



Monitoring sea lamprey (*Petromyzon marinus* L.) in Irish rivers

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EU Habitats Directive (92/43/EEC) Reporting

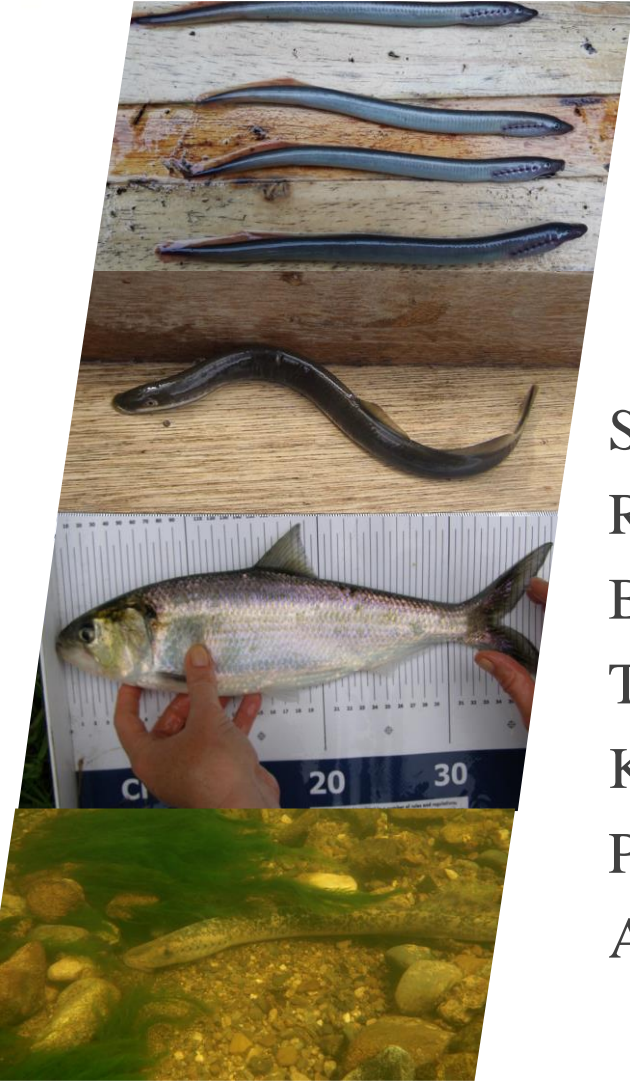
- Conservation of biodiversity by requiring Member States to take measures to maintain or restore listed habitats and species at a favourable conservation status.
- Member States required to designate Special Areas of Conservation (SACs) and to monitor the habitats listed in Annex I and the species listed in Annexes II, IV and V (Article 11).
- Report to the EU Commission every 6 years (Article 17) with assessment of conservation status of target species.
- Latest status assessments for habitats and species published in 2019 for period 2013 - 2018.

<https://www.npws.ie/publications/article-17-reports>





Relevant Fish Species in Ireland



Sea lamprey (*Petromyzon marinus*)

Annex II

River lamprey (*Lampetra fluviatilis*)

Annex II, V

Brook lamprey (*Lampetra planeri*)

Annex II

Twaite shad (*Alosa fallax*)

Annex II, V

Killarney shad (*Alosa Killarnensis*)

Annex II, V

Pollan (*Coregonus autumnalis*)

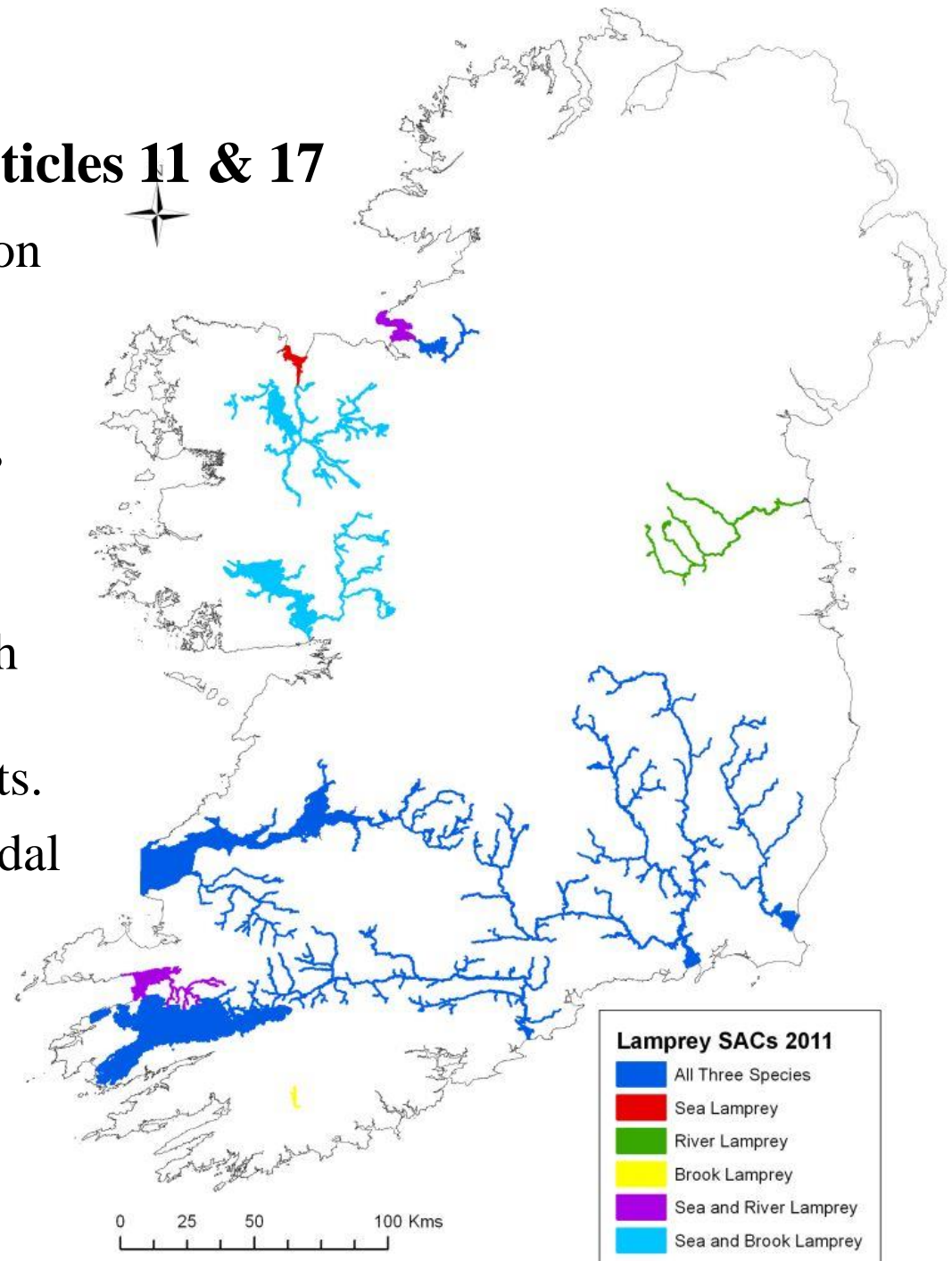
Annex V

Atlantic salmon (*Salmo salar*)

