SPLAKE MANAGEMENT PLAN

DEPARTMENT OF INLAND FISHERIES AND WILDLIFE
DIVISION OF FISHERIES AND HATCHERIES

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LIFE HISTORY

The splake hybrid (S. namaycush x S. fontinalis) has been produced since the early 1870's. Although they are the only salmonid cross capable of reproducing for an indefinite number of generations, successful reproduction has only occurred in hatcheries. Splake have been introduced into a variety of waters in the U.S. and Canada over the past 100 years. Nevertheless, there is no credible documentation of splake reproduction in the wild.

Morphologically, the splake lies between both parents. Positive identification of splake is sometimes difficult by external examinations alone. Although characteristics such as the deeply forked tail of the lake trout are usually absent or minimized in the splake, the possibility of misidentification as either parental species is common. Splake may be positively identified by counting the number of pyloric caeca, small sac-like structures in the stomach/intestine area: Brook trout (23-55), splake (65-85), lake trout (93 or more). There is apparently no overlap in these counts. Splake show swim bladder gas retention characteristics which enable them to adapt to a deep-water existence. They require dissolved oxygen levels equivalent to those of their parents. Preferred temperatures lie somewhere between those of lake trout and brook trout (about 54^{o} F and 61^{o} F, respectively). At Parvin Lake in Colorado, vertical gillnets were set to evaluate distribution of splake and rainbow trout after thermal stratification had occurred. No splake were caught in areas of the lake where the temperature exceeded 60^{o} F. Splake were caught in the lower thermocline and in a shallow bay where the water temperature was influenced by cool water springs. Results from summer gillnetting in Maine support the findings at Parvin Lake. Most splake have been taken in the thermocline and hypolimnion. At Long Pond, T10 SD, Washington Co., stocked splake were not recovered in winter or summer fisheries or by gillnetting during years when homothermous conditions occurred and bottom temperatures exceeded 21^{o} C. Splake did survive when the pond stratified. During years when homothermous conditions prevailed, splake emigrated from Long Pond. Several splake were reportedly caught in Round Pond, which lies a short distance downstream from Long Pond.

The rate of maturation for splake is more characteristic of brook trout than lake trout. Data from 8 years of trapnetting at Piper Pond indicate that splake begin to mature at age 2 and are 100% mature by age 4 (Table 1).

Table 1. Splake Maturity From Fall Trapnetting at Piper Pond, 1983-2000

AGE	IMMATURE		MATURE	
	N	PERCENT	N	PERCENT
1	585	100%	0	0%
2	130	76%	21	24%
3	1	5%	21	96%
> 4	0	0%	13	100%
All	718	91%	74	9%

In Lake Huron, 34% of male and 4% of female splake examined were sexually mature by age 2. By age 4, 100% of both male and female splake were mature. Splake have been reported on traditional lake trout spawning shoals during October in Lake Huron and in brook trout spawning areas in Redrock Lake in Ontario, yet successful natural reproduction was never documented in these waters nor has it been verified in Maine waters.

Fecundity of splake is similar to that of brook trout. Egg size tends to be larger than that of lake trout. Either species can be utilized as the maternal parent as long as the fish is robust enough to produce eggs of adequate size. Experiments on egg and fry survival show considerable variation.

At Governor Hill Hatchery, where Maine splake are reared, initial egg mortality after the eyed stage has been nominal and similar to that of brook trout. From 1981 to 1996, Manitoba strain lake trout and Phillips strain brook trout were used as female and male parents, respectively. From 1996 to 1999, many of the wild strains for both lake trout and brook trout were utilized.

Growth may be controlled by characteristics of either parental strain. Thus, a slow growing strain of either parent could produce a slower growing splake. Poor environmental conditions, such as water quality and extreme competition, may also limit potential growth. Splake express 'hybrid vigor' in the first generation (F_1) that is often exhibited through faster growth rates than either parental stock. This characteristic fades, however, as progeny are taken to the second generation (F_2) and beyond.

In Maine waters where both splake and brook trout (spring yearlings or fall fingerlings) were simultaneously stocked, splake reached greater mean lengths than brook trout at each age (Table 2). Splake also routinely survive to older ages providing a higher quality fishery than brook trout in many waters. In Region E splake waters, no brook trout older than age 4 were sampled in the past 12 years, yet several splake up to age 8 have been recorded.

Table 2. Age and Growth Data for Brook Trout and Splake in Waters With Principal Splake Fisheries in Region E, 1988-2000

AGE	AVERAGE LENTGTH BROOK TROUT(INCHES)	AVERAGE LENGTH SPLAKE (INCHES)
1	9.5	11.4
2	12.1	13.4
3	13.8	16.6
4	15.4	19.4
5	-	23.3
6	-	22.8
7	-	26.0
8	-	24.5

Splake tend to feed on invertebrates during the first year. They will then switch to fish forage . In Maine, splake exhibit very flexible food habits and although they are most likely to feed on smelts and white perch, they will also feed on yellow perch, crayfish, sunfish, and minnows.

