

Waitrose



Fritillary Butterflies of Morecambe Bay



Waitrose



Butterfly Flight Periods



Pearl-bordered Fritillary

Small Pearl-bordered Fritillary



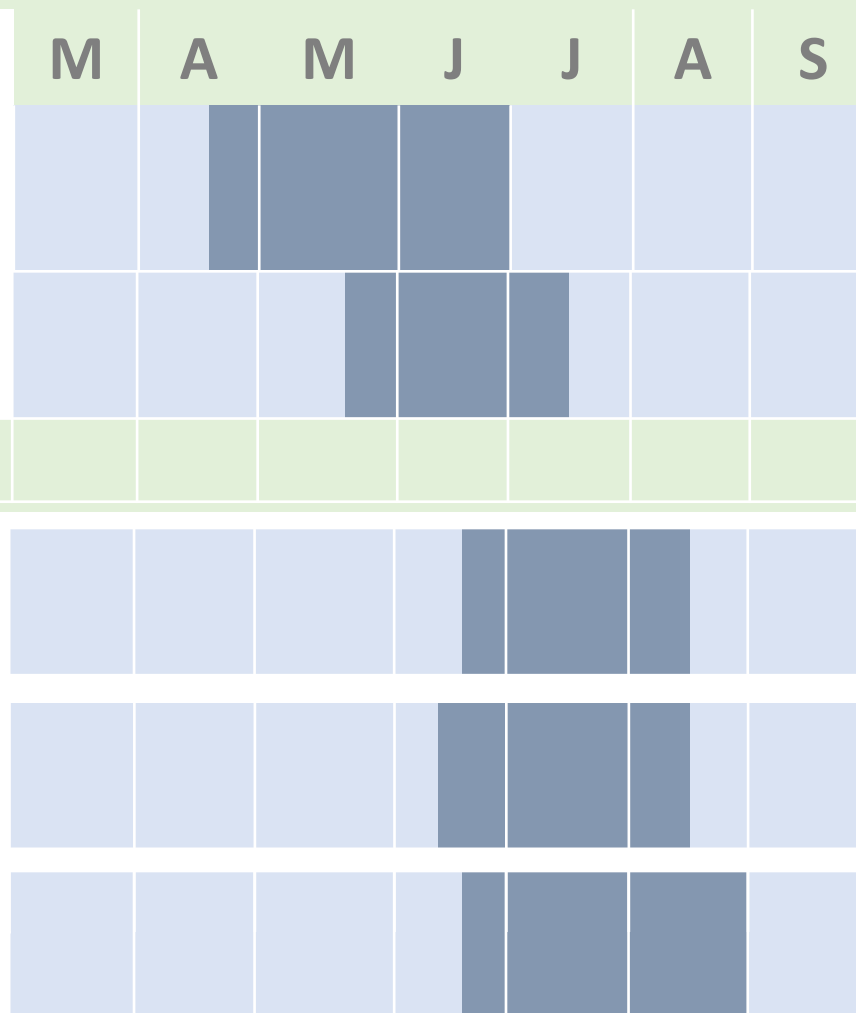
High Brown Fritillary



Dark Green Fritillary



Silver-washed Fritillary



The High Brown and Pearl Bordered Fritillaries at one time abounded throughout our native broadleaved woodlands in the limestone areas of South Cumbria and North Lancashire.

Since the early 1980's it became uneconomical for owners to continue to manage our woodlands by traditional coppice methods, so they stopped. As a result those woodlands grew over and became dark overgrown places without enough sunlight.

The Morecambe Bay Limestone Woodlands Project



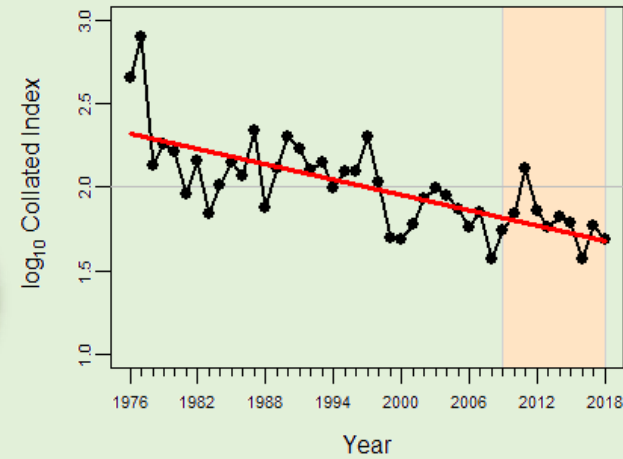
- The High Brown Fritillary and the Pearl Bordered Fritillary butterflies are highly endangered nationally.

Morecambe Bay area is now the national 'hot spot' for both species and our work also benefits the Silver Washed Fritillary.

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The pearl-bordered fritillary (*Boloria euphrosyne*)





