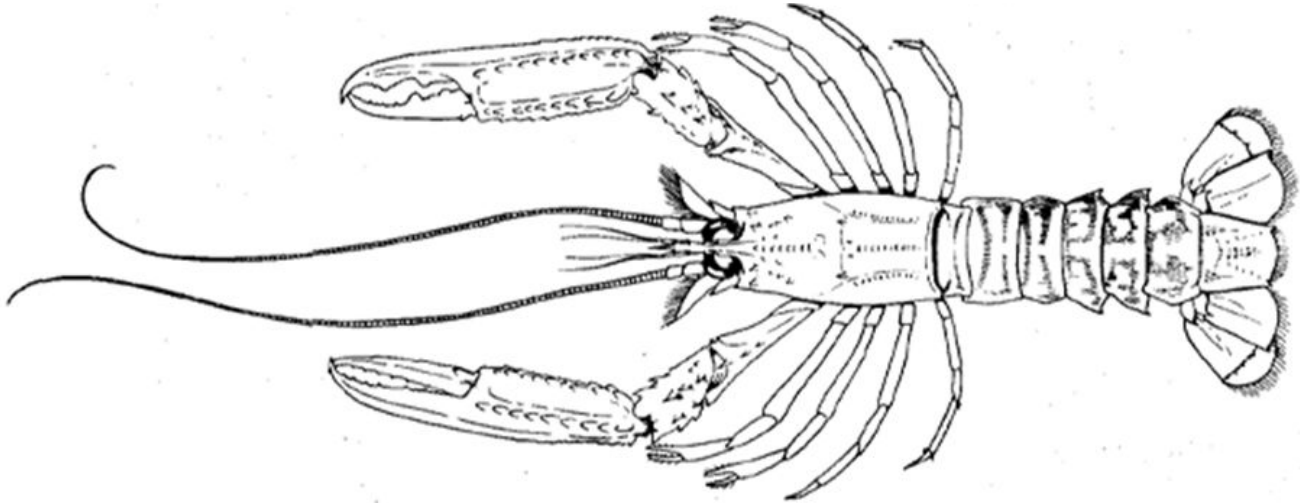


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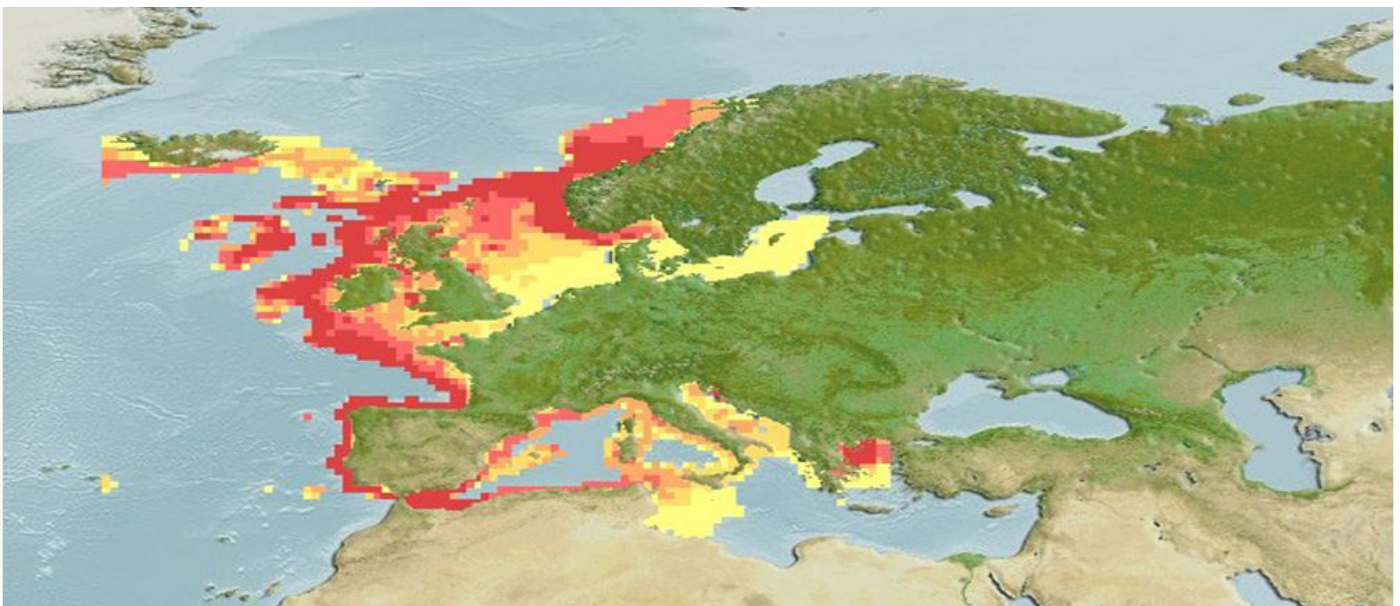
Dublin Bay Prawns (*Nephrops Norvegicus*)



