

SEABIRDS AND FLATFISH
ZEEVOGELS EN PLATVIS

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*Visetende zeevogels hebben over het algemeen grote moeite met het hanteren en inslikken van platvis, zodat hun belangstelling voor deze prooi afhangt van het aanbod aan andere prooien. Omdat een trage handelingssnelheid bij het verwerken van een prooi gunstige voorwaarden schept voor kleptoparasieten wordt platvis over het algemeen pas gegeten indien de kans op verlies aan een andere vogel betrekkelijk gering is. Dus, aan de noorkust van Schotland, met een enorm gevarieerd voedselaanbod en veel kleptoparasieten, vertoonden Zilvermeeuwen *Larus argentatus* maar weinig belangstelling voor platvis. In Noord Wales daarentegen, waar het voedselaanbod een al te ver doorgevoerde kieskeurigheid in de weg stond en waar weinig andere zeevogels waren, werden platvissen door Zilvermeeuwen frequent geconsumeerd.*

During surveys in Department of Agriculture and Fisheries for Scotland vessels around the north of Scotland in the early 1970s (Bourne 1982) none of the seabirds, including a large proportion of Great Black-backed Gulls *Larus marinus*,

who often stole from other species, seemed much interested in the small flatfish forming a minority of the fish discarded. Therefore I speculated that one of a number of reasons why fish become flat is that it makes it difficult for predators to swallow them.

This theory lasted until a similar survey on the Bangor Marine Science Laboratory vessel off North Wales some months later, where the Herring Gulls *L. argentatus*, which now formed a large majority of the scavengers, eagerly seized all the more numerous flatfish up to about 20 cm in diameter, chewed them up, and swallowed them with ease. Similarly, the Hobsons (1993) report that off SE Scotland drake Eiders *Somateria mollissima* were also able to catch small flatfish and swallow them after banging them on the surface of the water, though one flatfish 13 cm in diameter appeared to cause difficulties and was eventually abandoned. Subsequently in a study of the feeding opportunities for seabirds at Dutch beamtrawl fisheries, Camphuysen (1993, 1994ab) has found that while the birds, also mainly gulls including piratical Great Blackbacks, preferred offal and roundfish, the smaller flatfish were taken when the intensity of feeding was high.

While flatfish often form a large proportion of the diet of Cormorants *Phalacrocorax carbo* (Van Damme 1995), even they may have difficulty in swallowing them and then suffer from interference by pirates. Thus Snook (1992) reports that when a Cormorant caught a flatfish "about the length from the tip of the Cormorant's bill to the back of its head" (20 cm?) in an estuary in south-west England it first tried to swallow it on the water, then climbed out on to a sandbank holding it crosswise in its bill, put it down, and struck it and tried to swallow it repeatedly, until a Herring Gull arrived, when the fish was swallowed hastily. Piracy has of course been carried to an extreme where man makes use of Cormorants to catch fish (Jackson 1997), when Freeman & Salvin (1859) observe that since the birds normally swallow fish head first they may have difficulty in regurgitating those with spines.

One of Camphuysen's (1994b) more interesting observations was that in the Netherlands Herring Gulls appeared to feed more freely upon flatfish than the apparently similar Lesser Black-backed Gulls *Larus fuscus*. This may be because the Herring Gull appears to be a more specialised coastal feeder, whereas the Lesser Blackback ranges more widely both inland and out at sea (Hunt & Hunt 1973), so that for example in Scotland Herring Gulls often have castings composed of mussel *Mytilus* shells around their nests which are not found with Lesser Blackbacks (personal observation), and they may also often specialise in feeding

on mussels in Canada (Pierotti & Annett 1988). If Herring Gulls (like Eiders) feed around mussel beds more than Lesser Blackbacks, they are also more likely to be able to catch flatfish under circumstances when they can eat them without the intervention of pirates.

Thus while seabirds are able to eat the smaller flatfish despite their awkward shape (whose main function is of course to enable the fish to lie inconspicuously on the sea floor), they may have difficulty with the larger fish, and try to break their bones to make them easier to swallow. This may then cause a delay which provides an opening for piracy, so that when there are many pirates present, and other foods are available, the birds prefer those. In consequence where there was a variety of food available but also many thieves off the north of Scotland the gulls did not bother to take the few small flatfish present. Where there were moderate numbers of both flatfish and pirates off the Netherlands the birds took flatfish mainly when they were feeding most actively. Where there were many flatfish and few pirates off North Wales, and possibly south-east Scotland, they took small flatfish more freely, but off south-west Britain even a Cormorant could only eat a larger flatfish with difficulty, which attracted a pirate.

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- Bourne W.R.P. 1982. Concentrations of Scottish seabirds vulnerable to oil pollution. *Mar. Poll. Bull.* 13: 270-273.
- Camphuysen C.J. 1993. Fourageermogelijkheden voor zeevogels in de boomkorvisserij: een verkennend onderzoek. *Sula* 7: 81-104.
- Camphuysen C.J. 1994a. Scavenging seabirds at beamtrawlers in the southern North Sea. *BEON Report 1994-14*: 1-47.
- Camphuysen C.J. 1994b. Flatfish selection by Herring Gulls *Larus argentatus* and Lesser Black-backed Gulls *Larus fuscus* scavenging at commercial beamtrawlers in the southern North Sea. *Neth. J. Sea Res.* 32: 91-98.
- Damme C.J.G. van 1995. Predation on juvenile flatfish by Cormorants *Phalacrocorax carbo* in the Dutch Wadden Sea. *NIOZ-Rapport 1995-10*: 1-46.
- Freeman G.E. & Salvin F.H. 1859. Falconry, its claims, history and practice, to which are added remarks on the training of the otter and cormorant... London (reprinted Paul P.B. Minet, Chicheley, 1972).
- Hobson B.M. & Hobson E.M. 1993. Eider Ducks eating flatfish. *Scott. Birds* 17: 104.
- Hunt G.L. & Hunt M.W. 1973. Habitat partitioning by foraging gulls in Maine and north-western Europe. *Auk* 90: 827-839.
- Jackson C.E. 1997. Fishing with Cormorants. *Arch. Nat. Hist.* 24: 189-211.
- Pierotti R. & Annett C. 1988. Dietary specialisation and reproductive success in gulls. In: Tasker M.L. (ed.) *Seabird food and feeding ecology; Proceedings of the third international conference of the Seabird Group*: 40-41. Cambridge.
- Snook C. 1992. Cormorant's method of dealing with large flatfish. *Brit. Birds* 85: 238.