

Trial reintroduction of European beaver to Knapdale Forest – Advice and Recommendations to the Scottish Government by Scottish Natural Heritage.

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DOCUMENT 3

SNH'S APPRAISAL OF THE PROPOSAL IN RELATION TO POSSIBLE EFFECTS ON KNAPDALE LOCHS SSSI, KNAPDALE WOODS SSSI, EUROPEAN PROTECTED SPECIES, SCHEDULE 5 SPECIES, BADGER AND KNAPDALE NSA.

CONTENTS:

1. KNAPDALE LOCHS SSSI
2. KNAPDALE WOODS SSSI
3. EUROPEAN PROTECTED SPECIES
4. SCHEDULE 5 SPECIES
5. BADGER
6. KNAPDALE NSA
7. SNH RECOMMENDATIONS

1. KNAPDALE LOCHS SSSI

The qualifying feature of breeding black-throated diver is covered by the appraisal for the Knapdale Lochs SPA (see SNH's appraisal of the proposal in relation to possible effects on Tainish and Knapdale Woods SAC and Knapdale Lochs SPA).

2. KNAPDALE WOODS SSSI

The qualifying features are;

- Upland oak wood
- Bryophyte assemblage
- Lichen assemblage
- Breeding bird assemblage
- Loch trophic range
- Dragonfly assemblage

The upland oakwood, bryophyte assemblage, lichen assemblage and loch features are covered by the appraisal for the qualifying interests of the Tainish and Knapdale Woods SAC.

Breeding bird assemblage – The main habitat changes caused by beavers will be felling of trees and shrubs and the creation of wetlands/ flooded areas within their range. The majority of woody material cut by beavers tends to be of small diameter (approximate range of 3-8cm) but they will fell larger trees. Most of their feeding and other activity takes place in water or within 10m (less frequently up to 100m) of freshwater edge. The proposed release sites will be on the lochs. The beavers might dam outflow or inflow burns and thus flood presently dry or damp areas. This could lead to the death of any trees/ shrubs in that area and/ or decrease the areas of open ground within the forest mosaic. Overall we do not consider this to be a significant risk to the breeding bird assemblage.

Impacts, if any, to the breeding bird assemblage are likely to be very localised. Impacts to species using large trees or trees away from water are likely to be negligible. There could be some minor impacts to bird species using the smaller trees and scrub, on the fringes of the water. However the beavers are unlikely during the trial to remove that entire habitat in their territories and there will be similar habitat present elsewhere in the SSSI away from the areas used by beavers. The increase in open ground around the lochs and any increase in wetland/flooded areas might lead to an increase in species of those habitats. In conclusion there is not likely to be an adverse impact to the overall breeding bird assemblage in the SSSI due to the beavers.

Dragonfly assemblage – A number of species are recorded from the SSSI with the hairy dragonfly *Brachytron pratense* and the beautiful demoiselle, *Calopteryx virgo* being of most interest. The other species are well distributed in the mid-Argyll and Argyll areas. *B. pratense* breeds on the edge of the bigger lochs and its larval stages utilise floating detritus. If there was a lack of such material through beaver feeding activity then this might have an adverse impact on this species. On the other hand, removal of encroaching scrub on the water's edge with a corresponding reduction in shading might have a beneficial effect on the species. Any potential raising of water levels by beavers is unlikely to have an impact. This species should be monitored for presence/absence and evidence of breeding in the trial site and the SSSI as a whole.

C. virgo uses small burns and rivers and the adults display in the dappled sunshine created by trees/ shrubs along these burns. If the tree cover closes over and reduces the sunshine, the site is not used and conversely open burns are also not used. The species has been recorded in the SSSI but it is declining due to the tree and shrub regeneration along the burns. Therefore patchy removal of scrub by beavers is likely to have a beneficial effect on this species. Raising of water levels by damming of burns could perhaps affect the species if the water became too deep for adults to lay their eggs on submerged weed or the weed disappeared. This species should be

specifically monitored for presence/ absence along specific sections of enclosed and open burns.

3. EUROPEAN PROTECTED SPECIES

The following European Protected Species (as listed on Schedules 2 and 4 of The Conservation (Natural Habitats, &c.) Regulations 1994, as amended) are found in the trial area;

- European otter *Lutra lutra*
- Bat species - Vespertilionidae
- Wildcat *Felis silvestris*

Otter is present in the trial area both within and outwith Taynish and Knapdale Woods SAC (where it is an Annex II qualifying interest). The relationship between otters and beavers is covered by the appraisal for the qualifying interests of the Taynish and Knapdale Woods SAC.

Bat species - Daubenton's bat, Natterer's bat and pipistrelle bat species – are present in the SSSI and could use the trial area for feeding and roosting in trees and buildings. There is no evidence from elsewhere in Europe that beavers have had any adverse impact on bat species. Tree roosts will be in larger and older trees which have the necessary cracks/rotten areas. The chances of beavers felling a large tree with an occupied roost are very low, given most activity is close to water where there are generally fewer larger trees. Raising water levels will only create more areas for feeding. Overall, beavers will have no adverse impact on the favourable conservation status of bat species in the area.

Wildcat has been, and probably still is, present in the trial area. Given the behaviour and habitat requirements for this species it is difficult to envisage how beavers would have an adverse impact on wildcat. Therefore it is judged that beavers will have no adverse impact on the favourable conservation status of wildcat.

4. SCHEDULE 5 SPECIES

There are several species of mammal, protected under Schedule 5 of the Wildlife and Countryside Act 1981, as amended, present in the trial area; pine marten, red squirrel and water vole.

Pine marten and red squirrel are very unlikely to be affected by the presence of beavers. The risk of felling a tree that has been occupied by these species is extremely low. Therefore beaver will have no adverse impact on these species.

Water vole habitat is protected, rather than the animal itself. The species is semi-aquatic and any effects of beavers are likely to be neutral or beneficial by increasing habitat. However habitat is probably not a limiting feature in the

trial area. There will not be any competition for food. Overall there will not be an adverse impact to water vole.

5. BADGER

Badgers are present in the trial area. They tend to have large territories in Argyll with more than one sett complex. The setts tend to be on better-drained ground, e.g. slopes and not in areas that would be susceptible to flooding by beaver activity. There might be a small loss of foraging area. However overall there will be no adverse impact to badgers.

6. KNAPDALE NSA

Key characteristics of the NSA are;

- Grained topography from NW-SE
- Heavily wooded glens
- Freshwater and sea lochs
- Mosaic of habitats and enclosed landscapes
- Tightly grained and forested hills

The western part of the trial area is within the NSA. The effects of the beavers will be extremely localised within their territories. The main landscape effects will be the local removal of trees and shrubs, that will regenerate, and creation of wetland/flooded areas. None of these activities will have an adverse impact on the integrity of the NSA.

7. SNH RECOMMENDATIONS

The Scottish Government may wish to use this recommendation, if judged appropriate, as conditions in any licence provided to RZSS/SWT.

- a) *Brachytron pratense* to be monitored within the SSSI and the trial site as a whole. *Calopteryx virgo* should be monitored along specific sections of enclosed and open burns. This can be done through the monitoring programme for the project.

Other recommendations relevant to these natural heritage interests are already addressed through SNH's appraisal of the proposal in relation to possible effects on Taynish and Knapdale Woods SAC and Knapdale Lochs SPA.