A message from Bec and Ross
We are very excited to announce the launch on the 8 June 2019 (yes, this Saturday) of the

"Annual SealSpotter Challenge"

What is the challenge?

- To count as many pups and seals as we can in two weeks
- To get friends and family to help out – even a few extra images is a big help
- To have Citizen Scientists participating in as many countries as we can

We learned from Karina's Honours research (Monash University) and your amazing counting efforts, that the two best breeding colonies for using the Remote Piloted Aircraft (RPA) were Seal Rocks, near Phillip Island in central Bass Strait and The Skerries, near Mallacoota and the Victorian border with New South Wales. We surveyed both these sites in the 2018 breeding season and these images are ready for counting.

To read more about these sites, see the paper published in the journal PloS One in 2018. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0200253 With the current reduction in fur seal numbers, it is more important than ever that we get these counts done.

We also learned that many participants wanted an end goal for their efforts. It is important to get replicate counts of each image, so rather than set a limit on images per person (we figure you should do as many as you want to do), we have set a goal for how many images we can get counted in two weeks.

We thank collaborators Ruby Spencer and Jullee M for helping set up the new portal and training video ☺ This project couldn't exist without your efforts and we are so excited to work with you on the Annual SealSpotter Challenge.

To hear about the launch, listen to our interview yesterday on RRR at the link below
(skip to 34m20s if you want to get straight to our interview):
https://www.rrr.org.au/explore/programs/radio-marinara/episodes/7559-radio-marinara-2-june-2019

Happy counting, Ross and Bec

STEM Sisters 2018

During 2018 we participated in STEM Sisters, a young women's mentoring program for our region. Students participated in a workshop to design a research project of their own interest (in three groups). They then recruited their own Citizen Scientists and tested the hypotheses set up in individualised SealSpotter portals. The researchers identified that:

- more females were feeding pups earlier in the season than later
- more seals in total were at The Skerries compared to Seal Rocks and
- pups formed groups in certain areas of Seal Rocks with an average group size of 10 pups.

How has SealSpotter changed in 2019?

After the Newsletter No. 1, many of you expressed a preference for counting 'live pups' separate from 'dead pups'. SealSpotter is a collaborative effort between you as Citizen Scientists and us as the lead researchers, so we have included a new category 'Dead pup'. It can be tricky to separate live and dead pups, so as always – just do your best and don't worry about it too much ☺. In the near future we will be exploring using thermal imagery to help separate the classes and your efforts will help us compare the methods.

Most pups are born over a 10 day time period during the annual breeding season. Because we have images from different times during the breeding season, you may notice pups of varying ages between images. The images pop up randomly, so one image will show tiny newborn pups, the next may show pups a few weeks older and roaming around or forming groups. You may also see pups being born.

What are the Australian fur seals up to at the moment?

The pups have moulted into their foraging silver coat and are playing a lot in the water. Learning the skills they need to hunt for food after weaning. They are also supplementing their milk diet with the prey they find. Increased time in the water results in increased risk of entanglement for these young fur seals. This image shows a moulted pup to the left of the adult female and a pup starting moult to the right.

2018 summary of your research contribution

Including replicates:

- 84,410 images labelled
- 610,281 seals classified
- 644 Citizen Scientists participated
- All continents of the globe except Antarctica

OUR TOP FIVE COLLABORATORS SO FAR

and rows of data contributed

Sue Sorrell, 18073
Naomi Wells, 17008
Julee M, 15492
Jane, 13063
SuBeDooBe, 12592

Where to now?

We want the fur seals counted every breeding season, so the "Annual SealSpotter Challenge" will occur every year after the breeding season finishes. At the end of the two week challenge, we will celebrate the results. Don't worry, we will keep the portal open and add more images for those that like to count the fur seals all year around and participate in additional projects.

Recent research outcomes from SealSpotter

In collaboration with Monash University, final year students are using the images labelled by you to test whether computers can count the seals. This will not put you out of a job; the aim is to have machines help us focus the efforts of our Citizen Scientists better, so that we can reduce the workload while maintaining the quality of the counts.

Sorrell, K. J., Clarke, R. H., Holmberg, R. and McIntosh, R. R. (in review). Remotely piloted aircraft improve precision of capture-mark-resight population estimates. Ecosphere.

Claro,F., Fossi,MC. Ioakeimidis, C., Baini, M., Lusher,A., McFee, WE., McIntosh, RR., Pelamatti,T., Sorce, M., Galgani,FG., Hardesty, BD. (2019) Tools and constraints in monitoring interactions between marine litter and megafauna: Insights from case studies around the world. Marine Pollution Bulletin 141, 147-160. doi.org/10.1016/j.marpolbul.2019.01.018.

McIntosh, R. R., Holmberg, R., and Dann, P. (2018). Looking without landing – using Remote Piloted Aircraft to monitor fur seal populations without disturbance. Frontiers in Marine Science. doi.org/10.3389/fmars.2018.00202

Thank you again for all your hard work. Please participate in the "Annual SealSpotter Challenge, June 8-23 2019. Bec and Ross ☺, Conservation Department, Phillip Island Nature Parks