



Putting Bugs on the Map: Mapping Important Invertebrate Areas for GB

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Important Invertebrate Areas

Supported by:





- 1. What are Important Invertebrate Areas (IIA)?**
- 2. Mapping the IIA network**
- 3. Using IIAs in planning and strategic decision making**

1. What are Important Invertebrate Areas (IIA)?















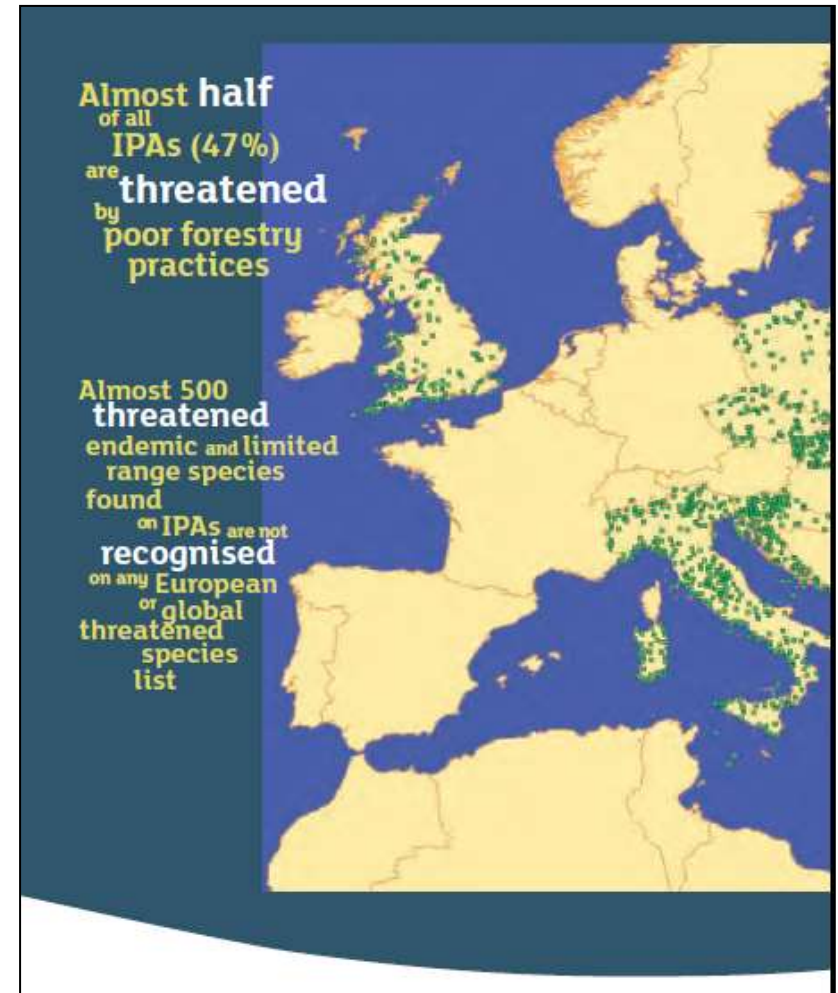
Important Invertebrate Areas are.....

Nationally and internationally significant places for the conservation of **invertebrates** and the **habitats** upon which they rely.

A **vital tool** for the **conservation of our most threatened species**, and the maintenance of sustainable populations of declining species.

Some context: building on previous initiatives

- IBAs** Important Bird Areas
(Birdlife International)
- IPAs** Important Plant Areas
(Plantlife)
- PBAs** Prime Butterfly Areas
(Butterfly Conservation Europe)
- KBAs** Key Biodiversity Areas
(IUCN)



Why do we need IIAs?

- A national framework to **direct and focus** invertebrate conservation.
- Influence the development of future **protected area networks**.
- Raise the profile of invertebrates with key stakeholders, including decision makers and the conservation sector.
- Improve management and protection of sites within IIAs.
- Inform planning tools to influence **planning outcomes** for invertebrates (Partnership for Biodiversity in Planning).
- Attract funding to invertebrate funding where it is needed.

2. Mapping the IIA network

IAs – how we got here

Initial expert consultation: agree approach, agree criteria for IAs, agree process



Data-driven systematic analysis: data collation, mapping and analysis according to agreed criteria



Expert consultation: presentation of results, review and revise, finalise broad-scale IA network



Fine-scale maps: presentation of local data, review and finalise site level IA network



