8. Terrestrial and freshwater invertebrates

Terrestrial and freshwater invertebrates on the Humber Estuary

Terrestrial and freshwater invertebrates are well represented across the Humber Estuary and its hinterlands, and analysis of the scarce and threatened species suggests that there are a number of substantial and important assemblages. Importantly, a sizeable number of these assemblages are linked to wetland habitats, ranging from brackish and tidally inundated wetlands, through to reedswamp and freshwater. There are a number of invertebrate species that were previously listed on the SSSI and European site citations. However, in undertaking this review, it has become clear that several of these listed species, the fly, *Anagnota collini,* the water beetle, *Graptodytes bilineatus*, the muscid fly, *Spilogona biseriata*, and the caddis fly, *Ylodes reuteri* have not been recorded on the estuary for many years, although it is possible that they are still present. The Red Data Book and Nationally Scarce invertebrates recorded on the Humber Estuary are listed in Table 8, together with their associated habitats.

Assemblages found on the open coast, such as those on the sand dunes at Saltfleetby-Theddlethorpe and on Spurn, have close similarities with the assemblages found on heathlands and inland dunes. However, coastal elements do emerge and these include a wide range of dung beetles such as *Aphodius subterraneus* and *Geotrupes vernalis*. Ground beetles such as *Amara infima* and *Amara lucida,* which are nationally scarce species, are also typical. Among the Lepidoptera, there are a variety of dune specialists such as the shore wainscot *Mythimna litoralis* whose larvae are associated with marram, and the lyme grass *Photedes elymi* whose larvae are associated with the grass of the same name. The nationally scarce white colon moth *Sideridis albicolon* and the shore wainscot moth *Mythimna litoralis* are recorded from Spurn, and the marsh moth *Athetis palustris* has been recorded regularly from the wetter dune slacks at Saltfleetby-Theddlethorpe, with this being one of just two confirmed sites for this species in the UK. Also recorded from the wet dune slacks at Saltfleetby-Theddlethorpe is the BAP species, the crucifix ground beetle, *Panagaeus crux-major.* This species is sufficiently recorded that its population can be assumed to be robust and representative of the wetland component of this site. Sand dunes are amongst the better recorded sites for aculeate Hymenoptera, and the fauna of Saltfleetby-Theddlethorpe is described by Archer (2000) and is contrasted with similar studies of Gibraltar Point. Notably, the Saltfleetby site is towards the northern end of the geographic range for a number of thermophilic species, and this is reflected in the limited number of species found (77 species). Among the more noteworthy species, the bee *Colletes halophilus* is reported from Saltfleetby-Theddlethorpe, but is also known to occur more widely around the Humber Estuary, especially on the Yorkshire side. Here, there are saltmarshes supporting stands of sea aster *Aster tripolium,* the bee's principle pollen and nectar source.

Many reedbed species tolerate or favour transitional brackish water conditions as well as wholly freshwater conditions. These species range from the predatory metallic fly *Hercostomus fulvicaudis* and the hoverfly *Sphaerophoria loewi*, which are normally associated with tidally inundated reedbeds, to the reed beetle *Donacia clavipes* which is found in reedswamps of varying salinity, including those that are wholly freshwater. The reedswamp assemblage is also well represented amongst the Lepidoptera, which includes a number of species whose larvae mine the stems and roots of common reed *Phragmites australis*. These include species such as the silky wainscot *Chilodes maritimus* and other more common or widespread Lepidoptera species. Where reedswamp includes some scrub

development, including *Salix* species, as at Far Ings and Blacktoft Sands, arboreal species such as the cream bordered green pea *Earis clorana* occur.

Open water and water bodies with emergent vegetation support rich and important assemblages of water beetles, many of which are sensitive to particular water chemistry. Many of these beetle species also reflect the range of saline influences, and include species such as *Graptodytes granularis*, *Gyrinus paykulli* and *Haliplus apicalis,* which occur in reedswamp and brackish waters. Freshwater examples include the great diving beetle *Dytiscus circumflexus*, *Haliplus mucronatus*, *Hydronomous alismatus* and *Rhantus suturalis*. The freshwater input to the clay pits at Barton and Barrow enters through blow wells at the base of the chalk aquifer. These are important, not only as a source of water to the pits, but also as the habitat for a very specialised bryozoan, the BAP species *Lophopus crystallinus*. This species is classified as rare in Britain and has only been recorded from four sites in the last 30 years.

The assemblages of terrestrial invertebrates associated with tidally inundated habitats is inevitably more restricted and specialised, although on the Humber, a range of beetles, flies and moths are well represented. These include the ground beetles *Bembidion lunulatum* and *Pogonus luridipennis*. Lepidoptera include the starwort *Cuculia asteris*, whose larvae feed on sea aster *Aster tripolium*, and the crescent striped *Apamea oblonga* whose larvae feed on saltmarsh grass *Puccinellia* species.

Table 8 Habitat associations of Red Data Book and Nationally Scarce invertebrates recorded from the Humber Estuary and its hinterlands (R. Morris, pers comm., 2003)

Coastal	Sandy (including dune habitat)	Dune slack/ wetland	Saltmarsh/ tidal mud	Freshwater muddy edges	Brackish water & reedswamp	Freshwater
Coleoptera	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Bryozoa**
Bledius occidentalis	*Amara infima*	*Choleva glauca*[1]	*Aphodius plagiatus*	*Limnichus pygmaeus*	*Agabus conspersus*	*Lophopus crystallinus*
Pselactus spadix	*Amara lucida*	*Orthoperus brunnipes*	*Atomaria rhenana*	*Notiophilus quadripunctatus*	*Bagous limosus*	
	Aphodius distinctus	*Panagaeus crux-major*	*Bembidion lunatum*	*Trechus discus*	*Cryptorhynchus lapathii*	**Coleoptera**
Lepidoptera	*Aphodius subterraneus*	*Quedius longicornis*[2]	*Dolichosoma lineare*		*Donacia clavipes*	*Atomaria atra*[3]
Dolicarthria punctalis	*Cleonus piger*		*Helophorus fulgidicollis*		*Dromius longiceps*	*Dytiscus circumflexus*[4]
Gymnancyla canella[5]	*Crypticus quisquilius*	**Lepidoptera**	*Ochthebius auriculatus*		*Enochrus halophilus*	*Gryphus equiseti*
Meganola albula	*Demetrias monostigma*[6]	*Athetis palustris*	*Ochthebius marinus*		*Graptodytes granularis*	*Haliplus mucronatus*
	Geotrupes vernalis		*Pogonus luridipennis*		*Gyrinus paykulli*	*Hydronomus alismatus*
	Hypera dauci		*Polydrusus pulchellus*		*Haliplus apicalis*[7]	*Lithodactylus leucogaster*
	Masoreus wetterhalli		*Stenus nigritulus*		*Haliplus heydeni*	*Notaris bimaculatus*
	Nicrophorus vestigator		*Trichosirocalus dawsoni*		*Macroplea mutica*	*Rhantus suturalis*
	Ocypus ophthalmicus				*Stenus carbonarius*	*Scarodytes halensis*
	Panagaeus bipustulatus		**Lepidoptera**		*Thryogenes scirrhosus*	*Telmatophilus schoenherri*
			Apamea oblonga[8]			
	Diptera		*Cucullia asteris*[9]		**Diptera**	**Lepidoptera**
	Salticella fasciata				*Sphaerophoria loewi*	*Archanara algae*[10]
	Lepidoptera					
	Dolicarthria punctalis				**Lepidoptera**	
	Idaea sylvestraria[11]				*Chilodes maritimus*[12]	
	Mythimna litoralis[13]				*Earias clorana*[14]	
	Nyctegretis achatinella[15]					
	Photedes elymi[16]					
	Sideris albicolon					

[1]Associated with moles' nests
[2]Associated with moles' nests
[3]Also in brackish sites
[4]Also in brackish pools
[5]Associated with *Salsola cali*
[6]Also in reedbeds amongst litter
[7]In pools with occasional tidal inundation
[8]Larva on *Puccinellia*
[9]Larva feeds on sea aster and native golden-rod
[10]May occur in brackish water where *Shoenoplectus tabernaemontani* occurs
[11]Probably well-drained sandy sites – also occurs on heathland
[12]Larva in stems of *Phragmites australis*
[13]Larva mines marram sheaths
[14]Larva on *Salix* in wetlands or wetter sites
[15]Associated with *Ononis repens*
[16]In stems of lyme grass

References

ARCHER, M.E., 2000. The aculeate wasps and bees (Hymenoptera: Aculeata) of Saltfleetby-Theddlethorpe NNR in Watsonian Lincolnshire, including statistical procedures for estimating species richness. *Entomologist's Gazette,* **51**: 107-115.

MORRIS, R.K., personal communication 2003. English Nature, Northminster House, Peterborough, PE1 1UA.

Micro-moth *Ethmia bipunctella* (720)

Key Sites: Saltfleetby-Theddlethorpe Dunes NNR, one record from 1989.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: pRDB1 (endangered).
- One record from Saltfleetby-Theddlethorpe NNR.

