



West Coast Penguin Trust Annual Report, 2017

Once again the 2016-17 year has been a busy one for the West Coast Penguin Trust. Funding the Trust is an ongoing challenge, as it is for all community groups, especially so for those on the West Coast given the economic challenges our region faces. We have been investigating options that may reduce our dependence on grants and donations. Our long term vision is a penguin/seabird centre which would be a home for the Trust bringing together low key commercial viewing of blue penguins, an educational/interpretation facility with basic support for research. A year ago we were talking with Holcim; both parties hoping that this may be a part of Holcim's legacy at their Cape Foulwind site. Unfortunately this did not work out. Currently we are in discussion with other organisations and we hope there will be news on this front in next year's report.

Sometimes actions have outcomes we could never have foreseen. Gari and The Tawaki Coalition is one such example. Gari is a Fiordland penguin, found injured over two years ago, she went to the Nest at the Wellington Zoo for treatment. After many operations she could never be re-released into the wild as originally intended. As regulations do not allow Fiordland penguins to be held in captivity in New Zealand, on 16 May Gari flew to the Taronga Zoo in Sydney, which is the only zoo in the world to hold Fiordland penguins. Meanwhile the Trust had been working ever more closely with The Tawaki Project sharing a study site, accommodation and even personnel. To recognise the close association we now work together under the banner of The Tawaki Coalition and, thanks to Gari, we're delighted to report that the Taronga and Wellington Zoos have become the initial funders of The Tawaki Coalition.

During the financial year ending 31 March 2017, we have received project support as below;

- Pre-predator control work in Fiordland penguin colonies in South Westland from the Department of Conservation who have also supported several other projects including those at Cape Foulwind, Wall Island and Seal Island.
- At sea tracking of blue penguins in the Buller area: JS Watson Trust, with additional support from Museum of New Zealand Te Papa Tongarewa.
- Education, supporting schools and youth groups to use and apply our "Blue Penguins and Other Seabirds" resource: DOC and the West Coast Community Trust and using earlier funding from The Sargood Bequest and Scotlands Te Kiteroa Fund.

- Essential blue penguin monitoring and maintenance of the penguin protection fence: generous donation from Mont d'Or Mining
- Research project to improve understanding of the conservation management needs of Westland petrels: The Brian Mason Trust
- Governance training for Trustees and Manager: Lottery Minister's Discretionary Fund
- Donations, both online and in donation boxes, continue to support our work and we are hugely grateful; special mention goes to the Pancake Rocks Café and Canterbury Pet Foods for their support.

At the last AGM Paul Elwell-Sutton stepped down after many years as a Trustee. Paul sets very high standards of environmental and social conduct for himself and did so much to keep us in line aspiring to meet those high standards. I know he is watching and no doubt will speak out if we fail to meet the high standards he expects of us. We have welcomed to the Trustee board Robin Long and Marg Costello. Robin grew up at Gorge River with Fiordland penguins as neighbours and knows these birds intimately. She brings to the board a ton of youthful enthusiasm. Marg and husband Jim were teachers at the South Westland Area School in Harihari; they retired to Punakaiki and have had a long involvement with West Coast conservation.

After years of service to the Trust our multitalented ranger Reuben Lane has resigned although he still helps out as required usually in a voluntary capacity. Reuben has made vital contributions to just about all the Trust's projects. Thanks Reuben, we look forward to continuing to work with you. Jenny Chandler has recently been appointed our part time Buller ranger, with Robin Long undertaking much of the ranger work in South Westland. Our activities for the year are reviewed project by project below.

1. Charleston Blue penguin monitoring

The Trust has monitored the numbers of blue penguins breeding in the Nile River-mouth colony every year since 2005. Breeding success during the 2016 season was a bit lower than average. Blue penguins lay two eggs and, based on our monitoring over the past few years, in an average year we would expect nearly half the pairs to raise two chicks. From 19 nests where eggs were laid, just two pairs fledged two chicks and eight pairs fledged one chick during the 2016 season. We plan to write up the data collected during the last 12 years for publication within the next 12 months.