MANAGEMENT HISTORY

The first introduction of splake in Maine took place at Long Pond in Washington County in 1958. Returns to anglers were encouraging with splake out-performing paired stockings of rainbow trout, landlocked salmon, and brook trout. It was not until 1980, however, that renewed interest in the hybrid was generated. The first year class of splake was stocked in 1981 at Basin Pond and Minnehonk Lake. Currently, 53 waters are managed for splake in Maine. Another 18 waters are either on-going introductions or are managed for incidental fisheries. These waters are located in 13 of Maine's 16 counties (Figures 1 and 2). In the early years of the splake program most waters were regulated under the 5 fish bag limit and 6 in minimum length limit of the General Law. Data collected during the 5-year splake study indicated that more restrictive regulations would improve survival to older ages and enhance the quality of most splake fisheries. In 1996, the Class 1 trout regulations which included a 2 fish bag limit; 12 in minimum length limit where only 1 fish may exceed 14 in, replaced General Law regulations on most splake waters. More liberal regulations may apply where concurrent management for other species occurs. High quality or trophy regulations were put in place to provide opportunities to catch larger than average splake in a selected number of waters. These regulations include 1 fish bag limits with either a 16 in or 18 in minimum length limit.

Splake sport fisheries are maintained entirely through stocking (Table 3). There has been no documentation of successful natural reproduction in Maine. Most waters stocked with splake lack quality and/or quantity of suitable spawning habitat for salmonids. Also, substantial numbers of splake are harvested before reaching maturity. Because of these factors it is highly unlikely that self-sustaining populations of splake will become established in Maine.

To date, only lakes and ponds have been stocked with splake in Maine. Splake may temporarily utilize stream and river habitat during the cooler periods of the year. In most cases, the summer water quality requirements of splake cannot be met in the free-flowing waters in the State. A few tailwater fisheries could be developed although none are planned at this time.