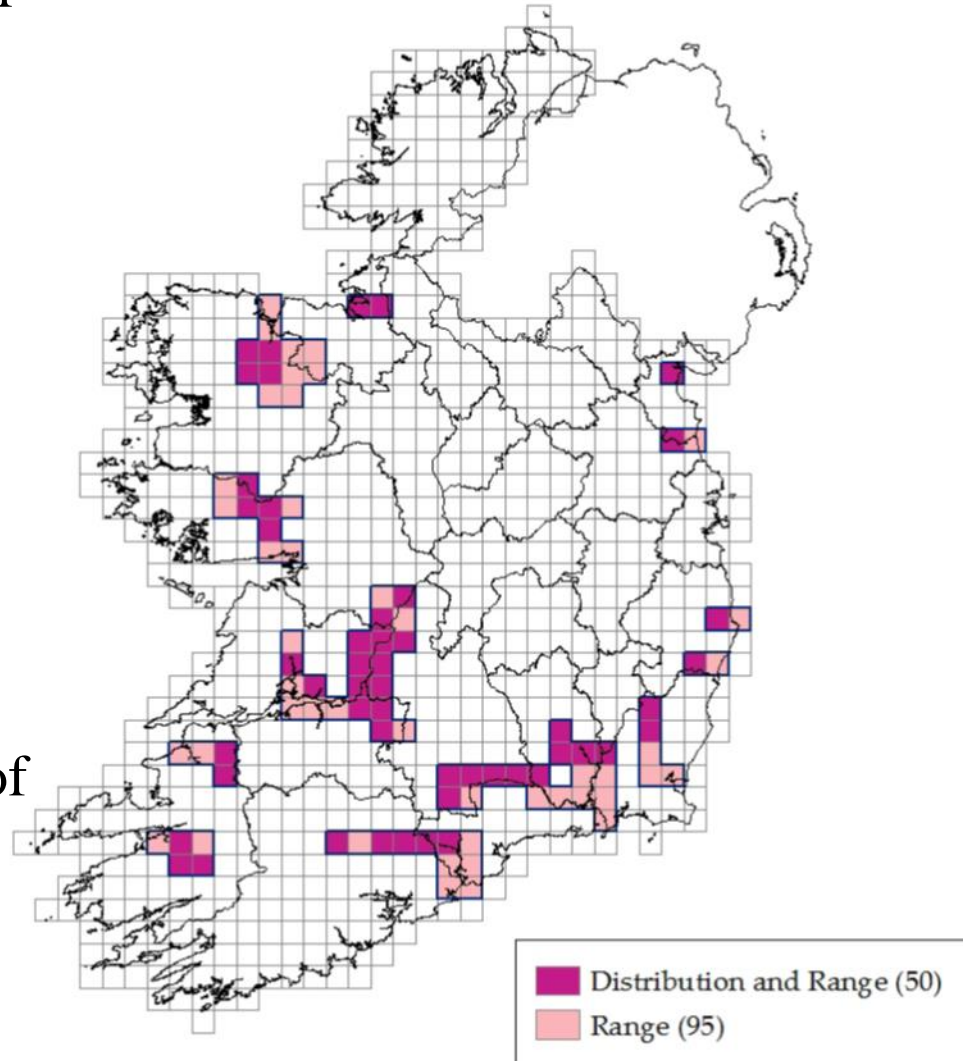
Annex II, V

EU Habitats Directive Articles 11 & 17

- All 3 lamprey species listed on Annex II of the Habitats Directive (92/43/EEC).
- 14 designated lamprey SACs (12 sea lamprey, 11 river lamprey, 9 brook lamprey).
- Mostly substantial rivers with large catchments containing spawning and nursery habitats.
- Also comprise estuarine & tidal sections.
- Majority have manmade obstacles in their lower stretches, problematic for migrating species.

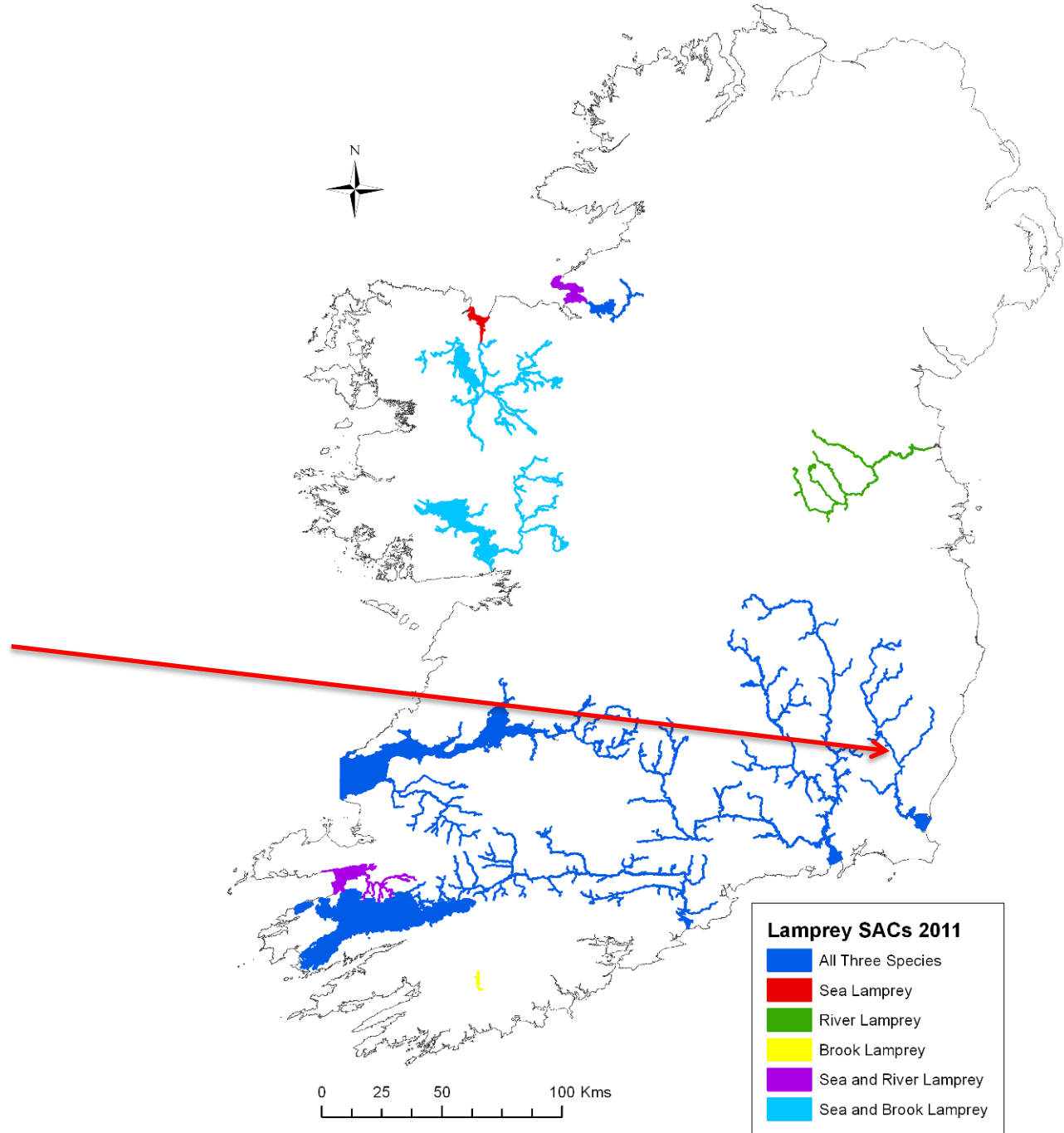


- Range, population size, habitat for the species, future prospects
- Status – Unfavourable-Bad
- Range – 9,500 km²
- Range, Population & Future Prospects – Bad
- Habitat – Inadequate (access issues)
- Adult records – nest/redd counts (hot-spots) & float-over surveys of SAC main channels
- Unfavourable – all other Atlantic regions
- Unknown – UK





