

STREAM MANAGEMENT PLAN

REGION	AREA	STREAM NAME	TRIBUTARY NO.	LENGTH
5	510	Little Cannon River	M-48-12	26.6 miles

SIMILAR REACH	STREAM MILE	STREAM TYPE	ECOLOGICAL CLASSIFICATION	SPECIES MANAGED
1	0.0-0.3	Warmwater	IIE	None
2	0.3-10.0	Warmwater	IV	None
3	10.0-16.8	Coldwater	ID	Brown trout
4	16.8-26.6	Warmwater	III	None

Long Range Goal:
 Continue to provide a spring/early summer put and take brown trout fishery in similar reach 3 which provides at least 50% return to the angler.

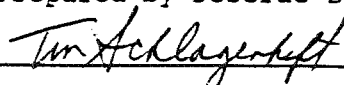

Operational Plan:

- 1) Stock 3000 brown trout yearlings in spring/early summer 1994. Provide 3000 brown trout fingerlings to the Oxford Sportsmans Club in fall 1994 to raise in their pond for stocking as yearlings in 1995 if fish are not under a consumption advisory for PCBs.
- 2) Assess trout populations in similar reaches 3 and 4 every ten years beginning in 2003.

Midrange Objective:
 Determine whether fish can be raised in the Oxford Sportsmans Club pond without accumulating high levels of PCBs. Decide in 1995 whether to continue the cooperative stocking program.

Potential Plan:

- 1) Remove the Cannon Falls Dam at mile 0.3 to allow fish migration between the Little Cannon and Cannon River.
- 2) Investigate the potential for developing a smallmouth bass fishery in similar reach 2.
- 3) Conduct a stream survey of Butler Creek to investigate its potential as a trout stream.
- 4) Implement a watershed management program.

Area Supervisor's Signature Prepared by Deserae Bushong 	Date 4/15/94	Regional Manager's Signature 	Date 4/30/94
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STREAM MANAGEMENT PLAN

STREAM NAME:

Little Cannon River

TRIBUTARY NO.

M-48-12

Date:

March 1994

Narrative:

Past surveys and investigations: The initial survey in 1971 divided the stream into two sectors (miles 0-11.2 and 11.2-24.9) with only the upper sector intensively surveyed. The stream was described as suffering from excessive siltation, high temperatures, and low flows. A resurvey in 1985 described stream conditions as similar to those in the 1971 survey, with four similar reaches. Several stream characteristics from each survey are shown below:

Year	Stream length	Flow	Temp. range (F)	High water mark
1971	24.9 miles	1.98 (mile 15)	75-84	7 feet
1985	26.6 miles	24.6 (mouth) 1.5 (mile 15.2)	74-84	8 feet

Trout population assessments were conducted in 1982, 1992 and 1993. The 1993 sampling was to recapture contaminated trout for PCB testing (see Social Considerations). Species captured in surveys and assessments are summarized in Table 1 and trout population estimates are summarized in Table 2.

Two voluntary creel surveys with the Oxford Sportsmans Club in 1983 and 1985 were completed to evaluate the put and take trout fishery. Creel results for the entire season were as follows:

Year	Pressure	% Harvest	Harvest rate	Catch rate
1983	---	---	---	0.23 fish/hour
1985	2395 hours	88%	0.31 fish/hour	0.47 fish/hour

The put and take fishery was considered successful with an 88% return of stocked fish to the angler.

Past management: All past management has been related to stocking (Table 3). Prior to 1982 the Oxford Sportsmans Club was purchasing fish from out of state and stocking them into several streams near Cannon Falls, including the Little Cannon River. There are no records for these stockings. In 1982, the DNR began supplying fingerling trout to the club to raise under the conditions that they keep stocking records and only plant fish into the Little Cannon River. The club has stocked both yearling and adult (2+) sizes. Problems with PCB contamination were discovered in 1992, and actions taken to solve the problem are described under Social Considerations.

Stream and watershed alterations: Extensive logging occurred in the late 1800's. Watershed land use recorded in 1987 consisted of 71% crop land, 18% open land, and 11% forested. Non-point source agricultural pollution affects the entire stream. Stream miles 11.6-11.8 and 25.3-26.6 appear to have been channelized sometime in the past. A large concrete dam with a 25 ft. head is present at mile 0.3, within the city of Cannon Falls. Several beaver dams were also mentioned in the 1971 and 1985 surveys.

A fish kill occurred within reaches 2-4 in 1981. The cause of the kill was liquid hog manure spread on farm fields and entering the stream via runoff. Another potential fish kill was reported in similar reach 4 in 1991 as a result of manure runoff, but no dead fish were found.

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STREAM NAME: Little Cannon River	TRIBUTARY NO. M-48-12	Date: March 1994
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Social considerations:

Angling access is limited to a municipal park in Cannon Falls and bridge crossings. The stream mouth is within the town of Cannon Falls with residential development from the mouth to mile 0.6, and at miles 1.8, 5.0 and 11.6 (the town of Sogn).

The middle portion of the Little Cannon River was first designated as a trout stream in 1946 (C.O. 1126). Designation was removed in 1950 (C.O. 1274) and then added again in 1988 (C.O. 2294): The portions currently designated are: T110, R18W, S 1, 10, 11, 12, 15; T111, R18W, S 13, 24, 25, 36.

