



RIVER TWEED COMMISSION THE NORTH COURT DRYGRANGE STEADING MELROSE ROXBURGHSHIRE TD6 9DJ  
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Established by Order under an Act of Parliament to protect the fish stocks in the Tweed river system

The River Tweed Commission has applied to the Scottish Government for a change to the Annual Close Time and the rationale for applying for this change is as follows:

**1. Application by the River Tweed Commission for an Annual Close Time Order under Schedule 2, Art. 3 of The Scotland Act 1998 (River Tweed) Order 2006**

The River Tweed Commission has made an application to Scottish Ministers for a change in the Annual Close Times under the above Order, and having the effect of making a change to The Tweed Regulation Order 2007, as follows:

*(a) the proposed dates of the annual close time and the periods within that time when it shall be permitted to fish for and take Salmon by rod and line.*

To extend the annual close time for Salmon fishing from 15<sup>th</sup> September until 1<sup>st</sup> June of the following year, both dates inclusive; this to take effect from the beginning of the 2018 season.

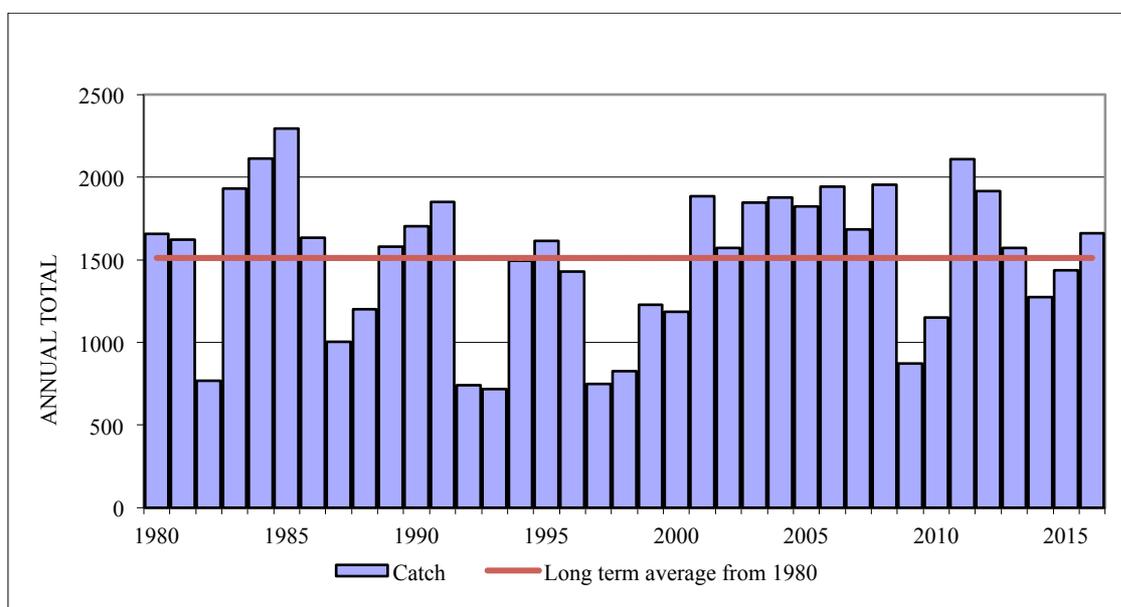
**Rationale:**

- Scottish fisheries exploit a wide range of salmon types that can be categorised according to the time of year at which they enter rivers. The range extends from early-running (or spring) MSW salmon at the beginning of the year, to late running grilse which become available for exploitation just prior to the start of the spawning season, near the end of the year.
- Based on this run-timing diversity, sustainable fisheries operate in Scotland for 11 months of the year. Recent research has informed our understanding of how this diversity is maintained. Briefly, most river stocks in the larger rivers consist of a number of discrete populations; run-timing is heritable (Stewart et al. 2002) and varies among populations and there is a link between run-timing and spatial location at spawning (Laughton & Smith, 1992; Webb, 1998; Smith et al. 1998; Smith & Johnstone, 1996; Webb, 1992; Walker & Walker, 1992). Populations are maintained through precise homing (Youngson et al. 1994). The abundance and dynamics of populations can vary independently and therefore population structure should be incorporated into any management structure based on Conservation Limits (CLs) (MacLean et al, 2006).
- It follows from this that conservation policies and fishing regulations have to be appropriate for each stock in a river, a point that is duly recognised by the Scottish Government:

*'Currently conservation limits tend to apply to the whole stock of salmon within a river. However, Scotland has noted spring runs of salmon that are not found elsewhere in Europe, enabling Scotland to have economically important spring fisheries. In addition to their economic value, spring fish are important components of the stocks within a number of SAC rivers. These spring sub-stocks appear to be doing less well than salmon returning to rivers later in the year, at present. The use of a single river conservation limit, as suggested by North Atlantic Salmon Conservation Organisation, could suggest an overall level of harvest that is detrimental to spring fish stocks. Methods are therefore required for producing conservation limits at a sub-river catchment level to facilitate effective management of spring fish, which tend to rear in specific geographic regions.'*

(Scottish Government website: <http://www.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/limits>)

- On the same grounds as the above the RTC has, since 1998, had a policy of reducing the exploitation of Spring Salmon through a voluntary Catch and Release code.
- From 1998 to 2009 a fish counter was in operation on the R. Ettrick, the main source of Tweed Spring Salmon.
- Estimates of the number of eggs produced by the Spring fish counted upstream in comparison to the estimated number of eggs needed for the area upstream showed that the surplus was reducing towards the end of the period of the counter's operation.
- Estimates of the contribution made by the eggs of caught and released fish showed that in some years that these were significant in meeting the spawning target.
- With Scottish Government support, a new counter has just been installed on the Ettrick (April 2018) to revive the data collection and counts on this crucial Spring tributary.
- Since 2009, Spring catches (Graph A below) have gone back to being erratic after a period of stability from 2001 to 2008. Existing counter data is mainly from that period of stability for Spring catches, so it may be that the situation at present in terms of the Spring Salmon of the Ettrick meeting their spawning targets is worse than during the period of counter operation – this will be shown by the new counter.



