



# Association of Salmon Fishery Boards

## Advice on use of the Rod Catch Assessment Tool

June 2011

The use of the Rod Catch Assessment Tool is recommended in the NASCO Fisheries Management Focus Area Report to assess and, where appropriate, introduce precautionary management measures. The annual survey, collation and publication of Scottish catches are currently complete in September of the year after the catches were taken. At this time local management groups who have concerns about the status of their local salmon populations may contact Scottish Government Marine Scotland Science to obtain district level rod catches. DSFBs and Fisheries Trusts should carry out an assessment as follows:

1. Obtain the monthly reported rod catches for the district containing the catchment of interest
  - Historical and current monthly rod catches are readily available for all districts.
  - District rod catches provide information about salmon abundance.
2. Only consider catches over the last 20 years
  - Provides baseline for comparisons.
  - Excludes catches that may be irrelevant to current situation.
  - Allows straightforward analysis (see 8 below).
3. Aggregate salmon and grilse
  - Anglers' division of rod catch into salmon and grilse is too inaccurate to use.
  - A reliable method for dividing the rod catch into salmon and grilse is currently unavailable.
4. Aggregate numbers of rod caught and retained and rod caught and released fish
  - The total number of retained and released fish probably provides the most suitable figure for historical comparisons.
5. Aggregate rod catches into spring (Feb-May), summer (Jun-Aug) and autumn (Sep-Nov)<sup>1</sup>
  - Classification of the monthly Scottish rod catch trends produces identical groupings.
  - Anglers are familiar with these three seasonal groupings.
  - Salmon from a single population can return over several months.

*Aggregate into summer (Jun-Aug) and autumn (Sep-Nov) if no early-running fish.*

6. Divide the catchment into upper, middle and lower subcatchments (*If ranks are tied make the most recent value the lower rank so that analysis is conservative/precautionary*)

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<sup>1</sup> *It is also acceptable to aggregate rod catches by month*

- Spring, summer and autumn caught fish tend to belong to populations in the upper, middle and lower parts of a catchment, respectively.
  - Or middle and lower if not spring-run.
  - Evidence includes radio-tracking studies, transfer experiments, as well as trap and net captures.
7. For each seasonal grouping, rank the catches
- Does not assume a linear relationship between rod catch and abundance
  - Allows straightforward analysis (see 8 below).

*A small drop in catch could indicate a large drop in abundance.*

8. For each seasonal grouping, ask the following three questions: 1) Identify the lowest value. Is it also the most recent value over the twenty year period? 2) Identify the lowest three values. Are two or more of these values found in the last three years? 3) Identify the lowest six values. Are four or more of these values found in the last six years?
- Questions constitute simple analysis that can be performed on piece of paper.
  - With no trend (or autocorrelation) the probability of answering yes to each of these questions is c. 5, 4.5 and 4%.
  - With no trend (or autocorrelation) the probability of answering yes to one or more of these questions is c.11%.

*The conventional probability level is 5%. A level of 11% is justified by the precautionary principle, i.e., all other things being equal it is better to investigate and find that all is well than not to investigate and later discover the situation is serious.*

9. If one or more yes answers take steps to reduce exploitation on the relevant stock component and investigate if there is a specific local problem impacting upon the stock component.
10. Continue to monitor the catches on an annual basis and maintain management action until all questions posed in 8. above are answered "no".

**For further information please contact:**

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