Description

Ethmia bipunctella is a small moth, which in Britain, is restricted to a few areas of coastal shingle in the south-east of England, although there are some older records from more inland localities which may refer to migrants. The main flight period is between May and June, but there is also a partial second generation in the autumn. Viper's bugloss (*Echium vulgare*) is the larval food plant in this country, with both flowers and leaves being consumed.

Distribution within the Humber

There are no records for the species on the north bank of the estuary (Sutton & Beaumont 1989; Spence 1991; Beaumont 2002).

However there are several records for the species in Lincolnshire, including one coastal location; the Saltfleetby-Theddlethorpe NNR with one record from July 1989 (Johnson 1996).

Seasonality

The main flight period for this species is between May and June, but with a partial second generation during the autumn. There may also be migratory occurrences.

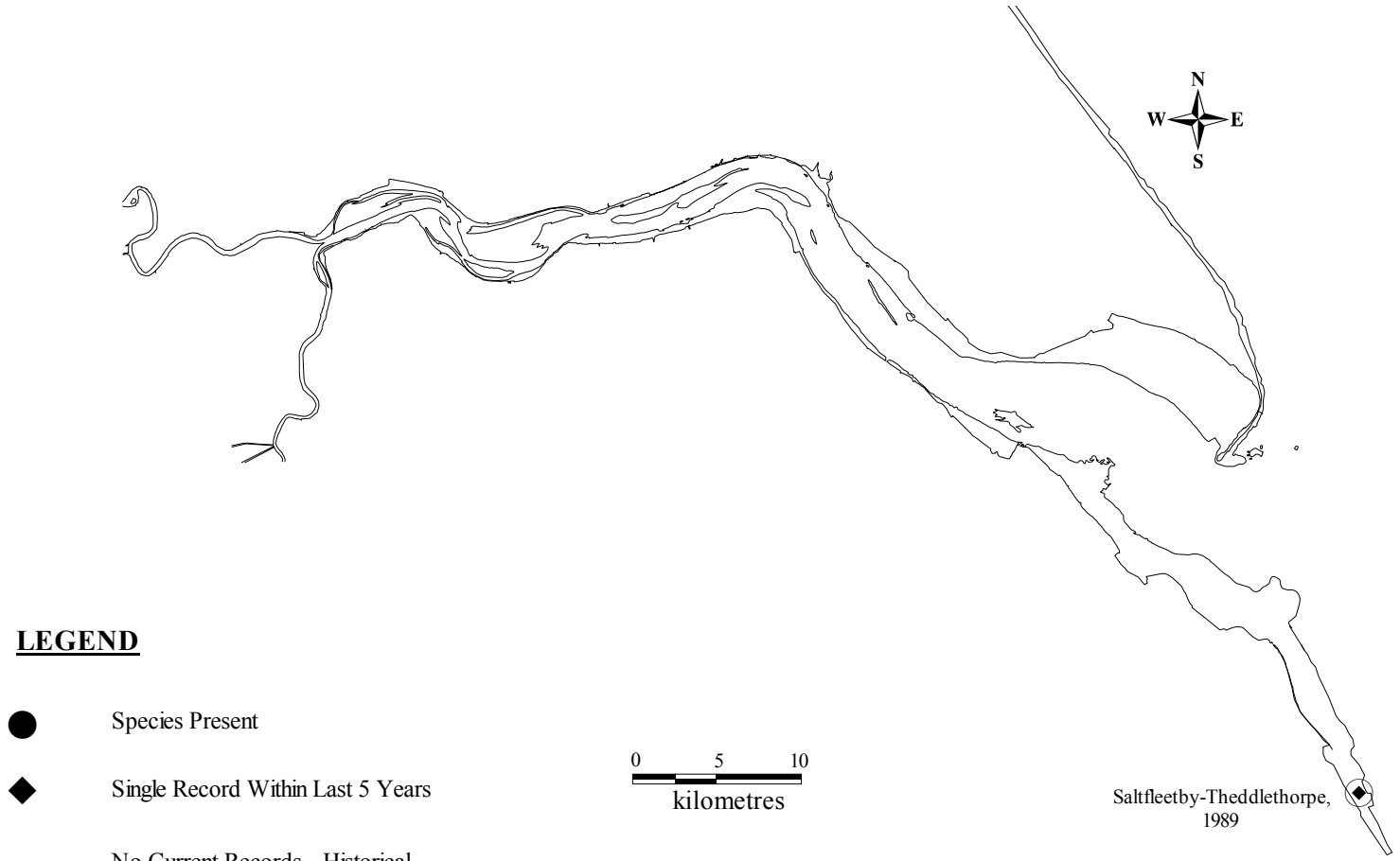
Historical changes and trends

None noted.

Conservation status

Ethmia bipunctella has been proposed for inclusion to the national Red Data Book species list under Category 1 (endangered) but has not yet been ratified by the RDB Criteria and Species Selection Committee.

Population Distribution of the Moth *Ethmia bipunctella*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review*. Yorkshire Naturalist Union.

*JOHNSON, R., 1996. *The butterflies and moths of Lincolnshire: the micro-moths and species review to 1996.* Lincolnshire Naturalists Union.

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Micro-moth *Gelechia hippophaella* (805)

Key Sites: Spurn, Saltfleetby-Theddlethorpe Dunes NNR.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: RDB3 (rare).
- Regularly recorded at Spurn 1989-1996. Also recorded from Saltfleetby-Theddlethorpe in the late 1980's.
- Spurn is the only site in Yorkshire where the species has been recorded.

Description

Gelechia hippophaella is a rare micro-moth which inhabits coastal sand dunes. It feeds on shoots of sea-buckthorn (Farrow & White 2000).

Distribution within the Humber

This species was originally recorded at Gibraltar Point but spread northwards to the coastal sand dune system at Saltfleetby-Theddlethorpe NNR, but there have been no here records since the early 1980's. It was recorded at Spurn in the late 1940's and was then absent until the late 1980's. The species was regularly recorded at Spurn between 1989 and 1996 (Beaumont 2002). There have been no records of this species at Spurn since 1996 but this may be a function of recorder effort rather than an absence.

Seasonality

Records for the species in the region are from mid August and the end of September (Johnson 1996; Beaumont 2002).

Historical changes and trends

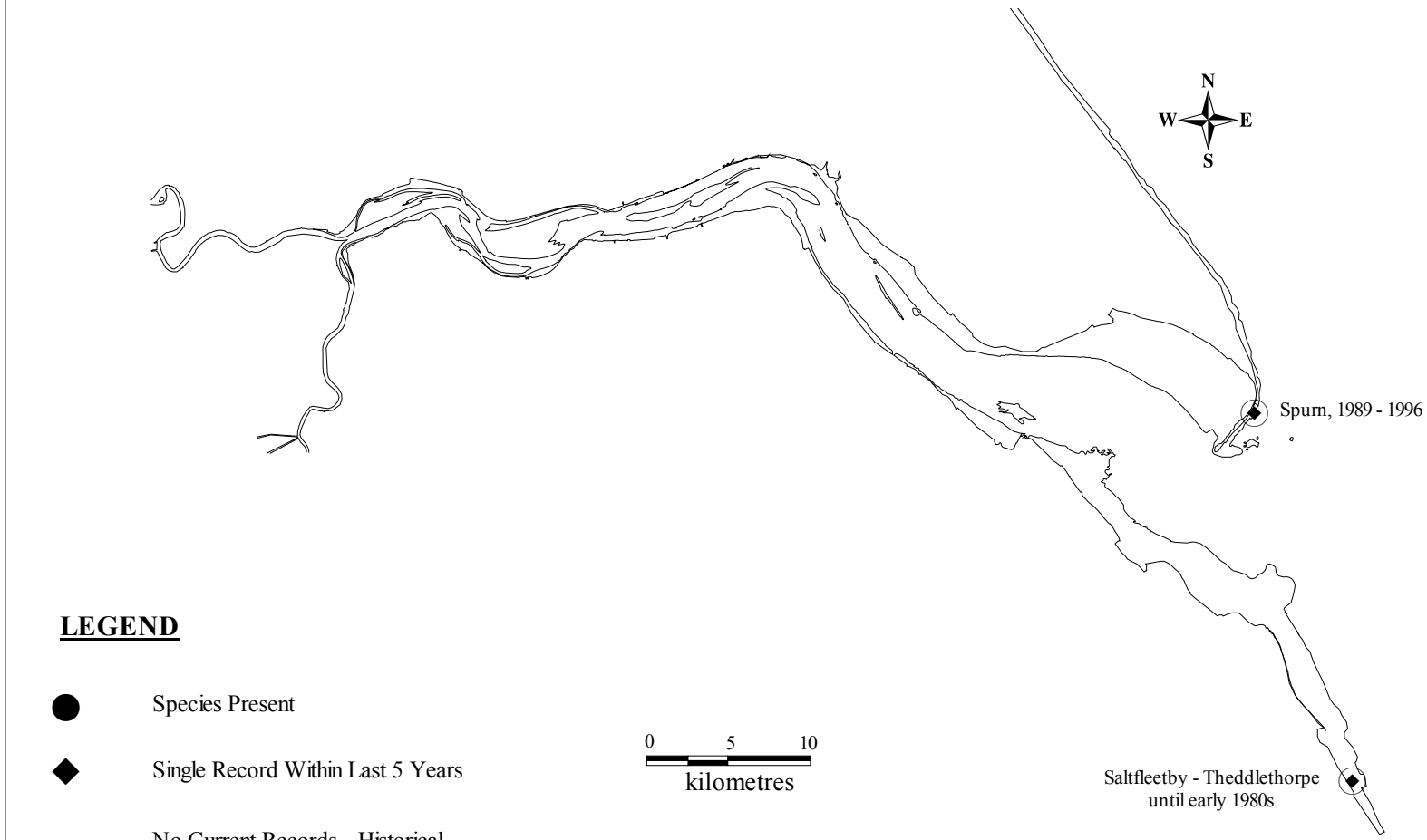
Historically present at Spurn (1949) and then not recorded again until 1989, when recorded regularly until 1996.

