

**RIVER ILEN SKIBBEREEN
ECOLOGICAL ASSESSMENT OF RIPPLE AREA**

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1. Introduction

This report presents an overview of the ecology of the River Ilen and its associated floodplain between the New Bridge and the John F. Kennedy Bridge in Skibbereen, Co. Cork. The report also covers a tributary of the River Ilen, the Caol Stream, between the bridge on Market Street downstream to its confluence with the Ilen at Levis Quay. Fishery assessment of the Ilen in general, the section through the town and the Caol Stream are included. Some guidelines for the development of the area as an amenity facility are provided which aim to integrate and enhance its current ecological value.

2. Methodology

A site visit was undertaken on the 15th March 2007. A walkover survey along the river was undertaken and habitats mapped and classified according to the Heritage Council scheme (Fossitt, 2000) (habitat codes are shown in parenthesis within the text). The area was also checked for the presence of and suitability for rare or protected species of fauna and flora including otter and kingfisher. It should be noted that the season during which the survey was undertaken precluded the compilation of extensive vegetation species lists, as many plants had not commenced growth. The dominant species were however recorded which allows a classification of habitat type.

Consultation was undertaken with the National Park and Wildlife Service to determine the boundaries of designated conservation areas, and to check for records of protected or rare species of fauna and flora in the vicinity of the study area.

Fishery consultations were undertaken with the Fishery Board and local angling interests.

3. Existing Environment

3.1 General Description of the study area

The River Ilen rises in the hills north of Drimoleague and flows into Roaringwater Bay approximately 3km downstream of Skibbereen. It is a spate river some 33km long. A tidal pulse extends upstream to Skibbereen though the water is entirely fresh at this point. The river, which is up to 40m in width, carves a large meander through the town forming a floodplain known as the Marsh along the western bank. The eastern bank adjoins the rear gardens and walls of buildings along North Street. Both riverbanks have been modified in the past and are primarily comprised of dry-stone walling, much of which has collapsed or is overgrown with vegetation. The Caol Stream, which rises in Lough Abisdealy, joins the Ilen approximately 250m upstream from the John F Kennedy Bridge. The Caol Stream is heavily polluted within the town from numerous sewage discharges.

3.2 *Designated Areas*

The River Ilen is not designated for nature conservation within the vicinity of Skibbereen though it flows in to Roaringwater Bay, which is a candidate Special Area of Conservation (Site No. 00101). It is an island-filled bay bounded by Cape Clear and Sherkin on the south and the Mizen Head peninsula on the north. The site includes the immediate coastline on the mainland from Long Island to Baltimore together with the whole bay and most of the islands.

3.3 *Habitats and vegetation*

3.3.1 *River Ilen and Caol Stream*

The River Ilen within the study area is a depositing lowland river (FW2). It is however subject to a freshwater tidal pulse that results in a rise of approximately 1m in river depth at the John F Kennedy Bridge. As a result, while there are some shallow riffle and gentle glides stretches during low water, at high water the flow backs up and slackens. The channel is approximately 40m in width and the substrate is comprised of cobble and small boulder in faster flowing stretches with sands and gravels in areas of slacker flow. Willow moss (*Fontinalis antipyretica*) is frequent though other aquatic vegetation had not yet established growth at the time of survey. Occasional gravel bars occur along the banks with associated marginal aquatic vegetation including water dropwort (*Oenanthe crocuta*), curled dock (*Rumex crispus*), figwort (*Scrophularia nodosa*), water mint (*Mentha aquatica*) and lesser celandine (*Ranunculus ficaria*). Willow (*Salix* spp.) occurs on some of the more established bars. A small area of freshwater marsh (GM1) occurs on the western bank (opposite the Cathedral) at a point where a drainage seep occurs from the adjacent land. The vegetation here includes canary reed-grass (*Phalaris arundinacea*), bur-reed (*Sparganium erectum*), sedges (*Carex* spp.) and marsh marigold (*Caltha palustris*). The marsh is fringed to the west by willow and alder.

The banks are steep to vertical and have been consolidated in the past with dry-stone walling though there is extensive mature tree cover along the eastern bank, which has resulted in partial collapse. The trees are a mixture of sycamore (*Acer pseudoplatanus*), alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and hawthorn (*Crataegus monogyna*), many of which overhang the river. A row of 6 mature beech trees (*Fagus sylvatica*) occurs on the eastern bank immediately upstream of the Caol Stream confluence. The trees have an understorey of bramble (*Rubus fruticosus* aggr.), grasses including creeping bent (*Agrostis stolonifera*) and cocksfoot (*Dactylis glomerata*), ferns (*Polypodium vulgare* and *Dryopteris* spp.), mosses, bluebell (*Hyacinthoides non-scripta*), lesser celandine and ivy (*Hedra helix*). There has been recent bank stabilization using boulder developed along both banks for a distance of approximately 120m downstream of the new bridge. These have limited associated vegetation with small amounts of creeping bent, figwort and water dropwort.

