

AN INVENTORY OF MOLLUSCA IN POTENTIAL SAC SITES , WITH  
SPECIAL REFERENCE TO *VERTIGO ANGUSTIOR*, *V. MOULINSIANA* AND *V.*  
*GEYERI*

1998 SURVEY

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**A report for Duchas, The Heritage Service**

**National Parks and Wildlife**

November 1998

WARNING: THIS REPORT CONTAINS INFORMATION ON THE LOCATION  
OF THREATENED AND PROTECTED SPECIES AND SHOULD  
REMAIN CONFIDENTIAL.

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## INTRODUCTION

A total of 22 sites were chosen to be surveyed for *Vertigo* species and other Molluscs in 1998. The main aim of the study was to find populations of the three Habitat's Directive Annex II species *Vertigo angustior*, *V. moulinsiana* and *V. geyeri*, with a view to conserving such populations as part of Special Areas of Conservation (SAC's). The sites were chosen as they either held old records for one of these species (4 sites), or the known habitat of the site suggested that there may be a population of one of the species there (the remaining 18 sites). An additional 11 sites were visited during the contract period and the results from these sites are also included.

A list of the Molluscan species found at each site is given, and comments on any ecological and distributional significance of the species found. A review of the status of *Vertigo angustior*, *V. geyeri* and *V. moulinsiana* in Ireland in the light of this study is given.

## SPECIES OF MOLLUSCA LISTED FOR PROTECTION IN IRELAND

There are five species of Mollusca listed for protection under the Habitat's Directive Annex II (species requiring the designation of SAC's) which are known to be found in Ireland. The Kerry Slug *Geomalacus maculosus* Allman, 1843 is found in Cork and Kerry, the Freshwater Pearl Mussel *Margaritifera margaritifera* (L., 1758) is found in a number of soft water rivers in Ireland, and the Nore Pearl Mussel *Margaritifera durrovensis* Phillips 1928 is listed as an annex to *M. margaritifera* for the purposes of conservation. The remaining three protected species are all gastropods from the family *Vertiginidae* as follows:

*Vertigo angustior* Jeffreys, 1830, is listed under the Berne Convention as vulnerable in Ireland (Wells and Chatfield, 1990). It is described as living in open habitat with no shading including wet grassy meadows, dune slacks, moist dunes, and marshy ground, which must not be subject to desiccation or flooding. Humidity should be high and even. The above habitat requirements divide *Vertigo angustior* sites into two very different categories. The first is the dune phase, generally in wet dune slacks, or mossy turf associated with dune systems. The second is the marsh phase, and the habitat requirements here are that the area is very wet, with a rich floral diversity, and marshes which have been described as having never been ploughed (Norris and Colville, 1974). Sites have been lost due to habitat modification following drainage of wetlands and resultant changes of vegetation. Similar threats exist in mainland Europe

where this species is listed as Endangered in 2 countries, Vulnerable in another 5, rare in 2 and of special concern in 2.

*Vertigo geyeri* Lindholm, 1925, is listed under the Berne convention as endangered in Ireland (Wells and Chatfield, 1990). It is described as living in wetlands, marshy flushes and flat, lowland fens with a constant water table. It is associated with *Eleocharis quinqueflora* and *Schoenus nigricans*. Old records in Ireland for this species appeared to be mainly from habitats which could be described as the lagg stage between a raised bog and an esker, most of which have been drained. This species is thought to be a glacial relict. It is threatened by drainage, or any changes to the water table. Habitat disturbance may also be a problem. It is listed as endangered in 5 further European countries, and as vulnerable or rare in 5 others.

*Vertigo moulinsiana* Dupuy, 1849, is listed as vulnerable in Ireland. Its habitat is described as calcareous wetlands, usually bordering rivers or lakes. It normally lives in grasses or sedges close to the ground, but can ascend taller vegetation in autumn (Wells and Chatfield, 1990). It is threatened by the drainage of lowland fens, and is thought to be a relict of warm interglacial or post glacial periods. It is thought to be extinct in Austria and Belgium, and is listed as Endangered in 5 further European countries. Ireland's population, along with British and Swiss populations are of major importance.

## MATERIALS AND METHODS

Mollusca were sampled at each site in three different ways: (1) by examining the vegetation and vegetation litter by hand for associated Mollusc species; (2) using a sweep net amongst the vegetation (during site visits made in Autumn); and (3) removing 3 to 10 bags (approx. 3kg per bag) of vegetation and litter per site, which were subsequently wet-sieved through two mesh sizes, 3mm and 0.5mm. The smaller sample was then dried out and examined for smaller species, which were examined with the aid of an Olympus 40X binocular microscope. Identification of species were concluded using Kerney and Cameron (1979), Cameron and Redfern (1976), Ellis (1926), Macan (1977) and Ellis (1962).



## RESULTS

The Mollusca found during this year's survey are given within each site summary. A total of 33 sites were surveyed, and a total of 84 Molluscan species were found during the survey, including all 8 *Vertigo* species known to inhabit Ireland. The results of the 1998 survey to date are summarised in Table 1. Protected species were found at 10 sites, with *Vertigo geyeri* at 5 sites, *Vertigo moulinsiana* at 4 sites and *Vertigo angustior* at 1 site. Site reports are given in the following pages.

Table 1. The *Vertigo* species found in 1998 survey.

Site No.	Site Name	County	Grid Ref.	Date/s Visited	Current Status	Previous Vertigo Records	Vertigo species found 1998
1	Roscrea "Summerhill"	Offaly	S 10 90	2/10/98	non-NHA	<i>V. geyeri</i>	<i>V. antivertigo</i>
2	Rathdowney	Laois	S 29 79	24/7/98	pNHA 417 (part)	<i>V. geyeri</i>	No Vertigo found
3	Fin Lough	Offaly	N 03 29	3/10/98	pNHA 576	None	<i>V. geyeri</i> <i>V. antivertigo</i> <i>V. pygmaea</i> <i>V. substriata</i>
4	Clonaslee	Laois	N 27 12	26/7/98	pNHA 859	None	<i>V. geyeri</i> <i>V. antivertigo</i> <i>V. pygmaea</i> <i>V. substriata</i>
5	Coolroe	Laois	N 61 04	25/7/98	pNHA 416	None	<i>V. antivertigo</i>
6	Lisbigney Bog	Laois	S 46 79	12/8/98 and 3/9/98	pNHA 869	None	<i>V. moulinsiana</i> <i>V. antivertigo</i>
7	Killaun Bog	Offaly	N115 056	5/10/98	non-NHA	None	<i>V. geyeri</i> <i>V. pygmaea</i> <i>V. antivertigo</i> <i>V. substriata</i>
8	Clara Bog	Offaly	N 25 30	5/10/98	pSAC 572	None	None
9	Derry Hills	Laois	N 27 12	27/7/98	pNHA 859	None	<i>V. antivertigo</i> <i>V. pygmaea</i>
10	Mongan Bog	Offaly	N 03 31	4/10/98	pSAC 580	None	None
11	Charleville	Offaly	N 32 23	6/10/98	pNHA	None	<i>V. moulinsiana</i>

	Wood				571		
12	Sharavogue Bog	Offaly	S 04 98	27/2/98	pSAC 585	None	<i>V. antivertigo</i>
13	Cloonascragh (Tuam)	Galway	M 46 50	20/7/98	Non-NHA	<i>V. geyeri</i>	<i>V. antivertigo</i> <i>V. substriata</i> <i>V. pygmaea</i>
14	Addergoule Bog	Galway	M 31 33	23/7/98 and 26/9/98	pNHA 297	None	<i>V. antivertigo</i>
15	Shankill West	Galway	M 63 52	19/7/98	pSAC 326	None	<i>V. lilljeborgi</i> <i>V. substriata</i>
16	Barroughter	Galway	M 79 03	25/9/98	pSAC 231	None	<i>V. moulinsiana</i> <i>V. antivertigo</i>
17	Bellacorick Bog	Mayo	G 052 223	21/7/98 and 22/7/98	pSAC 1922	None	<i>V. geyeri</i> <i>V. substriata</i>
18	Swanlinbar River	Cavan	H 19 27	28/8/98 to 30/8/98	part pSAC 584	Pearl Mussel survey	See separate report
19	Malin Dunes	Donegal	C 52 43	31/7/98 to 2/8/98	pSAC 2012	<i>V. angustior</i>	<i>V. angustior</i> <i>V. substriata</i> <i>V. pygmaea</i>
20	Mullochmore	Sligo	G 72 56	7/8/98 to 9/8/98	pSAC 625	<i>V. angustior</i>	<i>V. antivertigo</i> <i>V. pygmaea</i>
21	Tranarossan	Donegal	C 12 42	3/8/98 to 4/8/98	pSAC 194	<i>V. angustior</i>	<i>V. substriata</i> <i>V. pygmaea</i>
22	Horn Head	Donegal	C 02 41	5/8/98	pSAC 147	<i>V. angustior</i>	<i>V. substriata</i>
23	Sheskinmore	Donegal	G 70 95	6/8/98	pSAC 197	None	<i>V. geyeri</i> <i>V. pusilla</i> <i>V. antivertigo</i> <i>V. substriata</i> <i>V. pygmaea</i>
	Extra sites						
24	Doaghmore	Donegal	C 14 42	3/8/98	pSAC 164	<i>V. angustior</i>	<i>V. antivertigo</i> <i>V. substriata</i> <i>V. pygmaea</i>
25	Rossapenna	Donegal	C 11 38	4/8/98	pSAC 194	<i>V. angustior</i>	<i>V. antivertigo</i> <i>V. pygmaea</i>
26	Marble Hill	Donegal	C 07 36	4/8/98	pSAC 1190	None	None
27	Ballynafagh	Kildare	N 81 28	10/7/98	pSAC 391	None	<i>V. moulinsiana</i> <i>V. antivertigo</i> <i>V. substriata</i> <i>V. pygmaea</i>
28	Waterville Dunes/marsh	Kerry	V 48 68	24/8/98	pNHA 335	None	None
29	Sheheree Bog	Kerry	V 98 88	25/8/98	pSAC 382	None	None
30	Muckcross Ponds	Kerry	V 96 86	25/8/98	pSAC 365	None	None
31	Fen remnant, ESE Birr	Offaly	S 105 985	24/7/98	None	<i>V. geyeri</i>	<i>V. pygmaea</i>

32	Inishcrone Dunes	Sligo	G 28 29	20/7/98	pSAC 458	None	<i>V. substriata</i> <i>V. pygmaea</i>
33	Ballynafid Lake	West- meath	N 42 61	29/9/98	pNHA 673	None	<i>V. antivertigo</i> <i>V. substriata</i> <i>V. pygmaea</i>

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 1.	Roscrea "Summerhill"	S 10 90	Co. Offaly
<u>Current Status:</u>	Not an NHA/SAC.		

#### 1) Location of Site

Two miles north-west of Roscrea, close to the railway embankment.

#### 2) Historical Molluscan records

R. A. Phillips noted in his diary that on 13 February 1935 he found *Vertigo geyeri* in a small wet field in this location (Norris and Pickrell, 1972).

#### 3) Habitats

The field referred to by Phillips was probably the one visited in this study, as it is a particular small field, which although it has been improved for agricultural purposes, still retains fen vegetation at its edges.

#### 4) Date(s) visited

This site was visited on 2nd October 1998.

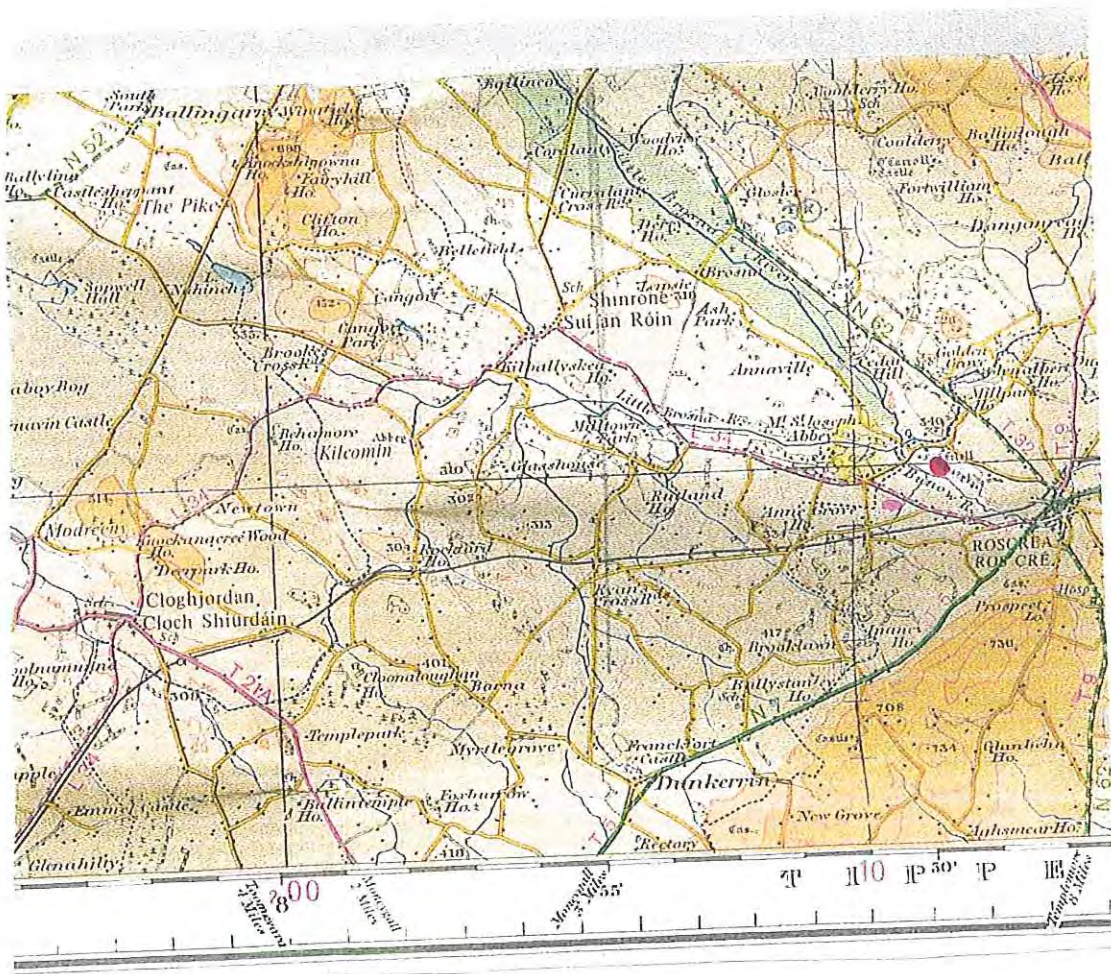
#### 5) Species found

Species	*Scheduled species
Potamopyrgus jenkinsi	X
Carychium minimum	X
Oxyloma pfeifferi	X
Cochlicopa lubrica	X
Vertigo antivertigo	X
Lauria cylindracea	X
Punctum pygmaeum	X
Vitrea crystallina	X
Nesovitrea hammonis	X
Zonitoides nitidus	X
Candidula intersecta	X
Helicella itala	X
Pisidium personatum	X

6) Discussion

When Phillips found *Vertigo geyeri* in this site in 1935 the field had probably not been “improved” as it has today. With the building of the railway embankment, the impeded drainage in the area must have allowed conditions for this species to exist perhaps up to thirty years ago, when agricultural drainage destroyed the required habitat. The current Molluscan list could be found in similar wet fields throughout the country.

7) Recommended as SAC: No.



Map 1.1 Location of Roscrea “Sumerhill”.

$1\frac{1}{2} = 1$  mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 2.	Rathdowney	S 29 79	Co. Laois

Current Status: Part of this site belongs to pNHA 417.

### 1) Location of Site

There were two parts to this site, the area of Grantstown Woods and lake National Nature Reserve was visited, and the area around Coolkerry Bridge on the Erkina River was also surveyed.

### 2) Historical Molluscan records

A brief mention of finding two *Vertigo geyeri* specimens from a marshy area about 1 mile to the east of Rathdowney was made in one of R.A. Phillip's diaries. Norris and Pickrell visited the area in March 1971, but the species was not refound (Norris and Pickrell, 1972).

### 3) Habitats

The area to the east of Rathdowney generally consists of improved grassland. It was considered that the best possibility of finding *Vertigo* species would be around Coolkerry Bridge on the Erkina river, where some old drains run into the river and fields are least "improved". Then a visit was made to Grantstown National Nature Reserve, where wet woodland and a lakeshore could be valuable Molluscan habitats.

### 4) Date(s) visited

This site was visited on 24th July 1998.

### 5) Species found

Species	Coolkerry Bridge	Grantstown NNR
<i>Bithynia leachii</i>		X
<i>Acicula fusca</i>		X
<i>Carychium minimum</i>	X	X
<i>Carychium tridentatum</i>		X
<i>Aplexa hypnorum</i>		X
<i>Lymnaea truncatula</i>		X
<i>Anisus leucostoma</i>		X
<i>Acroloxus lacustris</i>		X
<i>Succinea putris</i>	X	X
<i>Oxyloma pfeifferi</i>	X	
<i>Cochlicopa lubrica</i>	X	X
<i>Cochlicopa lubricella</i>		X
<i>Leiostylia anglica</i>		X

Lauria cylindracea		X
Discus rotundatus		X
Vitrea crystallina		X
Nesovitrea hammonis		X
Aegopinella pura		X
Aegopinella nitidula		X
Oxychilus cellarius		X
Oxychilus alliarius		X
Zonitoides nitidus		X
Euconulus fulvus		X
Clausilia bidentata		X
Trichea hispida		X
Trichea striolata	X	X
Cepea nemoralis	X	X
Sphaerium corneum		X
Pisidium casertanum		X
Pisidium personatum	X	X
Pisidium obtusale		X

#### 6) Discussion

There was no suitable habitat found that would indicate that *Vertigo geyeri* could still be extant in this area. It is supposed that Phillip's site has been lost to agricultural improvements. The wet area around the River Erkina has a depleted Molluscan fauna indicative of land drainage. The Grantstown National Nature Reserve in contrast has a wide and varied Molluscan fauna and it is useful to have the habitats within protected. Care should be taken not to alter the lakeshore habitat unduly when angling facilities are being upgraded (Plate 1).

7) Recommended as SAC: No.



Map 2.2 Location of Rathdowney Site.

1" = 1 mile



<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 3.	Fin Lough	N 03 29	Co. Offaly
<u>Current Status:</u>	pNHA 576		

1) Location of Site

Lake area close to Clonmacnoise, on south side of the road from Clara.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Wet fen habitat leading down to the lake at its North side, with a spring seepage source. Samples of vegetation were taken at four suitable such habitats at the North of the lake. Area 1 was from fen remnant on the far side of the track from the lake, Area 2 was wet fen, Area 3 was wet fen with seepage from Area 4, which was a spring area with surrounding fen vegetation.

4) Date(s) visited

This site was visited on 3rd October 1998.

5) Species found

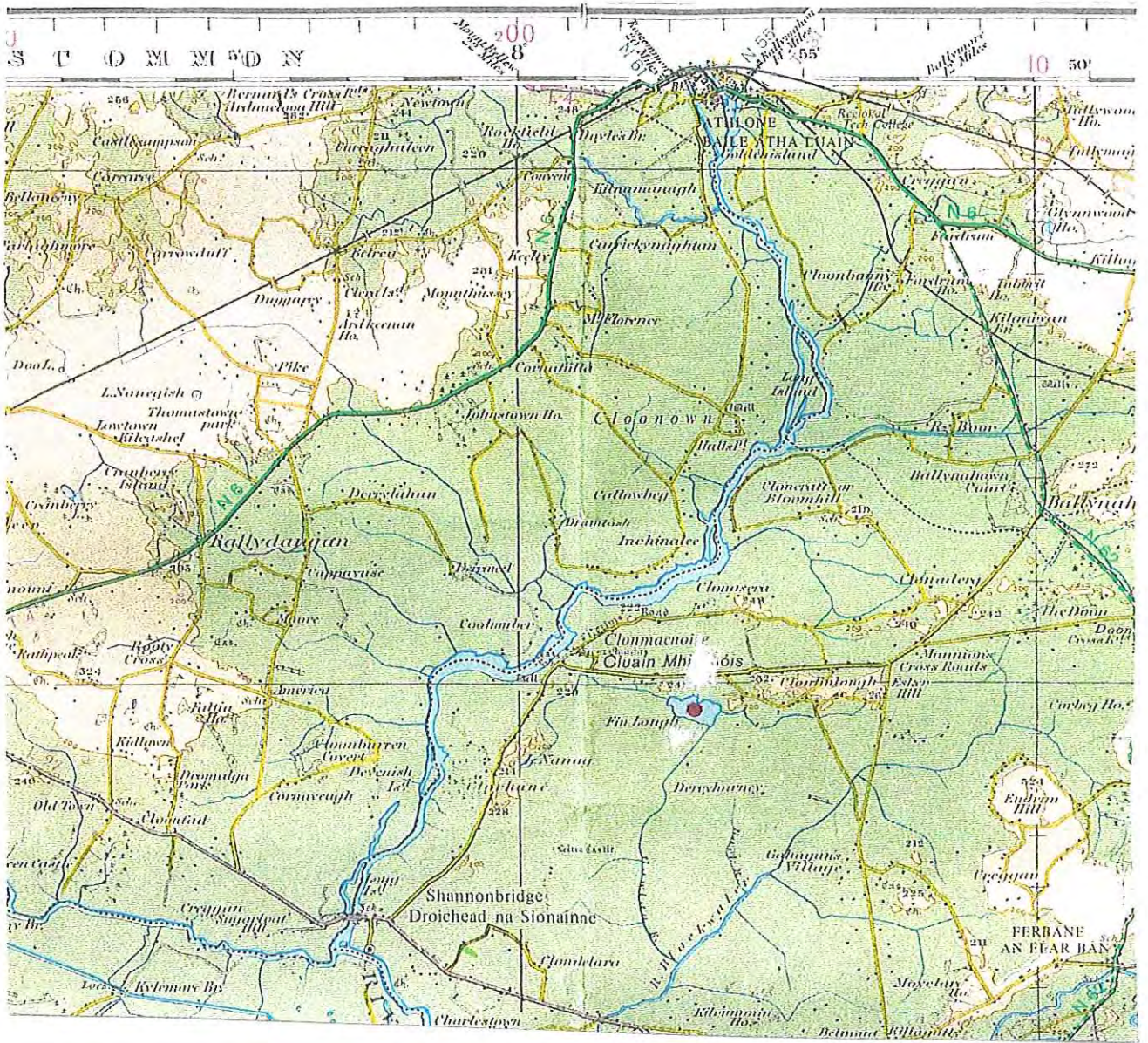
Species	1	2	3	4
Potamopyrgus jenkinsi		X		
Bithynia tentaculata		X		
Carychium minimum	X			
Lymnaea truncatula	X		X	X
Lymnaea stagnalis			X	
Lymnaea peregra				X
Bathymphalus contortus			X	
Succinea putris	X	X	X	X
Cochlicopa lubrica		X		X
Columella aspersa	X	X		
Vertigo antivertigo	X		X	X
Vertigo substriata		X		X
Vertigo pygmaea	X		X	
Vertigo geyeri	X*		X*	X*
Leiostyla anglica				X
Vallonia pulchella	X	X	X	X
Punctum pygmaeum	X			
Nesovitrea hammonis				X

Zonitoides nitidus		X	X	X
Euconulus fulvus			X	
Euconulus alderi	X		X	X
Pisidium personatum	X	X		

#### 6) Discussion

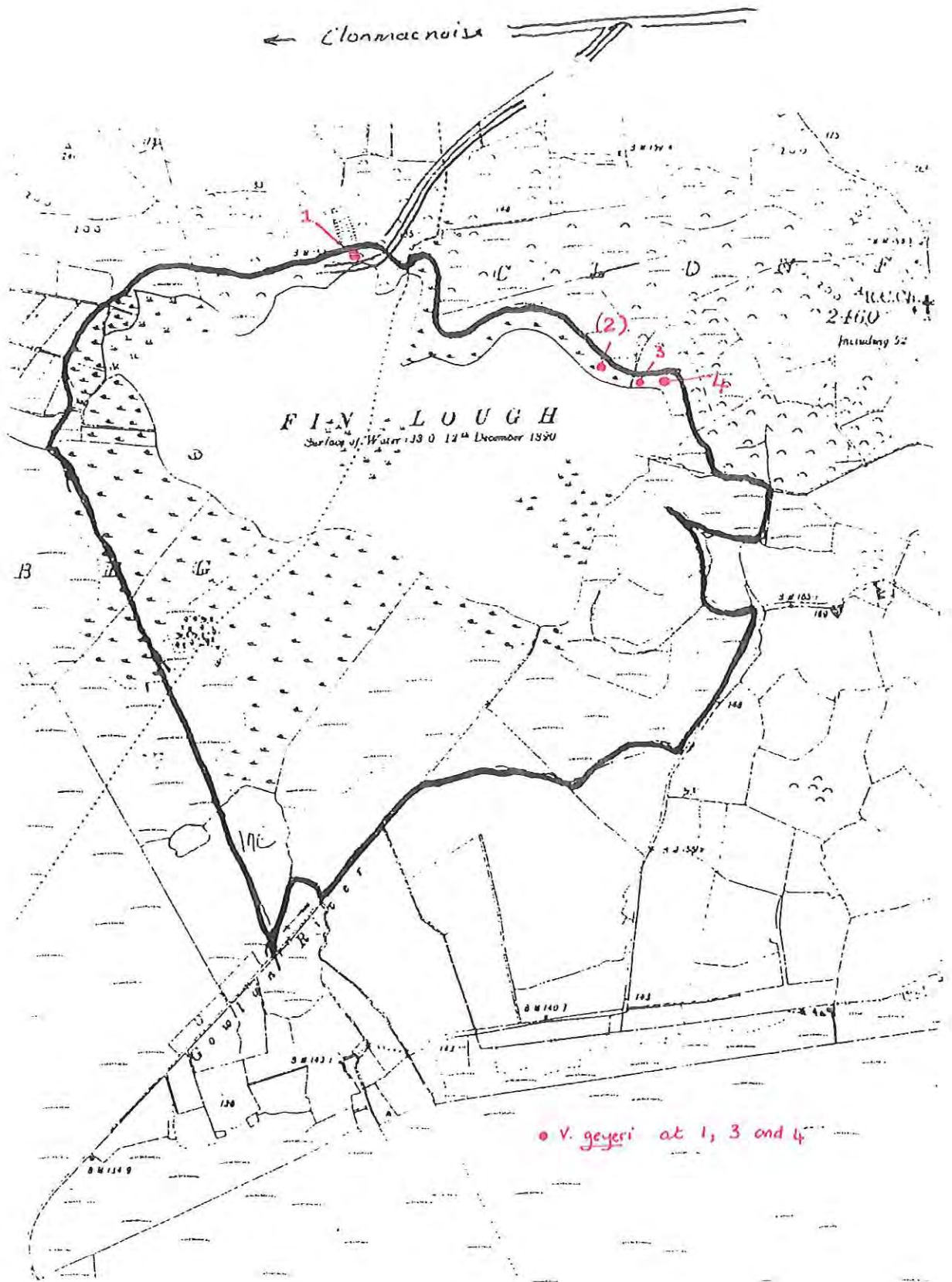
The North end of Fin Lough is rich in the flush/fen habitat that is required by *Vertigo geyeri*. This is a very important site for this species as it appears to have suitable habitat over a reasonably large area. Plant species found in the *Vertigo geyeri* area included *Schoenus nigricans*, *Equisetum variegatum*, *Selaginella selaginoides*, *Parnassia palustris*, *Eleocharis quinqueflora*, *Carex lepidocarpa*, *Carex lasiocarpa*, *Carex rostrata*, *Epipactis palustris*, *Hydrocotyle vulgaris*, *Sagina nodosa* and *Potamogeton coleratus*. This site merits the highest level of conservation and the pNHA should be considered as a pSAC.