Conservation status

Gelechia hippophaella has been included in the list of endangered or vulnerable species in Lincolnshire (Smith 1996) and within the Lincolnshire Biodiversity Action Plan for coastal sand dune habitat.

It is listed as a National Red Data Book Species under Category 3 (rare). It is therefore a species with few and scattered small populations and species in this category are estimated to occur in 15 or less localities (Key 1994).

Population Distribution of the Micromoth *Gelechia hippophaella.*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review*. Yorkshire Naturalists Union.

FARROW, S. & WRIGHT, D.F., eds., 2000. *Action for wildlife in Lincolnshire - The Lincolnshire biodiversity action plan*.

*JOHNSON, R., ed., 1996. *The butterflies and moths of Lincolnshire: the micro-moths and species review to 1996.* Lincolnshire Naturalists Union.

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SMITH, A.E., ed., 1996. *Nature in Lincolnshire - towards a biodiversity strategy*. The Lincolnshire Trust for Nature Conservation, UK.

Micro-moth *Grapholita orobana* (Cydia) (1253)

Key Sites: No recent records - one only from Saltfleetby-Theddlethorpe Dunes NNR in 1982.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: pRDB3 (rare).
- No recent records.

Description

Grapholita orobana is a small brown micro-moth (Tortriicidae) with a wingspan between 11-15mm. The food plants of the larvae are wood vetch (*Vicia sylvatica*), tufted vetch (*V. cracca*), meadow pea (*Lathyrus pratensis*) and marsh pea (*L. palustris*). Adults of this species frequent woodland, fens and coastal cliffs and fly in sunlight from late afternoon (Bradley *et al* 1979).

Distribution within the Humber

There are no records for this species on the immediate north bank of the Humber (Sutton & Beaumont 1989; Spence 1991; Beaumont 2002), although there are records for the Scarborough - Pickering area where it is fairly common. Bradley *et al* (1979) record a presence of *Grapholita orobana* in the Scarborough area of Yorkshire, but not from Lincolnshire.

On the south bank, there is one record (1982) for the Saltfleetby-Theddlethorpe NNR (Johnson 1996).

Seasonality

The main flight period for the adult *Grapholita orobana* is July.

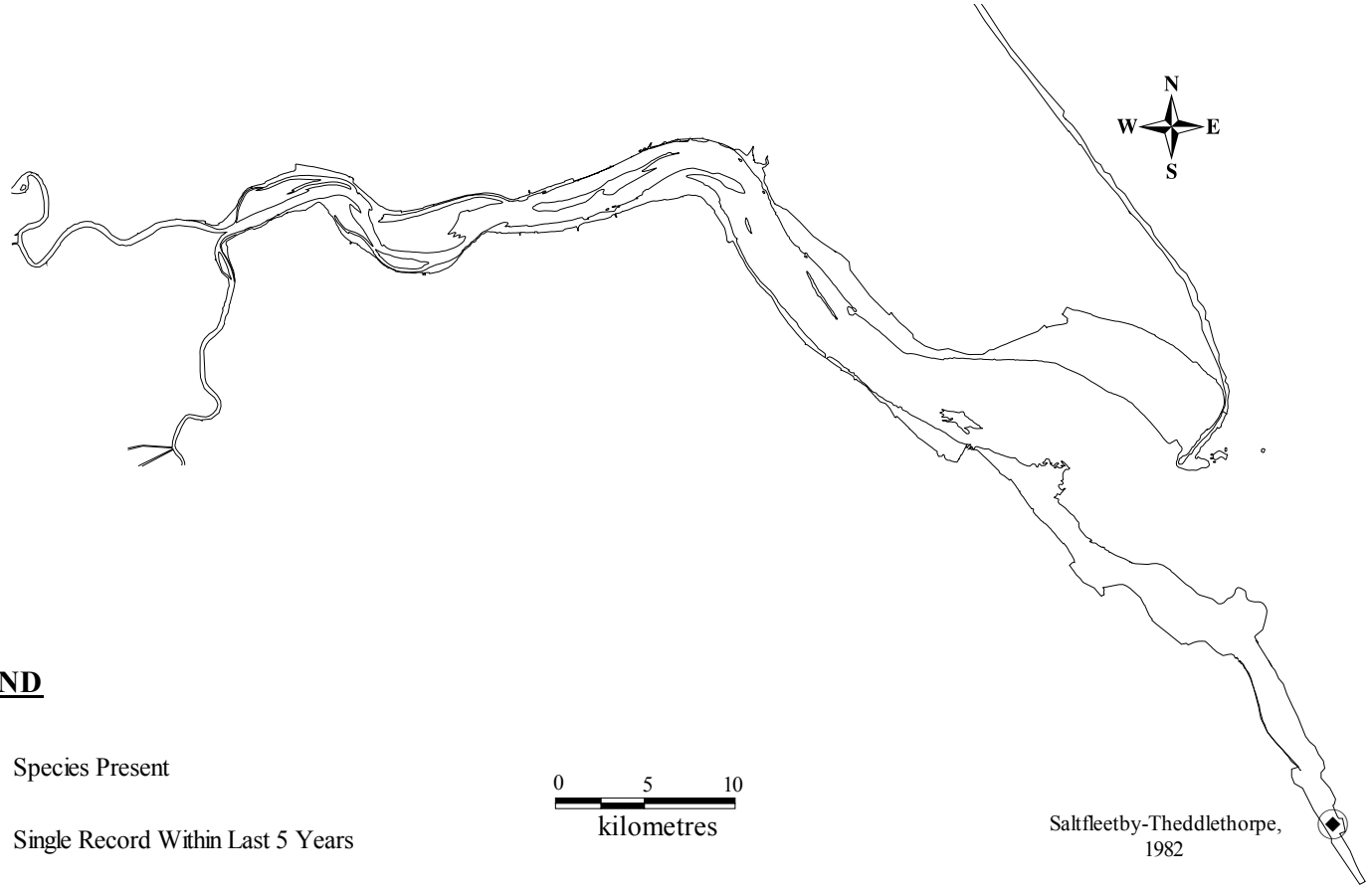
Historical changes and trends

None noted.

Conservation status

RDB3 and are therefore designated as rare but not endangered or vulnerable. It is therefore a species with few and scattered small populations and species in this category are estimated to occur in 15 or less localities.

Population Distribution of a Small Micromoth *Grapholita orobana.*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review*. Yorkshire Naturalists Union.

*BRADLEY, J.D., TREMEWAN, W.G. & SMITH, A., 1979. *British Tortricoid moths. Tortricidae: Olethreutinae*. The Ray Society.

*SPENCE, B.R., 1991. T*he moths and butterflies of Spurn*. Spurn Bird Observatory.

*SUTTON, S.L. & BEAUMONT, H.E., 1989. *Butterflies and moths of Yorkshire: distribution and conservation.* Yorkshire Naturalists Union.

Micro-moth *Platytes alpinella* (1325)

Key Sites: Spurn, Donna Nook, Saltfleetby-Theddlethorpe Dunes NNR.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: pRDB3 (rare).
- Regularly recorded in small numbers at Spurn and from the Lincolnshire coast.

Description

Platytes alpinella is a small Pyralid moth with a wing span of 18-22mm. The food plant of larvae is stated as *Tortula ruraliformis* (Goater 1986), which is a common moss of sand dune areas. This species has a very local distribution, restricted to sand dunes and coastal shingle (Goater 1986). It is generally uncommon, flying during dusk and after dark.

Distribution within the Humber

First recorded in 1949 at Spurn, there was a gap until 1990 when it was again recorded. Occasional records have since been made for most years from 1995 onwards (Sutton & Beaumont 1989; Spence 1991; Beaumont 2002).

The species has also been recorded in Lincolnshire (Goater 1986), with records for Saltfleetby-Theddlethorpe NNR during the 1980's and 1990's, and from Donna Nook in August 1991 (Johnson 1996).

Seasonality

The main flight period of this species is late July to late August.