River Slaney



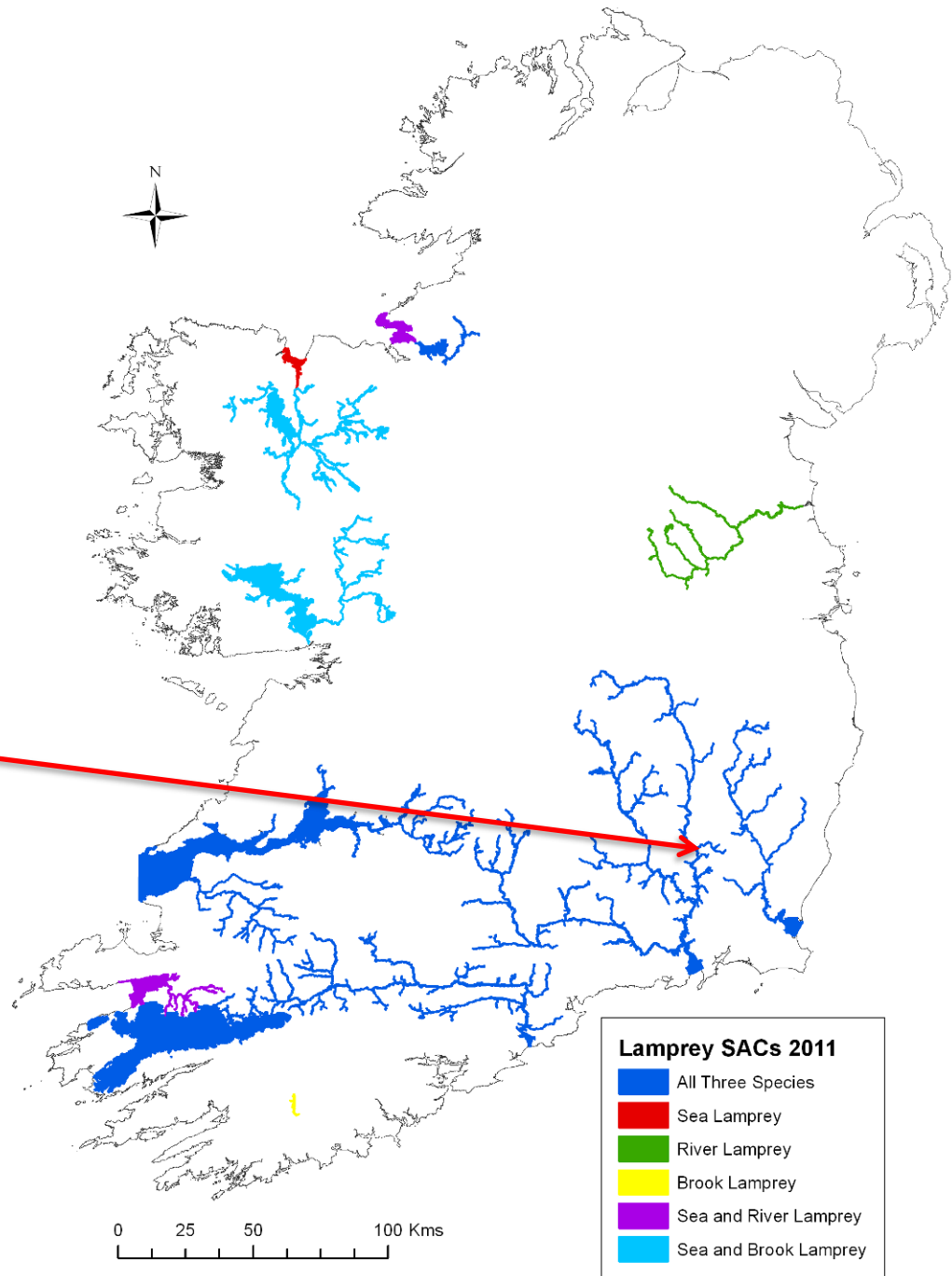
Clohamon Weir (43km)



- Low head weir with salmonid fish pass.
- Complete barrier to sea lamprey during summer flows.
- Not a barrier for river lamprey migrating during winter.



River Barrow



Lamprey SACs 2011

- All Three Species
- Sea Lamprey
- River Lamprey
- Brook Lamprey
- Sea and River Lamprey
- Sea and Brook Lamprey