The western bank is primarily comprised of walls with small areas of riparian vegetation comprised of occasional willow, water dropwort, figwort, mosses, etc. Immediately upstream of the John F Kennedy Bridge, the western bank has quay walls of approximately 4m in height.

The Caol Stream from the bridge on Market Street down to its confluence with the Ilen, is confined within an artificial channel with a narrow marginal fringe on either bank. The stream at the Market Street end has a reasonable water quality (estimated as Q 3-4 or moderate to fair water quality) evidenced by the presence of juvenile trout. However, due to enumerable direct sewage discharges between Market Street and Levis Quay, the water

quality has deteriorated to Q1 or poor water quality. Extensive mats of sewage fungus and soft sediment deposits occur on its lower reaches and the waters are likely to be almost devoid of life with the exception of extremely tolerant forms such as Tubificid worms. The banks of the Caol are heavily infested with the exotic invasive Japanese knotweed (*Fallopia japonica*), which will result in extensive shading along its course during the summer period.

3.3.2 The Marsh

The area known as the marsh extends from the Bypass Bridge almost to the John F Kennedy Bridge along the western bank of the River Ilen and is bounded to the north by the town bypass road. There has been recent works carried out in the central part of the area associated with the construction of a footbridge extending from Levin Quay into the Marsh. Spoil has been dumped in the central part which is recolonizing with rank grassland vegetation (ED3). Elsewhere, the vegetation is primarily comprised of dry neutral grassland (GS1) with creeping bent, fescue (*Festuca vivipera*), cocksfoot, creeping buttercup (*Ranunculus repens*), plantain (*Plantago lanceolata*), sorrel (*Rumex acetosa*) and occasional cuckoo flower (*Cardamine pratensis*). The land has not been heavily managed in recent times and is generally open with field divisions of wire fencing. A small field occurs in the south-western corner which has a scrubby hedgerow (WL1) of hawthorn and bramble.

In the southern part of the Marsh, a shallow depression has been excavated which appears subject to regular winter flooding judging by the vegetation and “tide” mark. The spoil excavated from the depression has been used to construct a berm along the river bank which extends towards the footbridge currently under construction. The berm has a thicket of blackthorn (*Prunus spinosa*) and bramble running along most of its length. The adjacent depression has a vegetation which tends towards wet grassland GS4 supporting silver weed (*Potentilla anserina*), rushes (*Juncus* spp.), creeping bent, mouse-ear (*Cerastium tomentosum*), daisy (*Bellis perennis*), camomile (*Anthemis nobile*) and white clover (*Trifolium repens*) with abundant young saplings of alder.

3.4 Fauna

The River Ilen supports populations of a number of species afforded protection under the EU Habitats Directive. This includes otter (*Lutra lutra*), freshwater pearl mussel (*Margaritifera margaritifera*) and salmon (*Salmo salar*), which are all listed in Annex II of the Directive. Other species afforded protection under the Habitats Directive that may occur include the sea and river lamprey (*Petromyzon marinus* and *Lampetra fluviatilis*). Kingfisher (*Alcedo atthis*) and the little egret (*Egretta garzetta*), which are both afforded protection under Annex I of the EU Birds Directive, are also likely to occur.

An otter was observed foraging in the river upstream of the John F Kennedy Bridge at mid-day during the survey. A known holt (resting or breeding chamber) occurs immediately downstream of the bridge (P. Graham, NPWS pers.comm.) and a second holt was noted on the western bank opposite the Parochial House. Additional holts may be present along the river banks as the over-hanging trees and stonework provide numerous potential cavities. Otter typically utilize such cavities in banks, among rocks or tree roots as holt sites and may have many holts within their territory.

A number of empty shells of the freshwater pearl mussel were found on the gravel bars, which appear to have been washed downstream. The River Ilen is known to support a

population of this internationally rare bivalve though no studies have been undertaken to determine its distribution and abundance within the river (P. Graham, NPWS pers.comm.).

Kingfishers are typically associated with slow flowing rivers and lakes, as they require relatively still water for successful hunting. The species nest in steep earth banks adjacent to or over the waters edge. While no kingfisher were observed during the survey, it is likely that the species occurs on the lower River Ilen as fish populations and breeding habitat are both suitable. The little egret has recently established itself in Ireland as a breeding species and is commonest in the southern counties from Cork to Wexford. It typically nests in trees on the lower reaches of river systems and feeds along the riverbanks and estuaries. A range of other birds typically associated with watercourses occur along the River Ilen including heron, cormorant, mallard, common sandpiper, pied wagtail, snipe and various gulls including (black-headed, common and herring gull).

Both the sea and river lamprey spend their adult lives at sea (estuaries in the case of the river lamprey) but which migrate into freshwater to spawn. Within the study area, the conditions appear unsuited to spawning for lamprey due to the effect of the tidal surge reducing flow in otherwise potentially suitable riffle habitat.