Most colonies in the Buller Region are slowly declining. The key land based threat is not stoats; uncontrolled dogs are still a problem in some colonies, especially those near settlements.

2. Other Buller blue penguin monitoring

In addition to fortnightly monitoring of the Nile River-mouth colony, we check the following blue penguin colonies elsewhere in the Buller Region once or twice each breeding season; Punakaiki River-mouth, Bullock Creek, Perfect Strangers, Pahautane and Joyce Bay.

No penguin sign was evident in the Punakaiki River-mouth colony in 2016. An uncontrolled dog was observed near the colony and penguin remains found indicate that predation by a dog was responsible for penguin deaths.

At the Bullock Creek colony only two of the eight burrows were occupied by breeding pairs, although some other burrows had been visited by penguins. There had been about five breeding attempts at this small colony in previous years. The reason for this decline was not apparent but as the colony is close to town, dog kills and/or human disturbance are likely causes.

Perfect Strangers and Pahautane colonies are both protected by the penguin fence built in 2014. In both areas the penguins nest in amongst jumbled rocks and limestone crevices and it is impossible to monitor actual nests. There appears to be a small increase in penguin activity at these sites since the fence was built. These colonies are adjacent to that bit of highway where most penguins were run over before the penguin fence was built and presumably those birds killed had nested in these colonies. No penguins have been killed on that section of the highway since the fence was built and we hope that penguin numbers will now slowly increase.

Joyce Bay had only nine occupied burrows in 2016, with a tenth found just outside the monitored area. In 2008 there were 35 breeding attempts at this colony. During the last two seasons few birds have bred there and there has been little sign of penguin activity leading us to suspect that the number of adult penguins killed by dogs at this once thriving colony since 2008 has been greatly underestimated. Planned sub-division in Joyce Bay will result in increased pressure on birds there.

Most penguin colonies in the Buller region are in decline, by far the major land-based threats being road-kill and roaming dogs. The Truman's colony near Punakaiki has been all but extirpated probably by disturbance during night time visits by tourists from a nearby backpackers. Some marine based threat may be contributing to the declines observed and we hope that our current research tracking the birds at sea will provide insights into the marine based threats. There is a demand from tourists to view penguins but uncontrolled viewing results in disturbance to the birds that tend to then abandon that colony.

Those colonies that are protected, Rahui (private land), Perfect Strangers and Pahautane (penguin fence) are stable or recovering.

3. Cape Foulwind.

The penguin and shearwater colonies adjacent to the Cape Foulwind Seal Colony Walkway have been a focus for the WCPT ever since the Trust began. In past years we have worked with DOC in revamping the interpretive signs and we manage both blue penguin and sooty shearwater colonies with a vision that numbers will increase to enable public viewing of both species. Shearwater numbers have increased to the point that, on summer evenings, visitors should see a few birds circling overhead before crashing into the flaxes where they breed. We maintain a sound system that plays blue penguin calls July to October and sooty shearwater calls October to March to attract birds into locations where viewing should be possible.

Only one of the penguin nest boxes at the Cape was occupied in 2016. An unknown number of blue penguins nest in natural burrows at this site, however, these were not monitored in 2016 as some natural burrows are used by sooty shearwaters and we did not want to risk disturbing the shearwaters when they were prospecting for nest sites. Burrow checks are normally carried out earlier in the season before the shearwaters arrive back from their annual migration. The uptake of nest boxes by blue penguins here and at other Buller colonies has been much lower than that reported at many colonies elsewhere in New Zealand. At all colonies monitored by us there are many more natural nest sites than penguins and it appears that West Coast penguins prefer natural sites.

A new seawall has been built near the carpark. Penguins have investigated crevices in the seawall itself which may provide them with nesting opportunities; in addition we may construct nest boxes at the back of that sea wall. We now install tamper-proof rock and cement nest boxes rather than the standard wooden box at publically accessible locations such as Cape Foulwind. We can still inspect the nest-boxes using a burrowscope.

