MONTANA DEPARTMENT OF FISH AND GAME
FISHERIES DIVISION

JOB PROGRESS REPORT

State: Montana

Project No.: F-5-R-23 Title: Central Montana Fisheries Study

Job No.: I-a Title: Inventory of Waters of the Project Area

Period Covered: July 1, 1973 to June 30, 1974

ABSTRACT

Inventory surveys were conducted for 21 lakes and 13 streams in the central Montana study area. Additional emphasis was placed on some of the waters as follows. Tagging studies of northern pike were continued at Lake Frances. Ackley Lake, Martinsdale Reservoir, Nilan Reservoir and Sutherlin Reservoir were chemically rehabilitated. Kokanee and northern pike populations were monitered in Pishkun Reservoir. Tiber Reservoir was sampled to determine survival of walleye and channel catfish introductions along with information on the burbot fishery. The presence of northern pike in Tiber Reservoir was documented. Work on the Big Spring Creek Watershed Project progresses on schedule. Hanson Creek Dam was completed and East Fork Dam is nearly finished. Information was assembled on several pollution problems affecting Big Spring Creek. Bottom samples were collected at the established stations.

Smallmouth bass were introduced into Warm Springs Creek and brook trout into Little Rock Creek. Yellowstone cutthroat were planted in Castle Lake.

Three sections on the North Fork of Flatwillow Creek were electrofished to compare fish populations in, above and below an area along the stream sprayed with 2-4-D to kill willows. Nearly three times as many trout were found in the unsprayed area as in the sprayed area.

Background information and management recommendations are included in the findings section.

Twenty-three private ponds were inspected at the request of landowners and 4 of these were chemically rehabilitated at the owners expense. An exceptionally dry year was experienced during 1973, with many lakes and reservoirs reaching historic low levels and several streams were dry, particularly those dewatered through irrigation demand.

OBJECTIVES

To obtain physical, chemical and biological information which will aid in developing and evaluating fishery management plans for waters in the study area.

PROCEDURES

Fish were sampled with overnight set floating and sinking nylon gill nets, 125-foot by 6-foot, 125-foot by 24-foot (with graduated mesh sizes 3/4-inch to 2-inch); 300-foot by 8-foot floating gill net (1¼-inch mesh); 3-foot by 4-foot frame net traps (¼-inch mesh); 4-foot by 6-foot frame net traps (½-inch mesh); a 300-volt DC electrofish shocker; and by hook and line. Measurements of fish include total length to the nearest tenth of an inch and weights to the nearest hundredth of a pound. Scale and otolith samples were collected for age and growth studies. Bottom samples were collected with a Surber sampler and preserved for later study. Stream temperatures were recorded on seven-day and thirty-day thermographs while lake temperatures were recorded at various depths using a hydrographic thermometer. Flow measurements were calculated using a modification of Embody's float method as described by Engstrom-Heg (1971). Turbidity samples were analyzed with the aid of a Helige Turbidimeter. Northern pike were marked with a T-tag to determine harvest through voluntary angler tag returns. Lake rehabilitation was accomplished using rotenone.

FINDINGS

Large Lakes and Reservoirs

Bynum Reservoir - Floating gill nets were fished in this irrigation storage reservoir on June 19 to sample kokanee and rainbow trout populations. A total of 55 rainbow trout and 20 kokanee were taken (Table 1). Rainbow trout growth in Bynum Reservoir is below average when compared to surrounding lakes. Kokanee growth appears to be somewhat better and is probably associated with their being a plankton feeder while trout depend upon insects which are available in limited numbers. Analysis of kokanee scales indicate two year classes with average growth

of 4.7 inches up to the first annulus and 9.2 inches to the second. A number of kokanee matured this year as II+ fish and were caught through the ice from December, 1973 through February, 1974. Bynum Reservoir should be netted annually to moniter rainbow trout and kokanee populations.

Eureka Reservoir - A total of 21 rainbow trout and 3 sucker were sampled in 3 gill nets on June 14 (Table 1). Angler trout catches were very good throughout the summer. Extremely dry weather necessitated lowering the reservoir (for irrigation purposes) to its minimum capacity. Rumors and concern developed about rehabilitating the reservoir due to the low levels. A survey conducted August 29 revealed approximately 30 surface acres remained with a maximum depth of 17 feet. One gill net set for two hours on this same date collected no rainbow trout, 6 brown trout and 44 suckers (Table 1). Anglers contacted however, were catching rainbow trout. The Teton Co-operative Canal Company indicated they would begin running water into the reservoir as soon as possible in the fall. Based on the depth of water found and the chance of more water being added prior to winter, rehabilitation of Eureka Reservoir was not proposed. Sucker numbers continue to increase but until trout fishing or growth decreases considerably, rehabilitation will not be recommended. Annual netting will be conducted to moniter trout growth and sucker buildup. Inspection of the reservoir in January, 1974 indicated the reservoir is filling and had risen approximately 8 feet since the August survey.

A 25-year lease agreement of Eureka Reservoir was entered into by the Department of Fish and Game and the Teton Co-operative Canal Company. This agreement entitles the department to provide outdoor recreational opportunities for the general public on approximately 40 acres of the south shore of the reservoir.

Lake Frances - Two sinking gill nets fished on September 5 collected 37 fish representing 4 species (Table 1). One floating gill net failed to take any fish. Frame nets ($\frac{1}{4}$-inch and $\frac{1}{2}$-inch mesh) captured approximately 2,000 young-of-the-year and yearling yellow perch and 60 young-of-the-year white sucker. Walleye and kokanee are also present in the lake but none were taken in any of the nets. Fishermen, however, reported catching several walleye during the summer. Reproduction by walleye was first possible in the spring of 1973 and the success of this reproduction will be determined in future netting surveys. Additional walleye fry should be planted for two or three years, if available, to supplement the first introduction (500,000 fry in 1969). Suitable spawning areas are present in the lake and if enough walleye survive to spawning age, natural reproduction should maintain the fishery. Kokanee are stocked in the lake annually and are harvested

Table 1. Gill net summary of large lakes and reservoirs, 1973.