7) Recommended as SAC: Yes.



Map 3.1 Location of Fin Lough

1/2" = 1 mile



Map 3.2 Location of *Vertigo geyeri* at Fin Lough

6" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 4.	Clonaslee Eskers	N 27 12	Co. Laois
<u>Current Status:</u>	pNHA 859		

1) Location of Site

A series of glacial esker ridges to the North of the Slieve Bloom Mountains and West of the village of Clonaslee.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

This site consists of a series of glacial esker ridges, the most important for Mollusca having wet fen habitat with a spring seepage source. Samples of vegetation were taken at three habitat types, (i) fen, (ii) fen along spring seepage line and (iii) gravel esker.

4) Date(s) visited

This site was visited on 26th July 1998.

5) Species found

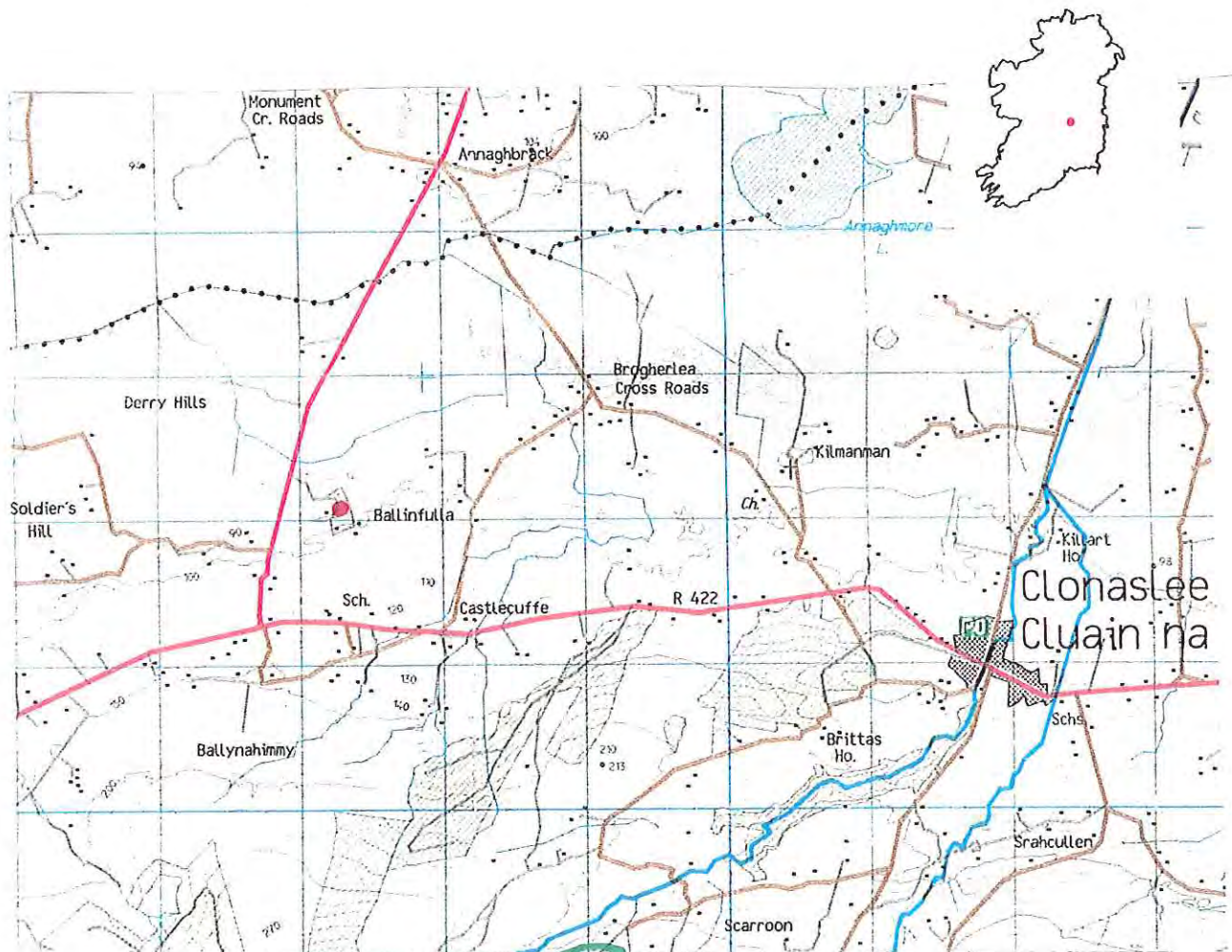
Species	Fen	Spring/ seepage	Esker gravel
<i>Potamopyrgus jenkinsi</i>	X	X	
<i>Acicula fusca</i>		X	
<i>Carychium minimum</i>	X		
<i>Lymnaea truncatula</i>	X		
<i>Succinea putris</i>		X	
<i>Oxyloma pfeifferi</i>	X	X	
<i>Cochlicopa lubrica</i>	X	X	
<i>Pyramidula rupestris</i>			X
<i>Columella aspersa</i>		X	
<i>Vertigo antivertigo</i>	X	X	
<i>Vertigo pygmaea</i>		X	
<i>Vertigo geyeri</i>		X*	
<i>Leiostyla anglica</i>	X	X	
<i>Lauria cylindracea</i>			X
<i>Arion subfuscus</i>	X		
<i>Vitrea crystallina</i>		X	
<i>Vitrea contracta</i>	X		
<i>Nesovitrea hammonis</i>	X	X	

Aegopinella pura	X	X	
Aegopinella nitidula		X	X
Zonitoides nitidus	X		
Euconulus alderi		X	
Candidula intersecta			X
Pisidium personatum	X	X	
Pisidium obtusale	X	X	

6) Discussion

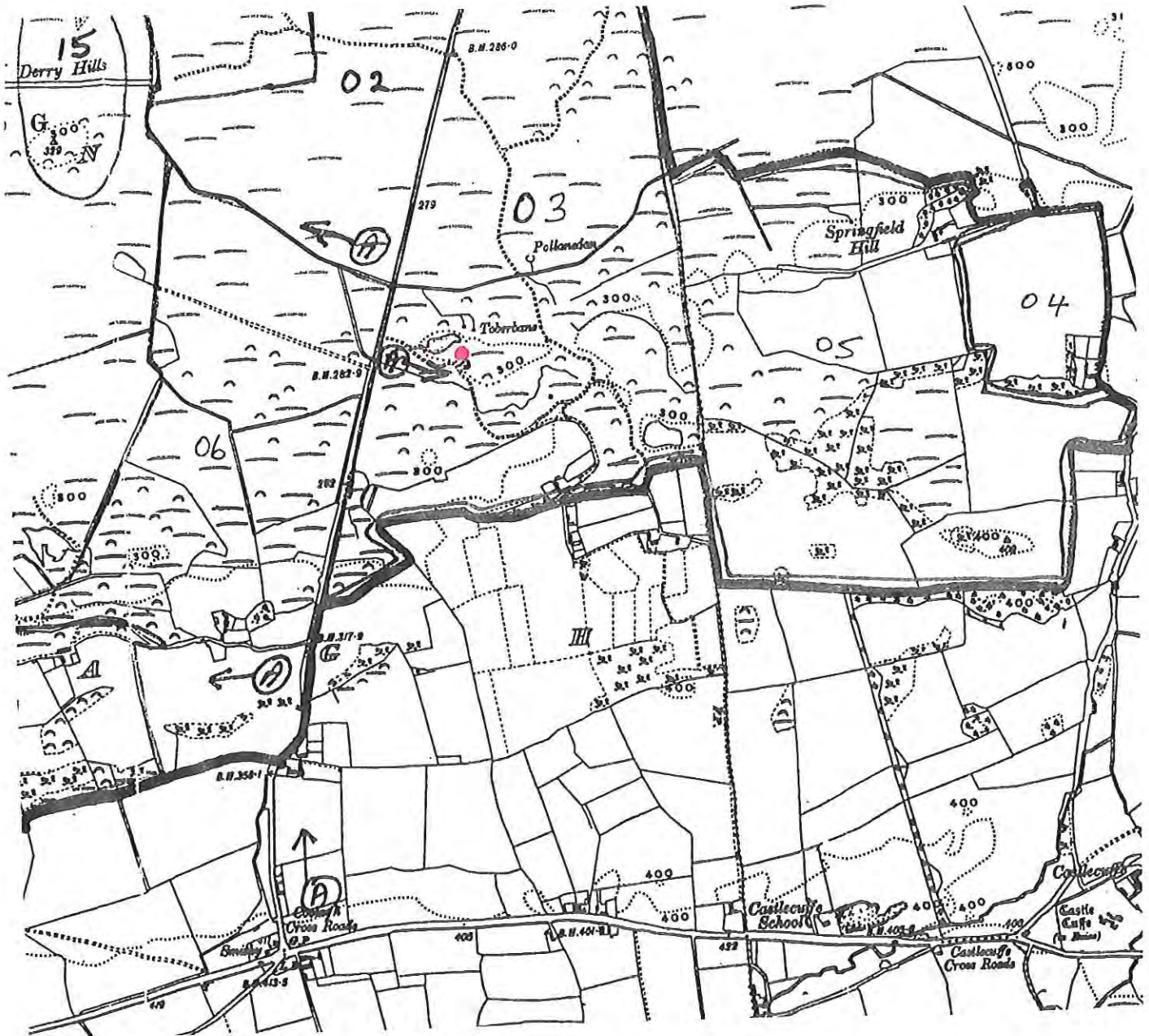
The small area of fen which is fed by the spring seepage is an important and rare habitat which still retains a reasonable population of *Vertigo geyeri*. In addition to this species the area has a rich fauna and flora. The area where *V. geyeri* was found had orchids including *Ophrys insectifera*, and also *Schoenus nigricans*, *Equisetum variegatum*, *Selaginella selaginoides*, *Parnassia palustris* and *Carex lepidocarpa*.

7) Recommended as SAC: Yes.



Map 4.1 Location of Clonaslee site.

1" = 1 mile



Map 4.2 Location of *Vertigo geyeri* at Clonaslee Eskers.

6" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
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Site 5.	The Derries	N 61 04	Co. Laois
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Current Status: Not a pNHA or pSAC.

1) Location of Site

Lake area off the N7 South of Ballybrittas, close to Coolroe Castle.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Lake area with rich *Typha* and sedge community at its edge and some very wet fen with a network of shallow streams running through it.

4) Date(s) visited

This site was visited on 25th July 1998.

5) Species found

Species	Lake edge	Fen area
<i>Bithynia tentaculata</i>	X	
<i>Carychium minimum</i>	X	X
<i>Lymnaea truncatula</i>	X	X
<i>Bathyomphalus contortus</i>	X	X
<i>Gyraulus albus</i>	X	
<i>Oxyloma pfeifferi</i>	X	X
<i>Cochlicopa lubrica</i>		X
<i>Vertigo antivertigo</i>	X	X
<i>Discus rotundatus</i>	X	
<i>Zonitoides nitidus</i>		X
<i>Euconulus fulvus</i>		X
<i>Euconulus alderi</i>	X	X
<i>Pisidium personatum</i>	X	X
<i>Pisidium obtusale</i>		X

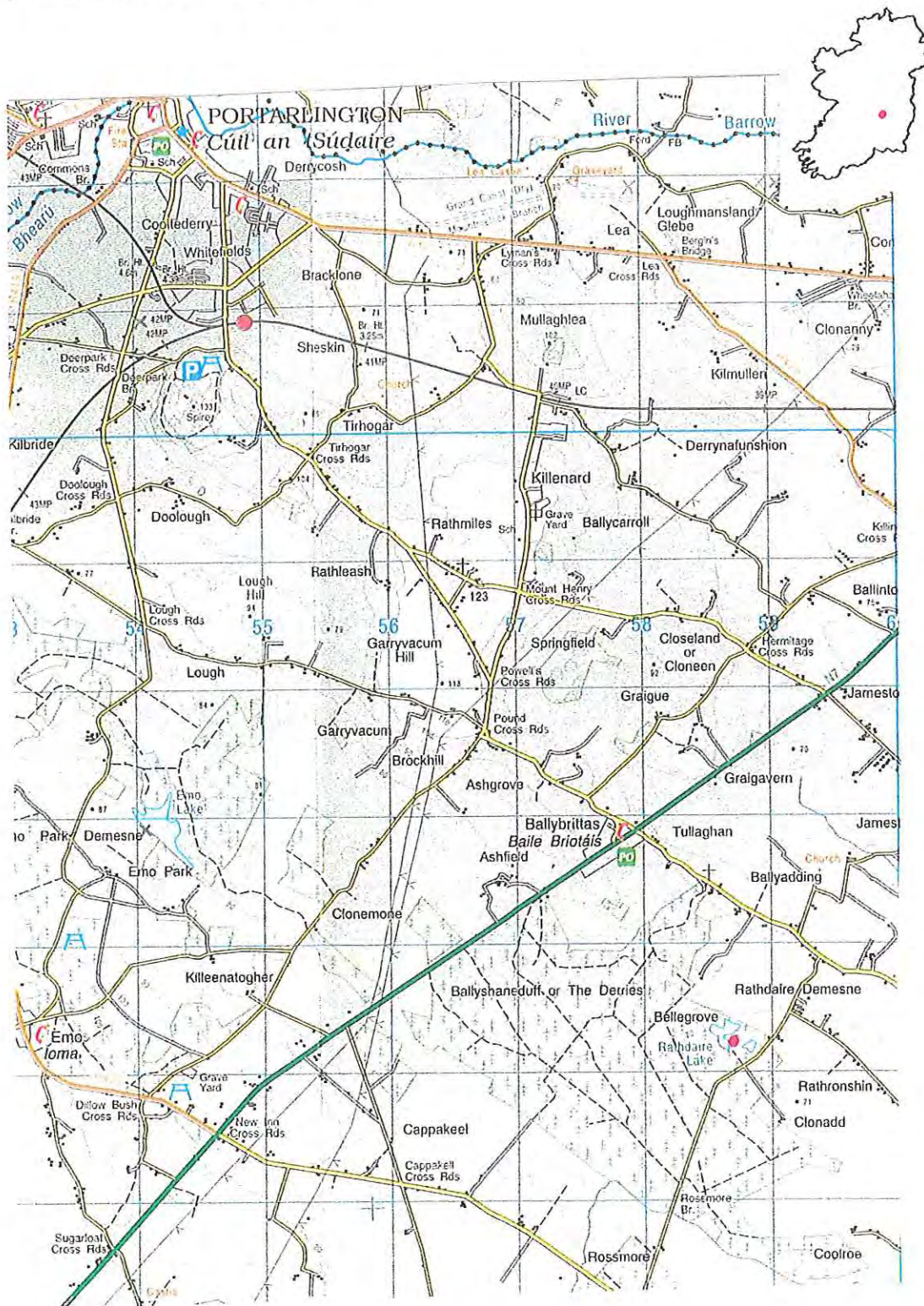
6) Discussion

There was no suitable habitat found that would indicate the presence of *Vertigo geyeri*, but it was disappointing that *Vertigo moulinsiana* was not found in the



sedge-rich lake shore area. The low Molluscan diversity suggests that either water levels fluctuate considerably during the annual cycle, or the area suffers from agricultural enrichment at times.

7) Recommended as SAC: No.



Map 5.1 Location of "The Derries"

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 6	Lisbigney Bog	S 46 79	Co. Laois
<u>Current Status:</u>	pNHA 869		

1) Location of Site

This site is East of Durrow and South of Ballinakill.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

The bog habitat is to the North of the site, with wet fen and swamp/marsh habitat to the south, including a dense stand of *Phragmites* in the south west corner.

4) Date(s) visited

This site was visited on 12th August and 3rd September 1998.

5) Species found

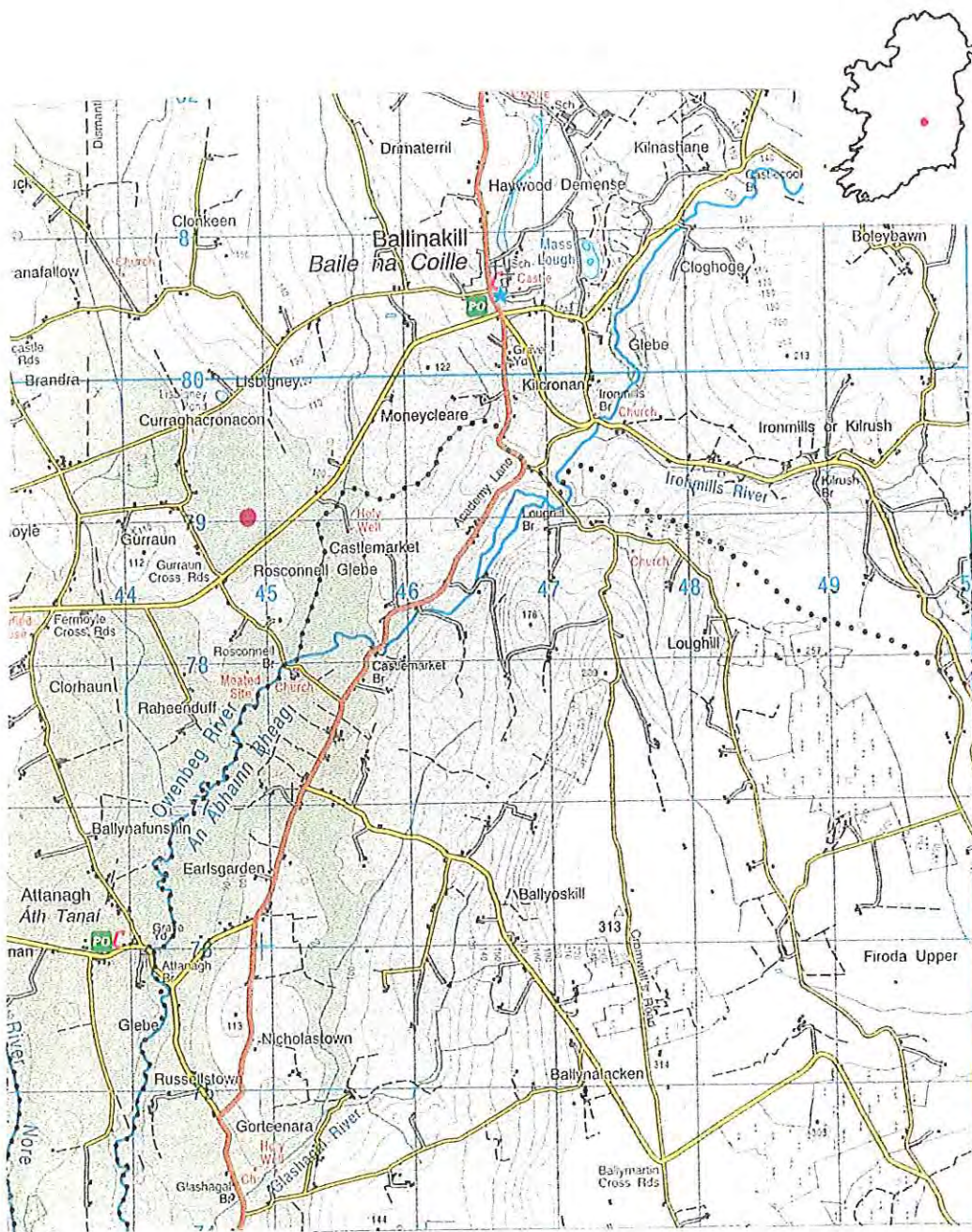
Species	Reed / swamp	Fen	Bog
<i>Carychium minimum</i>	X	X	
<i>Carychium tridentatum</i>		X	
<i>Lymnaea truncatula</i>	X	X	
<i>Oxyloma pfeifferi</i>	X	X	
<i>Cochlicopa lubrica</i>		X	
<i>Cochlicopa lubricella</i>			
<i>Columella edentula</i>			
<i>Columella aspersa</i>		X	
<i>Vertigo antivertigo</i>	X	X	
<i>Vertigo moulinsiana</i>	X*		
<i>Nesovitrea hammonis</i>		X	
<i>Zonitoides nitidus</i>		X	
<i>Euconulus alderi</i>	X	X	
<i>Clausilia bidentata</i>			X
<i>Cepea nemoralis</i>			X
<i>Pisidium personatum</i>	X	X	

6) Discussion

There was a good population of *Vertigo moulinsiana* at this site, and considering its distance to other sites of the same species, it is well worth conserving

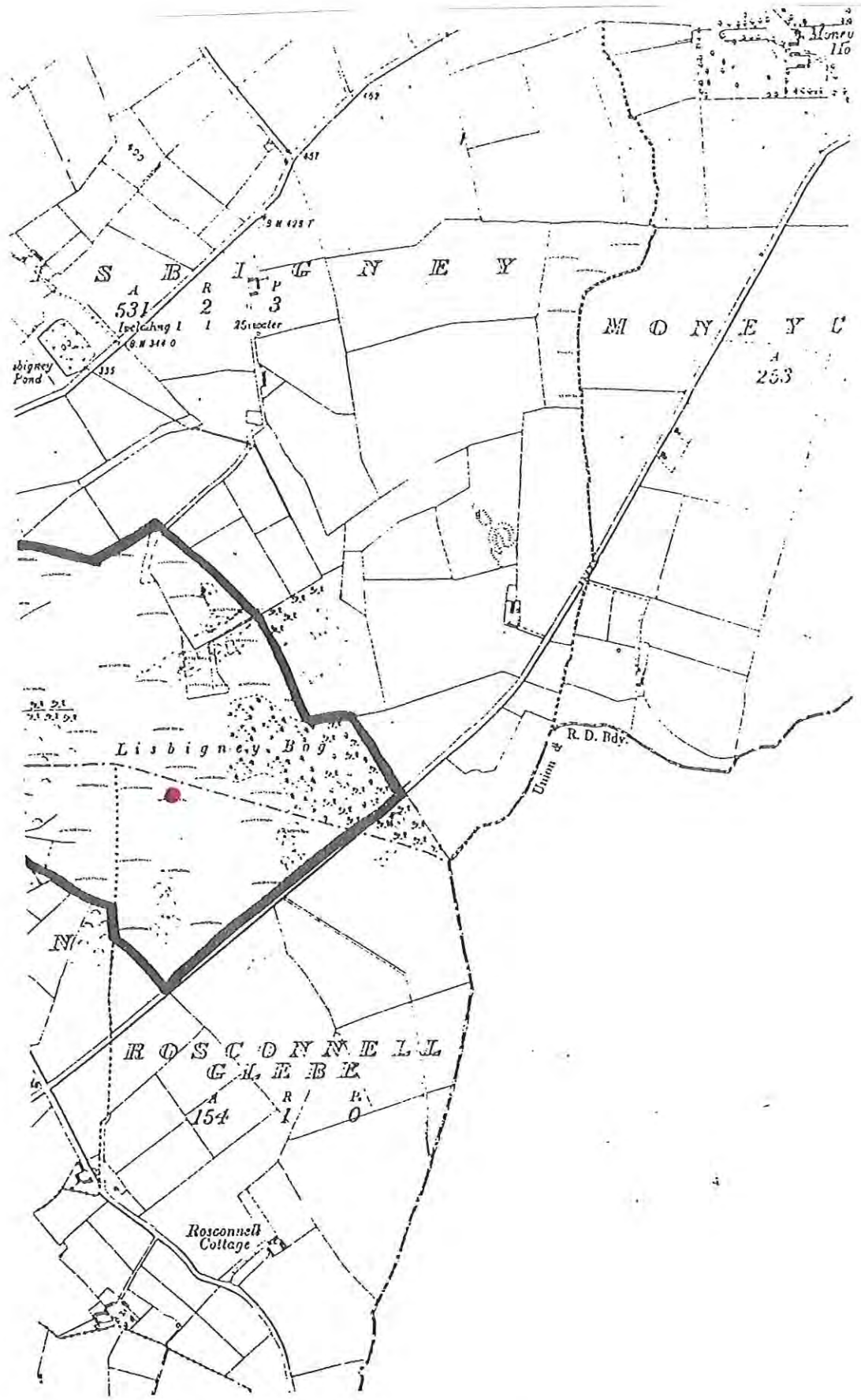
as a potential reservoir for the future. The Northern end of this site has been destroyed by drainage. The bog habitat has been cut over, and some has been planted with forestry and the rest used for grazing.