While the sound system has had limited success in attracting penguins into the area where visitors could see them, there has been much better success with sooty shearwaters. From just 2-3 eggs laid each year when management began, in December 2016, eggs or chicks were found in seven burrows and nine adult shearwaters sat tight on their nests indicating they were either incubating an egg or brooding a young chick. Shearwaters lay only one egg each year, thus there could be 16 breeding attempts in 2016; the previous best was 10 in the 2014/15 season.

Shearwaters are extremely vulnerable to predation by stoats. The Trust maintains trap-lines at the penguin and sooty shearwater colonies at Cape Foulwind and traps are checked fortnightly from late July to April. These trap-lines are primarily to kill stoats to protect the shearwaters and to prevent stoats and rats from heading to predator-free Wall Island just offshore.

4. Coast Road penguin fences

Our penguin mortality database where we record the date location and where possible the cause of death of all penguins reported dead in the region showed that the main land based cause of blue penguin deaths on the West Coast was road kill, and most road-kills occurred along about three kilometres of the Coast Road between Fox River and Punakaiki. The Trust has constructed three fences to prevent penguins getting onto the highway, the first on the south side of the Punakaiki River (250 m in 2012) the second between Limestone Creek and Gentle Annie Rocks (2.6 km in 2014) and the third near Seal Island (300 m in 2015). Since these fences were built there have been no penguins reported dead on those fenced sections of the highway. Prior to construction of the fences 6-8 were found dead each year between Limestone Creek and Gentle Annie Rocks, with 1-2 each year at each of the other fenced areas. Most penguins killed were adults during the breeding season; as a penguin cannot raise chicks if its partner is killed, the impact on the colonies was probably greater than these numbers alone would suggest.

5. Blue penguin foraging study

Our blue penguin foraging study was funded by a grant from the JS Watson Trust through Forest and Bird and supported in kind and with analytical help from Dr Sue Waugh at Te Papa. A detailed report on our penguin tracking has been submitted to the JS Watson Trust and is available from our website (<http://www.bluepenguin.org.nz/news/variability-in-the-foraging-range-of-blue-penguins/>). Our results, along with tracking studies carried out by Te Papa in Wellington and on Motuara Island in the Marlborough Sounds, was published in the New Zealand Journal of Zoology (<http://www.bluepenguin.org.nz/wp-content/uploads/Variability-in-the-foraging-range-of-Eudyptula-minor-across-breeding-sites-in-central-New-Zealand-1-April-2017-NZ-Journal-of-Zoology.pdf>).

Blue penguins which were either incubating eggs or had dependant chicks ashore were tracked from Charleston and occasionally Cape Foulwind using tiny GPS units in 2013 (3), 2015 (4) and 2016 (4) . More devices were deployed but some were lost at sea while a few failed to obtain useful data. In all three years our penguins fed west or north-west of their breeding colonies. Feeding trips during incubation were longer than those during chick rearing, when adults had to return more frequently to feed hungry chicks. In 2015 when El Niño conditions prevailed, the penguins travelled further and spent longer at sea than in 2013 or 2016.

Perhaps the most significant finding was that, during incubation, penguins from Motuara Island travelled up to 214 km to the South Taranaki Bight, where Trans-Tasman Resources are seeking resource consent for offshore mining of iron rich sands. Penguins don't travel so

far to a site so far offshore for no good reason, indicating that this is part of our marine environment deserving of protection.

Iron rich mineral sands also occur along the West Coast and the same company has a prospecting permit to assess the potential for mining mineral rich sands along 250 km of the West Coast, including the area offshore from Charleston and Cape Foulwind.

We know very little about the at sea ecology of blue penguins, or for that matter any other seabirds on the West Coast. Nor do we know what effect mineral sand exploitation could have on penguins or other marine life. We will again deploy GPS trackers on penguins at Charleston in 2018. In 2019, if funding allows, we hope to expand our study to colonies near Okarito 190 km further south where different marine conditions prevail. With fishing bycatch, climate change and the insidious threat of plastic pollution, our penguins are coming under ever increasing threat. Until we know where they go we cannot manage these threats and stop their population declines.

