

SHORT NOTES

Seabirds in neritic water along the South Island south coast in October 1988

Some of the waters which flow eastward across the southern Tasman Sea move southward around Fiordland, through Foveaux Strait and the Snares Depression, to flow up the South Island east coast as the Southland Current. As these waters move, they are modified by the high rainfall in Fiordland and by large rivers along the south and east coast. This freshwater input creates a band of neritic water some kilometres wide immediately adjacent to the coast from Fiordland to Banks Peninsula (Jillett 1969, Heath 1975). I report here the distribution of seabirds within neritic water from Otago Peninsula to Doubtful Sound during the first two weeks of October 1988.

My observations were made from RV *Munida* between Port Chalmers and Bluff (2.10.88), Bluff and Dusky Sound (10.10.88), and Breaksea Sound and Doubtful Sound (11.10.88). All observations were from the wheelhouse, 3-4 m a.s.l.

The route was divided into sections of 5-20 km, which I later combined into three geographical regions: Otago Peninsula, West Foveaux, and Fiordland (Table 1). Across the mouth of Te Wae Wae Bay in western Foveaux Strait, we were up to 25 km offshore. Otherwise, we were within 4 km of land. These positions placed the vessel in neritic water (Houtman 1966, Jillett 1969). The weather was generally cloudy or overcast, with easterly winds. Winds turned westerly as the vessel approached Doubtful Sound.

I identified 17 seabird species. Except for a Blue Petrel (*Halobaena caerulea*) among large numbers of prions off Otago Peninsula, the species were those commonly seen in southern coastal waters.

TABLE 1 —Geographical regions, and total observation times within each during shipboard survey of seabirds along the South Island south coast

REGION	DESCRIPTION	TIME SPENT (h)	DATE
OTAGO PENINSULA	Taiaroa Head to Sandfly Bay	1.62	2.10.88
WEST FOVEAUX	Rowallan Burn to Sandhill Point, then Big River to Gates Harbour	1.75	10.10.88
FIORDLAND	Gates Harbour to Cape Providence, then Breaksea Sound to Doubtful Sound	6.42	10 & 11.10.88

There were marked differences in relative abundances of prions, Sooty Shearwaters (*Puffinus griseus*), and diving petrels. Prions (*Pachyptila* spp.) were the most abundant bird off Otago Peninsula. They occurred in almost continuous flocks of thousands of birds. Fairy Prion (*P. turtur*) and Broad-billed Prion (*P. vittata*) were positively identified. In contrast, only one individual was seen in each of the West Foveaux and Fiordland regions. I saw Sooty Shearwaters in all regions. Although very abundant off Otago Peninsula, they were noticeably less so than prions. Off Fiordland, especially in the vicinity of Breaksea Sound, their numbers were very large. North of Cape Providence, they were the most abundant seabird. No diving petrels (*Pelecanoides* spp.) were seen in the Otago Peninsula or West Foveaux regions. In the Fiordland region, they were abundant from Gates Harbour to Cape Providence, outnumbering *P. griseus*, but not seen further north.

Discussion

All of these species are expected from throughout the study area. However, geographical differences in this survey were striking, especially for prions and diving petrels. Both Fairy and Broad-billed Prions were noted from Otago Peninsula. They breed near Dunedin on Green Island, as well as in Foveaux Strait, on Stewart Island and in Fiordland. During October they are preparing to lay (Fairy Prion) or are incubating (Broad-billed Prion) (Falla *et al.* 1978). The relative lack of prions in West Foveaux and Fiordland at the time of the survey suggests that these birds undertake local movements, perhaps following food supplies. At the time of the survey, the euphausiid *Nyctiphanes australis* was very abundant off Otago Peninsula (S. McClatchie, pers. comm.). This species is a very important component of some seabirds' diets (Harper 1976, O'Brien 1988).

Other observations confirm as a regular event the seasonal abundance of prions off Otago Peninsula. On 26 October 1988, 15 days after the final observations in Fiordland, I saw from Pipikaretu Point (Otago Peninsula) large numbers of prions flying offshore. Other observations gathered during 42 day-long oceanographic cruises in Otago shelf waters during 1985-88 showed October as the most likely month for prions (all of 5 observations). In contrast, March and April were the least likely (none of 6 observations).

During October the Common Diving Petrel (*P. urinatrix*) is incubating. Within the area covered by this survey, the species breeds only on islands off Stewart Island and on Little Solander Island in western Foveaux Strait (Cooper *et al.* 1986). As the breeding pairs change guard nightly (Richdale 1943) the species' presence in the south of Fiordland is consistent with its known breeding range.

Conclusions

Although the neritic water within the survey area is derived from the same parent water masses, the distribution of seabird species varied greatly. The regional distributions of prions and diving petrels in southern New Zealand appear related to both localised prey abundance and breeding area location.

LITERATURE CITED

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Buller's Mollymawk hooked

On 13 July 1991, I walked the length of Papakanui Spit, South Kaipara Head, looking for Fairy Terns. On the way back I discovered a beached-wrecked mollymawk with about five metres of fishing line protruding from the bill. The hook was deeply embedded in the gut and the end of the line had been cut.

I sent the bird to Graeme Taylor and Alan Tennyson, who confirmed the identification as Buller's Mollymawk (*Diomedea bulleri*). Alan Tennyson believed the hook to be one used on southern Japanese bluefin tuna longline boats. Part of the fleet was working off the west coast of Auckland during June/July and "there is a good chance it came from one of these vessels" (A. Tennyson, pers. comm.).

A minimum of 44 000 albatrosses are estimated to die on tuna longlines in the southern oceans each year and Buller's Mollymawk appears to suffer some of the heaviest mortality of any bird in New Zealand waters (Tennyson 1990, *Seabirds in strife, Forest & Bird* 21: 24-30).

Tuna longline fishing fleets to the north and west of New Zealand are not monitored by independent observers, and so how many birds are killed by these fleets is not known. With Buller's Mollymawk having an estimated population of 150 000 (Tennyson 1990), these deaths on longlines could have serious consequences for the long term survival of the species.

Anybody finding beach-wrecked seabirds with fishing hooks in their bills or gut, or birds entangled in fishing lines, should send the specimens to the Department of Conservation or the National Museum.

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