R. Barrow – tidal for 43km & navigable

**St Mullin's Weir – first of 23 over
65km!!**



**Suitable spawning habitat
immediately downstream**

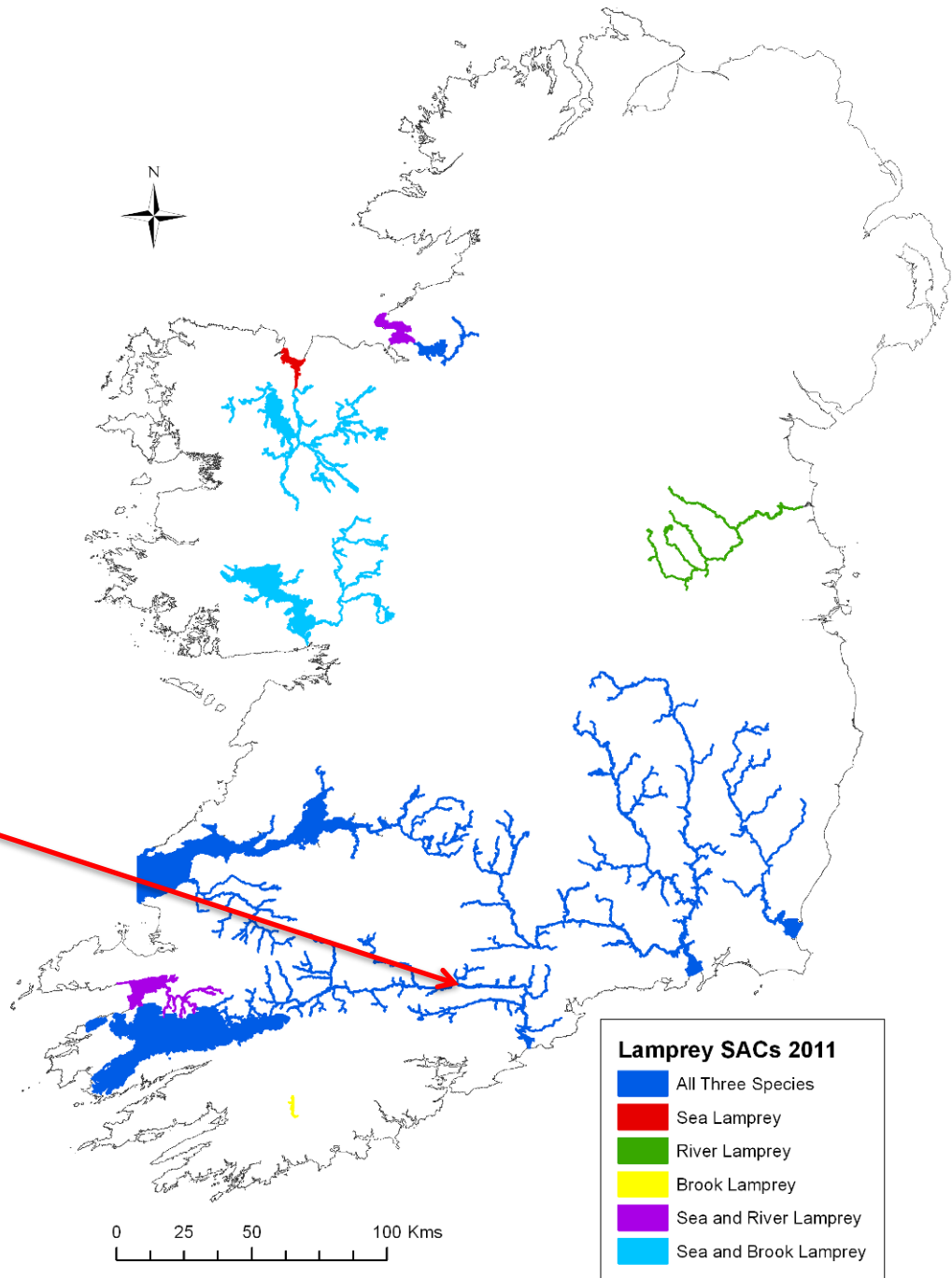
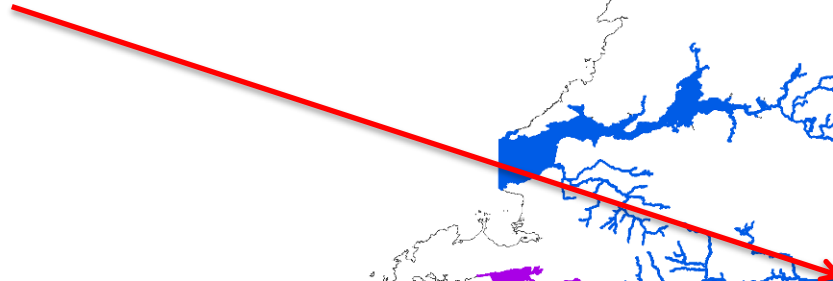


Clashganny weir & lock



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(Munster) Blackwater



Lamprey SACs 2011

- All Three Species
- Sea Lamprey
- River Lamprey
- Brook Lamprey
- Sea and River Lamprey
- Sea and Brook Lamprey

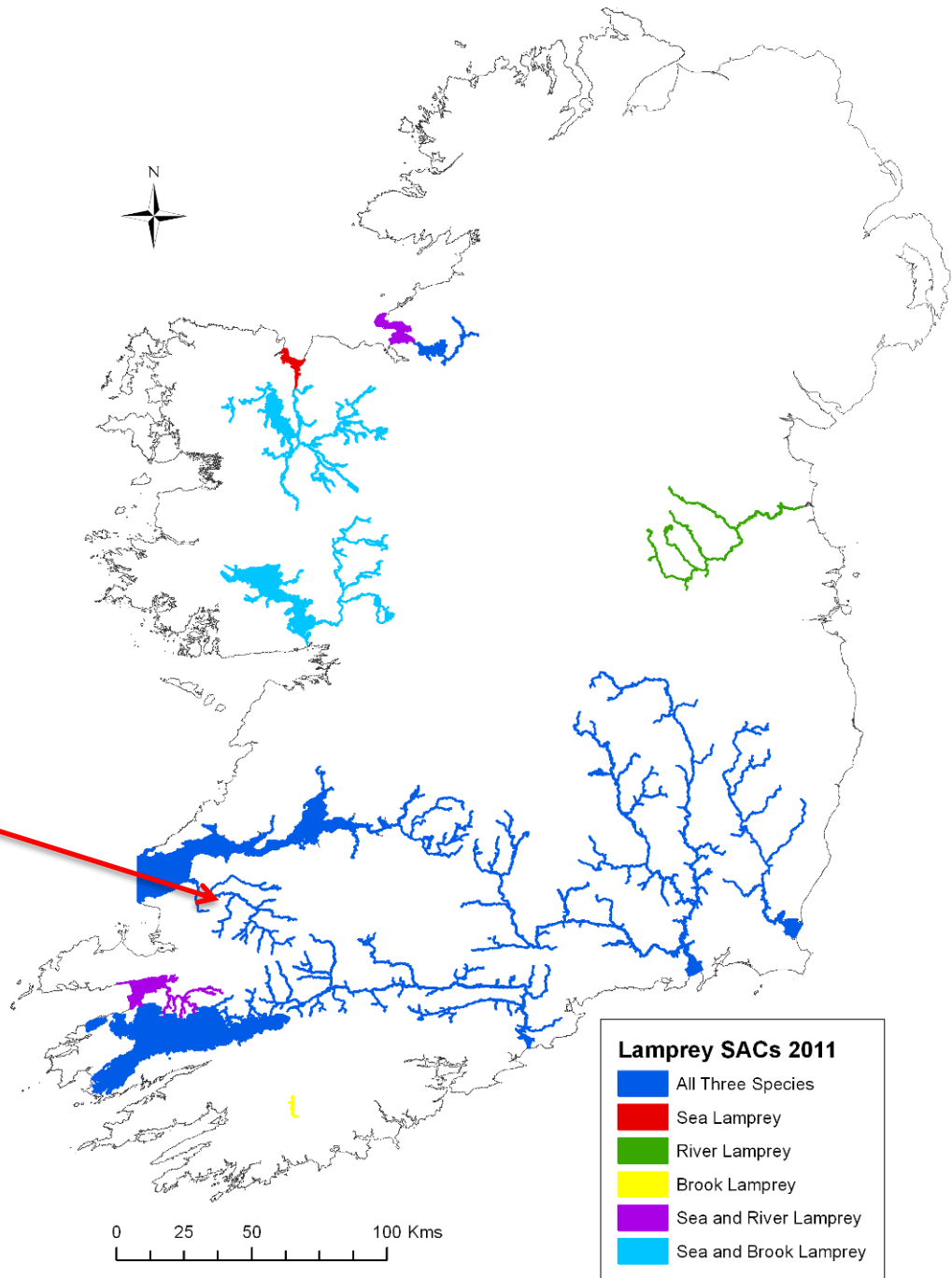
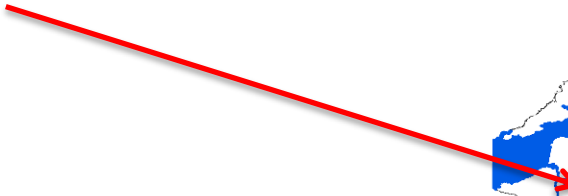
Munster Blackwater – tidal for 28km