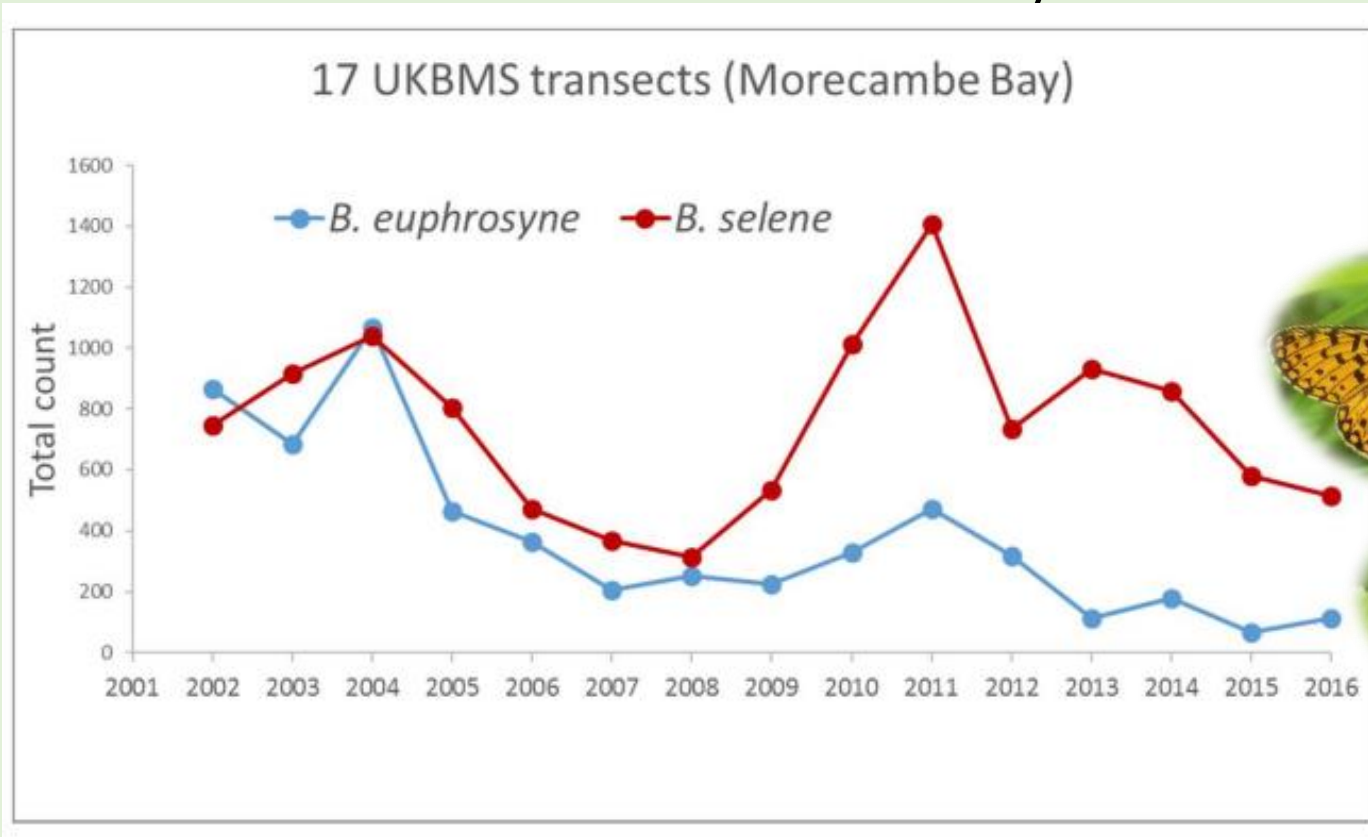
Pearl-bordered Fritillary

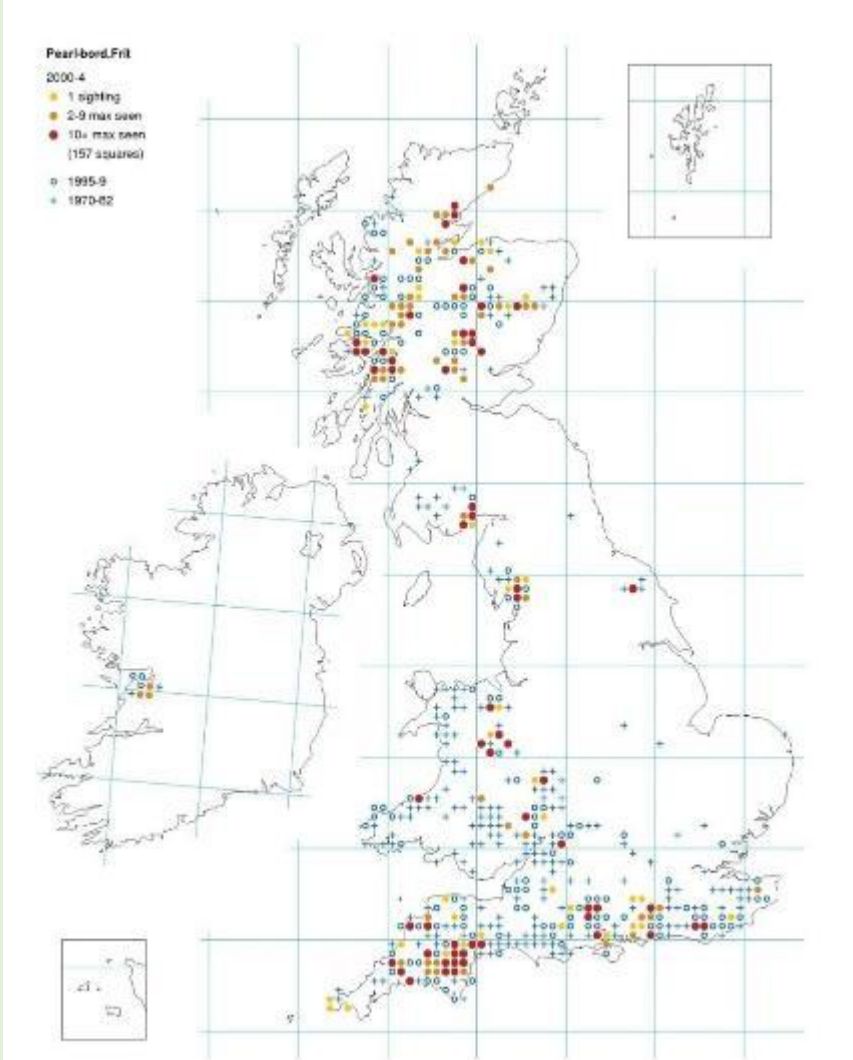






Morecambe Bay Trends

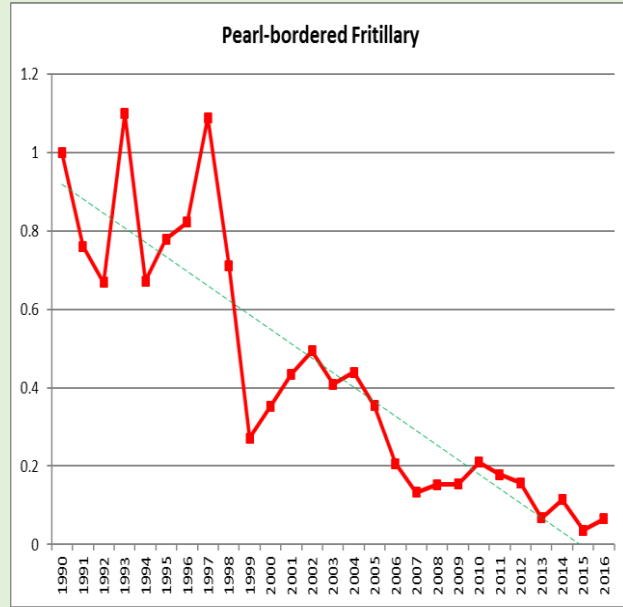




So what other factors are involved?

- Climate
- Microclimate
- Abundance of the host plants
- Condition/growth form of the host plants
- Correct overwintering conditions for eggs, larvae or pupae

Pearl-bordered Fritillary







2009



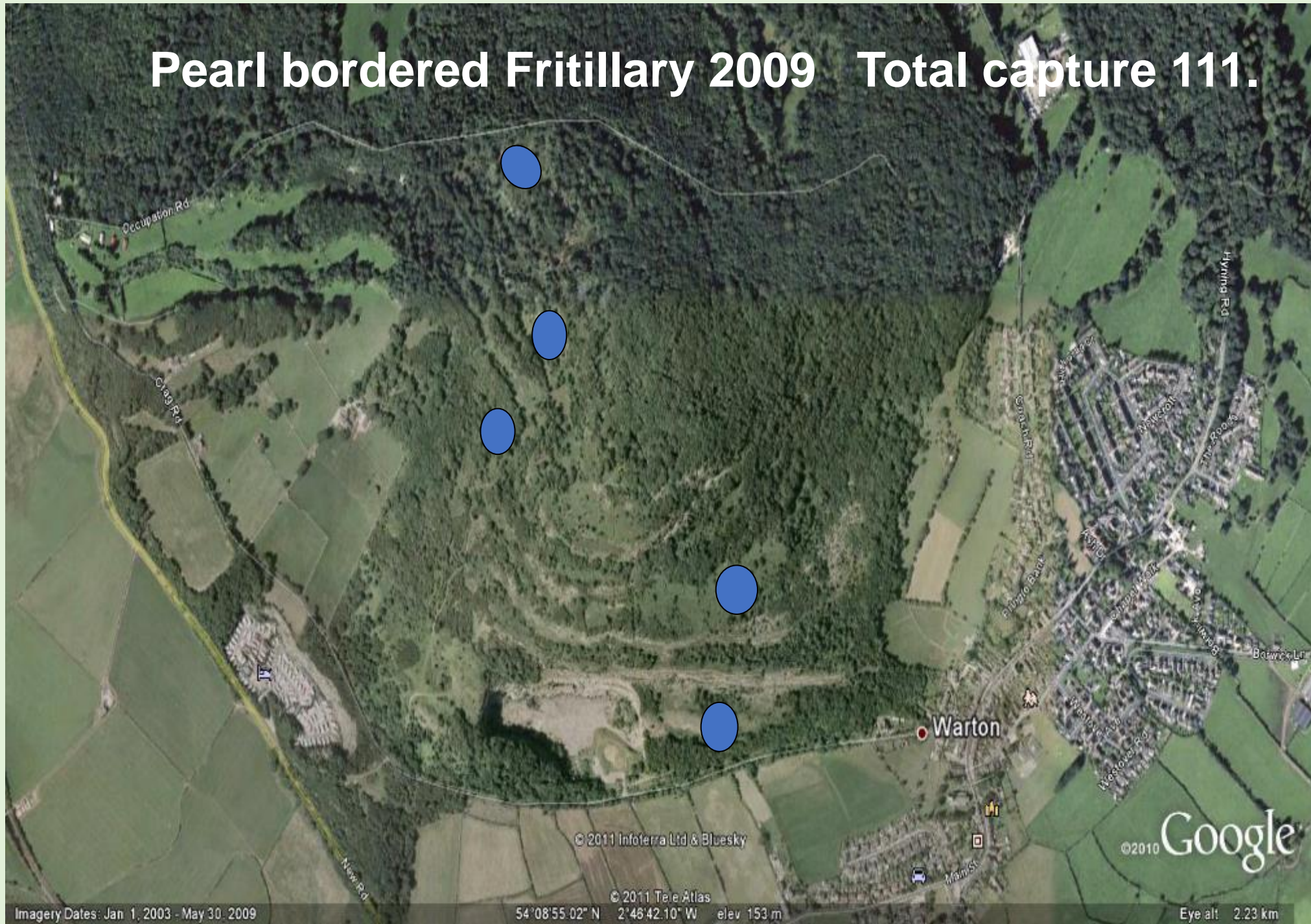
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Mark-Release-Recapture

