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UPDATE ON SEABIRD DISTRIBUTION IN THE EASTERN PACIFIC
AND BEST PRACTICE ADVICE TO REDUCE BYCATCH OF
SEABIRDS IN THE CONVENTION AREA

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1. BACKGROUND

The incidental mortality of seabirds, mostly albatrosses and petrels, in longline fisheries continues to be a serious global concern (Anderson et al. 2011) and was a major reason for the establishment of the Agreement on the Conservation of Albatrosses and Petrels (ACAP) and BirdLife International's Marine Program (in particular the Albatross Task Force). The distribution of most albatrosses overlap to a certain extent with pelagic longline fisheries managed by the five tuna Regional Fishery Management Organizations (tRFMOs) and the adoption of best practice seabird conservation in these fisheries is a high priority.

The Inter-American Tropical Tuna Commission adopted in 2011 [Resolution C-11-02](#) to mitigate the impact of fishing on seabirds in the eastern Pacific Ocean (EPO). This seabird conservation measure contains a two-column table offering a range of mitigation measures to choose in combination. This approach is no longer considered in most of the seabird measures adopted and revised by other tuna RFMOs, where chiefly line weighting, night setting and bird scaring lines are the main mitigation methods considered to be effective in reducing seabird mortality in longline fisheries. BirdLife International and ACAP already provided specific advice in these matters with a paper presented at IATTC SAC-05 in the year 2014 (Document [SAC-05 INF-E](#)). No further significant changes occurred in the best practice advice reviewed by ACAP in subsequent years¹.

¹ ACAP best practice advice will be revised in May 2016 during the Seventh Meeting of the Seabird Bycatch Working Group ([SBWG 7](#)).

During the last Commission Meeting, the United States presented a proposal to amend Resolution C-11-02 (see Appendix 3I, [IATTC 89 Commission Meeting Report](#)). The proposal reflected the recommendations from IATTC staff presented in the 2014 and 2015 SAC meetings. This proposal aimed to harmonize the seabird measure with that adopted in 2012 by the WCPFC (revised later in 2015, [CMM 2015-03](#)), proposed (1) for waters South of 30°S the use in combination of two out of three mitigation methods in line with current ACAP advice, and (2) for waters North of 23°N, the combination of measures following a revised version of the two column table. The different approach taken for northern and southern areas is attributed to differences in seabird assemblages among the two areas and the relative lower relative importance of diving species in the north. The change in the application area for the northern waters was attributed to the presence of breeding colonies for the Laysan albatross, known to range along coastal and offshore waters in the North Pacific. This proposal was not adopted due to the lack of consensus. Some CPCs requested (1) the presentation of additional scientific data demonstrating the occurrence and importance of diving species in southern areas, and (2) addressing further consistency issues with the WCPFC conservation measure.

The present document has been drafted to provide the IATTC Scientific Advisory Committee with further information regarding seabird distribution in the EPO revealing the need for revising the application area and mitigation methods considered in Resolution C-11-02. This paper is prepared for SAC-07 meeting with the main purpose of assisting IATTC in addressing seabird bycatch in its fisheries.

2. DISTRIBUTION OF SEABIRDS IN THE EASTERN PACIFIC OCEAN

The area of application of the current IATTC Resolution C-11-02 was defined according to information on at-sea distribution of seabirds available until 2011. However, every year data on new species, and detailed information about differences between genders and age classes, allow a better understanding of the dynamics and patterns of seabird distribution. An important proportion of data on seabird distribution is held in the Tracking Ocean Wanderers, Global seabird tracking-database. Over two million data points representing seabird habitat throughout the world's oceans are compiled in this database, providing an invaluable marine conservation tool for seabirds and their habitats (www.birdlife.org/datazone/marine).

An updated distribution map of albatrosses is provided in Fig. 1, showing the importance of southern latitudes for these very large species. This figure also shows the importance of the North Pacific as foraging grounds, primarily due to the presence of three breeding species in the area, the Laysan *Phoebastria immutabilis* (NT²), Black-footed *P. nigripes* (NT) and Short-tailed *P. albatrus* (VU) albatrosses, plus the Waved albatross *Phoebastria irrorata* (CE) in the Galapagos archipelago.

