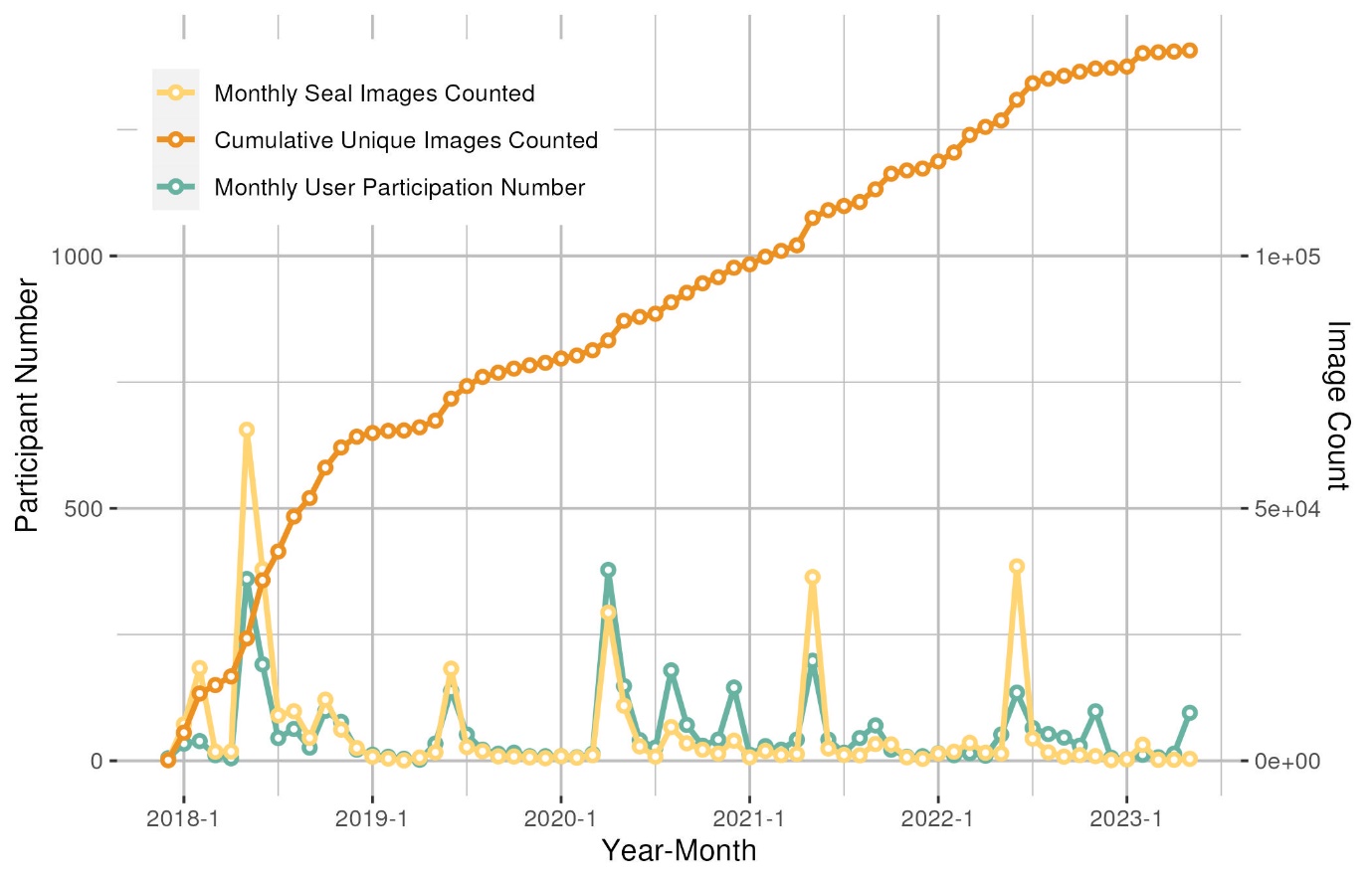
Supplementary materials

Successful citizen science tools to monitor animal populations require innovation and communication: SealSpotter as a case study