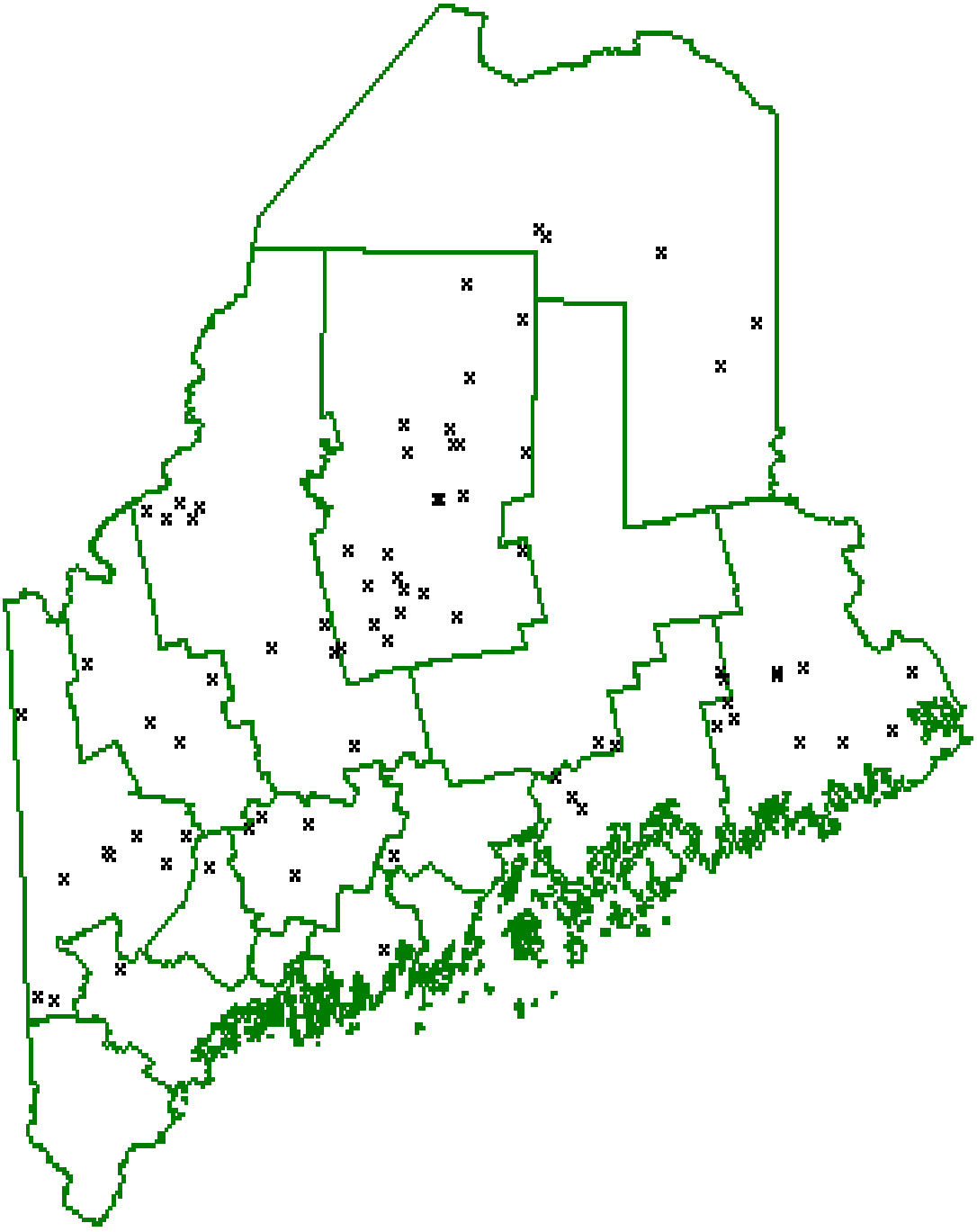

FIGURE 1. DISTRIBUTION OF ALL SPLAKE WATERS IN MAINE

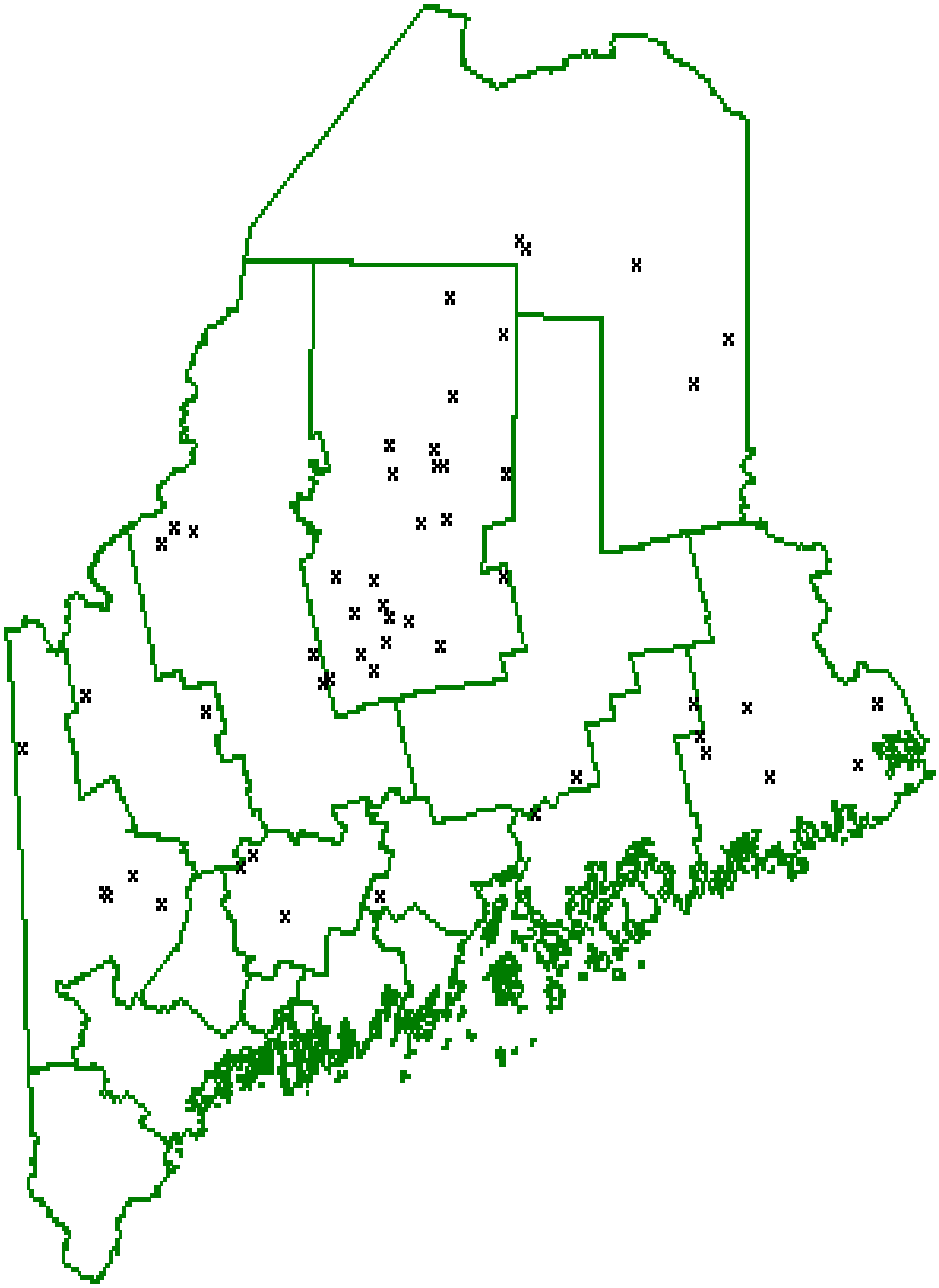

FIGURE 2. DISTRIBUTION OF PRINCIPAL SPLAKE FISHERIES IN MAINE

Table 3. Stocking History of Splake by Region (3-Year Averages, 1997-1999)

REGION	AGE	LAKES STOCKED	ACRES STOCKED	AVERAGE STOCKED PER YEAR		AVER STOCKED PER ACRE	
A	SY	12	3,050	4,367	625	2.01	0.29
	All	12	3,050	4,367	625	2.01	0.29
B	FF	3	1,414	3,439	259	12.18	0.77
	FR	3	4,802	39,000	250	15.55	0.09
	SY	8	6,965	12,300	2,,430	3.47	0.68
	All	9	6,997	27,593	2686	6.20	0.623
C	SY	15	5,981	6,825	1,312	2.21	0.42
	All	15	5,981	6,825	1,312	2.21	0.42
D	FF	1	3,146	2,750	211	0.874	0.07
	FR	1	3,146	29,146	221	9.26	0.07
	SY	4	4,401	9,748	1,729	2.39	0.09
	All	4	4,401	39,810	2,020	3.76	0.30
E	FF	14	3,610	10,450	613	7.40	0.41
	SY	11	8,100	13,850	2,164	2.84	0.45
	All	22	9,765	20,817	2,572	4.64	0.44
F	SY	2	4,585	3,333	737	1.38	0.31
	All	2	4,585	3,333	737	1.38	0.31
G	SY	7	8,343	12,557	2,427	4.60	0.86
	All	7	8,343	12,557	2,427	4.60	0.86
All	FF	18	8,170	15,264	977	7.97	0.46
	FR	4	7,948	42,146	304	12.41	0.09
	SY	59	41,425	62,980	11,423	2.70	0.47
	All	71	43,122	115,302	12,378	3.65	0.46

PAST MANAGEMENT GOALS

The splake program was still considered experimental in 1985 when the last plans were written. However, a management plan was created for the update in 1995. The Goals and Objectives were as follows:

Goals: To (1) allow for a moderate increase in distribution and abundance statewide and (2) increase opportunity to catch larger-than-average and trophy splake in selected waters.
Objectives:

Abundance: Allow each region to increase the number of waters stocked with splake to maximize fishing opportunity for coldwater gamefish in waters where past stocking programs with other species have provided marginal results. Expand hatchery capacity to meet increasing demand.