The distribution of a range of shearwater and petrel species with diving capabilities and known to interact with a range of fisheries (i.e., Sooty shearwater *Puffinus griseus* NT, White-chinned petrel *Procellaria aequinoctialis* VU, Grey petrel *P. cinerea* NT, Black petrel *P. parkinsoni* VU, Westland petrel *P. westlandica* VU, Cook's petrel *P. cookii* VU, and Murphy's petrel *P. ultima* NT) is plotted in Fig. 2 (see Shaffer et al. 2006, Rayner et al. 2011). These maps provide additional information regarding the relevance of waters in Baja California as feeding habitats for a range of species, as well as the importance of the EPO for diving species that may increase the interaction with fishing gear and attacks on baited hooks by larger (albatross) species (Jimenez et al. 2012). Many of these species

² Key for IUCN Red List Categories: NT = near threatened, VU = vulnerable, EN = endangered, CR = critically endangered (www.iucnredlist.org)

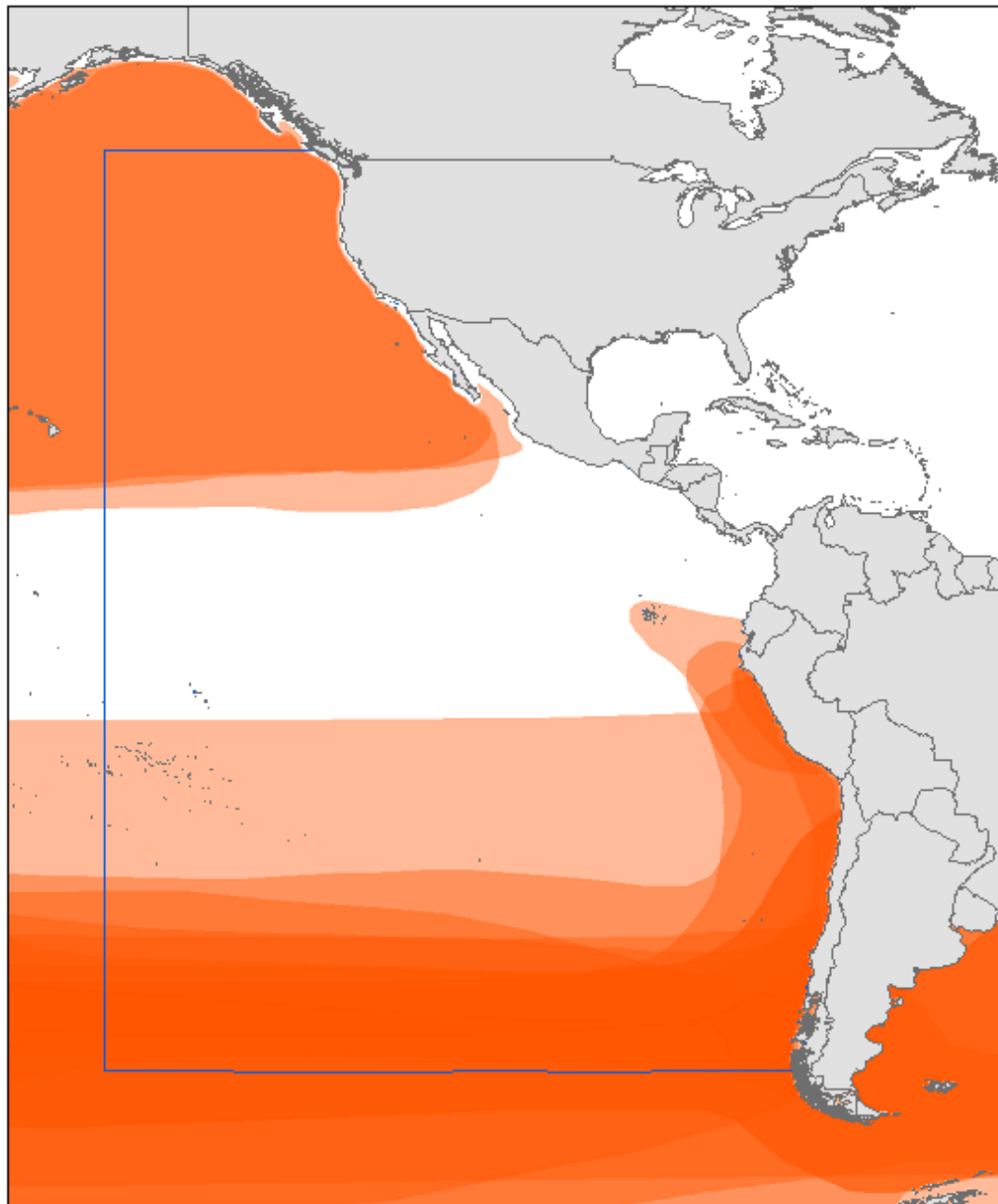
breed in remote islands in the Western Pacific and even the South Atlantic and South Indian Ocean, like the case of some albatrosses that range thousands of miles from their breeding habitat during the non-breeding season and off-breeding years.