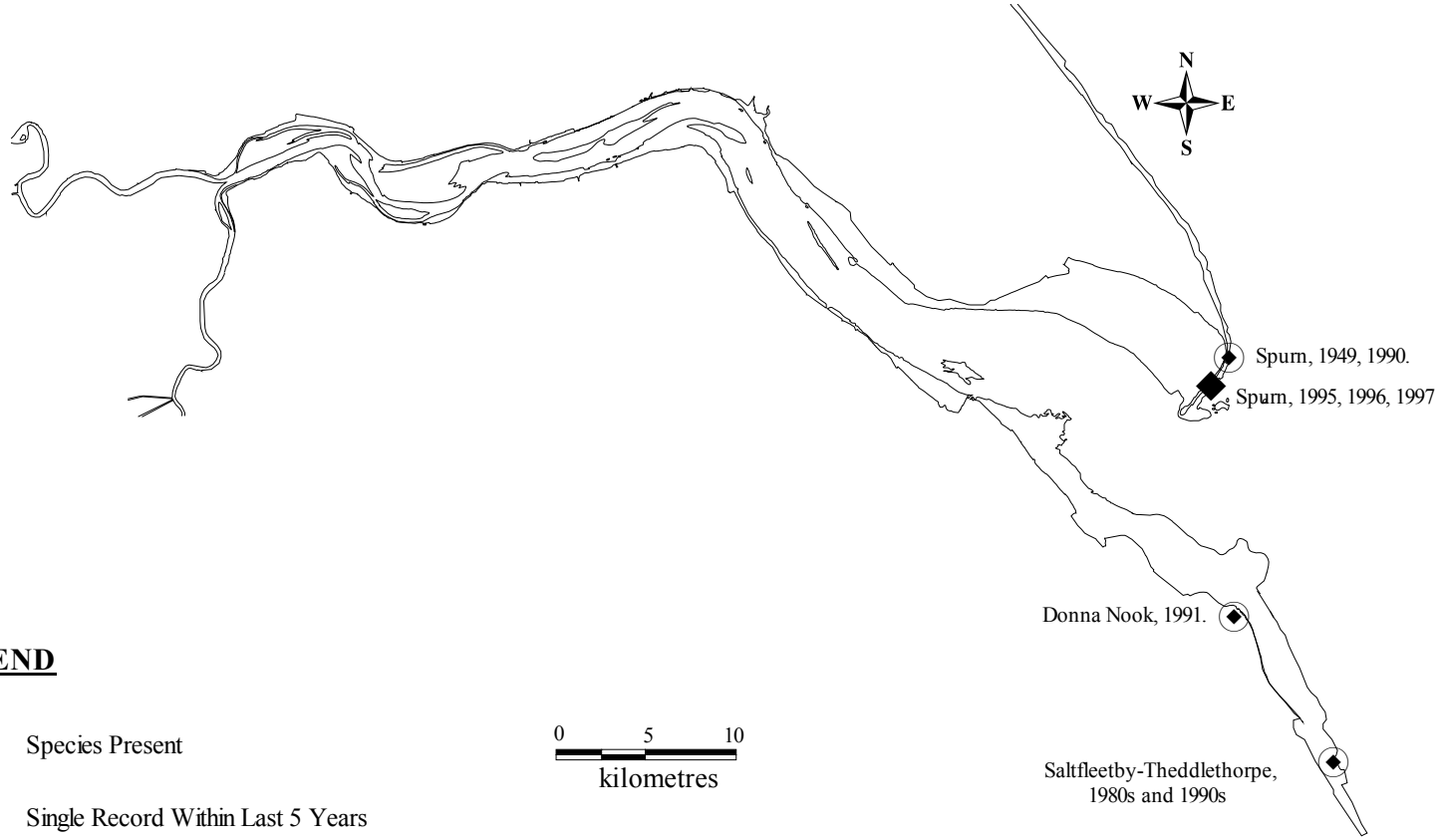
Historical changes and trends

There is no data available on its general status, given the small number of records, although the regularity of records, at least from Spurn during the 1990's, would suggest some stability.

Conservation status

pRDB3 (Species which is proposed at the stated RDB level but has not yet been ratified by the RDB Criteria and Species Selection Committee).

Population Distribution of the Pyralid Moth *Platyes alpinella.*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review*. Yorkshire Naturalist Union.

GOATER, B., 1986. *British Pyralid moths: a guide to their identification.* Harley Books.

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*SUTTON, S.L. & BEAUMONT, H.E., 1989. *Butterflies and moths of Yorkshire: distribution and conservation*. Yorkshire Naturalists Union.

Micro-moth *Cynaeda dentalis* (1359)

Key Sites: One record from Saltfleetby-Theddlethorpe Dunes NNR from 1989.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: pRDB3 (rare).
- One record from Saltfleetby-Theddlethorpe NNR.

Description

Cynaeda dentalis is a highly distinctive Pyralid moth with creamy brown forewing and radiating striations producing a fan-like pattern on the wing, the forewing being less striated, but having a dentate line. The species is restricted in Britain to a few coastal localities in the south-east of England, as far north as Suffolk (Goater 1986). The preferred habitat includes shingle beaches, the food plant being viper's bugloss (*Echium vulgare*).

Distribution within the Humber

There are no records for this species from the north bank of the Humber Estuary (Sutton & Beaumont 1989; Spence 1991; Beaumont 2002).

On the south bank, there has been one record from 1989 on the Saltfleetby-Theddlethorpe NNR (Johnson 1996).

Seasonality

The single generation flies in July.

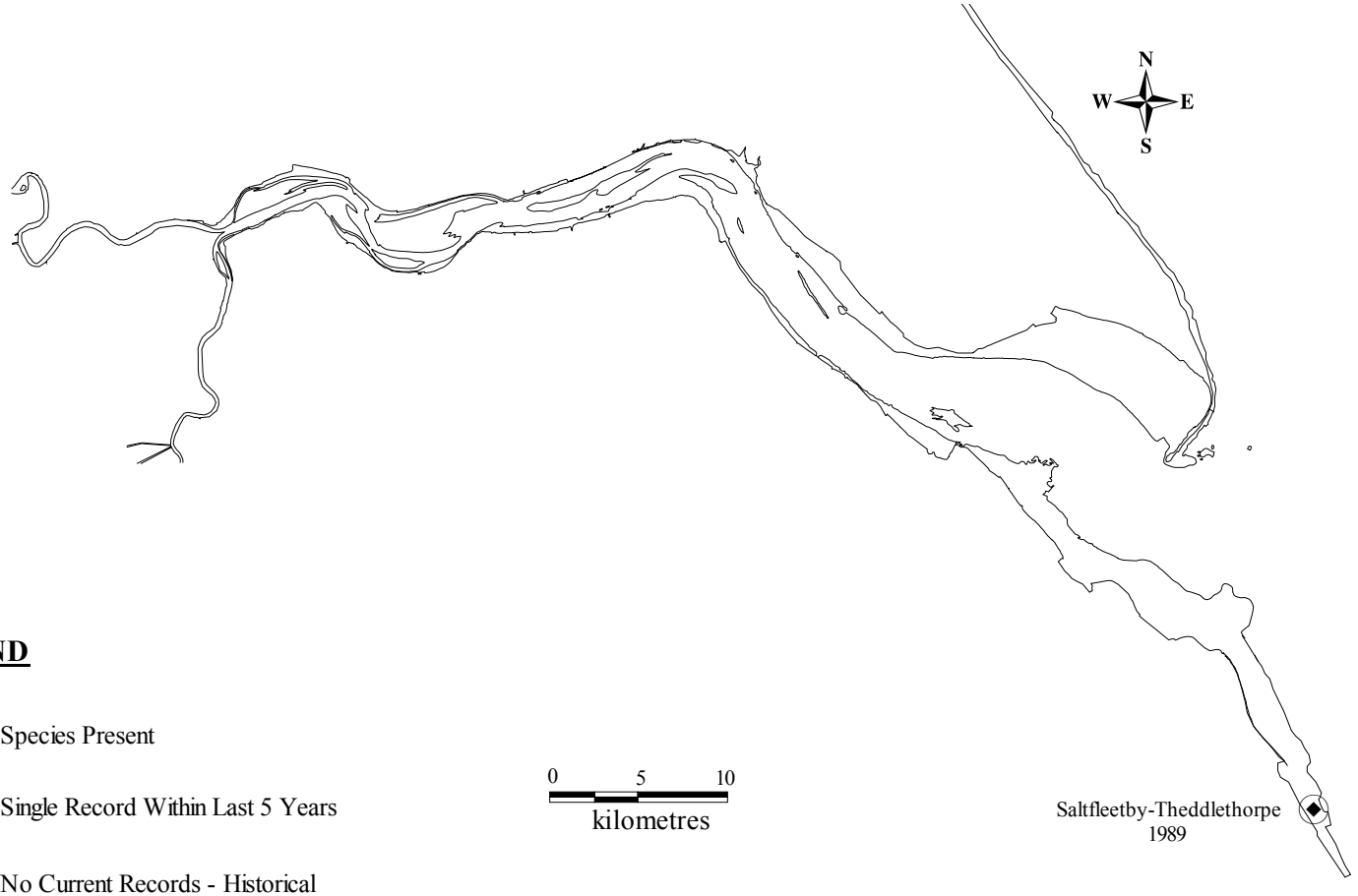
Historical changes and trends

None noted.