Butler Creek (M-48-12-6) is a coldwater tributary to the Little Cannon River, and has never been fully surveyed. Potential management of Butler Creek as a trout stream should be investigated.

Routine testing of stocked fish for contaminants (PCB's) in 1992 indicated a severe problem of accumulation in fish raised in the Oxford Sportsmans Club pond. PCB levels in DNR hatchery fish and those residing in the pond were as follows:

Season/Year	Size	PCB levels DNR Hatchery	PCB levels Oxford Pond	Time in pond-P/stream-S
Fall 91	fingerling	<20 ppb		
Spring 92	yearlings	220 ppb		
Fall 92	yearlings		660 ppb	4 months (P)
Spring 93	adults (March recaptures)		192 ppb (n=2)	5 months (S)
Spring 93	adults (May recaptures)		97 ppb (n=4)	7 months (S)
Spring 93	adults (wild or from stocking before Fall 92)		32 ppb (n=3)	
Fall 93	yearling	<10 ppb		
Fall 93	yearling		31 ppb	2 months (P)

Trout from the Oxford Club's pond stocked in fall 1992 were within the do not eat category for PCB contamination (> 470 ppb). These fish were fin clipped and experimentally stocked in the stream to determine if PCB concentrations would diminish over time. Although PCB levels decreased considerably once they were in the stream for several months, (see March and May recaptures, 1993 in table above) PCB levels were still within the consumption advisory. Food used by the Oxford Sportsmans Club to feed trout was tested and found to be contaminated with PCB's, and the club switched to feed used by DNR hatcheries in June, 1993. Yearlings were stocked into the club pond in June, 1993 from the hatchery and retested in August. Fish raised in the pond were still under consumption advisories while fish raised in the hatchery were not. The Oxford Sportsmans Club is currently trying to determine the PCB source and will clean the pond and attempt to raise additional fingerlings to yearlings beginning in fall 1994.

A large portion of the Little Cannon River (similar reach 2) is not suitable for trout but may be suitable for smallmouth bass. The dam in Cannon Falls has prevented bass in the Cannon River from moving into suitable habitat in the Little Cannon River. The feasibility of establishing a smallmouth bass population to provide additional angling opportunities in this area should be investigated as well as public support for this type of management.

Limiting factors: Extremely poor natural trout reproduction and high stream temperatures are the two most limiting factors for trout management.

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Narrative:

Survey needs and evaluation plans: Oversummer survival and natural reproduction of trout should be monitored throughout similar reaches 3 and 4 every 10 years beginning in 2003. Similar reach 2 should be assessed to determine if smallmouth bass stocking established a population.

Land acquisition needs: Acquisition of the stream corridor was not recommended in the 1985 survey due to poor stream conditions. Improved land use in the watershed would increase the potential for stream acquisition.

Habitat development needs: The Cannon Falls dam should be removed to allow fish migration. Trout habitat improvement should not be considered until stream temperatures improve enough to allow improved oversummer/winter survival and natural reproduction.

Stocking: The Little Cannon will be stocked annually with 3000 yearling brown trout in spring/early summer until a decision is made regarding continued use of the Oxford Sportsman Club pond. Three thousand fingerling brown trout will be provided to the club in fall, 1994 to see if they can be raised to yearling size without accumulating PCBs.

Table 1. Fish species collected during assessments/surveys, Little Cannon River.

	1971	1982	1985	1992	1993
American brook lamprey			X		
Rainbow trout	X				
Brown trout	X		X		X
Central stoneroller	X	X	X	X	X
Redside dace	X	X	X	X	X
Carp			X		
Common shiner	X	X	X	X	X
Bigmouth shiner	X	X	X	X	X
Rosyface shiner	X				
Spotfin shiner			X		
Sand shiner			X		
Southern redbelly dace	X	X	X		X
Bluntnose minnow	X	X	X	X	X
Fathead minnow	X	X	X	X	X
Blacknose dace	X	X	X	X	X
Longnose dace	X	X	X	X	
Creek chub	X	X	X	X	X
White sucker	X	X	X	X	X
Black bullhead			X		
Stonecat			X		
Brook stickleback			X		
Green sunfish			X		
Largemouth bass			X		
Black crappie			X		
Fantail darter	X	X	X		
Johnny darter	X	X	X	X	X

Table 2. Trout population assessments, Little Cannon River.

Year	Similar Reach	Miles shocked	# trout captured	Abundance trout/mile
1971	3	1.3	7	5
1982	3	2.6	0	0
1992	3	.1	0	0
1993	4	.7	7	10

Table 3. Stocking history of the Little Cannon River, 1982-1993.

Year	Fish transferred to Oxford Club Pond	Fish stocked from Oxford pond to L. Cannon River**	Fish stocked by DNR directly into L. Cannon River
1982	1500 BNT fgl		
1983	3002 BNT fgl		
1984	3014 BNT fgl		1010 BNT yearling
1985	4128 BNT fgl		862 BNT yearling
1986	2387 BNT fgl	960 BNT yearlings	
1987			
1988	3000 BNT fgl		4000 BNT yearling 5004 RBT yearling
1989			
1990	3000 BNT fgl	900 BNT yearling	
1991			
1992		1060 BNT adult 151 BNT yearling	
1993	250 BNT yearlings*		1750 BNT yearling

* Not stocked because of PCB contamination.

** Stocking records are incomplete.