1. American plaice or long rough dab (*Hippoglossoides platessoides*)

Irish name: Daba fada garbh

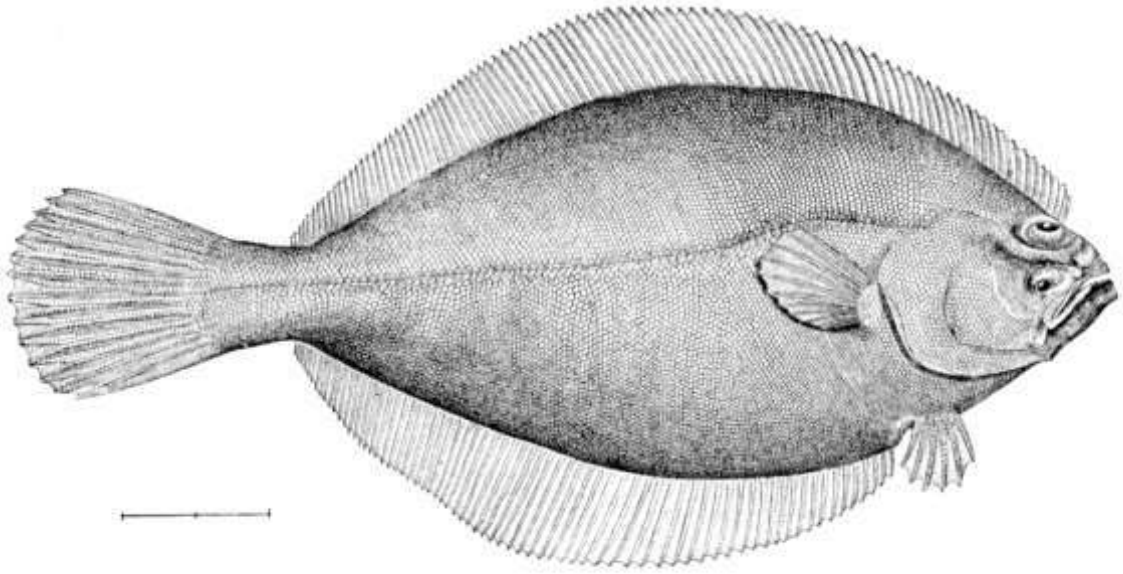

Figure 1. American plaice or long rough dab, *Hippoglossoides platessoides* (Fabricius, 1780), Public Domain, https://commons.wikimedia.org/w/index.php?curid=677815

Background

American plaice or long rough dab is a species of right-eye flounder from the family Pleuronectidae. It occurs on both sides of the North Atlantic Ocean mostly on soft bottoms at depths between 90 and 250 m. It feeds primarily on invertebrates and small fishes. Eggs and larvae are pelagic and spawning occurs from March to May. Two subspecies are recognized, *H. p. platessoides* from north-western Atlantic, and *H. p. limandoides* from the north-eastern Atlantic (Source: Fishbase).

Life history attributes vary significantly between populations (longevity, growth rate, age/size at maturity etc.). In European waters, this species has experienced marked reductions in the age and size of first maturity due to fishing pressure. It is a commercial species, primarily taken as bycatch. This species is well researched within the assessment region, and stocks are monitored to varying degrees. The largest European stock, in the North Sea, is increasing in biomass, and biomass is at record high levels. The majority of other monitored European stocks are also increasing in biomass. This species is managed by Total Allowable Catch regulations in the North Sea but not in the western Irish Sea. (Source: Monroe et al., 2015).

Rationale for spatial protection in the western Irish Sea

American plaice is nominated for inclusion with particular reference to its listing as Endangered by the global IUCN Red List. However, the European Red List places the species in the Least Concern category. Nevertheless, american plaice is not subject to individual

management or stock assessment in the western Irish Sea and there are no fishing restrictions in place under the Common Fisheries Policy (2015) so the precautionary principle was applied and spatial management is considered.