Putting Bugs on the Map

Scolytidae Recording Scheme	Dipterists Forum, Stilt & Stalk Fly Study Group	Dipterists Forum, Dixidae Recording Scheme	Bumblebee Conservation Trust
Auchenorrhyncha Recording Scheme	Dipterists Forum, Conopidae, Lonchopteridae & Picture-winged Fly Recording Scheme	Soldier Beetles, Jewel Beetles and Glow-worms Recording Scheme	Gelechiid Recording Scheme
British Myriapod and Isopod Group, Centipede Recording Scheme	Dipterists Forum, Pipunculidae Study Group	Barkfly Recording Scheme	Dipterists Forum, Chloropid Study Group
Cladocera Interest Group	Bruchidae & Chrysomelidae Recording Scheme	Soldierflies and Allies Recording Scheme	Siphonaptera Recording Scheme
Dipterists Forum, Empididae & Dolichopodidae P	Parasitic Wasps Recording Scheme	Dipterists Forum, Tephritidae Recording	BAS, Spider Recording Scheme
Conchological S			Group, Non-eme
Ireland			rding Scheme
Bees, Wasps a			
Oestridae Stud			ording
British Myriap			g Scheme
Millipede Reco			
Dipterists Foru			
Scheme			
Longhorn Beet			
Terrestrial Flat			g Scheme
Dipterists Forum			me
Scheme			
Dipterists Forum, Tachinidae Recording Scheme	Riverfly Recording Schemes: Plecoptera	BAS, Opiliones Recording Scheme	Dipterists Forum, Drosophilidae Recording Scheme
Atomariinae Recording Scheme	Tenebrionoidea Recording Scheme	Orthoptera Recording Scheme	Incurvarioidea Recording Scheme
Ptiliidae Recording Scheme	Terrestrial Heteroptera Recording Scheme	Collembola Recording Scheme	Scottish Natural Heritage
Plume Moth Recording Scheme	Dipterists Forum, Cranefly Recording Scheme	Dipterists Forum, Chironomidae Study Group	Natural England
British Isles Neuropterida Recording Scheme	Mosquito Recording Scheme	Crambidae & Pyralidae Recording Scheme	Natural Resources Wales
Culicoides (biting midges) Recording Scheme	Scirtidae Recording Scheme	Leaf-mining Moth Recording Scheme	SEPA
Scarabaeoidea Recording Scheme	Stenini Recording Scheme	Butterfly Conservation	Environment Agency

80+ invertebrate recording schemes contributed over

45 million records

which were used to **identify and map** Important Invertebrate Areas across Great Britain.

IAs – selection criteria

Criterion	Description
A(i) Area supports globally endangered species.	Species listed as Critically Endangered (CR), Endangered (EN) or Vulnerable (VU) on IUCN global red lists.
A(ii) Area supports European endangered species.	Species listed as Critically Endangered (CR) or Endangered (EN) on IUCN European red lists.
A(iii) Area supports nationally Critically Endangered species.	Species listed as Critically Endangered (CR) on national red lists.
A(iv) Area supports endemic species.	Species recognised as endemics, only found in the UK and not widely distributed.
B Area supports a nationally important assemblage of rare or threatened invertebrates.	A single score for each hectad - calculated as total number of species recorded from the area (each species scores 1). Qualifying species: ▪ Species listed as Vulnerable (VU) on IUCN European red lists, or listed on Habitats Directive Annexes IIa and IVa, or Bern Convention Appendix II or III. ▪ Species listed as Endangered (EN) on national red lists. ▪ Species listed as nationally rare (GB NR or equivalent).

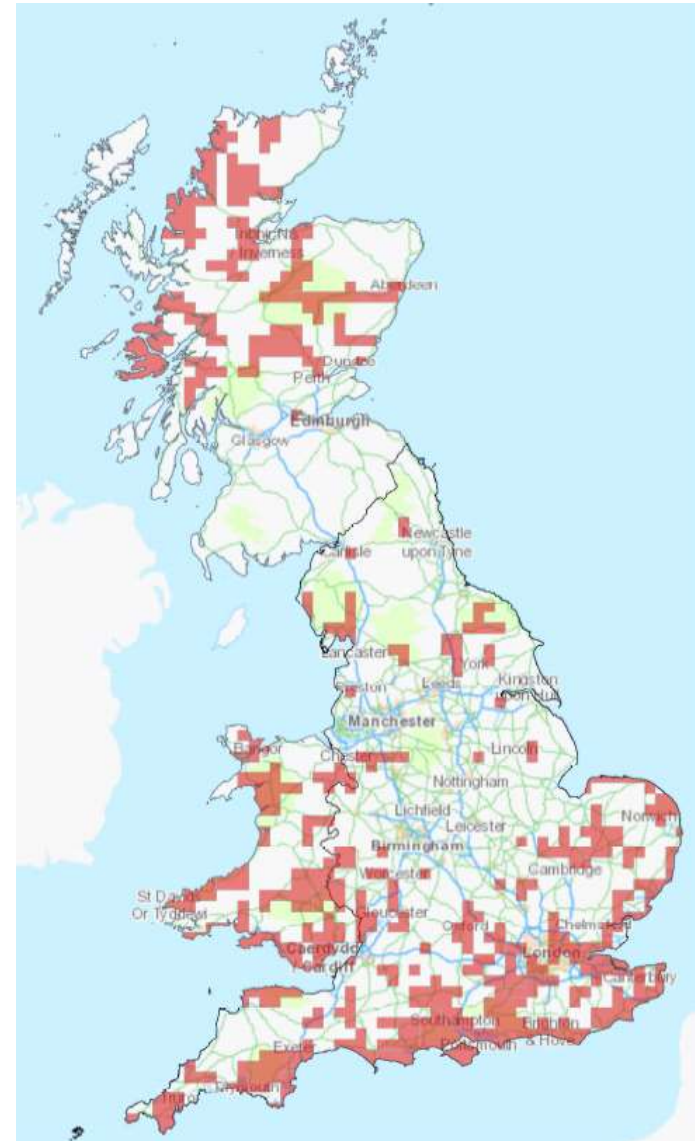
Where are we now?

Broad-scale **hectad map** for England, Scotland and Wales is now live on the **Important Invertebrate Areas Web Hub**

<https://www.buglife.org.uk/important-invertebrate-areas-0>

Areas outside of the IIA network can still be important!