Clondulane Weir (55km)





River Feale



Lamprey SACs 2011

- All Three Species
- Sea Lamprey
- River Lamprey
- Brook Lamprey
- Sea and River Lamprey
- Sea and Brook Lamprey

R. Feale – tidal for 14km

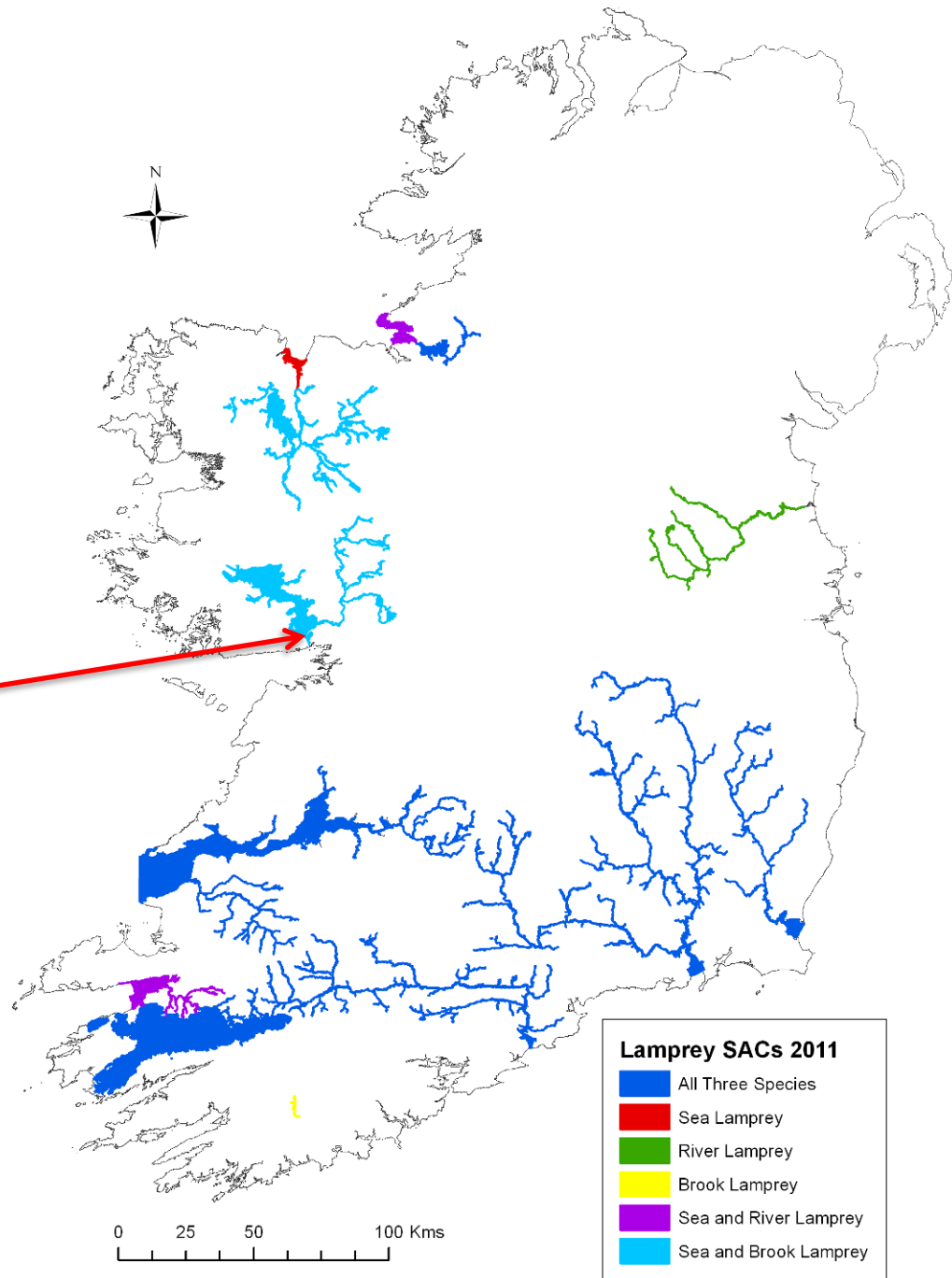
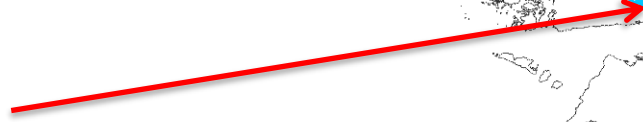


Scartleigh Weir (16km)



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River Corrib





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Galway Weir



Larval Lamprey Surveys To Date

- Catchment based electrofishing survey.
- Sites pre-selected based on 1 site per 25km² of catchment.
- Accessibility.
- Broadly representative of topography and stream order across catchment.
- Electrofishing undertaken in 1m² of suitable nursery habitat.
- Standard survey protocol.
- Sea lamprey larvae rarely encountered,