7) Recommended as SAC: Yes.



Map 6.1 Location of Lisbigney Bog

1" = 1 mile



Map 6.2 Location of *Vertigo moulinsiana* at Lisbigney Bog.

6" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 7.	Killaun Bog	N 115 056	Co. Offaly
<u>Current Status:</u>	Not a pNHA or pSAC.		

1) Location of Site

East of Birr on the road to Kinnity.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

A mosaic of very wet habitats from acid bog to fen with spring influences to wet woodland.

4) Date(s) visited

This site was visited on 5th October 1998.

5) Species found

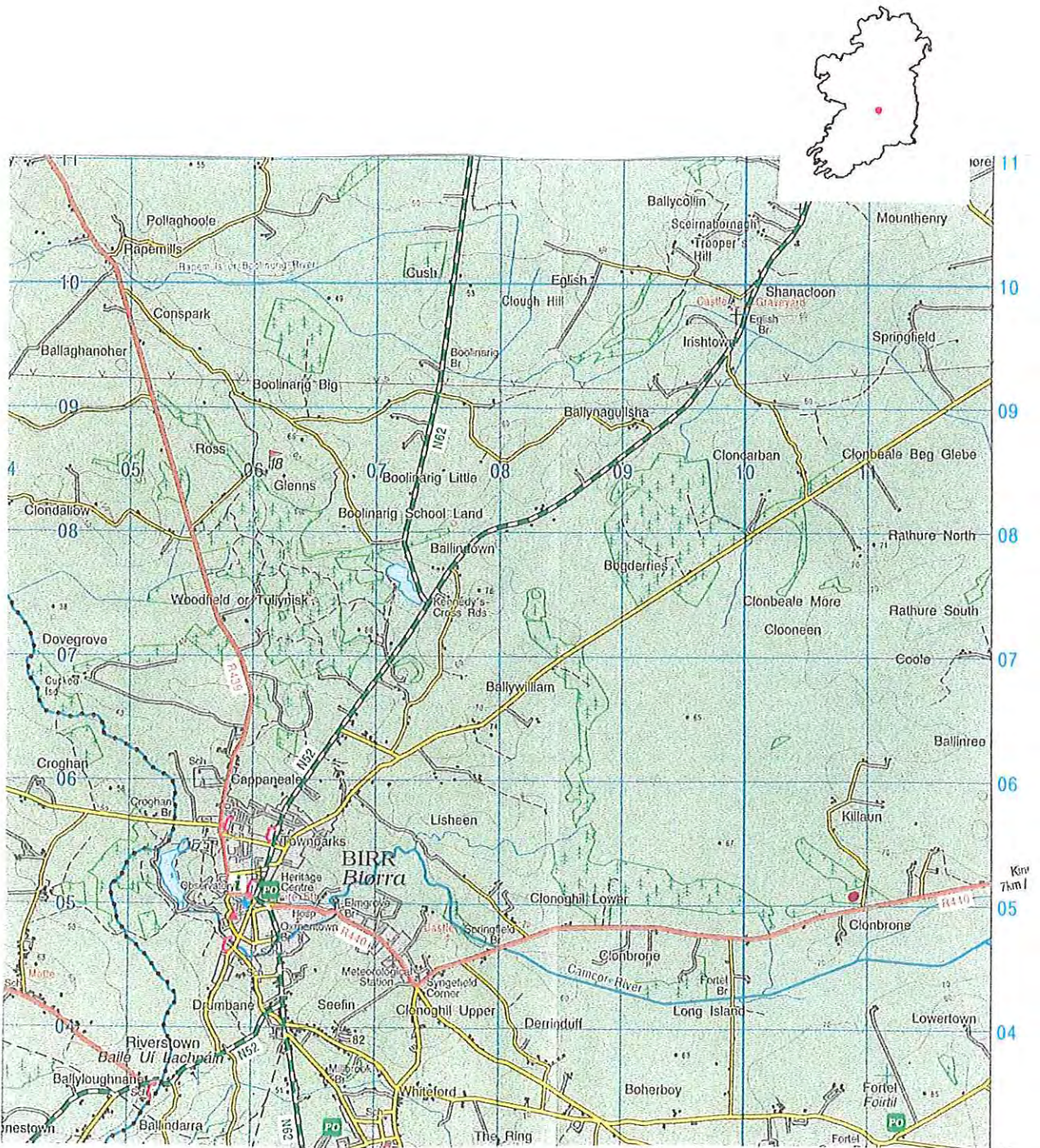
Species	Fen area 1	Fen area 2
Valvata cristata		X
Potamopyrgus jenkinsi	X	
Bithynia tentaculata	X	
Carychium minimum	X	X
Lymnaea truncatula	X	X
Bathyomphalus contortus	X	
Succinea putris	X	X
Oxyloma pfeifferi	X	X
Cochlicopa lubrica	X	X
Vertigo antivertigo	X	X
Vertigo substriata		X
Vertigo pygmaea	X	
Vertigo geyeri		X*
Punctum pygmaeum	X	X
Vitrea crystallina		X
Nesovitrea hammonis	X	
Oxychilus alliarius		X
Zonitoides nitidus		
Euconulus fulvus		X
Euconulus alderi	X	X
Pisidium casertanum	X	

Pisidium obtusale	X	

6) Discussion

This very good example of very wet bog and fen has been adopted by a local school in Birr as a community nature reserve. This has involved creating a system of boardwalks so that the otherwise treacherous site can be crossed with ease right into the woodland. This has been carried out in a very sensitive manner without undue damage to the habitat. The following plants were found close to *Vertigo geyeri*: *Schoenus nigricans*, *Menyanthes trifoliata*, *Epilobium palustre*, *Carex lepidocarpa*, *Epipactis palustris*, and *Hydrocotyle vulgaris*. This excellent site deserves the highest level of protection.

7) Recommended as SAC: Yes.



Map 7.1 Location of Killaun Bog

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 8	Clara Bog	N 25 30	Co. Offaly
<u>Current Status:</u>	pSAC 572		

1) Location of Site

Large intact raised bog south of Clara, Co. Offaly.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

The bog was approached from a number of areas and very little transition habitat was found between acid bog and agricultural land.

4) Date(s) visited

This site was visited on 5th October 1998.

5) Species found

The only species found within the bog area were *Lymnaea truncatula*, *Arion ater* and *Pisidium personatum*.

6) Discussion

Clara Bog is a large site, and a day was spent sampling the area from as many points of entry as possible. The road south of Clara bisects the bog, and it was found to be too acid for most Mollusca in this area, with *Lymnaea truncatula* being the only species found. A walk on to the high bog did not yield and further species. Then the site was approached from the East, where esker hills formed a more encouraging boundary. However, on closer inspection, most of the land on the eastern border of the bog has been improved for agriculture, and few species were added. As light was deteriorating by this time, it is possible that some suitable habitat may have been missed.

7) Recommended as SAC: Not for Mollusca.





<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 9	Derry Hills	N 27 12	Co. Laois
<u>Current Status:</u>	pNHA 859		

1) Location of Site

Small hills to the East of the Clonaslee Eskers.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Small series of wooded hills with bog surrounding containing some old drains. Some general sampling by hand was carried out in the area.

4) Date(s) visited

This site was visited on 27th July 1998.

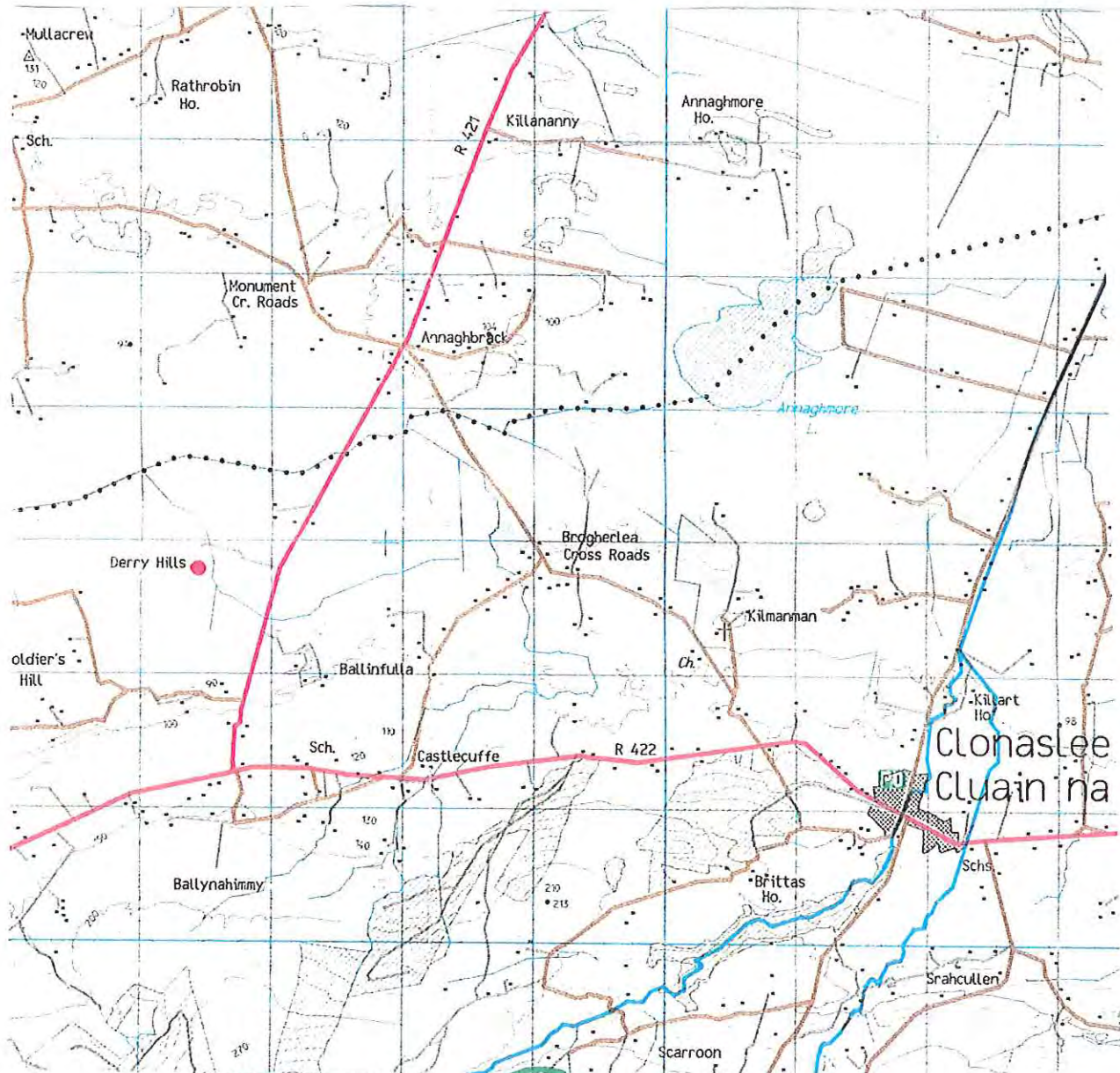
5) Species found

Species	
Potamopyrgus jenkinsi	X
Carychium minimum	X
Oxyloma pfeifferi	X
Cochlicopa lubrica	X
Columella edentula	X
Columella aspersa	X
Vertigo antivertigo	X
Vertigo pygmaea	X
Punctum pygmaeum	X
Arion ater	X
Trichea hispida	X
Candidula intersecta	X
Cepea nemoralis	X
Pisidium personatum	X

6) Discussion

There was no suitable habitat found that would indicate that any of the protected *Vertigo* species would be present in this area. Although the wet wooded hills are of Molluscan interest, there was nothing rare found in this site, probably due to the local acid influence.

7) Recommended as SAC: No.



Map 9.1 Location of Derry Hills

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 10.	Mongan Bog	N 03 31	Co. Offaly
<u>Current Status:</u>	pSAC 580		

1) Location of Site

To the East of Clonmacnoise, on the North side of the road from Clara.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Raised bog.

4) Date(s) visited

This site was visited on 4th October 1998.

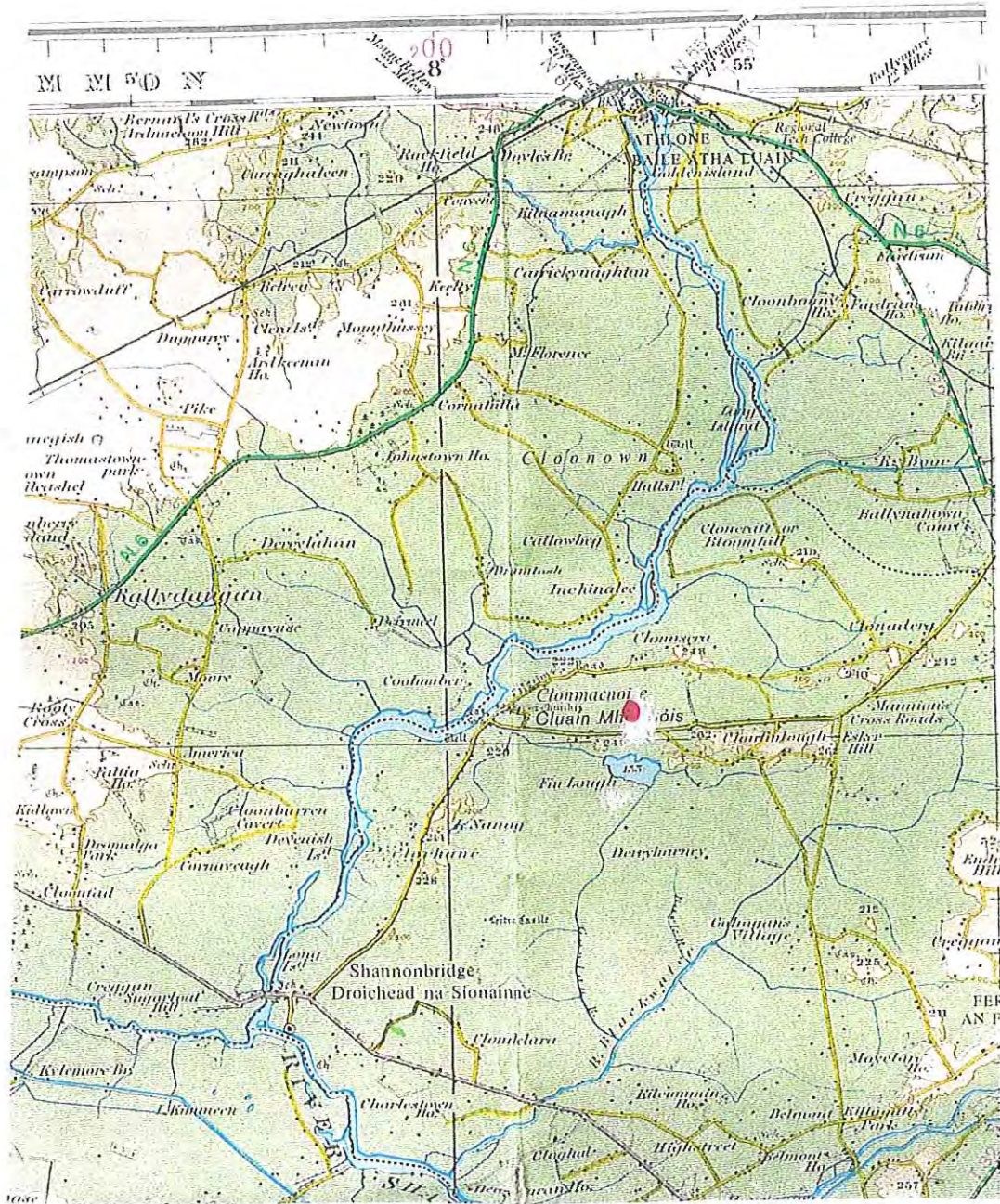
5) Species found

This site was found to be very acid in nature, in sharp contrast to the Fin Lough area across the road. The only Molluscan species found were at the edges near drains, and they were *Vertigo antivertigo*, *Columella aspersa* and *Cepea nemoralis*.

6) Discussion

This site consist of a very good quality raised bog. However, it is too acid in nature to support a good Molluscan fauna.

7) Recommended as SAC: Not for Mollusca.



Map 10.1 Location of Mongan Bog.

1" = 1 mile  
1/2

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 11.	Charleville Wood	N 32 23	Co. Offaly
<u>Current Status:</u>	pNHA 571		

1) Location of Site

The Charleville Estate lies south west of Tullamore, Co. Offaly.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Oak woodland with *Cladium* and *Typha* fringed lake within the Charleville Estate. A species list was made from the lake edge and from the woods.

4) Date(s) visited

This site was visited on 6th October 1998.

5) Species found

Species	Lake edge	Wood
Carychium minimum	X	X
Carychium tridentatum		X
Lymnaea truncatula		X
Anisus leucostoma		X
Cochlicopa lubrica	X	X
Cochlicopa lubricella		X
Columella edentula	X	X
Columella aspersa	X	
Vertigo antivertigo	X	
Vertigo moulinsiana	X*	
Leiostryla anglica	X	X
Lauria cylindracea		X
Acanthinula aculeata		X
Spermodea lamellata		X
Punctum pygmaeum	X	X
Discus rotundatus		X
Arion subfuscus		X
Arion silvaticus		X
Vitrea crystallina		X
Nesovitrea hammonis		X
Aegopinella pura		X

Aegopinella nitidula		X
Oxychilus cellarius		X
Oxychilus alliarius	X	X
Zonitoides nitidus		X
Limax pseudoflavus		X
Euconulus fulvus	X	X
Clausilia bidentata		X
Trichea hispida		X
Trichea striolata		X
Cepea nemoralis		X
Pisidium personatum		X
Pisidium obtusale		X

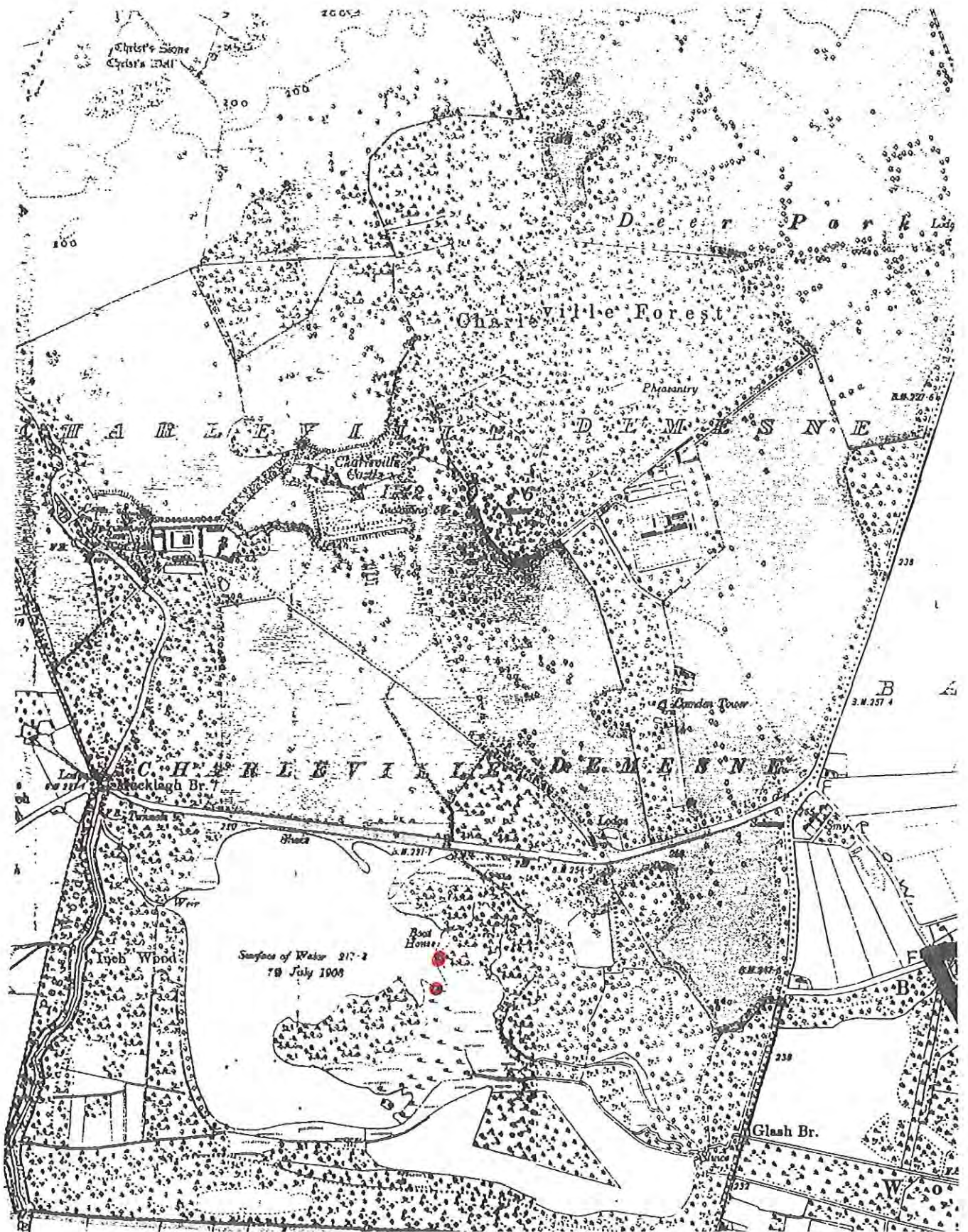
#### 6) Discussion

At this site there is a combination of a (Molluscan) species rich woodland, including the uncommon *Spermodea lamellata*, and a very large population of *Vertigo moulinsiana*, excellently located close to the Clodiagh River, which feeds the Brosna and subsequently the Shannon Rivers, and passes under the Grand Canal close to this site. This would be an good choice for conservation.

7) Recommended as SAC: Yes.







Map 11.2 Location of *Vertigo moulinsiana* at Charleville Wood.

6" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 12.	Sharavogue Bog	S 04 98	Co. Offaly
<u>Current Status:</u>	pSAC 585		

1) Location of Site

Raised bog West of the road from Roscrea to Birr.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Raised bog with fen areas and wet *Phragmites* stands where alkaline water runs in to the site.

4) Date(s) visited

This site was visited on 27th February 1998.