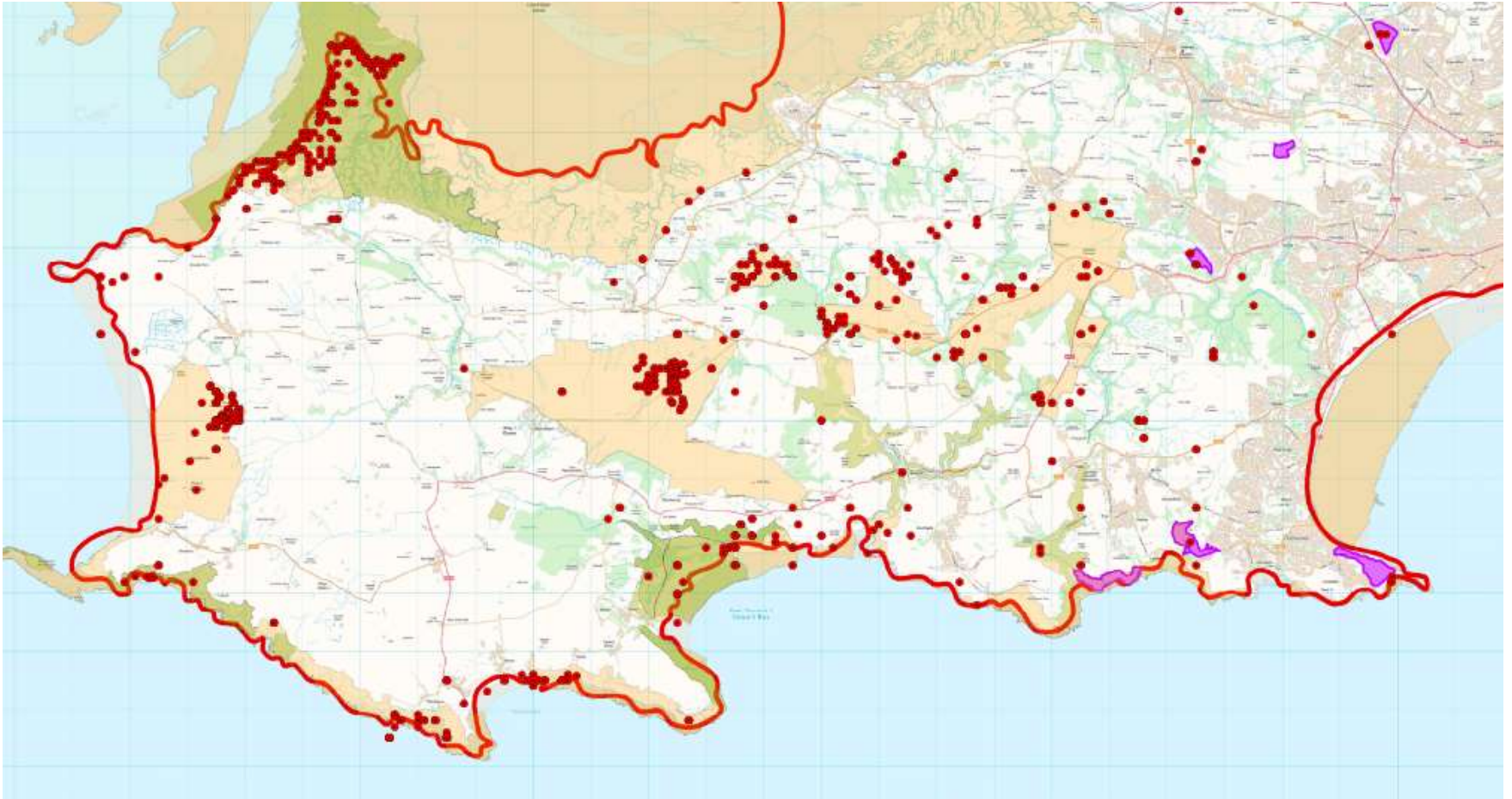
Analysis only as good as the data fed in.