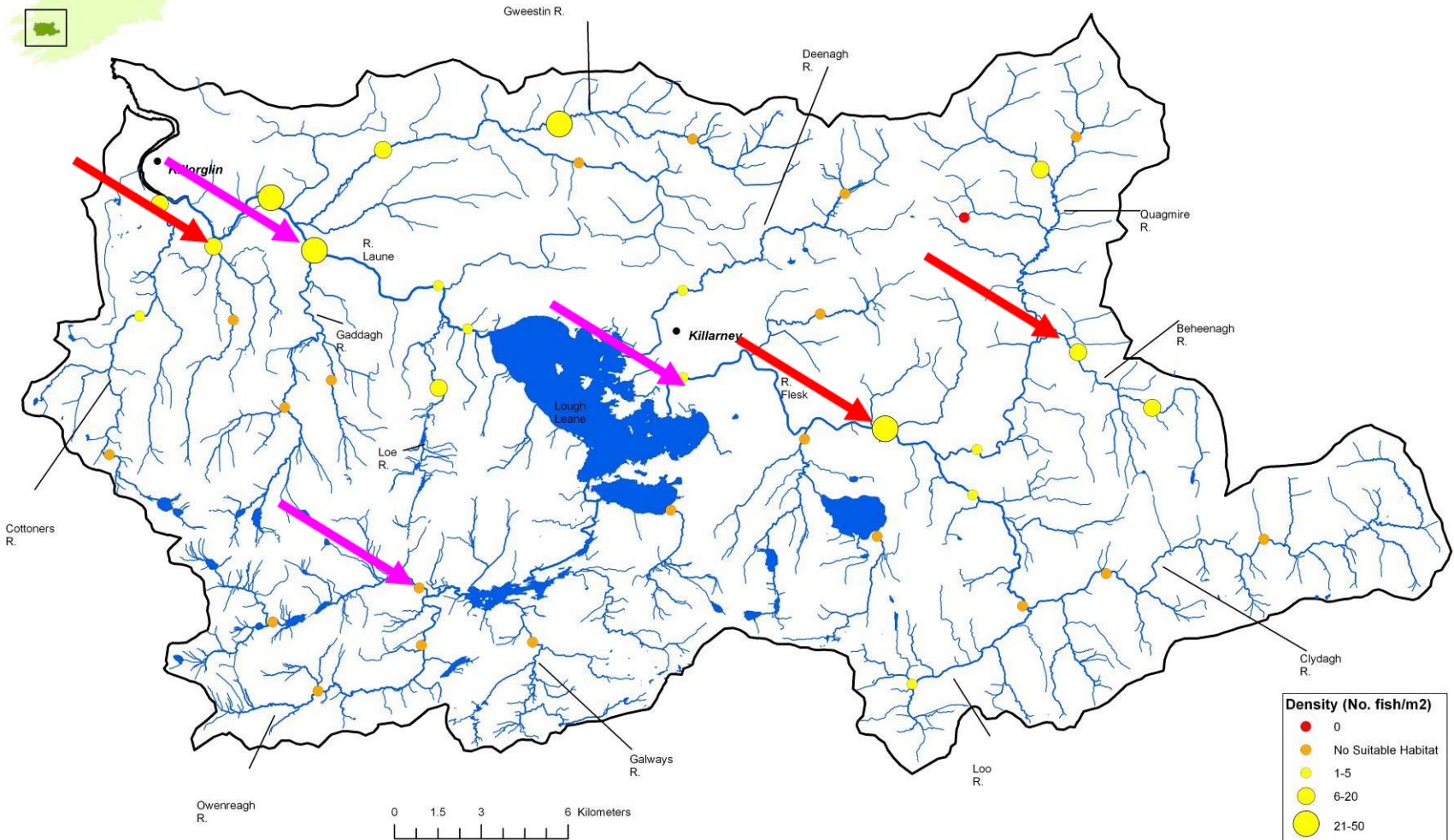


Larval Lamprey Surveys



R. Laune, Co. Kerry

- Catchment Wide Survey 2010
- Repeated in 2014
- Reference Sites Surveyed 2016



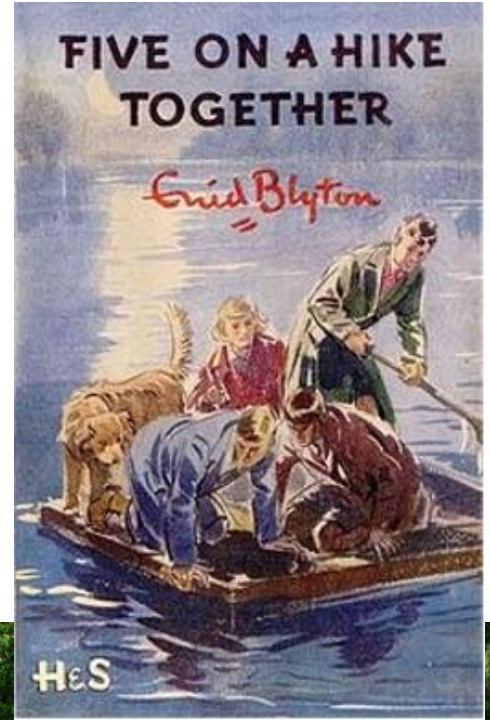


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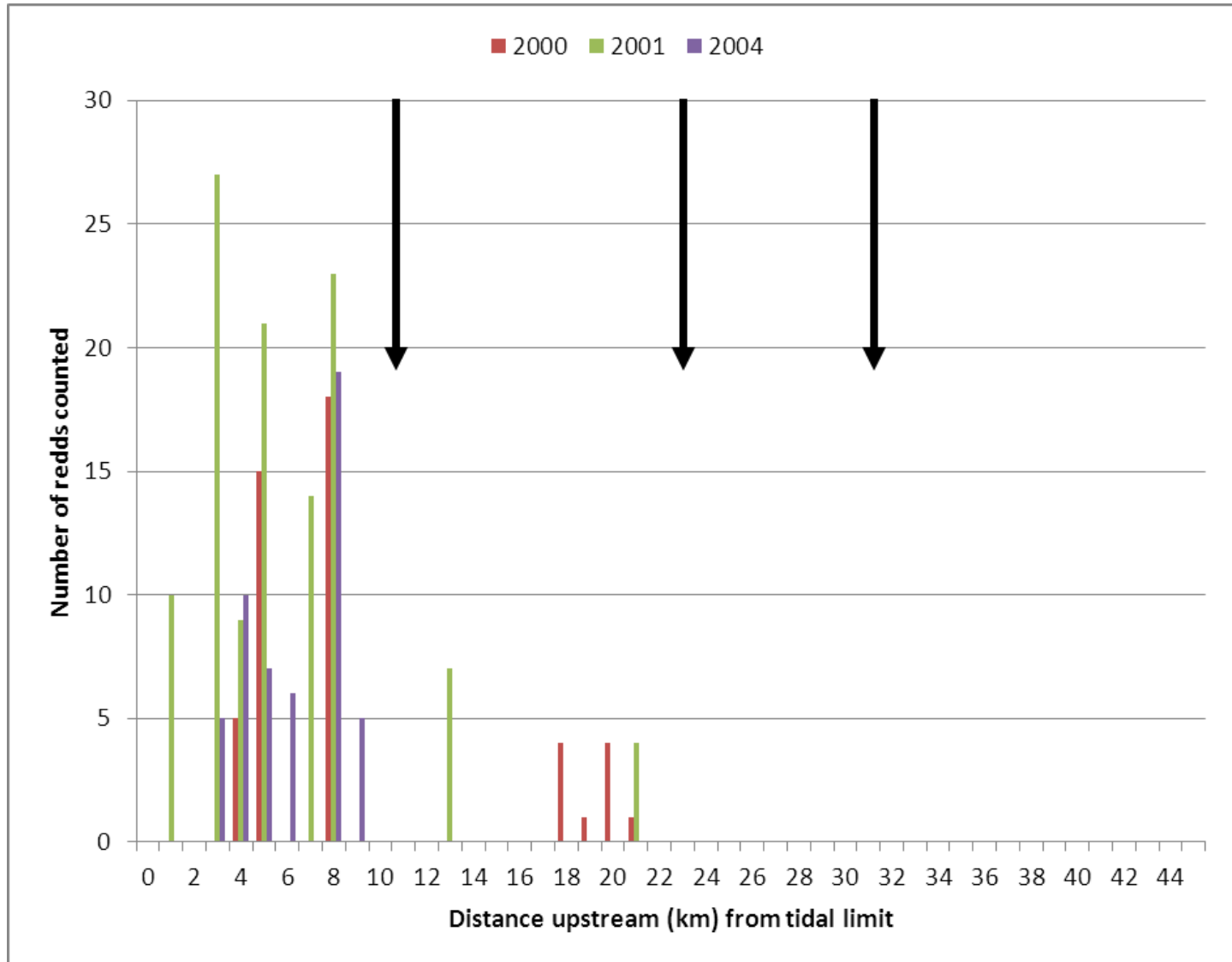
- Sea lamprey spawning habitat in the Gearhameen R., Black Valley, Co. Kerry, upstream of the Killarney Lakes Complex.