5) Species found

A total of 15 species of Mollusca were found in the 14 sets of samples. Sharavogue Bog is regularly marked by wooden stakes to form a grid, so the exact locations of samples can be given as follows:

Site Number	Description	Closest Marker
1	Edge of fen pool, (non- <i>Sphagnum</i> ) moss and low sedges.	(-25, 175)
2	Mossy vegetation away from edge of same pool.	(-25, 175)
3	South of sample 2 in higher sedge vegetation. Very wet.	(-25, 150)
4	North west of sample 1. Small pools and mossy vegetation.	(0, 200)
5	North of sample 4. Hummocks with low lying sedges between.	(0, 225)
6	Less mossy, more rotted vegetation. <i>Shoenus nigricans</i> present.	(0, 250)
7	North-west of 6. Large pool area with <i>Chara</i> .	(50, 275)
8	East of sample 2. Pools with some <i>Phragmites</i> .	(-50, 175)
9	South of sample 8. Pool edge, some <i>Sphagnum</i> moss.	(-50, 150)
10	South of sample 9. Wet sedges with some <i>Sphagnum</i> .	(-50, 125)
11	South-east of sample 10. Sedge-rich fen vegetation.	(-50, 125)
12	Small fen vegetation among <i>Calluna</i> hummocks.	(-50, 100)
13	South of sample 12. Lots of low sedge species.	(-50, 75)
14	Fen area with mossy (non- <i>Sphagnum</i> ) pools.	(-50, 50)

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Potamopyrgus jenkinsi</i>							X	X						X
<i>Carychium minimum</i>					X						X	X	X	X
<i>Lymnaea truncatula</i>		X	X		X							X	X	X
<i>Planorbis carinatus</i>							X							
<i>Bathyomphalus contortus</i>	X	X	X	X	X	X							X	
<i>Armiger crista</i>					X		X							
<i>Succinea putris</i>			X	X			X						X	X
<i>Oxyloma pfeifferi</i>				X									X	
<i>Columella aspersa</i>														X
<i>Vertigo antivertigo</i>														X
<i>Nesovitrea hammonis</i>												X	X	
<i>Aegopinella pura</i>													X	
<i>Eucomulus alderi</i>														X
<i>Pisidium casertanum</i>							X						X	X
<i>Pisidium obtusale</i>	X		X	X	X	X	X	X	X	X		X	X	X

## 6) Discussion

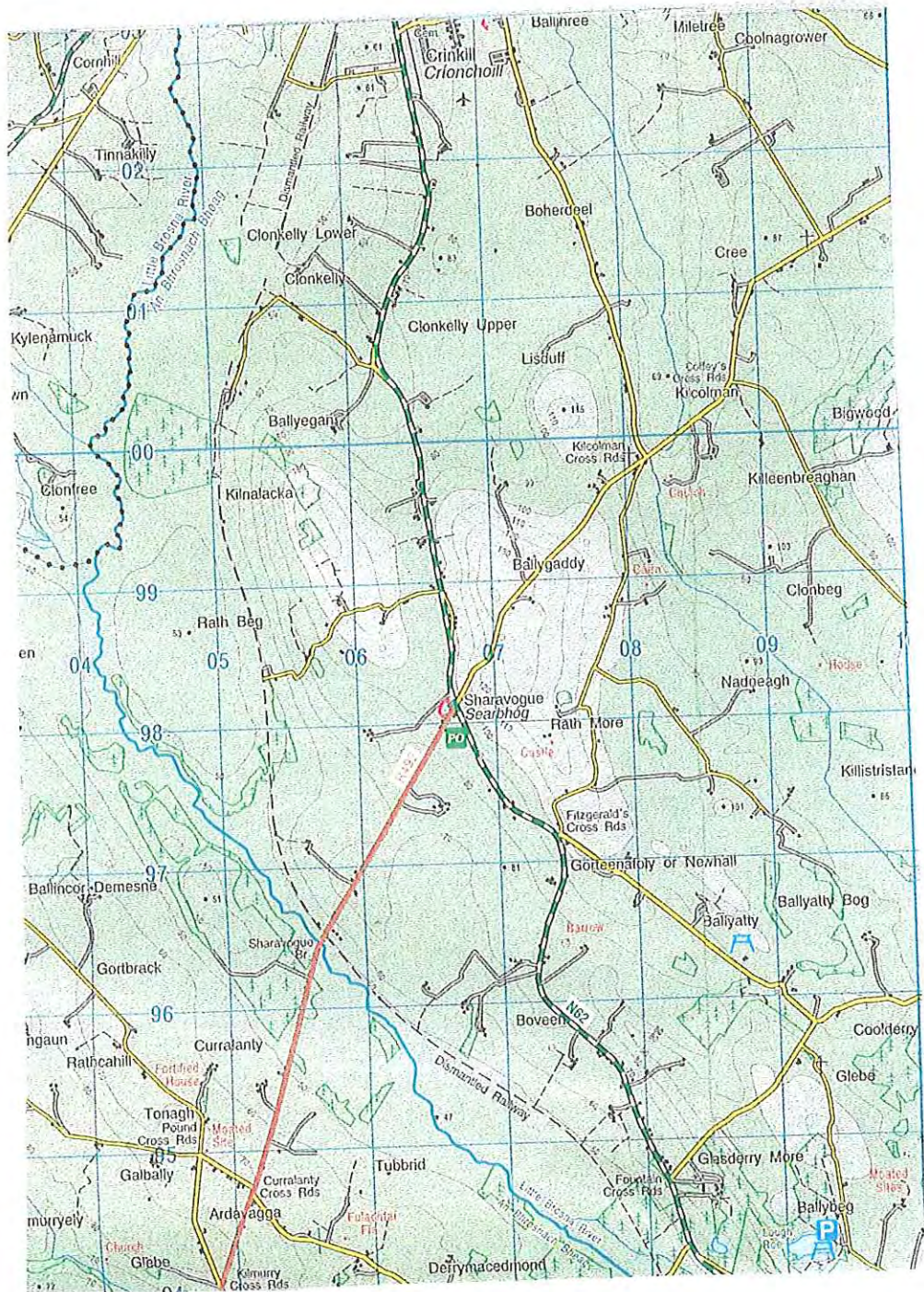
Only one species of *Vertigo* was found, the relatively common *Vertigo antivertigo*. No protected species were found among the samples. The Molluscan species found reflected the variation of the habitat in the fen area surveyed. However, all species were either aquatic or on the most extreme water-tolerant end of the terrestrial scale.

Samples 1,2,6,8,9,10 and 11 all yielded a very restricted molluscan fauna with species that are tolerant of acid situations such as *Bathyomphalus contortus* and *Lymnaea truncatula*. *Pisidium obtusale* was almost ubiquitous in the area, this species is indicative of small ponds with a peaty influence (Boycott, 1936).

Samples 7, 13 and 14 had the most species present. Sample 7 was from the *Chara* pool area, and was the only site where *Planorbis carinatus*, a species requiring hard water (Boycott, 1936) was found. Samples 13 and 14 had species indicative of some alkaline influence, but no true calciphiles were found here. *Potamopyrgus jenkinsi* was found in sites where there was some running water, but not in totally stagnant pools. *Armiger crista* is worth noting as it is rarely recorded. However, it is a very small species (less than 3mm) and was probably previously under-recorded.

The Sharavogue fen area has a restricted molluscan fauna, with more aquatic snails found in the samples than terrestrial individuals, reflecting the calcareous influence of the water in this area. However, the lack of calciphile terrestrial snails suggests that the acid nature of the larger bog area is influencing the terrestrial habitat.

## 7) Recommended as SAC: Not for Mollusca.



Map 12.1 Location of Sharavogue Bog

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 13.	Cloonascragh Bog	M 46 50	Co. Galway

Current Status: Not a pNHA or pSAC.

1) Location of Site

Two miles south of Tuam, Co. Galway.

2) Historical Molluscan records

R.A. Phillips in his diary described *Vertigo geyeri* as being plentiful in a marshy spot where the edge of Cloonascragh Bog meets the base of an extensive esker, on 30th August 1936 (Norris and Pickrell, 1972).

3) Habitats

When Phillips visited this site in 1936, the bog / esker interface was wet. In 1998, the bog is still present but is being cut, the esker has been exploited for gravel for some time, and the bog / esker interface is considerably drier, with dry tufts of *Schoenus nigricans* marking a line where a wet seepage once existed (Plates 2, 3). Samples were taken from (i) the wettest areas around this *Schoenus* line, (ii) the wettest drain area on Cloonascragh Bog, and (iii) the nearest area with wet fen vegetation, approximately 2 km east of Cloonascragh.

4) Date(s) visited

This site was visited on 20th July 1998.

5) Species found

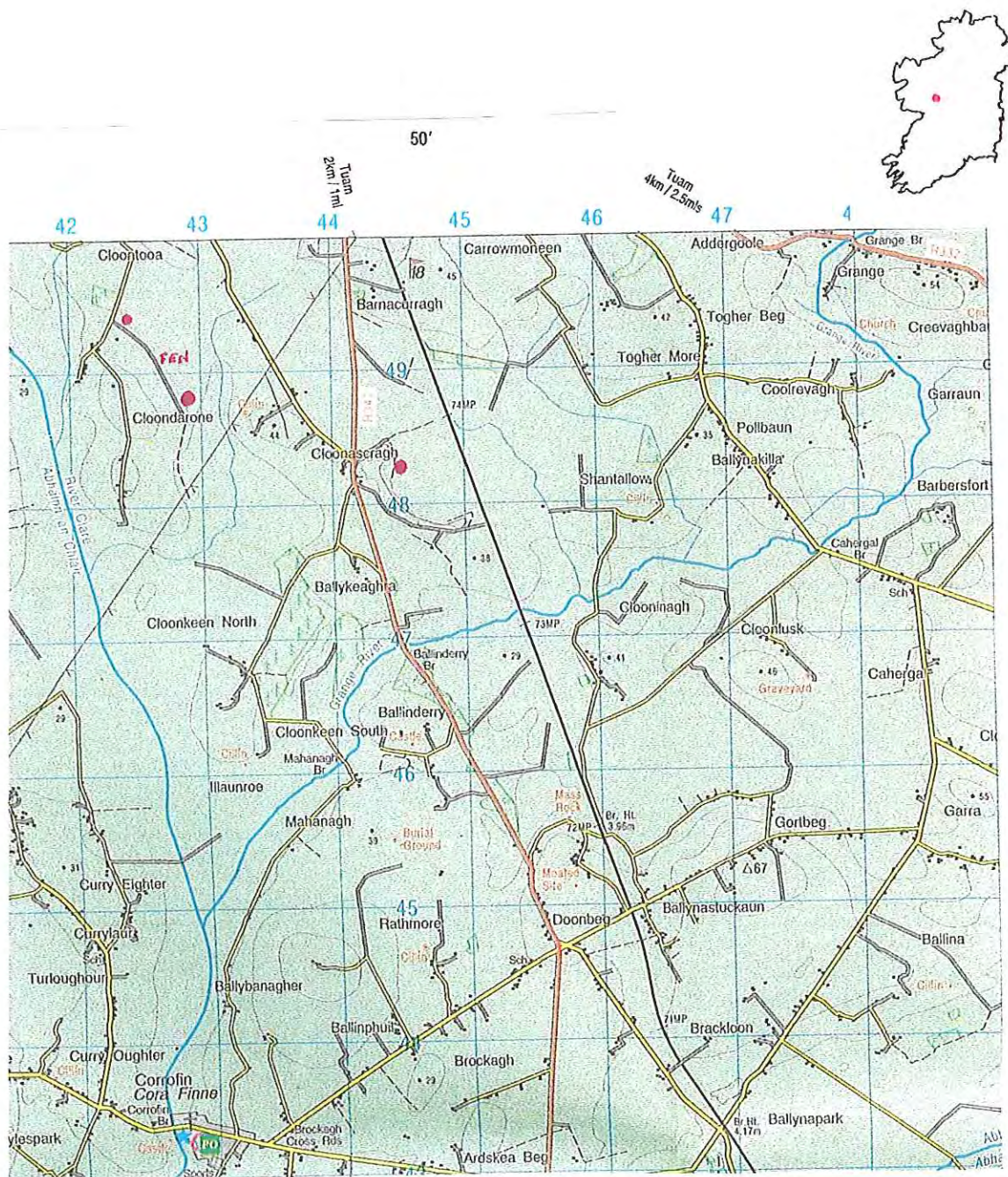
Species	Old bog / esker line	Wet drain	Nearest Fen
Valvata cristata		X	X
Carychium minimum			X
Lymnaea truncatula	X		X
Lymnaea palustris			X
Planorbis planorbis			X
Bathyomphalus contortus	X		X
Armiger crista			X
Oxyloma pfeifferi	X	X	X
Cochlicopa lubrica			X
Columella aspersa		X	X
Vertigo antivertigo	X		X
Vertigo substriata			X

Vertigo pygmaea			X
Leiostyla anglica	X		
Vallonia pulchella			X
Punctum pygmaeum			X
Nesovitrea hammonis		X	X
Zonitoides nitidus			X
Euconulus fulvus			X
Euconulus alderi			X
Ashfordia granulata		X	X
Sphaerium corneum	X		
Pisidium personatum	X	X	X

6) Discussion

This is another of Phillip's old lagg sites for *Vertigo geyeri*, and like all the others it appears to have been lost to drainage. The rich Molluscan diversity of the nearby fen, including the uncommon *Ashfordia granulata* shows that quality habitat still exists in the area, but this almost certainly does not include *Vertigo geyeri*.

7) Recommended as SAC: No.



Map 13.1 Location of Cloonascragh (Tuam) Site.

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 14.	Addergoule Bog	M 31 33	Co. Galway
<u>Current Status:</u>	PNHA 297		

#### 1) Location of Site

Raised bog approximately 7km North of Galway City, off the Headford Road (N84) and between the Rivers Clare and Cregg.

#### 2) Historical Molluscan records

No previous Molluscan records.

#### 3) Habitats

Raised bog with fen influences at a number of spring seepage areas.

#### 4) Date(s) visited

This site was visited on 23rd of July 1998, but weather conditions made sampling extremely difficult. The site was returned to on 26th September 1998.

#### 5) Species found

A species list is given for Mollusca found in fen habitat, and those found close to the spring seepage line.

Species	Fen	Spring / seepage
Carychium minimum	X	X
Lymnaea truncatula	X	X
Planorbis planorbis	X	X
Anisus leucostoma	X	X
Bathyomphalus contortus	X	X
Oxyloma pfeifferi	X	X
Vertigo antivertigo	X	X
Punctum pygmaeum	X	
Euconulus alderi	X	X
Pisidium personatum	X	X
Pisidium obtusale	X	X

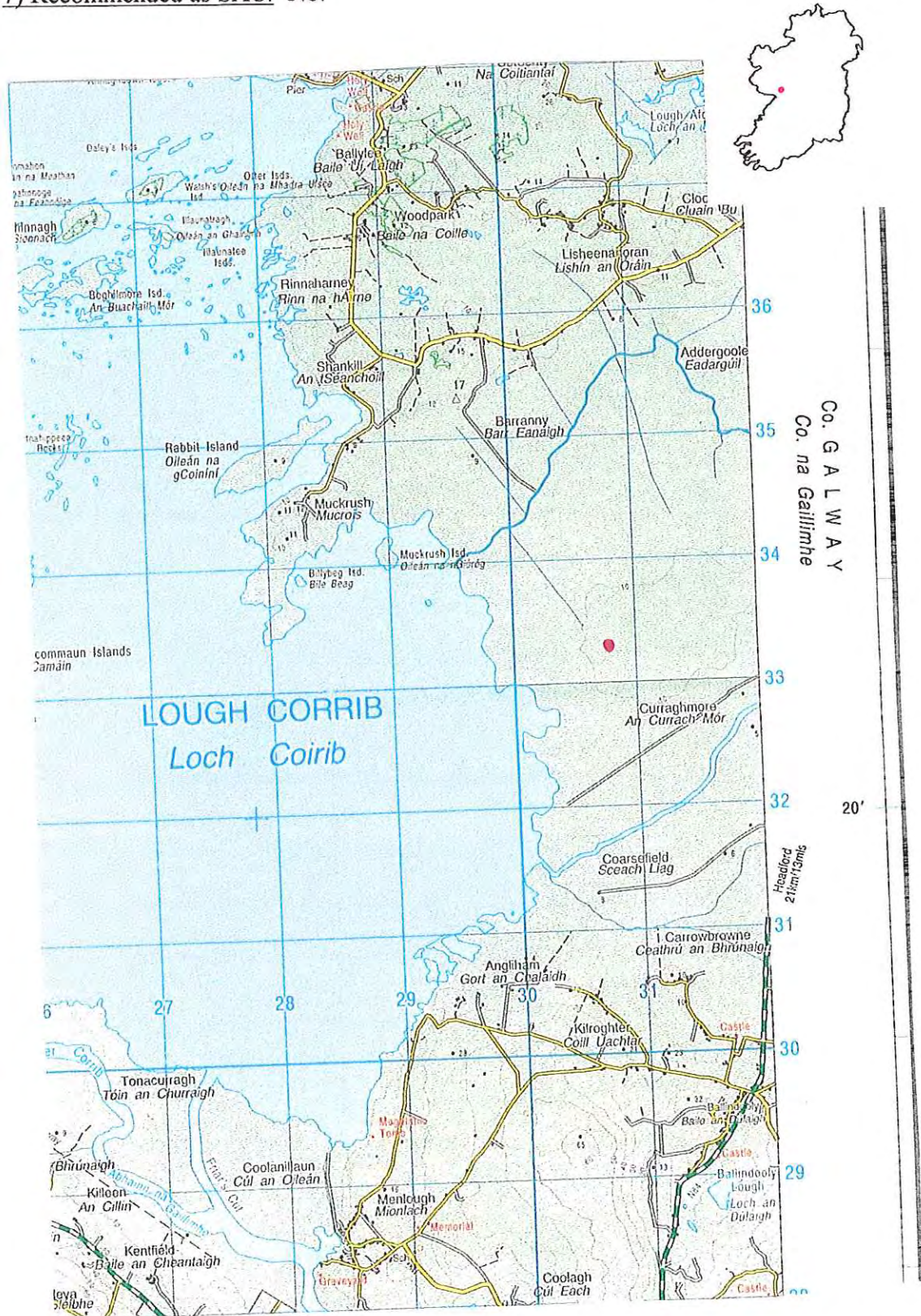
#### 6) Discussion

The almost identical species lists above show that the same seepage influence is determining the Mollusca found in both areas. The rest of the bog that was visited had an impoverished Molluscan fauna due to its acid nature. The Northerly end of the



bog close to the Cregg River has been largely “improved” for agriculture. It is unlikely that *Vertigo geyeri* exists anywhere within this site.

7) Recommended as SAC: No.



Map 14.1 Location of Addergoole Bog

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 15.	Shankill West Bog	M 63 52	Co. Galway
<u>Current Status:</u>	pSAC 326		

1) Location of Site

Approximately 7km North of Mount Bellew Bridge, off the Athlone to Tuam Road.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Raised Bog with some fen influences around the edges and some open water to the North fringed with reeds.

4) Date(s) visited

This site was visited on 19th July 1998.

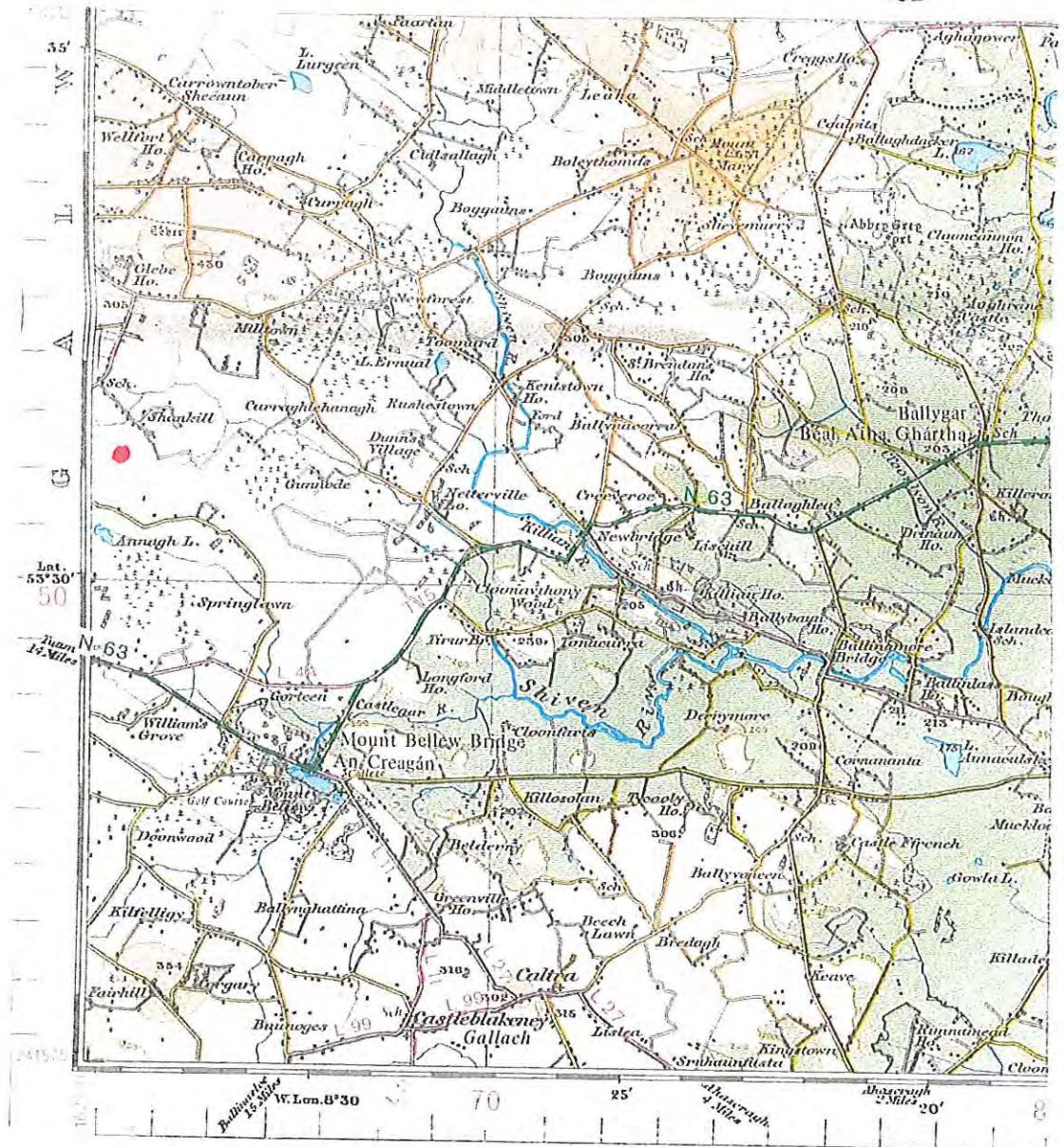
5) Species found

Species	Sedge-rich fen	Open water edge
<i>Lymnaea truncatula</i>	X	
<i>Bathyomphalus contortus</i>	X	
<i>Succinea putris</i>	X	
<i>Vertigo substriata</i>	X	X
<i>Vertigo lilljeborgi</i>		X
<i>Leiostryla anglica</i>	X	
<i>Euconulus alderi</i>		
<i>Candidula intersecta</i>	X	
<i>Pisidium personatum</i>	X	

6) Discussion

The habitats found in Shankill West did not appear to be conducive to finding *Vertigo geyeri*. In general, the site had an impoverished Molluscan fauna. However, the discovery of *Vertigo lilljeborgi* here is of considerable importance. This species has very few records Ireland, and this is the first from East Galway. It is certainly rarer than most *Vertigos*, including the protected *V. moulinsiana*. The needs of this species should be considered in the management of this SAC.

7) Recommended as SAC: Already an SAC.



Map 15.1 Location of Shankill West Bog

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 16.	Barroughter Bog	M 79 03	Co. Galway
<u>Current Status:</u>	pSAC 231		

1) Location of Site

Raised Bog off R352 west of Portumna, east of Woodford and south of the Woodford River.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

Within Barroughter Bog, the area sampled consisted of the edge of raised bog with alkaline seepages (i). Portumna Forest Park was also surveyed, (ii) within the woodland leaf litter, (iii) the old famine walls, and (iv) the Bonaveen callows and Lough Derg shore.

4) Date(s) visited

This site was visited on 25th September 1998.

5) Species found

Species	Barroughter Bog	Wood litter	Old walls	Callows and lake shore
Potamopyrgus jenkinsi				X
Acicula fusca			X	
Carychium minimum	X			X
Carychium tridentatum	X			
Lymnaea truncatula	X			X
Planorbis planorbis				X
Bathyomphalus contortus	X			X
Gyraulus albus				X
Oxyloma pfeifferi	X			X
Cochlicopa lubrica	X	X		X
Cochlicopa lubricella		X		
Vertigo antivertigo	X			X
Vertigo moulinsiana				X*
Leiostryla anglica				X
Vallonia pulchella	X			

Spermodea lamellata		X		X
Punctum pygmaeum	X	X		
Discus rotundatus		X	X	
Arion ater	X			
Arion subfuscus		X		
Arion silvaticus		X		
Vitrea crystallina		X		X
Nesovitrea hammonis		X		X
Aegopinella pura			X	
Aegopinella nitidula		X		
Oxychilus alliarius		X		
Zonitoides nitidus	X			
Euconulus fulvus		X		
Euconulus alderi		X		
Clausilia bidentata		X	X	
Balea perversa			X	
Trichia hispida		X		
Trichia striolata		X		
Cepea nemoralis		X		X
Helix aspersa			X	
Anodonta anatina				X
Sphaerium corneum				X
Pisidium personatum	X			X
Pisidium obtusale	X			X
Dreissena polymorpha				X

#### 6) Discussion

While the survey of Barrougher Bog did not result in any protected species (and it is unlikely that *Vertigo geyeri* could live there), the diversity of habitat within the Portumna Forest Park gives rise to favourable habitat for a good range of species, including 1 specimen of *Vertigo moulinsiana*, which completes a range of sites from East Kildare across to the Shannon River. The single specimen raises the possibility of the specimen not being from a local population, but perhaps from higher in the catchment. Other uncommon species found in the woodland were *Balea perversa* and *Spermodea lamellata*.