Additional information on use of the EPO as defined by transect line censuses is provided for the Black-footed and the Laysan albatross (Fig. 3), the Pink-footed Shearwater *Ardena creatopus* (VU, recently listed in ACAP Annex 1, Fig. 4), and a range of species (Sooty shearwater, Black Petrel, Cook's Petrel and Murphy's Petrel, Fig. 5) showing a consistent picture on the extensive use of the EPO by this threatened group of seabirds.

3. REVIEW OF SEABIRD BYCATCH MITIGATION MEASURES IN RESOLUTION C-11-02

To date there are no significant changes in the [ACAP best practice advice](#) for pelagic longline fisheries; consequently, no further amendments in seabird mitigation are recommended in comparison with those proposed in document [SAC-05 INF-E](#). In addition, a series of [mitigation fact sheets](#) (currently in English, Spanish, Korean, Mandarin, Portuguese and Japanese), as well as a new [seabird ID guide](#) for observers (in English, Spanish, Chinese, Portuguese and traditional Chinese) have been made available on the ACAP website to assist in the implementation of seabird measures and improve on-board data collection. All of this information has been made available to assist the IATTC in the review of [Resolution C-11-02](#).

Figure 1. Updated at-sea density map for albatrosses (as a threatened seabird group of most concern) in the Eastern Pacific Ocean. Source: BirdLife International Tracking Ocean Wanderers.



Legend:

