

# ***TAY DISTRICT SALMON FISHERIES BOARD***

## **LONG TERM STRATEGY**

### **Introduction**

This document describes the long term strategy of the Tay District Salmon Fisheries Board, showing what the Board hopes to achieve in the long term. From this, medium and short term work plans will flow. Such a document will clearly define work the Board wishes to do in future, allow better planning of the resources required and improve communication of what the Board hopes to achieve.

### **General aims and concepts**

The overall aim of the strategy is to improve salmon fishing in the Tay district. This is to be achieved through two means:

1. By optimising use of the existing resource
2. By increasing the number of fish returning to the rivers within the district.

It is recognised that marine mortality of post-smolts is largely out of our control and is now at concerning levels with estimated survival of 5% in some years. The strategy with regard to (2) is therefore to maximise the number of smolts going to sea consistent with what the catchment can support.

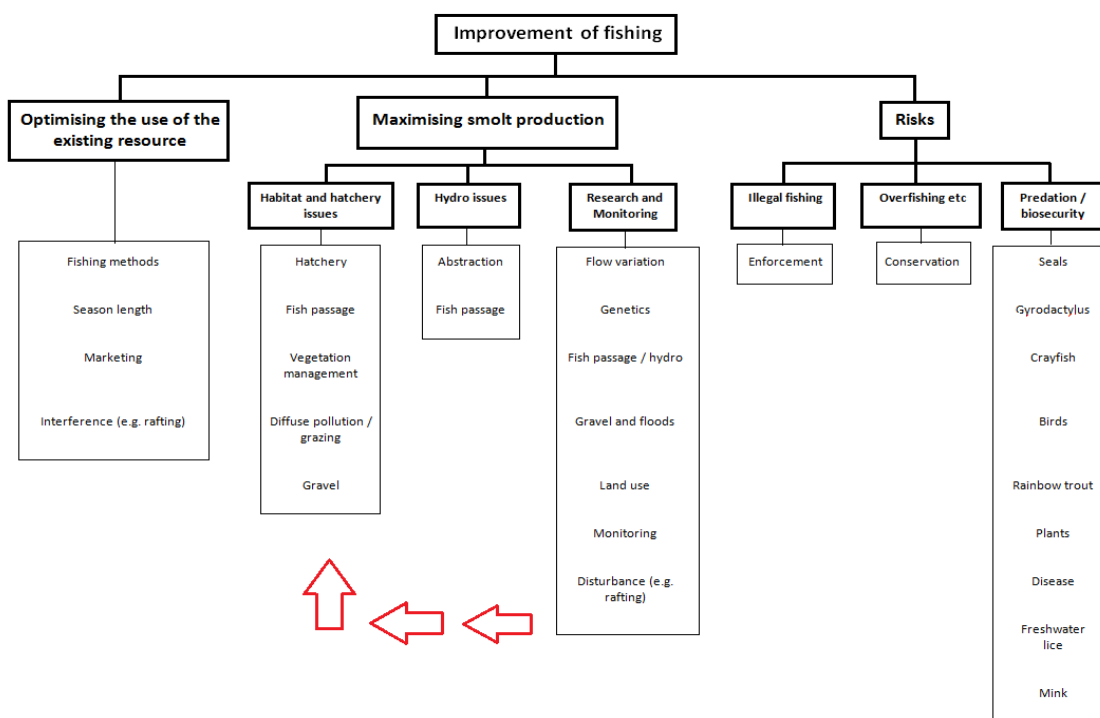
That is to be achieved by

1. Increasing the amount of catchment available to spawners, where possible
2. Improving areas that are already accessible to salmon
3. Protecting the juvenile salmon and returning adults to ensure their survival is maximised

Where the exact nature of problems affecting salmon are not known or where solutions are not clear, there may also be a requirement to conduct research. However, it is made clear that any research conducted is to inform and support the primary aims of the strategy and is not done as an end in itself. Allied with this, it is vital that any works conducted are adequately monitored and measured. It is essential that we demonstrate what works and what does not and whether value for money is being obtained or not.

