

## The Ecological Role of *Loligo forbesii* in the Moray Firth Ecosystem, Northeast Scotland

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**Abstract :** The squid *Loligo forbesii* is suspected to be an important species in marine food webs, as it can strongly impact its prey and be impacted upon by predation, competition, fishing and/or climate variability. To quantify these impacts in the food web, the measurement of its trophic position and ecological role within well-studied ecosystems is essential. An Ecopath model was balanced and run for the Moray Firth ecosystem and was used to investigate the significance of this squid's trophic roles. The network analysis routine included in Ecopath with Ecosim (EwE) was used to estimate trophic interaction, system indicators (health condition and developmental stage) and food web features. Results indicated that within the Moray Firth squid occupy a top trophic position in the food web and also a major prey item for many other species. Results from Omnivory Index (OI) showed that squid is a generalized feeder transferring energy across wide trophic levels and is more important as a predator than that as a prey in the Moray Firth ecosystem. The results highlight the importance of taking squid into account in the management of Europe's living marine resources.

**Keywords :** Squid, *Loligo forbesii*, Ecopath, Moray Firth, Trophic level

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