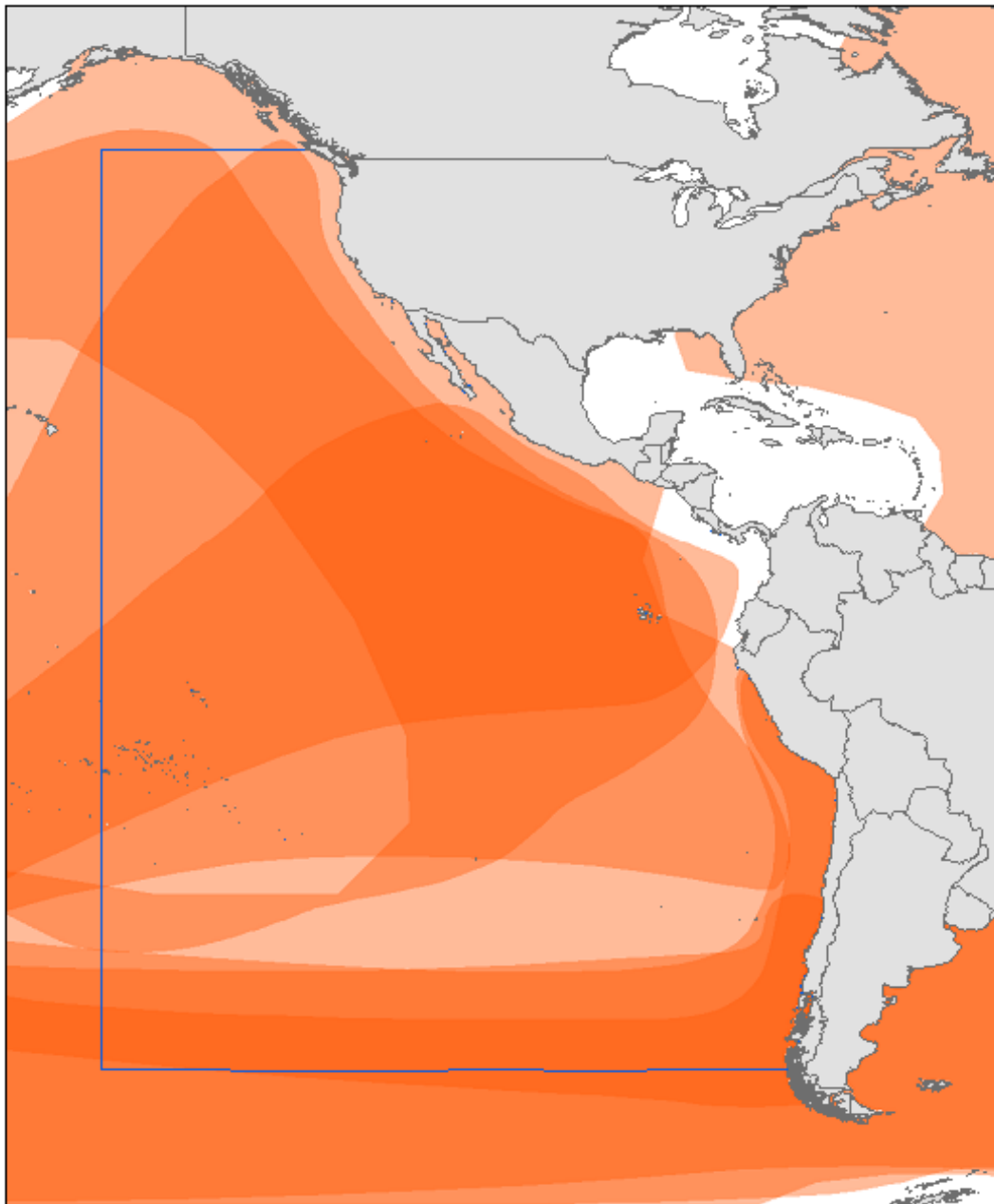
 Density of albatross species*

 IATTC boundaries

* BirdLife International (2016) IUCN Red List for birds. <http://www.birdlife.org/datazone>



Figure 2. At-sea density map of shearwater and petrel species widely distributed in the Eastern Pacific Ocean. Source: BirdLife International Tracking Ocean Wanderers.



Legend:

 Density of species (Sooty Shearwater, White-chinned Petrel, Grey Petrel, Black Petrel, Westland Petrel, Cook's Petrel and Murphy's Petrel)*

 IATTC boundaries

* BirdLife International (2016) IUCN Red List for birds. <http://www.birdlife.org/datazone>



Figure 3. Use of the Eastern Pacific Ocean by the Black-footed albatross *Phoebastria nigripes* (ALBF) and the Laysan albatross *P. immutabilis* (ALLA) as defined by transect line censuses. Source: Southwest Fisheries Science Center, NOAA; contact lisa.ballance@noaa.gov.