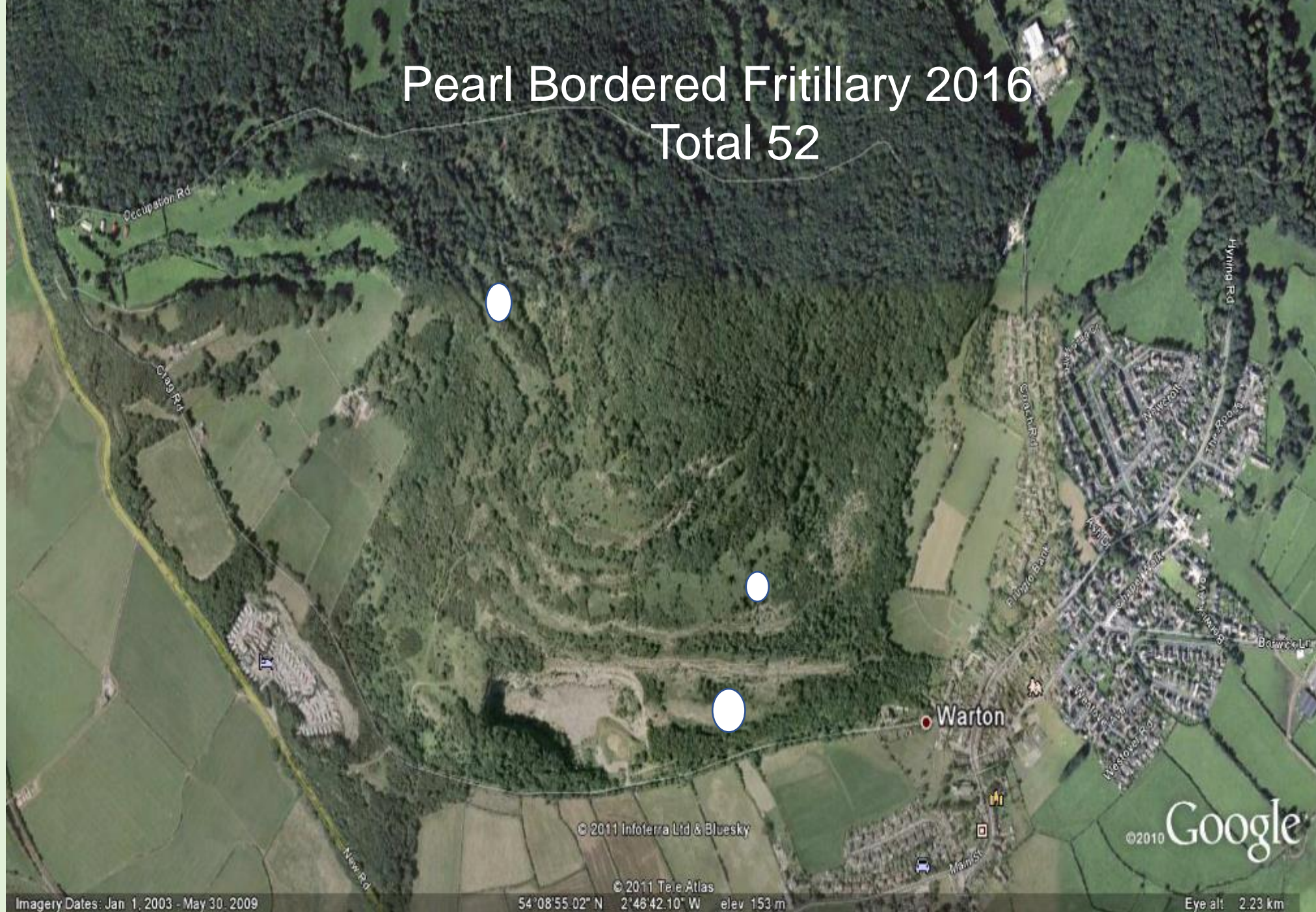


Pearl bordered Fritillary 2009 Total capture 111.



Pearl Bordered Fritillary 2016

Total 52



Imagery Dates: Jan 1, 2003 - May 30, 2009

© 2011 Infoterra Ltd & Bluesky
© 2011 Tele Atlas
54°08'55.02" N 2°48'42.10" W elev 153 m

©2010 Google

Eye alt 2.23 km

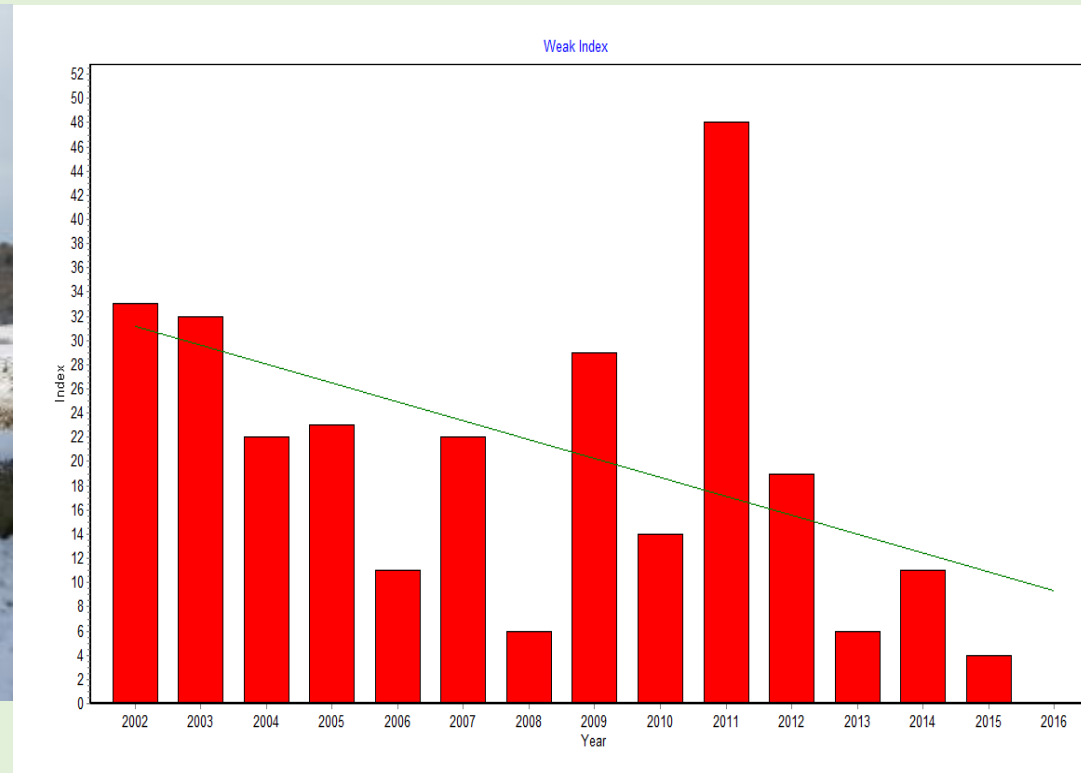




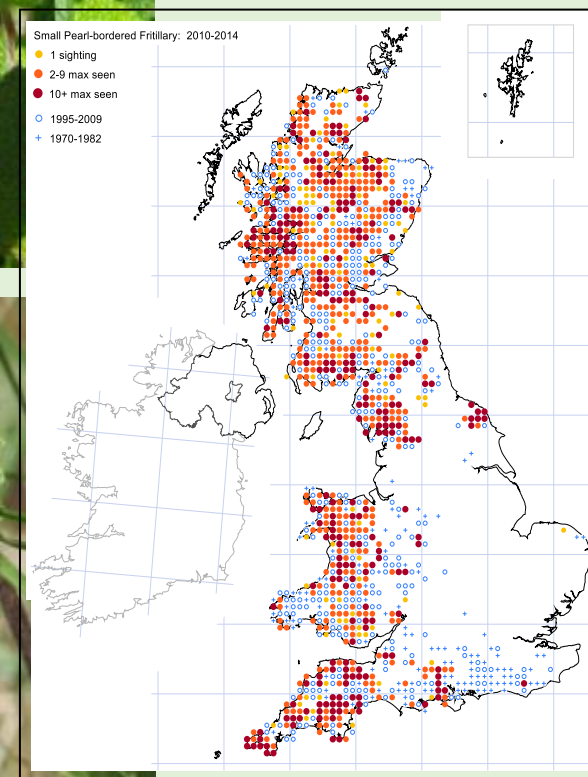
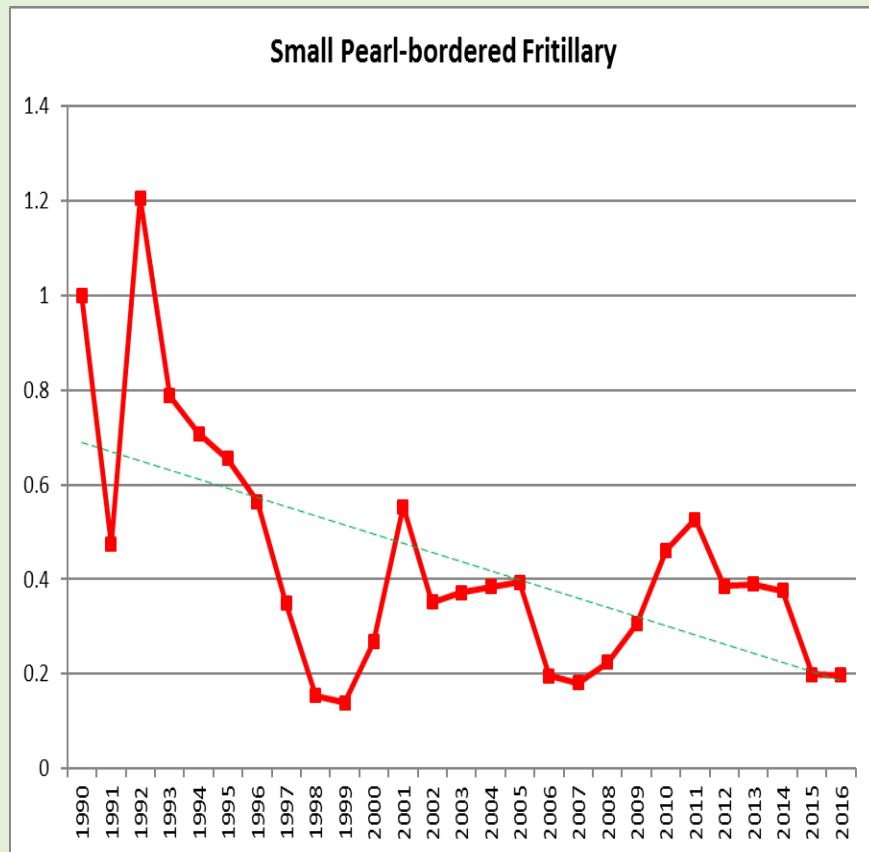
Pearl bordered Fritillary on Yealand Hall Allotment