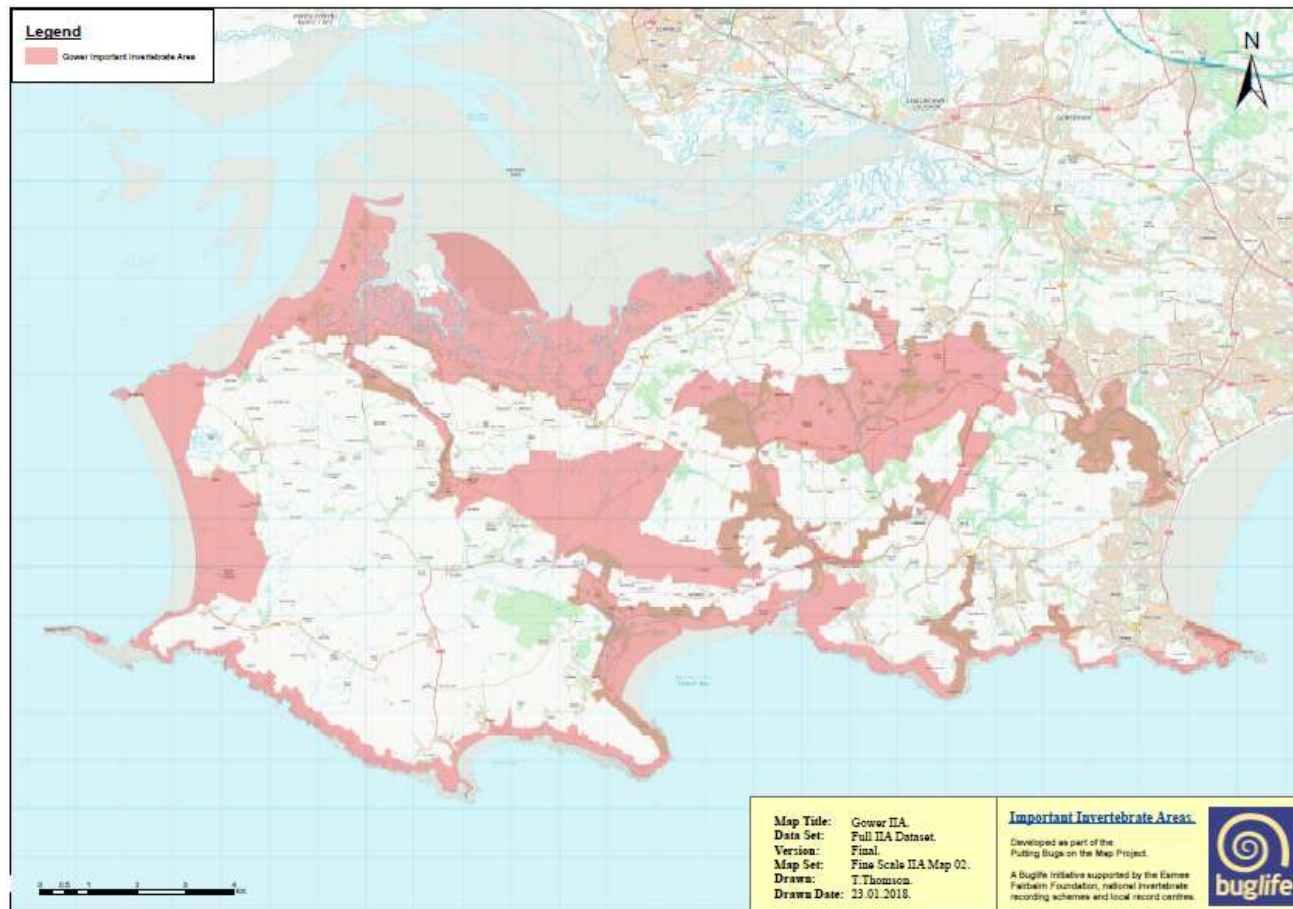
Fine-scale mapping of IIAs

- For effective, targeted conservation .
- Crucial to IIA integrity- fine-scale only captures the highest priority areas and identifies a practical and realistic network.
- Essential to **focus** local attention on invertebrate conservation.
- Builds on data led broad-scale mapping by incorporating local data and “on the ground” knowledge.
- Uses local fine-scale data from LERCs and entomologists and considers landscape, with local stakeholders, NGOs, land managers, etc.
- Works towards joint working.