Date (Date Sampled)	Surface Acres	No. of Nets	Species*	No. of Fish	Length Range (Average)	Weight Range (Average)
Choteau Area						
Bynum Res. (June 19)	4,120	2	Rb	55	(11.3)10.2-14.6	(0.50)0.38-0.78
			KOK	6	(11.1)10.1-12.3	(0.53)0.41-0.63
			KOK	14	(7.4) 6.7- 8.1	(0.14)0.10-0.18
Eureka Res. (June 14, Aug.29)	408	3	Rb	21	(12.6)10.8-15.2	(0.75)0.50-1.29
			LL	6	(17.9)14.2-22.1	(2.12)1.03-3.56
			CSu	34	(8.4) 6.5-14.2	(0.30)0.10-1.20
			FSu	13	(12.1) 7.2-13.7	(0.77)0.13-1.00
Lake Frances (Sept. 5)	5,500	3	NP	10	(19.0)17.6-21.9	(1.59)1.11-2.33
			YP	7	(10.1) 7.1-11.5	(0.59)0.18-0.82
			CSu	19	(17.4)16.5-18.8	(2.43)2.00-2.88
			Fsu	1	(19.0)	(3.05)
Freezout Lake (Mar. 29, Apr. 26)	6,000	4	NP	1	(24.8)	(--)
			Rb	3	(--)10.2-16.3	(--)
			CSu	10	(--)	(--)
Gibson Res. (June 21)	1,400	3	Rb	10	(11.2) 9.5-12.0	(0.49)0.32-0.61
			Rb	2	(6.7) 6.6- 6.8	(0.10)0.09-0.11
			Eb	5	(12.1)10.0-15.1	(0.66)0.38-1.19
			CSu	30	(14.7)12.5-17.4	(1.46)0.85-2.40
Nilan Reservoir (June 20)	520	2	Rb	41	(13.0)10.8-15.3	(0.82)0.44-1.23
			Rb	9	(8.9) 8.7- 9.5	(0.28)0.25-0.33
			SCu	8	(12.8)10.5-13.8	(0.88)0.48-1.17
Pishkun Res. (Sept. 28)	1,550	4	KOK	54	(16.5)14.5-18.5	(1.46)0.98-1.94
			KOK	3	(9.0) 8.9- 9.0	(0.29)0.28-0.29
			Rb	1	(20.1)	(3.50)
			NP	6	(21.7)17.4-24.5	(2.74)1.42-3.87
			NP	10	(10.7) 7.9-14.5	(0.37)0.12-0.77
			CSu	43	(--)	(--)
Priest Butte L. (Aug. 22)	300	2	Rb	19	(16.5)14.2-20.8	(2.04)1.25-4.20
			CSu	30	(--)	(--)
			FSu	2	(--)	(--)
Swift Reservoir (July 11)	455	2	No fish		--	--
Tiber Res. (Sept. 19,20)	11,300	14	WE	9	(13.1)10.8-15.5	(0.78)0.34-1.16
			WE	27	(8.1) 7.2- 9.3	(0.14)0.09-0.24
			Rb	17	(16.7)15.3-18.2	(1.50)1.25-1.86
			NP	2	(--)17.2-30.4	(--)1.35-8.75
			CC	2	(19.3)18.0-20.5	(3.05)2.36-3.73
			YP	65	(7.1) 5.4- 9.0	(0.15)0.07-0.23
			CSu	179	(11.4) 8.5-14.1	(0.63)0.26-1.12

Table 1. Continued.

Area (Date Sampled)	Surface Acres	No. of Nets	Species*	No. of Fish	Length Range (Average)	Weight Range (Average)
Tiber Res. (Continued)			FSu	59	(11.5) 9.3-13.2	(0.61)0.34-0.86
			Carp	2	(13.6)	(1.16)
			FHC	5	(--)	(--)
Willow Cr. Res. (June 15)	1,530	2	Rb	31	(12.4)10.6-15.0	(0.72)0.44-1.14
Lewistown Area						
Ackley Lake (July 5)	247	2	Rb	1	(17.8)	(2.24)
			CSu	312	(11.8) 7.1-16.2	(0.72)0.12-1.75
			FSu	151	(13.2) 6.9-16.8	(0.89)0.14-1.88
			WF	3	(10.6) 9.5-11.5	(0.45)0.29-0.47
(Oct. 1)		2	KOK	1	(6.3)	(0.08)
			KOK	44	(10.4) 9.3-12.1	(0.40)0.26-0.58
			KOK	32	(15.6)12.5-18.2	(1.23)0.60-1.57
			CSu	87	(--)	(--)
			FSu	163	(--)	(--)
Bair Res. (Aug. 8)	272	2	Rb	40	(9.2) 8.1-10.3	(0.35)0.22-0.46
			Rb	20	(15.5)12.4-17.5	(1.54)0.75-2.20
			Eb	10	(12.8) 9.6-15.4	(0.89)0.37-1.43
			CSu	250	(7.6) 5.8-15.2	(--)
			FSu	2	(--)	(--)
Martinsdale Res. (July 19,20)	985	4	Rb	1	(6.7)	(0.10)
			Rb	7	(13.2)11.6-16.0	(0.89)0.63-1.33
			LL	9	(18.6) 9.1-24.0	(2.93)0.32-6.00
			YP	2	(7.1) 6.6- 7.6	(0.16)0.13-0.20
			CSu	160	(--)	(--)
			FSu	62	(--)	(--)
(Aug. 30)		2	No Fish			
Petrolia Res. (July 27)	515	4	Carp	10	(--)	(--)
			CSu	1	(--)	(--)
War Horse Res. (July 13)	1,200	2	LMB	13	(13.1)12.2-13.5	(1.28)1.12-1.55
			NP	1	(21.1)	(2.20)
			CSu	6	(15.2)11.5-17.7	(1.51)0.60-2.15
			Carp	18	(7.3) 4.3-18.6	(0.31)0.04-2.85
(Oct. 8, 9)		4	CSu	124	(--)	(--)
			Carp	15	(--)	(--)
Yellow Water (Sept. 7)	600	2	Rb	2	(13.2)12.5-13.9	(0.82)0.69-0.96
			BH	12	(8.2) 6.3- 9.2	(0.34)0.13-0.45
			CSu	150	(--)	(--)

* Rb-rainbow trout; KOK-kokanee; LL-brown trout; CSu-white sucker; FSu-longnose sucker; NP-northern pike; Eb-brook trout; WE-walleye; YP-yellow perch; BH-black bullhead; Wf-mountain whitefish; CC-channel catfish; LMB-largemouth bass; FHC-flathead chub.

mainly during the snagging season when fish run up the inlet canal. In 1970, 1,561 kokanee were harvested by snagging in this canal (Hill, 1971), but very few have been taken since. Possible reasons for few kokanee running up the ditch during the snagging season for the past three years are the low water levels experienced in the reservoirs, and the fluctuating flows in the inlet canal. Water levels in the lake reached a low point on October 5, 1973 due to irrigation demand during a very dry year. (Refer to Figure 1). Lake Frances is marginal for a kokanee fishery in relation to water depth and temperature (maximum depth of 43 feet and temperatures in the 60's° F. on the bottom). Predation by northern pike is possible and undoubtedly increases considerably as water levels decrease. Kokanee should not be planted in Lake Frances in the future unless water levels and inlet flows can be guaranteed.

A northern pike tagging study was continued at Lake Frances for the third consecutive year (this data formerly presented in Job I-b). Two frame net traps were fished from April 13-17 and from May 1-3, 1973. A total of 700 northern pike (500 males, 200 females) were captured in traps along with 400 white sucker and 2 yellow perch.

Of the total northern pike taken during spring trapping, 399 were tagged and released (249 males, 150 females), 33 were recaptures, 122 were released without marking and 146 were transferred to a reservoir in the Lewistown area. Northern pike recaptured were each taken only one time and 22 of these represent fish tagged in 1973 and 11 were fish tagged in 1972. Fishermen returned 44 tags during 1973, 25 of these were from fish tagged in 1973 and the remainder from fish tagged in 1971 and 1972 (Table 2).

