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**Roonah Lough, County Mayo O.S. L 755 765**

O.S. Discovery Sheet 37

**Conservation Designation:** Lough Cahasy, Lough Baun and Roonah Lough

SAC 001529

**General description:**

Roonah Lough is a large (55ha), shallow (<1m) **natural sedimentary lagoon** with a **cobble barrier** and a natural outlet, situated on the west Mayo coast, 10 km north of Killary Harbour and 2 km from Killadoon. The whole coastline from Killary harbour to Roonah Point consists of a complex and dynamic barrier system of dunes and cobbles with lagoons of various sizes and salinities. **N.B. The barrier may have been breached since the survey in 1996, and this site may no longer be a lagoon.**

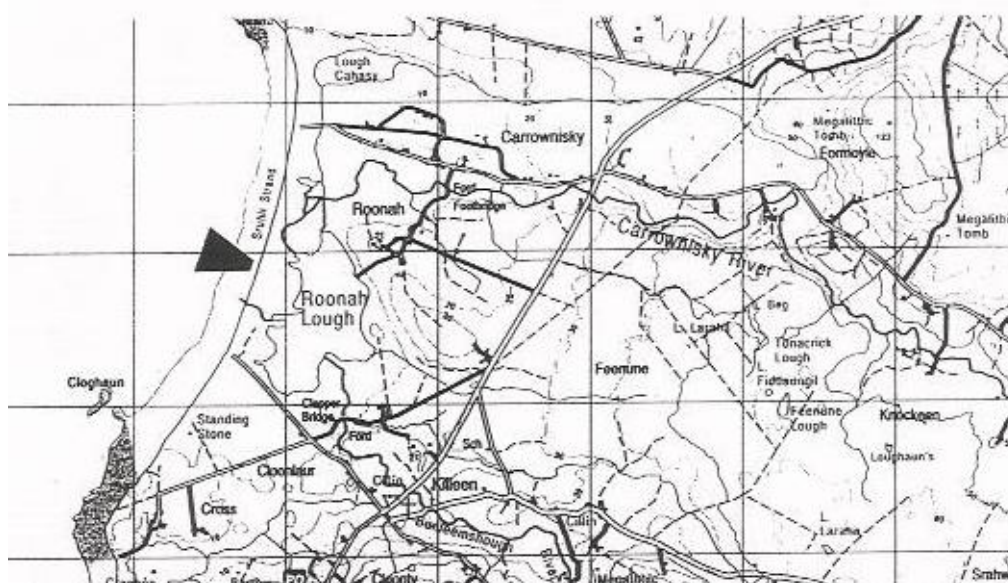


Figure 72.1 Location of map of Roonah Lough.

Roonah Lough was surveyed in 1996 for vegetation (Hatch 1996, Hatch & Healy 1998), aquatic fauna (Healy & Oliver 1996, Oliver & Healy 1998) and ecotonal coleoptera (Good 1996, Good & Butler 1998). Results of these surveys are summarised by Healy *et al.* (1997a,b,c), Healy & Oliver (1998) and Healy (1999, 2003).

### Flora

Vegetation was surveyed by P. Hatch in 1996 (Hatch 1996, Hatch & Healy 1998), but no underwater observations were made, and areas surveyed for flora do not necessarily correspond with stations sampled for aquatic fauna.

*Ruppia maritima* was the only aquatic higher plant species found. It had a wide distribution but was low-growing and was not found in dense beds although it may do so in deeper water. This species is a lagoonal specialist.

*Ruppia spp.* are the most characteristic aquatic plant taxa of Irish coastal lagoons. The species are hard to distinguish when not flowering, and remain uncertain at some sites, but *Ruppia* of one species or the other (*R. maritima*, *R. maritima* var *brevirostris*, *R. cirrhosa*) was found at 62 of the 87 lagoons (71.3%) surveyed, and is one of the most useful indicators of coastal lagoon status. *R. maritima* appears to be the more common of the species and was found at 41 of the lagoons surveyed (47%).

Two charophytes, *Chara globularis* var. *virgata* and *C. globularis* var. *annulata*, occurred close to the north eastern shore, where both species grew at sparse cover with equally sparse *Ruppia*. Marginal communities showed some diversity. Both mixed and single species *Scirpus maritimus* and *Schoenoplectus* swamps are found along parts of the south eastern and southern shores. *Eleocharis palustris* dominated swamp also occurred here and along the western shore. Much of the eastern shore is low earth cliff backing to wet grassland.