e.g. Gower IIA- workshop maps



e.g. Gower IIA- final map

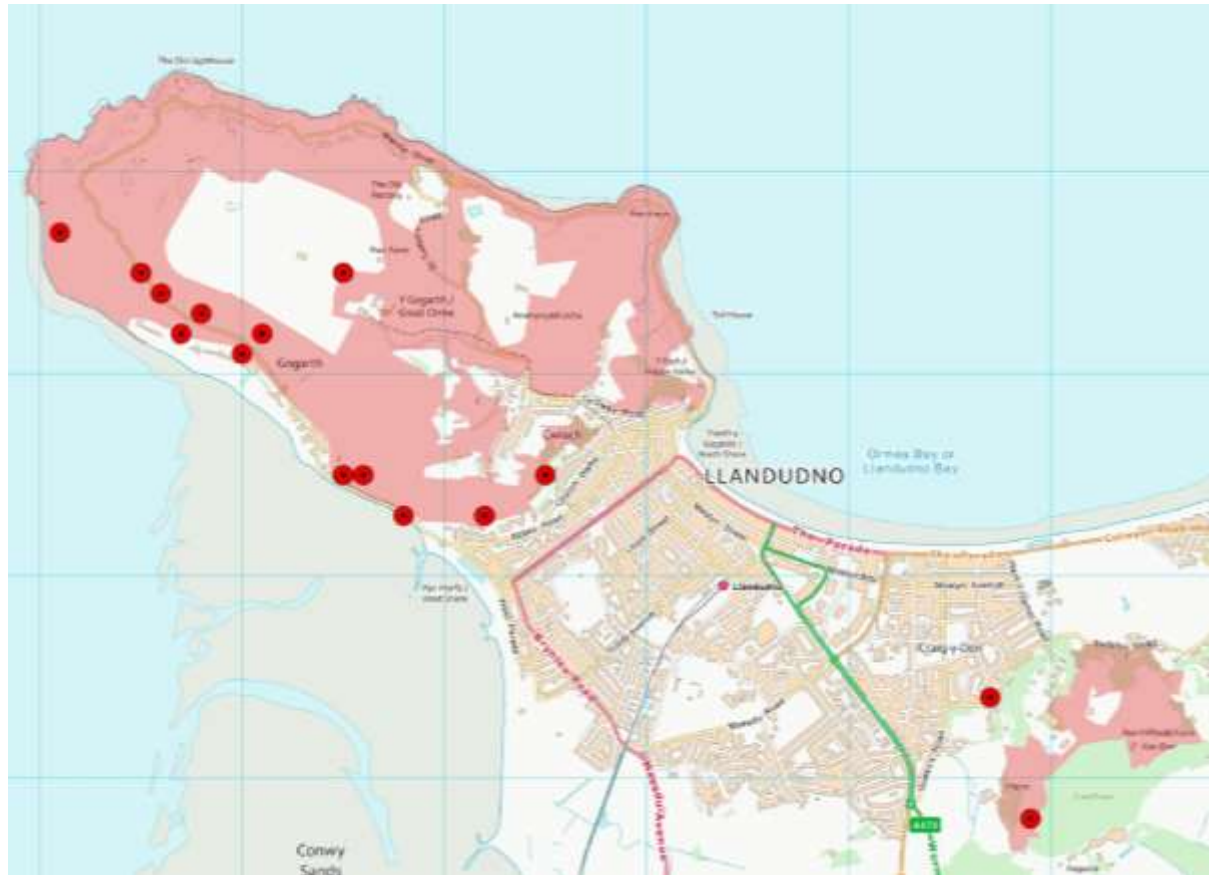


With more in depth profiles and summary of Pantheon outputs to highlight key local invertebrate assemblages to come...

e.g. Fine-scale mapping in practice- Great Orme

Some IIAs with discrete geographical areas (e.g. islands, headlands, single hectads) can be mapped with simple expert consultation.

Great Orme IIA- 8 Criteria B species but interest restricted largely to a known headland.

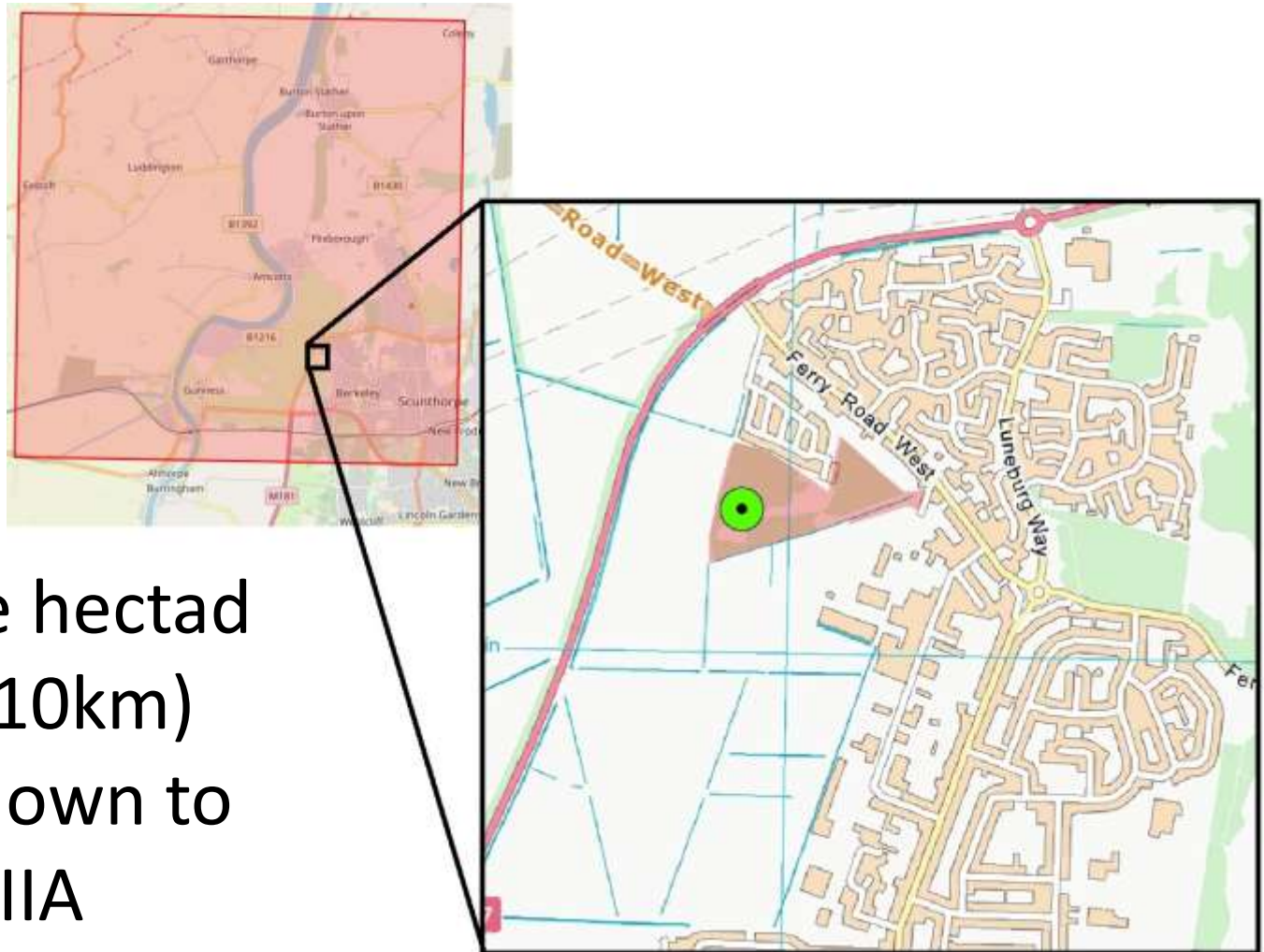


e.g. Fine-scale mapping in practice- for single species

- Some IIAs with discrete geographical areas and designated for a single Criteria A species can be mapped with simple expert consultation.
- E.g. Scunthorpe IIA and Grangemouth IIA- designated for the Critically Endangered leaf beetle *Bromius obscurus*.



e.g. Fine-scale mapping in practice- Scunthorpe IIA



An entire hectad
(10km x 10km)
refined down to
5.5ha of IIA

Fine-scale mapping in practice- Grangemouth IIA



An entire hectad
(10km x 10km)
refined down to
3.6ha of IIA!