6. Education project

Education Ranger, Zoe Watson, maintains an association with the Trust but gave up her role to pursue other educational opportunities. We're grateful to Zoe for developing the educational resource she created in 2014. This remains available to all schools and youth leaders on the West Coast and it is regularly downloaded by teachers and others around the Country.

We are delighted to welcome educator Lucy Waller to the education role and with her love of nature and learning, she has stepped into the role with aplomb. Although her main experience has been with primary age children, Lucy is working with Buller High School to link blue penguins and the local coastal environment into the year 10 ecology curriculum.

Lucy prepared and delivered beach activities to Grey Main School at their annual camp in February, which was very well received by teachers and children. She has also installed penguin nest boxes with Cobden School children, shared knowledge about penguins with Franz Josef school children and art, craft and puzzle activities with children at Kids' Day in Hokitika.

7. Awareness and outreach

The West Coast Penguin Trust looks to the West Coast community to support conservation of penguins and other threatened seabirds and, to achieve that, awareness and outreach are an essential part of our work. Regular updates on our work appear on our website and facebook page with media releases in local newspapers.

We are enormously grateful to the businesses that give us donations or make a collection box available. Where possible, we attend local markets and events, including the Fox River, Okarito and Petrel Festival markets. The tee shirts kindly designed for us by Giselle are popular sales items.

Designer Jason Blair kindly donated his time to produce our latest leaflets, working with Giselle to use her lovely illustrations. Thank you both.

We maintain a watching brief for consent applications and management plans to ensure that penguin and seabird habitat is protected and penguins and other seabirds are not adversely impacted by development.

8. Tawaki pre-predator control project.

This project was funded by a DOC Community Conservation grant and a report on progress after the three years for which funding was awarded is available on the Trust's website: <http://www.bluepenguin.org.nz/wp-content/uploads/Tawaki-report-2017-final.pdf>.

In summary, the project was designed to assess which predators posed a threat to Fiordland penguins in South Westland using motion activated cameras to record visits to nests by potential predators. In each of the first two years one stoat kill of a tawaki chick was recorded. Possums and rats were observed but generally the penguins ignored intruders.

The situation changed for the worse in the 2016 season. The colony at Jackson Head, comprising some 40 nests, lost almost all chicks to stoats. It appears that a mast year for nearby beech forests led to an explosion in first rats and then stoat numbers. The stoats then invading the penguin colony.

The project had come in under budget and we are grateful to DOC for approving the use of those savings for a fourth year of work. In 2017 we will include a third site within the area with landscape level 1080 control of predators.

9. The Tawaki Project and Tawaki Coalition

The Tawaki Project (TTP) is led by Dr Thomas Mattern and Dr Ursula Ellenberg and the close collaboration between the WCPT and TTP has been recognised by us uniting under the banner of The Tawaki Coalition (TTC). The TTC provides both parties with advantages when seeking funding and allows us to more easily share resources and expertise. Both projects share a study site at Jackson Head which has allowed both projects to share logistics saving money for both and reducing the number of fieldworkers at that site. The Taronga Zoo in

Sydney and the Wellington Zoo are the initial funders of The Tawaki Coalition, which aims to together achieve the greatest conservation outcomes for the species based upon good science.

10. Seal Island shag monitoring.

Despite being the most common New Zealand breeding shag there has been very little research on the endemic spotted shag. Trust chairperson Kerry-Jayne Wilson has monitored the breeding colony of spotted shags on Seal Island at approximately monthly intervals since 2011. Eventually she will write a paper on population changes and the breeding cycle of these shags.

11. Seal Island seabird survey and restoration project

Seal Island sits just offshore from Fox River and can be accessed by foot at very low tides or by kayak in calm weather. Previous DOC visits found some nationally rare coastal plants on the island but, other than the shags, its wildlife values have not been assessed. In 2016 the WCPT ranger made several visits to determine what seabirds nested there and what if any introduced mammals were present. Depending on these findings we would then recommend, and possibly undertake management to protect those wildlife values.

