

Agenda item 4.6
For information

Council

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Unreported catches – Tabled by UK (Northern Ireland)

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**NASCO 2007 Annual Meeting
Special Session on Unreported Catches**

UK (Northern Ireland) Report

Introduction

This paper summarises the methods that have been used to estimate unreported catches of Atlantic salmon in UK (Northern Ireland), describes how these methods have evolved, provides evaluation of the reliability of the methods used and presents data on trends in unreported catches. Two distinct statutory fishery agencies exist in UK (Northern Ireland) namely the Fisheries Conservancy Board for Northern Ireland (FCB) and the Loughs Agency (LA) which is a cross-border body responsible for the Foyle and Carlingford catchments.

Methods of estimating unreported catches and evaluation of methods used (1983-2001)

Estimates of unreported catches of salmon in UK (Northern Ireland) have been made since 1984, coincident with the introduction by DARD of a CWT tagging programme at the River Bush Salmon Station. Estimates of unreported catches were required in order to allow evaluation of exploitation rates in coastal salmon fisheries, based on raising of tag return data collected from tag scanning programmes in commercial catches.

Unreported catches were separated into two categories for the purpose of estimation: unreported legal catches and unreported illegal catches.

Unreported legal catches

Estimates were based on observation of catches by staff engaged in tag recovery programmes. Daily visits were made to dealerships and individual netmen. In the latter case, staff were frequently present when catches were being landed from individual nets and therefore total numbers of fish taken were observed. Although not a truly systematic method, the high degree of coverage of the fishery, both in terms of frequency of visits and distribution and number of netmen cooperating with tag recovery at place of landing, is believed to have provided robust estimates of the legal catch unreported.

No estimates were made of unreported legal catches in the rod fisheries.

Unreported illegal catches

By definition, estimation of unreported illegal catches is more difficult than those from legal catches, in part due to the variety of illegal methods available. For UK (Northern Ireland) estimates of illegal unreported catches have been based on local knowledge of fisheries, sometimes from scientists involved in tag recovery programmes, but more usually from experienced fishery officers. No systematic methods of estimation were employed to assess unreported illegal catches.

Methods of estimating unreported catches and evaluation of methods used (2001-present)

A carcass tagging and logbook scheme for all salmon fishing was introduced into both fishery areas of Northern Ireland for the first time during September 2001. The scheme was designed *inter alia* to improve records/returns for commercially-caught and rod-caught fish and to facilitate regulation of numbers caught (by quota) should this be necessary. The first six years of the scheme, 2001-2006, have proved successful and facilitated the development of a database charting salmon exploitation in different areas and fisheries throughout each season. Assessment of the performance of the carcass tagging scheme in commercial fisheries in both fishery areas of Northern Ireland has indicated excellent rates of compliance with the tagging legislation. The total commercial catch has been quantified annually since 2002 with return rates approaching 100% consistently recorded in both fishery areas of Northern Ireland.

Angling exploitation has been quantified through the carcass tagging scheme since 2002. The angling database relies on logbook/tag information returned by anglers to the statutory authorities. This scheme provides a basis for the estimation of unreported rod catch. In the FCB area the annual angling return rates are calculated from examination of the number of tags issued to anglers in relation to the number returned from the angling community; a raising factor can then be developed to account for the unreported rod catch from salmon producing rivers in the FCB area. The Loughs Agency also utilise rod catch returns from their carcass tagging scheme to estimate unreported catch using a raising factor based on Small (1991). In this way the total annual recreational catch can be estimated for each fishery area. The return rates evident in the FCB area have ranged between 21.7%-36.9% and for the Loughs Agency area similar returns have been recorded of between 20-26%. The tag return from UK (Northern Ireland) in 2005, for example, accounted for 2,548 salmon (506 from FCB region and 2,042 from Loughs Agency region¹), after the regional adjustments were made the unreported catch accounted for 3,184 salmon, producing a grand total rod catch of 5,732 salmon for the year.