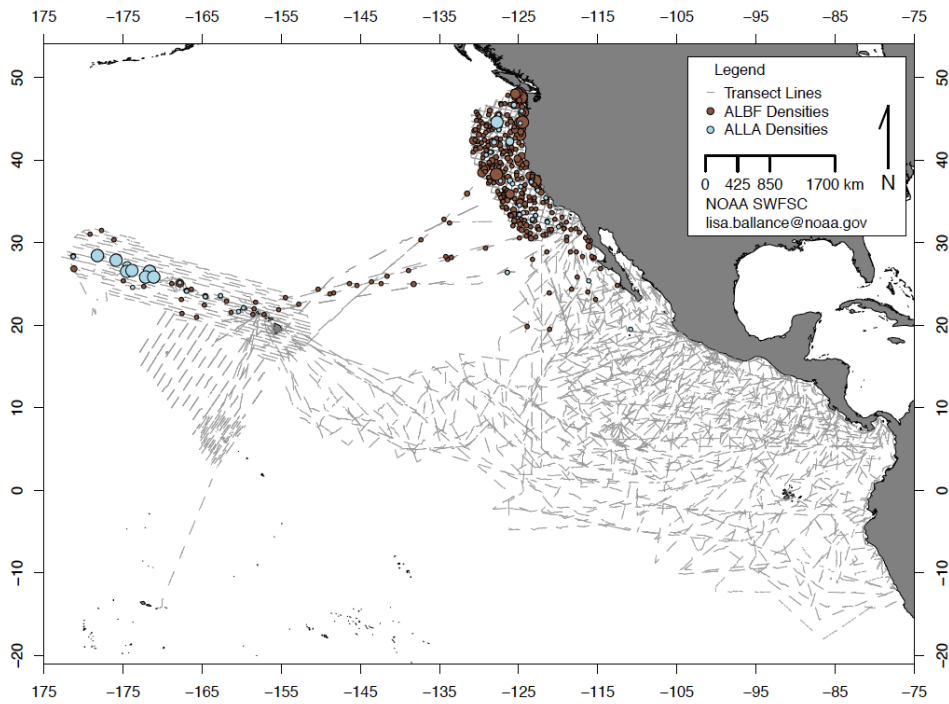


Figure 4. Use of the Eastern Pacific Ocean by the Pink-footed Shearwater *Ardena (Puffinus) creatopus* (species recently listed in ACAP Annex 1) as defined by transect line censuses. Source: Southwest Fisheries Science Center, NOAA; contact lisa.ballance@noaa.gov.

