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Improving Biodiversity

Introduction

Biodiversity is a complicated issue and can be defined in different ways. However this document will focus and discuss species and ecosystem biodiversity and refer to them together as a whole.

Species biodiversity refers to the number and abundance of species. It incorporates characteristics such as: taxonomic uniqueness; size and structure; population dynamics and reproductive cycles; behaviour patterns etc.

Ecosystem biodiversity refers to the dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit. Inter-play between ecosystems and human livelihoods over the millennia have given rise to productive landscapes which combine biological and cultural diversity.

Growing Concern Scotland's Biodiversity Action Plan (BAP) focuses on the increase of rare/specialised species, the continued success of established species and the improvement and creation of habitats. We aim to implement these plans by using pro-active, cost effective biodiversity management to support species and habitats. (See Growing Concern Scotland's BAP for more details)

The Importance of Biodiversity

Unfortunately exact links between the biodiversity and the function of complex biological systems are not apparent and generally poorly understood. Approaching the management of the diversity involved in the biological systems is based on valued and educated judgements. There is in general no definitive validated right or wrong answer.

Improving the biodiversity could in turn provide ecological and environmental benefits. It is claimed the greater biodiversity produces higher biomass and greater ecological stability. Of course it could be debated that leaving nature to its own devices would also create a greater ecological stability and species composition. However where it has been and is necessary to interfere in environments (building roads, houses, industrial sites) it is our responsibility to make it as easy for biodiversity to adjust and flourish.

Practises to Aid Biodiversity

The main aims are the provision of habitat structure for nesting, foraging, over-wintering and movement and planting foods in the form of plants for herbivores, invertebrates and insects thus creating more prey for predators.

Warning road users and the public in general of close proximity to species that are prevalent in an area and that care/attention is required to aid their survival. Using road warning signs is one way to achieve this with regular checks to make sure these are not obstructed from view.

Habitat fragmentation is an important cause of the decline of key biodiversity species; providing wildlife with 'wildlife corridors' (hedgerows, tunnels, ditches, earth banks, scrub, streams) is an important tool in aiding survival and proliferation. Wildlife corridors need not be continuous as some species can traverse to 'stepping stones' of habitat as long as they are a short distance apart. On some occasions and especially with larger animals the best management will be to

fence them off to prevent wildlife crossing roads, which will not only aid the protection of wildlife, it will prevent roads accidents causing human injury and death.

Weed control chemicals must be used only when necessary; applying correct strengths of solutions etc leaving buffer zones at edges of habitat. At these edges care should be taken that no 'spray drift' occurs.

Sympathetic planting can be used not only to improve biodiversity but to improve the landscape for viewing pleasure. Hedgerows, woodland and wild flower areas prove excellent planting schemes to improve biodiversity. Scrub planting can shield neighbouring habitat from disturbance from road noise and movement and also provide a preferred habitat for many bird species.

Responsible arboriculture can also aid biodiversity as the thinning of trees allows more light to filter to woodland floors encouraging plant growth. Branches and trunks from felled trees can be left stacked together in log piles and left in the woodland creating a richer habitat for wildlife and insects to populate.

Building dry stone dykes and walls and repairing existing dilapidated ones will also abet many species creating excellent locale for invertebrates, amphibians and reptiles.

Pollution from construction and maintenance of roads can be minimised by high standards of working practises and continual training of staff.

Construction of roads can also disrupt or change the natural drainage of an area. The effects of this can be minimised by identifying high risk sensitive areas and avoid or mitigate any adverse impacts. Road drainage features such as ditches can be valuable wildlife habitats if managed carefully.

Surveying areas specifically with biodiversity in mind will prove beneficial in managing the landscape and the species living in it. Soil sampling will assist in decisions on planting of verges, bankings and roundabouts etc. The surveys tie in with considering the landscape as a whole and desk-top surveys should be carried out to establish species in surrounding areas where landscaping works are being or to be carried out. These surveys will help to plan land management strategies i.e. fencing to prevent mammals crossing roads or tunnels to allow crossings safely etc.

Summary

Growing Concern Scotland realises the importance of considering the landscape as a whole and maintaining habitat diversity, balancing open areas with woodland, plants and hedge heights appropriate for local wildlife species.

Through implementation of our Biodiversity Action Plans, Growing Concern Scotland hopes to make an important and necessary impact on the improvement of biodiversity in our contracted areas.

Hopefully with careful management of our sites Growing Concern Scotland can make a real difference in mitigating loss of habitat and species.