7) Recommended as SAC: It would be worthwhile to include part of Portumna Forest Park within pSAC 231.



<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 17.	Bellacorrick Flush	G 052 223	Co. Mayo
<u>Current Status:</u>	pSAC 1922		

### 1) Location of Site

Fermoyle Flush lies approximately 12km North West of Crossmolina, access is at the end of a short road to the North of the N59.

### 2) Historical Molluscan records

No previous Molluscan records.

### 3) Habitats

The survey area consists of a series of very wet flushes giving rise to calcareous fen conditions within more acid raised bog. Vegetation was taken from 4 calcareous areas (see 1-4 below). Sample 4 was taken in an area consisting mainly of *Phragmites* and open water.

### 4) Date(s) visited

Fermoyle Flush was visited on 21st of July 1998. The Brackloon area was visited the next day but weather conditions made it too difficult to sample for Mollusca.

### 5) Species found

Species	1	2	3	4
<i>Potamopyrgus jenkinsi</i>	X	X		
<i>Carychium minimum</i>	X	X	X	
<i>Carychium tridentatum</i>		X		
<i>Lymnaea truncatula</i>	X	X	X	
<i>Oxyloma pfeifferi</i>		X		
<i>Cochlicopa lubrica</i>		X		
<i>Columella aspersa</i>	X	X	X	X
<i>Vertigo antivertigo</i>		X		
<i>Vertigo substriata</i>	X		X	X
<i>Vertigo geyeri</i>	X*	X*	X*	
<i>Leiostyla anglica</i>			X	
<i>Discus rotundatus</i>		X		X
<i>Nesovitrea hammonis</i>		X	X	
<i>Aegopinella pura</i>		X		
<i>Zonitoides nitidus</i>	X			
<i>Euconulus alderi</i>		X	X	
<i>Pisidium personatum</i>	X	X	X	

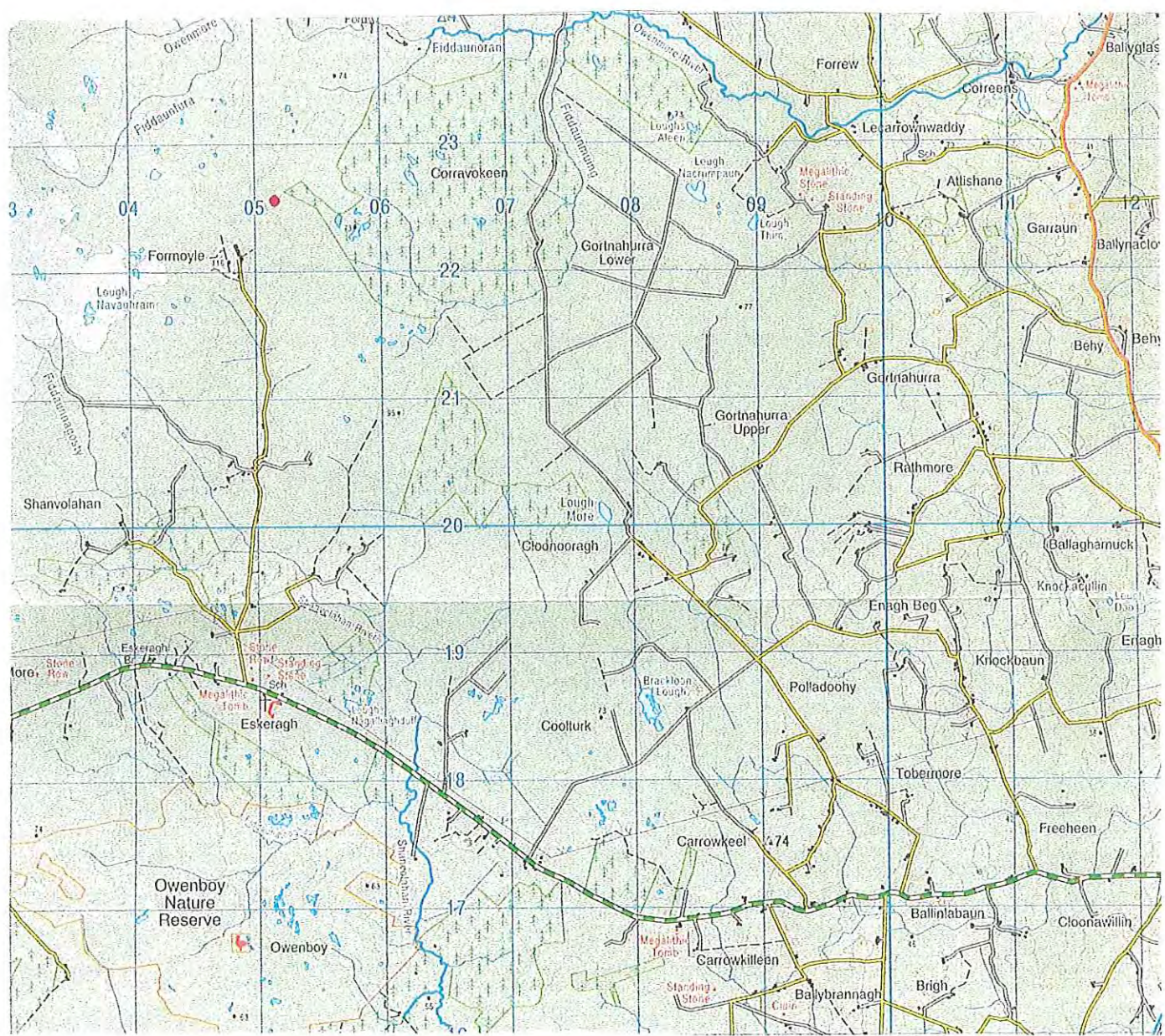
Pisidium obtusale	X	X	X	

6) Discussion

This flush area appears to have the most ideal habitat possible for *Vertigo geyeri*. This rare species was found to be widespread and in good numbers. Some plant species noted where *V. geyeri* was located by hand were *Schoenus nigricans*, *Menyanthes trifoliata*, *Phragmites australis*, *Carex lepidocarpa*, *Carex lasiocarpa*, *Carex dioica* and *Carex limosa*. This site deserves the highest level of protection.

7) Recommended as SAC: Yes.





Map 17.1 Location of Bellacorick (Fermoye Flush)

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 18.	Swanlinbar River	H 19 27	Co. Cavan
<u>Current Status:</u>	pSAC 584		

1) Location of Site

River which rises in the Cuilcagh Mountains and flows over the border East of Swanlinbar.

2) Historical Molluscan records

No previous Molluscan records.

3) Habitats

The river flows through sandstone and then Limestone bedrock. Steep rocky gorges line the early stages of the river, with sheep grazing on acid bog or coniferous forestry as land uses. Later stages of the river are surrounded by "improved" agricultural land, mainly cattle grazing and silage.

4) Date(s) visited

This site was visited on 28th, 29th and 30th August 1998.

5) Species found

An impoverished Molluscan fauna was found in the surrounding area of the Swanlinbar River, with only a few common species in hedges or under rocks in the vicinity. The main species of importance was *Margaritifera margaritifera*, and this is discussed in a separate report (Moorkens, 1998).

6) Discussion

See Moorkens (1998).

7) Recommended as SAC: No.

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 19.	Malin Dunes	C 52 43	Co. Donegal
<u>Current Status:</u>	pSAC 2012		

### 1) Location of Site

The site is North of Malin, and consists of an area on the seaward side of the R242 known as the Lag and the hills on the landward side of the same road at Ballycramsy.

### 2) Historical Molluscan records

R. Anderson found *Vertigo angustior* at Ballycramsy (Anderson, 1981).

### 3) Habitats

The sandy landward hills of Ballycramsy are dry in the most part but damp in the low area just beside the road (Plate 6). The Lag dunes are a series of sandy dunes with some damp grassland in the slack areas (Plate 7).

### 4) Date(s) visited

The site was visited on 31st July, and again on 1st and 2nd August 1998.

### 5) Species found

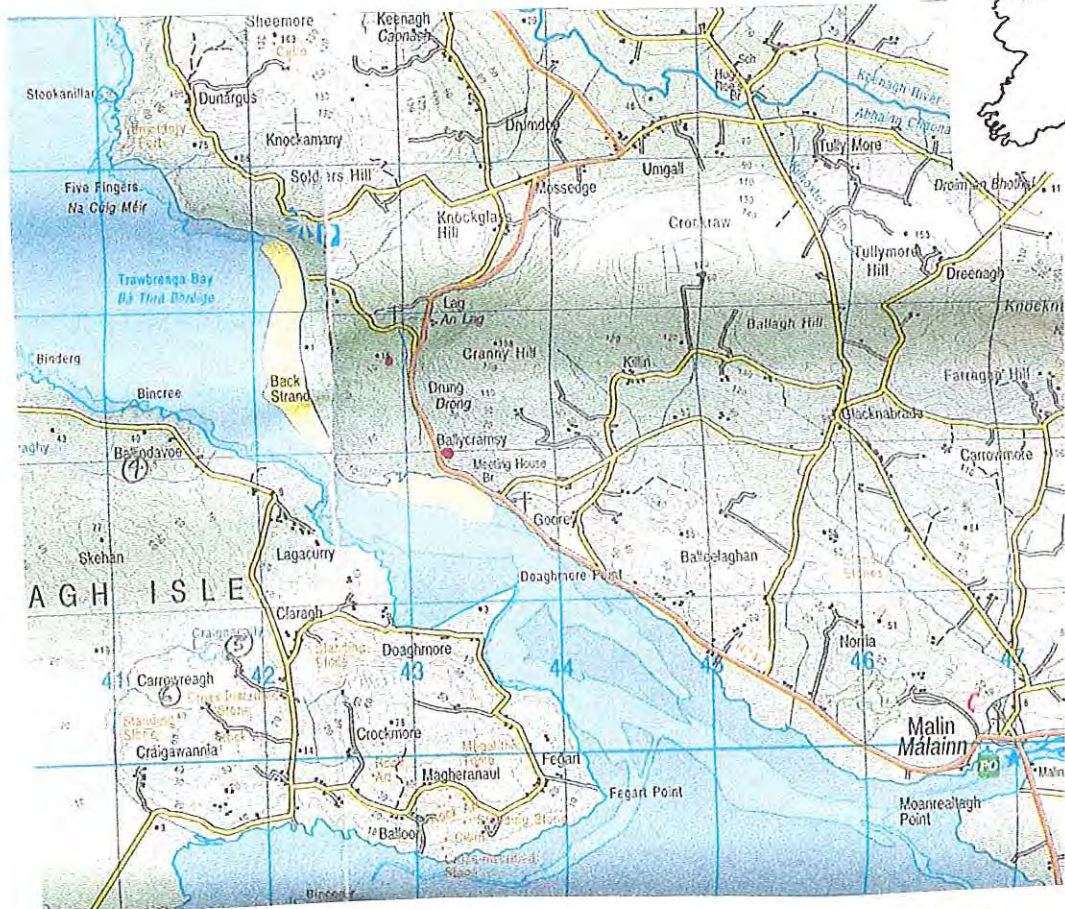
Species	Bally-cramsy	The Lag dunes
<i>Carychium minimum</i>	X	X
<i>Carychium tridentatum</i>	X	
<i>Cochlicopa lubrica</i>	X	X
<i>Cochlicopa lubricella</i>	X	
<i>Columella aspersa</i>	X	
<i>Vertigo substriata</i>	X	X
<i>Vertigo pygmaea</i>		X
<i>Vertigo angustior</i>	X*	X*
<i>Pupilla muscorum</i>	X	X
<i>Vallonia costata</i>	X	X
<i>Vallonia excentrica</i>	X	
<i>Acanthinula aculeata</i>	X	
<i>Punctum pygmaeum</i>	X	X
<i>Arion ater</i>	X	
<i>Vitrina pellucida</i>		X
<i>Vitrea contracta</i>	X	
<i>Vitrea crystallina</i>	X	X
<i>Nesovitrea hammonis</i>	X	

Aegopinella pura	X	
Aegopinella nitidula	X	
Oxychilus alliarius	X	
Zonitoides nitidus	X	
Deroceras laeve	X	
Clausilia bidentata		X
Candidula intersecta	X	
Helicella itala	X	X
Cochlicella acuta	X	X
Trichea hispida	X	
Cepea nemoralis	X	X
Helix aspersa	X	X

### 6) Discussion

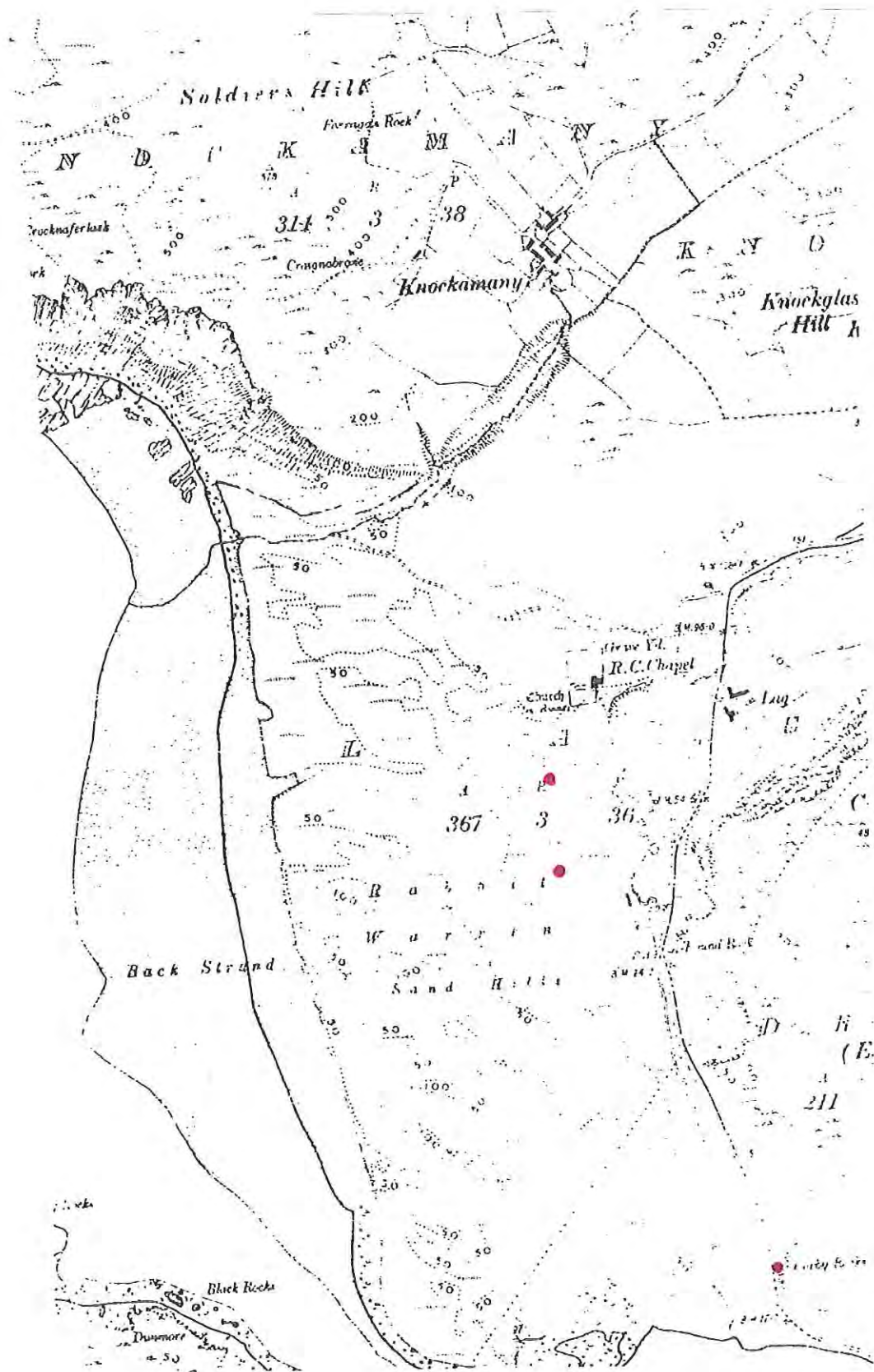
This site has an excellent Molluscan fauna. The presence of *Vertigo angustior* in the Lag system is useful as the snail was found to be widespread here. In contrast, at Ballycransy it was found to be restricted to a thin strip of land between the road and the hills.

### 7) Recommended as SAC: Yes.



Map 19.1 Location of Malin Dunes Site

1" = 1 mile



Map 19.2 Location of *Vertigo angustior* at Malin Dunes

6" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 20.	Mullochmore	G 72 56	Co. Sligo
<u>Current Status:</u>	pSAC 625		

### 1) Location of Site

This site includes Bunduff Strand and its environs, and the Trawalua Strand area, at either side of the peninsula leading to Mullochmore from the road West from Cliffony.

### 2) Historical Molluscan records

A dead shell of *Pomatias elegans* was found in Bunduff Dunes in 1991 by Don Cotton (Cawley, 1996).

### 3) Habitats

The damp dune slacks of both Bunduff (Plate 8) and Trawalua were surveyed, as well as some wet woodland near the source of the Bunduff River, and some old stone walls above Bunduff Lough.

### 4) Date(s) visited

The area was surveyed on 7th, 8th and 9th of August 1998.

### 5) Species found

Species	Bun- duff dunes	Traw- alua dunes	Wet woods	Old walls
<i>Carychium minimum</i>		X	X	X
<i>Carychium tridentatum</i>		X		
<i>Lymnaea truncatula</i>		X		
<i>Oxyloma pfeifferi</i>		X		
<i>Cochlicopa lubrica</i>	X			X
<i>Cochlicopa lubricella</i>	X			
<i>Columella aspersa</i>			X	
<i>Vertigo antivertigo</i>		X		
<i>Vertigo pygmaea</i>	X	X		
<i>Pupilla muscorum</i>	X	X		
<i>Leiostyla anglica</i>				X
<i>Lauria cylindracea</i>			X	X
<i>Vallonia costata</i>	X	X		
<i>Vallonia pulchella</i>	X	X		
<i>Vallonia excentrica</i>	X	X		
<i>Spermodea lamellata</i>			X	

Punctum pygmaeum				X
Discus rotundatus				X
Arion ater	X			
Vitrina pellucida		X		X
Vitrea crystallina	X			X
Vitrea contracta	X			
Nesovitrea hammonis				X
Oxychilus cellarius				X
Zonitoides nitidus			X	
Deroceras reticulatum	X			
Clausilia bidentata				X
Candidula intersecta		X		X
Helicella itala	X			
Cochlicella acuta	X			
Cepea nemoralis	X	X		X
Helix aspersa	X			X

#### 6) Discussion

Although the variety of habitats present yielded a good range of species, there were no protected species found at this site. There was also no evidence of *Pomatias elegans* found during the survey.

7) Recommended as SAC: Not for Mollusca.



Map 20.1 Location of Mullochmore Site

1" = 1 mile



<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 21.	Tranarossan	C 12 42	Co. Donegal
<u>Current Status:</u>	pSAC 194		

1) Location of Site

This site is located in the North West of the Rosguill Peninsula, Co. Donegal.

2) Historical Molluscan records

Welch found dead *Vertigo angustior* shells abundant in the shell-pockets of Rosguill, including Tranarossan (Welch, 1906).

3) Habitats

Damp dune slack and surrounding grassland.

4) Date(s) visited

The area was surveyed on 3rd of August 1998.

5) Species found

Species	
Cochlicopa lubricella	X
Vertigo substriata	X
Vertigo pygmaea	X
Punctum pygmaeum	X
Arion ater	X
Deroceras caruanae	X
Deroceras reticulatum	X
Clausilia bidentata	X
Candidula intersecta	X
Helicella itala	X
Cochlicella acuta	X
Cepea nemoralis	X
Helix aspersa	X

6) Discussion

The species found throughout this site were common.

7) Recommended as SAC: Not for Mollusca.



Map 21.1 Location of Tranarossan site

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 22.	Horn Head	C 02 41	Co. Donegal
<u>Current Status:</u>	pSAC 147		

#### 1) Location of Site

The area surveyed here included the dunes surrounding Dunfanaghy, which take up most of the neck of the peninsula leading to Horn Head.

#### 2) Historical Molluscan records

Welch found dead *Vertigo angustior* shells abundant in the shell-pockets of Horn Head (Welch, 1909).

#### 3) Habitats

Habitats surveyed included mossy damp dune slacks and wet dune slacks with fen vegetation.

#### 4) Date(s) visited

The area was surveyed on 5th of August 1998.

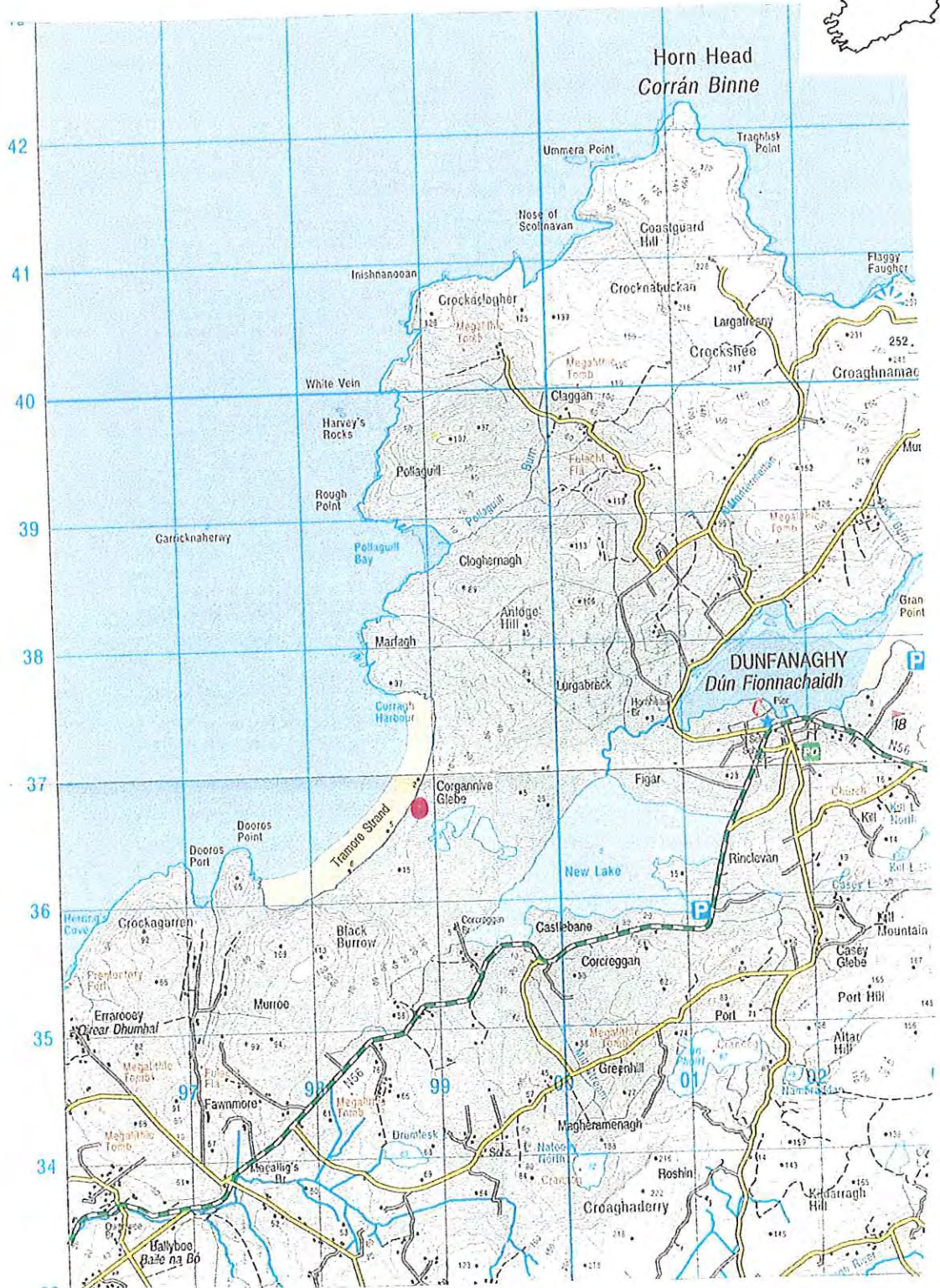
#### 5) Species found

Species	Dune slacks	Fen
Valvata cristata		X
Potamopyrgus jenkinsi		X
Lymnaea truncatula	X	X
Oxyloma pfeifferi		X
Cochlicopa lubrica	X	
Columella aspersa	X	
Vertigo substriata	X	
Vallonia costata	X	
Vallonia pulchella	X	
Vitrea contracta	X	
Helicella itala	X	
Cochlicella acuta	X	
Cepea nemoralis	X	
Helix aspersa	X	
Pisidium personatum		X

#### 6) Discussion

There were no protected species found in this site.

