

FISHERIES DIVERSIFICATION PROGRAM

Environmental Awareness and
Conservation Technology

Project Summary: EACT- 2.2001.DFO (FDP 341)

Workshop on Reducing Salmonid By-catch In Eel Fyke Nets



On March 14, 2001 a workshop was held at Deer Lake to provide an opportunity for fishers and other stakeholders in the Newfoundland eel fishery to discuss the issue of salmon and trout by-catches in eel fyke nets.

INTRODUCTION

Throughout the world, a variety of fishing gears have evolved for capturing eels. In Newfoundland, the preferred gear is the fyke net. Commercial eel fishers set their nets in rivers, ponds and estuaries. A fyke net is essentially a long tube or 'tunnel' of small-mesh netting, closed at one end and having one or two 'leaders' - long curtains of netting which extend outward on an angle from the open end of the net and serve to direct eels into the net. (Where a net is set in rivers, the leader(s) may extend across a maximum of two-thirds the width of the stream, so as not to block the passage of migrating salmonids and other fish and river-dwelling animals.) There are two basic types of fyke nets, the hoop net and the rectangle net. The hoops and rectangles are the solid framework that keep the tubular net from collapsing. The hoop net has several circular hoops, which decrease in size from the mouth of the net to the end bag. The rectangle net has a metal frame at the entrance, and another, slightly smaller metal frame about half way down the bag. Eels are guided into the net by the leader(s). Unfortunately, so are salmon and trout.

Following workshops in 1993-95 involving eel fishers, the Department of Fisheries and Oceans, the province's Department of Fisheries and Aquaculture, and recreational fishers, several eel fyke net experiments were conducted on reducing the by-catch of salmonids. Three different devices proved to be effective in reducing by-catch. In 1995 it was made mandatory for eel fishers to use one or another of those devices. However, recent inspections of eel fyke nets by DFO Fishery Officers has shown that in some areas those devices are less than effective that first thought.

WORKSHOP DISCUSSION

The workshop began with a presentation of the major elements of DFO's current Eel Management Plan. The license conditions for both commercial inland/coastal and exploratory fisheries were presented.

An overview of recent and historical commercial eel catches was also presented. The highest recorded catch - 146 tonnes - was landed in 1978. Eel fishers commented that the DFO-reported low catch of 29 tonnes in 2000 was not a reflection of a resource in decline. (Catch information for some areas was not available at the time of the workshop.) The fishers said that their catch rate has remained fairly consistent in recent years. The fishers stated that reduced fishing effort, which they attributed to low market prices, was the main reason for the low landings in 2000. Also, they wondered if Newfoundland-caught eels sold to other Atlantic provinces were included in DFO's Newfoundland landings statistics.

The fishers at the workshop reported that overall they were pleased with the current five-year DFO Eel Management Plan.

The workshop continued with a thirty-minute video by DFO showing the different methods currently used throughout Newfoundland to catch Eels. The video illustrated the various exclusion devices employed by fishers to reduce or eliminate the by-catch of salmonids: 1) a modification to the fyke net that allows eels to pass through the entrance into the net but restricts the passage of other fish; 2) an area of mesh in the net that allows small fish to escape through the netting, while preventing the escape of eels.

DFO reported that the salmonid by-catch in Newfoundland's west coast eel fishery is greater than in other areas of the province, and discussion followed to examine this situation. Workshop participants reasoned that the exclusion devices developed to reduce by-catch need a steady flow of current for optimum performance. On the east coast, eels are caught almost exclusively in rivers where current is present. On the west coast many eel fishers operate in river estuaries, where there is little or no current.

The workshop concluded with a discussion of measures to further reduce the salmonid by-catch, especially on the west coast. DFO committed to work with fishers to identify problem areas and to develop measures to further reduce by-catch without interfering with the viability of individual eel fishing operations. It was agreed that solutions to the problem will probably be site-specific because there is no one method that will work in all the different areas where eel fishing is conducted. Different conditions in different locations present various challenges and call for various approaches.

SUMMARY

The problem of salmonid by-catch in the commercial eel fyke net fishery has been significantly reduced by the introduction of exclusion devices, and by the willingness of eel fishers to address the problem. At the workshop, DFO and fishers committed to identify remaining problems areas, and to jointly developing and implementing innovative solutions.

RECOMMENDATIONS

Delegates at the workshop recommended:

- That the use of log books by eel fishers should be made mandatory, and that DFO should further analyse catch and effort data.
- That a permanent numbering system for fyke nets be implemented, to eliminate the need to attach new numbers to fyke nets each year.
- That eel fishers who use the plastic funnel by-catch excluder device must install the device properly into the end of the fyke net bag.
- That fishers who don't use a wire cylinder in the end of the fyke net bag should install a small hoop or ring to prevent the mortality of any salmonids that may get trapped in the bag.
- That eel fyke net leaders or 'wings' should have small mesh and be constructed of large twine, to prevent the meshing of salmon and trout.

Table 1:L Workshop participants

Fishers

Everett Roberts	Triton
Melvin Barry	Heatherton
Kevin Young	Heatherton
Alphonsus Bennett	McKay's

DFO representatives

Gerry Brothers	Chief - Conservation & Technology, St. John's
Bob Lambert	Detachment Supervisor, Stephenville
Bill Hickey	Fisheries Technologist, St. John's
Berkley Slade	Staff Officer - Recreational Fisheries, St. John's
John Melindy	Consultant, Aspen Cove

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The \$10 million Fisheries Diversification Program is part of the \$81.5 million Canada-Newfoundland Agreement respecting the Economic Development Component of the Canadian Fisheries Adjustment and Restructuring Initiative, announced in August, 1999. The main thrust of the Fisheries Diversification Program is industry-wide research and development initiatives that reflect the economic development priorities of the Newfoundland and Labrador fishing industry.