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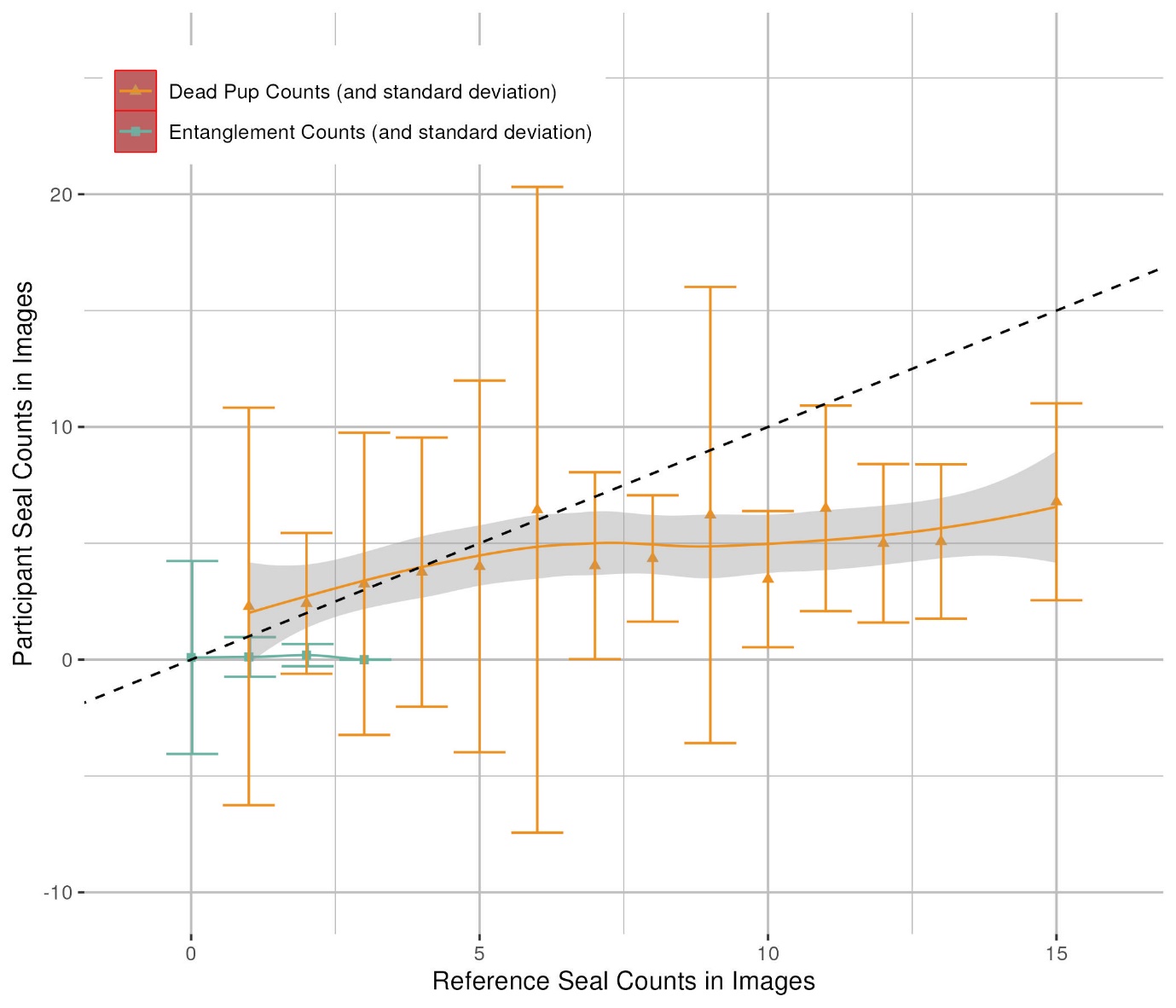


**Figure S1.** Cumulative number of unique images counted from December 2018 to May 2023, the monthly number of images counted and monthly participation for the SealSpotter citizen Science program.

A graph of a number of patients

Description automatically generated with medium confidence

**Figure S2.** (a) Binned participant counts for each year of SealSpotter activity (2018-2022) showing that the majority of participants count fewer than 10 images and (b) the proportional cumulative number of images counted by participants.

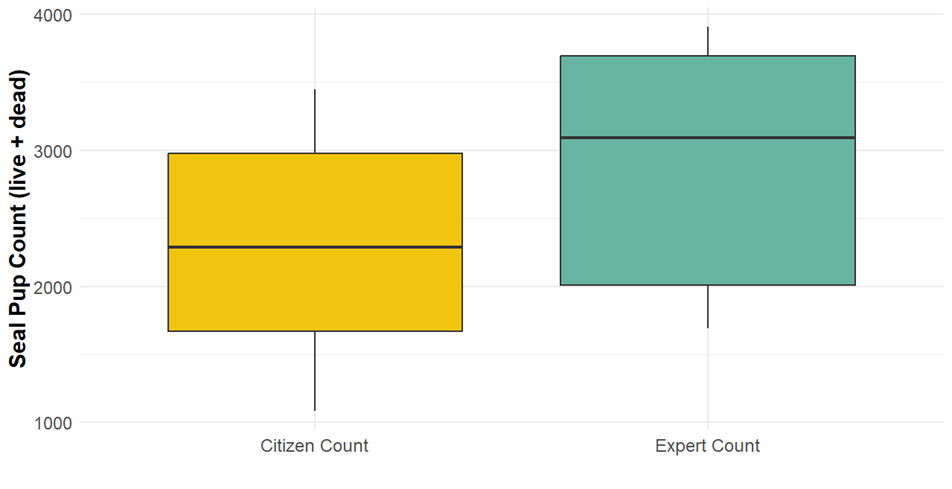


**Figure S3**. The similarity of participant seal counts (User) and the reference seal count by the expert (black dashed line) for the dead pup and entanglement count categories in the citizen science program SealSpotter. The data point is the mean of participant counts and the error bars represent the standard deviation of the multiple counts. The expert counted a maximum of 15 dead pups in an image: on average, participants would count more dead pups when 1-3 were present and fewer dead pups for larger expert counts. The expert identified a maximum of three entangled seals in a single image, however participants overestimated the number of entangled seals when none were present and underestimated the number of entangled seals when they were present.

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**Figure S4:** Scatterplot of Australian fur seal pup abundance counts showing the accuracy of the expert count against the accuracy of an averaged citizen scientist count. The counts of Australian fur seal pups (live + dead) from both groups are highly correlated using linear regression (*P* > 0.001). Citizen scientists produce reliable count data when compared to an expert demonstrating that an expert is not required for the method to provide usable trend data for these animals.



**Figure S5:** Boxplots showing a comparison of means between citizen science participants and the expert counts of drone surveys of Australian fur seal pups (live + dead) at Seal Rocks and The Skerries using the SealSpotter portal. Here, the expert produces higher pup counts than citizen scientists but the interquartile ranges overlap.