3.3 Fresh Water Habitats

3.3.1 Habitat Description

Many fresh water habitats are included in the UK Biodiversity Action Plan as they have been identified as being threatened and require conservation action. These water bodies include rivers and streams, lochs (oligotrophic, dystrophic, mesotrophic and eutrophic), ponds, and aquifer fed naturally fluctuating water.

Over time many water bodies have been detrimentally affected by pollution, abstraction and impoundment and alternations to their bed, banks and shores. This has led to legislation being put in place, arising from the European Community (EC)'s Water Framework Directive (WFD) and implemented by the Scottish Environment Protection Agency (SEPA), to regulate certain activities and covers rivers, lochs, transitional waters (estuaries), coastal waters groundwater, and groundwater dependant wetlands. Locally, issues such as acidification and diffuse pollution are particularly significant in the Biosphere.

Watercourses and waterbodies form a significant part of the Biosphere ecosystem, with rivers radiating out from the Core zone, feeding across the Biosphere (see Map 7). Only oligotrophic lochs have been selected as High Focus Habitats but many fresh water habitats provide vital support to a wide range of wildlife. Of particular importance within the Biosphere are the fresh water habitats supporting the High Focus Species brown trout and water vole. These include: the Water of Girvan, Doon, Stinchar, Nith, Dee, Fleet, Bladnoch, Cree and Urr. These range from high energy upland burns to the slower flowing, larger bodied, meandering sections nearing the coast. They can also support a wide range of other species including otter, bat, Atlantic salmon and many birds such as kingfisher, moorhen, sand martin and wintering wildfowl. In addition, the Biosphere

3.3.2 Conservation Objectives

The main conservation objectives for freshwater habitats are to:

- Maintain or improve water quality.
- Maintain or restore suitable bankside vegetation. This can vary depending on species present in and around the water environment.
- Integrate management of fresh water habitats with wider catchment management.

3.3.3 Management

Management required to maintain/improve the condition of fresh water will vary by habitat and in the Biosphere there is particular emphasis on improving freshwater habitat for the High Focus Species brown trout and water vole (see Sections 4.6 and 4.7). It is also important, however, to ensure all

activities are in line with the Water Framework Directive[10], a European Union directive which commits European Union member states to achieve good qualitative and quantitative status of all water bodies. To achieve this SEPA produces and implements River Basin Management Plans which use a set of environmental standards on which to assess condition. The second cycle of River Basin Management Plans[11] are due to be published by the end of 2015 and these will set out the state of the water environment, the pressures affecting the water environment where it is in less than good condition, the objectives for protecting and improving the water environment and the actions or measures for improvement or protection. These plans should be used to inform any freshwater habitat management in the Biosphere. In addition, SEPA should always be consulted when formulating new projects to ensure they meet regulations and will not have adverse impacts on other species/habitats such as fresh water pearl mussels.

3.3.4 Example Projects

- Refer to sections 4.6 (water vole) and 4.7 (brown trout)

3.3.5 Considerations

- The need to understand and identifying reasons for poor condition, for example; acidification being caused by underlying geology or land use such as forestry, diffuse pollution from agriculture activities, 'canalisation' or watercourses which can lead to faster run-off which can increase the frequency and magnitude of flooding events.
- The appropriate level and composition of riparian vegetation will depend on species present. For example water vole require plentiful bank side vegetation rich in tall herbaceous plants.
- Mandatory requirements such as Cross Compliance (Good Agriculture and Environmental Condition and Statutory Management Requirements) and the UK Forestry Standard.
- The downstream impacts of any restoration or change in management should always be considered as river behaviour can be complex and any intervention may disrupt natural processes which may have unexpected outcomes.
- Restoration and management may have to be carried out at the catchment scale to be effective and sustainable.

3.3.6 Opportunities

- Potential Heritage Lottery Fund project in the Ken-Dee catchment.
- Agri-environment funding to manage water quality and flood risk.

[10] More information of the Water Framework Directive can be found at: http://www.gov.scot/Topics/Environment/Water/15561/WFD

[11] Further information available at: http://www.sepa.org.uk/environment/water/river-basin-management-planning/

- Complimentary habitat management, such a peatland restoration, and the increasing emphasis on catchment scale management.
- Requirement under new SRDP agri-environment scheme for all farms to produce Farm Environment Assessment and where necessary a Diffuse Pollution Risk Assessment.

3.3.7 Further Information

SEPA website http://www.sepa.org.uk/

SNH Information on Managing Freshwater http://www.snh.gov.uk/land-and-sea/managing-freshwater/

Managing River Habitats for Fisheries: A Guide to Best Practice (SEPA). Available at: https://www.sepa.org.uk/media/151323/managing_river_habitats_fisheries.pdf

Supporting guidance for Restoring (Protecting) River Banks under SRDP Agri-Environment and Climate Scheme (2014 – 2020) https://www.ruralpayments.org/publicsite/futures/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/restoring-river-banks/guidance-for-restoring--protecting--river-banks/

River Bladnoch SAC Atlantic Salmon Catchment Plan. Available at: http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1026