

# Incidental capture of seabirds in recreational fisheries in New Zealand

**Katrin Berkenbusch**

**Portobello Marine Laboratory, University of Otago, Dunedin**

**Edward Abraham**

**Dragonfly, Wellington**





## Background

Documented incidental captures in commercial fisheries

Anecdotal reports of incidental captures in recreational (marine) fisheries, but little data

## New Zealand

Anecdotal observations

Ornithological Society of New Zealand (Beach Patrol Scheme, specific incidents)

Yellow-eyed penguin *Megadyptes antipodes* in Otago region

Autopsies & reported incidents, but difficult to distinguish commercial versus recreational gillnet deaths (72/3)

Dawson & Darby 2000

Shags (Phalacrocoracidae) in Otago Harbour

Drownings in recreational setnet (1977-85)

Lalas 1991







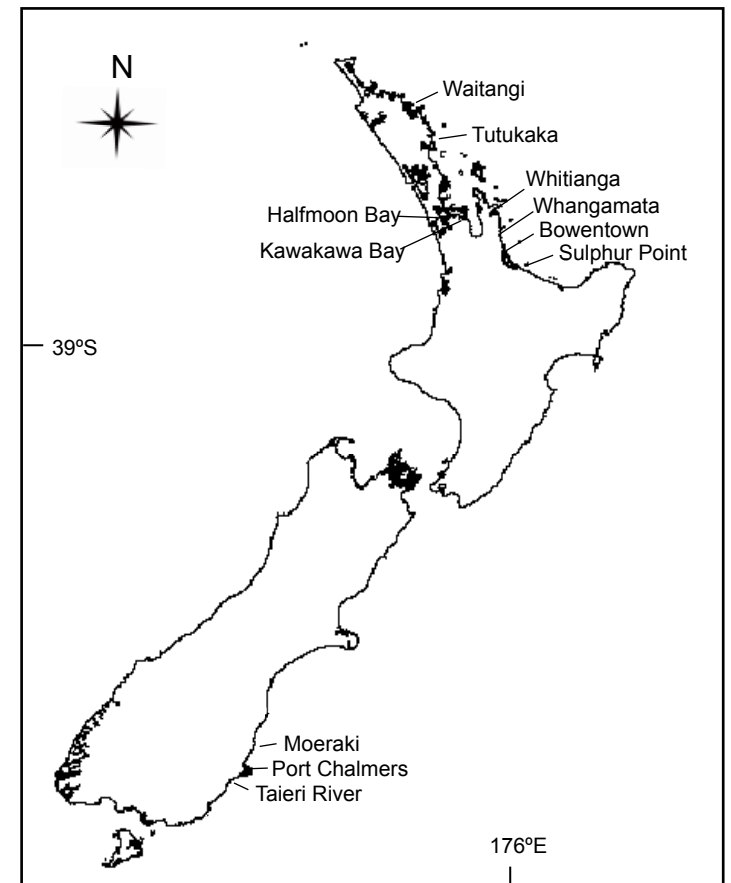
## Methods

### Dedicated boat ramp surveys summer 07/08

North-east North Island  
Otago region

### Interviews of recreational fishers

- Effort  
(No. of fishers, time fishing, location)
- Incidental captures on the day
- Past incidents (time frame)
- Type of seabird (main groups)
- Location
- Capture method
- Handling/fate of seabird





## Results

Total of 757 fishers provided information (present & past)  
(649 north, 108 south)

749 fishers provided information about past captures (Yes/No)  
48% YES  
27% more than one incident

342 fishers provided information about the most recent capture  
20 fishers reported incidents on the day of the interview  
1x Otago  
1x 2 seabirds during one trip

## Disclaimer

Survey not representative  
Sample sizes small



## **Incidental captures in relation to fishing effort**

### **Fishing effort**

Fisher hours = No. of people fishing × hours fished

### **Capture rates**

- 0.22 seabirds/100 fisher hours
- 0.99 seabirds/100 fishers
- 2.78 seabirds/100 fishing trips

### **Observed capture rates on charter fishing trips (summer 06/07)**

- 0.25 seabirds/100 fisher hours
- 0.32 seabirds/100 fishers
- 3.35 seabirds/100 fishing trips