There are two sooty shearwater colonies with about 10 and 12 nesting pairs respectively. No nesting penguins were found although some are likely to be present. There is a small red-billed gull colony and a few pairs of white fronted terns also nest there. Tracking tunnels indicated that mice are the only introduced mammal present.

In 2017 further visits will be made to obtain further data on the numbers of seabirds present and additional tracking tunnels will be deployed. We have invited a lizard expert to accompany us to undertake a search for lizards. We plan to have a botanist visit the island to determine the status of any rare coastal plants that may be present. A trap-line will be established along the mainland coast opposite the island by August 2017.

12. Westland petrel review of threats

The West Coast Penguin Trust is concerned for the conservation of all West Coast seabirds and we have particular interest in the Westland petrel. The Westland petrel breeds only at Punakaiki although its at sea distribution extends around much of New Zealand and they migrate to South America between breeding seasons. The Brian Mason Trust funded a review of ecology and threats to the species which was carried out by Trust chair Kerry-Jayne Wilson. This has been circulated widely and is available for download at

<http://www.bluepenguin.org.nz/wp-content/uploads/Westland-petrel-threats-report-June-2016-Kerry-Jayne-Wilson1.pdf>).

Key recommendations were: to address bycatch in both South American and New Zealand fisheries; to prevent feral pigs and stray dogs entering the colony area and maintain goat control; prevent light from spilling skyward and seaward to reduce the incidence of petrels grounding in coastal settlements; to ensure power and communication lines are underground on petrel flight paths and minimise human disturbance of colonies.

13. Westland petrel survey

No work on this project was scheduled for 2016 pending the completion of the report on threats to Westland petrels which also reviewed the existing information on their status and ecology. In late April 2017 Trust chair Kerry-Jayne Wilson spent a day in the field with Dr Sue Waugh from Te Papa who is leading the current research on Westland petrels to discuss how the Trust could best contribute to the conservation of these petrels. The Trust will take over monitoring of burrow occupation and breeding success in the Rowe Colony to compliment the research Dr Waugh undertakes in the much larger Study Colony. Annual monitoring of other colonies in the Scotsman's Creek catchment is a priority and the Trust will work with DOC and Dr Waugh to achieve this.

14. Cobden Aromahana Sanctuary Project

With DOC, Council and community support, this project is going from strength to strength. The Trust has provided material for a series of information panels on penguins and other coastal birds which were finally installed a few months ago. We thank the Grey District Council and Cobden Aromahana Sanctuary and Recreation Area (CASRA) Trust for funding and support for these panels.

A few blue penguins nest in the area but road-kill and dogs have posed threats to them. The lagoon area has been developed primarily for recreation and new walkways are being enjoyed by dog walkers; most dogs are now on a lead. New Council signs proclaim the presence of penguins and we have welcomed consultation from the Council when planning new developments in the area.

Nest boxes provided by Mayor Tony Kokshoorn were installed a couple of years ago by Cobden School children. However the area was not being used by penguins and further development meant that the boxes needed to be moved. With help from local school children, nest boxes were relocated near Cobden beach. We would like to acknowledge the support of the Council, the school, and stalwart volunteer, Bill Johnson.

15. Grey District Aquatic Centre

The Trust had hoped that development of the new leisure centre in Greymouth might lead to a joint project with the Aquatic Centre presenting information on local coastal and marine life in murals and other imagery. Time restrictions and budget alterations meant that this idea has not been pursued, but we hope to revisit some of these ideas in the coming year.

16. Community Conservation Leadership workshop

The WCPT is one of the largest of the West Coast community conservation groups and over the last 10 years we have encountered many of the challenges facing community groups working on the Coast. The DOC Community Conservation Fund has provided seed money for us to run a symposium where we would have experts present talks and workshops to upskill ourselves and other community groups on the West Coast. Originally this was scheduled for late 2017, but for various reasons it has been postponed until August or September 2018. We envisage one day of talks and workshops followed by a one day field trip visiting a variety of conservation projects, some of ours and some run by other groups.