Table 2. Accumulative northern pike tag returns, Lake Frances, 1971-1973.

Year	No. Tagged	No. Returns (%)[1] by Year Tagged 1971	1972	1973
1971	173	26(15.0)		
1972	371	7(4.8)	23(6.2)	
1973	399	4(2.9)	15(4.3)	25(6.3)
Accumulative[2]	943	37(21.4)	38(10.2)	25(6.3)

1/ Percent return based on tagged fish left in population.
2/ Accumulative return based on original tagged population.

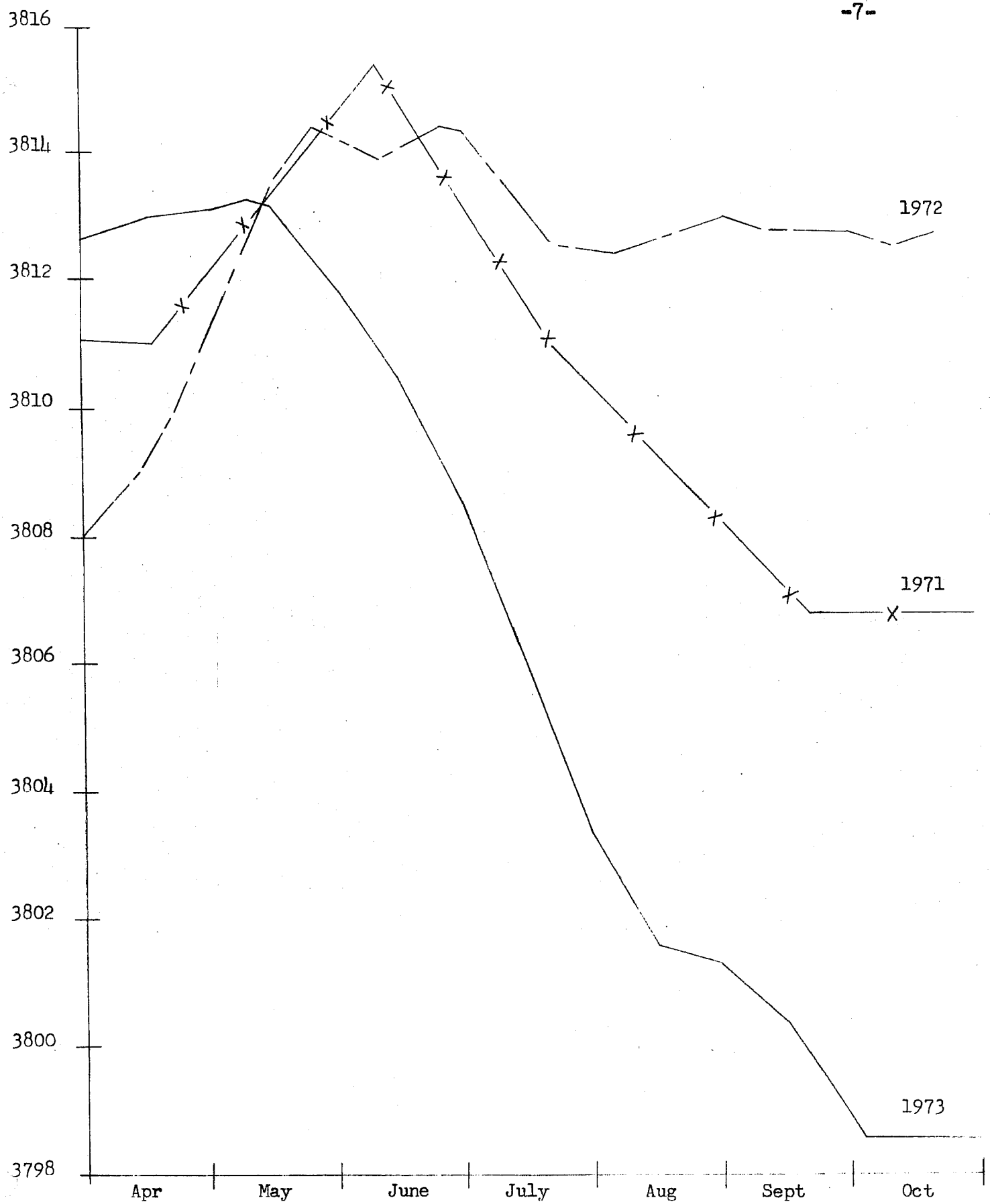

Figure 1. Water levels, Lake Frances, 1971-1973. (Elevation in ft. m. s. l.)

Sex ratios of northern pike in Lake Frances are presented in Table 3 to show yearly trends. A large sample (700 fish) was obtained in 1973 and shows a more stable sex ratio than that found in 1971 and 1972. However, it appears that females still show a greater vulnerability to angling as indicated in previous reports, (Hill, 1972, 1973).

Table 3. Sex ratios of northern pike, Lake Frances, 1971-1973.

	Number			Sex Ratio (M:F)		
	1971	1972	1973	1971	1972	1973
All Fish*	173	411	700	100:477	100: 38	100:40
Angler tag returns	26	28	44	100:550	100:180	100:58

* Includes tagged, untagged and recaptured fish taken during spring trapping.

As water levels dropped throughout the summer, fishing pressure decreased accordingly and undoubtedly had an effect on the overall northern pike harvest.

Tagging studies of northern pike in Lake Frances will be discontinued but general information will be collected during routine surveys.

Freezout Lake - This 6,000 surface acre lake serves as a catch basin for irrigation waste and runoff water from the Fairfield Bench and adjacent areas. The lake is quite shallow and is managed mainly for waterfowl production and hunting. After several inquiries were received as to what kind of fish, if any, inhabit the lake, four gill nets were fished during March and April, 1973 (Table 1). Northern pike, rainbow trout and white sucker were collected along with numerous tiger salamander larvae. The fish presumably enter the lake via irrigation return ditches. Since the lake is marginal for fish and subject to partial winterkill it is doubtful if many fish survive from year to year.

Eight irrigation return ditches to Freezout Lake were sampled by electrofishing gear. The following species were collected: brook trout, longnose dace, fathead minnow, flathead chub, white sucker and unidentified minnows.

Gibson Reservoir - Gibson Reservoir, an irrigation storage reservoir, is located on the Sun River approximately 25 miles northwest of Augusta. The reservoir fluctuates drastically and does not provide a substantial fishery. However, when the reservoir is full (approximately 1,400 acres), the upper end and the two forks of the Sun River provide an excellent wild trout fishery. The reservoir fluctuated 140 feet during 1973 from a high of 4,709.7 feet m.s.l. on June 16 to a low of 4,569.2 feet m.s.l. on August 9. At the lowest level, the reservoir became river except for a small pool near the dam.

On June 20-21, 1973, three gill nets were fished in the reservoir to sample fish populations. A total of 12 rainbow trout, 5 brook trout and 30 white sucker were taken (Table 1). An additional 29 rainbow trout of similar size from anglers creels were observed and measurements taken. Future inventory work will be directed at the upper end of the reservoir and the North and South Forks of the Sun River.