## Seabird captures in recreational fisheries

Total of 354 seabirds reported caught in recreational fisheries

| Type of seabird | Total      | % total     |
|-----------------|------------|-------------|
| Albatross       | 17         | 4.8         |
| Gannet          | 17         | 4.8         |
| Penguin         | 3          | 0.8         |
| <b>Petrel</b>   | <b>162</b> | <b>45.8</b> |
| <b>Seagull</b>  | <b>108</b> | <b>30.5</b> |
| Shag            | 26         | 7.3         |
| Tern            | 4          | 1.1         |
| Unspecified     | 17         | 4.8         |
| <b>TOTAL</b>    | <b>354</b> |             |

- All reported captures dominated by petrels and seagulls (>75% of incidental captures overall)
- Albatross - 13 out of 17 individuals mollymawks
- No herons or waders caught





## Incidental captures by seabird type

21 seabirds on the day of the interview

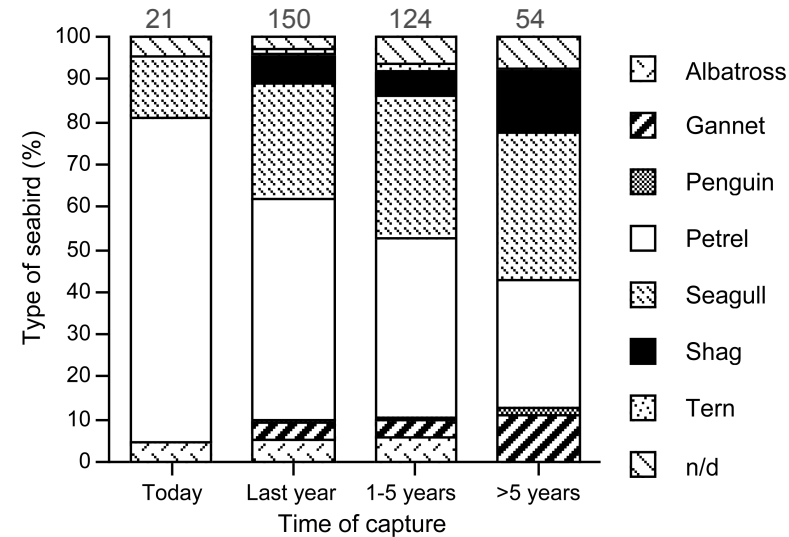
1 Albatross (Otago)

16 Petrels (2 in one trip)

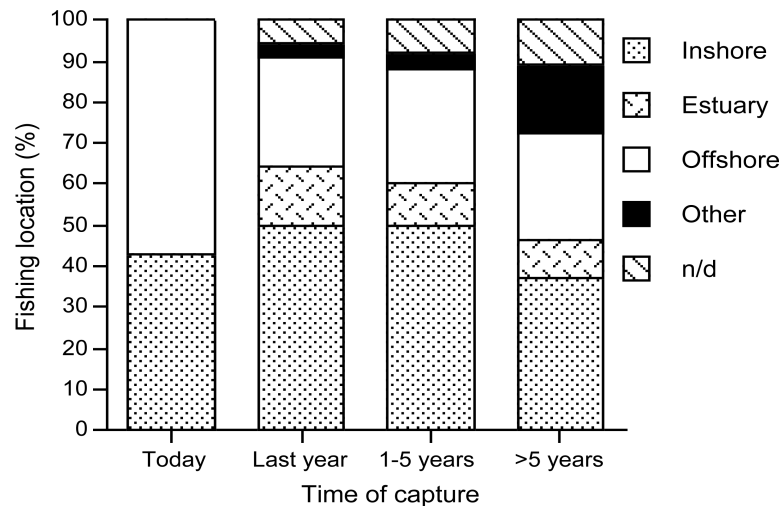
3 Seagulls

1 unspecified

Petrels & seagulls consistently prevalent



## Incidental captures by fishing location



Inshore versus offshore (5 km/3 miles)  
Other: land-based

Prevalence of captures in near-shore waters  
(inshore, estuary, land-based)



## Fishing method involved in incidental captures

Weighted bait: consistently implicated in >70% of incidental captures compared with unweighted & plastic bait/lure/longline