The western Irish Sea is a significant part of its range. Data on the distribution of this species in the Irish Sea is comprehensive; catch and positional data are available from the fishery (logbooks and VMS) and the IBTS survey reports CPUE, length, weight, age, sex and maturity from scientific hauls spread across the area in a stratified design.

American plaice are amenable to spatial protection owing to its close association to certain substrate types. At least one spatially protected areas in Iceland has shown increased numbers of juvenile American plaice inside an area closed to fishing (Jaworski et al., 2006)

Sensitivity assessment

The highest associated sensitivity scoring for American plaice was in relation to physical loss or alteration of its habitat and its targeted and non-targeted removal (bycatch) by fishing. Elements of both of these pressure classification were deemed a medium sensitivity (with medium confidence). Due to its close association with soft sediments, resistance to physical loss and change of sediment type were scored as low but, as they are mobile, have pelagic eggs and larvae, and have a long association with pressures relating to fisheries, resilience was scored medium.

One study in the western Atlantic found evidence to suggest the health of bottom-dwelling flatfish at three sites was impaired by chronic exposure to sediment contaminated with PAHs or PCBs. Overall, however, there was not enough literature to form an assessment of sensitivity.

American plaice were assessed as not sensitive to waterflow changes but it should be noted that the transport and retention of their eggs and larvae to suitable areas of habitat in the Irish Sea may rely on certain ocean fronts/currents and large-scale disruption of such features could disrupt settlement of larvae.

Further research needs

Evidence to identify the potential effect of multiple pressures was insufficient to form an assessment. These pressures included chemical (transition elements and organo-metal contamination, hydrocarbon and PAH contamination, synthetic compound contamination and introduction of other substances). There is limited knowledge about the sensitivity of different fish species to environmental pollutants. This species has been suggested as a

possible species for biomonitoring in the northern Atlantic due to its wide distribution and presence in both offshore and coastal areas (Ellestat et al., 2011).

Figure 2. Global geographic distribution of American plaice or long rough dab, *Hippoglossoides platessoides,* from www.aquamap.org.