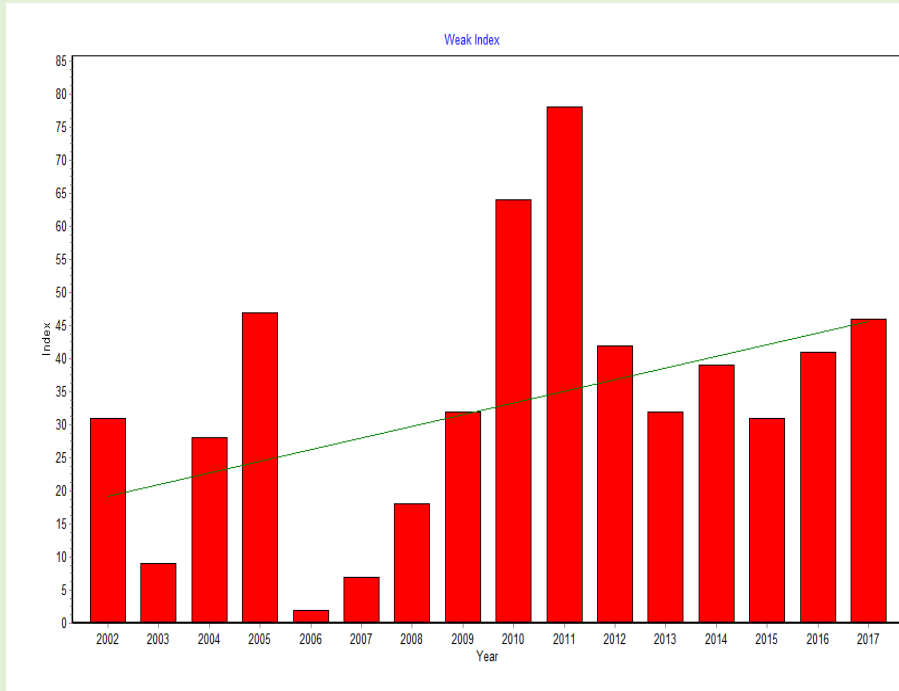
Winter 2010



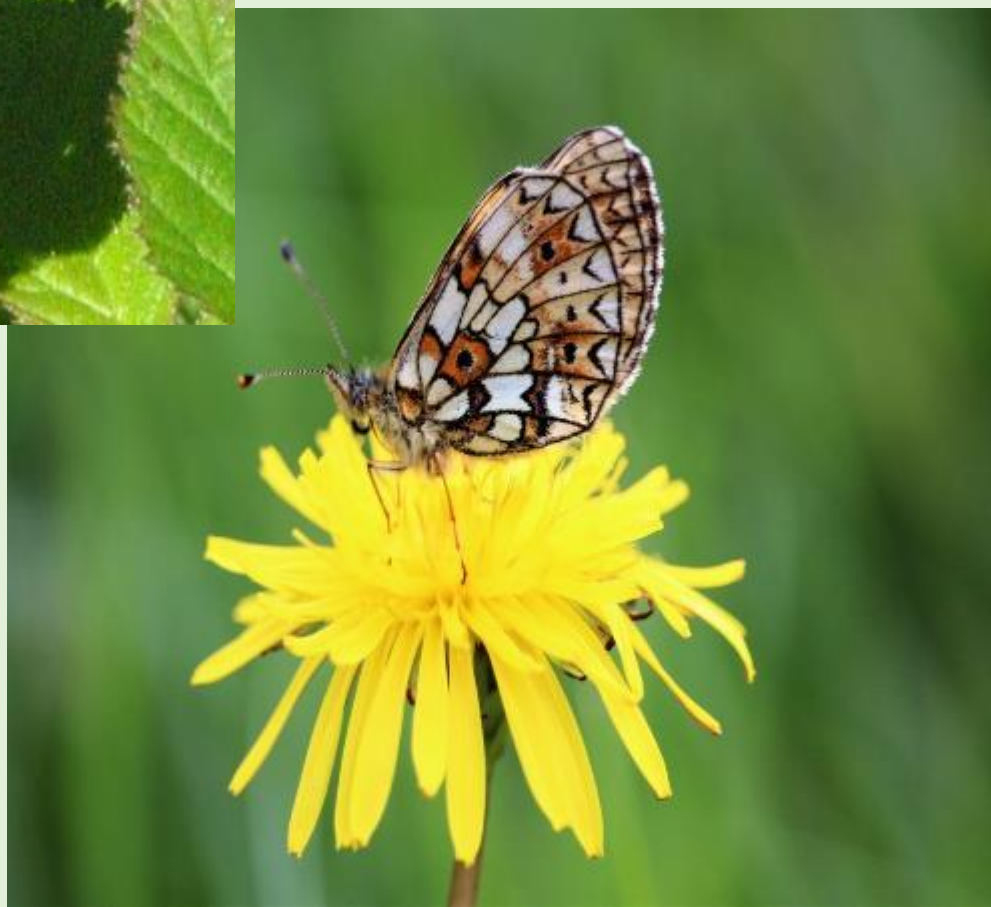
Spring 2011



Small Pearl Bordered Fritillary



Small Pearl Bordered Fritillary



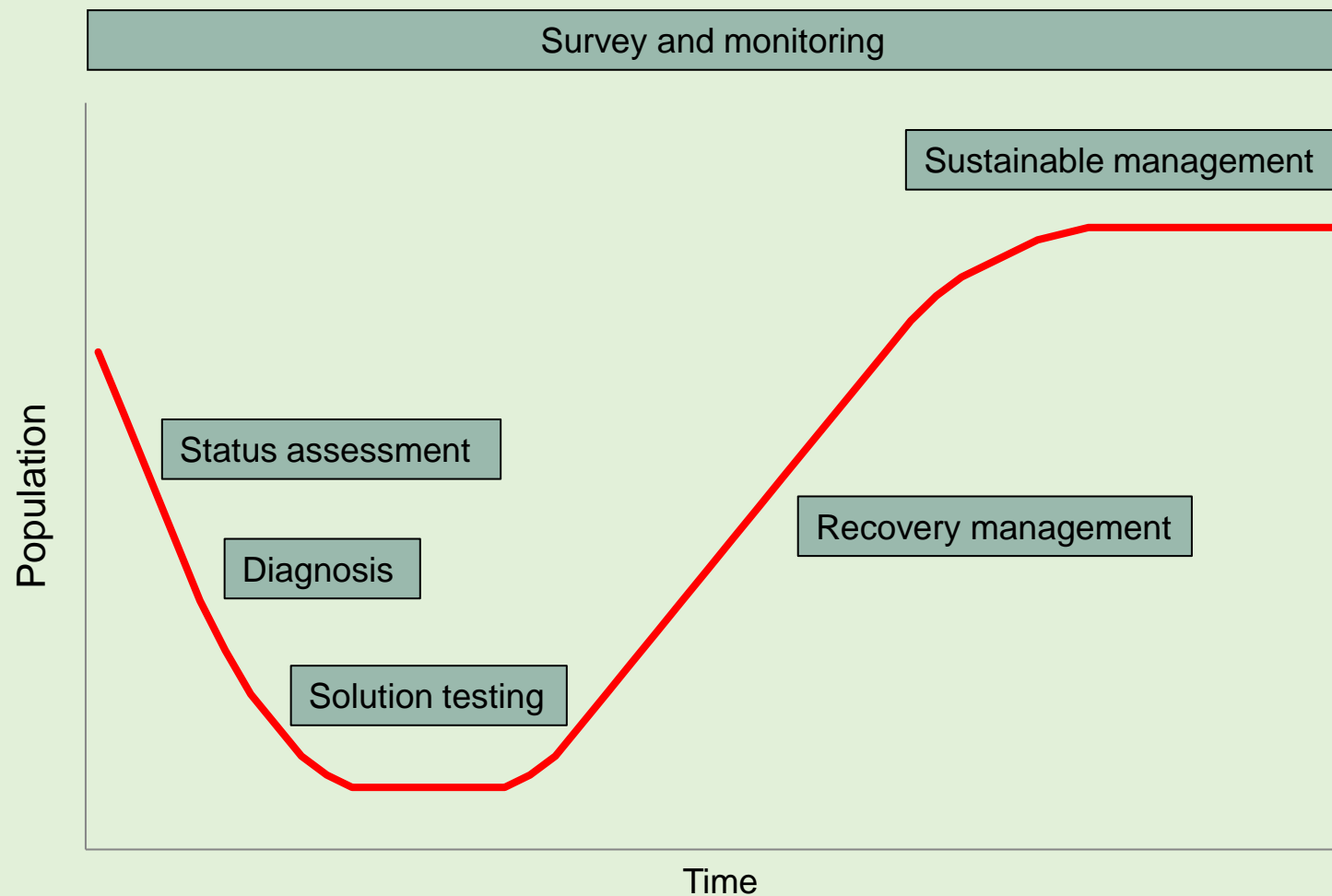


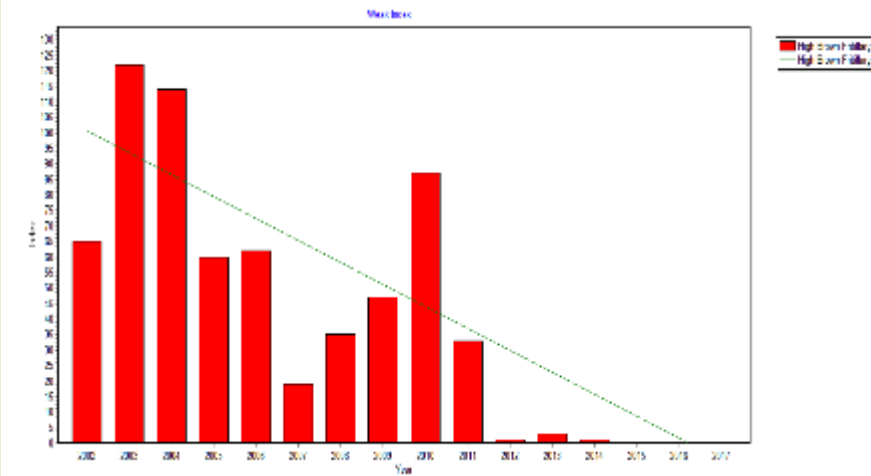




Species recovery strategy: species recovery curve

P5-6





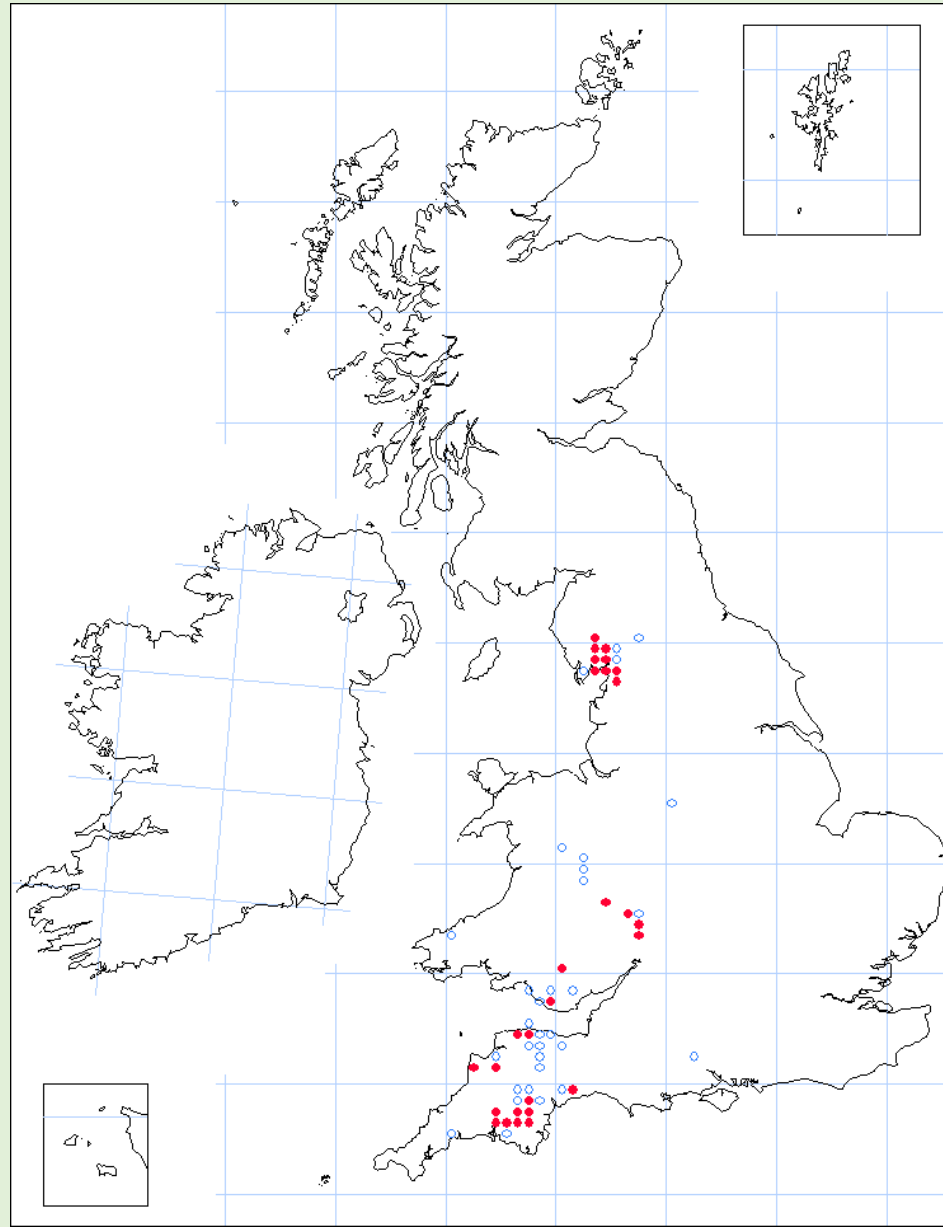
