

Pied shag population review



From Wikipedia

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Pied shag

- Large (male 2.2kg, female 1.7kg)
black and white shag
- Mainly marine, with only limited
use of freshwater habitats
- Feeding in coastal waters, harbours
and estuaries
- Considered widespread and
moderately common with a
population of 5-10,000 pairs.
- Threat status: Nationally Vulnerable



Pied shag breeding biology

- Reasonably well known
- Breed throughout NZ
- Nests a large platform of sticks and seaweed.
- Colonies primarily in trees but can be on the ground or human structures
- 2-5 eggs laid 2 days apart
- Chicks grow rapidly, and fledge at 53 days and feed by parents for further 80 days
- High breeding success reported 43-75%

Pied shag breeding biology

- Clutches can be laid in all months
- Two peaks of breeding August/September and February/March
- Some evidence for differences in lower latitudes (may only have spring laying in lower South Island)
- Single nests used multiple times in a season, and by different pairs
- Has impacts on determining population size

Pied shag banding results

- 173 birds banded
- Most are chicks from three colonies in Auckland between 1951-1982
- High recovery rate- 35% of birds recovered (including repeat observation of colour banded birds)
- Oldest recovered bird 18 years
- Comparable to Australian oldest recovery of 20 years
- Little movement of banded birds

Pied shag banding results - movements

- Considered sedentary, with some dispersal of juveniles
- 85% of recoveries of birds <1 year old
- Limited movement of banded birds
- <1 year old moved on average 11.3 km (range 0-23Km)
- >1 year old moved 12.45km (range 0-23km)



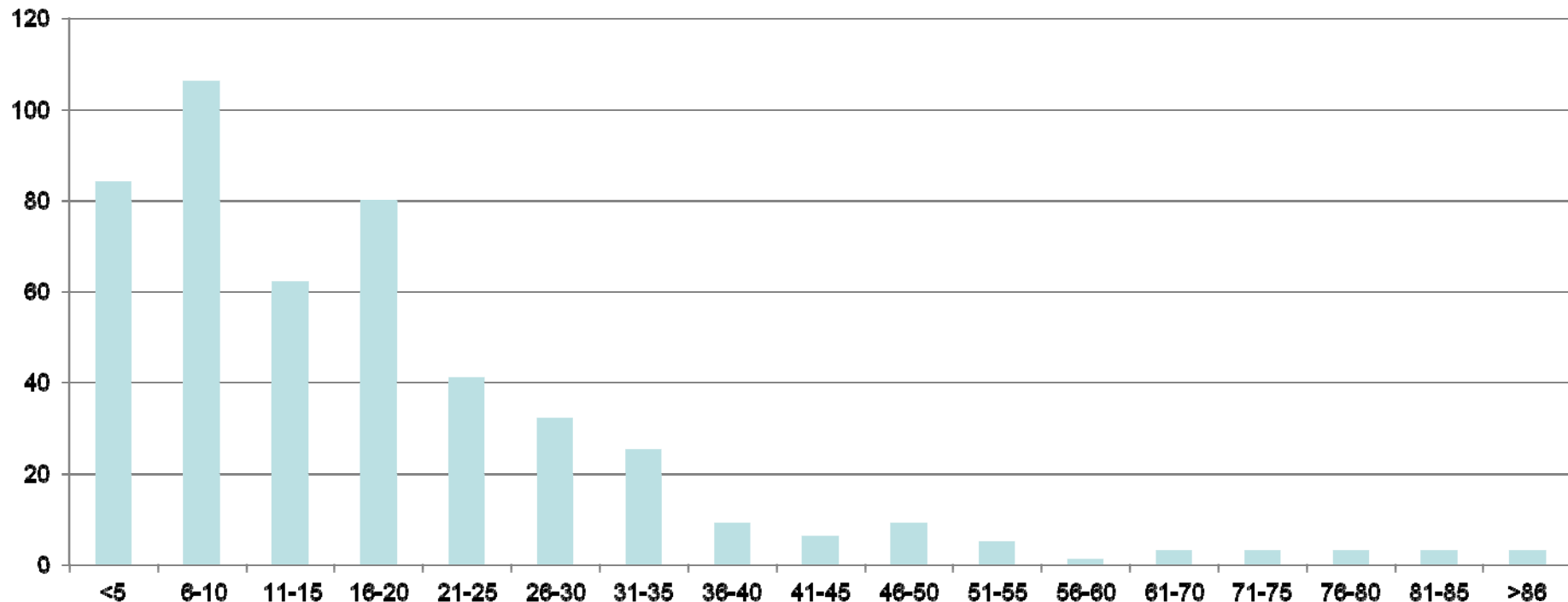
Pied shag banding results – causes of mortality

- Only 13 birds with cause of death recorded
- 1 Shot (in 1970)
- 1 Oiled
- 1 caught on fishing line
- 8 caught in fishing net
- Recreational fishing known to have shag bycatch
- Recreational impacts may be under reported



Pied shag – colony size

- 262 colonies reported, with 476 colony counts
- Average colony size 19 (range 1-118), with most colonies small

