

8 Data and information needs for assessment

8.1 Overview on data needs

The main sources of information currently used for the assessment of the wild salmon stocks can be categorized into three groups according to the place where the actual data collection is carried out:

River surveys: parr density estimates, smolt trapping, monitoring of spawning runs and river catches

Sea surveys: catch data, fishing effort data and stock-proportion estimates

Joint river and sea surveys: tagging data (tagging in rivers, recaptures from sea and river fishery)

Table 5.3.2.1 gives an overview of all the riverine and tagging data collected on regular basis for the different salmon stocks within the Baltic Sea area. Data collection from the sea is described in section 2.6.

The amount of information available from individual rivers differs significantly between rivers and between assessment units. Because of the discrepancies between the amounts of information available from wild salmon of the different assessment units, the uncertainties in the assessment of rivers of different assessment groups differs significantly. The working group discussed the data needs in 2005 (ICES 2005). As the requirement for data will always exceed the available resources, preferences must be given. The decisions regarding which investigations should be given preference are normally made on a national, regional or local level and they are normally based on a number of factors. They could be based on factors such as need of the data for management or availability of resources to carry out a certain investigation in a certain place.

It is possible for the working group to give guidelines regarding which kind of data collection should be given priority. Such guidelines should be based on evaluation of what data will give maximum improvement of accuracy and precision to the present assessment model. The working group was not able to make any quantitative predictions at the present meeting, but some qualitative guidelines were given.

It has high priority to establish one index river in each Assessment Unit. The collection of data concerning parr densities, smolt counts and number of spawners has high priority in these rivers. Electrofishing surveys in these rivers should preferably cover more sites than in other non-index rivers distributed over parr rearing habitat of different quality. Tagging of smolts also has high priority.

Electrofishing surveys in non-index rivers should be carried out but in the present assessment model it is not necessary to have annual surveys. They could be dropped for instance every third year. A decision whether monitoring in a particular year would be carried out or not should by no means be influenced by expected changes in abundance of salmon. Smolt trapping may be carried out in a river for a couple of years and then moved along to another river. This could have a high priority in relation to annual high intensity electrofishing surveys in non-index rivers.

Compatibility of the DCR with the data needs requirements for WGBAST

Tagging data is currently used for many purposes by the Working Group. Carlin tagging data are the basis of the current assessment models for the Main Basin and

the Gulf of Bothnia, see section 6. Swedish tagging data constituted a major part of the data when the initial models were established in the late 1990s, but in the period 2001-07 the power companies that are responsible for most Carlin tagging were unwilling to make the data accessible for international (or national work) unrelated to water court decisions. When the database finally became available from the power companies in 2007 it turned out that the entire database suffered from severe quality problems that had arisen in the period when it had been unavailable. The Board of Fisheries has tried to rectify the database, but a considerable part of the data can not be corrected.

Furthermore increasing evidence suggests that the reporting rate of fishermen has decreased considerably but to an uncertain extent in the last decade, see Section 6.XX. The reasons for this decline is uncertain, but of course non-professional handling by those responsible for the database may be an important contributing factor.

As the quality of the database seems to have decreased considerably for the reasons mentioned above. it would be timely to start discussions concerning other tagging systems that could be replace current large scale Carlin tagging. The Working Group suggests that a more comprehensive plan may be considered during the Working Group meeting in 2009.

8.2 Compatibility of the DCR with the data needs requirements for WGBAST

Table 8.2.1 provides an outline as to what data are required by the working group and to what extent such data are provided by the DCR. It also gives an overview of whether these data are used or not.

The current management regime requires an evaluation of the status of individual salmon stocks. As such river specific information would need to be collected within the rivers. The current DCR does not explicitly cover river monitoring even though river sampling is recognised to be important by the European commission. Data collection within the rivers is currently accepted within the national programs of Estonia, Finland and Sweden under modules H and I. When revising the DCR, the river monitoring should be covered explicitly under the revised DCR. Index rivers are also needed for sea trout in the same manner as for salmon. It would of course be cost effective if the same rivers could be utilised as index rivers for both salmon and sea trout. It is not known whether the new DCR that will be implemented in 2009 will take into account any of the opinions expressed by the Working Group.

Table 8.2.1. Overview of the compatibility of data collected under the DCR with the data needed for stock assessment. The summary is based on the DCR in use until 2008. It is not known if the requirement for collection of data will change in the new version of the DCR that is expected to become operational in 2009.

Type of data	Collected under DCR	Available	Reviewed and evaluated by WG	Used in assessment	Notes
Fleet capacity	yes	yes	no	no	Incompatible with current stock assessment model
Fuel consumption	yes	no *)	no	no	Incompatible with current stock assessment model
Fishing effort	yes	yes	yes	yes	-
Landings	yes	yes	yes	yes	-
Discards	yes	yes	yes	yes	-
Recreational fisheries	yes	yes	yes	yes	-
CPUE data series	yes	yes	yes	yes	-
Age composition	yes	yes	yes	partly used	Not incorporated in current stock assessment model, river samples used
Length & weight at age	yes	yes	yes	no	Not incorporated in current stock assessment model
Sex ratios	yes	yes	no	no	Not incorporated in current stock assessment model
Maturity	yes***)	no ***)	no	no	
Economic data	yes	no *)	partly used	no	Incompatible with current stock assessment model
Data processing industry	yes	no *)	no	no	Incompatible with current stock assessment model
Electrofishing data	yes **)	yes	yes	yes	-
Smolt trapping data	yes **)	yes	yes	yes	-
Tagging data	no	yes	yes	yes	-
Fish ladder data	yes **)	yes	yes	yes	-
Genetic data	yes **)	yes	yes	no	-

*) Not asked for by the working group.

***) Not mandatory under current DCR.

***) DCR requires collection but only a few of the countries are doing it.