High Brown Fritillary

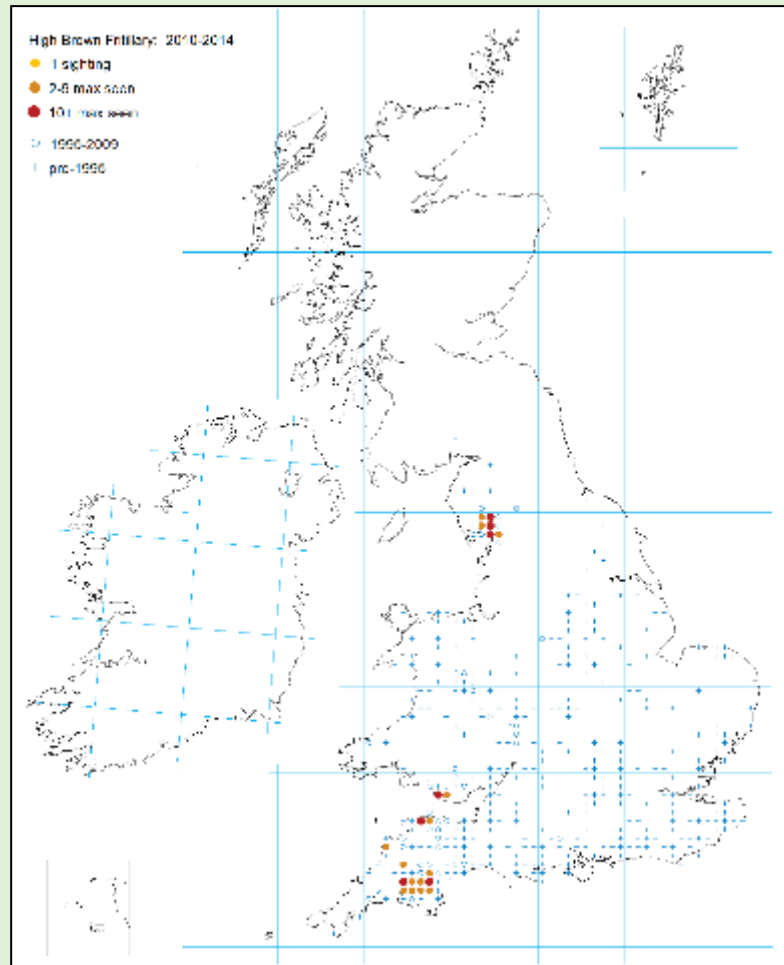




Species declining

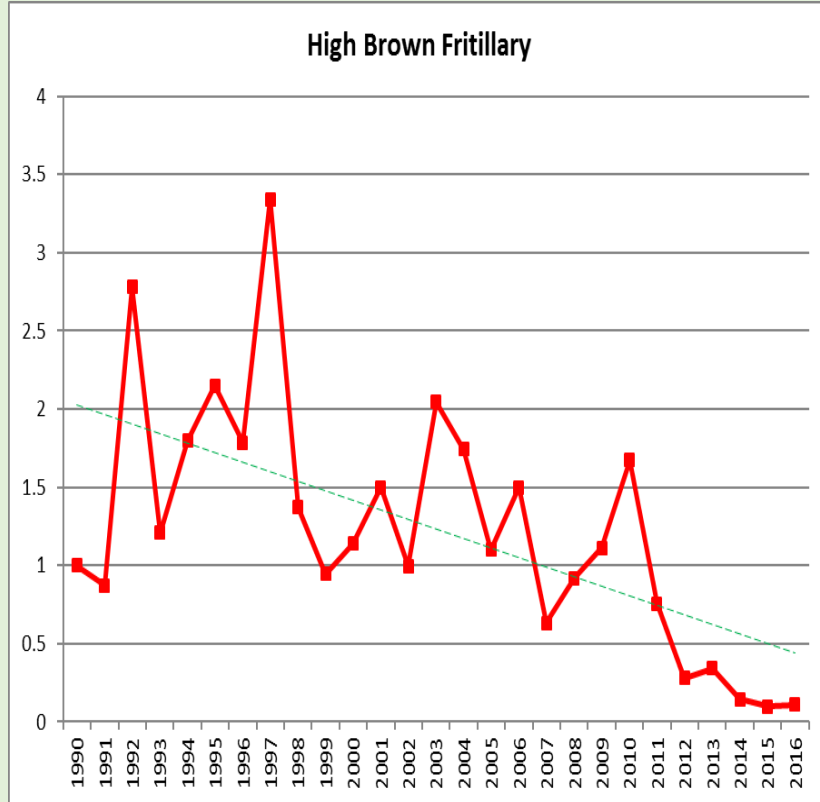
High Brown Fritillary





Occupancy 2010-2014: 21 10km squares
Distribution trend 1976-2014: 96% decline
Population trend 1976-2014: 62% decline
Distribution trend 2005-2014: 16% decline
Population trend 2005-2014: No change