While the Board would rather seek to continually improve the fisheries, it is recognised that the Board must also consider many factors which can damage the fisheries. Therefore we have also identified risks, both to juvenile salmon production and to the strategy itself. A major element of the strategy is therefore to ensure that measures are put in place to mitigate these risks

These main concepts are summarized in the figure below. Also shown are some of the major issues we have identified under the various headings.



*Conceptual diagram of the main elements within the Board's long term strategy*

Having agreed the approach to the strategy it was necessary to prioritise the tasks and issues under the various headings. This was done by identifying and listing measures that would help improve salmon production and listing risks and threats. Each issue was weighted according to its estimated effect on smolt production, certainty of outcome, costs and likelihood of being permitted. Prioritised lists of issues were then produced, ranging from things that must be tackled urgently to others that are only ever likely to be no more than aspirations.

The complete lists of tasks / issues are presented in the following pages.

Based on capacity / funding etc, those highest priority issues which we hope to tackle in the next three years have been identified. This is denoted by shading. The darker the shading, the greater the priority in that year / the more time and resources required.

Issues that are not shaded will be tackled at a later date, following a review of the strategy, which will take place annually. It is admitted that some of the issues are likely to be beyond the Board's capacity or, realistically might never be done. However, it is felt that it is still important that we should draw attention to large and important issues, even though we cannot tackle them. It would be an aspiration that others with more influence and resources might take up such causes.

**Table 1.** Fishing related issues

<b>Issue</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Opportunities for sustainably increasing catch by increasing fishing (e.g. season changes) on existing salmon population			
Existing salmon angling marketing initiatives must be maintained and expanded, in particular <a href="http://www.fishtay.co.uk">www.fishtay.co.uk</a> . More beats should be encouraged to participate. Encourage links with accommodation providers.			
The Board should assist in any way possible to help resolve conflicts between anglers and paddling interests.			

**Table 2.** Actions to increase smolt production

Activity	2012	2013	2014
Lobby appropriate parties for a sufficient flow to be restored to the River Garry to restore a self sustaining salmon population.			
Kelt reconditioning			
Ease passage over two weirs in Alyth Burn			
Prioritise hydro issues we would like to see reviewed in the 2021 Scotland River Basin Management Plan. Encourage SEPA to review problem abstractions throughout the district using their new powers under the Controlled Activities Regulations. Make representations where appropriate			
Perform counts of piscivorous birds on the Tay and its major tributaries at least three times per year. Collaborate with others to find ways of scaring birds, especially in tributaries, stillwaters and migration bottlenecks. If necessary, apply for licences to shoot piscivorous birds as an aid to shooting to scare.			
Restore spawning gravel to areas from which it has been entirely removed by dredging or damming and consider ways of introducing spawning gravel in areas which are naturally stable and lack spawning opportunities			
Any initiatives to reduce multi-stock marine salmon fisheries will be supported.			
When the appropriate opportunity arises, lobby SEPA / Scottish Government for more for compensation flow to be provided in the upper River Lochay.			
Cooperate with SEPA or any other initiatives to reduce diffuse pollution from agriculture.			
Encourage SEPA to review fish farm abstraction on River Erich at Blairgowrie.			

Use bailiff staff to identify any remaining man-made barriers to salmon in unsurveyed areas of the Tay catchment.			
Ease passage over weir in Glamis Burn			
Install fish pass on weir on the Dall Burn (Rannoch)			
Any areas with a significant fisheries interest which are deemed to be at risk from overshadowing which have never been surveyed by a walkover survey should be surveyed. Those areas which have already been identified as overshadowed should be subject to a detailed survey for any tree thinning work required and areas prioritised in terms of costs and likely benefits. Use bailiff staff and contractors to continue riparian improvement works, informed by surveys.			
Review fish passage at weir in Turret Burn and make improvements if necessary			
Options for removing an impassable weir on the upper Ruthven Water or installing a fish pass need to be investigated.			
Any areas with a significant fisheries interest which are deemed to be at risk from overgrazing which have never been surveyed by a walkover survey should be surveyed. Those areas which have already been identified as overgrazed should be subject to a detailed survey for any fencing work required and areas prioritised in terms of costs and likely benefits. Where landowners are in agreement and there is clear benefit in doing so, fences should be erected to exclude livestock from watercourses. Where traditional fencing is inappropriate because of flooding etc consideration should be given to electric-fencing or other means.			
Request SEPA to make owner install fish pass in weir on Cloan Burn			
Easing passage at Ewnie Burn weir			