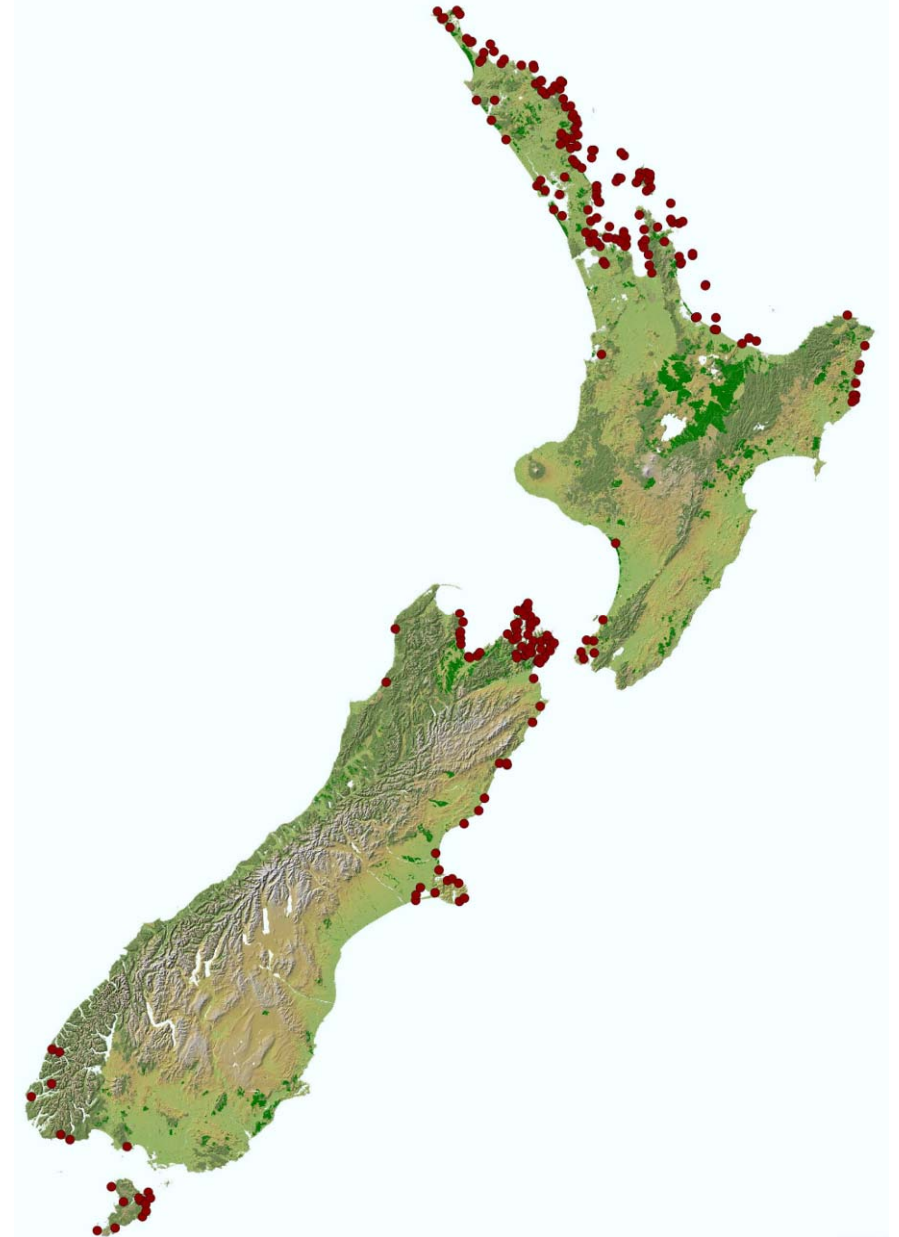


Pied shag - breeding habitat

- 118 colonies were vegetation recorded
- 75% in native vegetation
- dominated by pohutukawa - biased by northern range
- Introduced vegetation less commonly used
- Only 1 colony recorded from human structure - maimai