Nilan Reservoir - Two floating gill nets fished on June 20, 1973, collected 50 rainbow trout and 8 white sucker (Table 1). Although not sampled in floating gill nets, large populations of white sucker are found in the lake. The reservoir has never been rehabilitated since being built in the early 1950's.

Nilan Reservoir was drawn down by irrigation demand to its lowest level during 1973. This resulted in approximately 900-acre feet of dead storage remaining in the main reservoir. To take advantage of the low water conditions, approximately 225 gallons of rotenone was applied to the reservoir on September 13, 1973 to eradicate suckers. Three ponds and several potholes above the reservoir were treated with another 50 gallons of rotenone. A sample of 65 rainbow trout were collected following application of chemical. They ranged from 8.5 to 18.0 inches in total length. Nilan Reservoir will be stocked in the spring of 1974 with rainbow trout and stocking rates will correspond with existing water levels.

Pishkun Reservoir - Several attempts were made to sample kokanee in Pishkun Reservoir. A total of 25 gill nets were fished on 6 sampling dates from March 30, 1973 to September 28, 1973. The largest sample of kokanee and other species was taken during September (Table 1). Scale analysis of kokanee revealed age groups I+, II+ and III+ were collected throughout the summer. Average growth to corresponding annuli is as follows: I - 4.2 inches; II - 8.7 inches; III - 12.0 inches. Several kokanee were also sampled by hook and line during August and additional measurements of kokanee were taken from anglers during the snagging season. Average lengths (inches) and weights (pounds), respectively, during snagging are as follows: Males - 17.3, 1.57; females - 16.0, 1.29. Otolith samples indicated the mature kokanee were all III+.

Information pertaining to northern pike harvest was also obtained through voluntary tag returns. (This data formerly presented in Job I-b). A total of 1,450 northern pike have been tagged in Pishkun Reservoir from 1970-1972 and 445 (30.7%) have been returned. During 1973, anglers returned 41 tags (Table 4). Tag returns for fish tagged in 1970 have now accumulated to 44.7 percent, to 27.7 percent for fish tagged in 1971 and 17.6 percent for fish tagged in 1972.

Table 4. Accumulative tag returns for northern pike, Pishkun Reservoir, 1970-73.

Year	No. Tagged	No. Returns (%)[1] by Year Tagged		
		1970	1971	1972
1970	498	178(35.7)		
1971	559	35(10.9)	117(20.9)	
1972	393	4(1.4)	28(6.3)	42(10.7)
1973	--	4(1.4)	10(2.4)	27(7.7)
Accumulative[2]	1,450	221(44.7)	155(27.7)	69(17.6)

1/ Percent return based on tagged fish left in population.
2/ Accumulative return based on original tagged population.

Kokanee populations should continue to be monitered annually to check on survival, growth and their contribution to the fishery. Status of northern pike will also be observed through routine investigations.

Priest Butte Lake - Two gill nets were fished in Priest Butte Lake on August 22, 1973, and captured 19 rainbow trout and 32 suckers (Table 1). Rainbow trout plants were discontinued in 1973 because of the low fishing pressure received. Fishermen shy away from the lake because of rumors of the trout being inedible. Priest Butte Lake should be investigated for some other species of fish that could survive under the water chemistry conditions and still provide an edible fish.

Swift Reservoir - Gill nets (1 floating, 1 sinking) failed to catch any fish in this 450 surface acre irrigation storage reservoir in Pondera County.

Tiber Reservoir - Frame net traps were fished in the Willow Creek Arm of Tiber Reservoir from April 10-12, 1973. The objective was to sample burbot and also to document the presence of northern pike in the reservoir (reportedly taken by fishermen during the previous year). A total of 20 trap days captured 271 burbot, 18 northern pike, 114 sucker (white and longnose), 9 yellow perch, 1 rainbow trout and 5 carp. This is the first authentic record of northern pike in Tiber Reservoir. This species presumably came into Tiber via irrigation drainages from Lake Frances. Approximately 250 burbot were transferred from Tiber to Petrolia Reservoir near Winnett.

Natural reproduction of northern pike will depend upon vegetation and water levels during spawning. Tiber Reservoir fluctuates approximately 20 feet throughout the year with spring rises beginning generally in May and reaching a peak in late June or early July. Vegetation is present at the high water mark and does progress downward as water levels recede throughout the summer. Normally this vegetation is not flooded in the spring until after the northern pike would be through spawning. At the present time, suitable vegetation exists from elevation 2970 and upward. Since Tiber Reservoir serves no beneficial purpose other than occasional flood control, the Bureau of Reclamation has been requested to manipulate water levels in the spring of 1974 to enhance northern pike reproduction. The Bureau replied it would be impossible to flood this area during the spawning season due to present reservoir storage limitations. In addition to requesting water level manipulation for 1974, approximately 11-12 acres of exposed lake bottom in the Willow Creek Arm were seeded with grass from elevation 2967 to 2974. Grass varieties seeded on May 17, 1973 include: slender wheatgrass, green needlegrass, ladak alfalfa, millet, yellow blossom sweet clover, meadow fescue and meadow foxtail. Although some of this area was flooded during June and July, some of the grasses were growing when netting surveys were conducted in September.

A total of 14 gill nets and 16 frame nets were fished in Tiber Reservoir on September 19-20, 1973, to attempt to sample walleye and channel catfish that have been introduced. Gill nets captured 367 fish representing 9 species (Table 1). Channel catfish were introduced in 1967, 1968 and 1972 and although only two specimens were collected, the results are encouraging. A total of 36 walleye were taken in gill nets and represent the 1971 and 1972 introductions. Scale analysis indicates average growth as follows: 6.0 inches for the first year of life, increasing to 12.2 inches at the end of the second year. Frame nets captured the same species as did gill nets with the exception of channel catfish and the addition of burbot and emerald shiner.

The walleye introductions of 1971 and 1972 seem to have good survival as they were evident in both types of sampling gear and in all areas sampled. Northern pike were again taken in limited numbers.

Future investigations should be designed to determine survival and growth of walleye, and the extent of natural reproduction of walleye and northern pike. The Bureau of Reclamation should be contacted concerning manipulation of water levels. An excellent burbot fishery has developed in Tiber Reservoir, particularly during the winter. Fishing pressure is quite heavy at times in some areas. The burbot fishery should be checked periodically by unscheduled creel census and trends in population numbers should be monitered by trapping in the spring of the year.

Willow Creek Reservoir - Two floating gill nets collected 31 rainbow trout in Willow Creek Reservoir on June 15, 1973 (Table 1). Although none were taken in floating gill nets, large populations of white sucker are present in the lake. Rehabilitation is not feasible unless the lake is drawn down to its lowest level.