Fine-scale mapping in practice.. Where are we?

- To date we have completed fine-scale mapping for 15 of 96 IIAs:
 - 7 required workshops- Brecks, Gower, North Pembrokeshire Coast, Purbeck Coast & Heaths, South Pembrokeshire Coast, South Wales Coast, Strathspey.
 - 8 mapped with expert consultation- Barry Buddon, Clay 'Ole, Clevedon, Grangemouth, Great Orme, Lundy Island, Scunthorpe, Sherwood Forest.

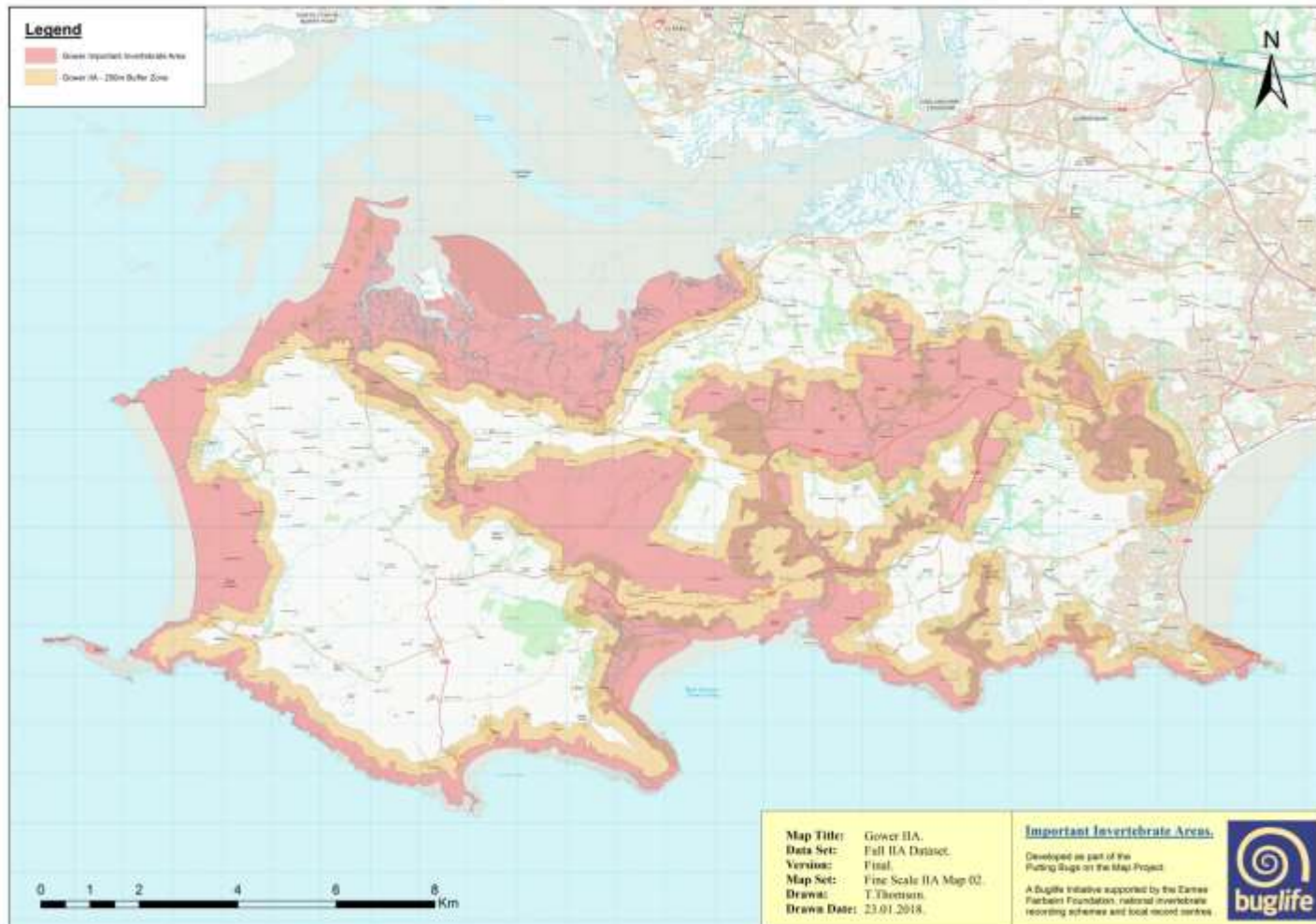


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- We are open to Local Authority offers of data and partners to map their IIA networks!

