

AQUATIC VEGETATION OF MEIKLE AND COTEHILL LOCHS, ABERDEENSHIRE IN 2002

Non-technical precis

During the summer of 2002 ecologists from the University of Glasgow carried out surveys of the aquatic plant life of Meikle and Cotehill Lochs, Aberdeenshire, for the Ythan LIFE Project and Scottish Natural Heritage. The aim was to gather up-to-date information on the types of plants present in each loch, and their location within the lochs.. This information is useful in understanding the current state of “ecological health” of the lochs, and also for setting targets for their future conservation. The two lochs are part of the Meikle Loch and Kippet Hills Site of Special Scientific Interest (SSSI), which is important because of its geological features and birdlife interests. Due to the lochs’ location, close to the Ythan estuary and adjoining coast, they are important refuges for wintering wildfowl, especially Pinkfooted and Greylag geese.

The surveyors examined the whole shore area of each loch, mapping the position of beds of plants (both reedswamp species that emerge from the water and aquatic plants that are submerged in the water, out as far as their limit of colonisation in deeper water). Accurate positioning was achieved by using a handheld satellite-positioning system (GPS). The information collected on plants, and also the depth contours and sediment types of the shoreline zone, was used to draw up maps of the lochs showing the position and extent of each type of aquatic vegetation. These maps are available in the form of a Geographical Information System (GIS), on CD-ROM. Changes in the cover and types of plants present were assessed by comparing the results with previous surveys, undertaken in 1990 and 1995.

The main findings were as follows:

- Since 1990 Meikle and Cotehill Lochs have both shown an increase in the quantity of plant nutrients present in the water, especially phosphates (known as eutrophication) with a subsequent, associated decline in plant species diversity. Meikle Loch currently supports only four species of submerged plants, and Cotehill Loch has only one species left, and that in very small amounts
- Both lochs continue to support a flourishing marginal vegetation, with beds of reedswamp grasses and other plants present around both lochs. Little Loch (separately named, but technically part of Meikle Loch) is especially rich in reedswamp plant species. Overall, however, Cotehill Loch had the highest diversity of reedswamp marginal plants.
- The main source of loch nutrient increases would appear to be coming from agricultural run-off from the surrounding farmed loch catchment area, with smaller point sources from untreated sewage entering the lochs, and also from wintering waterfowl roosting on and around the lochs.
- To prevent further problems of nutrient enrichment, in order to safeguard the remaining aquatic vegetation and other wildlife, the surveyors recommended that a catchment-wide management plan to reduce nutrient inputs should be drawn up and put into action. This would involve Scottish Natural Heritage, the Scottish Environment Protection Agency and other relevant agencies working in conjunction with residents and farmers operating in the catchment of the two lochs.