Ackley Lake - Ackley Lake is a 247-acre irrigation reservoir in Judith Basin County administered by the Water Resources Division. The lake is an important center for water based recreation in the area. Kokanee and rainbow trout provided the main fishery. Sucker populations had built to high levels following rehabilitation in 1966. Suckers enter the lake from the Judith River via the inlet canal. Netting results from the past few years showed an increase in rough fish and a corresponding decrease in game fish. Two gill nets set overnight during July took 1 rainbow, 151 longnose sucker and 312 white sucker. On October 1, two more gill nets fished overnight in the reservoir took 77 kokanee, 163 longnose sucker, and 87 white sucker. The low number of rainbow taken was surprising considering that 75,000 4-6 inch trout were stocked in the spring of 1973. The sport catch also reflected the low abundance of rainbow, although a fair number of kokanee were taken by fishermen.

Water shortages in the area during 1973 resulted in a severe drawdown of the lake for irrigation. On October 19, with the water level near the outlet and about 1,400-acre feet of water remaining in the lake basin, the lake was treated with rotenone-base fish toxicant. The presence of low numbers of rainbow trout was confirmed during rehabilitation. Kokanee were abundant and in good condition. Workers in California have found that in small lakes with rainbow and kokanee present together, particularly where zooplankton forms the main food base, interspecific competition favors the kokanee (Seeley, 1966). This might help to explain part of what was found in Ackley Lake. Rainbow and kokanee were

both scheduled to be planted in the lake during the spring of 1974 but from our findings, the recommendation for this lake is to plant only rainbow trout and to closely moniter the success of the plant.

Bair Reservoir - This 272-acre irrigation storage reservoir is located on the North Fork of the Musselshell River and is administered by the Water Resources Division. The lake is a popular fishing area with the primary emphasis on rainbow trout. Brook trout, which move down into the reservoir from the North Fork, are also present in limited numbers. The lake has a history of sucker problems and was last rehabilitated during the fall of 1971. The lake has provided good fishing since it was rehabilitated and the trout have shown improved growth following the removal of rough fish. Two gill nets fished overnight in early August, 1973, caught 40 rainbow trout from the 1973 plant, 20 rainbow from the 1972 plant, 10 brook trout, 2 longnose sucker and 250 white sucker. The rainbow trout from the 1973 plant averaged 9.2 inches and 0.35 pounds, and those from the 1972 plant averaged 15.5 inches and 1.54 pounds. The suckers averaged 7.6 inches and are probably reproduction from fish which moved down from the inlet stream following rehabilitation. The lake will probably provide good fishing for one to two more years until the sucker population matures.

Martinsdale Reservoir - Martinsdale Reservoir is a 985-acre irrigation storage project in Meagher County administered by the Water Resources Division. The lake is a popular fishing area with the primary emphasis on rainbow trout. Brown trout, which gain access to the reservoir via the inlet canal from the South Fork of the Musselshell River, provide an occasional bonus to fishermen. Yellow perch in the lake had apparently been introduced by some careless fisherman.

Fishing success has declined over the past couple of years and this trend was reflected in the netting results from 1972-73. Two gill nets fished overnight on July 19, 1973 took 1 rainbow trout from the 1973 plant, 7 rainbow from the 1972 plant, 9 brown trout, 2 yellow perch, 160 white sucker and 62 longnose sucker. Suckers gain access to the reservoir via the inlet canal and as sucker populations build, the trout fishing declines.

The Martinsdale area was severely affected by drouth conditions during the summer of 1973 and all the available irrigation water was withdrawn from the reservoir. This left 300-400 acre feet of water in the lake basin below the outlet and provided an opportunity to rehabilitate the lake at a minimum cost. On August 20 and 21, the lake was treated with rotenone-base fish toxicant to remove suckers and perch. On August 30, two gill nets were

fished for a day to check the success of the rehabilitation and no fish were taken. Rainbow trout are scheduled to be stocked in the spring and should provide good fishing until rough fish populations build up again.

Petrolia Reservoir - This Water Resources Division administered lake in Petroleum County of 515-acres provides only a limited fishery for the area because the walleye population has apparently stabilized at a low level. Burbot, introduced in 1973, are the only other sport fish in the lake. During July, two gill nets and two trap nets fished for a day took 10 carp, and 1 white sucker. Plans for the early spring of 1974 include intensive netting to evaluate the walleye fishery and to moniter the success of the burbot introduction. Based on findings, a recommendation to introduce yellow perch will possibly be made.

Sutherlin Reservoir - This 327-acre lake in Meagher County is administered by the Water Resources Division. The lake is subjected to severe annual drawdowns for irrigation. At the start of the irrigation season in 1973, the water was less than half the usual level because of reduced runoff. The reservoir is a popular fishing site for planted trout.

Occasional creel checks and annual netting surveys showed the trout were thin and in poor condition, probably attributable to drastic water level fluctuations and the presence of a large sucker population. Irrigation drawdown had entirely drained the lake by late September. On September 24, the exposed pre-impoundment stream channel and several miles of tributaries were rehabilitated to remove rough fish. Following anticipated filling in the spring of 1974, the reservoir will be stocked again with rainbow trout.

War Horse Reservoir - War Horse Reservoir is a large, shallow, weedy lake in Petroleum County administered by the Water Resources Division. At certain times, the lake supports a moderate fishing pressure for largemouth bass and black bullhead. In addition, the lake was stocked with adult northern pike in May of 1973 to help control bass and rough fish populations and to establish a pike fishery. During July, 1973, two gill nets fished for one day took a total of 8 largemouth bass, 1 northern pike, 6 white sucker and 18 carp. Five additional bass were taken with hook and line. The average size for the 13 bass was 13.1 inches and 1.28 pounds. In past years, the bass were quite numerous and the average size less than half a pound. In 1973, the bass numbers were down and this fact, along with the increased size helps substantiate the report of a partial winterkill during the winter of 1972-73 when water levels were below normal. The northern pike was 21.1 inches and 2.20 pounds.

In an attempt to determine whether the northern pike had spawned successfully, some additional nets were set in early October. Three trap nets and a gill net fished overnight took 124 white sucker and 15 carp, but no pike. In late October, permission was granted to a local commercial fisherman to set some trap nets in the lake for bullheads, as had been done in prior years. The decision was based primarily on the likelihood of another impending winterkill because of low water. He discontinued his operation after taking about 15 pounds of bullheads because of the abundance of white sucker. The fisherman also took two 5-pound northern pike, which he released.

Plans for the early spring of 1974 include trap netting to evaluate the success of the northern pike plant with particular emphasis on the suitability of the lake for northern pike spawning.

Yellow Water Reservoir - This is a 600-surface acre lake in Petroleum County administered by the Water Resources Division. The lake is stocked annually with rainbow trout and also supports a good population of black bullhead. In 1973, the lake was subjected to a severe water shortage which left about 6 feet of water at the deepest location and an average depth of 2-3 feet.

During September, two gill nets and two trap nets were fished for one day taking 2 rainbow trout averaging 13.2 inches and 0.82 pounds and 12 bullheads which averaged 8.18 inches and 0.34 pounds (Table 1). In addition, 150 white sucker were taken.

During the last part of October, permission was granted to a local commercial fisherman to set some trap nets in Yellow Water for bullhead as had been done in prior years. This decision was based on the small average size of the bullheads and the high probability of an impending winterkill. The commercial fisherman discontinued his netting after taking several tons of white sucker and only about 30 pounds of bullheads. Very few trout were taken.

