SITE SYNOPSIS

SITE NAME : INISHEER ISLAND

SITE CODE : 001275

Inisheer is the smallest of the three Aran Islands, situated approximately 10km off the west coast of County Clare. The Island is a geological extension of the Karstic Carboniferous region of the Burren. Upper Carboniferous limestone strata, interleaved with layers of shale and clay, form these exposed Islands, which rise to a maximum height of 64m on Inisheer. The land surface is divided up by a network of fissures, varying from fine to deep cliffs. The soil cover is thin with pockets of rendzina between the bare limestone. This naturally-occurring soil is combined with a mixture of sand and seaweed to form a man-made soil unique to these Islands.

The land surface is subdivided into a labyrinth of high stone walls, each one enclosing a small area of limestone pavement and its associated species rich calcareous grassland.

A variety of limestone pavement types are present at this site. These include smooth-blocky and shattered types, interspersed with a diverse range of associated plant communities. In places, the rocky grasslands support the Red Data plant species, Hairy Violet (*Viola hirta*). This species is protected under the Flora (Protection) Order, 1999. The more species-rich meadows support a plant community dominated by grasses (Gramineae), but with many flowering herbs. Species common to this habitat include Black and Greater Knapweeds (*Centaurea nigra* and *C. scabiosa*), Ox-eye Daisy (*Leucanthemum vulgare*), Harebell (*Campanula rotundifolia*), Eyebright (*Euphrasia* spp.) and orchids (Orchidaceae). In other areas, Woodsage (*Teucrium scorodonia*) and Blue Moor-grass (*Sesleria albicans*) feature, while Blackthorn (*Prunus spinosa*) and Burnet Rose (*Rosa pimpinellifolia*) are colonising some grasslands.

Dry limestone heath has developed in places, with Ling Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*), Purple Moor-grass (*Molinia caerulea*), Black Bog-rush (*Schoenus nigricans*) and occasional patches of Juniper (*Juniperus communis*) scrub.

Lough More, situated in the east of the island, is an excellent example of a deep (up to 23 m), oligohaline, karstic rock lagoon, a type of lagoon which is believed to be rare in Europe. The lagoon is connected to the sea through underground rock fissures with limestone cliffs along much of the shoreline. Seawater enters from a karstic tidal pool to the north-east of the lake from which diluted seawater (up to 20 ppt) runs into the lake through limestone pavement. In 1998 the main body of the lake had a uniform salinity of 5 ppt between 1 and 5 m depth with lower salinity water over parts of the surface (0-3 ppt). The benthic vegetation is extremely uniform consisting of green algae (*Enteromorpha* spp.) and dense beds of Fennel-leaved Pondweed (*Potamogeton pectinatus*). This vegetation ceases below 2-3 m. No lagoonal plant specialists were found in recent surveys. Immediately below the pondweed

community a zone of hard calcareous algal nodules occurs. These nodules are 2-3 cm in diameter and have a superficial similarity to marine coralline algae. They appear to be the product of several species. Marginal vegetation includes small stands of Common Reed (*Phragmites australis*), Grey Club-rush (*Scirpus lacustris* subsp. *tabernaemontani)* and Sea Club-rush (*Scirpus maritimus*). The presence of Saltmarsh Rush (*Juncus gerardi*) is indicative of salt marsh vegetation. The fauna of the lagoon is poor despite the apparently stable and uniform conditions in the lagoon. This may be due to the "island effect" and the problems of colonisation and survival on a small offshore island. Only three species which are considered lagoonal specialists have been recorded: *Sigara concinna*, *Conopeum seurati* and *Jaera nordmanni*.

A range of coastal habitats occur on the island, including bedrock shores, shingle and sandy beaches and boulder beaches.

Traditional farming practices, in the form of Rye cultivation for thatching, has maintained suitable habitat for a number of rare arable weeds. Darnel (*Lolium temulentum*) and Smooth Brome (*Bromus racemosus*), formerly though to be extinct in Ireland, have recently been recorded on Inisheer. Both species are listed in The Irish Red Data Book.

Several breeding pairs of Chough are present on the Island. Arctic Tern, Little Tern and Sandwich Tern also breed here in small numbers. All four species are listed on Annex I of the E.U. Birds Directive. Lough More is of value to birdlife in the area, providing habitat for Grey Heron, Mute Swan and Mallard.

Agricultural intensity is low throughout the island. The majority of the land is used as winterage for cattle, sheep and, in some places, goats. The fields located close to the houses are used for summer grazing. This traditional practice, which is coupled with the absence of fertilisers, has maintained the species richness and high diversity of the Island flora. However, increased tourism on the Island is resulting in a gradual move away from farming, in favour of more tourism-related enterprises - a move which may threaten the survival of some species-rich meadows. Many of the Islands habitats and associated wildlife are sensitive to damage resulting from certain forms of agricultural improvement and overgrazing. Removal of sand from dune areas poses a significant threat to those habitats. Future plans to develop the Island for tourism and amenity purposes require close monitoring in this sensitive environment.

The island is of major ecological importance due to the quality and floristic richness of limestone pavement and coastal habitats present. The presence of two Rare plant species enhances the conservation value of this site, while the Island's coastline provides habitat for a number of rare bird species. Traditional farming methods practised on the Island are intrinsically linked with its high conservation value. The botanical, historical, archaeological and cultural interest of the island make this an extremely valuable site for educational and scientific purposes.