

Agenda item 6.7
For information

Council

CNL(05)23

Guidelines on Stock Rebuilding Programmes – Returns by the Parties

Guidelines on Stock Rebuilding Programmes – Returns by the Parties

Summary

1. A stock rebuilding programme has been defined by the Council as an array of management measures, including habitat improvement, exploitation control and stocking, designed to restore a stock to above its conservation limit. While these management measures are being addressed by the Council in application of the Precautionary Approach the Council had agreed that it would be useful to develop some guidance to the Parties and last year adopted Guidelines on the Use of Stock Rebuilding Programmes in the Context of the Precautionary Management of Salmon Stocks, CNL(04)55. In order that the Parties can gain from each others' experience and to facilitate dissemination of best practice, the Council also agreed that each year the Parties should be requested to provide the following information:
 - a summary or list of current stock rebuilding programmes (or similar documents) indicating how copies may be obtained;
 - suggestions for how the guidelines might be improved.

2. The first returns under the agreed format are attached. Some returns indicate how further information on the stock rebuilding programmes described can be obtained. At the time of preparation of this report, no return has been provided by some EU Member States with salmon interests (France and Portugal). The returns indicate that:

In **Canada**, catch and release of MSW salmon is mandatory in Quebec for all rivers under their conservation limit. In addition for some rivers there is a five-year stocking programme to accelerate recovery. Details of the quantity and life-stage of salmon stocked in rivers in Quebec have been provided. Thirty-two Inner Bay of Fundy salmon rivers have been listed under Canada's Species at Risk Act and stock rebuilding efforts are underway for three priority rivers where live gene bank and individual fish pedigree techniques are used to maintain the genetic integrity of the stocks.

In **Denmark (in respect of the Faroe Islands and Greenland)**, there are no stock rebuilding programmes.

European Union:

In Denmark, a National Management Plan for salmon has been published.

In Finland, stock rebuilding programmes are not considered to be applicable to the Atlantic salmon stocks.

In Germany, information has been provided on the number, life-style and origin of salmon stocked into various rivers in Brandenburg. In Baden-Wuerttemberg proposals for stock rebuilding programmes are being discussed. For Northrhine-Westfalia, an annual report on the salmon reintroduction project is available and details of the project were presented at the stakeholders consultation meeting in London and are contained in Annex 6 of document CNL(05)13.

In Ireland, TACs and restrictions on recreation fisheries have been imposed to meet conservation limits and rebuild salmon stocks. The Electricity Supply Board has an annual restocking programme on 5 rivers. Restocking is carried out in 16 rivers (9% of rivers) although some is for mitigation purposes rather than for stock rebuilding. Approximately 8 million eggs are produced; the majority are stocked as unfed fry, about 3.6 million in 2004. More than 700,000 hatchery-reared smolts were released in 2003. Habitat improvement has been undertaken on a number of rivers.

In Spain, stock rebuilding programmes started on three rivers in Galicia in 1997.

In Sweden, a strategy has been developed for introduction and transfer of fish.

For the UK, in England and Wales, Salmon Action Plans are used to examine the status of all principal salmon rivers and define priorities for management action. In Northern Ireland, habitat management and restoration stocking programmes and exploitation control measures are in place in tributary rivers of Lough Neagh and in rivers on the north and east coasts where conservation limits are not being achieved. In the Foyle catchment, habitat and exploitation are managed to sustain populations above management targets. In Scotland, hatcheries are operated for stock augmentation projects, proposals for developing stock rebuilding programmes for rivers in the west and north are being developed and a framework for considering the factors that should influence decisions on stocking has been published.

In Iceland, there are extensive stock rebuilding programmes in six rivers and minor stocking programmes in various other rivers. All programmes use local salmon stocks and are carried out by river associations in cooperation with angling clubs. Details of the number and life-stage of salmon stocked in Icelandic rivers have been provided.

In Norway, stock rebuilding programmes using the gene bank are being undertaken in ten rivers and two limed rivers are also subject to stock rebuilding programmes.