(Holthuis 1991)

Introduction

Nephrops norvegicus, (also known as Norway lobster, Dublin Bay prawn, langoustine, scampi) is a slim, orange-pink, benthic decapod crustacean, and the most important commercial crustacean in Europe. It ranges throughout the Eastern Atlantic region, from Iceland and north western Norway to the Atlantic coast of Morocco and western and central basin of the Mediterranean. It is found at a depth range from 20 to 800 m on muddy bottoms in which it digs its burrows. It is nocturnal and feeds on detritus, crustaceans and worms. *Nephrops norvegicus* has the typical body shape of a lobster, growing to a typical length of 18-20 centimetres.



Computer generated distribution map for *Nephrops norvegicus* (Norway lobster), with modelled year 2100 native range map based on IPCC A2 emissions scenario. www.aquamaps.org, version of Aug. 2013. Web. Accessed 5 Feb. 2016.

Life History

The typical life span of *N. norvegicus* is 5–10 years, reaching 15 years in exceptional cases. Adult males moult once or twice a year (usually in late winter or spring), while females moult up to once a year (in late winter or spring, after hatching of the eggs). Mating takes place in the spring or winter, when the females are in the soft, post-moult state. The ovaries mature throughout the spring and summer months, and egg-laying takes place in late summer or early autumn. After spawning, the berried (egg-carrying) females remain in their burrows until the end of the incubation period. Hatching takes place in late winter or early spring. Soon after hatching, the females moult and mate again. The pelagic eggs are released into the water column by the female and hatch into a larval stage which lasts typically 1 to 2 months. The nephrops larvae exhibit diel vertical migration behaviour as they are dispersed by the local currents. This complex biophysical interaction determines the fate of the larvae; the overlap between advective pathway destination and spatial distributions of suitable benthic habitats must be favourable in order for the larvae to settle and reach maturity (Phelps et al. 2015).

Compared to other *Nephrops* fisheries in the ICES area the population density of western Irish sea (FU15) is the highest of all stocks. These high densities are observed throughout time and space. The high observed density implies intense competition for space and food on the seabed. Larval production studies show that over 440 x 10⁹ larvae were produced in 1995 (Briggs et al. 2002). This is >70 times more larvae produced annually than current stock size estimates. The high larval production is coupled with a strong retention mechanism and depositional environment due to the western Irish Sea gyre ensuring continued good recruitment (Hill et al. 1994; Hill et al. 1996)

Summary of life history and habitat parameters

Species: <i>Nephrops norvegicus</i> (Dublin Bay Prawns)				
Life Stage	Size and Growth	Habitat	Substrate	Temperature
Eggs	Incubated for 6-10 months ¹	Females carry eggs		
Larvae	50 days in water column ¹ passing 3 stages of development	Associated with stratified waters and seasonal gyre in western Irish sea ¹	Pelagic, generally in upper part of water column ²	Larval Nephrops have been successfully reared in mass culture at high temperatures 15–19°C. Mean SST in the Irish Sea during Nephrops hatching and larval development (8–10°C). ⁴
Juveniles		Successful settlement requires muddy substrate ¹	Mud Muddy sand Sandy mud ³	Centre of geographical range in Irish sea therefore not deemed to be limited by temperature ²