Harvest: Limit winter harvest rate to no greater than 0.40 splake/acre to ensure adequate carry-over to older ages.

Fishing Quality: Maintain a catch rate of 0.50 legal splake/angler day in waters with a Class 1 trout regulation. Maintain an average length of 12.5 in for age II splake and 16.0 for age 3 splake.

Maintain a catch rate of 0.25 legal splake/angler day in waters with special regulations designed to produce larger than average splake. Also, age 3 splake should average 16.0 in and age 4 splake should average 18.0 in. Age 4 splake should represent 30% of the harvest in quality management waters.

The first goal has been met. The Department has been very successful at increasing angling opportunity for coldwater gamefish by increasing the number of waters and total acres of principal splake fisheries in the State. Many of the waters stocked with splake would have little or no coldwater gamefish if not for the splake stocking program. Overall occurrence of splake has expanded from 46 waters in 1995 to 76 waters in 2000 (Tables 4 and 5). Each region, with the exception of Region A, has increased the number of waters and acres managed for splake.

Table 4. Occurrence of Splake by Region, 1995 Update

REGION	TOTAL OCCURRENCE		PRINCIPAL FISHERIES		ON-GOING INTRODUCTIONS	
	NUMBER OF LAKES	ACRES OF LAKES	NUMBER OF LAKES	ACRES OF LAKES	NUMBER OF LAKES	ACRES OF LAKES
A	13	4,119	3	807	7	1.917
B	6	4,981	4	1.431	2	3.550
C	6	1,592	2	329	2	1,029
D	3	1,324	0	0	3	1.324
E	14	5,039	9	2,306	5	2.733
F	0	0	0	0	0	0
G	4	8,098	2	277	2	7.821
ALL	46	25,153	20	5,150	21	18,374

Table 5. Occurrence of Splake by Region, 2000

REGION	TOTAL OCCURRENCE		PRINCIPAL FISHERIES		ON-GOING INTRODUCTIONS	
	NUMBER OF LAKES	ACRES OF LAKES	NUMBER OF LAKES	ACRES OF LAKE	NUMBER OF LAKES	ACRES OF LAKES
A	10	2,352	5	786	5	1,566
B	7	5,507	4	1,431	3	4,076
C	17	6,877	9	3,296	6	2,685
D	7	4,684	3	1,255	4	3,429
E	26	13,267	23	9,914	0	0
F	2	4,585	2	4,485	0	0
G	7	8,343	7	8,343	0	0
ALL	76	45,615	53	29,610	18	11,756

The second goal has also been met. In 1996, special regulations designed to increase the average size of splake were adopted on 10 waters with principal splake fisheries. These regulations included lower bag limits in combination with higher length limits. Data in Table 6 indicate that the average length is larger in these waters. The abundance and harvest objectives are both being met. The number of waters stocked with splake has expanded to provide additional opportunities, there are renovations underway in the hatchery system to expand capacity, and in most regions the winter harvest rate does not exceed 0.40 splake/angler. However, the fishing quality objective is not being met in several regions. It is difficult to fully evaluate the catch rate data because of there is a lack of sufficient creel survey data on a regional basis. Since the last planning update, there has been a trend toward declining catch rates and growth on individual waters with adequate data for assessment. In 1996, the hatchery system began using wild strain brook trout in the cross creating splake. This resulted in smaller splake. These fish experienced lower survival rates than their predecessors. Not only were these wild strain splake smaller at the time of stocking, but in many waters, they were never able to attain the growth objectives at age 2, 3, or 4.

Table 6. Age Composition and Growth From Netting Region E Waters With Principal Fisheries for Splake

AGE	GENERAL MANAGEMENT		QUALITY MANAGEMENT		TROPHY MANAGEMENT	
	PERCENT OF SAMPLE	AVERAGE LENGTH	PERCENT OF SAMPLE	AVERAGE LENGTH	PERCENT OF SAMPLE	AVERAGE LENGTH
1	50	9.4	41	11.3	14	8.9
2	42	14.8	47	14.3	40	15.7
3	8	16.5	9	15.4	35	19.1
4	-	-	2	18.6	5	23.4
5	-	-	<1	23.8	5	23.0
6	-	-	<1	22.8	-	-
7	-	-	<1	26.0	-	-
8	-	-	<1	24.5	-	-
All	100	12.3	100	13.3	100	16.7

OPPORTUNITY

The total number of waters and surface acreage by region was presented in Tables 5. As previously stated, all splake fisheries are maintained entirely through stocking and the number of waters with principal splake fisheries has expanded slightly each year. It is anticipated that the number of waters will expand at a much slower rate in the future.