Float-over Surveys



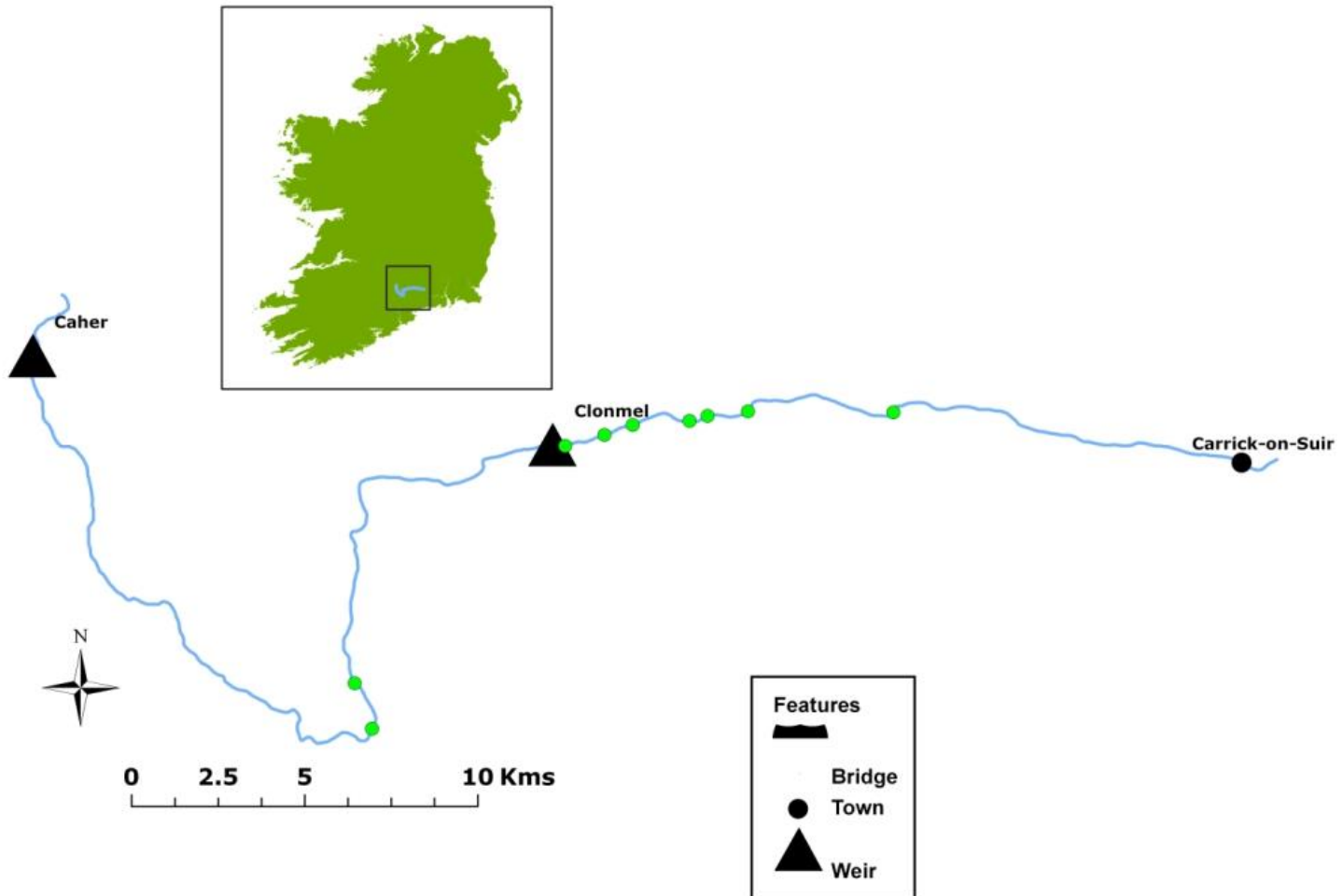


River Nore Float-overs – 2000, 2001 & 2004





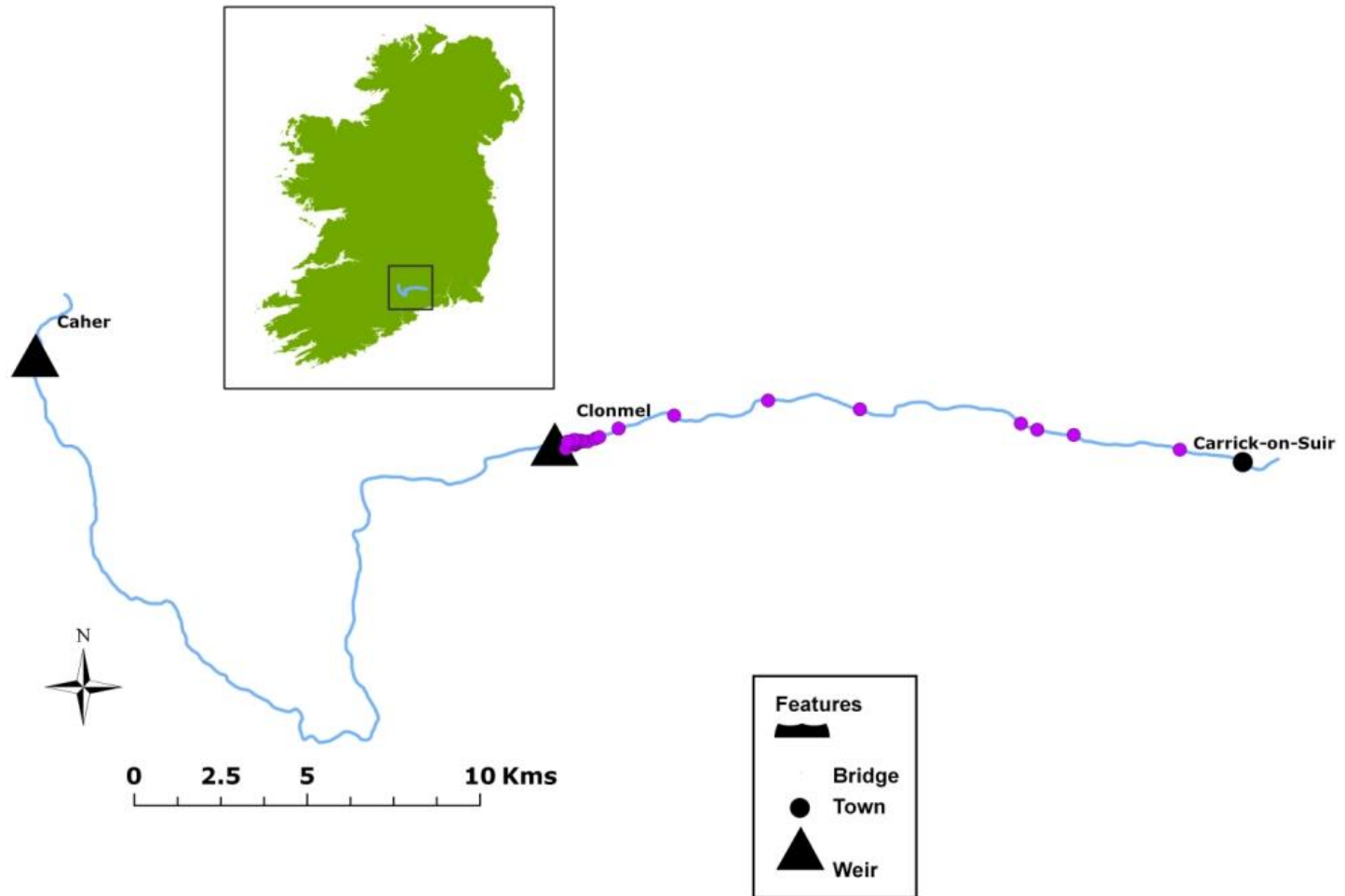
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River Suir 2000 n=64 redds



