73, 125, 139, 175, 183, 189, 204-207, 209-212, and 223.

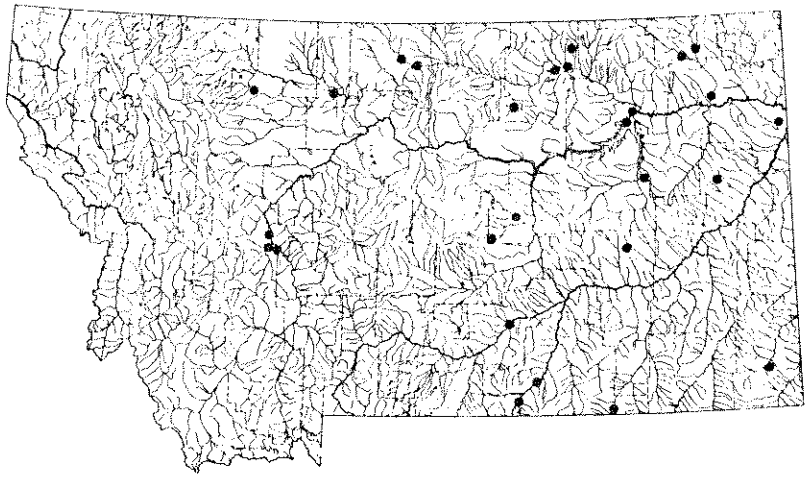
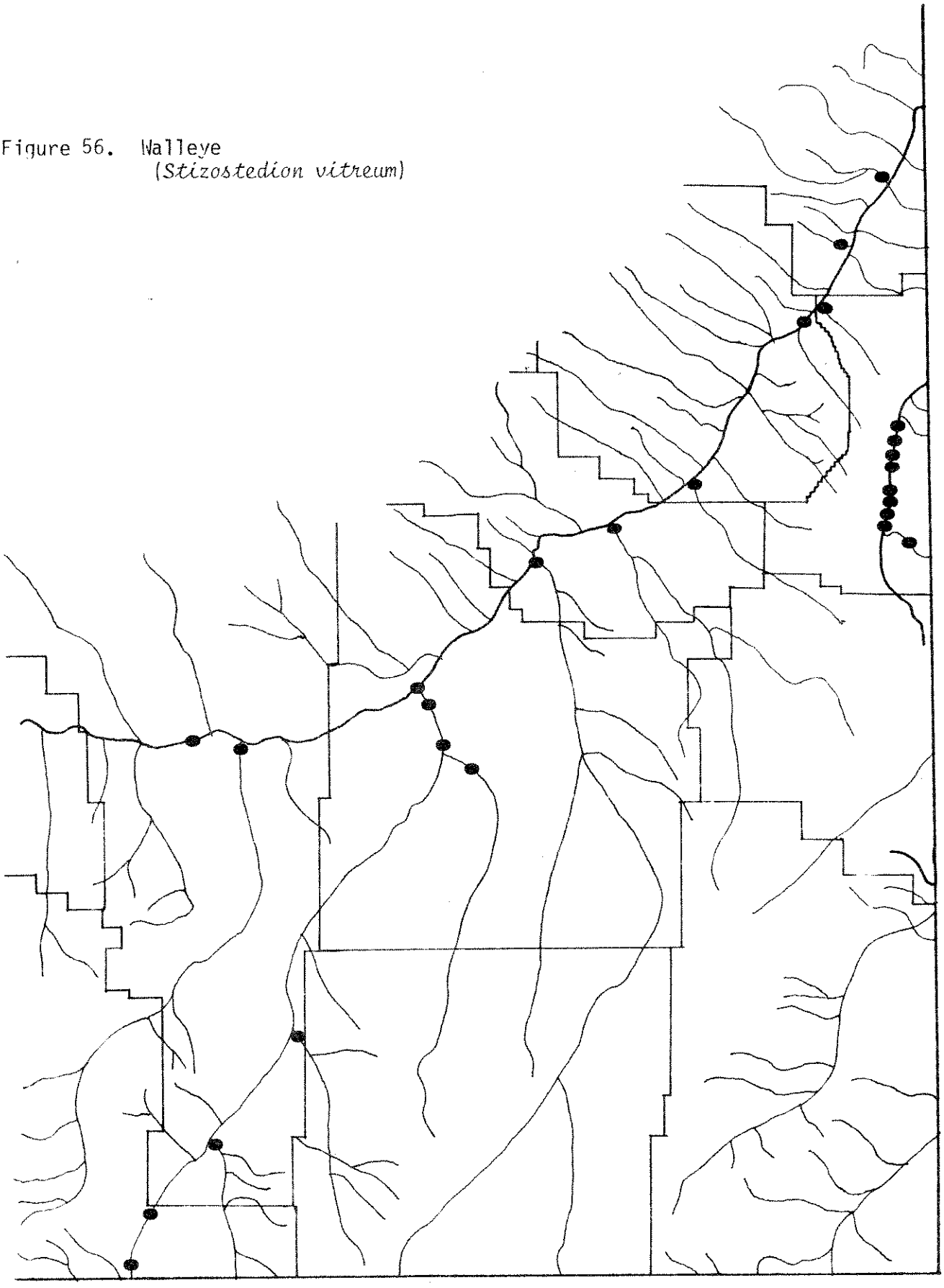