The lake is scheduled for another plant of rainbow trout in 1974. This plant should be watched carefully and if the returns to the fishermen are not considerably better than for the past couple of years, a change in management should be implemented.

Small Lakes and Farm Ponds

Arod Lake - One gill net collected 24 yellow perch and 5 northern pike (Table 5). Arod Lake continues to produce yellow perch that are above average in size when compared to surrounding lakes. Three frame net traps were fished to sample reproduction and collected approximately 1000 young-of-the-year and yearling

Table 5. Gill net summary of fish sampled in farm ponds, 1973.

Pond	No. of Nets	Species**	No. Fish	Length Range (Average)	Weight Range (Average)
Arod Lake (Main)	1	YP	24	(12.1)10.4-13.5	(1.12)0.69-1.50
		NP	5	(16.5)15.9-17.2	(0.92)0.84-1.04
Benes #2	1*	CR	60	(8.8) 3.2-12.0	(0.66)0.08-1.10
Brook #1	2	Eb	16	(12.2)11.2-13.1	(0.79)0.55-0.94
Brook #2	1	Eb	10	(16.2)14.8-18.0	(2.43)1.70-3.30
Buffalo Wallow	1	Rb (1972)	6	(12.6)10.4-15.0	(0.85)0.46-1.30
		Ct (1972)	21	(9.5) 7.3-10.5	(0.31)0.12-0.40
		Gr (1972)	5	(8.9) 7.8-10.2	(0.22)0.13-0.32
C-1	1	Rb (1973)	1	(8.4)	(0.26)
Deerfield #1	1	Rb (1972)	11	(11.5)10.4-12.4	(0.72)0.50-0.88
Drag Creek	2	Rb (1972	5	(12.0)10.8-13.2	(0.56)0.32-0.70
		Rb	1	(19.9)	(2.78)
Harrison (Private)	2	0	0		
Hassler	2	Rb (1973)	10	(9.1) 8.1-10.0	(0.25)0.19-0.30
Jakes Dam	2	0	0		
Kiyo Lake	1	YCT	1	(10.4)	(0.50)
Lipke	1	Rb (1971)	1	(21.1)	(4.16)
		Rb (1972)	1	(13.3)	(0.94)
Lipke (Private)	1	EB	7	(10.8) 9.4-12.5	(0.55)0.29-0.80
Norman #2	1	Rb (1973)	4	(8.2) 7.4- 7.7	(0.23)0.18-0.27
		Rb (1972)	1	(14.0)	(1.22)
		Rb (1971)	1	(17.7)	(2.45)
O'Brien	1	Rb (1973)	1	(6.4)	(0.11)
		Rb (1972)	3	(12.1)11.5-12.7	(0.65)0.58-0.76
		EB	1	(12.9)	(0.91)
		CSu	57	(9.9) 6.1-13.9	(0.44)0.08-1.02
		FSu	2	(7.6) 7.3- 7.8	(0.13)0.12-0.15
Rindal	1	Rb (1973)	5	(8.1) 7.6- 9.0	(0.23)0.17-0.32
		Rb (1972)	4	(13.2)12.7-13.8	(0.79)0.57-1.04
Split Rock Lake	2	NP	2	(11.5)10.6-12.4	(0.35)0.23-46.0
		NP	6	(19.6)16.1-22.5	(1.92)1.09-1.92
		YP	31	(7.0) 4.6-11.5	(0.22)0.06-0.78

Table 5. Continued.

Pond	No. of Nets	Species**	No. Fish	Length Range (Average)	Weight Range (Average)
Stafford	2	Rb (1973)	15	(9.4) 8.9-10.1	(0.30)0.30-0.47
		Rb (1972)	14	(15.9)14.3-17.8	(1.50)1.10-2.00
Vanek (Private)	1	CSu	18		
		FSu	6		
		Carp	1		
Vanek (Private)	1	LMB	4	(7.2) 5.2-12.8	(0.36)0.06-1.25
		CSu	13		
		Carp	5		

* Frame net.

** Species abbreviations: YP-yellow perch; NP-northern pike; CR-black crappie; Rb-rainbow trout; Eb-brook trout; GR-grayling; CSu-white sucker; FSu-longnose sucker; LMB-largemouth bass; YCT-yellowstone cutthroat trout.

yellow perch and 25 young-of-the-year northern pike. Approximately 500 yellow perch were transferred from Arod Lake to Canal Lake west of Pishkun Reservoir.

Canal Lake - Approximately 500 yellow perch (young-of-the-year and yearlings) were introduced into Canal Lake from Arod Lake on August 29, 1973. Canal Lake is 7.5 surface acres and has a maximum depth of 12 feet. Prior to the introduction of yellow perch, the lake was used as a trial walleye rearing pond with negative results. The lake also has a population of fathead minnow. Yellow perch are not new to the area as they are found in several surrounding lakes.

Kiyo Lake - One gill net was fished in Kiyo Lake for 10 hours on July 19, 1973. Only one yellowstone cutthroat was taken (Table 5). This mountain lake has a maximum depth of 13 feet and was down approximately 2 feet on the survey date. Light snowpack the previous winter and extremely dry conditions during the summer resulted in the water level decreases. The fish population is maintained naturally in several inlets and all of these were dry or isolated from the lake.

Split Rock Lake - Gill nets and frame nets were fished in Split Rock Lake to moniter trends in the northern pike and yellow perch populations. A total of 8 northern pike and 31 yellow perch were collected in gill nets (Table 5). Frame nets indicate reproduction of both species is limited as 25 young-of-the-year perch and no young-of-the-year northern pike were captured.

Farm Ponds - Fourteen ponds stocked by the state were netted in 1973 (Table 5). As a result, management recommendations were made and stocking rates were altered on several ponds. Several private ponds were also netted at the owner's request. Two ponds stocked by the state and two private ponds were rehabilitated.

Farm ponds should be netted every two or three years depending on the size and fishing pressure to provide a check on survival, growth rates and abundance of game fish vs. non-game fish. Occasional creel checks should be made on the more popular ponds to determine fishing success and fishing pressure.

Streams

Cut Bank Creek - Cut Bank Creek was electrofished in two places to check brown trout growth and survival, (Table 6). Seven brown trout were taken below the dam at the Cut Bank water treatment plant and none at the Meriwether Crossing. From scale analysis, these fish were 3-years old and represent fish planted in 1970. It appears the remaining brown trout are not reproducing successfully. A total of 31 rainbow trout were taken below the water plant, and 20 of these appeared to be hatchery fish that carried over from the past summer. Other fish taken in this area include cutthroat trout and mountain whitefish. Only one rainbow trout and two mountain whitefish were taken at the Meriwether Crossing which is upstream from the water plant. White sucker and sculpins were taken at both locations.

Ford Creek - Cabin owners on Ford Creek requested fish to be planted in this stream. On July 5, 1973, fish were sampled on Forest Service land near the mouth of the North Fork of Ford Creek and above the Double Falls. Brook trout were predominant in both areas (Table 6). Planting additional fish is not recommended since a wild population of brook trout exists in Ford Creek.