Conservation status

This species has been proposed for inclusion on the RDB species list under Category3 (rare).

Population Distribution of the Moth *Cynaeda dentalis.*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review*. Yorkshire Naturalist Union.

GOATER, B., 1986. *British Pyralid moths: a guide to their identification*. Harley Books.

*SPENCE, B.R., 1991. *The moths and butterflies of Spurn.* Spurn Bird Observatory.

*SUTTON S.L. & BEAUMONT, H.E., 1989. *Butterflies and moths of Yorkshire: distribution and conservation*. Yorkshire Naturalists Union.

Scarce pug *Eupithecia extensaria occidua* (1847)

Key Sites: Spurn.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: RDB3 (rare).
- Occasionally recorded from Spurn.

Description

Eupithecia extensaria occidua is a small moth (a pug) which is considered rare at a national level. It is restricted to saltmarsh and dune habitats with the larval food plant being the sea wormwood (flowers and leaves).

Distribution within the Humber

On the north bank, the northern most national colony was found at Spurn, where the species was relatively common until the late 1970's when it seemed to disappear. However small numbers were again recorded in the late 1980's, suggesting a colony nearby (Sutton & Beaumont 1989). The most recent record for Yorkshire (Spurn) was for one occasion in 1997 (Beaumont 2002).

On the Lincolnshire coast, there are records for the coastal margin from 1952 to 1974, then from 1993 to 1995 from Gibraltar Point (Johnson 1996), which is outwith the Humber Estuary surrounds.

Seasonality

The adult flies in June and July, and comes to light.

Historical changes and trends

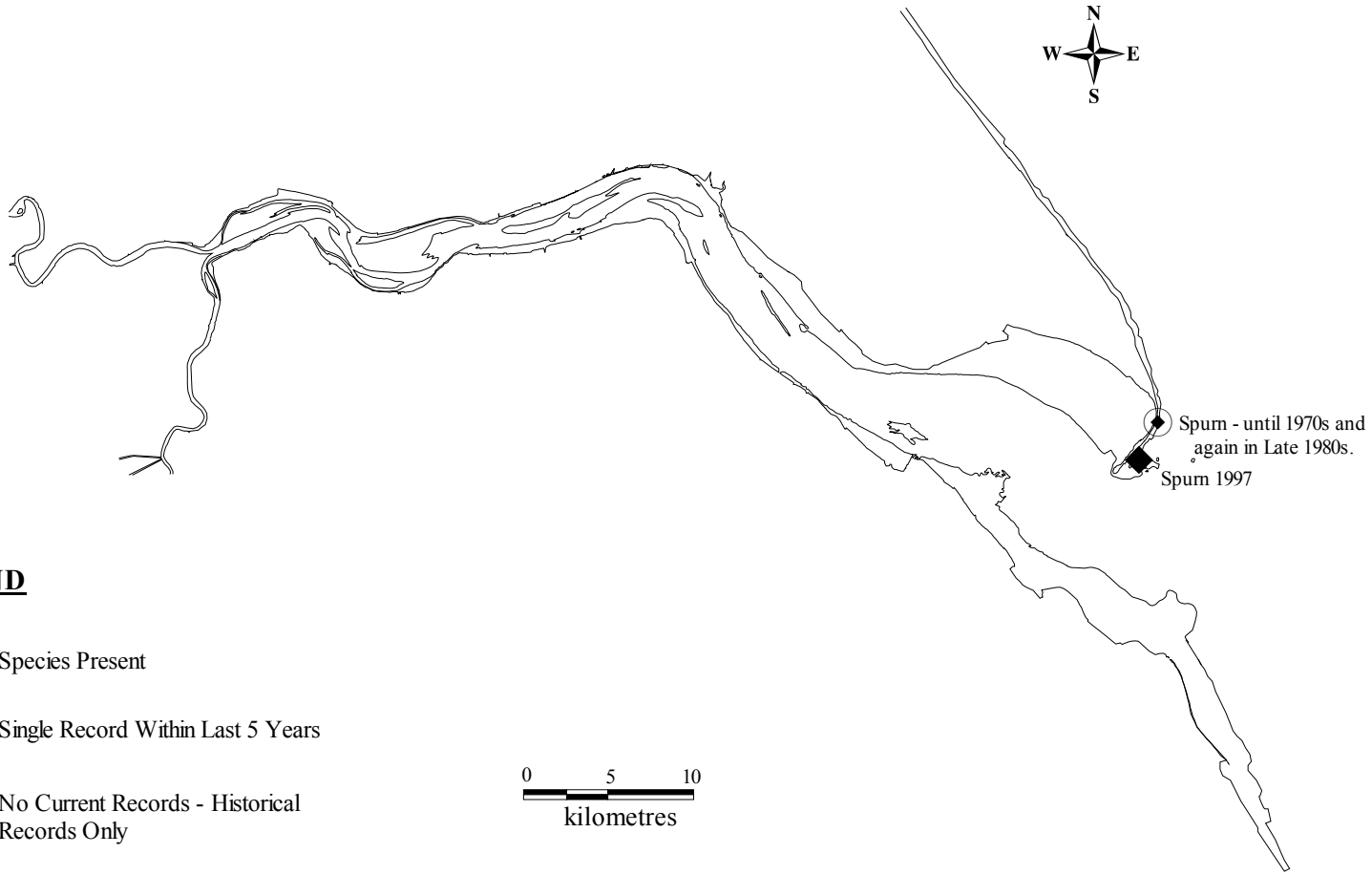
Recorded as locally common in the early to mid 1900's at Spurn, the species became less regularly recorded with only singles generally recorded over the last thirty years (on probably less than 10 occasions) (Spence 1991; Beaumont 2002). The species was affected by trapping at Gibraltar Point but is now recovering (Farrow & Wright 2000).

Conservation status

It is listed as a National Red Data Book Species under Category3 and is therefore designated as rare. It is therefore a species with few and scattered small populations and species in this category are estimated to occur in 15 or less localities.

This species is also included within the Lincolnshire Biodiversity Action Plan for saltmarsh habitat.

Population Distribution of the Scarce Pug Moth *Eupithecia extensaria occidua.*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review.* Yorkshire Naturalist Union.

FARROW, S. & WRIGHT, D.F., eds., 2000. *Action for Wildlife in Lincolnshire* - The Lincolnshire Biodiversity Action Plan.

*JOHNSON, R., ed., 1996. *The butterflies and moths of Lincolnshire: the micro-moths and species review to 1996.* Lincolnshire Naturalists Union.

*SPENCE, B.R., 1991. *The Moths and Butterflies of Spurn*. Spurn Bird Observatory.

*SUTTON, S.L. & BEAUMONT, H.E., 1989. *Butterflies and moths of Yorkshire: distribution and conservation.* Yorkshire Naturalists Union.

Dotted footman *Pelosia muscerda* (2041)

Key Sites: Spurn, one record from 1995. Occasional records from Lincolnshire coast.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: RDB3 (rare).
- Single record from Spurn. Probably a vagrant. Similarly occasionally recorded along the Lincolnshire coast.

Description

Occupying fenland habitats, this species of moth is more or less restricted in Britain to the Norfolk Broads area. It formerly occurred in other fenland districts in south-east England, but recent scattered records are thought to be migrants. The larval food plants, though not fully documented, are thought to be algae growing on shrubs (Skinner 1984; Brooks 1991).

Distribution within the Humber

Considered by Sutton & Beaumont (1989) to be a non-resident of the area (restricted to the Norfolk Broads), there is one record for Spurn (Beaumont 2002). There are occasional records from the Lincolnshire coast from Northcoates and Donna Nook, both records from July 1989, but no more up to 1995 (Johnson 1996). These occurrences are probably vagrants.

Seasonality

The single generation flies in July and August.