<p>Engage with Forestry Commission / landowners to create non-conifer buffer strips alongside water courses where these are required.</p>			
<p>SEPA and SSE should be encouraged to consider downstream impacts of reservoirs and such impacts must be driven up the WFD agenda. In particular seek to develop joint initiatives with SEPA and SSE into identifying means of ameliorating temperature and chemical impacts on rivers like the Lyon. These may include different level drawoffs, different management of compensation flows, artificial nutrient replacement, replacement of compensation flow from intakes in natural tributaries.</p>			
<p>Campaign for the abolition of all sandeel fishing in the North Sea.</p>			
<p>Options for easing a partially passable weir on the Dunning Burn need to be investigated.</p>			
<p>Press for more rational management of marine fisheries to reduce problem of discarding at sea for inflating the seal population.</p>			
<p>Identify any riverbank engineering works which have caused damage to salmon habitats and seek to have these restored under the Water Framework Directive</p>			

**Table 3. Research priorities**

Issue	2012	2013	2014
Conduct experiment in River Braan to compare survival of unfed fry and fed-on parr			
Explore with MSS and SSE the possibility of a major upper Tummel juvenile salmon tracking study with a view to ultimately improving smolt passage through the upper Tummel system.			
Conduct research into the effects of nutrient sources on invertebrate and fish production in the Tay and tributaries			
Conduct research into the effects of flow variation on the River Tay on salmon fry survival			
Consideration should be given to a radio-tracking study on the River Lochay to assess adult salmon behaviour			
Continue to collect information on the impacts of dams on water temperature / chemistry etc and engage with SEPA and others to try to find solutions to such problems (e.g. rivers Lyon and Errochty).			
Promote the need for objective national research into the relationship between upland land uses and water chemistry and other forms of nutrient restoration and augmentation.			
Conduct a study of the diet of goosanders in the lower Tay in winter to establish whether pre-smolting salmon are a significant component of their diet.			
The full extent of upland drainage should be established. Investigate feasibility of blocking up drains. Discuss with landowners, SEPA etc and initiate projects to block up drains to slow down runoff from upland areas.			
Conduct research into solutions to the acidification problem on Rannoch Moor			



<p>If SNPs perfected, collect tissue samples from juvenile salmon from throughout the district as part of RAFTS / AST salmon genetic typing project.</p>			
<p>Investigate with SSE the possibility of performing a Loch Tay smolt survival study. PIT tagged smolts from the River Lochay would be transported around Loch Tay but their return as adults would be established at a detector located at Lochay Power Station.</p>			
<p>Establish extent to which salmon smolt production occurs between Stronuich and Lubreoch dams, River Lyon</p>			
<p>Investigate with SSE the possibility of a salmon parr PIT tagging project upstream of Stronuich Dam on the River Lyon in order to establish timing of smolt migration in an unnatural temperature regime and survival past Stronuich Dam.</p>			

**Table 4. Regular monitoring tasks**

Activity	2012	2013	2014
<p>In recent years Scottish &amp; Southern Energy have made significant investment in upgrading fish passes at four locations on the River Lochay, the River Lyon at Stronuich, Dunalastair Dam on the Tummel and on the River Gaur. TDSFB will monitor the success of these works by annual electrofishing surveys, especially on the rivers Gaur and Lochay where salmon were practically absent from significant areas.</p>			
<p>TDSFB will request catch data from all salmon fishing proprietors at the end of each fishing season. In future it is hoped this function will be merged with Marine Scotland's catch requests.</p>			
<p>Electrofishing surveys to establish effects of broodstock fishing on specific sites</p>			
<p>TDSFB will maintain the operation of the fish counter on the Shochie Burn and will validate fish count data from other counters provided by SSE</p>			
<p>TDSFB will continue to electrofish long terms juvenile monitoring sites but TDSFB / TF should give consideration as to how a fuller programme of juvenile fish surveys for all species, could be funded.</p>			
<p>Netting and tagging of fish below Perth to study exploitation</p>			