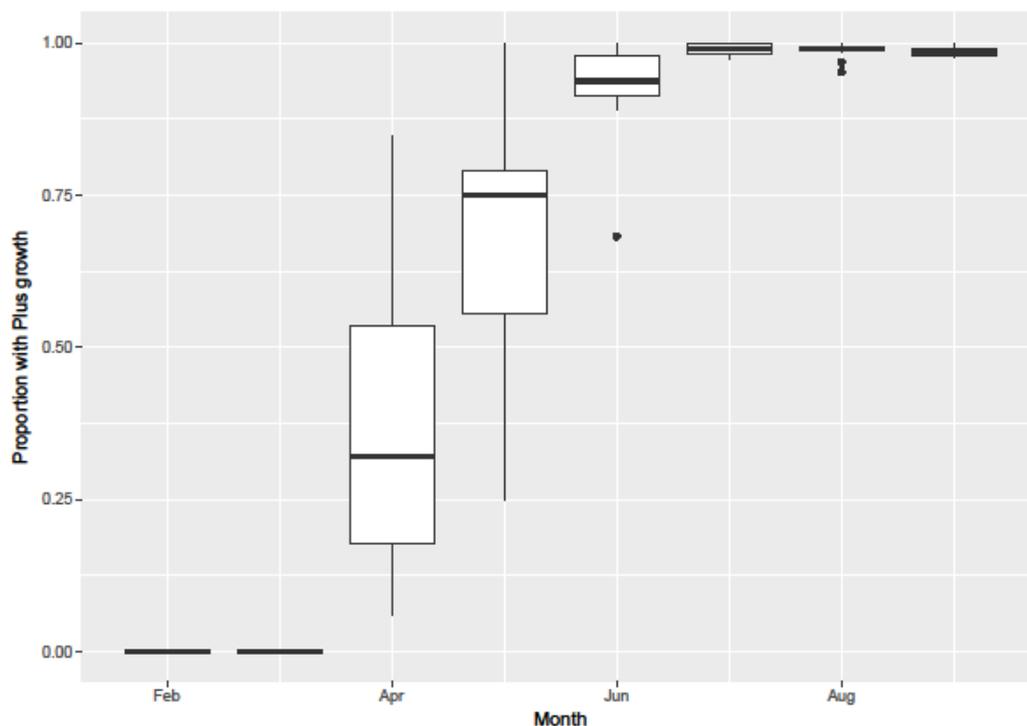
*Graph A: All Main Tweed Salmon Rod Catches 1980 - February to May*

- There was also evidence from the previous counter that the situation at the top of the Ettrick, where the earliest running fish would be expected to spawn was worse than for the Ettrick as a whole. In fact, a significant relationship could be found between the numbers of adult fish passing through the counter before the end of June and the abundance of fry at the top of the Ettrick – the more adults, the more fry. This showed that the numbers of spawning adults were limiting the number of fry and therefore that more spawning fish were needed to fully stock that zone for the next generation.
- It should be noted that it is not suggested that all early running fish were through the counter by the end of June, but that the number that did pass was an index of the total number of such fish.

- The proposals would safeguard the early running stocks of the Tweed – it can be assumed that the history of the Ettrick stock will be the same as for the other such stocks within the Tweed catchment – which can at best be said to be a fragile condition.
- From the point of view of the fisheries of the river, what is needed is stability in the Spring catches, as there was from 2001-2008. It has been a considerable disappointment that this stability has been lost and it is a priority to try and re-establish this.
- Marine Scotland Science has advised that spring salmon may be protected not just in the month that they enter the river but also by preventing killing over the period that they may be captured.
- Reported catches of early running "spring" salmon in Scotland has generally declined since records began in 1952 and, although there is some indication that the catch has stabilised in recent years, it remains at a historically low level.
- The Scottish Government commenced Spring conservation measures, intended to protect these early running stocks, in 2015 with the intention that those measures would be reviewed annually.

### Evidence from Scale Reading

- Patterns of circuli (growth rings) on scale samples taken from a fish can be used to characterise both its age and time of river entry. Winter bands can be identified as a region of narrow-spaced circuli indicating low growth over the period when this part of the scale was laid down. Periods of increased growth may be identified by more widely spaced circuli.
- Spring salmon are generally identified from scale reading as those fish for which there is no indication of "plus growth" (zones of more widely spaced circuli) in the year of capture. As little growth takes place in fresh water, this circuli pattern is interpreted as the fish having little opportunity to grow between the end of the previous winter and its subsequent entry into fresh water. It is therefore possible to estimate the proportion of spring fish within a given sample as that proportion with no plus growth indicated on their scales.
- Scale reading data from MSS (Graph B) shows that Spring Salmon are still coming in to the estuary in June and that, over the period 1968 to 2011, median estimates for the proportion of spring fish in the net and coble samples were around 67% in April, 28% in May and 9% in June.



Graph B: Scale reading data from the Tweed estuary 1968-2011 (Marine Scotland Science)

**What would a change in the Close Times achieve?**

- An extension of the close season would recognise the need for Tweed's Spring stocks to have their own appropriate management regime, as recommended by the Scottish Government, to ensure their continued contribution to the Tweed fishery and the local economy, as well as to preserve their conservation value as an important part of the SAC.