Figure 56. Walleye
(*Stizostedion vitreum*)



IOWA DARTER

This species has been collected in the Little Missouri drainage and on one tributary of the lower Yellowstone. The limited distribution of the Iowa Darter in southeast Montana probably represents the extent of its westward range.

Sites: 194, 195, 204-206, 209-213, 215-219, 222, 224.6, 224.7, 226, 226.1, 227.1, 233.1, and 235.

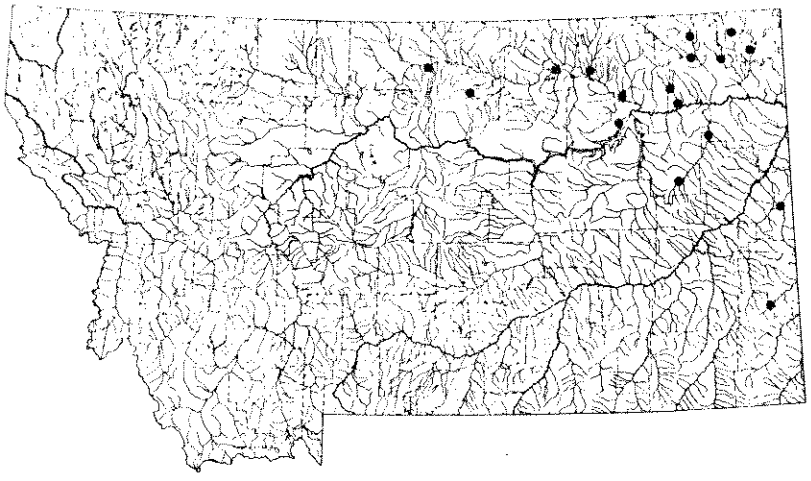
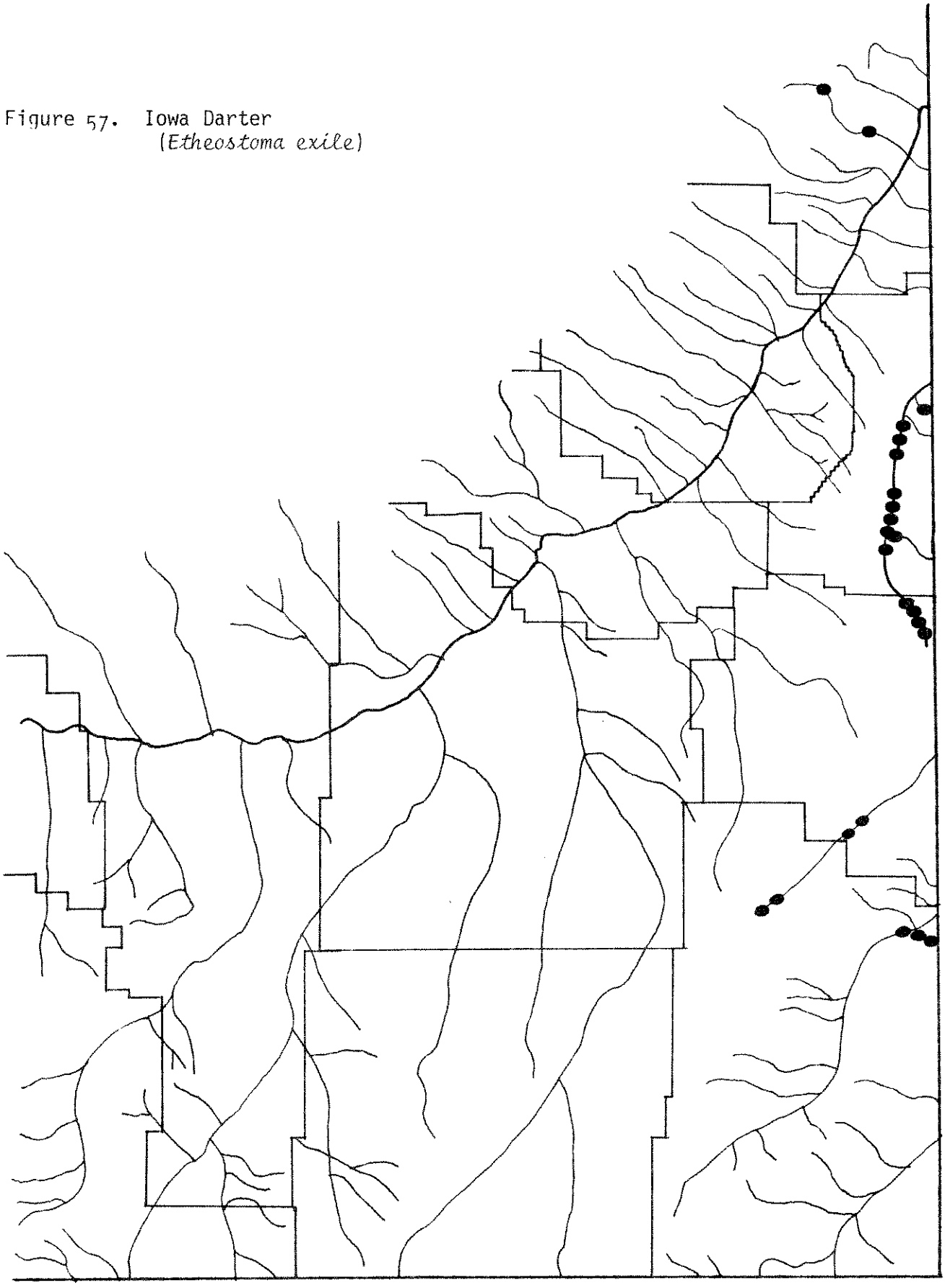