High Brown Fritillary

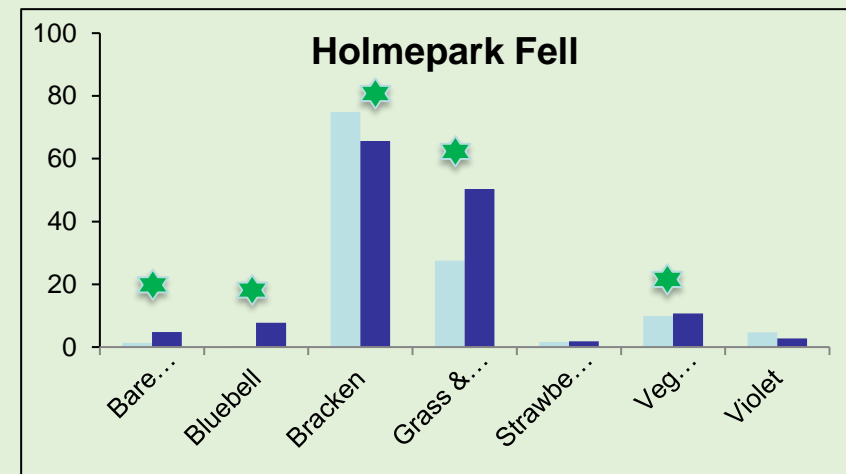
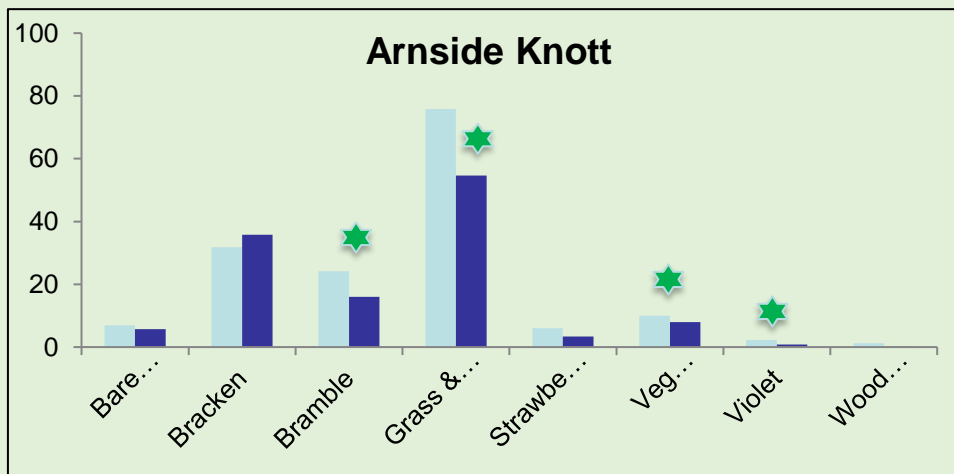
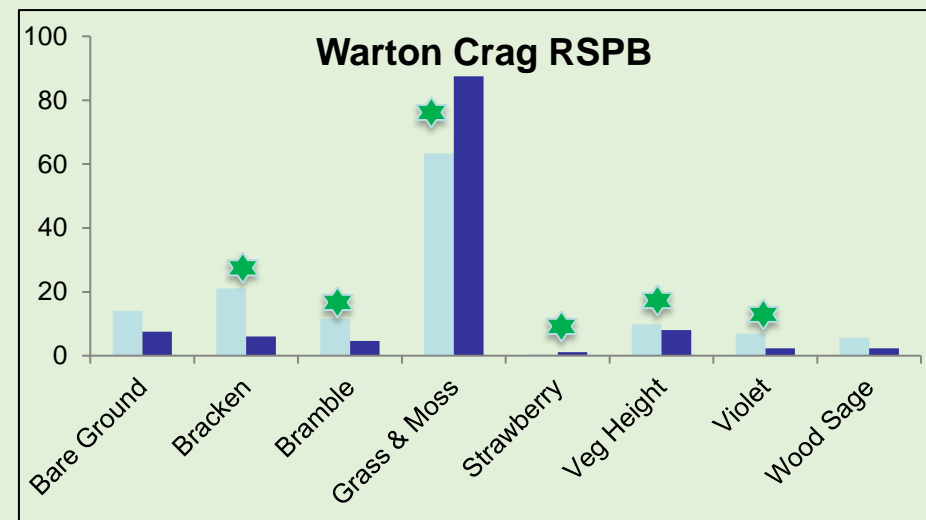
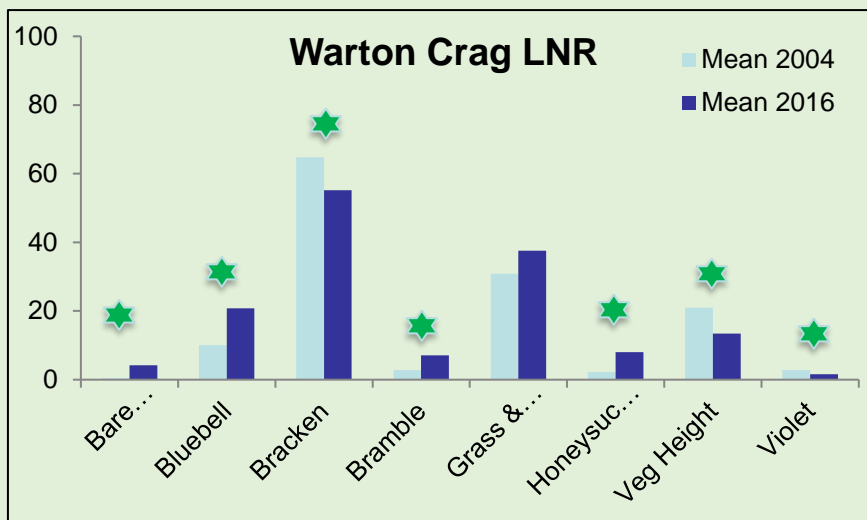






Species recovery curve: (2) diagnosis

p6





Young stages of threatened species occupy narrow niches:

Hostplant growth form

+

Microclimate

=


Habitat quality



How to identify suitable Bracken habitats for Fritillaries

On some sites all four Fritillaries may be found, however, their breeding requirements are subtly different and females will choose different places within a site to lay their eggs.

- ◆ Concentrate searches on sheltered, south-facing Bracken stands, with abundant violets and below 300m, as these are most likely to support Fritillaries. Search for key areas in spring before the Bracken fronds have unfurled.
- ◆ Pearl-bordered Fritillary and High Brown Fritillary breeding areas are characterised by violets growing through a shallow (<15cm) layer of Bracken litter and standing trash! The mosaics used are typically one-third grass to two-thirds Bracken.
- ◆ Areas suitable for the Small Pearl-bordered Fritillary are usually damper, often wet flushes, with abundant Marsh Violet growing amongst Purple Moor-Grass and/or Tufted Hair Grass.
- ◆ The Dark Green Fritillary uses violets within Bracken mosaics frequently consisting of one-third Bracken and two-thirds grass, often on the edges of suitable High Brown Fritillary habitat.
- ◆ Caterpillar feeding damage can be found when looking closely at violet plants growing in the conditions already described. If the damage is round and smooth then it has probably been caused by a Fritillary caterpillar, if it is torn and jagged then it is more likely to be from slug and snail.
- ◆ Return to key areas at least three times during the spring and summer when adult Fritillaries are likely to be in flight. Best times are late April-June (Pearl-bordered and Small Pearl-bordered) and June-July (High Brown and Dark Green).
- ◆ Useful places to look for Fritillaries are the adult feeding areas, Bugle, Bramble and Thistle flowers are favourite nectar sources.



