22 OCT 1984 W.A. DAVIS

SHEBESHEKONG RIVER WALLEYE REHABILITATION PROJECT

HISTORY

When white men first arrived at Dillon very substantial populations of Walleyes spawned in the Shebeshekong river. From descriptions made by old timers of this walleye spawning it was probably by far the most important run in this immediate area. Over the last century this once prolific group of fish has dwindled away, so that for the last decade or two it would appear to be extinct, and the few walleyes occassionally seen at the Dillon rapids are probably strays from other areas.

The probable reasons for this decline are many, and varied, but all have a common origin. They were caused by man's activities in this area. The first problems arose from logging activities. Bark, scuffed off logs during river drives probably clogged spawning areas. Several small dams were built to facilitate movement of logs down the river. These would, undoubtedly, have blocked walleye spawning migrations. With the increased presence of man, direct exploitation of the walleyes increased also. This exploitaton probably reached a peak towards the end of the logging era when employment in the logging industry declined and early settlers turned to fishing to supplement their incomes. Walleyes were seined as a cash crop in the spring, often by individuals not licensed for this activity, their fish then being sold through the legitimate commercial fishery.

The final blow to the Shebeshekong river walleyes probably came with the construction of the present bridge over the river at Dillon. The approaches to this bridge blocked a small channel just west of the present rapids. This channel, again judging by accounts of old timers (Sandy Ramsay) who witnessed the last of these walleye runs, was the main migration route for the spawning run.

Lloyd Thurston, Parry Sound district biologist, has inspected the rapids at Dillon and he believes that in their present condition they would present a serious obstacle to upstream travel by spawning walleye.

HABITAT REQUIREMENTS

To successfully complete their life cycle walleyes need three major habitat areas. The first is a suitable spawning site. Walleyes spawn in moving water over boulders eight to twelve inches in diameter shortly after the ice goes out in early spring.

The second is a suitable nursery area where the small walleyes can grow to maturity. This takes about four years for males and five years for females. The nursery area needed by small walleyes varies somewhat during their early existence. During their first summer it would appear that they do best in moderately shallow water without aquatic vegetation. These areas tend to be free of predatory fish which can cause high mortality in very small walleyes. During the next two or three years the young walleyes frequent relatively shallow bays, ten to twenty-five feet in depth, which may have considerable aquatic vegetation. The third area of habitat, which is needed by the mature walleyes, is a relatively large expanse of moderately deep water, twenty to forty feet deep, with suitable prey. This habitat is especially important during the summer. Walleyes try to avoid water warmer than about 17 degrees C (65 degrees F).

REHABILITATION

If a substantial population of walleyes is to exist in the West Carling area they must have the various types of habitat just described available to them. There is, at present, no suitable spawning habitat in the Shebeshekong river which is accessible to walleyes. There are two possible remedies to this situation. One would be to reopen a migration route to the walleye around, or through, the Dillon rapids. The other would be to create a spawning area below, and at the base of the present rapids. Lloyd Thurston believes that, initially, it would be most ecnomical and effective to do the latter. When a very large spawning run of walleyes does develop and suitable space for spawning below the rapids becomes too small to accomodate the run, then the by-pass option should be considered. Should our Township decide to rebuild, or replace, the present bridge then we should ask that the reopening of the small

channel once used by migrating walleyes be included in these plans.

I believe that we should take Lloyd Thurston's advice and create a spawning area below the Dillon rapids. Preliminary estimates suggest a cost of about $5,000, materials and labour, for this project. We can expect financial assistance from MNR through the Community Fisheries Involvement Program (CFIP). Any volunteer labour we contribute would count towards our share of the cost.

Because the present walleye spawning run is at such a low ebb there may not be enough spawning walleyes to re-establish a good population in a reasonable length of time. The current remedies to this problem are to release very large numbers of newly hatched walleye fry, or to rear fry in large ponds for 6 to 8 weeks and to release them at a size of about 2 to 2.5 inches into suitable nursery areas. As a rule of thumb the larger any artificially reared fish is when it is released into the wild, the much better are its chances of survival, so the latter approach is most likely to be successful. It is quite difficult to rear walleyes, especially to sizes larger than 2.5 inches. The Ministry of Natural Resources is developing walleye rearing technology and we can hope that they would soon be able to provide walleye fingerlings to re-establish our walleye run. Once we have a spawning area, and small walleyes, we must have safe nursery areas for these fish to grow to maturity. Good nursery areas for very small walleyes would probably be (1) the large sand flats or, shallows, between Winnetou Resort - Kozy Kove and Dillon Cove - Long Bay. (2) the large shallows east of Franklin Is., north west of Thistle Is. (3) the large sand flats on the south east side of Franklin Is. and (4) shoals among the islands north west of Franklin Is. There may also be other smaller areas that would be suitable.

After their first summer the young walleyes will spend much time in ten to twenty-five feet of water. They are apt to stay at the mouth of the Shebeshekong river, in Sand Bay, Corbman Bay, Cormican Bay and interconnecting channels. During this first two to five years of their existence they are vulnerable to angling, both summer and winter, throughout much of the year. It is during this stage of the

rehabilitation project that the walleyes may need protection from excessive angling pressure. During the initial stages of the rehabilitation effort the overall numbers of walleyes will be small, and it will be very important to be sure that good numbers reach spawning size. We should make every effort to encourage anglers to release small walleyes so that a good spawning population is established. This effort to get anglers to release small walleyes voluntarily may be a sufficient restraint on angling mortality. However, there should probably be a legal restriction available as a back up should the voluntary release be insufficient protection. The only mandatory restriction that could be applied to protect the small fish would be to prohibit angling in the most important nursery area for walleyes age one year to spawning. In this case this would probably be the mouth of the Shebeshekong river east of Winnetou - Kozy Kove. This is an excellent nursery area, and would help focus the majority of the walleyes surviving to maturity on the spawning area. Such a sanctuary would co-incidentaly afford protection to an excellent spawning and nursery area for pike and muskies. It is probable that this much protection would not be necessary, especially if voluntary restraint by anglers was effective. However the mechanism for quick application of this measure, if deemed necessary by MNR, should be in place, as we could lose our initial rehabilitation effort to excessive angling mortality before action could be taken. A total ban on angling would be a severe hardship on two commercial resorts in the proposed sanctuary zone. This could be alleviated considerably if guests of these resorts were allowed to fish from their existing docks. It is unlikely that such angling activity would significantly affect walleye numbers in the sanctuary area. Again I would like to emphasize that the establishment of a sanctuary should only be considered if it is biologically necessary to establish an adequate spawning population.

As the walleyes approach, and pass, spawning size they will spend much more of the year in deeper water. They thus avoid angling pressure during much of the annual period of most intense angling activity in

this area. Although these deep water areas are still fished commercially there is a minimal commercial quota. In addition MNR has recently changed regulations regulating the commercial fishery, and has assured angling groups that there will be adequate supervision of the commercial fishery, so there should not be significant commercial fishing caused mortality in local walleye populations.

The rehabilitation approach outlined here has been the recipe for success in the U.S. where walleye populations have been established, or re-established. These successes have centered on providing and maintaining adequate walleye habitat, introducing either fry and/or fingerling walleyes, and then careful careful management of human exploitation of the resulting fishery. If this approach is followed here there is every reason to believe that anglers in this area could experience an excellent walleye fishery for the first time in three quarters of a century.

W. A. Davis, October 22, 1984.

Note. Ron Ramsay has told me that he believes that the original walleye spawning migration route was east of the present bridge, rather than west.