17. Upskilling Trust staff and trustees

We have never been totally clear about the division of responsibilities between Trustees (governance) and staff (management) and this confusion has been an ongoing issue for us. With funding from the Lottery Minister's Discretionary Fund and the support of Development West Coast, Trustees and our manager Inger Perkins attended a one day session on governance and management with Westlake Governance. This was valuable; not only did we learn a great deal, but it was reassuring to be told by the experts that how we had been operating and the range of skills and personalities on the trust board were better than some of us had realised. Nonetheless they did show ways we could operate more efficiently. We thank Richard Westlake and Vaughan Renner for turning what could have been rather dry content into such an enjoyable and informative day.

Trust chair Kerry-Jayne Wilson attended the 9th International Penguin Congress in Cape Town. These conferences, which are held every three years, are the preeminent meetings for people involved with research and conservation of penguins. It was an excellent opportunity for Kerry-Jayne to hear the latest in penguin research and management from around the world, renew old friendships and meet new penguin enthusiasts. She paid her own way to South Africa and while in Cape Town she attended a meeting which reviewed the conservation status of all penguin species for Birdlife International and IUCN.

The next International Penguin Congress is due to be held in Dunedin in 2019. We call on politicians and conservation managers to give penguin conservation, from the mainland

islands through the sub Antarctic islands to Antarctic territory, the attention and the resources required.

18. Trust board and public roadshow meetings

The Trustees met four times over the last year, once in Hokitika, twice in Charleston and once at Lake Paringa. There has been a lot of Trust business to get through each time so on three occasions we have stayed together the night following the meeting with a 'fieldtrip' the next day. Even with these meetings, most Trust business is still conducted by email. With Trustees and staff spread from Westport to south of Hokitika, wherever on the Coast we meet there are significant travel costs involved. Our funding from the DOC Community Conservation Fund meets the majority of the meeting costs, for which we are enormously grateful.

Thanks to our sponsors and supporters

We are very grateful for the on-going support we have received from our sponsors, supporters, regular donors, and those who have provided in-kind support. Without their assistance, plus that of numerous volunteers, we would have achieved so much less over the past year. Special mention goes to the following:

DOC Biodiversity Funds	Denise Tilling
DOC Community Conservation Fund	Kim & Stu Free & Canterbury Pet Foods
Lottery Minister's Discretionary Fund	Rona Spencer
Museum of New Zealand Te Papa	Karen Blisard
Tongarewa	Nicky Armstrong
Brian Mason Trust	Michael Humphries
JS Watson Trust	J's Café, Westport
Impulse Fishing Co/Greenstone	Punakaiki Crafts and Café Nikau
Helicopters	Grey Main School
John Dunbier & Mont d'Or Mining	Rohan Wanigasekera
West Coast Community Trust	Earlham College
Breakers Boutique Accommodation	Anna McKay
Off Beat Tours	The late Andy Dennis MNZM and those
Pancake Rocks Café	who made a donation in his memory
Kiwi Experience	Anoushka Szybowski
Daniel Beetham	

Patron

Craig Potton

Trustees

Jill Cotton

Leon Dalziel

Scott Freeman

Robin Long

Marg Costello

Kerry-Jayne Wilson (Chair)

Tim Shaw, Advisory Trustee from
Department of Conservation

Manager

Inger Perkins

Rangers

Reuben Lane, Robin Long and
Jenny Chandler

Web site services

Leon Dalziel of Baby-e Website Design

Education

Zoe Watson, Lucy Waller



Kerry-Jayne Wilson, Chairperson, West Coast Penguin Trust

Appendix 1. Publications and reports from the Trust or under the Trust by-line

WCPT person in bold

Refereed scientific papers.