Trends in unreported catches for UK (Northern Ireland)

Estimates of unreported catches in rod fisheries had not been available until the introduction of the carcass tagging scheme. Total unreported angling catch (number of salmon) in the UK (Northern Ireland) has varied between around 3,000-4,000 fish since the introduction of the tagging scheme (Table 1). The number fluctuates depending on prevailing angling conditions, effort and logbook/tag return rates. The total rod catch figure reported to ICES and NASCO each year accounts for the unreported catch and has done since the beginning of the carcass tagging programme in 2002.

Unreported catches in the commercial salmon fishery (as a percent of total catch) have fallen considerably during the time series, reflecting both a real decrease in levels of unreporting and refinements in methods of assessment, falling from around 50% to around 10% between 1984 and 1996. Levels of unreported catch appear to have stabilised at around 10% from 1996 until the introduction of the carcass tagging scheme in 2001 (introduced part-way

¹. *By agreement with the Irish authorities, Loughs Agency area salmon catches are allocated to Ireland:Northern Ireland on a 50:50 split for reporting purposes. Hence the total UK (Northern Ireland) national catch reported to ICES and NASCO represents 50% of the Foyle area catch, plus all the FCB area catch.*

through the year). The carcass tagging scheme has further reduced the unreported catch to under 5% with some years exhibiting less than 1%. The scheme has placed a legislative onus on fishermen to tag wild salmon and record fishing effort/catch, and has represented a deterrent to the capture and sale of untagged wild salmon.

Figure 1 presents data on estimated unreported catches of salmon in the UK (Northern Ireland) commercial salmon fishery and is based on the methods described above. These data are taken from annual UK (Northern Ireland) national reports to ICES.

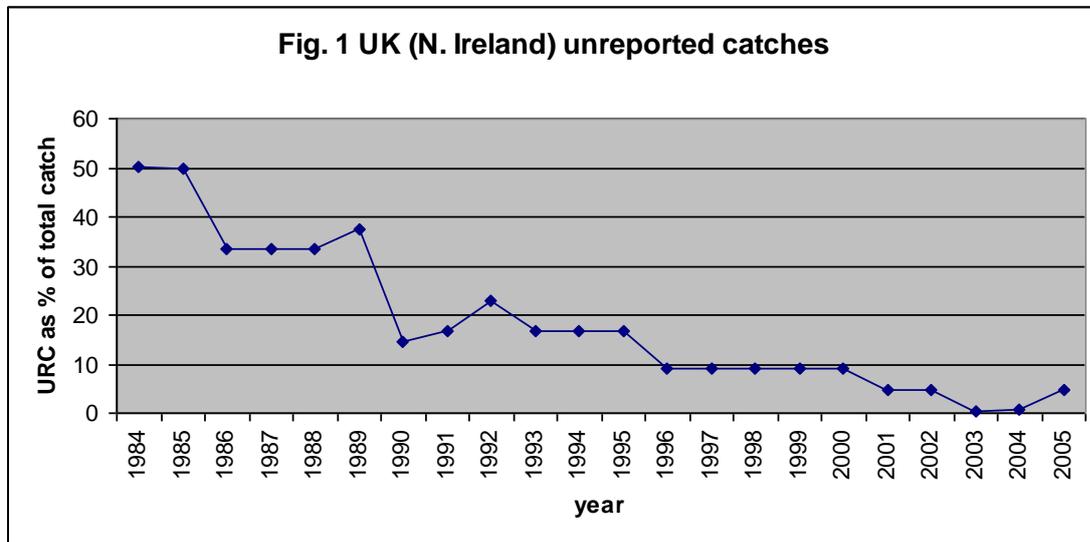


Figure 1 Unreported catch as a percentage of total catch from commercial salmon fisheries in UK (Northern Ireland) from 1984-2005.

<i>Fishery Year</i>	<i>Reported Catch</i>	<i>Unreported Catch</i>	<i>Total Catch</i>
2002	3,437.5	3,875	7,312.5
2003	1,468	3,018.5	4,486.5
2004	1,853.5	3,886.5	5,740
2005	2,548	3,184	5,732

Table 1 Unreported catch (nos. salmon) in comparison to the reported catch in recreational salmon fisheries in UK (Northern Ireland) from 2002-2005.

References

Small, I., 1991. Exploring data provided by angling for salmonids in the British Isles. In: Catch effort sampling strategies (ed. I. G. Cowx), pp 81-91. Fishing News Books, Oxford.