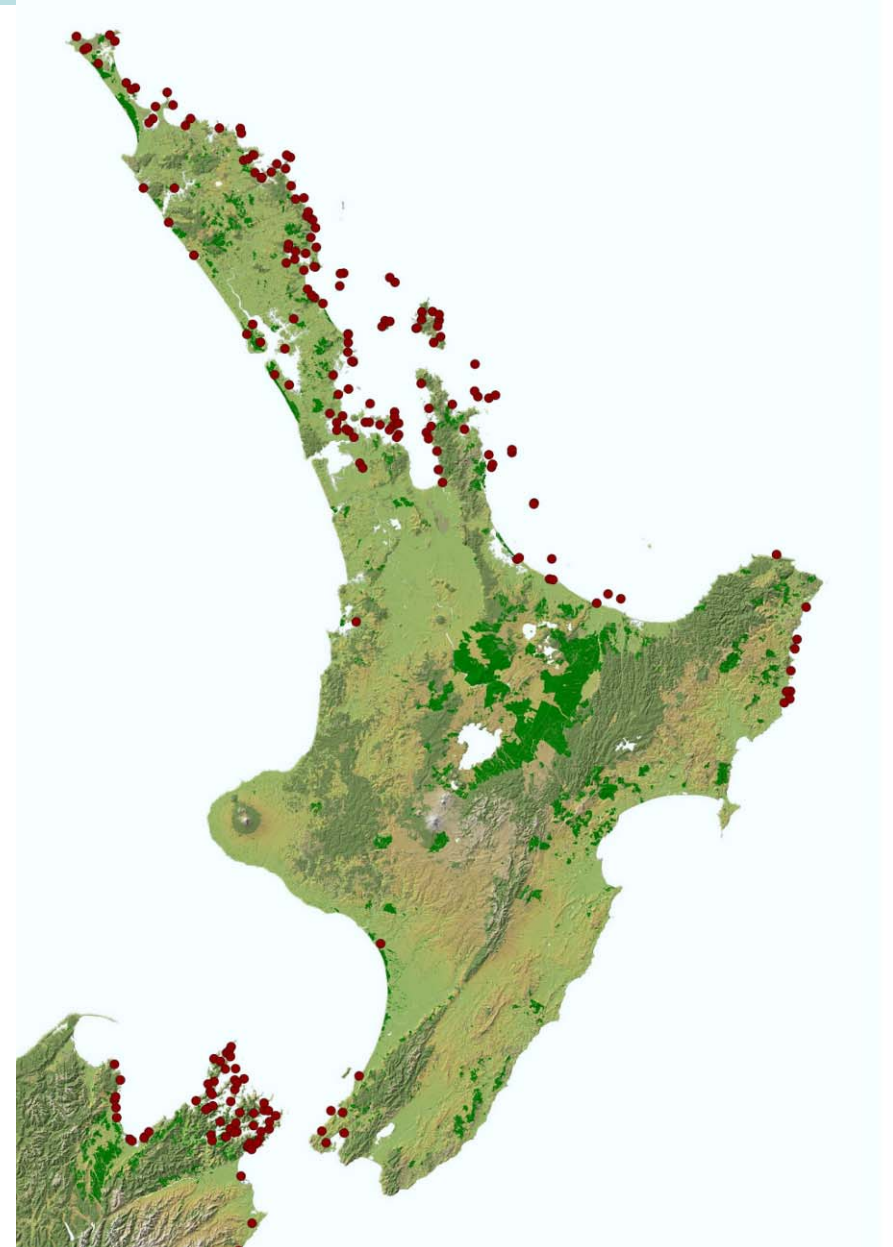
Pied shag – colony location

- 261 colonies reported
- Disjunct breeding distribution
- Northern North Island
- Nelson – Canterbury
- Southland



Pied shag – colony location

- North Island distribution
- Limited data from East Cape
- Good data from Auckland and Northland
- Wanganui record needs confirmation



Pied shag – colony location

- South Island distribution
- Absent from West Coast
- Absent from southern parts of the east coast
- Limited data from Southland and Stewart Island



Pied shag population review

| Region | Breeding pairs | | | | Number of colonies | | |
|--------------------|----------------|-------------|-------------|--|--------------------|------------|------------|
| | <1970 | 1980-90 | >2000 | | <1970 | 1980-90 | >2000 |
| Northland | 854 | 530 | 302 | | 40 | 34 | 24 |
| Auckland | 458 | 497 | 256 | | 23 | 27 | 25 |
| South Auckland | 285 | 400 | 166 | | 16 | 16 | 10 |
| Bay of Plenty | 166 | 136 | 45 | | 8 | 6 | 6 |
| Sub Total | 1763 | 1563 | 769 | | 87 | 83 | 65 |
| | | | | | | | |
| Wellington | 0 | 2 | 52 | | 0 | 1 | 4 |
| West Coast | 5 | 5 | 5 | | 1 | 1 | 1 |
| Nelson/Marlborough | 160 | 608 | 692 | | 15 | 27 | 58 |
| Canterbury | 49 | 157 | 247 | | 1 | 5 | 13 |
| Sub Total | 214 | 772 | 996 | | 17 | 34 | 76 |
| | | | | | | | |
| Southland | 113 | 50 | 31 | | 13 | 6 | 4 |
| East Cape | 10 | 113 | 0 | | 2 | 7 | 0 |
| Sub Total | 123 | 163 | 31 | | 15 | 13 | 4 |
| | | | | | | | |
| TOTAL | 2100 | 2100 | 1700 | | 110 | 100 | 115 |

Recommendations

This study

- Report preliminary results back to stakeholders to promote further supply of data
- Extend data collection period to cover the next spring breeding peak.
- Undertake as many counts as possible at all known colonies during Aug/Sep
- This actions will provide confirmation of trends observed

Recommendations

Future study

- Undertake a breeding study of pied shag -

This study should investigate the proportion of birds in a colony breeding at any one time, and how many pairs use individual nests

This study should investigate any latitudinal difference in timing of breeding

- Promote banding of pied shag (and other shag species) as recovery rates are at a level which can add to our known of shag biology

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