EUDYPTES ECOCONSULTING

monthly REPORT

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Project: **Hoiho Population and tracking: POP2018-02**
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Monthly report for the period 21 June 2019 – 20 July 2019

Summary

Despite repeated efforts to recapture the remaining three hoiho fitted with GPS dive loggers this has not been achieved to date. Due to the unpredictability of recapture, we decided against deploying archival tags until the penguins re-engage in breeding activities in August (pair-bonding). In the meantime, we are trialling alternative methods of tracking to improve data outcome in the coming winter. Besides having ordered to trail units of data loggers that transmit data through the cell phone network, we deployed satellite tags on a penguin from Penguin Bay in the Catlins. The detail of the tracking data was initially not satisfactory so that the device was recovered, and the bird fitted with another transmitter set-up with a different transmission programme. The satellite data recorded so far suggest that the bird is utilizing the same ocean region for foraging as during the chick rearing period of the past breeding season.

Results

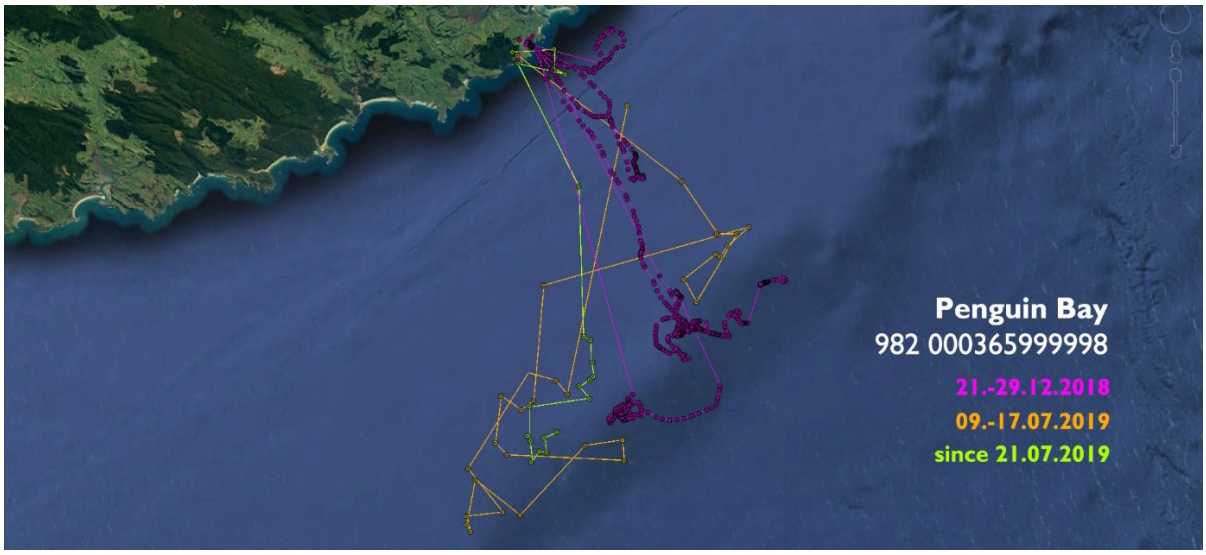
Penguin Bay, bird id*:* 982 000365999998, tracked since 10 July 2019

In the late afternoon of 9 July 2019, a pair of hoiho was encountered at the nest site in Penguin Bay they occupied last season. The female of the pair had been tracked with GPS dive logger (see monthly report for January 2019) and it was decided to be fitted with a satellite transmitter as well as a time-depth recorder.

The satellite tag transmitted its position 30 times per hour for two hours either side of midday and midnight and, therefore, was active for eight hours per day. This was the default programming by the manufacturer. The original intention was to have the device transmit every hour to get hourly positions. However, a software bug in the programming interface prevented the new settings to be uploaded to the device. However, this only transpired after the device had been deployed. After enquiry with the manufacturer the bug was fixed and a second satellite tag was programmed, the bird recaptured on 18. July 2019 and refitted with the new device which now submits its position on an hourly basis. The TDR remains active on the bird and has not been recovered.

The penguin performed one 7-day long foraging trip from 10.-17. July 2019 during which it foraged mainly along the coastal shelf edge between 50 km south and 30 km southeast of Penguin Bay. The general foraging region was comparable to where the bird went on a three-day trip during the chick-rearing period 2018.

After re-deployment with a new satellite transmitter on 18. July 2019, the bird remained on land until the 21. July and has since travelled back to the same region visited on the previous trip. The bird will be recaptured towards the end of July at which time it will be relieved of both its satellite transmitter and the dive logger.



Foraging tracks of female 982000365999998 recorded with satellite transmitter. 09.-17. July 2019 (8-hour uplinks per day) and since 21.07. (hourly uplinks). GPS data recorded on the bird in December 2018 for reference.

Another satellite transmitter and dive logger were intended to be deployed on a different penguin from Penguin Bay on the weekend of 20 July. However, strong rainfalls prevented this from happening; deployments in the rain tend to reduce the stickiness of the tape used for the attachment increasing the risk of device loss. The devices will be deployed at the next possible opportunity.

Recovery attempts of missing GPS logger birds

In the past four weeks, several trips have been conducted to Roaring Bay, Nugget Point and, less frequently, Te Rere to recapture the penguins fitted with GPS dive loggers in May 2019. Evening stakeouts revealed low numbers of penguins in late June at all sites. However, images recorded by motion triggered trail cameras deployed at the access pathways of the birds fitted with devices have seen an increase in penguin traffic throughout July.

At none of the sites, GPS logger carrying birds were apparent in the camera data. All cameras have been maintained every 1-2 weeks to ensure consistent surveillance of the deployment sites. However, the used attachment method makes it unlikely that the devices have fallen off so that there remains the possibility that the units can be recovered in the upcoming breeding season.

Trail camera images from Penguin Bay (top row) and Roaring Bay/Nugget Point (bottom row).

Next steps

Preparations for the upcoming 2019/20 breeding season are currently underway.

Due to the unsatisfying data outcome from the Catlins this last breeding season, we will focus our attention again on this region. We are currently discussing which sites are suitable both in terms of penguin numbers and data gaps. Potential sites are Mahaka and the Tautuku Peninsula (both near Papatowai) as well as Te Rere. Additional sites could be Flaxy (south of Tautuku) as well as North Head and Boat Harbour (south of Te Rere). We will discuss our plans with landowners as well as the regional DOC office.

We have also started planning logistics for the work on Stewart Island in November and December 2019. The intention is to track penguins from the Bravo Group for 2-3 weeks before relocating to Port Pegasus for another 2-3 weeks.

Depending on nest numbers this season, additional work could be carried out in North Otago. Considering that the care takers of Kaitiki Point have committed to collaborating with John Cockrem of Massey University in an unrelated tracking study, it seems unlikely that we will have access to a sufficient number of North Otago birds for this project. We therefore suggest that DOC liaises directly with John Cockrem for potential access to any data he may record.