Figure 57. Iowa Darter
(*Etheostoma exile*)



FRESHWATER DRUM

Freshwater drum have been collected exclusively in the larger rivers in southeastern Montana. The five sites identified here illustrate its wide distribution along the Yellowstone.

Sites: 2-5 and 35

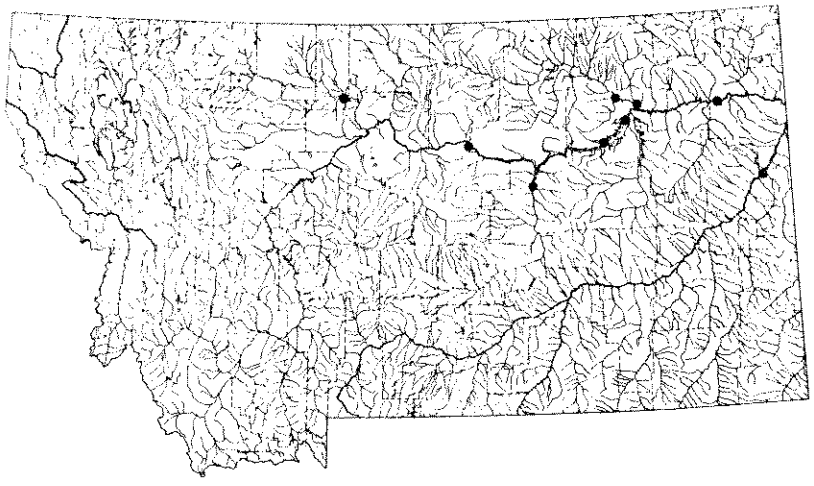
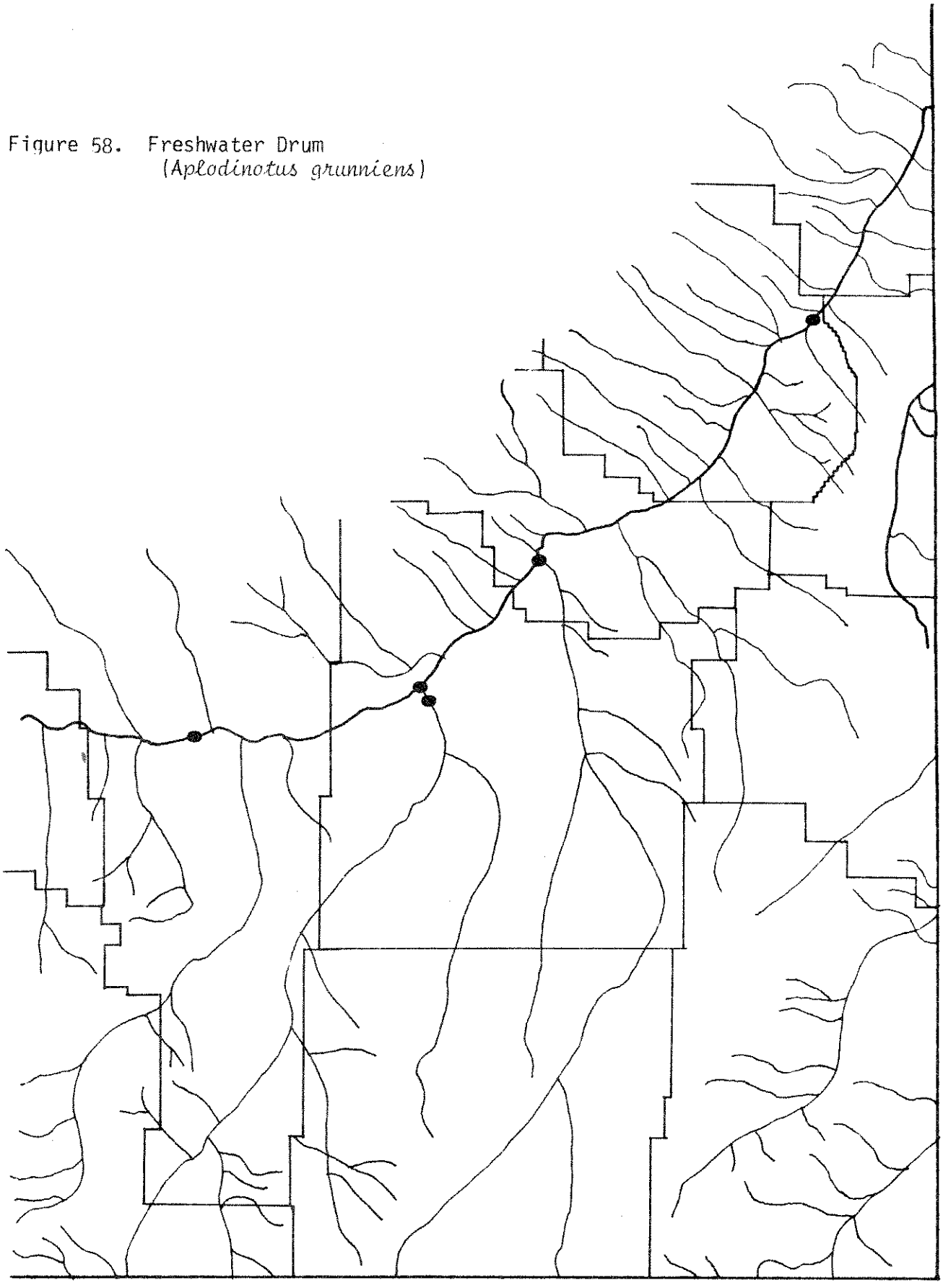


Figure 58. Freshwater Drum
(*Aplodinotus grunniens*)



SUMMARY

In this report, fifty-five species of fish have been identified. Thirty of these, more than half, have been collected at fewer than 10% of the sites. This suggests a wide variety of habitats or, at least, many discontinuous reaches of similar habitat. Both descriptions fit the waters of southeastern Montana. Fourteen species have been collected at more than 25% of the sites; of these only the fathead minnow, longnose dace and white sucker have been found at more than half of the sites. Considering the limited habitat available to the various fish species in southeastern Montana, extreme care must be taken where there is a potential for the degredation of aquatic resources.

Although this report updates Brown using the latest available data, it is not the final word on the distribution of fishes in southeastern Montana. The known distribution of some species will be expanded as more streams are surveyed and as more intensive sampling is done. Nevertheless, this report will assist state and federal agencies, as well as private industry and local governments, in making sound biological decisions concerning the protection of the fisheries resources in southeastern Montana.

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