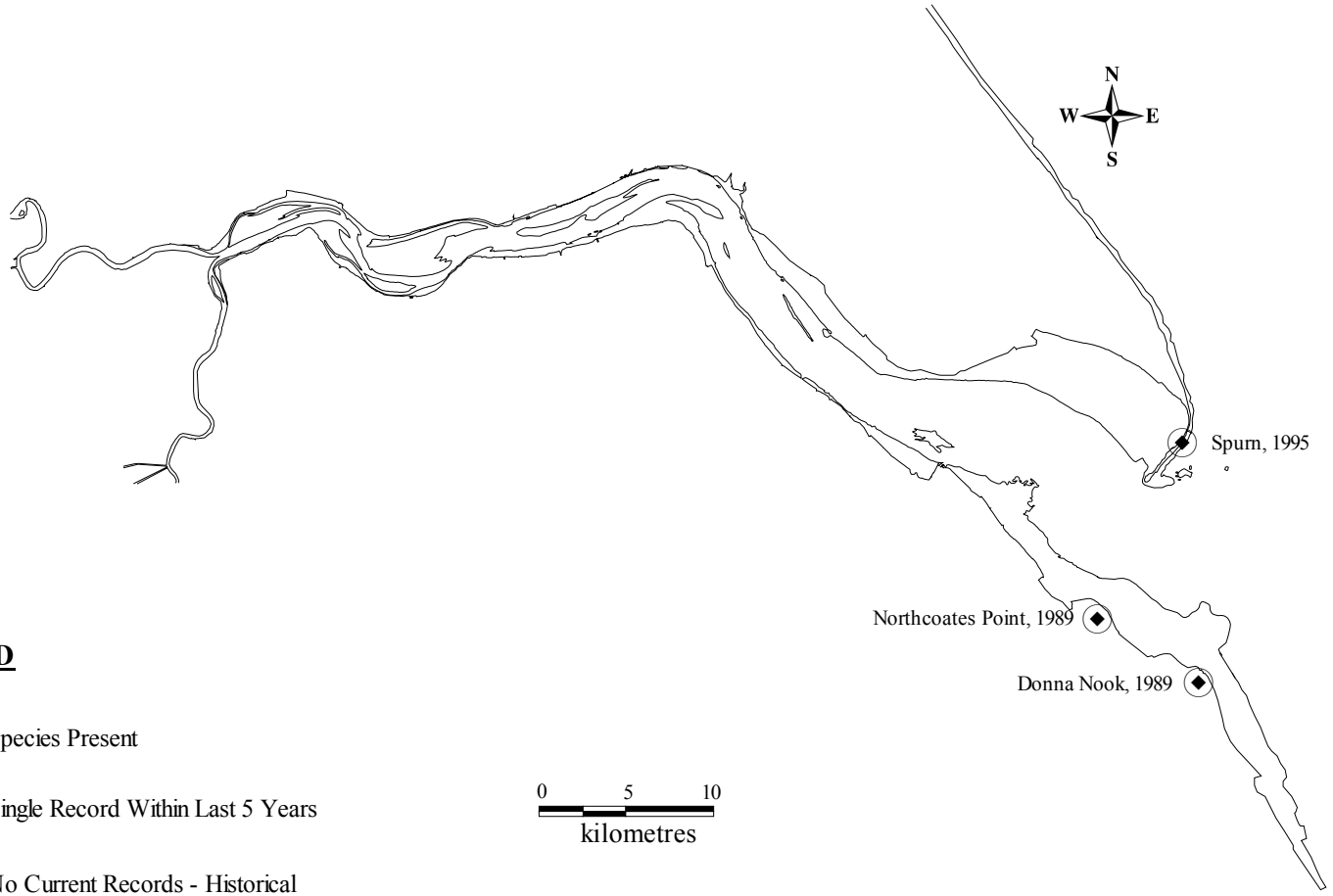
Historical changes and trends

The species is probably a vagrant in the region, with the main population restricted to the Broads area.

Conservation status

Pelosia muscerda is listed as a National Red Data Book Species under Category3 (rare). It is therefore thought to have small populations, not presently endangered or vulnerable but which are nevertheless at risk. Species in this category are estimated to occur in 15 or less localities.

Population Distribution of the Dotted Footman Moth *Pelosia muscerda*.



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review.* Yorkshire Naturalist Union.

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*SUTTON, S.L. & BEAUMONT, H.E., 1989. *Butterflies and moths of Yorkshire: distribution and conservation.* Yorkshire Naturalists Union.

Pigmy footman *Eilema pygmaeola* (2046)

Key Sites: Spurn, one record from 1990.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: RDB3 (rare).
- Single record from Spurn. Possibly a vagrant but if sustainable then the most northerly population in the UK.
-

Description

Occurring only in several coastal localities of Kent and Norfolk, this is a nationally rare species of moth and other scattered records are believed to be migrants. It occupies sand dunes and shingle beaches, flying in July and August, and is readily attracted to light. Lichens form the main foodstuff of the larvae.

Distribution within the Humber

The first record for Yorkshire was at Spurn in July 1990 (Beaumont 2002). This record was possibly a vagrant.

There is also a record for the species on the south bank, at the Saltfleetby-Theddlethorpe NNR in July 1989 (Johnson 1996) this record was also probably a vagrant.

Seasonality

The single generation flies in July and August.

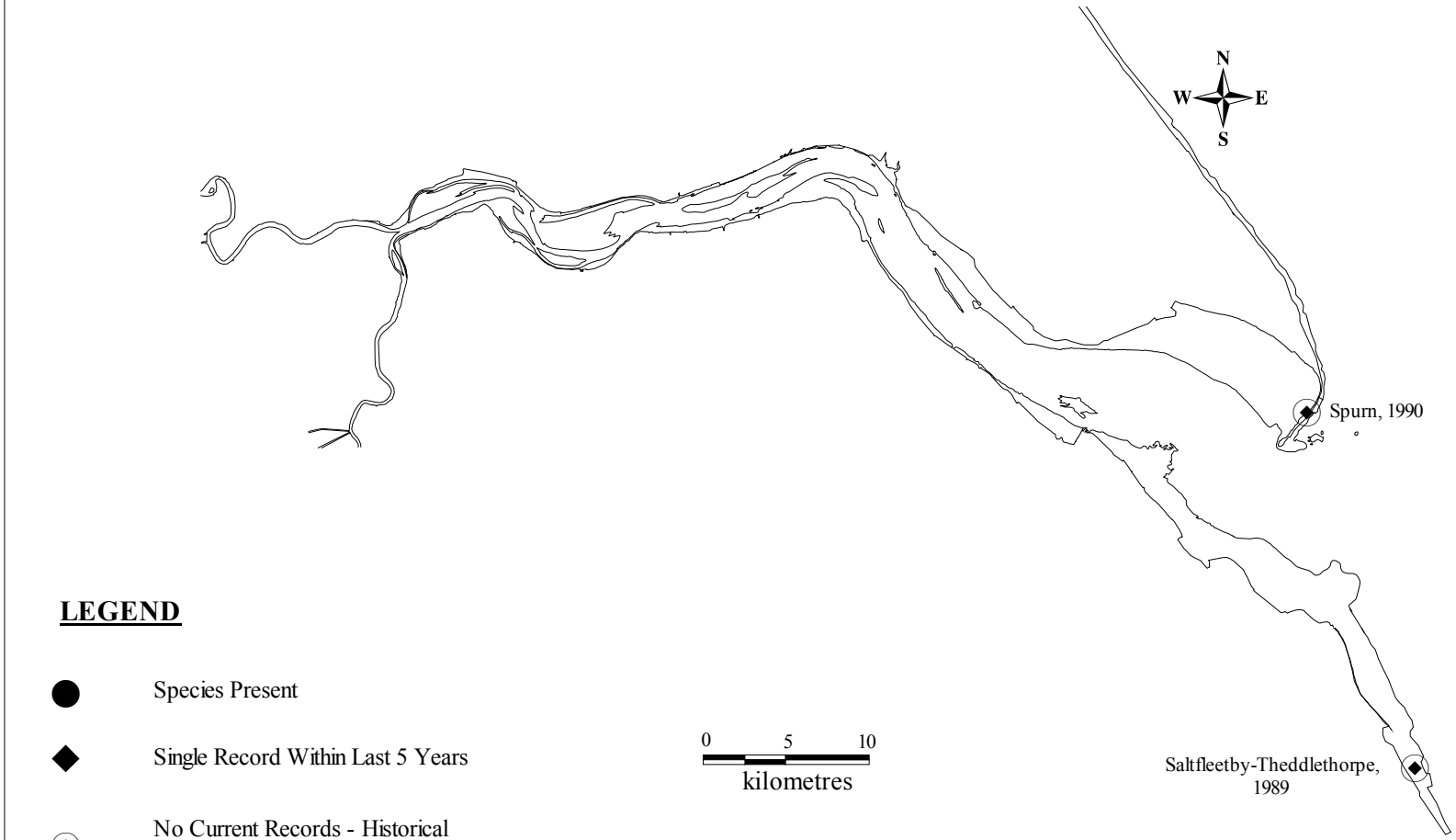
Historical changes and trends

No specific trends have been noted as this species is thought to be a fairly recent introduction to the area.

Conservation status

Eilema pygmaeola is listed as a National Red Data Book Species under Category3 and is therefore designated as rare. It is therefore a species with few and scattered small populations and species in this category are estimated to occur in 15 or less localities (Key 1994).

Population Distribution of the Pigmy Footman Moth *Eilema pygmaeola.*



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

References

*BEAUMONT, H.E., ed., 2002. *Butterflies and Moths of Yorkshire: a millennium review*. Yorkshire Naturalists Union.

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Star-wort *Cucullia asteris* (2217)

Key Sites: Spurn, and Donna Nook southwards.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: not listed.
- Most northerly population.
- Nationally scarce (Nb).

Description

The star-wort moth is mainly coastal in distribution, occurring along the eastern and southern coasts of England from Yorkshire to Dorset, with a few scattered localities inland in the south-east. The larvae are not so distinctively marked as other members of the genus, but are still quite attractive, marked with green and yellow stripes. They feed on the flowers of sea aster (*Aster tripolium*) and goldenrod (*Solidago virgaurea*).

Distribution within the Humber

The star-wort was first recorded at Spurn in 1949, and a thriving colony exists at the site, with between two to nine moths recorded annually (Spence 1991). Other records along the north bank are however restricted only to a single occasion at Sunk Island in 1986 (Sutton & Beaumont 1989).