The 53 principal splake fisheries are divided into 3 management classes (Table 7): *General Management* includes waters with General Law trout regulations or a length limit less than 12 in because many of these waters are managed for hatchery brook trout as well as splake and less restrictive regulations are necessary to maximize brook trout returns to the angler. Although a few splake survive to older ages in some of these waters, many could be considered put-and-take management. *Quality Management* includes waters with the Class 1 or Class 2 trout regulation package. These include a 2 fish bag limit and a 12 in length limit; with only 1 greater than 14 in, and a 2 fish bag limit, 10 in minimum length limit with only 1 greater than 12 in. A few *Quality Management* waters have a 2 fish bag limit and a 12 in minimum length limit without the 1 over 14 in slot limit. The waters in this category are managed primarily for splake. The increased length limit and reduced bag limit take advantage of faster growth rates and improved longevity of splake. In these waters splake become legal at age 2 and the fishery generally consists of fish age 2 and 3 with an occasional older fish. *Trophy Management* includes principal splake fisheries with a 1 fish bag limit and a 16 or 18 in length limit. Stocking rates are lower to maximize growth rates. Catch rates in Trophy Management waters are generally lower than Quality Management waters and are of secondary concern to average size. Splake are protected from harvest until age 3 or 4, thus producing a higher percentage of larger fish in the catch.

Table 7. Principal Splake Fisheries by Management Class and Region

	GENERAL MANAGEMENT		QUALITY MANAGEMENT		TROPHY MANAGEMENT		ALL SPLAKE WATERS	
REGION	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES
A	4	622	1	164	0	0	5	786
B	1	107	2	131	1	1,193	4	1,431
C	0	0	7	3,088	2	208	9	3,296
D	0	0	3	1,255	0	0	3	1,255
E	6	482	11	8,016	6	1,416	23	9,914
F	0	0	1	4,201	1	384	2	4,585
G	3	5,183	4	3,160	0	0	7	8,343
ALL	**14**	**6,394**	**29**	**20,015**	**10**	**3,201**	**53**	**29,610**

One of the foremost attributes of splake is its ability to create ice-fishing opportunities for quality coldwater gamefish. Many of our wild brook trout ponds are open only during open water season, thereby reducing opportunities for ice fishermen. Splake are very similar to brook trout in appearance and habits. Most anglers cannot easily distinguish the differences between splake and brook trout. The Department has created additional opportunity for thousands of angler-days by stocking splake in many readily accessible waters open to ice fishing. Data from the Departments Winter Angler Questionnaires support this statement. In 1994, an estimated 4,749 angler-days were directed at splake fisheries. By 1999, that figure had increased to 25,112 angler-days.

Thirty (56%) of the 53 waters managed for splake are open to ice fishing. This represents 90% of the total acreage (Table 8) .

Table 8. Principal splake fisheries open to Ice Fishing

REGION	GENERAL MANAGEMENT		QUALITY MANAGEMENT		TROPHY MANAGEMENT		ALL SPLAKE WATERS	
	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES
A	2	496	1	164	0	0	3	660
B	0	0	1	99	1	1,193	2	1,292
C	0	0	4	2,756	2	208	6	2,964
D	0	0	0	0	0	0	0	0
E	0	0	9	7,609	4	1,285	13	8,894
F	0	0	1	4,201	1	384	2	4,585
G	1	5,120	3	3.045	0	0	4	8,165
ALL	**3**	**5,616**	**19**	**17,874**	**8**	**3,070**	**30**	**26,560**

Waters that are mesotrophic or oligotrophic are best suited for splake management because splake require cool, oxygenated water for survival. A few eutrophic waters have been stocked with splake in the past 10 years. The results were poor and most were dropped from the program.

Table 9. Principal Splake Fisheries by Lake Trophic Level

REGION	OLIGOTROPHIC		EUTROPHIC		MESOTROPHIC		ALL SPLAKE WATERS	
	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES	NUMBER	TOTAL ACRES
A	0	0	0	0	5	786	5	786
B	3	1,324	0	0	1	107	4	1,431
C	5	2,647	0	0	4	649	9	3,296
D	1	518	1	684	1	53	3	1,255
E	8	6,668	0	0	15	3,246	23	9,914
F	1	4,201	0	0	1	384	2	4,585
G	2	140	0	0	5	8,203	7	8,343
ALL	**20**	**15,498**	**1**	**684**	**32**	**13,428**	**53**	**29,610**

DEMAND

Use, catch and harvest data from the 1999 Summer and Winter Angler Questionnaires are presented in Table 9. So few anglers targeted splake in 1994 that regional use estimates were not calculated. Therefore, it is impossible to compare regional use over the last update period. However, it was possible to estimate use on a statewide basis from the winter 1994 angler questionnaire. Winter use directed at all coldwater gamefish declined nearly 21% from 1994 to 1999. Winter use on waters with principal splake fisheries increased 429% from 4,749 angler-days to 25,112 angler-days during the same period. This dramatic increase in use is reflective of anglers' acceptance of splake and the increased opportunity the fish provides. Clearly, more anglers are actively seeking out splake during the winter months because these fish are easily caught and in many cases are of quality size. Also, the total acreage of splake water increased 81% over the same period.