In 1996, the site was considered worthy of further survey it may prove to be a good representative of a low salinity sandy lagoon. However, C. Roden visited the site briefly in 1998 and the lagoon appeared very different from the description of 1996. The exit to the sea seemed very large and much of the lagoon floor was exposed, as the tide was out. It seems possible that the barrier had been breached or widened since the 1996 survey which reported that Roonah was a low salinity lagoon.

Based on vegetation Roonah Lough is rated as of **low conservation value**.

### Fauna

Six stations were selected for faunal sampling in Roonah Lough, 15-16/9/96 (Figure 72.2, Table 72.1).

Table 72.1 Positions of sampling stations in Roonah Lough 15-16/9/96, with salinity, depth of water and type of substratum.

|               | Sta A                                   | Sta B                               | Sta C               | Sta D   | Sta E   | Sta F                                   |
|---------------|---|-------------------------------------|---------------------|---|---|---|
| GPS position  | L 7488<br>7644                          | L 7511<br>7623                      | L 7490<br>7629      | L 7551<br>7625                                | L 7539<br>7687                                | L 7527<br>7738                          |
| Salinity(psu) | 0                                       | 0                                   | 0                   | 0   | 0   | 0                                       |
| Depth(cm)     | 0-100                                   | 0-60                                | 0-60                | 0-25  | 0-10  | 50-125                                  |
| Substratum    | Sand with<br>cobble<br>along<br>barrier | Sand and<br>fine<br>organic<br>silt | Peat, sand,<br>silt | Fine sand<br>and silt<br>occasional<br>stones | Fine sand<br>and silt<br>occasional<br>stones | Silty sand<br>and<br>patches of<br>peat |

Among 31 taxa recorded, 29 were identified to species (Table 72.2), but only one is a lagoonal specialist (*Sigara stagnalis*), and this species is common in lagoonal habitats in Ireland. The majority (21 spp.) are limnic taxa.

*Sigara stagnalis* Hemipteran insect (water-boatman). A common lagoonal specialist found at 36 of the 87 (41.4%) lagoons surveyed.

Faunal species were more or less evenly distributed throughout the lake and no gradient between the sea inlet and other stations could be detected. *Neomysis* was abundant at all stations and large numbers were taken in light traps. Corixidae and *Potamopyrgus* were also common. Most of the limnic species were confined to the area near the mouth of the Carrowninsky River. *Sigara dorsalis* was the dominant corixid.

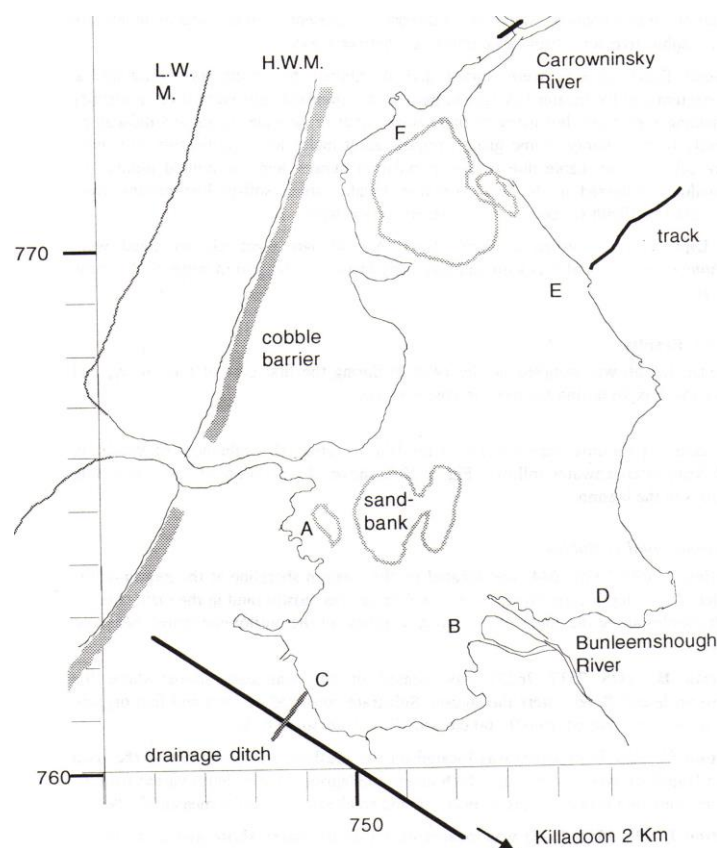


Figure 72.2 Sampling stations used at Roonah Lough.