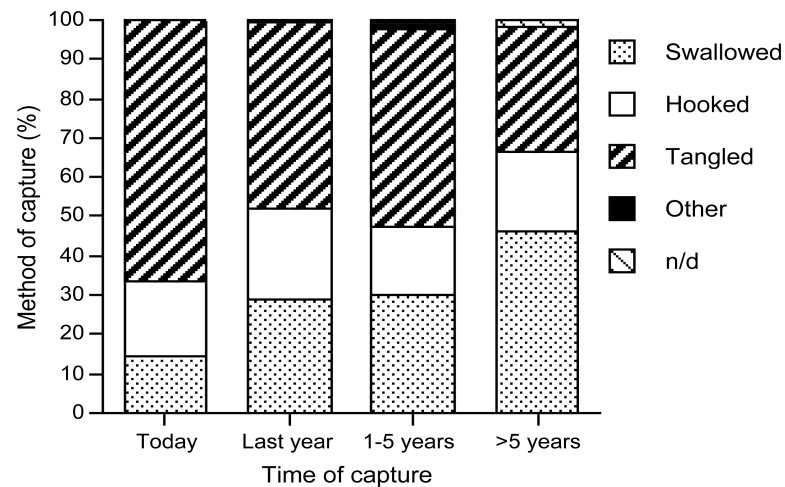
- >80% albatross, petrels
- >70% gannets, seagulls
- >60% shags

### Incidental captures by capture method

Predominantly captured by entanglement

Few seabirds hooked externally ("hooked")

Swallowed = hooked internally



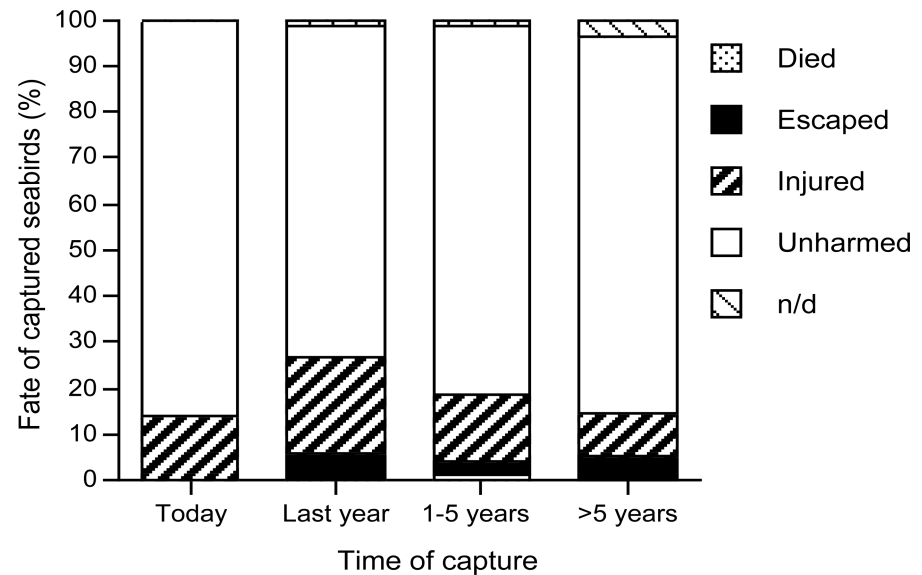




### Fate of captured seabirds

Escaped = gear still attached

Died = in presence of fisher  
or killed  
(after swallowing the hook)