North Fork Little Badger Creek - A total of 34 cutthroat trout were taken by electrofishing from the North Fork of Little Badger Creek (Table 6). These cutthroat are thought to be of the yellowstone strain since this subspecies occurs in the drainage in Kiyo Lake. Positive identification awaits the results of a study being conducted by Dr. Robert Behnke of Colorado State University.

Table 6. Streams surveyed by electrofishing, 1973.

Area (Date Sampled)	Location	Species*	No. of Fish	Length Range (Average)	Weight Range (Average)
Cut Bank Creek (April 10)	Below Cut Bank Water Plant	HRb	20	(9.8) 8.2-11.5	(0.42)0.26-0.68
		Rb	7	(9.6) 8.3-11.2	(0.36)0.24-0.54
		Rb	4	(16.2)14.6-18.8	(1.53)1.20-2.14
		Ct	1	(9.7)	(0.44)
		LL	7	(15.7)12.6-19.6	(1.78)0.93-2.58
		Wf	4	(12.0)10.9-14.9	(0.70)0.51-1.17
Cut Bank Creek (April 10)	Below Meriwether Crossing	Rb	1	(--)	(--)
			2	(--)	(--)
Ford Creek (July 5)	Mouth of N. Fk. Ford Creek	Eb	6	(7.2) 5.9- 8.8	(0.17)0.09-0.29
		Rb	2	(6.1)	(0.10)
Ford Creek (July 5)	Above Double Falls	Eb	12	(5.9) 4.6- 7.2	(0.09)0.03-0.16
N. Fk. Little Badger Creek (July 19)	Palookaville	CT	34	(5.5) 3.7- 9.4	(0.08)0.03-0.36
Railroad Creek (July 19)	Firebrand Campground	Eb	10	(7.0) 4.1-11.5	(0.23)0.03-0.69

* Species abbreviations: HRb-hatchery rainbow trout; Rb-rainbow trout; CT-cutthroat trout; LL-brown trout; Wf-mountain whitefish; Eb-brook trout.

Railroad Creek - Requests to plant rainbow trout in Railroad Creek near East Glacier were discouraged following results of a survey conducted on July 19, 1973. Brook trout were taken from this section of stream (Table 6) and cutthroat trout are present upstream inside Glacier Park.

Dupuyer Creek - A fish kill in Dupuyer Creek near the town of Dupuyer was investigated on July 26, 1973. Dead fish observed include rainbow trout, brook trout, longnose dace and sculpins. The fish kill was caused by dewatering of the stream due to irrigation demand. No estimates were made on the number of fish killed.

Other streams were also dewatered in several locations during the drought conditions of 1973. These streams include the Teton

River and Deep Creek near Choteau and Sheep Creek near Dupuyer. Fish kills were not documented on these streams but more than likely occurred where streams were completely dewatered.

Sun River - The Sun River from Gibson Dam to an area below Vaughn was inventoried in relation to the quantity of water found throughout this stretch of river. Temperatures, turbidities and flow measurements were taken periodically on the Sun River, in diversions and in return ditches. Photographs, both aerial and ground, were taken to show diversions, dewatering and siltation.

The data collected in 1973 is preliminary. A complete analysis will be written in Progress Report F-5-R-24 which will enable the collection of an additional years data. Incorporated into this report will be United States Geological Survey flow records of the Sun River which will be correlated with the flow measurements determined for diversions and returns. Where possible, fish population data will be collected during 1974.

Big Spring Creek - This past season work progressed as scheduled on the Big Spring Creek Watershed Project. Hanson Creek Dam was completed in December and is now being filled. The dam on the East Fork of Spring Creek was up to the level of the permanent pool when work was discontinued for the winter in November. Completion of the dam is expected two to three months after the beginning of work in the spring. Funds for construction of the dam on Pike Creek were made available and bids for the project are to be let in May.

Several sections above the two dam locations were electrofished to determine fish species present. Of primary concern was the feasibility of rough fish removal from the streams above the dams prior to impoundment. Four short sections totaling about 700 feet were electrofished along Hanson Creek and the only fish taken were sculpins. Three sections totaling about 1000 feet were electrofished along East Fork and numerous longnose suckers and white suckers were taken. Some additional shocking to determine how far rough fish occur above the project is planned this spring before the dam is completed.

The mill ditch diversion is fully operational and now carries the majority of flow around town. Two vertical drops of 5-6 feet in the mill ditch caused some problems with brown trout moving upstream to spawn since no provision was incorporated for fish passage. Just how important this is to the over-all spawning picture in Spring Creek is difficult to evaluate for two reasons. First, fish can bypass the mill ditch by taking the old stream channel through town and, second, suitable spawning areas exist

below and above the mill ditch. A possible partial solution to the problem would be a temporary wing positioned where water enters the mill ditch to divert the majority of flow down the old stream channel through town during the brown trout spawning season. Such a structure would be fairly easy to install and would be removed following spawning. We feel the majority of trout would probably ascend the channel carrying the most water and thus avoid piling up below the drop.

Spring Creek was plagued by a number of pollution problems during the past season. A new sawmill located below town has been dumping waste wood products into a swamp which has constant drainage directly into Spring Creek. The mill was shut down several times during the summer by the County Attorney and after several unsuccessful attempts to remedy the problem, the owner has drained the swamp which hopefully will solve the problem. Another problem where the county dumped old cars into the same marsh was solved when they found a new location for their junked cars. The old problem of snow dumping by the City of Lewistown plagued us again this year. Their permit from the State Health Department, which allows this pollution, comes up for renewal in 1975 and every effort should be made to block renewal. Another pollution source involving the dumping of material filtered daily from the City swimming pool directly into the stream was investigated. In addition, the entire pool is drained at least once a year. Here again, the Health Department was aware of the pollution and chose to do nothing about it.

A slide area on the East Fork of Spring Creek involving a portion of the highway has been contributing to siltation. A contract for repairs was let by the Highway Department and work is scheduled to begin this spring. A sawmill located east of Lewistown caused some siltation with a 400-500 foot channel alteration on Boyd Creek, a small tributary of Spring Creek. This work was done contrary to our recommendations.

On August 3, Surber samples of bottom fauna were collected at the nine established locations along Spring Creek. These samples have been collected for a number of years and are designed as an index to moniter long-term changes in productivity. This sampling could be particularly important in reflecting reduced siltation rates resulting from completion of the flood control dams on East Fork and Hanson Creek. Two one-square foot samples were collected at each station and combined to give the totals in Table 7. As in previous years, the majority of organisms collected at most sampling stations were caddis flies of the family Brachycentridae and Leptoceridae. Another trend noted when comparing

Table 7. Number of organisms taken in two one-square foot bottom samples from Big Spring Creek and East Fork collected on August 3, 1973.