The River Ilen and its associated habitats provide suitable conditions for a variety of bat species. There are abundant suitable roosting sites in buildings within the town as well as in many of the mature trees along the riverbanks. The riparian vegetation and Marsh provide good foraging habitat while the river acts as a corridor to other foraging areas further upstream. All bat species are afforded protection under Annex IV of the Habitats Directive.

3.5 Fisheries

The River Ilen supports good populations of brown trout, sea-trout and salmon. The Ilen Anglers club based in Skibbereen controls most of the River.

3.5.1 The Main River

The Ilen river is estimated to have a spawning requirement of over 900 salmon. The river is currently assessed as being 29% below its Conservation Limit. There is a draft net station some 1.5 miles below Skibbereen. The 2007 quota is 322 salmon for angling and 181 for draft nets. Spring fish run the river from March onwards and there are good runs of grilse from June to September. Sea trout run the river from March onwards.

The Coomhola Salmon trust of Bantry commenced wild salmon stocking on the River Ilen in 1992 for the Ilen Anglers Club.

The Central Fisheries Board in support of an application by the Angling Club for a Leader Grant to improve angling undertook two surveys one in 1992 and one in 1993. These were full catchment surveys and will have detailed information on the system. Copies of these are held in the Fishery Office in Macroom.

The river is tidal over the entire stretch under consideration. The tidal influence goes up to the hospital and sometimes beyond. There is currently little or no angling in this area but it could be developed as a sea trout fishery if fishing spaces were provided.

3.5.2 The Caol Stream.

This is a fine stream and could provide an excellent amenity for the town. Unfortunately at present it is polluted and receives loading from many sources. Mullet are frequent visitors at the confluence with the Ilen which is the most polluted part of the stream. There is anecdotal information that the stream previously supported a run of salmon.

Photo 1 shows the an upstream view with good water quality and in-stream vegetation. This could be emulated in the stretch flowing through the town.

Photo 1



Photo 2 shows the basic problem with this short stretch of stream from the confluence with the Ilen up to Market Street. The stream could be cleared on the left bank to allow good visual sites of the stream and the right bank left in a natural and semi-overgrown state to encourage wildlife. Features could be incorporated into the stream to provide for a flow even during extreme low flows and the exposed gravels would support a natural vegetation.

Photo 2



4. Recommendations for development

As the River Ilen supports a number of animals protected under the EU Habitats Directive, it is imperative that any development proposals do not impact negatively on these species. The Marsh, while currently subject to considerable disturbance through the construction of a Pedestrian Bridge, forms an important riparian zone to the river. The Caol Stream is currently heavily polluted along its lower reaches owing to numerous direct sewage discharges within the town of Skibbereen. Development of the area to enhance its amenity usage and its aesthetic appeal should aim to conserve and enhance its ecological value also.

A series of measures are given below which aim to meet this dual objective.

The River Ilen

- Amenity access along the river should aim to provide a window into a natural environment rather than a intensively managed urban park.
- The western riverbank of the River Ilen has a well-established riparian vegetation which should be retained intact. Any flood protection works required should be constructed on the landward side of the canopy of the riverside trees.
- A tree survey should be undertaken prior to the development of any detailed proposals.
- There is potential to construct an artificial lake and wetland within the Marsh area which would provide both an amenity and ecological function. This would be best located in the area that is currently subject to regular flooding.
- All planting works should utilize appropriate native species of local provenance.
- Instream works could provide additional aquatic habitats through diversification of flow regime. The positioning of any measures (such as deflectors) should take account of existing features such as gravel bars and the fringing marsh.
- Spaces could be cleared for sea trout fishing. It may never be an ideal sea trout beat but it would certainly provide tourist interest.

- The area could be tidied up and some improvements carried out to improve the visual aspects of the stretch. This would include providing deflectors and gravel banks to provide a good flow during low flow periods. A pool could be incorporated on the stretch which could act as a focus for sea-trout fishing.

The Caol Stream

- The Caol Stream requires containment and appropriate treatment for all current sewage discharges within the town environs.
- The extensive stands of Japanese knotweed along the banks of the stream require controlling, which may be best achieved through a programme of regular cutting back. The use of herbicides is not advised due to the proximity to the stream while the use of mechanical excavation may not be feasible due to the enclosed nature of the stream banks. Replanting with appropriate native species should be undertaken.
- The help of the Fishery Board could be enlisted to restore a salmon run to this stream. The first step in this process would be to clear all the pollution sources. Until this is tackled we could not recommend spending money on the stream development.
- Carefully controlled limited trout angling could be a feature of the stream but it would have to be structured so that it did not interfere with the main asset which is a nature walk in the centre of a town.

5. References

Fossitt, J. (2000). *A guide to Habitats in Ireland*. The Heritage Council.

National Parks and Wildlife Service. *Proposed Natural Heritage Area Site No. 00101 Site synopsis*. NPWS Website www.npws.ie