7) Recommended as SAC: Not for Mollusca.



Map 22.1 Location of Horn Head site

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 23.	Sheskinmore	G 70 95	Co. Donegal
<u>Current Status:</u>	pSAC 197		

1) Location of Site

This site is located approximately 7 km North West of Ardara, Co. Donegal.

2) Historical Molluscan records

None.

3) Habitats

The site held a mosaic of habitats, and those surveyed for Mollusca were damp dune slacks, dune slacks with *Chara* ponds, and flushed fen towards Sheskinmore Lake.

4) Date(s) visited

The area was surveyed on 6th of August 1998.

5) Species found

Species	Damp dune slacks	<i>Chara</i> pond area	Fen
<i>Valvata cristata</i>		X	X
<i>Potamopyrgus jenkinsi</i>		X	X
<i>Carychium minimum</i>		X	X
<i>Lymnaea truncatula</i>		X	X
<i>Lymnaea palustris</i>			X
<i>Oxyloma pfeifferi</i>		X	X
<i>Cochlicopa lubrica</i>	X		
<i>Cochlicopa lubricella</i>	X	X	
<i>Columella aspersa</i>	X	X	X
<i>Vertigo pusilla</i>	X		
<i>Vertigo antivertigo</i>	X	X	X
<i>Vertigo substriata</i>		X	
<i>Vertigo pygmaea</i>	X		X
<i>Vertigo geyeri</i>			X*
<i>Vertigo angustior</i>	(X)**		
<i>Lauria cylindracea</i>	X		
<i>Arion subfuscus</i>			X
<i>Vallonia costata</i>	X	X	
<i>Vallonia pulchella</i>	X		

Vallonia excentrica	X	X	
Nesovitrea hammonis	X	X	X
Zonitoides nitidus	X	X	
Deroceras reticulatum	X		
Euconulus alderi	X	X	X
Candidula intersecta		X	X
Helicella itala	X		
Cochlicella acuta	X		
Cepea nemoralis	X		X
Pisidium personatum		X	
Pisidium obtusale		X	

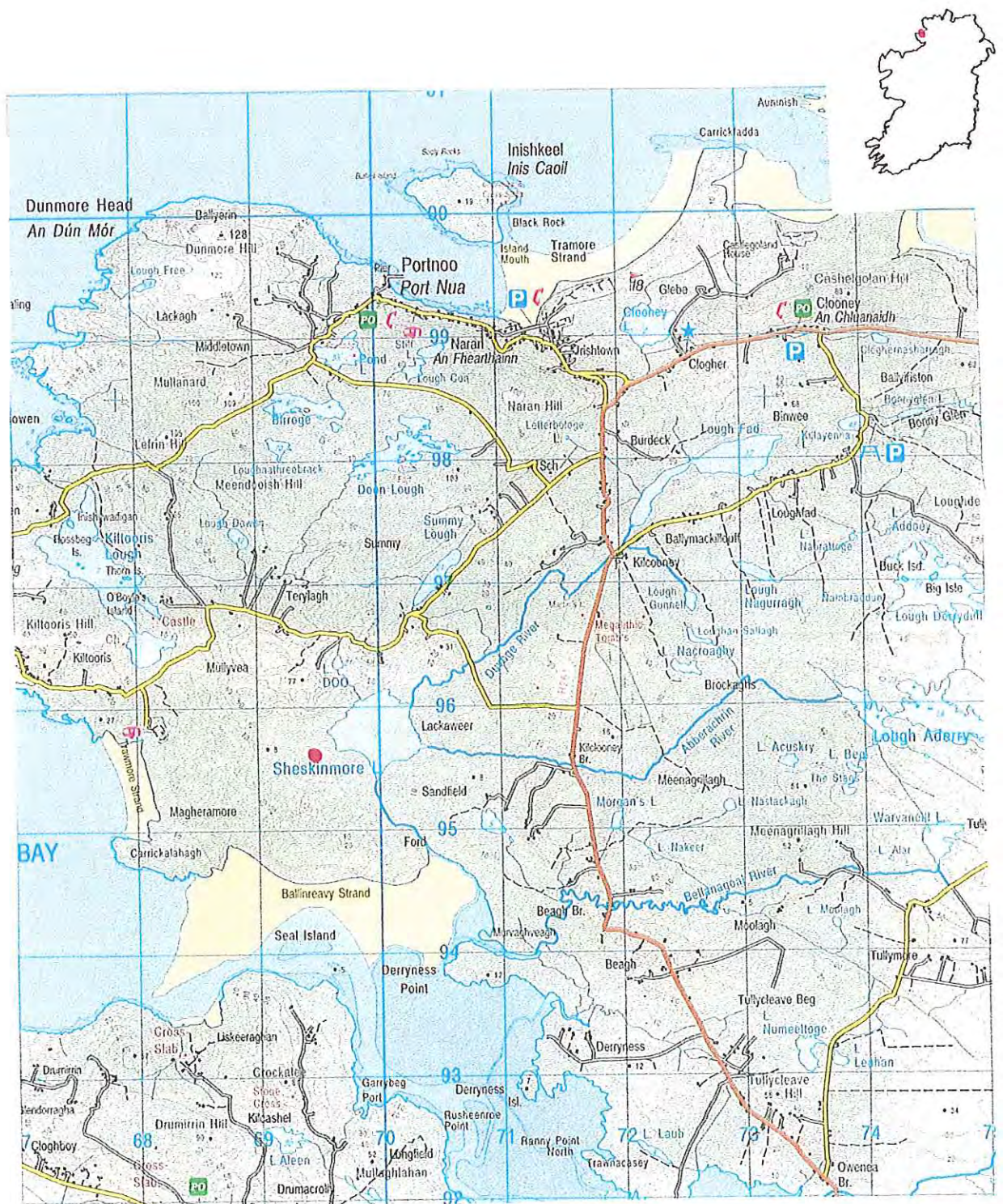
\*protected species

\*\* dead shells only found in old shell "pockets"

#### 6) Discussion

This excellent range of good quality habitats yielded a wide range of Molluscan species. The range of *Vertigo* species is of particular importance. A good population of *V. geyeri* was found, a first for Donegal and so the most northerly population for this species yet recorded in Ireland. Plant species in the area where *Vertigo geyeri* was found included *Schoenus nigricans* and *Parnassia palustris*. The discovery of *V. pusilla* living in the dune slacks is the first record for this species in Ireland for some time. Unfortunately *V. angustior* was not found live, but in general this site must be considered as one of the most important Molluscan habitats in the country (Plates 9-12).

7) Recommended as SAC: Yes.



Map 23.1 Location of Sheskinmore site

1" = 1 mile





<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 24.	Doaghmore	C 14 42	Co. Donegal
<u>Current Status:</u>	pSAC 164		

#### 1) Location of Site

This site is located in the far North West corner of the Fanad Peninsula.

#### 2) Historical Molluscan records

Welch noted that he found “perfectly fresh looking” specimens of *Vertigo angustior* at Doaghmore “that seemed not long dead” (Welch, 1906).

#### 3) Habitats

Damp grassy dune slacks and wet dune slacks with *Chara* ponds.

#### 4) Date(s) visited

The area was surveyed on 3rd of August 1998.

#### 5) Species found

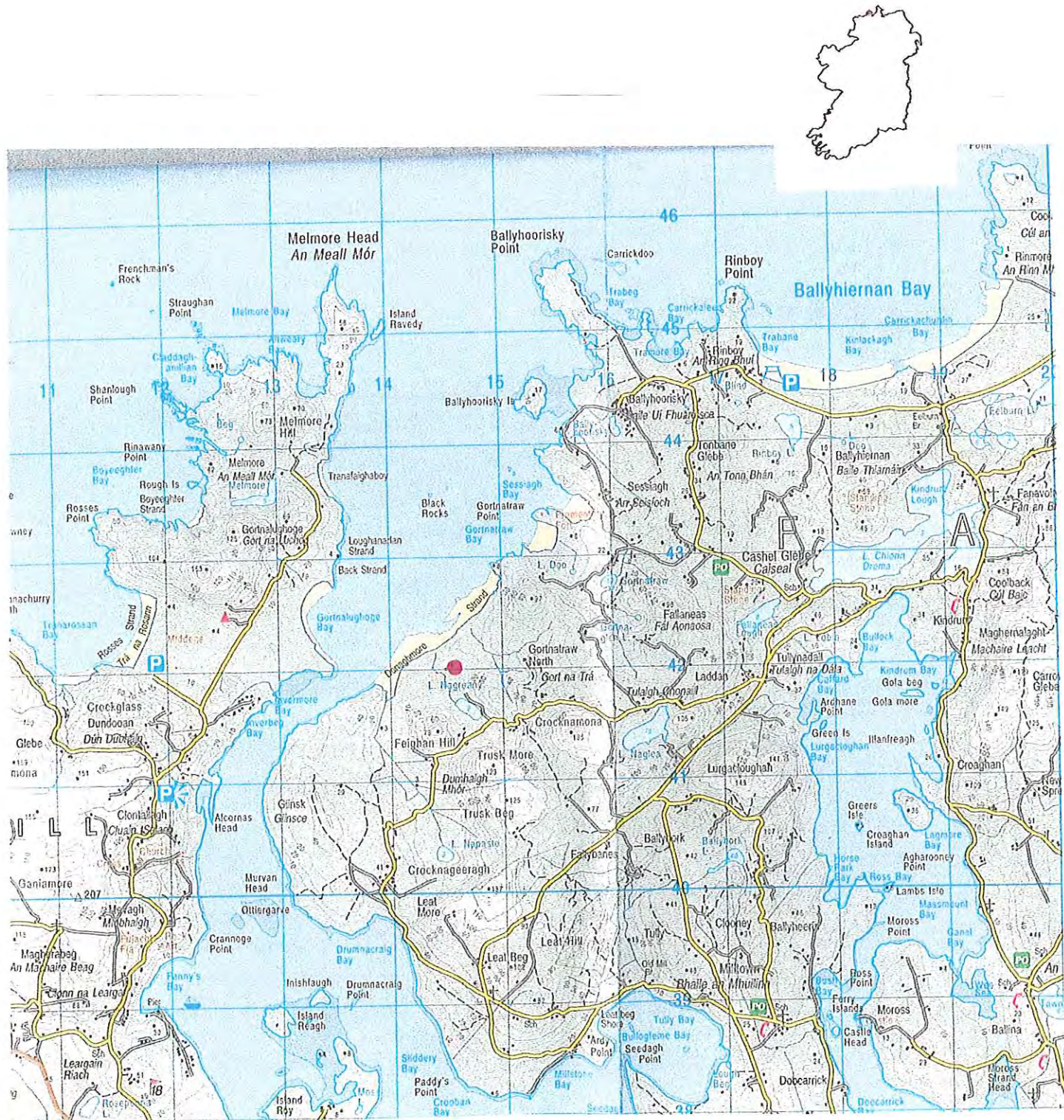
Species	Grassy dune slacks	<i>Chara</i> ponds area
<i>Carychium minimum</i>	X	X
<i>Carychium tridentatum</i>		X
<i>Lymnaea truncatula</i>		X
<i>Cochlicopa lubrica</i>	X	X
<i>Columella aspersa</i>		X
<i>Vertigo antivertigo</i>		X
<i>Vertigo substriata</i>	X	
<i>Vertigo pygmaea</i>	X	X
<i>Pupilla muscorum</i>	X	
<i>Punctum pygmaeum</i>		X
<i>Arion ater</i>	X	
<i>Vitrea crystallina</i>	X	
<i>Vitrea contracta</i>	X	X
<i>Nesovitrea hammonis</i>		X
<i>Aegopinella pura</i>	X	
<i>Zonitoides excavatus</i>		X
<i>Zonitoides nitidus</i>	X	
<i>Deroceras caruanae</i>		X
<i>Deroceras reticulatum</i>		X
<i>Euconulus alderi</i>		X

Helicella itala	X	
Cochlicella acuta	X	
Cepea nemoralis		X
Pisidium personatum		X
Pisidium obtusale		X

#### 6) Discussion

This large site from Lough Nagreany to the coast is inaccessible by road, and therefore reasonably undisturbed. The site was surveyed in continuous torrential rain so Mollusca were impossible to sample by hand. However, to compensate for this approximately 30 kg of vegetation was removed from suitable areas of the site and sieved for snails. Unfortunately *Vertigo angustior* was not among the species found.

7) Recommended as SAC: Not for Mollusca.



Map 24.1 Location of Doaghmore site.

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 25	Rossapenna	C 11 38	Co. Donegal
<u>Current Status:</u>	pSAC 194		

1) Location of Site

This site is located in the Rosguill Peninsula North of Carrickart.

2) Historical Molluscan records

Welch found dead *Vertigo angustior* shells abundant in the shell-pockets of Rosguill, including Rossapenna (Welch, 1906).

3) Habitats

Machair dunes with (plant) species rich damp slacks.

4) Date(s) visited

The area was surveyed on 4th of August 1998.

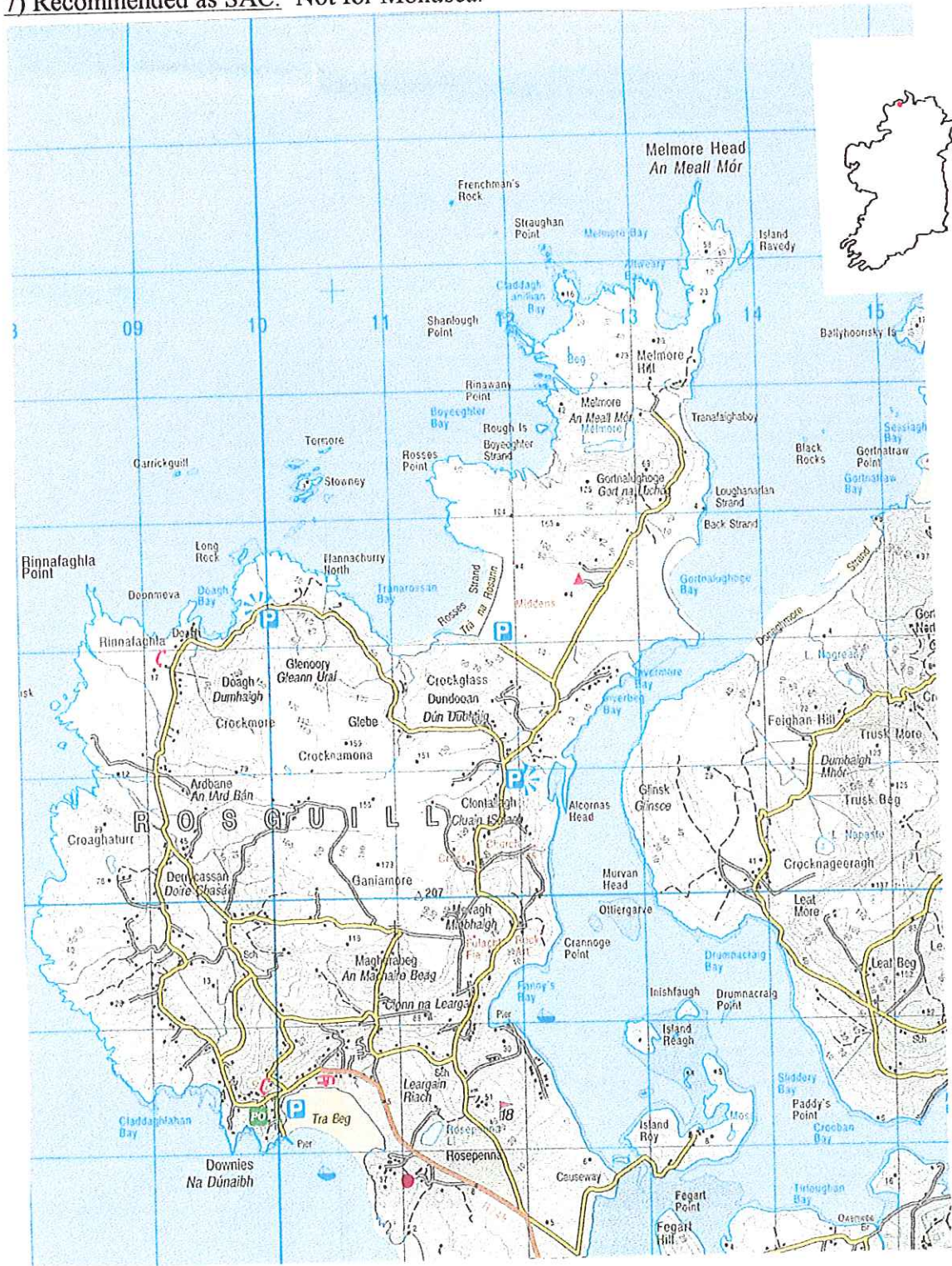
5) Species found

Species	
Valvata cristata	X
Potamopyrgus jenkinsi	X
Carychium minimum	X
Carychium tridentatum	X
Lymnaea truncatula	X
Anisus leucostoma	X
Cochlicopa lubrica	X
Cochlicopa lubricella	X
Vertigo antivertigo	X
Vertigo substriata	X
Vertigo pygmaea	X
Arion ater	X
Arion intermedius	X
Vallonia costata	X
Vallonia pulchella	X
Vallonia excentrica	X
Vitrea contracta	X
Nesovitrea hammonis	X
Deroceras reticulatum	X
Candidula intersecta	X
Helicella itala	X
Cepea nemoralis	X
Pisidium obtusale	X

6) Discussion

There were no protected species found at this site, although many of the species associated with *Vertigo angustior* were found.

7) Recommended as SAC: Not for Mollusca.



Map 25.1 Location of Rossapenna site

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 26.	Marble Hill	C 07 36	Co. Donegal
<u>Current Status:</u>	pSAC 1190		

1) Location of Site

This site includes the Marble Hill dunes at Portnablagh, and the Ards Peninsula to the south.

2) Historical Molluscan records

None.

3) Habitats

Eroded dune system at Portnablagh, and semi-natural woodland at Ards Peninsula.

4) Date(s) visited

The area was surveyed on 4th of August 1998.

5) Species found

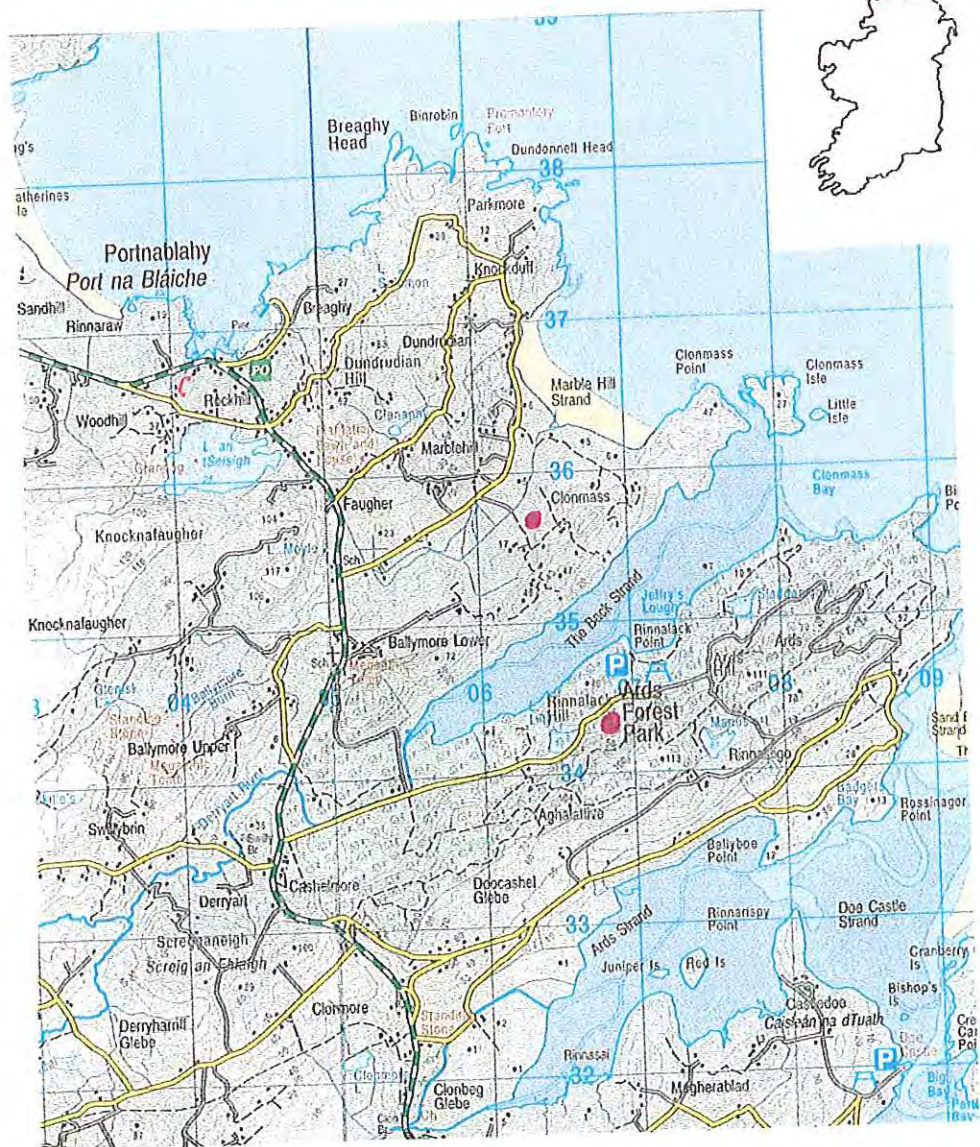
Species	Marble Hill Dunes	Ards Forest
<i>Carychium minimum</i>	X	X
<i>Carychium tridentatum</i>	X	
<i>Cochlicopa lubrica</i>	X	X
<i>Cochlicopa lubricella</i>		X
<i>Columella aspersa</i>		X
<i>Leiostyla anglica</i>		X
<i>Lauria cylindracea</i>		X
<i>Vallonia costata</i>	X	
<i>Spermodea lamellata</i>		X
<i>Punctum pygmaeum</i>		X
<i>Discus rotundatus</i>		X
<i>Vitrea crystallina</i>	X	X
<i>Vitrea contracta</i>	X	
<i>Nesovitrea hammonis</i>	X	X
<i>Oxychilus alliarius</i>		X
<i>Zonitoides nitidus</i>		X
<i>Deroceras reticulatum</i>	X	
<i>Clausilia bidentata</i>		X
<i>Euconulus fulvus</i>	X	X

<i>Euconulus alderi</i>		X
<i>Cochlicella acuta</i>	X	
<i>Trichea striolata</i>		X
<i>Cepea nemoralis</i>	X	X
<i>Helix aspersa</i>		X

### 6) Discussion

The dune system at Portnablahy has been eroded badly by human interference and is currently fenced off to allow it to stabilise. Few Molluscan species were found here. In contrast, the Ards woodland has good Molluscan habitat.

### 7) Recommended as SAC: Not for Mollusca.



Map 26.1 Location of Marble Hill and Ards site

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 27.	Ballynafagh	N 81 28	Co. Kildare
<u>Current Status:</u>	pSAC 391		

1) Location of Site

This site is located approximately 3km North East of Prosperous, Co. Kildare.

2) Historical Molluscan records

None.

3) Habitats

Habitats in this site sampled include canal feeder overgrown with aquatic vegetation, saturated scraw, bog/fen interface, wet grassland and dry grassland.

4) Date(s) visited

The area was surveyed in September and October 1997.