The species has also been apparently well recorded along the Lincolnshire coast from Donna Nook southwards in most years, and recorded in each year between 1986-1995 (Johnson 1996). It has been recorded in larval form at East Halton Skitter (August 1994), and an imago has been recorded at a heath trap at Far Ings in July 1999 (A. McGowan pers. comm. 2002; A. Credland pers. comm. 2002).

Given these records, the species is probably likely to be irregularly present in small numbers where its food plants are available.

Seasonality

The adults generally fly between early July (occasionally June) to early August and visit flowers to feed.

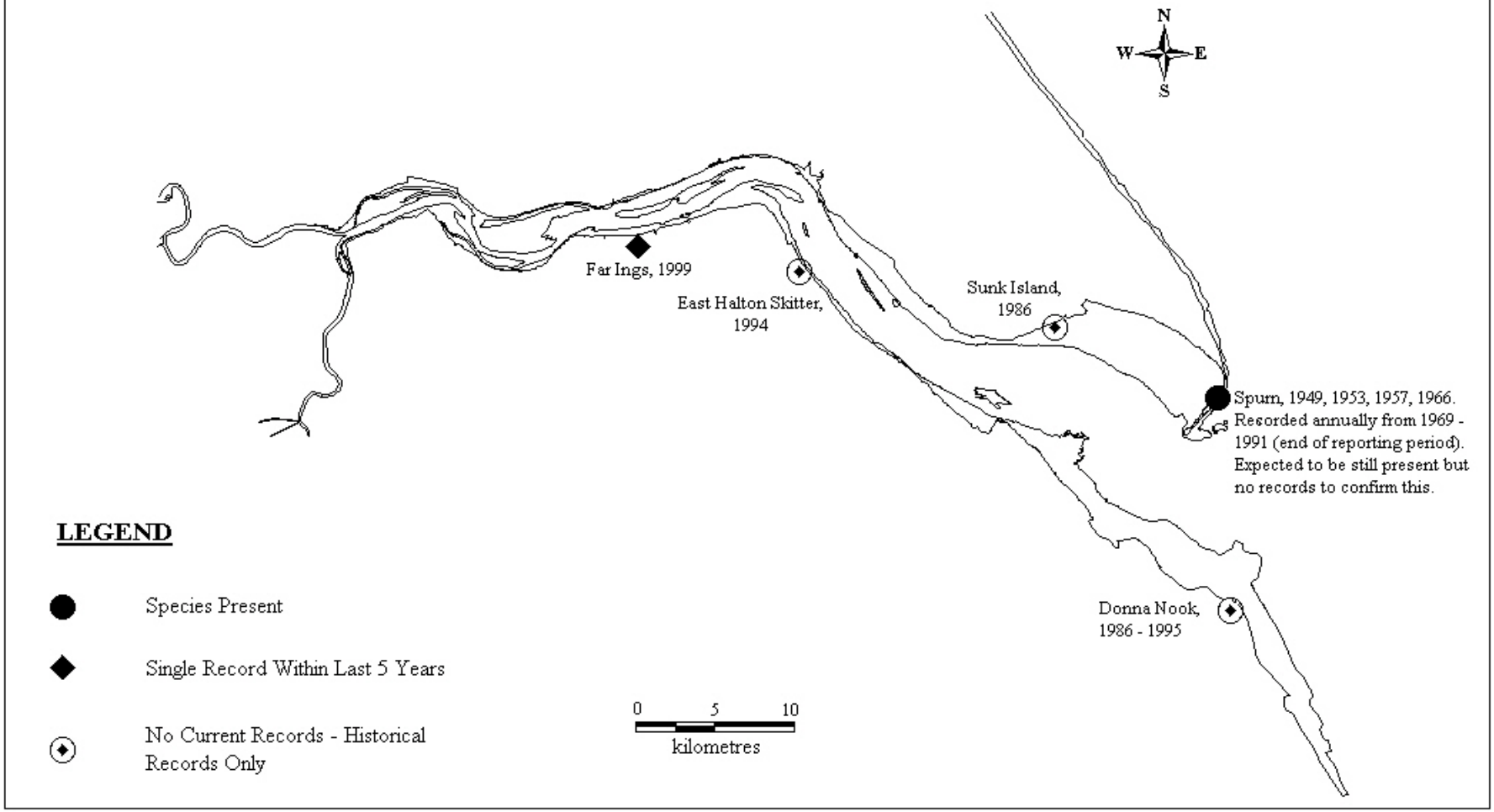
Historical changes and trends

The population of *Cucullia asteris* is apparently stable at Spurn. There has however, been a 50-100% decline in numbers/range in the UK over the last 25 years (UK Biodiversity Action Plan).

Conservation status

Notable/Nb (Nationally Notable B - Scarce B) (Key 1996). The species is thought to occur in between 31 and 100 10km squares in Britain.

Population Distribution of the Star-wort Moth *Cucullia asteris.*



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UK BIODIVERSITY ACTION PLAN. *Annex F- Lists of key species, key habitats and broad habitats*. Joint Nature Conservation Council, JNCC.

Crescent striped *Apamea oblonga* (2325)

Key Sites: Spurn and Donna Nook southwards.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: not listed.
- Most northerly population.
- Nationally scarce (Nb).

Description

The crescent striped is a moth, usually with a wingspan between 42 and 50mm. The species is found mainly in saltmarsh habitats, estuaries and similar coastal habitats and occurs sporadically along the south and east coasts of the UK from the Isle of Wight to Yorkshire. The larvae of this species feed mainly on saltmarsh grass (*Puccinellia* spp.), especially the base of the stem and in the roots.

Distribution within the Humber

The species is generally restricted to the coastal or estuarine fringe which supports its main food plant. It has undergone an increase in range and is now probably present along much of the Humber (Sutton & Beaumont 1989).

On the north bank it has been commonly recorded at Spurn on an annual basis over the last 30 years, with occasional records for elsewhere on the estuary including Blacktoft Sands, and at South Cave (5km north of the estuary) (N.D. Cutts pers. obs. 2002). It is probably more common than these records suggest, with current distribution restricted to the number of sites where light traps have been deployed.

On the south bank the species is again restricted to the coastal fringe, particularly along the Lincolnshire coast, and with many coastal records from Donna Nook southwards between 1990-1995 (Johnson 1996).

Seasonality

The imago is on the wing from June to August, with the majority of records from mid July to mid August.

Historical changes and trends

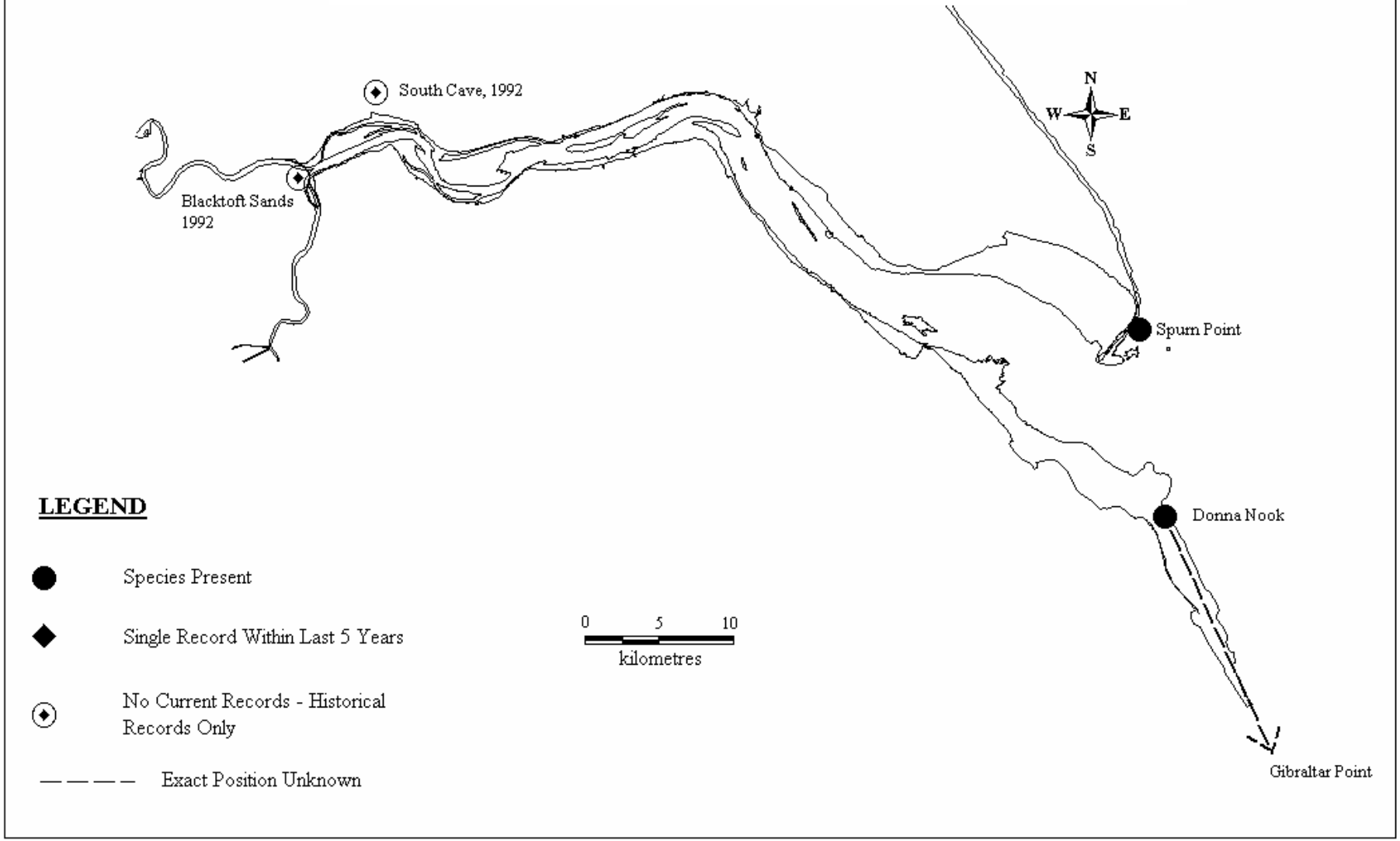
The species was first recorded at Spurn in 1880. Although classed as nationally scarce (Nb) (Key 1994), there appears to have been a trend of increase on the Humber from the mid 1970's to 1980's, with a peak of 457 individuals recorded in 1984. Since then, numbers have