Butterfly Conservation

Bracken for Butterflies



High Brown Fritillary underside, note the rusty red spots

Further help

Under Defra's Environmental Stewardship Scheme, administered by the Rural Development Service, there are financial incentives to manage Bracken habitats in a way that is sympathetic to the needs of Fritillaries and other wildlife. Visit www.defra.gov.uk for more details. The Heather and Grass burning Code can be found at www.defra.gov.uk/corporate/rds/hgbc.pdf

We would like to thank English Nature for their assistance in producing this leaflet.



Butterfly Conservation
Saving butterflies, moths and their habitats



ENGLISH NATURE

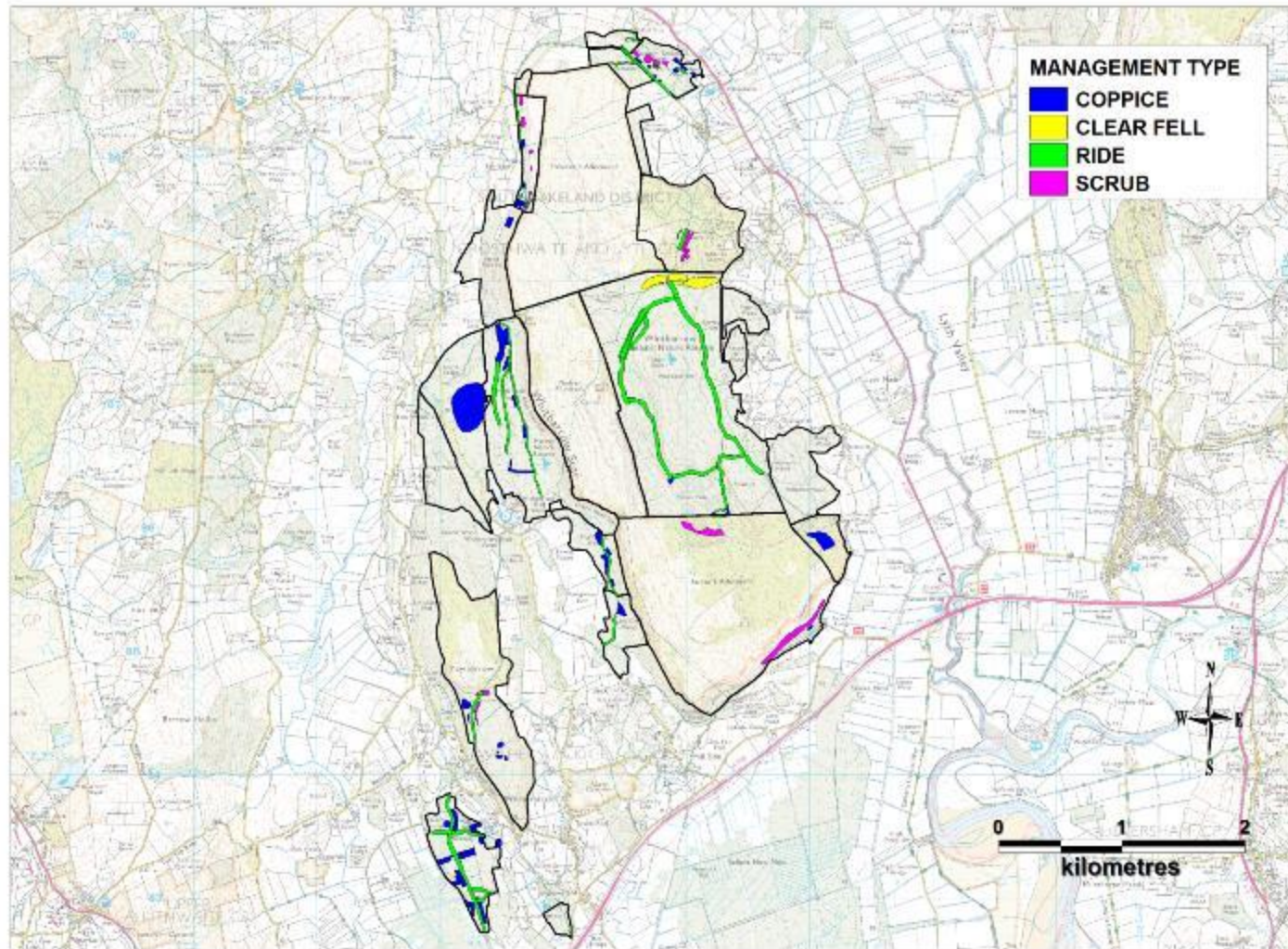
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Bracken helps some of Britain's most attractive and threatened butterfly species to survive

The presence of Bracken in lowland habitats ranging from open hillside to woodland (below 300m) is important for many forms of wildlife, but is especially vital to four, highly threatened Fritillary Butterflies





>1300 management areas

- Location
- BC project
- Target species
- Funder
- Year
- Management by
- Management type
- Species responses



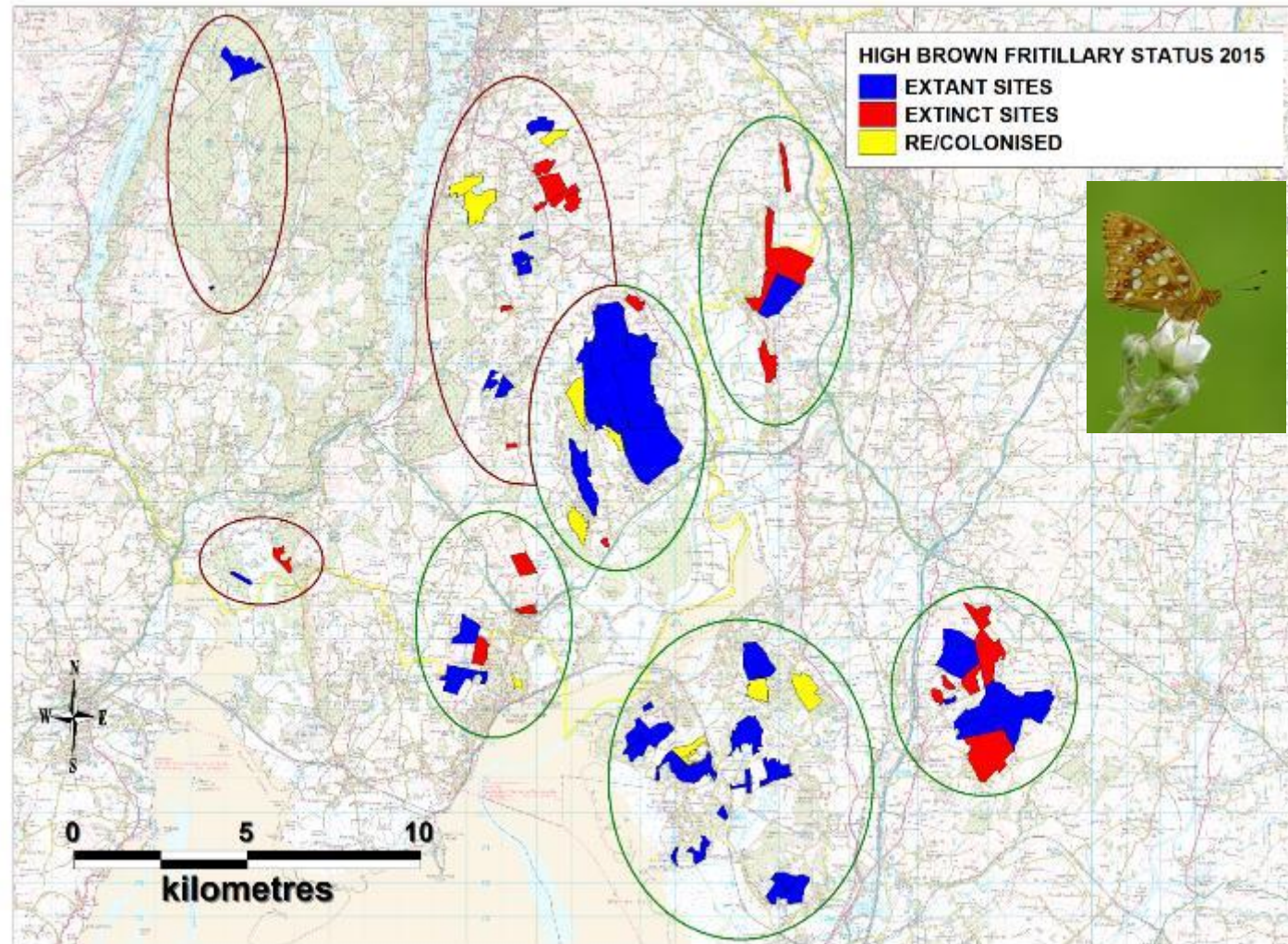
Big sites = big populations:
extinction less likely

