



Terms of Reference for the Rivers Database Working Group

Background

The NASCO Rivers Database was originally envisaged as a centrepiece of the NASCO website to make it relevant to visit, to provide information on what is happening with Atlantic salmon stocks, and to raise NASCO's profile.

In 2016 the Council adopted a stock classification system to be used in the Rivers Database as proposed by the Working Group on Stock Classification, [CNL\(16\)11](#). Parties / jurisdictions were asked to update their data for the Rivers Database using the newly agreed stock categories by 31 December 2017.

Many Parties / jurisdictions replied in December 2017 and early 2018; however, the Secretariat was still seeking updates until March 2019 for information that was to provide the basis for NASCO's first 'State of North Atlantic Salmon' report to be published in 2019 as NASCO's major output for the International Year of the Salmon. Much of the data that had been expected to be provided was not. However, it should be recognised that some Parties / jurisdictions have hundreds of rivers to report on and, therefore, have an extensive dataset to manage. In 2020, the Council agreed that the Secretary should work with Parties / jurisdictions to explore this. The outcome of this investigation is reported in 'The Future for the NASCO Rivers Database', [CNL\(21\)13](#).

At its Annual Meeting in 2021, [CNL\(21\)62](#), the Council agreed:

- that NASCO should retain a website-accessible Rivers Database; to caveat the Rivers Database with the appropriate disclaimers; and that the Secretariat should make the Rivers Database available in a map-based form on the website as soon as possible; and
- to establish a Working Group to address the following high-level issues with respect to the Rivers Database, and to report back to the Annual Meeting in 2022:
 - its purpose – e.g. communications, rather than a decision tool;
 - its scope – e.g. stock status in rivers; including impact factors; concentrating on a few clearly-defined metrics;
 - its data and coverage – e.g. stringent agreed stock classification or 'read across' and the categories;
 - its display and provision of the data – e.g. html, GIS version, spreadsheet data provision;
 - frequency of updates – e.g. every five years to provide updates for the State of Salmon report; and
 - other decisions.

The Council also agreed that the Secretariat would contact Parties and NGOs after the Annual Meeting to seek nominees for the Working Group, and that more detailed Terms of Reference would be developed by the Secretariat and agreed by the Council, by correspondence, inter-sessionally.

Terms of Reference for the Rivers Database Working Group

The Rivers Database Working Group is charged with the following Terms of Reference:

1. To describe the purpose or purposes of the Rivers Database with a view to including this description on the NASCO website and provide guidance for future revisions;
2. With reference to document [CNL\(16\)11](#), make a recommendation for the scope of the Rivers Database and determine a set of succinct and clearly defined metrics that are needed to meet the purpose(s) of the Rivers Database;
3. With reference to documents [CNL\(16\)11](#) and [CNL\(21\)13](#), recommend the minimum data needed relative to each metric, and any flexibility associated with providing those data. In developing these data needs, the Working Group should consider the current fields and current stock classification categories (see Annex 1);
4. Develop recommendations as to how the Rivers Database should be displayed (for example mapped with html or GIS) on the NASCO website, and whether the data should be made available on the website in other formats (such as a spreadsheet) to allow them to be used, manipulated, and analysed by external stakeholders, Parties / jurisdictions, and others;
5. Develop recommendations as to how data should be provided and inputted to the Rivers Database, ensuring that updates may be made efficiently and effectively;
6. With reference to document [CNL\(16\)11](#), make recommendations on the frequency of updates of the Rivers Database, including when it should next be updated; and
7. Make any other recommendations relevant to the development and maintenance of the Rivers Database.

Documents for Consideration

The Working Group may wish to consider the following documents, in addition to any others it considers relevant, in carrying out its work:

- The Future for the NASCO Rivers Database, [CNL\(21\)13](#), noting, in particular, that:
 - currently only 11% of rivers in the Rivers Database contain information on the main factors adversely affecting the salmon stock; and
 - 54% of the stock classification data is not currently based on the agreed stock classification categories.
- Report of the Working Group on Stock Classification, [CNL\(16\)11](#). To promote efficient working and avoid repetition, the current Working Group may wish to note the following conclusions from that Working Group:
 - that any new stock classification categories in the Rivers Database would need to lend themselves to use for public relations purposes on the NASCO website and to the development of a status report, i.e. they should be clear and not too numerous;
 - that the classification system for use in the Rivers Database should be relatively simple and amenable to display through the existing web-based maps, which are an important outreach tool for use by a broad target audience, and of value to NASCO delegates, researchers and others;
 - that four categories ('High', 'Moderate', 'Low', 'Not at Risk') be used, based upon the risks to the abundance and diversity of those stocks. These four categories of risk to the existing stocks would be assigned by the use of two scores: a 'CL Attainment Score' (CAS) and an 'Impacts Assessment Score' (IAS). The use of an IAS was intended to