5) Species found

Species	Over-grown Canal	Scraw	Bog / Fen / lake edge	Wet Grassland	Dry Grassland
Valvata cristata	X	X			
Valvata piscinalis		X			
Potamopyrgus jenkinsi				X	
Bithynia tentaculata		X	X		
Bithynia leachii			X		
Carychium minimum	X	X		X	
Carychium tridentatum	X	X			
Lymnaea truncatula	X	X	X	X	X
Lymnaea palustris		X	X		
Lymnaea peregra			X		
Planorbis carinatus			X		
Bathynomphalus contortus		X	X		
Gyraulus albus			X		
Succinia putris	X	X			
Oxyloma pfeifferi	X	X		X	
Cochlicopa lubrica		X			
Cochlicopa lubricella		X			
Columella edentula	X	X			

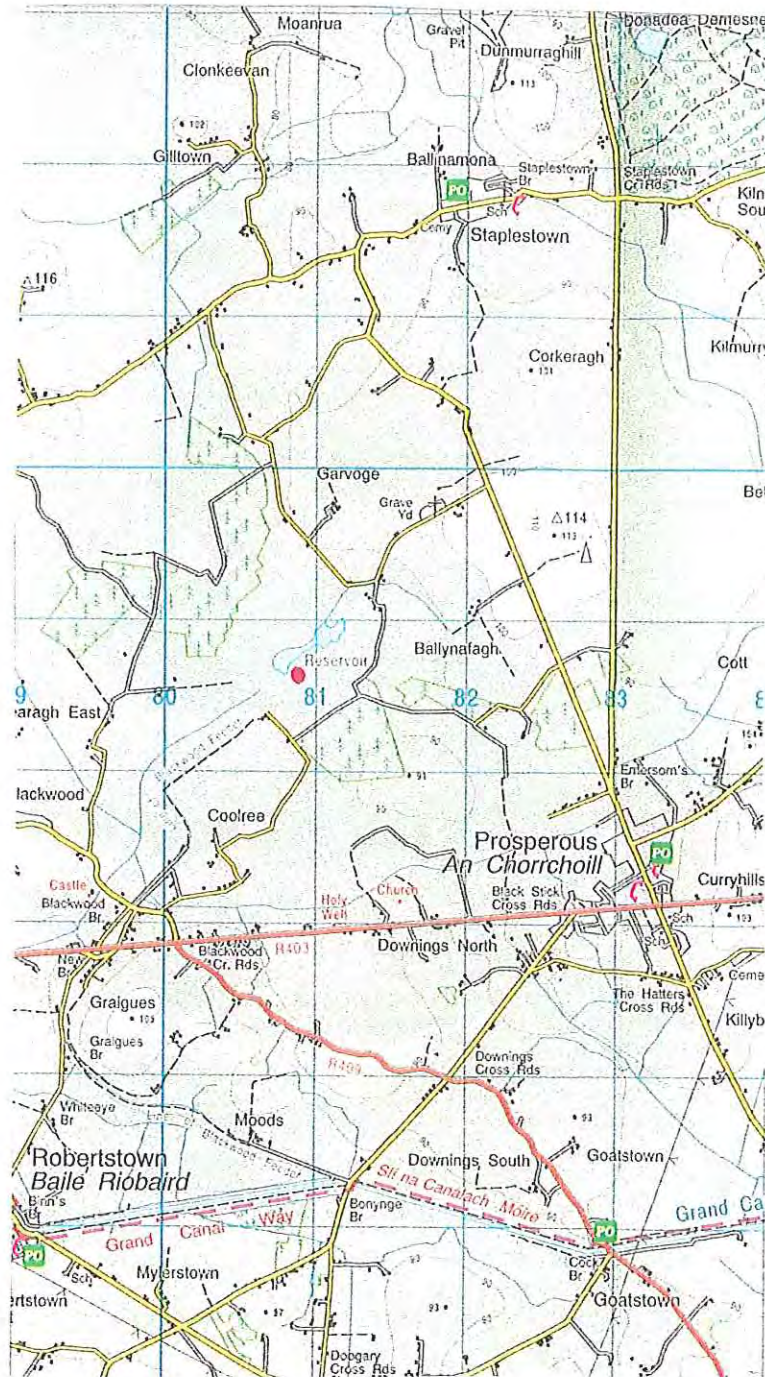


Columella aspersa	X	X	X	X	
Vertigo antivertigo	X	X	X	X	X
Vertigo pygmaea		X		X	X
Vertigo moulinsiana	X*	X*	X*	X*	
Leiostyla anglica	X				
Lauria cylindracea	X				
Vallonia pulchella		X			
Punctum pygmaeum	X	X	X		
Arion ater		X			X
Vitrina pellucida					X
Vitrea crystallina					X
Vitrea contracta					X
Nesovitrea hammonis					X
Zonitoides nitidus	X	X	X		X
Euconulus fulvus	X	X			
Euconulus alderi	X	X	X	X	X
Clausilia bidentata	X				
Trichea hispida	X				
Candidula intersecta	X				
Cepea nemoralis	X	X	X		
Sphaerium corneum	X	X			
Pisidium caesertanum	X	X	X		
Pisidium obtusale	X				
Pisidium pseudosphaerium	X				

#### 6) Discussion

The Ballynafagh area and the canal feeders leading to the Grand Canal at Robertstown have an excellent population of *Vertigo moulinsiana* (possibly the largest in the country), and the situation and large numbers in this population make the area a very useful reservoir for the distribution of this species.

7) Recommended as SAC: Yes.



Map 27.1 Location of Ballynafagh

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 28.	Waterville	V 48 68	Co. Kerry
<u>Current Status:</u>	pNHA 335		

#### 1) Location of Site

The dunes are located at the golf course approximately 2km North West of Waterville. The marsh area lies between the dunes and the River Inny.

#### 2) Historical Molluscan records

None.

#### 3) Habitats

A survey was made of the damp dune slacks at Waterville Golf Club, and the *Iris*-dominated marsh towards the Inny River.

#### 4) Date(s) visited

The area was surveyed on 24th of August 1998.

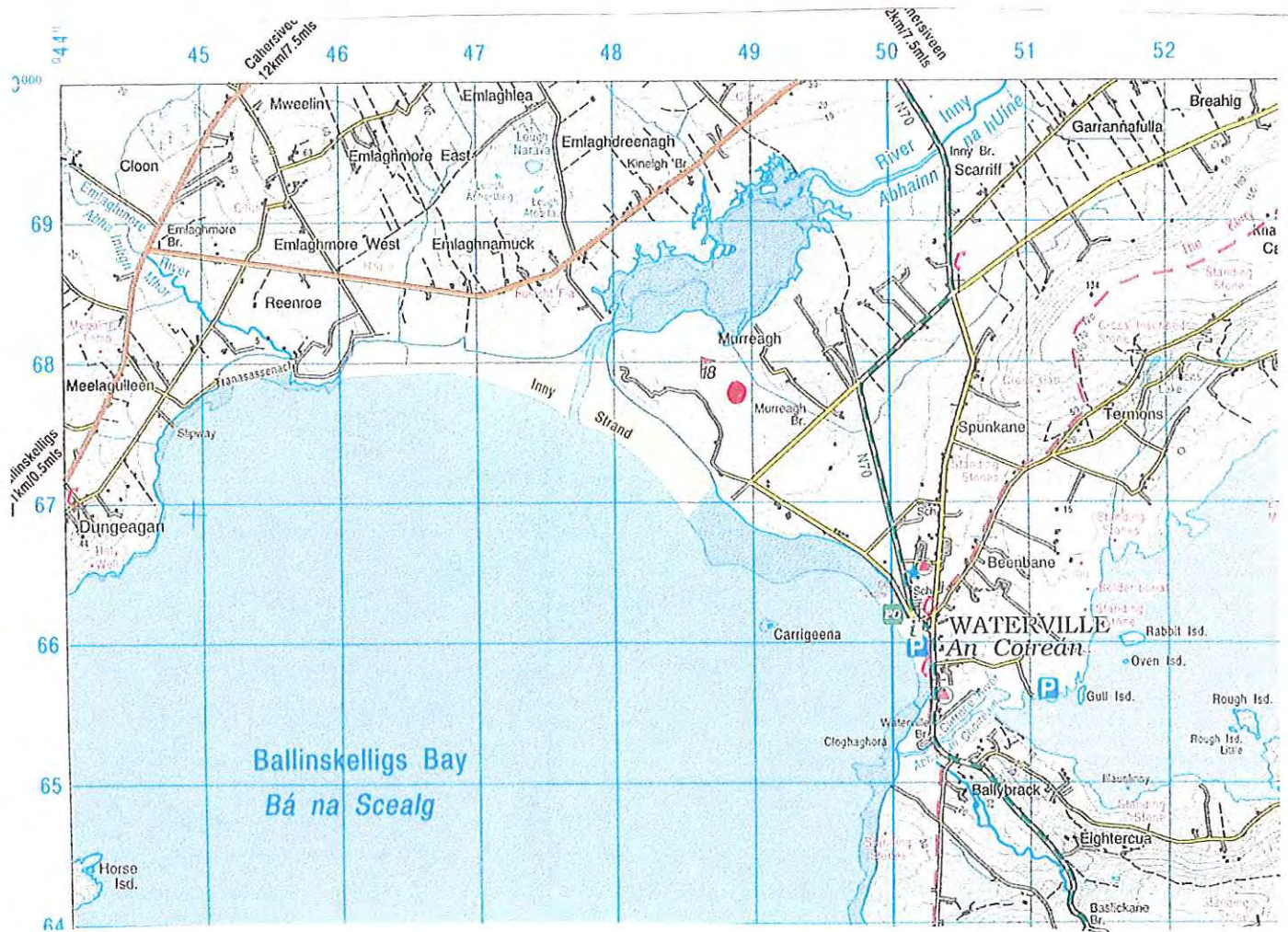
#### 5) Species found

Species	Dune slacks	Marsh
Acicula fusca	X	
Carychium minimum		X
Lymnaea truncatula		X
Leiostryla anglica	X	
Lauria cylindracea	X	
Vitrea crystallina		X
Zonitoides nitidus	X	
Clausilia bidentata	X	
Trichia striolata	X	
Cepea nemoralis	X	
Pisidium obtusale		X

#### 6) Discussion

The dunes at Waterville have been considerably eroded and fertilised and are not suitable habitat for the range of dune Mollusca normally expected in more natural systems. The marsh area also has a low Molluscan fauna and may be suffering from nutrient enrichment.

7) Recommended as SAC: No.



Map 28.1 Location of Waterville Dunes and Marsh

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 29.	Sheheree Bog	V 98 88	Co. Kerry
<u>Current Status:</u>	pSAC 382		

1) Location of Site

This site lies East of the N71 between Muckcross House and Killarney.

2) Historical Molluscan records

None.

3) Habitats

Raised bog and small marshy drains at its edges.

4) Date(s) visited

The area was surveyed on 25th of August 1998.

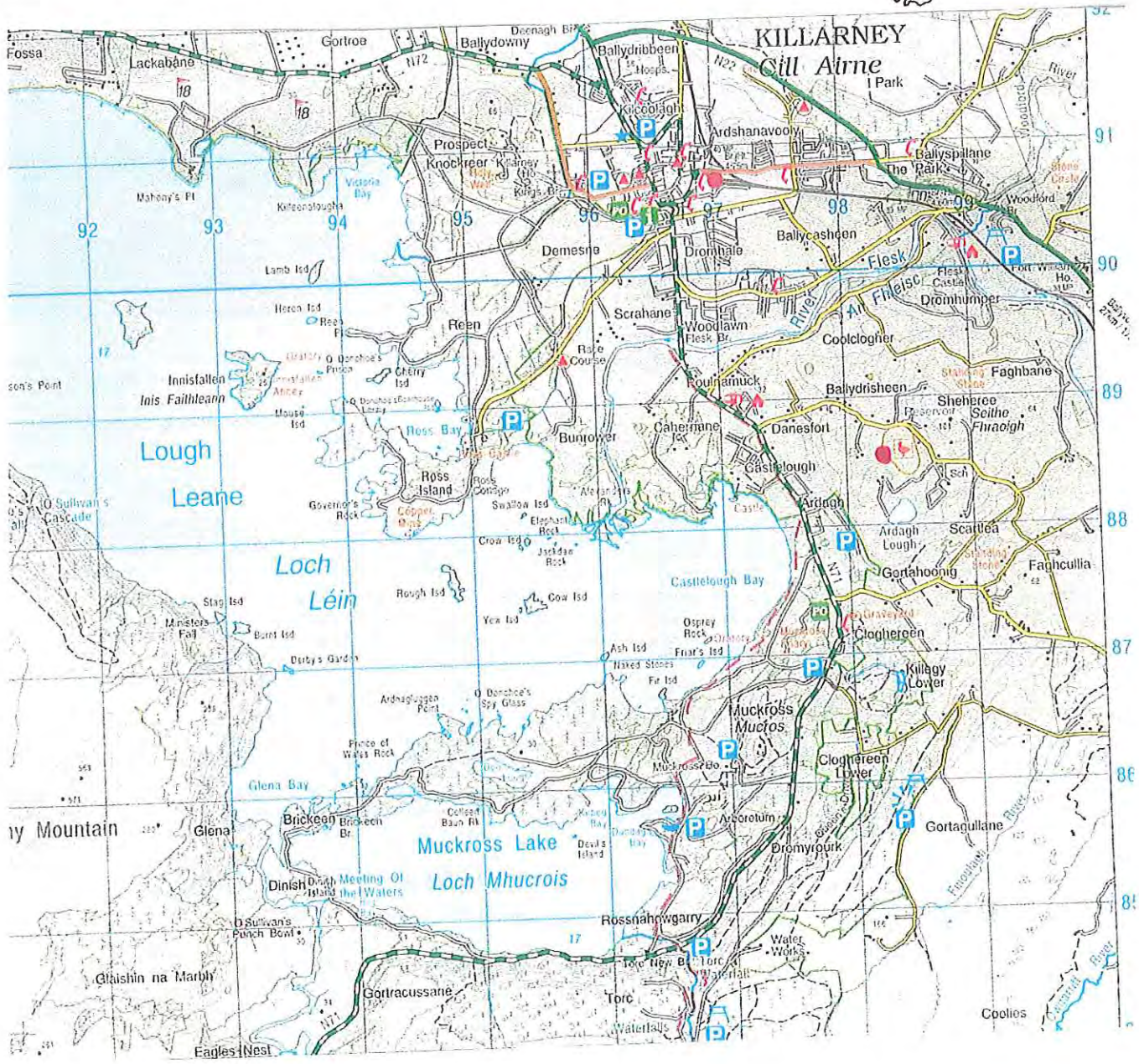
5) Species found

There were no Molluscan species found within this site.

6) Discussion

Sheheree Bog appears to be a very high quality raised bog which is well located at the base of a steep slope. However, the local habitat is quite acid in nature, and not even the most calcifuge of Molluscan species were found.

7) Recommended as SAC: Not for Mollusca.



Map 29.1 Location of Sheherree Bog

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 30.	Muckross Ponds	V 96 86	Co. Kerry
<u>Current Status:</u>	pSAC 365		

### 1) Location of Site

This site was located to the rear of Muckross House, behind Hillier's Field. The Torc Waterfall area to the South of Muckross was also visited.

### 2) Historical Molluscan records

There are no prior records for the Muckross Estate. A Mollusc list was published from Torc (Bishop, 1977).

### 3) Habitats

A wooded area with overhanging rocks, a small pool and a larger pond were sampled behind Hillier's Field, and wet woodland at Torc, also with overhanging, mossy rocks in places.

### 4) Date(s) visited

The area was surveyed on 25th of August 1998.

### 5) Species found

Species	Wood Muckross	Small pond	Larger pool	Torc
<i>Valvata cristata</i>		X		
<i>Potamopyrgus jenkinsi</i>		X		
<i>Acicula fusca</i>	X			X
<i>Carychium minimum</i>			X	
<i>Lymnaea truncatula</i>			X	
<i>Anisus leucostoma</i>		X	X	
<i>Oxyloma pfeifferi</i>			X	
<i>Cochlicopa lubrica</i>			X	
<i>Columella aspersa</i>				X
<i>Leiostyla anglica</i>	X			
<i>Discus rotundatus</i>				X
<i>Arion ater</i>				X
<i>Arion silvaticus</i>	X			X
<i>Nesovitrea hammonis</i>	X		X	X
<i>Aegopinella pura</i>				X
<i>Aegopinella nitidula</i>				X
<i>Oxychilus cellarius</i>	X			X

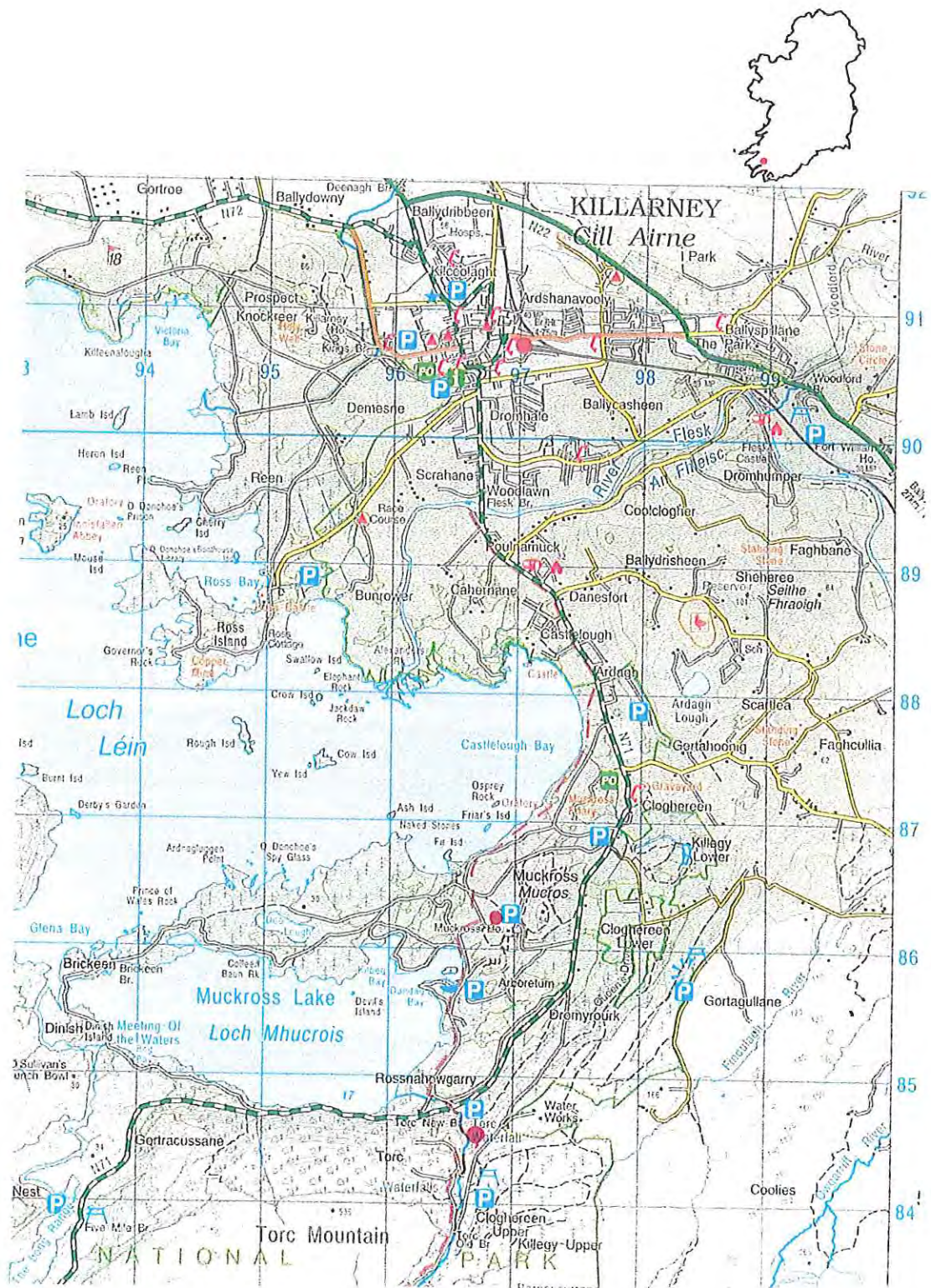
Oxychilus alliarius	X			X
Zonitoides nitidus	X		X	
Milax budapestensis				X
Deroceras reticulatum	X		X	X
Clausilia bidentata	X			X
Balea perversa	X			
Candidula intersecta	X			
Trichia striolata	X			X
Deroceras reticulatum				X
Euconulus alderi	X			
Cepea nemoralis	X			X
Pisidium personatum			X	

#### 6) Discussion

Although the variety of habitats present yielded a good range of species, there were no protected species found at this site. It is interesting to note that the species list for the Torc area in 1998 is virtually unchanged compared to 1977.

7) Recommended as SAC: Not for Mollusca.





Map 30.1 Location of Mucross and Torc sites

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 31.	Fen remnant	S 105 985	Co. Offaly

Current Status: Not a pNHA or pSAC.

1) Location of Site

This site was located 8km east south east of Birr on the south east side of the road.

2) Historical Molluscan records

Colville and Coles (1984) described a site in this location at the north east side of a T-junction as having *Vertigo geyeri*, *V. moulinsiana* and *Catinella arenaria*.

3) Habitats

Small area of wet grassland and drying fen in a large field. Small amount of tufaceous moss at drain / stream, with *Juncus subnodulosus*, *Iris pseudacorus* and *Hypericum tetrapterum*.

4) Date(s) visited

The area was surveyed on 24th of July 1998.

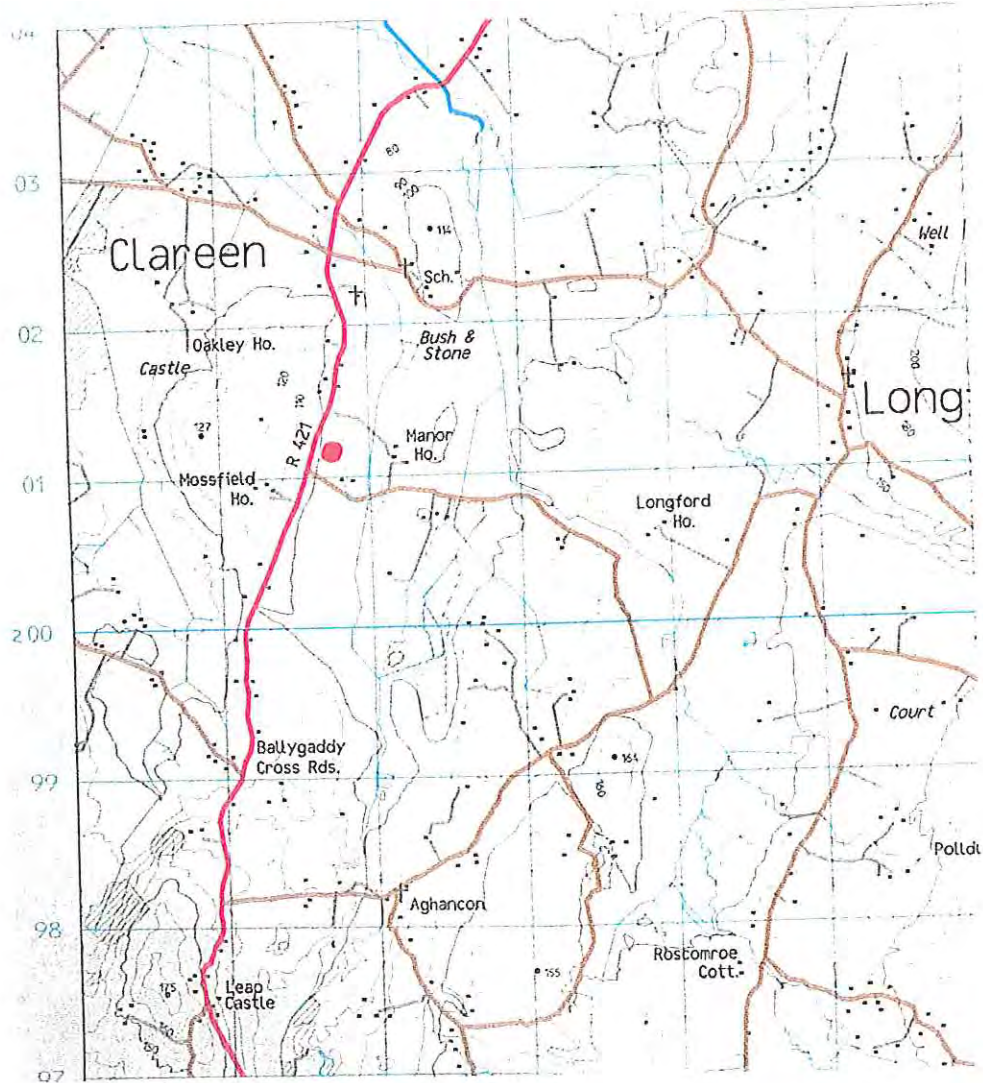
5) Species found

Species	
Potamopyrgus jenkinsi	X
Carychium minimum	X
Lymnaea truncatula	X
Oxyloma pfeifferi	X
Columella aspersa	X
Vertigo pygmaea	X
Pisidium personatum	X

6) Discussion

This remnant of fen appears to be the only possible location for the earlier record of *Vertigo geyeri*. It is no longer suitable habitat for this species, and at its current transition stage in the drainage process it has a very poor Molluscan fauna. This was disappointing, as the record of two protected species seemed hopeful, and *Catinella arenaria* was described as being particularly abundant in the tufaceous deposits (Colville and Cole, 1984).

7) Recommended as SAC: No.



Map 31.1 Location of fen remnant near Birr

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 32.	Inishcrone Dunes	G 28 29	Co. Sligo
<u>Current Status:</u>	pSAC 458		

### 1) Location of Site

This site was located just south of Inishcrone, the dune slacks were adjacent to the golf course, and the marsh was part of the Bellawaddy River system.

### 2) Historical Molluscan records

None, but these are the nearest dune slacks to Killanley Glebe, a marsh site for *Vertigo angustior* (Warren, 1879; Moorkens, 1997).