The assemblage typifies a slightly saline lake receiving occasional small incursions of seawater. Oligohaline and freshwater species predominated. Corixids and beetles were common and diverse. Crabs and flounder were the only species present which can be assumed to have colonised directly from the sea. Salinity readings of 0‰ were recorded on both visits, and it is evident that the brackishwater species present are capable of surviving in freshwater for long periods.

None of the species identified can be described as rare in Ireland, and based on aquatic fauna, Roonah Lough is rated as of **low conservation value**.

### Ecotonal Coleoptera

Fifteen species of staphylinid and nine species of carabid beetles were recorded at Corragaun in 1996 (Good 1996, Good & Butler 1998), one of which (*Bembidion bipunctatum*) is regarded as indicator species. However, and based on ecotonal coleoptera the site is regarded as of **no conservation value**.

Table 72.2 Faunal taxa recorded at Roonah Lough, Co. Mayo. June and September 1996. ( ) = records from June. + = present; o = occasional; c = common; a = abundant; F = fyke net, ( L.T. = light-trap). Species in bold text are lagoonal specialists.

| Fauna                                     | Sampling Stations |       |   |       |   |       |   |       |   |        |
|---|-------------------|-------|---|-------|---|-------|---|-------|---|--------|
|   | A                 | L.T.A | B | L.T.B | C | L.T.C | D | L.T.D | E | F      |
| <b>Annelida</b> Hirudinea                 | (+)               |       |   |       |   |       |   |       |   |        |
| <b>Crustacea</b>                          |                   |       |   |       |   |       |   |       |   |        |
| Mysidacea <i>Neomysis integer</i>         | a                 | 2000  | c | 250   | a | 500   | a | 1000  | o |        |
| Amphipoda <i>Gammarus duebeni</i>         | +                 |       |   |       | + |       |   |       |   |        |
| Decapoda <i>Carcinus maenas</i>           | +                 |       |   |       |   |       |   |       |   |        |
| <b>Insecta</b>                            |                   |       |   |       |   |       |   |       |   |        |
| Ephemeroptera <i>Cloeon simile</i>        |                   |       |   |       |   |       |   |       |   | +      |
| Odonata <i>Ischnura elegans</i>           |                   |       |   |       | + |       | + |       |   | c      |
| Plecoptera                                | +                 |       |   |       |   |       |   |       |   |        |
| Trichoptera (cases)                       |                   |       |   |       | c |       | + |       |   |        |
| Hemiptera Corixidae                       | +                 | +     | + | 1     | c | +     | c | 50    |   | c      |
| <i>Cymatia bondsdorffi</i>                |                   |       |   |       | + |       |   |       |   |        |
| <i>Callicorixa praeusta</i>               |                   |       |   |       |   |       |   |       |   | +      |
| <i>Corixa panzeri</i>                     |                   |       |   |       | + |       |   |       |   |        |
| <i>Sigara dorsalis</i>                    | +                 | +     | c |       | c | +     | c | c     |   | +      |
| <i>S. semistriata</i>                     |                   |       | + |       |   |       |   |       |   |        |
| <i>S. stagnalis</i>                       |                   |       | + |       |   |       |   |       |   |        |
| Coleoptera                                | o                 |       | + |       | c |       | o | 1     | 1 | c      |
| <i>Agabus montanus</i>                    |                   |       |   |       |   |       |   |       |   |        |
| <i>Elmis aenea</i>                        |                   |       |   |       |   |       |   |       |   |        |
| <i>Haliphus lineatocollis</i>             |                   |       |   | +     | + |       |   |       |   |        |
| <i>H. wehnckeii</i>                       |                   |       |   | +     | + |       |   | +     |   |        |
| <i>Hydroporus memnonius</i>               |                   |       |   |       |   |       |   |       |   |        |
| <i>Laccobius minutus</i>                  |                   |       |   |       | + |       |   |       |   |        |
| <i>Llybius fuliginosus</i>                |                   |       |   |       |   |       | + |       |   |        |
| <i>Nebrioporus depressus</i>              |                   |       |   | +     |   |       |   | +     |   |        |
| Diptera Chironomidae                      | +                 |       | + |       | + |       | + |       | c | c      |
| <b>Mollusca</b>                           |                   |       |   |       |   |       |   |       |   |        |
| Prosobranchia Hydrobiidae                 | a                 |       | c | 1     | a | 15    | + | 3     | o | a      |
| <i>Potamopyrgus antipodarum</i>           | +                 | +     | + | +     | + | +     | + | +     | + | +      |
| Pulmonata <i>Aplexa hypnorum</i>          |                   |       |   |       |   |       |   |       |   | +      |
| <i>Lymnaea palustris</i>                  |                   |       |   |       |   |       |   |       |   | +      |
| <i>L. peregra</i>                         |                   |       | + |       | + |       | + | 4     |   | a      |
| <i>Planorbis leucostoma</i>               |                   |       |   |       |   |       |   |       |   | +      |
| <i>Sementina complanata</i>               |                   |       |   |       |   |       |   |       |   | +      |
| Bivalvia <i>Pisidium sp.</i>              |                   |       |   |       |   |       |   |       |   | shells |
| <b>Bryozoa</b> <i>Plumatella repens</i>   |                   |       |   |       |   |       | + |       |   |        |
| <b>Teleostei</b> <i>Anguilla anguilla</i> | +                 |       | + |       | + | 1     | + |       |   |        |
| <i>Gasterosteus aculeatus</i>             | +                 | 10    | + | 24    | + | 10    | a | 95    |   | +      |
| <i>Platichthys flesus</i>                 | +                 |       | + |       | + |       | + |       |   |        |

