12. Short snouted seahorse (*Hippocampus hippocampus*)

Figure 1. Short snouted seahorse, *Hippocampus hippocampus*. By © Hans Hillewaert, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=22106851

Background

The short snouted seahorse is in the class Teleosti and is one of two seahorses found in Irish waters. There is limited published research on the ecology of this species, therefore, the life history characteristics referred to in this case study are based largely on review articles on the biology of seahorses (Vincent, 1996; Garrick-Maidment, 1997; Lourie et al. 1999; Garrick-Maidment & Jones, 2004). *H. hippocampus* typically occupy depths of 1-15 m and most commonly observed in <5 m (Sabatini, Nash & Ballerstedt, 2021). It is thought that their depth distribution is likely a result of available habitat and varies throughout their range (Sabatini, Nash & Ballerstedt, 2021). A study in the Arcachon Basin in France suggested that adults make seasonal migrations to deeper waters in winter (Boisseau, 1967). Short-snouted seahorses grow up to 15 cm (Dawson, 1986), and mature at 6-12 months old (Lourie et al. 1999). The exact breeding season is not yet determined but is thought to occur between April to November (Lourie et al. 1999; Garrick-Maidment & Jones, 2004). Seahorses are ovoviviparous, with females depositing eggs into the male brood pouch. Gestation lasts 20-21 days (Garrick-Maidment, 1998), with 50-250 young produced (Garrick-Maidmen, 1998; Sabatini, Nash & Ballerstedt, 2021). Newly hatched young are thought to have a plankton dispersal stage that lasts >8 weeks (fishbase.se, no date), the extent of this dispersal is not yet described. The short snouted seahorse is primarily an eastern Atlantic species, occurring from the Wadden Sea to the Gulf of Guinea, the Canary Islands and along the African coast of

Guinea, and in the Mediterranean (OSPAR Commision, 2009). Short snouted seahorse are found in coastal habitats and estuaries, across both hard (bedrock), soft and vegetated substrate (microalgae and/or seagrass cover) (Sabatini, Nash & Ballerstedt, 2021). Seahorses typically have a small home range and high site fidelity (OSPAR Commission, 2009).

Rationale for spatial protection in the western Irish Sea

Short snouted seahorse were nominated for inclusion with particular reference to its conservation listing under OSPAR. OSPAR considers this species regionally and globally important, highly sensitive, and potentially in decline (OSPAR Commission, 2009).

It is one of two species of seahorse found in western Irish waters. Current evidence suggests declining numbers globally, however, the population size in the western Irish Sea is currently not quantified. Owing to its limited dispersal potential, a precautionary approach suggests spatial protection may be advisable.

Short snouted seahorse are amenable to spatial protection. Species-specific life history characteristics are poorly defined for this species. However, seahorses typically have limited dispersal, high site fidelity and small home ranges.

Sensitivity assessment

Short snouted seahorse are moderately sensitive to several fishing-associated pressures (low confidence). This species is moderately sensitive to fishing gears associated with abrasion/disturbance of the substratum surface or seabed (medium confidence) and highly sensitive to penetration or disturbance of the substratum subsurface (medium confidence). Short snouted seahorses were deemed moderately sensitive to introduction or spread of invasive non-indigenous species (low confidence), targeted removal (medium confidence) and accidental removal (medium confidence). Seahorses are globally exploited for use as medicines, aquarium fisheries, food and curios (Sabatini, Nash & Ballerstedt, 2021). There is no documented targeted removal in the western Irish Sea, however, it is assumed that there is potential for accidental bycatch of the species by trawling gear.

Shipping associated pressures were deemed not applicable or resulting in a low perceived sensitivity (low confidence). Underwater noise related to short-term constant motor noise was identified to cause the long snouted seahorse (*H. guttulatus*) to increase opercular movements and an increased likelihood to abandon their hold fasts (Palma et al. 2019). Its associated resistance was scored as medium by MaRLIN owing to possible effects on reduced recruitment and increased predation risk (Sabatini, Nash & Ballerstedt, 2021), however, its resilience scored high as noise is not thought to cause direct mortality.

Short snouted seahorse are moderately and highly sensitive to several pressures associated with offshore wind farms. All marine habitats and benthic species are considered to have no resistance to physical loss of habitat to land or freshwater habitat, and are unable to recover (low resilience) (Sabatini, Nash & Ballerstedt, 2021). Equally, as previously mentioned, seahorses are moderately sensitive to abrasion, penetration or disturbance of the substratum surface and seabed, pressures associated with the wind farm construction phase.

Further research needs

Key knowledge on the distribution and population size in the western Irish Sea is essential. Knowledge of the life history characteristics for this species are currently limited and requires further investigation.

Data sources and quality

No data was retrieved for this species in the western Irish Sea.

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