- address the issues associated with a classification based only on attainment of CLs;
- that the categories ‘Lost’, ‘Artificially Maintained’ and ‘Unknown’ in addition to the four ‘at risk’ categories should be used;
 - that it ‘does not suggest that there be any effort to standardise the scoring among Parties / jurisdictions and the rationale for each score would not be specified in the Rivers Database, although it is possible that a Party / jurisdiction may receive enquiries about this’;
 - suggested basing the stock indicators on the average CL attainment over the previous five-year period so that data were not influenced by either one anomalously high or low year of returns; and
 - noted that the Implementation Plans have a duration of five years and recommended that five years would be an appropriate frequency for updating the Rivers Database.
- The Report of the ICES Advisory Committee, [CNL\(14\)8](#).

Secretariat
Edinburgh
20 October 2021

Annex 1

Current fields in the Rivers Database

The current Rivers Database contains the fields in the table below. However, many fields are incomplete. For the ‘SalmonStockCategory’ fields from two Parties / jurisdictions (comprising 54% of the rivers in the Rivers Database) are a ‘read across’ from national river assessments, rather than NASCO’s agreed stock classification, and data for two jurisdictions were taken from the Implementation Plan submissions and confirmed via correspondence (comprising 1.5% of rivers).

<i>Field Name</i>	<i>Definition</i>
RiverID	Unique number for each river
Party	NASCO Party
Country	Country
RegionProvince	Region or province
Rivername	For the purposes of the simplified database the definition previously adopted by the Council is proposed, i.e., a river is named as the mainstem of the system of rivers and tributaries where it reaches the sea
LocationLatitude	2 digits of degrees plus 2 digits of minutes, zero-padded where required e.g 0464, not 464
LocationLongitude	2 digits of degrees plus 2 digits of minutes, zero-padded where required
LocationEastOrWest	East or West
Latitude_Decimal	
Longitude_Decimal	
SalmonStockCategory	Not at Risk, Low Risk, Moderate Risk, High Risk, Artificially Sustained, Lost, Unknown (as defined in table below where available, or as agreed with the Party / jurisdiction)
CatchmentArea	square kilometres (km ²)
TotalRiverLength	kilometres (km), maximum 1 decimal place

AxialRiverLength	kilometres (km), maximum 1 decimal place
AccessibleRiverLength	kilometres (km), maximum 1 decimal place
MeanAnnualFlow	Cumecs (m ³ s ⁻¹), maximum 1 decimal place
MainImpactFactors	255 characters maximum. A description of the main factors adversely affecting the salmon stock
TotalConservationRequirement	total number of salmon
1SWConservationRequirement	number of 1 sea-winter salmon (if available)
MSWConservationRequirement	number of multi-sea-winter salmon (if available)
SpecialStockCharacteristics	255 characters maximum. e.g. run timing
OtherInformation	255 characters maximum. e.g. details of any designations; protected areas

Source: Adapted from 'Report of the Working Group on Stock Classification', [CNL\(16\)11](#)

Current Salmon Stock Categories

<i>Stock Classification Score</i>	<i>Salmon Classification Category</i>	<i>Description</i>	<i>Map Colour</i>
0	Not at Risk	Rivers in which there are stocks of Atlantic salmon for which Stock Classification Scores of 0 have been assigned because there are no risks to the abundance and/or diversity of the stocks	Green
1	Low Risk	Rivers in which there are stocks of Atlantic salmon for which Stock Classification Scores of 1 have been assigned because risks to the abundance and/or diversity of the stocks are considered to be low	Yellow
2	Moderate Risk	Rivers in which there are stocks of Atlantic salmon for which Stock Classification Scores of 2 have been assigned because risks to the abundance and/or diversity of the stocks are considered to be moderate	Orange
3	High Risk	Rivers in which there are stocks of Atlantic salmon for which Stock Classification Scores of 3 have been assigned because risks to the abundance and/or diversity of the stocks are considered to be high	Red
N/A	Artificially Sustained	Rivers which are known to have had stocks of Atlantic salmon which have been lost and in which the current stocks are only sustained through hatchery stocking	Grey
N/A	Lost	Rivers which are known to have previously had stocks of Atlantic salmon that currently have none	Black

N/A	Unknown	Rivers in which there are known to be stocks of Atlantic salmon but for which there is no information on which to assess their abundance.	Blue
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Source: Report of the Working Group on Stock Classification, [CNL\(16\)11](#)