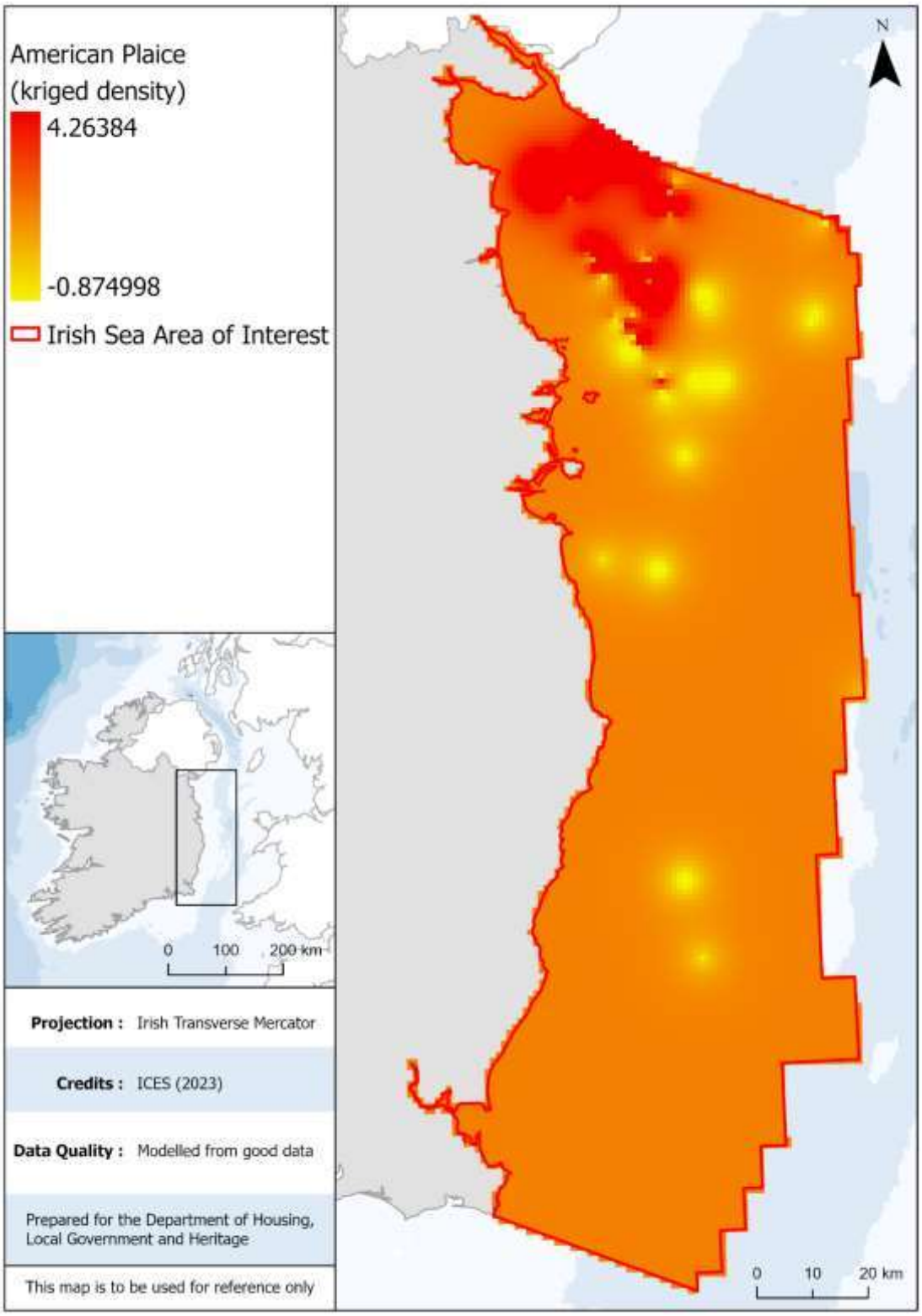

Figure 3. Data available for American plaice or long rough dab, *Hippoglossoides platessoides,* in the western Irish Sea.

Data sources and quality

Dataset Name	Data Owning Organisation	Dataset Quality	Metadata URL	Comments
ICES international fishing effort and swept area ratios; VMS	International Council for the Exploration of the Seas	Modelled from good data		
International Bottom Trawl Survey (IBTS) Fisheries Database of Trawl Surveys (DATRAS)	International Council for the Exploration of the Seas	Good; observed	IE-IGFS and NIGFS	Sparse data for this species
Marine Institute VMS and logbook	Supplied to Marine Institute by Irish Naval Service and Sea Fisheries Protection Authority	Modelled from good data		

References

Cadrin, S., González Troncoso, D., Wheeland, L. & Munroe, T.A. 2022. *Hippoglossoides platessoides*. *The IUCN Red List of Threatened Species* 2022: e.T18214783A162705101.

Ellesat, Kathrin Sabine, Mazyar Yazdani, Tor Fredrik Holth, Ketil Hylland (2011) Species-dependent sensitivity to contaminants: An approach using primary hepatocyte cultures with three marine fish species, Marine Environmental Research, Volume 72, Issue 4, Pages 216-224, ISSN 0141-1136, https://doi.org/10.1016/j.marenvres.2011.09.003.

Jaworski, Andrzej, Jon Solmundsson, Stefan Aki Ragnarsson (2006) The effect of area closures on the demersal fish community off the east coast of Iceland, ICES Journal of Marine Science, Volume 63, Issue 5, 2006, Pages 897–911, https://doi.org/10.1016/j.icesjms.2006.03.001

Monroe, T., Costa, M., Nielsen, J., Herrera, J. & de Sola, L. 2015. *Hippoglossoides platessoides (Europe assessment)*. *The IUCN Red List of Threatened Species* 2015: e.T18214783A45790114.