

The Flora of Old Stone Walls in Kilkenny City

Executive summary

The flora of old and historical walls in Kilkenny City was surveyed in Autumn 2009. Fifty four walls were sampled in the survey including most of the upstanding sections of city walls, historic buildings and their associated walls, graveyards and other old walls. Seventy eight flowering plant and fern taxa were recorded plus several mosses and liverworts. The most common species recorded were ivy-leaved toadflax (*Cymbalaria muralis*), red valerian (*Centranthus ruber*) and polypody fern (*Polypody vulgaris*). The average number of species on the walls or section of walls sampled was ten species. The maximum recorded was twenty three and this was recorded on one of the boundary walls of Castle Park. Several of the plant species recorded are garden escapes that are native to the Mediterranean region e.g. Ivy-leaved toadflax, pellitory-on-the-wall (*Parietaria judaica*), wallflower (*Erysimum cherii*) and fairy foxglove (*Erinus alpinus*). Many of the wall flora plants in Kilkenny City are species that prefer a lime-rich substrate (e.g. the ferns maidenhair spleenwort (*Asplenium trichomanes*), wall rue (*A. ruta-muraria*), and rusty-back (*Ceterarch officinarum*). There was no strong relationship between wall aspect and number of species detected in this survey but this has been found in other studies.

The results from this study indicate that the stone walls in Kilkenny City have a diverse flora associated with them. The wall flora is therefore a significant component of the City's biodiversity resource, as stone walls are so prevalent. Stone walls form part of the rich mosaic of wildlife habitats in Kilkenny City including the River Nore, River Breagagh, Castle Park, green spaces, gardens, bridges, graveyards, Newpark fen, and stands of trees and shrubs. Wall vegetation in Kilkenny City and other urban areas provides habitat, food and/or shelter for many invertebrates and birds, and maybe even small mammals and bats in some instances. There is great potential for further research in this area because few studies appear to have been done to date, particularly of mortared walls in cities. Stone walls may form ecological networks, not unlike hedgerows, that allow small creatures such as butterflies and moths to move between areas of favourable habitat. Further research is required to establish the value of stone walls in urban areas for wildlife and as ecological networks although it is likely that they make a significant contribution.

The rich biodiversity associated with stone walls should be of considerable interest to those that seek to protect and enhance Kilkenny City's rich built and natural heritage, especially local Tidy Towns and other community groups.

Threats to the wall flora in Kilkenny City include herbicide application, overzealous clearance of wall vegetation, and wall restoration. Growth of woody species can disrupt the integrity of stone walls if not controlled.

Recommendations for the management of wall flora are provided in the report. Wall vegetation should not be removed unless for essential wall maintenance but woody species should be removed to ensure they don't disrupt the structure of walls. Prior to undertaking any works on historic walls in the city, however, advice should be sought from the County Council Heritage Officer or Conservation Officer. Lime-based mortar should be used in any wall restoration works to maintain a diverse wall flora. The use of concrete should be avoided. Herbicides should not be used on wall vegetation.

The results of this survey indicate that the wall flora on stone walls in Kilkenny is a significant biodiversity resource for the city and therefore warrants conservation and further study. Recommendations based on the project findings are as follows:

1. An additional survey should be carried out earlier in the growing season (i.e. in Spring and early Summer) in order to record a more complete flora.
2. The findings and conclusions from this report, particularly in relation to management, should be considered prior to any future work on the historic walls of Kilkenny City.
3. The survey of the flora of old and historic walls should be extended to the County of Kilkenny.
4. Further research should be conducted on the ecological value of wall flora in urban areas. There has been little research on the flora of stone walls to date in Ireland.

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