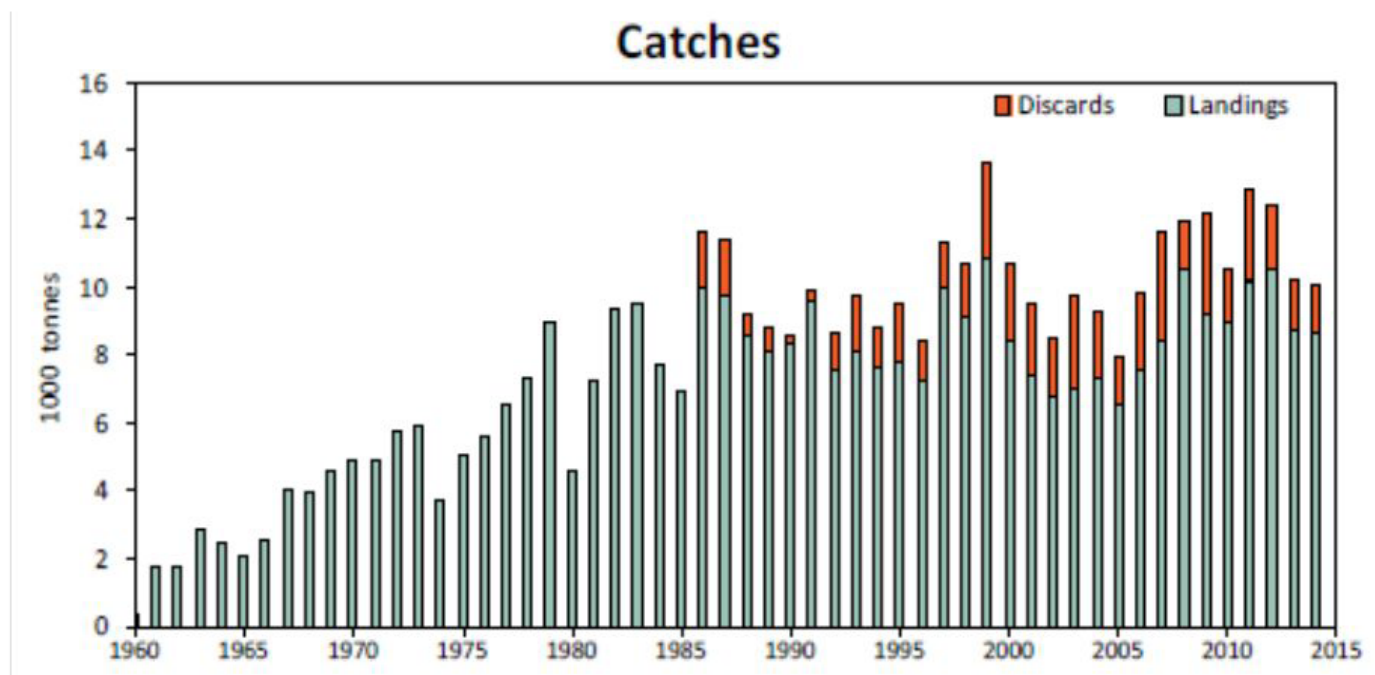
Species: *Nephrops norvegicus* (Dublin Bay Prawns)

Adults (feeding)	In the Irish Sea, <i>Nephrops norvegicus</i> individuals are not thought to live more than 8 or 9 years. Maximum recorded CL of <i>Nephrops</i> was 80 mm ³	<i>Nephrops norvegicus</i> construct extensive shallow and branching burrows in soft sediments such as fine or silty mud at depths of 20-800 m. ³ Adult distribution is tightly constrained by their requirement to build burrows ¹	Mud Muddy sand Sandy mud ³	Centre of geographical range in Irish sea therefore not deemed to be limited by temperature ²
Adults (Spawning)	Females mature at age 31 Mature females about 23 mm CL and mature male <i>Nephrops</i> about 26 mm CL are around 2-3 years old in Irish waters	Adult distribution is tightly constrained by their requirement to build burrows ¹	Mud Muddy sand Sandy mud ³	Centre of geographical range in Irish sea therefore not deemed to be limited by temperature ²

(Hill et al. 1996)¹; (Dickey-Collas et al. 2000)²; Marlin³; (Dickey-Collas et al. 2000)⁴

Fishery

The *Nephrops* fishery in the Irish Sea west is economically the most important in ICES Division VIIa and is mainly prosecuted by vessels from UK (Northern Ireland) and Ireland. This fishery occurs throughout the year and does not exhibit major inter annual changes in seasonal pattern. Landings have fluctuated around 9000 t for over the 35 years. Discarding is highly variable, mainly driven by market demand.



Nephrops landings and discard estimates. (ICES 2015)

Stock Status

ICES advises that when the MSY approach is applied, catches in 2016 (assuming zero discards) should be no more than 8682 tonnes. If instead discards rates continue at recent values (average 2012–2014) and there is no change in assumed discard survival rate, this implies landings of no more than 7577 tonnes.

To ensure that the stock in functional unit (FU) 15 is exploited sustainably, management should be implemented at the functional unit level.

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