Table 10. Estimated Splake Catch and Effort –Winter 1999 Angler Questionnaire

REGION	ANGLERS	ANGLER-DAYS	SPLAKE CAUGHT	SPLAKE KEPT	SPLAKE CAUGHT PER ANGLER-DAY	LEGALS HARVESTED PER ANGLER-DAY
A	1,673	4,164	70	70	0.02	0.02
B	1,289	5,727	2,614	592	0.46	0.10
C	349	2,126	1,289	558	0.61	0.26
D	35	523	348	35	0.67	0.07
E	2,684	9,514	3,415	1,011	0.36	0.11
F	35	35	104	69	2.97	1.97
G	662	3,145	453	244	0.14	0.08
ALL	6,622	25,112	8,295	2,579	0.33	0.10
ALL-1994 Survey	785	4,749	3,242	1,932	0.68	0.41

Table 11. Estimated Splake Catch and Effort –Summer 1999 Angler Questionnaire

REGION	ANGLERS	ANGLER-DAYS	SPLAKE CAUGHT	SPLAKE KEPT	SPLAKE CAUGHT PER ANGLER-DAY	LEGALS HARVESTED PER ANGLER-DAY
A	2,755	24,793	11,937	3,673	0.48	0.15
B	1,900	8,834	32,772	11,399	3.71	1.29
C	1,330	7,694	8,511	1,862	1.11	0.24
D	190	760	760	475	1.00	0.63
E	2,945	19,337	7,656	1,767	0.40	0.09
F	---	---	---	---	---	---
G	1,235	10,354	9,262	---	0.89	---
ALL	10,164	71,442	72,601	20,812	1.02	0.29
ALL 1994 Survey	8,385	39,156	2,012	1,174	0.05	0.03

Open water fishing directed at splake also increased over the last planning period. The total number of angler-days increased 82% from 39,156 in 1994 to 71,442 in 1999. Catch rates improved markedly from 0.05 legals/angler-day to 1.12 legals/angler-day over the same period. Several reasons may account for the improvement in catch rates over the past 5 years. First, more restrictive regulations designed to improve the fishing took effect in 1996 in most splake waters. Second, prior to 1994 splake fishing was relatively new to most anglers in Maine. Splake are not as easily caught in the summer months as in the winter and success would be low until anglers became familiar with the summer habits of this fish. Anglers are probably becoming more proficient at catching splake after an additional 5 years of experience.

FISHING QUALITY

The data presented in this section originate from clerk and voluntary surveys conducted on individual splake waters from around the State. Table 12 presents the number of creel surveys conducted within each management category by region. From this data, regional management criteria were developed and are presented in Table 13. The catch rate and average size criteria were set lower than the mean for the given management category by region. Therefore, in future evaluations, if an individual water does not meet the minimum criteria, regional managers will re-evaluate the status of the fishery and adjust current management practices (e.g. stocking and/or regulations) accordingly.

In many instances there is insufficient data to establish criteria for catch rates and/or average length at the regional level, in these cases statewide averages should be utilized. Regional staff should review Table 12 when planning future regional work schedules and target waters in management categories with little or no data. Other data such as gillnetting and trapnetting catch rates and age/growth data may be used as well as creel survey data. For example, several trophy splake waters are open only in summer months. Collecting sufficient creel survey data is not possible given the manpower constraints on regional staff and the low level of angling use. Because catch rate data is secondary to average size in these waters, the fisheries have been evaluated primarily from age and growth data collected from gillnetting and/or experimental angling. Data presented in Table 6 show that waters in the Trophy Management category exhibited greater average lengths at most ages. Not only are the fish faster growing in these waters, but splake age 3 and older contribute 40% of the sample compared to just 8% in General Management waters and about 12% in Quality Management waters.

Table 12. Regional Survey Creel Survey Data , 1996-1999

REGION	SEASON	GENERAL MANAGEMENT			SIZE QUALITY MANAGEMENT			TROPHY MANAGEMENT		
		NUMBER OF SURVEYS	CATCH RATE	AVERAGE SIZE	NUMBER OF SURVEYS	CATCH RATE	AVERAGE SIZE	NUMBER OF SURVEYS	CATCH RATE	AVERAGE SIZE
A	WINTER	1	0.70	13.6	1	0.08	18.3	0	N/A	N/A
	SUMMER	0	*	*	0	*	*	0	N/A	N/A
B	WINTER	0	N/A	N/A	0	*	*	1	0.03	14.7
	SUMMER	0	*	*	0	*	*	0	*	*
C	WINTER	0	N/A	N/A	3	0.11	13.6	1	0.65	16.0
	SUMMER	0	N/A	N/A	0	*	*	0	*	*
D	WINTER	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A
	SUMMER	0	N/A	N/A	3	0.61	15.8	0	N/A	N/A
E	WINTER	0	N/A	N/A	14	0.61	14.4	3	0.04	17.8
	SUMMER	3	0.11	140.0	22	0.36	14.9	4	0.00	*
F	WINTER	0	N/A	N/A	0	*	*	0	*	*
	SUMMER	0	N/A	N/A	0	*	*	0	*	*
G	WINTER	4	0.61	15.2	6	0.81	14.1	0	N/A	N/A
	SUMMER	1	0.53	14.4	1	0.22	15.6	0	N/A	N/A
STATE	WINTER	5	0.66	14.4	24	0.40	15.1	5	0.24	16.2
	SUMMER	4	0.32	14.2	26	0.40	15.4	4	0.00	*