### Summary

Based on the survey in 1996, Roonah Lough was described as a large, **natural sedimentary lagoon** impounded by a low **cobble barrier**, with a natural, but partly altered, sea inlet. Aquatic fauna and flora was of low conservation value. Only one lagoonal specialist plant (*Ruppia maritima*) and one specialist fauna (*Sigara stagnalis*) was recorded in 1996, and most of the species recorded would be described as limnic. It is one of a number of lagoons, and “former lagoons” on the south Mayo coast which vary in their geomorphology and degree of marine influence. Some are entirely fresh, others saline, while barriers may be of sand or cobbles or both. Roonah Lough is the only one of this series with an apparently persistent low salinity, rather than being completely fresh or tidal.

Praeger (1934) described the Dooaghtry area only 6 km to the south and really part of the same system as an area “utterly windswept” but which “would well repay further study”. A report for the Netherlands Commission for International Nature Protection describes the Dooaghtry area as unique for Europe and Eire as a landscape, geologically, geomorphologically and botanically (Westermann & Westhoff, 1974). The National Coastline study regarded the area as an exceptional landscape, warranting declaration as a “National Park” or similar.

Aquatic fauna and flora are of low conservation value, but geomorphologically Roonah Lough is a good example of a **natural sedimentary lagoon** with a cobble barrier, and is one of a series of different lagoon types on this highly dynamic coastline. Therefore, overall conservation value is rated as moderate.

**N.B. The barrier is low and vulnerable to damage by storms. When visited briefly in 1998 by C. Roden, the lagoon appeared to have become much more tidal than the condition described in 1996, on which this description is based.**

**Overall Conservation Value = Moderate**

### Conservation Status Assessment (from Oliver 2007)

|                     |  |
|---------------------|--|
| Impacts             | Natural siltation and eutrophication and increasing threat of damage to barrier. Erosion. Siltation. Poaching by cattle. |
| Conservation Status | <b>Unfavourable-Inadequate</b>   |

### Further Information

Geology described by Delaney and Devoy (1995). Surveyed in 1996 for vegetation (Hatch 1996, Hatch & Healy 1998), aquatic fauna (Healy & Oliver 1996, Oliver & Healy 1998) and ecotonal coleoptera (Good 1996, Good & Butler 1998). Results of these surveys are summarised by Healy *et al.* (1997a,b,c), Healy & Oliver (1998), and Healy (1999, 2003). Included in a biological classification of Irish coastal lagoons (Oliver 2005) and in the Conservation Status Assessment (Oliver 2007).

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