Organism	Fish Hatchery	East Fork	Burleigh's	Montana Power	St. Leo School	Above Sewer	Below Sewer	Trestle	Falls
Trichoptera									
Brachycentridae	466	10	258	385	241	565	419	17	3
Leptoceridae	76	2	477	157	116	302	236	2	
Rhyacophilidae	58	3	71	75	84	68	50	175	42
Limnephilidae			4					15	
Hydropsychidae	1		22	10	2	1		26	4
Hydroptilidae		3	1			28		3	
Ephemeroptera									
Heptageniidae	7		7	13	7	2	1	5	9
Baetidae	9	11	29	5	2	13	24	104	187
Plecoptera									
Perlodidae	8		3	2				3	
Diptera									
Tendipedidae	3	17	23			18	36	49	37
Simuliidae						1	1	25	
Tipulidae	1	2		6	1	51	14	8	15
Empididae				1					
Rhagionidae								1	
Coleoptera									
Elmidae			1	5		7	2	6	
Hydrophilidae			1				1		
Mollusca									
Spaeriidae	3		2		2	2	1		
Ancylidae	3		2	6	4	1		1	1
Physidae	18		3	1	4	7	1		2
Tricladida									
Planariidae	13			2		10	6	3	
Oligochaeta									
Lumbriculidae							1		
Station Totals	666	48	904	668	463	1076	791	443	300
Avg. No./Sq. Ft.	333	24	452	334	231	538	395	221	150
No. of Families	13	7	15	13	10	15	12	16	9

last year's totals at each station to this year's was that nearly twice as many organisms were taken per station above town last year, and this year up to four times as many organisms per station were taken below town. There is no good explanation for this trend but it should be watched closely in the samples for the next couple of years.

Fencing on the states newly purchased parcel of land on lower Spring Creek was done to separate the stream and the bottom land cover from an upland hay bench. Spring Creek is eroding the banks along portions of this state land. An attempt to improve fish habitat and stop this erosion without the use of riprap is planned for the summer.

This was the second season for the year-around fishing on Spring Creek and fishing pressure was light. In an attempt to evaluate the year-round fishing season and to obtain base-line information on population levels at the time the catchable plant was discontinued, population estimates should be made in the summer of 1974 from the established shocking sections. Shocking of several shorter sections to check on spawning success is also planned.

North Fork of Flatwillow - In the fall of 1972, willows for about a mile along the North Fork of Flatwillow Creek were sprayed with 2-4-D in an attempt to gain more grazing land. During the spring of 1973, most of these sprayed willows were mechanically cleared and pushed over the banks into the stream. This particular watershed already appeared unstable as evidenced by the presence of steep eroded banks and braided channels. With the landowners permission, we set stakes on several bends along the stream to measure probable accelerated erosion as a result of willow removal. If we have high water from runoff or from flash floods, the erosion along this section of stream will probably be great and should be followed closely.

The stream in and around this sprayed section supports a fairly heavy fishing pressure for brook trout, wild rainbow and a few stocked catchable rainbow. The removal of cover from the sprayed area provided us with an opportunity to check the fish populations in an area with greatly reduced cover to areas above and below where cover was essentially natural. Three sections, 800 feet immediately above the sprayed area, 800 feet within the sprayed area and 400 feet immediately below the sprayed area were electrofished to determine relative abundance of fish species present. The fish taken are shown in Table 8.

Table 8. Electrofishing results from three sections on the North Fork of Flatwillow Creek.

Species	Section 1 (800') Above Sprayed		Section 2 (800') Sprayed		Section 3 (400') Below Sprayed	
	Total	Under 6"	Total	Under 6"	Total	Under 6"
Rb (wild)	42	35	8	2	2	0
Rb (hatchery	8	0	1	0	0	0
Eb	23	3	17	2	27	4
Suckers	2	1	20	6	13	3
LL	0	0	0	0	1	0

Sections 1 and 2 were similar with regards to pools, riffles and overall habitat except for the reduced cover resulting from willow removal in Section 2. Section 3 differed considerably in that the area was a flooded willow bottomland impounded by beaver dams. Shocking in this section was difficult and inefficient and findings are included only for comparison. The main finding was the nearly complete absence of rainbow trout under 6 inches from the sprayed area. Habitat required by these small fish was apparently lacking in this section. Sample size was too small to draw any definite conclusion but a more detailed investigation with longer shocking sections is planned for next year. Thermographs should also be placed at the beginning and end of the sprayed section to moniter temperature changes.

Introduction of Fish - Nine thousand smallmouth bass averaging from 1¼ to 1½-inch in length were planted in Warm Spring Creek on July 18, 1973. Survey shocking at several locations during September showed the bass had doubled in size. An additional plant is planned for this year if the bass are available. These fish should be watched closely. The rainbow plant for 1974 was cut in half and if the bass establish a reproducing population, this plant will be discontinued completely. Brook trout were introduced into Little Rock Creek, a small spring creek which flows into the Judith River near Ross Fork. A total of about 5,800 3-inch fish were planted and were doing well when last checked. Several high mountain lakes were investigated for the feasibility of fish plants including Castle, Elva and Twin Lakes. Yellowstone cutthroat were planted in Castle Lake. The other lakes were too shallow for fish.

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Date: June 10, 1974

Code numbers of waters referred to in this report are:

14-1080	Cut Bank Creek Sec. 01
14-1120	Cut Bank Creek Sec. 02
14-1320	Deep Creek
14-1640	Dupuyer Creek
14-3920	No. Fork Little Badger Creek
14-4520	Railroad Creek
14-5000	Sheep Creek
14-6040	Teton River Sec. 02
14-6840	Eyraud Lake
14-7080	Bynum Reservoir
14-7320	Eureka Reservoir
14-7440	Lake Frances
14-7445	Freezout Lake
14-8000	Kiyo Lake
14-8540	Priest Butte Lake
14-9160	Swift Reservoir
14-9240	Tiber Reservoir
16-0300	Big Spring Creek Sec. 01
16-0310	Big Spring Creek Sec. 02
16-3040	Rock Creek
16-1445	East Fork Spring Creek
16-1640	Hanson Creek
16-3920	Warm Springs Creek
16-4300	Ackley Lake
16-4464	Benes Pond #2
16-4590	C-1
16-5720	Hassler Pond
16-6580	Lipke Pond
16-7286	Norman's Reservoir #1
16-7300	O'Brien Pond
16-7955	Rindall Reservoir #1
16-8380	Stafford Dam
17-9616	Smith River Reservoir
18-2640	Flatwillow Creek
18-5630	South Fork McDonald Creek
18-7321	Brooks Reservoir #1
18-7322	Brooks Reservoir #2
18-7340	Buffalo Wallow Reservoir
18-7560	Drag Creek Reservoir
18-7750	Bair Reservoir
18-8380	Martinsdale Reservoir
18-8720	Petrolia Reservoir
18-9440	War Horse Reservoir
18-9500	Yellow Water Reservoir
20-2150	Ford Creek
20-6050	Sun River Sec. 01
20-6100	Sun River Sec. 02
20-7005	Canal Lake
20-7350	Gibson Reservoir
20-7900	Nilan Reservoir
20-7950	Pishkun Reservoir
20-8200	Split Rock Lake
20-8500	Willow Creek Reservoir