* - Data is insufficient
n/a - Not applicable

Table 13. Regional Management Criteria

REGION	SEASON	GENERAL MANAGEMENT				SIZE QUALITY MANAGEMENT				TROPHY MANAGEMENT			
		NUMBER	ACRES	CATCH RATE	AVERAGE SIZE	NUMBER	ACRES	CATCH RATE	AVERAGE SIZE	NUMBER	ACRES	CATCH RATE	AVERAGE SIZE
A	Winter	2	496	*	*	1	164	*	*	0	0	n/a	n/a
	Summer	4	622	*	*	1	164	*	*	0	0	n/a	n/a
B	Winter	0	0	n/a	n/a	1	99	*	*	2	1,193	*	*
	Summer	1	107	*	*	2	131	*	*	1	1,193	*	*
C	Winter	0	0	n/a	n/a	4	2,756	*	12.4	2	208	*	*
	Summer	0	0	n/a	n/a	7	3,088	*	*	2	208	*	*
D	Winter	0	0	n/a	n/a	0	0	n/a	n/a	0	0	n/a	n/a
	Summer	0	0	n/a	n/a	3	1,255	0.15	13.1	0	0	n/a	n/a
E	Winter	0	0	n/a	n/a	9	7,609	0.26	14.1	4	1,285	*	*
	Summer	6	482	*	*	11	8,016	0.16	14.9	6	1,416	*	*
F	Winter	0	0	n/a	n/a	1	4,201	*	*	1	384	*	*
	Summer	0	0	n/a	n/a	1	4,201	*	*	1	384	*	*
G	Winter	1	5,120	*	12.8 in	3	3,045	0.33	14.1	0	0	n/a	n/a
	Summer	3	5,183	*	*	4	3,160	*	*	0	0	n/a	n/a
State	Winter	3	5,616	*	12.8 in	19	17,874	0.17	13.2	8	3,070	*	*
	Summer	14	6,394	*	*	29	20,015	0.15	13.7	10	3,201	*	*

GOALS AND OBJECTIVES
2001-2016

GOAL: Maintain the existing program.

OBJECTIVES:

Abundance: Maintain fishing opportunities for splake in approximately 53 waters:
- 26% General Management waters,
- 53% Quality Management waters,
- 19% Trophy Management waters
- Initiate new splake stocking programs only if there is no significant negative impact on existing wild or stocked fisheries.

Fishing Quality: Waters managed for splake should meet the Regional catch rate and size quality criteria outlined in Table 13 of the species assessment.

Feasibility: Current regulations are adequate to maintain existing fishing opportunities. Special regulations on Quality and Trophy management waters have resulted in larger than average fish. In some cases, lack of public support for the splake program may jeopardize expansion to some waters. Hatchery space may need to be expanded to meet minimum size criteria for spring yearlings and fall fingerlings.

Capability of Habitat: There is sufficient habitat to meet the abundance objective. New splake waters could be created where water quality meets the specified criteria, existing management programs produce unsatisfactory fisheries and there is no significant negative impact on existing wild or stocked fisheries. Restrictive regulations have been successful at creating splake fisheries with larger and older fish in selected waters.

Desirability: It is desirable to maintain the existing programs because many of the waters currently stocked with splake would not otherwise have a coldwater fishery. Splake have proven they can provide quality fisheries and therefore enhance fishing opportunities statewide in problem waters.

Possible Consequences: Maintaining the current ratio of waters in management categories may limit potential of splake management in certain waters. Low numbers of splake have been stocked in some waters in conjunction with biological stockings of hatchery brook trout for the sole purpose of providing an occasional large fish. This program has been successful in many of these general management waters. Splake could be stocked in more waters in this category thus providing more diverse fishing opportunities, however, this could result in a shift in the ratio of management classes described in the objectives. Hatchery space may be taxed if the program is requires larger fish.

MANAGEMENT PROBLEMS AND STRATEGIES

PROBLEM 1. Regional data is inadequate to make management decisions for waters in certain management categories because of insufficient staff and other resources.

Strategy a. Hire more field staff to collect data necessary to make sound management decisions.

Strategy b. Regional staff should review the data presented in this assessment when developing future work plans. Work priorities should be directed toward waters in those management classes lacking sufficient data.

PROBLEM 2. There is a lack of understanding of the role and importance of splake to Maine's inland sport fisheries by the general public that often results in little support or outright opposition for new and/or existing programs.

Strategy a. Renew efforts to educate the public by writing popular articles for local newspapers, outdoor sporting journals and Department news releases.

Strategy b. Prepare a splake presentation that can be given by Regional and Research staff at public meetings, camp owners meetings and sporting shows.

PROBLEM 3. Research suggests that splake stocked at smaller sizes do not survive, grow, or contribute to the fishery as well as larger splake.

Strategy a. For the present Maine Hatchery strain brook trout should be used in the F_1 splake cross because this mating produces larger offspring than those crosses using current wild strains.

Strategy b. Ensure adequate hatchery space exists to grow larger spring yearling and fall fingerling splake.

Strategy c. Investigate the performance on any new strains of brook trout or lake trout in the F_1 splake cross before utilizing new crosses in full-scale production.

APPENDIX A

COLDWATER WORKING GROUP INPUT

SPLAKE MEETING SUMMARY
6/19/01

Issues:

- ✓ What are the advantages of splake over brook trout?
- ✓ Why not put more emphasis on producing trophy splake?
- ✓ What is the basis of the increased winter fishing effort for splake?
- ✓ The regulations should be consistent in multiple salmonid species fisheries.
- ✓ Describe a typical "splake" water, i.e. what are the criteria for choosing splake management in a particular water?
- ✓ Fishery managers should focus on fewer waters, i.e. managed fewer waters "better".
- ✓ Distribution/allocation of management efforts should shift toward urban areas to take the pressure off "better" waters.
- ✓ Are splake being stocked over wild brook trout waters?
- ✓ There is a serious lack of public knowledge of splake biology and the splake program.
- ✓ More research is needed to determine the effects of splake on other species.
- ✓ We should use the importance of fishing to the tourist industry as the basis for seeking more general fund revenues.
- ✓ The position of S.A.M. is that the splake program interferes with other fishery management program and should, therefore, be cut back.
- ✓ The CW-Group was polled as regards to their feelings about the future of the splake program. The results are listed below:

Splake Management Program

PROPOSAL	NUMBER IN FAVOR
Maintain the existing program	3
Expand the program	1
Cut the Progam	3[1]
Present mix of management types[2]	6 in favor, 1 opposed

Splake Management Goals and Objectives

Goals:

Maintain the existing program.