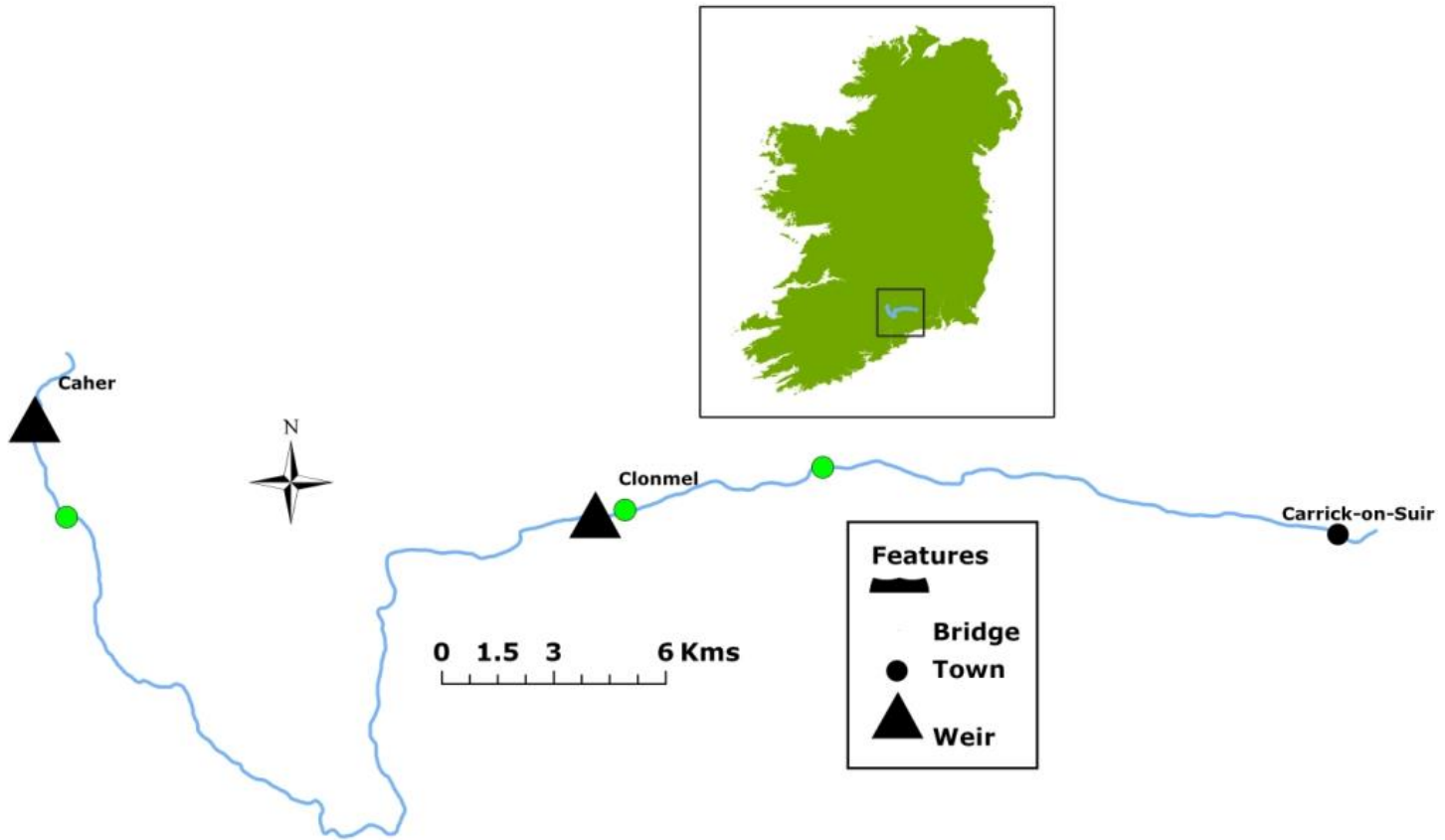
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River Suir 2005 n=50 redds



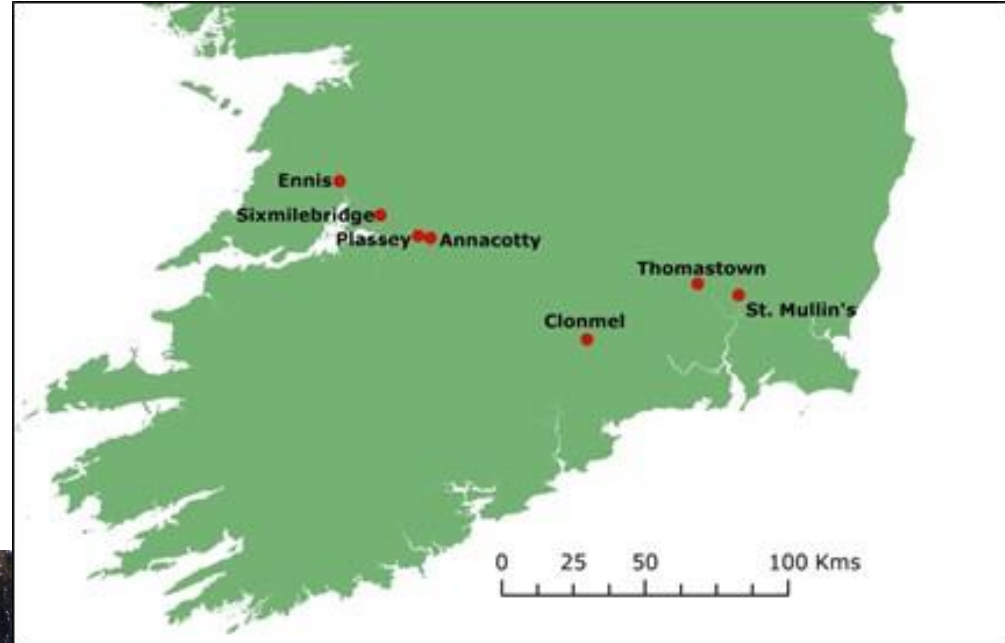
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River Suir 2013 n=24 redds

Spawning Hot-Spot Surveys

- Known spawning sites, visited 2-3 times each year.
- Provides useful general information regarding adult numbers, timing, etc.



Climate Change - Effects of Summer Floods?



June 10th 2010



June 28th 2012

- Concentration of spawning effort in lower reaches of rivers below obstacles.
- Potential susceptibility of redds to flood events.

Climate Change - Effects of Summer Floods?



- Climate modelling predicts increases in occurrence and severity of summer flood events in Ireland.
- Requirement to mitigate the impact of obstacles and allow migration into upper catchment.



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Sea Lamprey Passage Aids



Sea Lamprey Passage Aids





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Sea Lamprey Passage Aids



Thank you for your attention!!



- Acknowledgements for assistance and information to colleagues in Inland Fisheries Ireland, in particular seasonal support staff, NPWS staff in Killarney National Park, anglers and members of the public