stabilised to the mid 1970's level (Spence 1991). There has also been an apparent spread of the species into inland areas with regular records now from VC63 (Beaumont 2002).

Conservation status

Notable/Nb (Nationally Notable B - Scarce B), the species thought to occur in between 31 and 100 10km squares in Britain (Key 1994).

Population Distribution of the Crescent Striped Moth *Apamea oblonga.*



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Marsh moth *Athetis palustris* (2392)

Key Sites: Saltfleetby.

Summary Status:

- Wildlife and Countryside Act: not listed.
- Habitats Directive: not listed.
- Berne Convention: not listed.
- Red Data Book: RDB3 (rare).
- Area contains only remaining populations in the UK.

Description

The marsh moth is a species of unimproved grassland on frequently waterlogged ground, often found in coastal locations, with the larvae feeding on plantains *Plantago* spp. Formerly there were populations of the marsh moth in Huntingdonshire, Cambridgeshire, Norfolk, Suffolk, Yorkshire and Cumbria, with a single record in Hampshire, but the moth has not been seen in any of these counties since 1970 (UK Biodiversity Action Plan).

It is now confined to the coastal belt of Lincolnshire where it occurs on two nature reserves and possibly two additional sites. The male is a medium sized brown moth with a slight gold sheen to its wings. The female is sometimes claimed to be flightless but does have wings although they are rather smaller than on the male. The species is also extremely sedentary (UK Biodiversity Action Plan).

It is not clear what habitat elements are critical to the moth's survival in the UK and it has been recorded in the past from marshy or wet fenland habitats, although it is also found on dry sandy dune grassland. The caterpillar's principal food plant has not been convincingly determined. However, on dune sites it is assumed that plantains (*Plantago* spp.) are used and they are readily accepted by larvae in captivity. Meadowsweet (*Filipendula ulmaria*) is recognised as being a host in marshy or wet ground, although a range of common ground-plants may equally be used (Farrow & Wright 2000).

Distribution within the Humber

Breeding appears at present, to be restricted to Lincolnshire, with the first records for the species being recorded in 1902. It was found again in 1970 as part of a survey of coastal sites from Somercotes southwards. Marsh moths have been recorded in similar types of habitats in continental Europe, but never in the UK, where it has in the past only been recorded from fenland habitats (Farrow & Wright 2000).

Today the moth occurs patchily on a scatter of sites along the Lincolnshire coast from Saltfleetby southwards and a strong colony exists at the Saltfleetby-Theddlethorpe NNR (Farrow & Wright 2000; Johnson 1996).

There have been no records for the species on the north bank since the 19th Century (Sutton & Beaumont 1989; Beaumont 2002).

Seasonality

The cocoon is spun in April amongst dried grass or herbage above soil level. The adult is usually on the wing in June.

Historical changes and trends

This moth has always been rare in the UK and may now only breed in Lincolnshire. Formally there were populations of the moth known from Cambridgeshire, Norfolk, Suffolk, Yorkshire and Cumbria, with a single record in Hampshire, but the moth has not been seen in any of these counties since 1970 (Farrow & Wright 2000).

Conservation status

It is listed as a RDB3 species and is therefore considered rare, although not endangered or vulnerable (Key 1994). It is a species with few and scattered small populations, estimated to occur in 15 or less localities.

It is considered rare in Britain and has a Biodiversity Species Action Plan. There is also an Invertebrate Action Plan for the species under the Lincolnshire Biodiversity Action Plan

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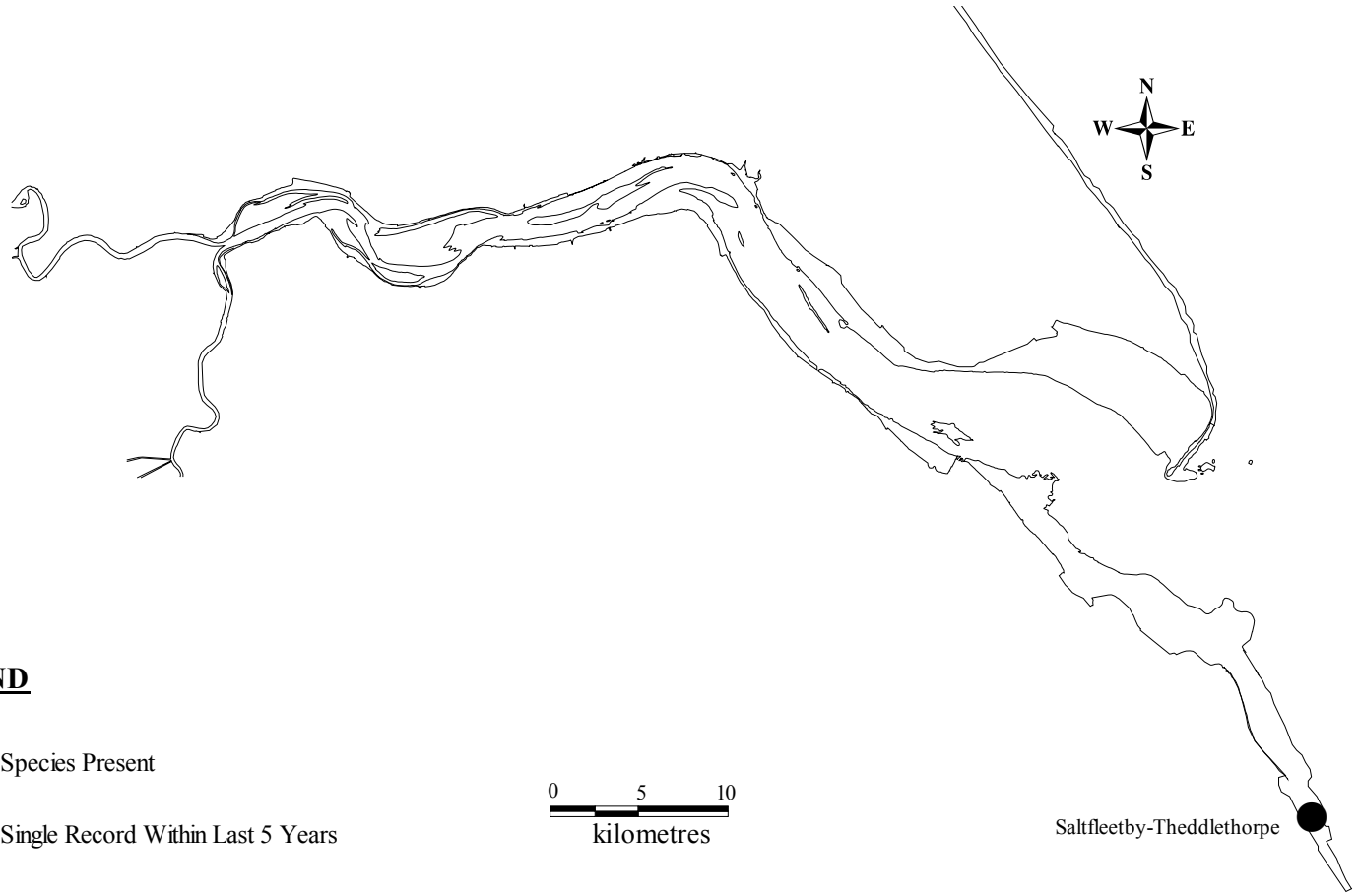
Population Distribution of Marsh Moth *Athetis palustris*.



LEGEND

- Species Present
- Single Record Within Last 5 Years
- No Current Records - Historical Records Only

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*BEAUMONT, H.E., ed., 2002. *Butterflies and moths of Yorkshire: a millennium review*. Yorkshire Naturalists Union.

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UK BIODIVERSITY ACTION PLAN. Marsh moth *Athetis palutris*. Peterborough: Joint Nature Conservation Committee.