King shag banding and tracking gets underway

We are now in the second year of the MFA led project to band and GPS monitor king shags.

Last winter, Blenheim-based company Wildlife Management International (WMIL) managed to band 38 juvenile birds, with support from the Department of Conservation. The team also deployed GPS devices on six birds captured in Pelorus Sound.

This week, Mike Bell and his WMIL team made the most of a narrow weather window and kicked off what he expects will be a flat-out month. It is hoped between 60 and 80 birds will be banded to help assess survival rates and to determine where birds congregate via the re-sighting trips.

After negotiating a special deal with an Italian supplier, WMIL has also secured 25 state-of-the-art GPS monitors to attach.

“It’s amazing how much the tech moves on even in a year,” says Mike. This year’s trackers provide better information on how long and deep the birds dive. The battery, supported by a larger solar panel, can give power for 4-6 weeks, although the trackers are only expected to last on a given bird for a couple of weeks”.

Mike Bell says the GPS devices last year showed all six king shags tracked spent some time roosting on mussel farms: while four foraged near and another in a mussel farm. One even overnighted on a mussel buoy.

Mike Bell at last year’s MFA AGM

These results aligned with another study from Wildlands Consultants commissioned last year by the Marine Farming Association and Seafood Innovations Ltd to investigate marine farm interactions. Wildlands observed king shags using three out of eight monitored mussel farms for foraging and roosting, which they said could be considered a high ‘hit rate.’

The report also noted overall bird abundance at the mussel farm sites was much greater than at the control sites. Wildlands contrasted these findings with previous assessments which speculated that mussel farm structures may deter king shag foraging and that their waste may make the habitat less favourable for certain fish species the birds’ favour.

Mike says more trackers means more data and that is got him and the MFA excited.

“If we manage to get trackers on close to 20 birds, the amount of movement and dive data gathered will be staggering,” says MFA GM Ned Wells. “This extra data will allow the researchers to start drawing some conclusions about what activities are having an impact on king shag behaviour.”

But first, Mike and the team must capture this year’s candidates. He says the first step is finding out whether the birds, which are already notoriously difficult to catch, have learned any avoidance behaviour from last year’s initial set of captures.

Four or five Sounds roosting sites will be approached, none of them particularly easy to land on. Mike uses a shepherd’s crook to catch the birds before handing them over for banding and tagging.

He says the banding suggests the survival rate for last year’s 38 banded birds is around 50% - well above the 30% typical of seabirds. Mike and WMIL were also involved in the aerial survey done in the Sounds in February this year. Aerial surveys began in 2015 as part of a King Shag Management Plan, required as a consent condition for NZ King Salmon to establish new farms in Pelorus Sound.

The first aerial survey funded by NZ King Salmon found 834 king shag at nine roosting sites, but when repeated in 2018 only 633 birds were found at 10 sites. Last year, 789 king shag were seen from the plane and in February this year 815 birds were recorded across 13 sites.

Mike says fluctuations in numbers may be due to several factors including annual breeding variations and counts missing some roost sites, as is likely to have occurred in 2018. This year’s count was comparable to earlier counts.

“It suggests king shag numbers are stable; continuing with aerial surveys will help prove this and provide certainty around population trends.”

The banding and GPS tagging are rounding out the count data being collected.

King shag in flight (Photo credit: Dan Burgin)