In the United States, the status of stock rebuilding programmes for Atlantic salmon populations (including the Connecticut, Maine, Merrimack and Pawcatuck River programmes) continues to be evaluated. Technical Advisory Committees have been established for each programme (with the exception of the Pawcatuck River) to guide the implementation of management measures and to evaluate the factors contributing to depressed population levels. Genetics and pathology are assessed, research and management actions prioritised for restoration and recovery, and strategies developed to protect and restore critical habitats. Stakeholders have been identified and included. In Maine, the river-specific stocking programme is consistent with NASCO Stocking Guidelines. Threat assessments are underway in Maine to identify risks as part of the Endangered Species Act listing and the recovery planning process.

3. There have been no suggestions for improvements to the guidelines although EU (Germany – Brandenburg) has highlighted the need to intensify national and international cooperation with regard to stock rebuilding programmes.

Secretary
Edinburgh
27 May, 2005

*Guidelines on the Use of Stock Rebuilding Programmes –
Returns by the Parties*

- 1. Provide a summary or list of current stock rebuilding programmes (or similar documents) indicating how copies may be obtained.**

Canada

In Quebec, a catch and release policy for MSW is mandatory for all the rivers under their conservation limits. It is the first step to rebuild the stock. But for some rivers (list below), we have a five-year plan stocking programme to accelerate the stock recovery.

<u>River</u>	<u>Stocking stage</u>	<u>Quantity</u>
Jacques-Cartier	Egg (artificial incubator close to the river)	400,000
Petit-Saguenay		100,000
St-Jean (Saguenay area)		50,000
Des Escoumins	Fry	16,000
Godbout		50,000
Jacques-Cartier		100,000
Malbaie (Québec area)		50,000
Aux Rochers	Parr	35,000
Malbaie (Québec city area)		50,000
Nouvelle		50,000
Rimouski		65,000

The salmon populations in 32 Inner Bay of Fundy rivers have been listed as “endangered” under Canada’s Species at Risk Act. Under a Recovery Strategy, stock rebuilding efforts are currently underway for priority rivers. For these 3 priority rivers, live gene bank and individual fish pedigree techniques are used to maintain the genetic integrity of the stock in each river.

Denmark (in respect of the Faroe Islands and Greenland)

Faroe Islands

Not applicable.

Greenland

No current stock rebuilding programme.

European Union

Denmark

The Ministry of Environmental Protection has published a ‘National Management Plan for Salmon’.

Finland

Not applicable.

Germany

In Baden-Wuerttemberg: Proposals for programmes are discussed and summarized for example in:

- (a) Höfer, R. & Riedmüller, U. 2002. Wiedereinbürgerung des Lachses am Oberrhein: Projektziele bis 2006 (Hrsg.: Landesfischereiverband Baden e.V.). Freiburg. Hard copies may be obtained from the Landesfischereiverband Baden (<http://www.lfvbaden.de>).
- (b) Schneider, J. (2003): Wiederansiedlung des Atlantischen Lachses (*Salmo salar* L.) in Baden-Württemberg. Teil I: Projektkonzeption für die Wiederansiedlung des Atlantischen Lachses. Gutachten im Auftrag des Landesfischereiverbandes Baden e.V.; 27 S.
- (c) Landesfischereiverband Baden-Württemberg e.V. und Landesfischereiverband Baden e.V. (2004): Wiedereinbürgerung des Atlantischen Lachses im baden-württembergischen Oberrheingebiet. Bericht über das in den Jahren 2000 bis 2004 umgesetzte Projekt. Hard copies may be obtained from the Landesfischereiverband Baden-Württemberg (<http://www.lfvbw.de>) [Website still in progress!]