Perception of fishers at time of release/escape

Entanglements and hooking do cause seabird injuries

Initial interaction may not be fatal, but consequences unknown

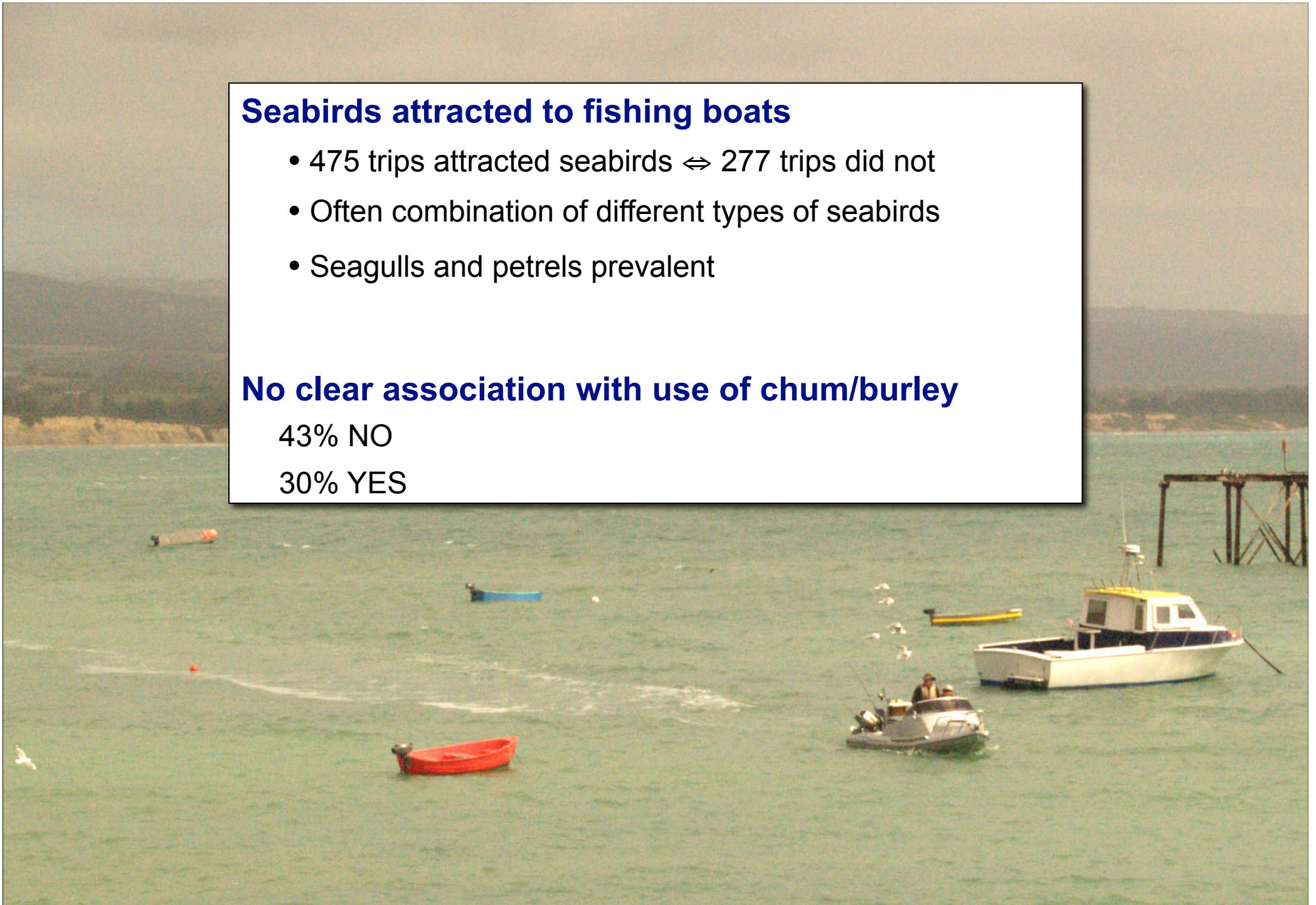
## **Seabirds attracted to fishing boats**

- 475 trips attracted seabirds  $\Leftrightarrow$  277 trips did not
- Often combination of different types of seabirds
- Seagulls and petrels prevalent

## **No clear association with use of chum/burley**

43% NO

30% YES





# Conclusions

- ⇒ First data on recreational seabird bycatch confirms anecdotal & opportunistic reports
- ⇒ General attraction of seabirds to fishing boats
- ⇒ Incidental captures occur when seabird distributions overlap with recreational fishing locations
- ⇒ Seagulls & petrels dominate incidental captures
- ⇒ Perception that seabirds are unharmed in majority of incidents (reality...?)

More systematic surveys needed, e.g., tied in with fishing surveys



# Acknowledgments

Ministry of Fisheries PRO2006/07  
Nathan Walker

## Interviewers

John Holdsworth & team/Blue Water Marine Research Ltd  
Peter Bell, Kate Hewson

Survey participants

OSNZ for seabird data

