

- B-3 Bioma 1980 -

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Report of 1979 Work at Silver Creek

by the

Idaho Cooperative Fishery Research Unit

Vascular Aquatic Plant Survey

In April 1979 the area of Silver Creek covered by aquatic macrophytes was measured to determine if any significant changes had occurred since spring 1978. During the summer and fall of 1977, 40 to 68 percent of the area of Silver Creek was covered by aquatic macrophytes ( Chara 33-50%, Potamogeton 1-20%, and Veronica 6-10%) (see attached table). During the winter of 1977-78 much of the vegetation in the stream died and by March 17, 1978 only 10 percent of the stream area was covered, mostly by Chara. On April 3, 1979 vegetation covered 23 percent of the stream area with 19 percent being Chara. Chara covered more of the stream area in 1979 than in March of 1978, but the two-weeks later sampling in 1979 may account for some of the difference. If Chara increased during 1978 from the small coverage in March (9%) to the same coverage in summer as in 1977 (50%) then it appears that a large part of the Chara beds died and were washed from the stream in winter 1978-79 the same as they were in winter 1977-78. The vegetation transects should be measured each spring (March) and fall (October) to determine if the beds have other than an annual cycle and if waterfowl are having any impact.

Spring Fish Population Assessment - 1979

The established transects were electrofished in May 1979 to estimate and compare the abundance of fish in The Nature Conservancy section of Silver Creek with estimates made in 1977 at the start of the catch-and-release regulations. In 1979, fish starting their second summer (100 to 220 mm in length) were three times more abundant than in 1977. Age 2 and older fish (longer than 220 mm) were 1.6 times more abundant in 1979 (see table and figure).

Fish Population Estimates-Silver Creek NC Site

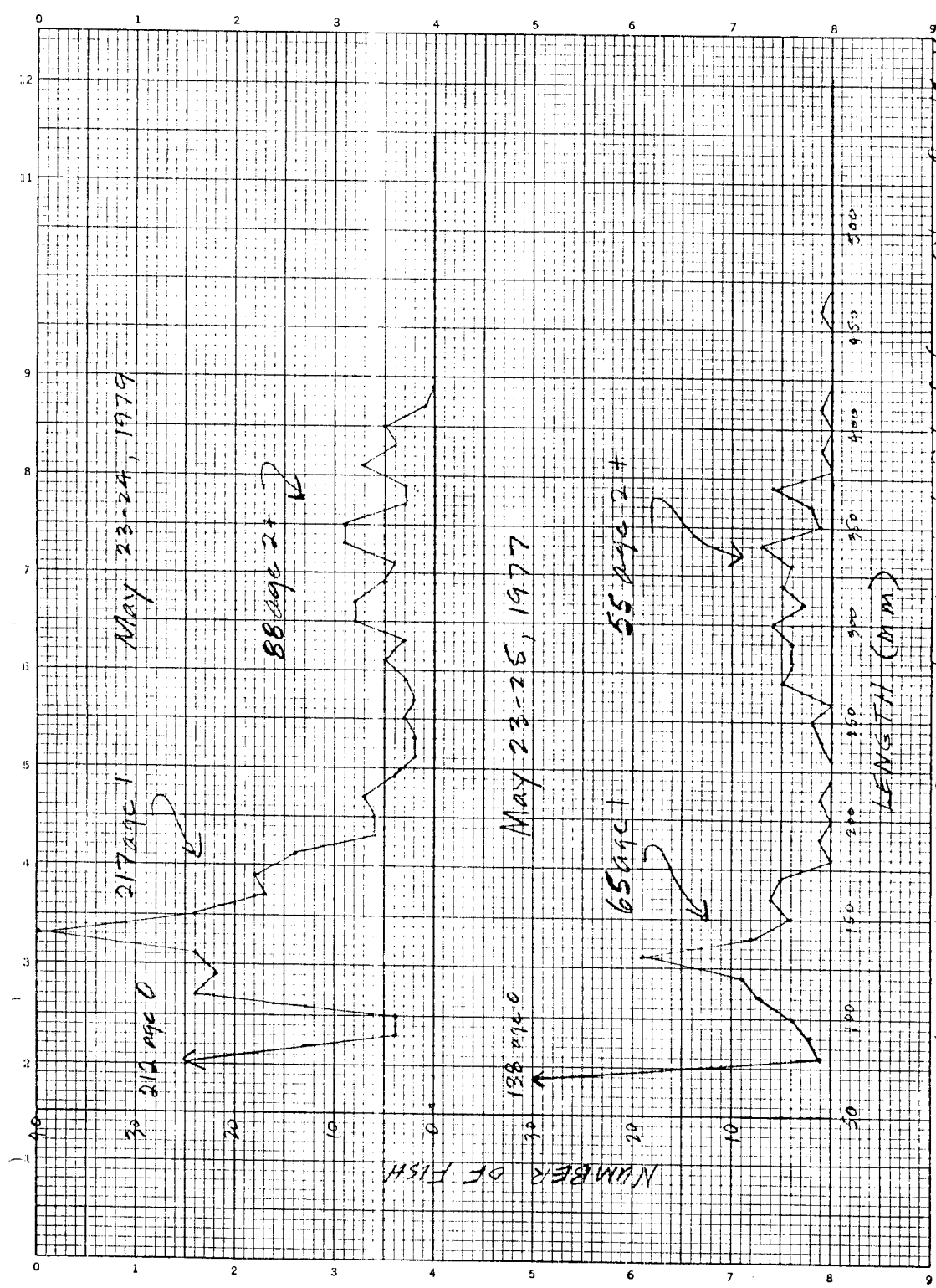
May 1977	<u>Rainbow trout</u>			<u>Brook trout</u>		<u>Whitefish</u>	
	<u>Age 0</u>	<u>Age 1</u>	<u>Age 2+</u>	<u>Age 0</u>	<u>Age 1+</u>	<u>Age 0</u>	<u>Age 1+</u>
1st pass	100	46	45	12	2	0	76
2nd pass	<u>38</u>	<u>19</u>	<u>10</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>43</u>
Estimated total	161	78	58	14	2	0	175
May 1979							
1st pass	148	151	74	10	12	2	19
2nd pass	<u>64</u>	<u>66</u>	<u>14</u>	<u>15</u>	<u>1</u>	<u>97</u>	<u>7</u>
Estimated total	261	268	91	25	13	99	30

The 1979 population estimates and angler reports are evidence that the catch-and-release regulation put into effect in 1977 has reduced the mortality rate and increased the abundance of fish in the NC section of Silver Creek. A comparison of population estimates in September would be valuable to see if the abundance of large fish (400 mm+) has increased. The 1979 population estimate was made in May because that's when flows are the lowest, but many of the larger fish may have been in the tributaries spawning.

If population estimates are made in September of future years, it will be necessary to use block nets at each end of the transects to prevent fish from leaving the sections. In 1977, block nets were not used, but the flows were extremely low because of the drought that year.

Prepared January, 1980  
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L-F distribution of Rainbow Trout electrofished from Silver Creek, NC

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M P  
P R  
R S  
S L  
L B  
B V  
A  
c  
c  
b An  
Dre  
Bio  
C Th  
d Th  
ecl