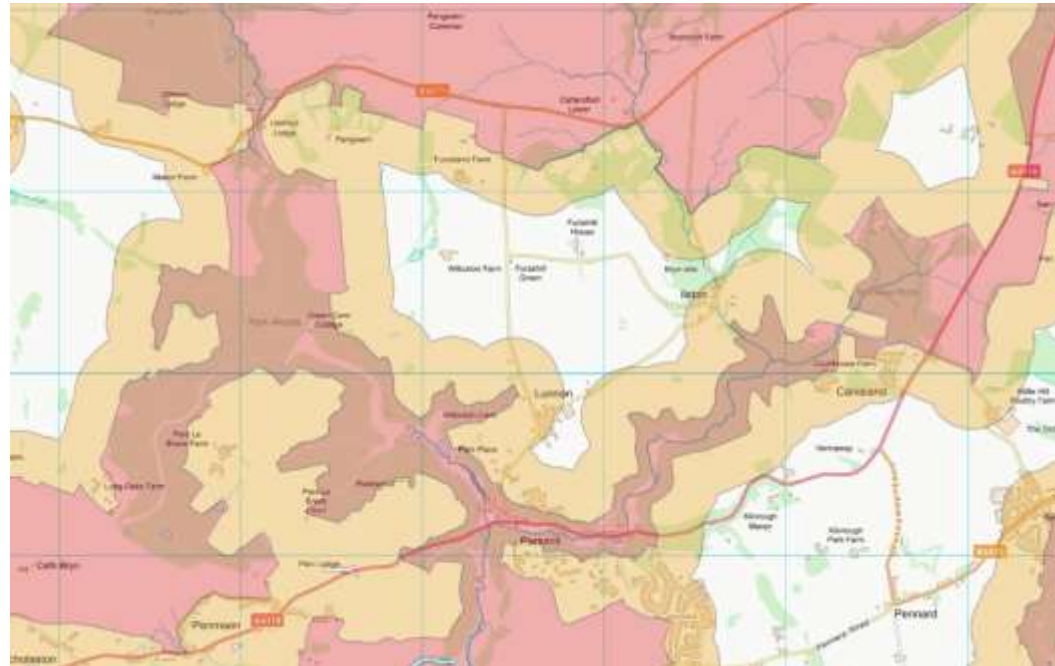
3. Using IIAs in planning and strategic decision making

Prioritising habitat restoration and creation



Prioritising habitat restoration and creation

- Buffered maps can focus restoration work and enhancement on core areas.
- Coordinate invertebrate conservation work across organisations. Can be used to increase connectivity in fragmented landscapes.
- E.g. Gower- remaining commons surrounded by arable landscape. Buffering highlights key areas to create more resilient network around and get best value for invertebrates.