Objectives:

A. Maintain fishing opportunities for splake in 53! lakes and pond: 26%! General Management Waters, 55%! Quality Management Waters and 19%! Trophy Management Waters.

B. "Fine-tune" management in existing waters, i.e. identify successful and failed programs improving the latter, if possible, and dropping those waters not meeting fishing quality criteria.

C. Initiate splake management only after careful investigation to ensure no significant impact on pre-existing salmonid fisheries, wild or stocked.
   1. Provide for the following fishing quality on a "good" fishing day
   2. Statewide (all waters): 3 fish > 14 inches. Trophy Management Waters. 1fish>5 pounds/year.

[1] Two of the 3 persons voting to "cut" the splake program made qualifying comments subsequent to their vote. One would be in favor or expanding this/and or any other program if the funds were available. The other favored fine-tuning the existing program by identifying "successes" and deleting and/or improving "poort" results. There was a general sense that IFW should proceed with caution in considering new waters.

[2] The present mix of management types includes 14 "General Management Waters", 29 "Quality Management Waters" and 10 "Trophy Management Waters".

CW Work Group Meeting February 4, 2002 Notes Per Scott Roy

(DICK WALTERS LEFT)

SPK – Tim Obrey – presented as written

Goals: NO COMMENT

Objectives:

Vaughn – remembers group voting on 14" size to determine "good day" – not 12" as written –

Dick King – prefers 14" target size better than 12" – occasional 5lb reasonable objective
Vaughn SAM prefers killing spk program in favor of RBT. Thinks problem is communication – need to educate SAM committees – VAUGHN thinks SPK program too big but sees a need
McLellan use of SPK – questions, also, relates stories of great fishing
R. Jordan examples of how SPK are used.
King great game fish – easy to catch – good eating –
Steve W. SPK are Sterile.
Cote OK as presented

Feasibility:

King Can our system handle increasing the program?

Capability:

King What about competitions with LLS?

Desirability:

Vaughn best selling point for SPK is that RBT/BNT can't be used in some waters because of Alt Salmon concerns

Consequences:

King #1. No comment
#2. No comment
#3. No comment
#4. **King** - explain competition – SPK/other fish –

Vaughn standard additions – water specific plans/knowledge/access

PRIORITIZED SPLAKE MANAGEMENT OBJECTIVES

DESCRIPTION OF STATEWIDE OBJECTIVES	COLDWATER GROUP RANK
In Trophy Management Waters provide the opportunity to catch 1 fish greater than 5lbs/year.	1
In Size Quality Management waters provide the opportunity to catch 3 fish greater than or equal to 14 inches on a “good” day.	2
Initiate new splake stocking programs only if there is no significant negative impact on existing or wild or stocked fisheries.	3
Maintain fishing opportunities for splake in 53 waters.	4

PRIORITIZED SPLAKE MANAGEMENT PROBLEMS

DESCRIPTION OF SPLAKE MANAGEMENT PROBLEMS	RANK
The general angling public lacks sufficient information to make informed decisions about splake management in Maine.	1
In general, stocking smaller splake results in a lower quality splake fishery.	2
Stocking splake may have an adverse affect on hatchery-based fisheries for salmon and brook trout.	3
The DIFW lacks sufficient fisheries staff and financial resources to fully and effectively implement the splake management program.	4

CONCEPT PLAN FOR IMPLEMENTATION OF SPLAKE MANAGEMENT OBJECTIVES (2001-2016)

PRIORITIZED SPLAKE MANAGEMENT OBJECTIVES, (COLDWATER WORK GROUP)		Region A Contribution			Region B Contribution			Region C Contribution			Region D Contribution			Region E Contribution			Region F Contribution			Region G Contribution			Statewide Totals		
DESCRIPTION OF STATEWIDE MANAGEMENT OBJECTIVES	Rank	Exst	Prop	Dfct	Exst	Prop	Dfct	Exst	Prop	Dfct	Exst	Prop	Dfct	Exst	Prop	Dfct	Exst	Prop	Dfct	Exst	Prop	Dfct	Exst	Prop	Dfct
In **Trophy Management Waters** provide the opportunity to catch 1 fish greater than 5 lbs/year.	**1**	1	1	0	2	2	0	0	0	0	0	0	0	6	6	0	0	0	0	1	1	0	10	10	0
In **Size Quality Management waters** provide the opportunity to catch 3 fish greater than or equal to 14 inches on a "good" day	**2**	1	1	0	2	2	0	7	7	0	3	3	0	11	11	0	1	1	0	4	4	0	29	29	0
Initiate new splake stocking programs only if there is no significant negative impact on existing wild or stocked fisheries. (Is this an objective, a management strategy, or, more properly, a proposal/directive for a new policy?)	**3**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**	**?**
Maintain fishing opportunities for splake in 53 waters (General Management Waters, not shown as a separate line) are included in these numbers).	**4**	5	5	0	4	4	0	9	9	0	3	3	0	23	23	0	2	2	0	7	7	0	53	53	0

Exst = Existing;
Prop = Proposed;
Dfct = Deficit (Proposed – Existing).