Poupart, T.A.; Waugh, S.A.; Bost, C.; Bost, C-A.; Dennis, T.; **Lane, R.**; Rogers, K.; Sugishita, J.; Taylor, G.A.; **Wilson, K-J.**; Zhang J.& Arnould, J.P.Y. 2017. Variability in the foraging range of *Eudyptula minor* across breeding sites in central New Zealand. *New Zealand Journal of Zoology* <http://dx.doi.org/10.1080/03014223.2017.1302970>

Rodríguez, A., Holmes, N.D., Peter G. Ryan, P.D., **Wilson, K-J.**, Faulquier, I., Murillo, L., Raine, A.F., Penniman, J., Neves, V., Machado, F., Rodríguez B., Negro, J.J., Chiaradia, A., Dann, P., Anderson, T., Metzger, B., Shirai, M., Deppe, L., Wheeler, J., Hodum, P., Gouveia, C., Carmo, V., Carreira, G.P., Delgado-Alburquerque, L., Guerra-Correa, C., Couzi, F-X., Travers, M., LeCorre, M. 2017. Seabird mortality induced by land-based artificial lights. *Conservation Biology*. 31; doi: 10.1111/cobi.12900.

Turney, C. S. M., Fogwill, C. J., Palmer, J. G., van Seville, E., Thomas, Z., McGlone, M., Richardson, S., Wilmshurst, J. M., Fenwick, P., Zunz, V., Goose, H., **Wilson, K.-J.**, Carter, L., Lipson, M., Jones, R. T., Harsch, M., Clark, G., Marzinelli, E., Rogers, T., Rainsley, E., Ciasto, L., Waterman, S., Thomas, E. R., and Visbeck, M.: 2017. Tropical forcing of increased Southern Ocean climate variability revealed by a 140-year subantarctic temperature reconstruction, *Climate of the Past*, 13, 231-248, doi: 10.5194/cp-13-231-2017.

Wilson, K-J. 2016. A review of the biology and ecology and an evaluation of threats to the Westland petrel *Procellaria westlandica*. West Coast Penguin Trust, 46 pp.
<http://www.bluepenguin.org.nz/wp-content/uploads/Westland-petrel-threats-report-June-2016-Kerry-Jayne-Wilson1.pdf>

Jamieson, S.E., Tennyson, A.J.D., **Wilson, K-J.**, Crotty, E., Miskelly, C.M., Taylor, G.A., Waugh, S.M. 2016. A review of the distribution and size of prion (*Pachyptila* spp.) colonies throughout New Zealand. *Tuhinga* 27: 56–80

Published abstracts

Long, R. 2017 Tawaki surveys in the Gorge River area: results and lessons learned. New Zealand. In Agnew, P. *Proceedings of the 10th Oamaru Penguin Symposium 2016*, New Zealand *Journal of Zoology* 44; 163-175. DOI: 10.1080/03014223.2016.1264079

Lane, R. 2017. Practical solutions to penguin conservation on the West Coast. In Agnew, P. *Proceedings of the 10th Oamaru Penguin Symposium 2016*, New Zealand *Journal of Zoology* 44; 163-175. DOI: 10.1080/03014223.2016.1264079.

T. Poupart, T., S. Waugh S., Bost, C., Dennis, T., **Lane., R.**, Taylor, G., J. Sugishita, J. Zhang, J., **Wilson, K-J.**, Arnould, J. 2017. Tracking little penguins on the 41st parallel of latitude in New Zealand. In Agnew, P. Proceedings of the 10th Oamaru Penguin Symposium 2016, New Zealand Journal of Zoology 44; 163-175. DOI: 10.1080/03014223.2016.1264079

Popular articles

Mattern, T., **Long, R.** 2016. Studying New Zealand's forest penguin. Forest and Bird 360, 24-25.

Submissions

To the Draft Paparoa National Park Management Plan

Public talks

Wilson, K.J. Seabirds. Talk to students from all West Coast secondary schools, Buller High School, 21 March 2017.

Wilson, K-J. Westland petrels. Punakaiki, 28 & 29 April 2017.