Small sites = small populations:
extinction more likely

Extinct sites close to big sites:
recolonisation more likely

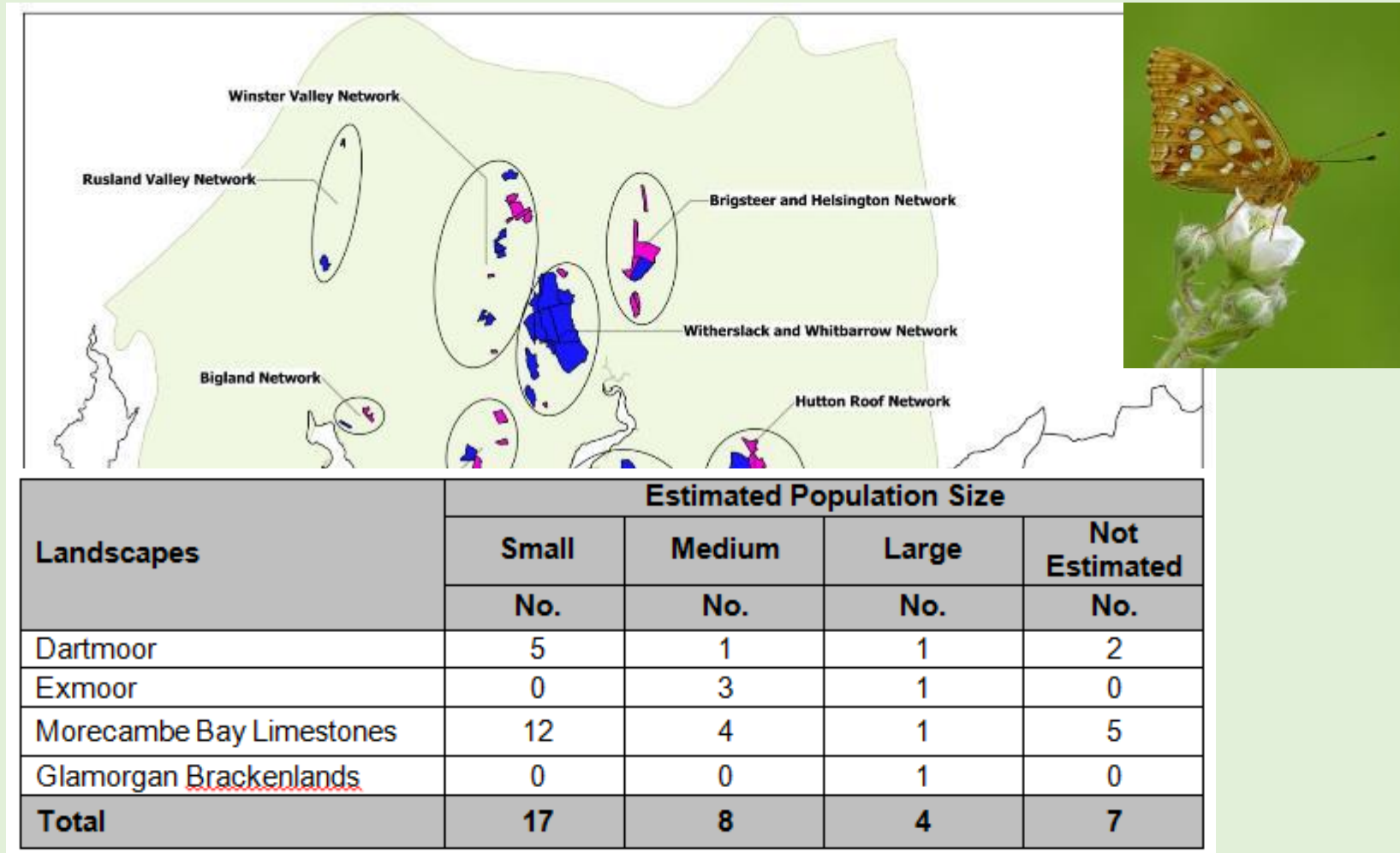
Isolated extinct sites: recolonisation less likely

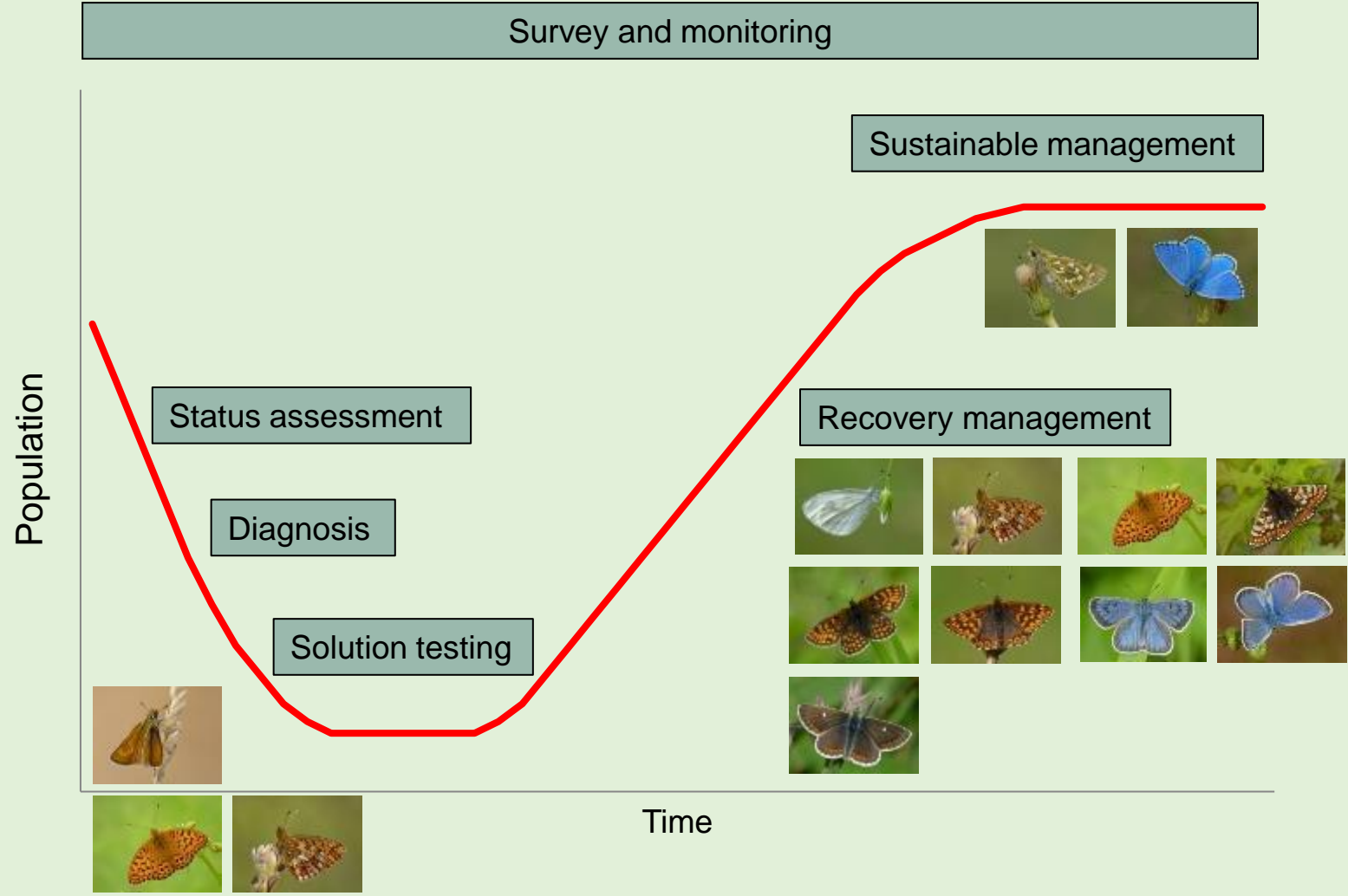
Recolonisations > extinctions: stable metapopulation



Species recovery curve: (1) status assessment

p5





Dark Green Fritillary

Much more widespread throughout Cumbria but regularly recorded as High Brown Fritillary. HBF is only found in South Cumbria in limestone based broadleaved woodlands and bracken sites but DGF can also be found on such places as well and flies at the same time.

See the different undersides of the 'dark green' compared to the much more brighter orange/chestnut colour of the HBF.

HBF is extremely endangered so care must be taken to correctly ID them both. If in doubt just record as a big fritillary and let an expert follow it up to correctly ID.

Upper-sides of DGF and HBF can look similar especially the males.



Marsh Fritillary

Marsh Fritillary is still an endangered species in the rest of the UK BUT not so rare in Cumbria where we successfully reintroduced it. We now have about 30 breeding sites in north, west and central Cumbria.

Two sites are available to the public.

Its markings are quite different to other Fritillaries so it should not be mistaken for others.

Odd ones are seen in most years and it is a very self-colonising species so could turn up in damp unimproved habitats with plenty of Devils Bit Scabious where it can lay eggs – if it's a female!



Silver Washed Fritillary

Silver Washed Fritillary is one of the largest butterflies in the UK and certainly our largest Fritillary. Found in Cumbria up to the 1970's and then re-found in the early 1990's it has become resident in most South Cumbrian broadleaved woodlands. Odd ones are seen elsewhere in S. Cumbria as it is a strong flier.

The size and distinctive black lines are an ID feature on the male; females have a much darker/duller colour on the upper-sides. Both have very 'silver washed' appearances on the undersides which is another ID giveaway.