### 3) Habitats

The area surveyed consisted of damp, species rich (flora) dune slacks and *Iris pseudacorus* marsh beside a stream between the town and the coast.

### 4) Date(s) visited

The area was surveyed on 20th of July 1998.

### 5) Species found

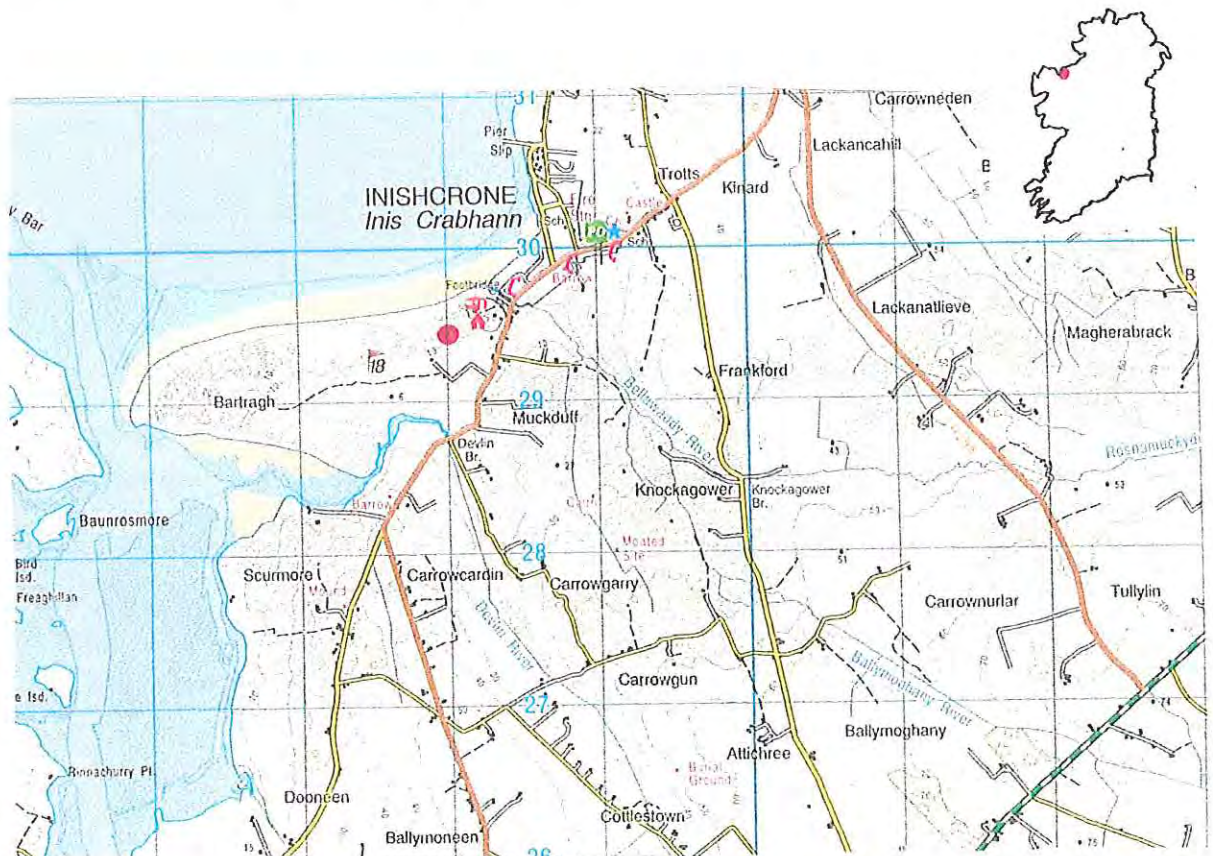
Species	Dune slacks	Marsh
<i>Carychium minimum</i>	X	
<i>Carychium tridentatum</i>	X	
<i>Lymnaea truncatula</i>	X	X
<i>Bathyomphalus contortus</i>		X
<i>Oxyloma pfeifferi</i>		X
<i>Cochlicopa lubrica</i>	X	
<i>Cochlicopa lubricella</i>	X	
<i>Columella aspersa</i>		X
<i>Vertigo substriata</i>		X
<i>Vertigo pygmaea</i>		X
<i>Lauria cylindracea</i>	X	
<i>Vallonia costata</i>	X	
<i>Vallonia excentrica</i>	X	
<i>Acanthinula aculeata</i>	X	
<i>Punctum pygmaeum</i>	X	
<i>Discus rotundatus</i>	X	
<i>Vitrina pellucida</i>	X	
<i>Vitrea crystallina</i>	X	
<i>Vitrea contracta</i>	X	

Oxychilus alliarius	X	
Zonitoides nitidus	X	
Deroceras reticulatum	X	X
Clausilia bidentata	X	
Candidula intersecta	X	
Cerneuella virgata	X	
Helicella itala	X	
Trichia hispida	X	
Trichia striolata	X	
Cepea nemoralis	X	
Pisidium obtusale		X

### 6) Discussion

It is interesting that the dune slacks at this site held a wide variety of Molluscan species, but *Vertigo angustior* was not found, yet there is a good population of this species at Killanley Glebe just a few kilometres away.

7) Recommended as SAC: Not for Mollusca.



Map 32.1 Location of Inishcrone Dunes

1" = 1 mile

<u>Site Number</u>	<u>Site Name</u>	<u>O.S. Reference</u>	<u>County</u>
Site 33.	Ballynafid	N 415 605	Co. Westmeath
<u>Current Status:</u>	pNHA 673		

1) Location of Site

This site is north of Mullingar and west of Lough Owel.

2) Historical Molluscan records

None.

3) Habitats

Species lists are given for 4 areas around Ballynafid: 1) *Phragmites*-dominated edge of lake, 2) and 3) are fen areas from the south west and south east ends of the lake and 4) is from wet marsh / fen transition at the east side of the lake.

4) Date(s) visited

The area was surveyed on 29th September 1998.

5) Species found

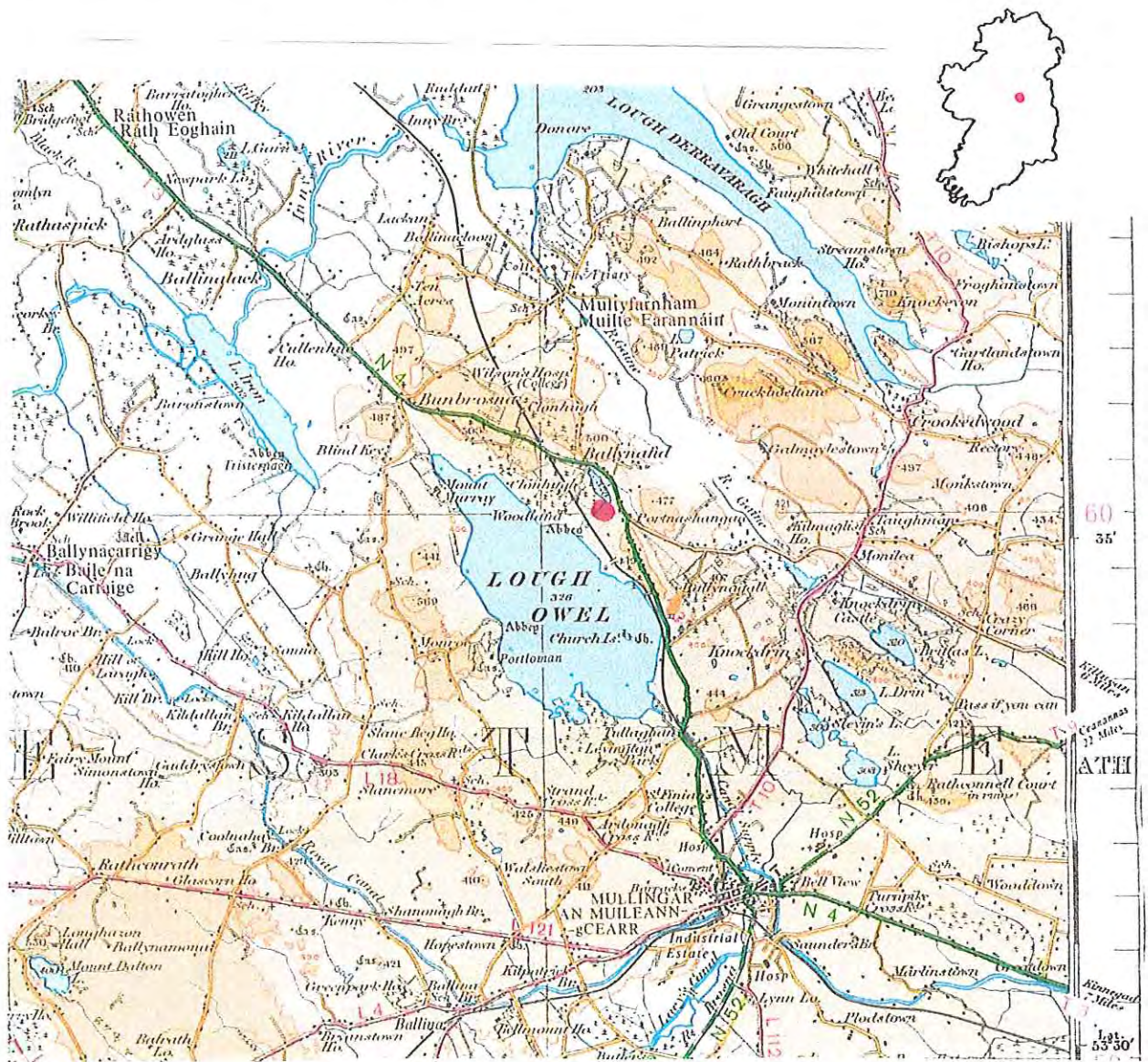
Species	1	2	3	4
<i>Bithynia tentaculata</i>	X			
<i>Carychium minimum</i>	X	X		X
<i>Carychium tridentatum</i>	X	X		X
<i>Lymnaea truncatula</i>		X	X	X
<i>Lymnaea palustris</i>		X	X	
<i>Planorbis planorbis</i>	X			
<i>Oxyloma pfeifferi</i>		X	X	X
<i>Cochlicopa lubrica</i>	X	X	X	X
<i>Cochlicopa lubricella</i>		X		X
<i>Columella edentula</i>		X		
<i>Columella aspersa</i>		X		
<i>Vertigo antivertigo</i>		X	X	X
<i>Vertigo substriata</i>		X		X
<i>Vertigo pygmaea</i>		X		
<i>Vallonia pulchella</i>			X	
<i>Vallonia excentrica</i>		X		
<i>Punctum pygmaeum</i>	X	X		
<i>Nesovitrea hammonis</i>	X	X		
<i>Aegopinella pura</i>		X	X	
<i>Aegopinella nitidula</i>		X		
<i>Zonitoides nitidus</i>	X	X	X	

<i>Deroceras reticulatum</i>				X
<i>Euconulus alderi</i>		X	X	
<i>Cepea nemoralis</i>		X		
<i>Sphaerium corneum</i>	X			
<i>Pisidium caesertanum</i>		X	X	

**6) Discussion**

Although the variety of habitats present yielded a good range of Mollusca, there were no protected species found at this site.

**7) Recommended as SAC: Not for Mollusca.**



Map 33.1 Location of Ballynaffid

1/2" = 1 mile

## DISCUSSION

The 1998 survey has yielded a further 10 sites with the presence of living protected *Vertigo* species, 5 for *V. geyeri*, one for *V. angustior*, and 4 for *V. moulinsiana*. This gives a total of 8 sites for *V. geyeri* (Table 2), 9 sites for *V. angustior* (Table 3) and 7 sites for *V. moulinsiana* (Table 4).

Table 2. Known sites of living *Vertigo geyeri*

Number	Site Name	County	Grid Reference
1	Lisduff Fen	Offaly	N 08 00
2	Lough Talt	Sligo	G 39 15
3	Bellacorick Bog	Mayo	G 05 22
4	Fin Lough	Offaly	N 03 29
5	Clonaslee Eskers	Laois	N 27 12
6	Killaun Bog	Offaly	N 12 06
7	Sheskinmore Fen	Donegal	G 70 95
8	Pollardstown Fen	Kildare	N 77 15

Table 3. Known sites of living *Vertigo angustior*

Number	Site Name	County	Grid Reference
1	Louisa Bridge	Kildare	N 99 37
2	Killanley Glebe	Sligo	G 27 25
3	Lehinch	Clare	R 09 88
4	Derrynane	Kerry	V 53 59
5	Ferriter's Cove	Kerry	Q 06 33
6	Ballysadare Bay	Sligo	G 61 34
7	Strandhill Dunes	Sligo	G 60 36
8	Streedagh Dunes	Sligo	G 63 51
9	Malin Dunes	Donegal	C 52 43



Table 4. Known sites of living *Vertigo moulinsiana*

Number	Site Name	County	Grid Reference
1	Pollardstown Fen	Kildare	N 77 15
2	Mountmellick	Laois	N 49 08
3	Borris Bridge	Carlow	S 49 71
4	Louisa Bridge	Kildare	N 99 37
5	Lisbigney Bog	Laois	S 46 79
6	Charleville Wood	Offaly	N 32 23
7	Ballynafagh	Kildare	N 81 28
8 **	Bonaveen Callows Lough Derg	Galway	M 83 03

\*\*Dead shell, population may be further upstream

It is interesting that this species, which was previously considered to be a midlands raised bog species in Ireland, has been found in two new counties (Donegal and Mayo) this year. It is clear that most (if not all) of the old (pre-1980) sites for *Vertigo geyeri* have been destroyed, as they were all from the edges of bogs which have since been drained. The discovery of the species at 5 new sites this year, and its rediscovery at Pollardstown Fen (Plate 13), all at spring seepage habitats, gives us a better understanding of its ecological requirements, and underlines the importance of these Irish populations in an international context. Species associated with *V. geyeri* include *Schoenus nigricans*, *Menyanthes trifoliata*, *Carex lepidocarpa*, *Carex lasiocarpa*, *Selaginella selaginoides*, *Parnassia palustris* and *Juncus subnodulosus*. The habitat in most places fits the Annex 1 Habitat 7220 "Petrifying Springs with tufa formation". In Pollardstown Fen, two of the 4 populations found were associated with the relict boreal moss *Homalothecium nitens* (identified by N. Lockhart). This moss is also distributed in the Bellacorick area, and has similar plant associations (Lockhart,

1987), suggesting that *V. geyeri* possibly has a good distribution in this area, and its presence in Scragh Bog makes this site also a likely candidate for *V. geyeri*.

The survey of the dunes of Donegal did not yield any new populations of *Vertigo angustior*. While the population at the Malin Dunes appears to be healthy, this species was not found alive elsewhere in the county. The old records from Donegal suggest that *V. angustior* was once widespread, but appeared to have declined by the turn of the last century, as records from this era suggested that most of the shells found were dead (Stelfox, 1911). Distributional and fossil data suggests that this species is in serious decline, due to climate change as well as habitat loss (M. Kerney, pers. comm.). This makes the known Irish populations particularly important - this years survey shows that large populations of this species are not necessarily waiting to be found. A more widespread survey of Clare, and of the Aran Islands would be useful, but this species would appear to be quite vulnerable in Ireland.

There are currently less sites where *V. moulinsiana* has been recently found extant than *V. angustior*. However, it is likely that there are quite a number of further sites for this species to be found in Ireland. Clearly we have internationally important populations of *V. moulinsiana*, in particular the sites at Ballynafagh and Pollardstown hold extensive populations in habitats which are spread over a wide area. These populations probably acted as reservoirs for the spread of this species along the Grand Canal, and small populations are likely to be found in the vicinity of the canal where habitat remains suitable. Of the three protected *Vertigo* species, it is the only one which

appears to be able to move opportunistically into suitable habitat as it becomes available (Stebbing and Killeen, 1998), and should be the easiest to conserve.

Thus, to date there are 9 known sites and potential candidate SAC's for *Vertigo angustior*, 8 for *V. geyeri* and 7 for *V. moulinsiana* (the Portumna site should be deferred until the species is found alive) in a total of 9 counties. Future work should include a more detailed survey of Mayo and a visit to Scragh Bog for *V. geyeri*, a survey of Clare and the Aran Islands for *V. angustior*, and a survey of the canals for *V. moulinsiana*. The latter may be important in view of the ongoing management of the canals.

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PLATES

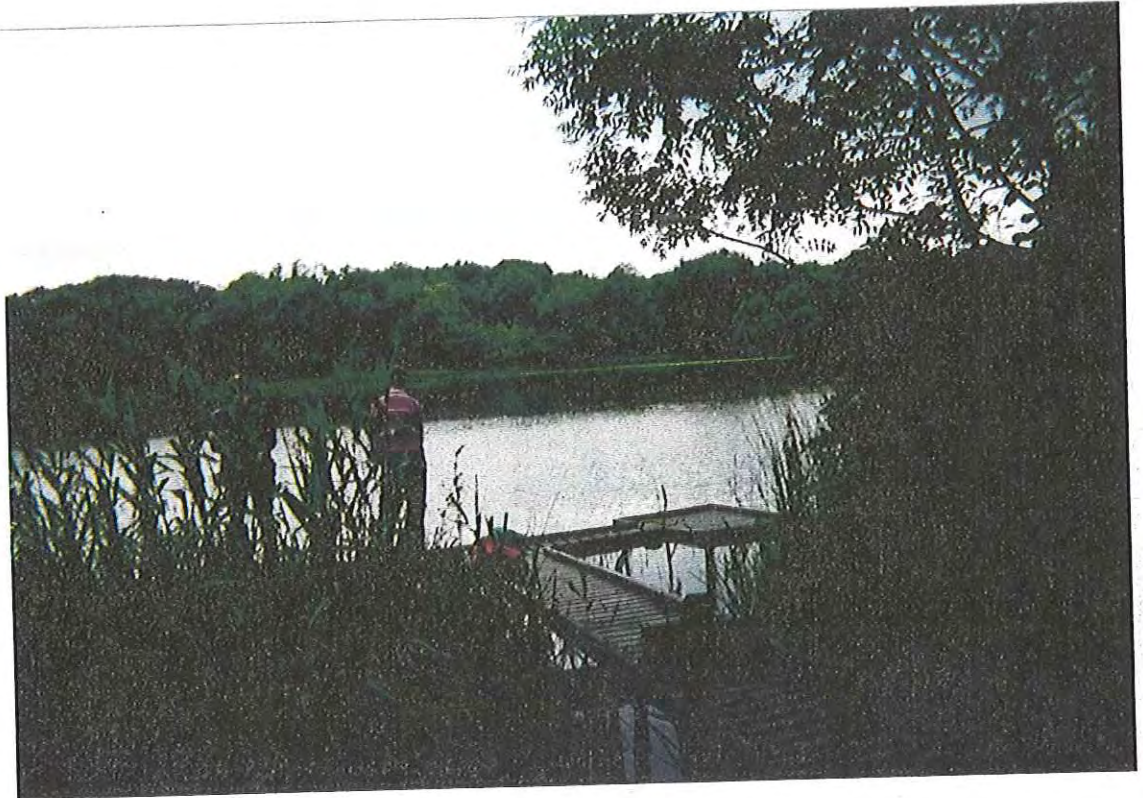


Plate 1. Grantstown Lake, Co. Laois



Plate 2. Drained habitat at bog / esker interface at Cloonascragh (Tuam).



Plate 7. Lag Dunes (Malin), Co. Donegal contain *Vertigo angustior*.



Plate 8. Slack area at Bunduff, Mullochmore, Co. Sligo.

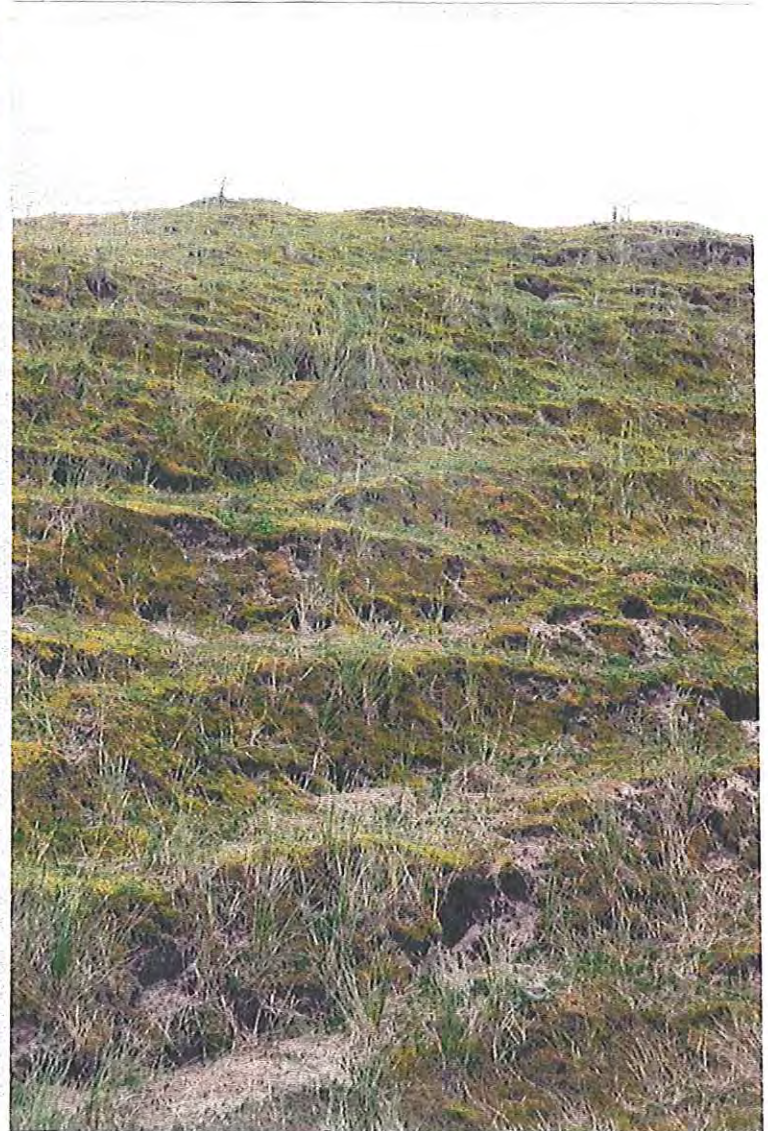
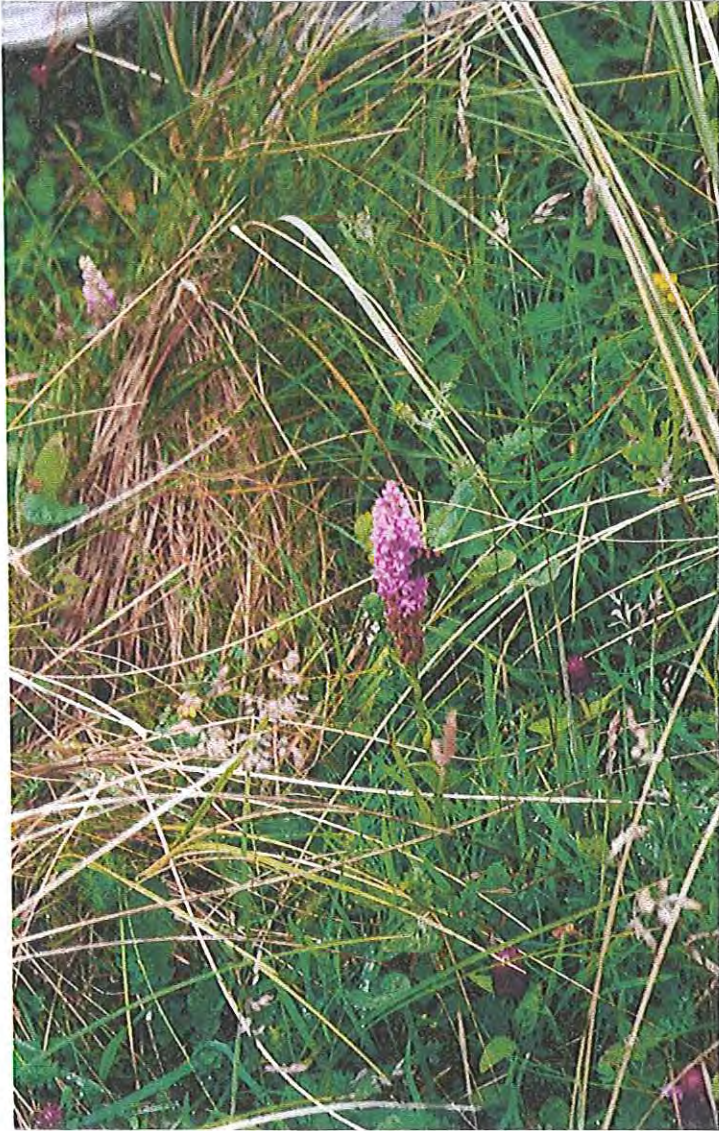


Plate 9. Species rich dune at Sheskinmore, Co. Donegal.

Plate 10. Stepped, mossy dune at Sheskinmore.





Plate 13. *Vertigo geyeri* site at Pollardstown Fen, Co. Kildare.