**Table 5.** Actions to tackle risks to salmon production, the fisheries and the strategy

Issue	2012	2013	2014
Promote awareness of Gyrodactylus salaris among anglers and river users. Ensure all anglers sign declaration forms and disinfect tackle with equipment which should be provided to all beats.			
Biologist and other fisheries management staff should routinely disinfect equipment when moving between different parts of the Tay district.			
A contingency plan should be produced in the event of Gyrodactylus salaris being discovered in the Tay.			
Promote awareness of damage which can be done by signal crayfish and precautions which should be taken to stop its spread			
Continue to monitor the distribution of signal crayfish within the district and maintain awareness of the threat posed by their spread.			
Use bailiff staff, volunteers and if appropriate contractors to control Japanese knotweed, giant hogweed and where possible Himalayan balsam throughout the Tay district.			
Replace weir at Buchanty Spout.			
Keep the situation of grilse penetrating Pitlochry Dam tailrace screens under review.			
Engage with SSE and SEPA to find acceptable generation regimes at Pitlochry, Clunie and Dalchonzie power stations to avoid potential smolt mortalities at low flows.			
In the autumn board staff should keep clear fish passes at Luncarty (Shochie), Brighton and Kinnettles (Kerbet), Alyth (Aylth Burn), Kindrochit (Earn), Errochty Water, Turret Water etc			
Smolt screens at all fish farms and private hydros will be inspected regularly, especially in the spring.			

Respond to consultations of forestry plantings / fellings, developments (e.g. hydro), SEPA licence advertisements etc			
Keep fishing mortality on salmon, especially spring salmon, as low as possible through measures such as catch and release and restrictions on methods, as appropriate. Anglers and proprietors should be encouraged to adhere to the catch and release code which should be reviewed each autumn. A particular effort should be made on Loch Tay to markedly reduce mortality on early spring salmon			
Perform regular monitoring of seal activity in upper estuary of River Tay. Encourage any research into effects of seal predation.			
Conduct trials of seal scaring machines on the tidal reaches of the rivers Eden and Earn			
Escapes of rainbow trout should be promptly reported to Scottish Government.			
Restore lower section of Horseshoe Weir, River Almond, to ease passage of adult salmon			
The conditions of weirs and fish passes on the River Ericht at Blairgowrie should be reviewed and any requirement for refurbishment works identified.			
TDSFB may appoint honorary bailiffs but all should have successfully passed the Institute of Fisheries Management certificate in bailiffing.			
Cooperate with SEPA and SNH etc to ensure that unconsented gravel extraction and inappropriate river modifications are prevented.			
There should be a new appraisal of smolt passage at Stanley Mill hydro studying the behaviour of naturally migrating smolts.			

Encourage clearer guidance should be provided at a national level on the effects of forestry, particularly new forests, including broadleaves, on stream hydrology. Further research should be done if required.			
Investigate the effects of heavy white water rafting pressure on migrating adult salmon during weekend summer freshets in the River Tummel downstream of Clunie Dam			
Enforcement of the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003 should remain a priority for the Tay DSFB and it should continue to employ a core team of full-time bailiffs who shall receive appropriate training.			
If damaging floods are to become the norm then policy makers should encourage sediment audits and sustainable flood management planning. In particular obstacles on flood plains which concentrate flows into main channels creating excessive scour should be removed and the energy dissipated more widely.			
Promote awareness of the <i>Argulus</i> problem among anglers and precautions which should be taken to stop its spread, e.g. disinfecting tackle.			
Instigate a study of the effectiveness of smolt screening at Stormontfield hydro station.			
Regular inspections of the gratings on the exists of Butterstone and Strathallan lochs should be conducted to ensure wild fish have free passage at appropriate times of the year.			
Existing and future initiatives to control mink should be supported throughout the district. Equipment and training should be provided to ghillies angling clubs etc throughout the district to become involved.			
If opportunities arise, establish more headwater sanctuary areas.			
The incidence of fungus should be monitored in the Ericht and other tributaries.			
Consideration should be given to the eradication of all fish in stillwaters which become infected by <i>A. foliaceus</i> .			