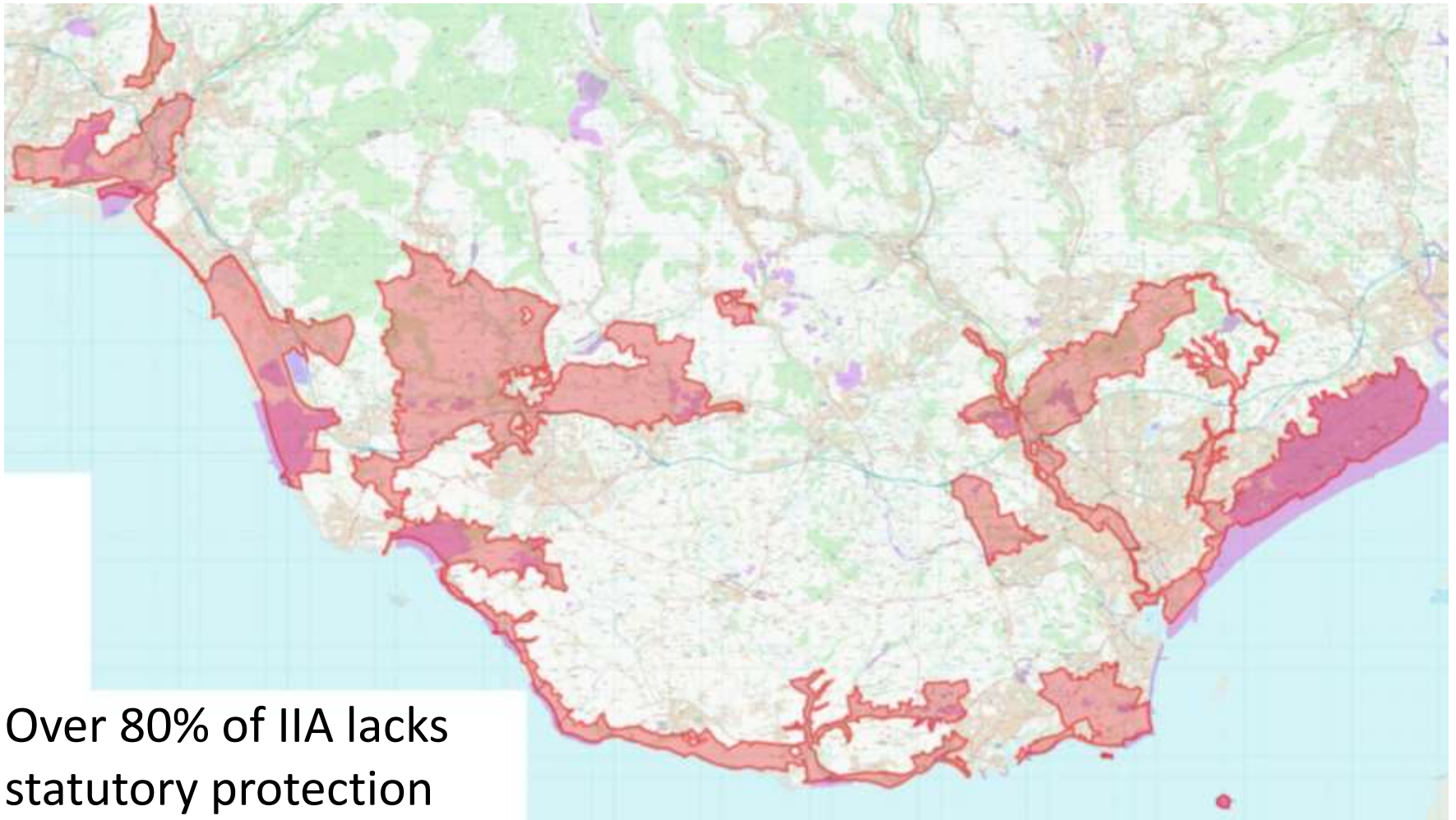


Protected Area Network coverage

- Is the SSSI network fit for purpose?
- IIAs can identify areas requiring statutory protection for their invertebrate interest.
- Are protected sites being managed properly? E.g. South Wales...

IIA	Total IIA Area (km ²)	Area of SSSI inside IIA (km ²)	Area of IIA under SSSI designation
South Pembrokeshire	35.79	27.81	77.71%
Gower	60.94	41.07	67.38%
North Pembrokeshire	102.98	55.42	53.82%
South Wales Coast	251.02	49.25	19.6%

e.g. Protected Area Network coverage- South Wales Coast IIA



Over 80% of IIA lacks statutory protection

Site protection- how could IIAs help decision makers?

Avoid the pitfalls of many applications by:

- Ensuring invertebrates are considered at the Preliminary Ecological Appraisal stage.
- Flagging up wildlife-rich sites to inform Ecological Statements.
- Raising flags that sites might support threatened invertebrates.
- Providing a key assemblage for mitigation schemes to contribute to conserving.
- Identifying priority sites for retention.

A unique role for IIAs in the planning system

- Inform planning application scoping opinions
 - Is an application within an IIA?
 - If so, does it support habitat features identified in the IIA profile?
 - Allows lesser recognised habitats and features to be flagged up early
 - Helps to identify key assemblages (without duplicating the role of or replacing data searches)
 - All helping to create a smoother planning process which works for invertebrates.



Site protection- influencing Local Development Plans



Site protection

- Prevent IIAs entering Local Development Plans in the first place!
- Protect important sites and lead to efficient planning.
- E.g. Radford Quarry with the endemic Horrid ground-weaver (*Nothophantes horridus*) IUCN global Red List CR. 10,000 signature petition & £10,000 raised for survey.



Informing GI networks and landscape schemes



Inform/target landscape schemes (such as B-Lines!) delivery

Informing GI networks and landscape schemes

Habitats & resources: ISIS specific assemblage types

Broad biotope i	Habitat i	SAT	No. of species	% representation	SQI	Conservation status i	Species with conservation status	Code	Reported condition i
i	i	i	i	i	i	i	i	i	i
open habitats i		scrub-heath & moorland i	154	44	254	32 NS i ; 5 Section 41 Priority Species - research only; 7 Section 41 Priority Species; 4 RDB 3; 8 NR i ; 4 NT i ; 3 VU i ; 1 Notable; 3 Nb; 3 pNS; 2 NT (Global) i ; 1 Legal Protection i ; 1 RDB 1	62	F003	Favourable
tree-associated i	decaying wood i	bark & sapwood decay i	77	15	227	6 Nb; 4 RDB 3; 3 NA i ; 2 Section 41 Priority Species; 1 [RDB 2]; 4 NS i ; 3 [Na]; 1 EN i ; 1 NR i	22	A212	Favourable
open habitats i		scrub edge i	52	23	167	2 Section 41 Priority Species; 2 NT (Global) i ; 2 NS i ; 1 NA i ; 1 RDB 1; 1 [RDB 3]; 1 RDB 3	9	F001	Favourable
open habitats i		rich flower resource i	43	18	143	2 Section 41 Priority Species; 1 [Na]; 1 [RDB 2]; 1 Nb; 1 [RDB 3]	5	F002	Favourable
open habitats i	tall sward & scrub i	montane & upland i	39	39	449	16 NS i ; 3 pNS; 8 NR i ; 3 NT i ; 3 VU i ; 1 Notable; 1 RDB 3; 1 Nb; 1 Section 41 Priority Species	30	F221	Favourable

Use Pantheon assessments of invertebrate assemblages to highlight the key habitat features for the region's invertebrate interest. Make GI work for invertebrates!

How could IIAs help decision makers?

- Identify core areas for invertebrates and **local assemblages of importance**.
- Additional tool in Environmental Impact Assessment.
- Identify gaps in protected area & green space networks.
- Inform planning applications to ensure appropriate surveys ahead of submission.
- Support planners in understanding key areas and habitats.
- Developing **land-scape strategies** for key species or assemblages, including poorly recognised types.
- Raise awareness of overlooked species in local authority areas.
- Focus resources where they are needed most.

The future of IIAs

- Share and promote IIA report and map layers.
- Complete fine-scale mapping.
- Continue working with statutory bodies.
- Engage with planning system to embed IIAs in local authorities and LERC resources. Data searches- the ultimate aim!
- Overlap with protected sites networks, IPAs, Futurescapes, Living Landscapes, land use maps, etc, to effect change.
- Focused IIA engagement – key landholders and NGOs.
- Engage local communities with key invertebrates in their areas.

Thank you

Ideas for IIA work in your local area?
Contact jamie.robins@buglife.org.uk





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