Beaver impacts upon fish

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After an absence in Scotland of approximately 400 years, the Eurasian beaver (*Castor fiber*) is now found in several locations in Scotland, most notably at the official Scottish Beaver Trial site at Knapdale, Mid-Argyll, and the larger unlicensed population centred on the Tayside catchment. Although there are very few migratory salmon species in the Knapdale trial area, the Tayside catchment is an important area for salmonids. The potential impacts which reintroduced beavers could have on fish stocks, and especially migratory salmon and trout populations, is an understandable concern for those involved in the angling, fish and river management industries. It is important therefore that we consider the currently known facts about beaver impacts upon fish.

The following points are summarized findings of a Scottish Natural Heritage Report commissioned in 2010 which is a critical review of the effects of beavers upon fish and fish stocks:

- The results of an Expert Opinion Survey that involved 45 North American and European experts revealed that the majority of fisheries scientists and managers tended to suggest that the overall impact of beavers on fish populations was positive.

- For example, the impact of beavers on the abundance and productivity of migratory salmon and trout species was considered positive. The main positive impacts of beaver activity on fish were increases in river habitat diversity, greater areas for young fish, more insect prey for fish to feed on and the creation of safe refuges in times of flood and drought.

- However the impact of beaver dams on migrating salmon and trout and their spawning sites was generally considered negative. The main negative impacts of beaver activity were dams which impeded fish moving up or downstream, beaver dams causing silt to cover spawning areas habitat due to siltation, and reductions in oxygen levels in beaver ponds which lead to fish kills.

- Overall, fisheries experts saw more positive impacts of beavers on fish than negative impacts.

For the full report: *Kemp, P.S., Worthington, T.A. & Langford, T.E.L. 2010. A critical review of the effects of beavers upon fish and fish stocks. Scottish Natural Heritage Commissioned Report, No. 349 (iBids No. 8770)* see http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1488

The following points outline the Scottish Beaver Trial partners' views on the beaver-fish discussion:

1. It is well known, but bears repeating, that beavers are vegetarian and do not eat fish.

2. There is little scientific evidence to suggest that beaver dams significantly affect Atlantic salmon populations

3. Beaver activity has the potential to offer both positive and negative impacts for fish species, including salmon and trout, but the net effect for fish populations is a positive one.

4. It is appropriate to compare beaver - fish interactions and management in other parts of Europe with those that may be seen in Scotland. Whilst they are different species, it is also useful to consider the management of North American beavers (*Castor canadensis*) in relation to the various salmonid species found on that continent.

5. Under their statutory powers (Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003), Salmon boards have the power to keep salmon migratory routes open by ".the removal of nuisances and obstructions". This means that it will be possible to manage or remove any beaver dams that they consider to be a hindrance to salmon migration. Such actions would be unlikely to have any significant impact on beaver populations.

6. The Scottish Beaver Trial partners will continue to positively liaise with all stakeholders concerning the Knapdale trial and Tayside beaver population, including representatives of the angling community.

7. It is important to take the opportunity to study the effects that beavers are having on fish populations in both the Knapdale and Tayside areas.