In Brandenburg: the following stocking has been undertaken:

year	number	species	status	origin / marks	river - system
1999	50 000	salmon	fry	Shannon / Burrishoole (Ireland)	Stepenitz
	20 000	seatrout	fry	Stör (Germany; Schleswig-Holstein)	
2000	70 000	salmon	fry	Lagan (Sweden)	Stepenitz
	30 000	seatrout	fry	Stör	
2001	40 000	salmon	fry	Lagan	Stepenitz
	7 400	salmon	Smolt	Ätran (Schweden, finclip-marks)	
	30 000	seatrout	fry	Stör	
	75 000	seatrout	fry	Germany; Mecklenburg-Vorpommern	
2002	75 000	seatrout	fry		Ucker (Köhntop)
	50 000	salmon	fry	Lagan	Ucker (Mühlbach/Beeke)
	7 400	salmon	Smolt	Ätran (finclip-marks)	Stepenitz
	2 600	salmon	Smolt	Skjern Å (Denmark, finclip-marks)	
	30 000	seatrout	fry	Stör	
	25 000	seatrout	fry	Mecklenburg-Vorpommern	Ucker (Köhntop)
25 000	seatrout	fry		Ucker (Mühlbach/Beeke)	
2003	50 000	salmon	fry	Lagan	Stepenitz
	12 000	salmon	Smolt	Ätran / Skjern Å (finclip-marks)	
	40 000	seatrout	fry	Stör	
	40 000	seatrout	fry	Mecklenburg-Vorpommern	
2004	60 000	seatrout	fry		Ucker (Köhntop)
	50 000	salmon	fry	Lagan	Ucker (Mühlbach/Beeke)
	15 000	salmon	Smolt	Ätran / Skjern Å (finclip-marks)	Stepenitz
	40 000	seatrout	fry	Stör	
5 000	salmon	Smolt	Lagan	Pulsnitz	
	40 000	seatrout	fry	Mecklenburg-Vorpommern	Ucker (Köhntop)
	60 000	seatrout	fry		Ucker (Mühlbach/Beeke)

The following suggestions for improving the effectiveness of stock rebuilding programmes were made: intensification of national and international cooperation between the proper authorities (fishery science, water engineering, nature protection) and improvement in control or enforcement of law and order. In rivers or brooks: construction of fish passes; enforcement of fish protection on hydro-electric power stations (rake width in salmon rivers < 10 mm; correct bypasses for diversion of smolts); reduction of fine sediment accumulation (sand traps; shut-down of drainage or amelioration canals); restoration of reproduction habitats (substrate reinstatement with gravel and stones); restoration of the (former) sinuosity or remeandering of straightened rivers; regular fishing for pike (*Esox lucius*); national and international control programme for cormorants.

In Northrhine-Westfalia: An annual report (issue 2003) on the reintroduction project is available annually from LÖBF Northrhine-Westfalia which summarizes all actions taken for migrating fish species, particularly Atlantic salmon. A description of the reintroduction project for Atlantic salmon conducted by the Ministry of Environment was submitted at the stakeholder consultation meeting in London in January (see CNL(05)13, Annex 6).

Ireland

National Stock Rebuilding Programme (i.e. Imposition of TACs and restrictions to recreational fisheries) to meet Conservation Limits and rebuild stocks in individual rivers, districts and regions.

Electricity Supply Board Annual Restocking Programmes (Rivers Shannon, Lee, Erne, Clady, Crolly).

Other smaller-scale programmes including Liffey Anglers Restocking programme.

Waterville Development Group Restocking programme.

Restocking is carried out in 16 rivers in Ireland (9% of all rivers). In some instances this is not directly for stock rebuilding but is carried out for mitigation purposes, e.g. to replace stocks lost through impoundment, etc. Approximately 4,200 adult fish are removed from the wild. This may be a mixture of first-generation wild fish but the majority are adults from hatchery releases recovered in line breeding programmes. Approximately 8 million eggs are produced. The majority are put out as unfed fry and approximately 3.6 million were released in 2004. Hatchery smolt production increased from 598,000 in 2002 to 770,000 released in 2003.

Habitat improvements with the intention of increasing juvenile productivity have also been applied in several rivers in Ireland (Moy, Burrishoole, Corrib, Waterville, etc.)

Spain

In Galicia, the stock rebuilding programme for the Ulla, Lérez and Miño rivers started in 1997. Documents are written in Spanish and can be obtained by requesting them from the Xunta of Galicia.

Sweden

The Swedish National Board of Fisheries decided upon a strategy for introduction and transfer of fish in 2001. The document (in Swedish with English summary) can be obtained from the website www.fiskeriverket.se.

United Kingdom

In England and Wales: Salmon Action Plans are used to examine the status of all principal salmon rivers in England and Wales and define priorities for management action. Copies of these, and of the 2004 salmon stock conservation review, may be obtained from the Environment Agency's National Customer Contact Centre (tel: +44 (0)8708 506506).

In Northern Ireland: Habitat management and restoration, stocking programmes, and exploitation control measures are in place in tributary rivers of the Lough Neagh system and on the North and East coasts of Northern Ireland where stock status indicators suggest conservation limits are not being achieved. Habitat and exploitation are managed in the Foyle catchment to sustain populations above management targets. Documentation is disparate amongst agencies involved.

In Scotland: A number of District Salmon Fishery Boards throughout Scotland operate hatcheries for stock augmentation projects. Sub-group 3 (Restoration) reporting to the Tripartite Working Group, comprising representatives of wild salmon interests, the salmon farming industry and the Scottish Executive, is developing proposals for stock rebuilding programmes, where these are identified as necessary, particularly in rivers in the west and the north of Scotland. In 2003, Fisheries Research Services issued the publication '*Salmon and Sea Trout – To Stock or Not?*' providing a framework for considering the factors that should influence decisions on stocking.

Iceland

The most extensive rebuilding programmes are in the Rangá rivers on the south coast and the Breiðdalsá river on the east coast; also in Laxá í Þing and Hrótafjarðará on the north coast as well as Elliðaár and Langá on the west coast. Minor stocking programmes are carried out in various other rivers. All of these programmes are using the local stock and are carried out by the river associations, often in cooperation with the angling clubs leasing the rivers. The total releases in Iceland are, according to information from the Institute of Freshwater Fisheries, as follows:

Sac-fry	213,000
Start-fed fry	147,001
One-summer-old parr	370,050
Smolts	944,892
Oversized smolts	20,000
Pre-smolt in the fall	2,000
	1,696,943

Norway

Stock rebuilding from the Gene Bank in the following rivers:

- Figga
- Oгна
- Steinkjer
- Flekke
- Jølstra
- Årøy

- Vosso
- Etne
- Eidfjord
- Ekso

Stock rebuilding in limed rivers:

- Mandal river
- Tovedal river

Russian Federation

No information provided.

USA

The status of stock rebuilding programmes for Atlantic salmon populations in the US (which include the Connecticut, Maine, Merrimack, and Pawcatuck River Programs) continue to be evaluated in relation to conservation limits, exploitation, stock history and diversity indices, uncertainty in data and estimation procedures, and the reasons for declines and population losses. With the exception of the Pawcatuck River, each Program has established a Technical Advisory Committee to guide the implementation of management measures designed to restore or recover salmon stocks above conservation limits. Factors that contribute to depressed population levels (e.g. environmental changes, habitat losses, subsistence harvest, etc.) are also being evaluated. In addition, genetics and pathology are assessed, research and management actions prioritized for restoration and recovery, and strategies developed to protect and restore critical habitats. Stakeholders have been identified and included in these processes. In Maine, the river-specific stocking program is consistent with NASCO Stocking Guidelines. Threat assessments are also underway in Maine to identify risks as part of the Endangered Species Act listing and the recovery planning process. The Strategic Plans for the Merrimack and Connecticut Rivers can be viewed at the following links:

<http://www.fws.gov/r5cneafp/plan.htm> ; <http://www.fws.gov/r5crc/Stuff/stplan.html>

<p>2. Provide any suggestions for how the guidelines might be improved.</p>
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No suggestions have been provided as to how the guidelines might be improved. However, in the return for EU (Germany – Brandenburg) it is suggested that there is a need to intensify national and international cooperation with regard to stock rebuilding and a number of suggestions are made for improving the effectiveness of stock rebuilding programmes in that region. These are detailed in section 1.