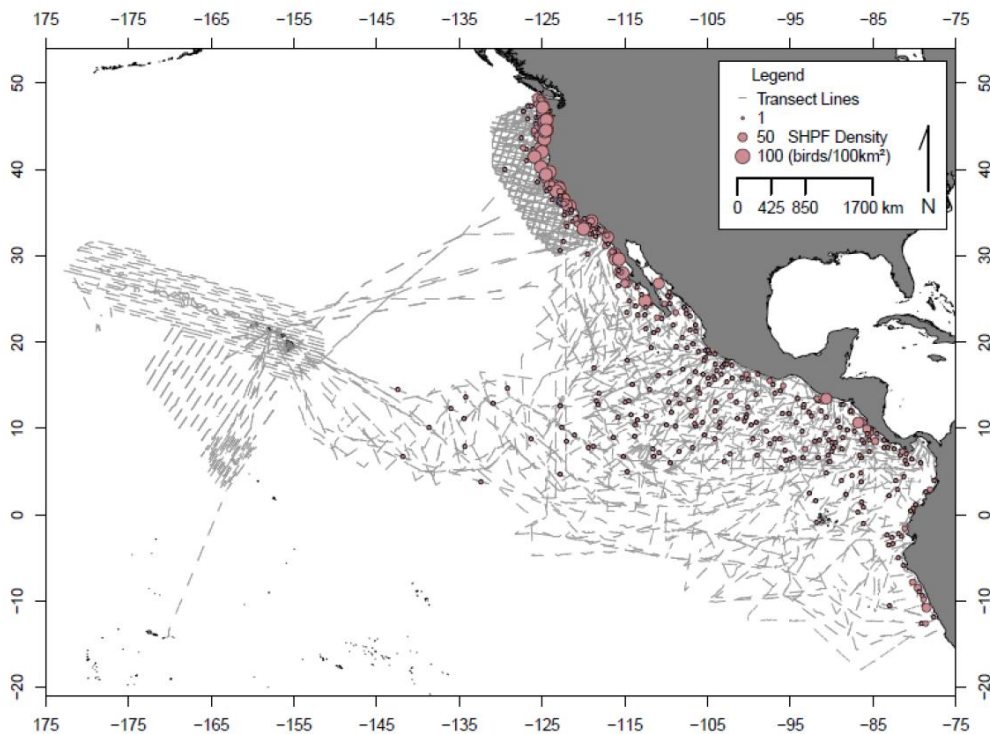
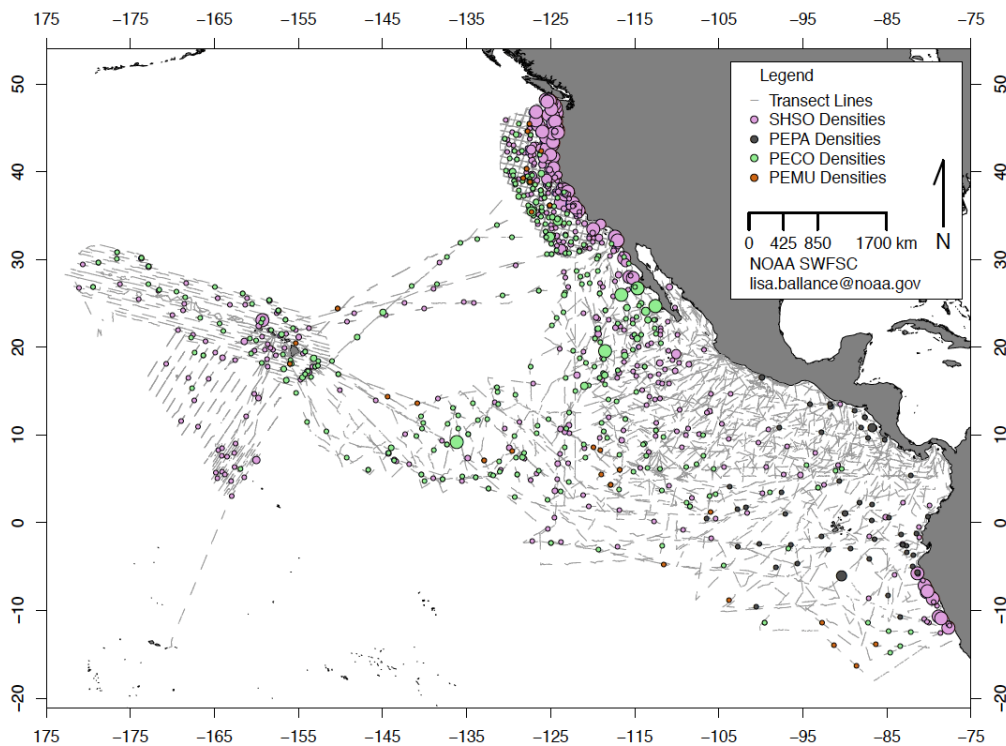


Figure 5. Use of the Eastern Pacific Ocean by the Sooty Shearwater *Puffinus griseus* (SHSO), the Parkinson's (Black) Petrel *Procellaria parkinsoni* (PEPA), the Cook's Petrel *Pterodroma cookii* (PECO), and the Murphy's Petrel *P. ultima* (PEMU) as defined by transect line censuses. Source: Southwest Fisheries Science Center, NOAA; contact lisa.ballance@noaa.gov.



REFERENCES

- Anderson, O., Small, C., Croxall, J., Dunn, E., Sullivan, B., Yates, O., and Black, A. 2011. Global seabird bycatch in longline fisheries. *Endangered Species Research* 14:91-106.
- Shaffer SA, Tremblay Y, Weimerskirch H, Scott D, Thompson DR, Sagar PM, Moller H, Taylor GA, Foley DG, Block BA & Costa DP. 2006. Migratory shearwaters integrate oceanic resources across the Pacific Ocean in an endless summer. *Proceedings Natural Academy of Sciences* 103: 12799-12802.
- Jiménez, S, Domingo, A, Abreu, M, & Brazeiro, A. 2012. Bycatch susceptibility in pelagic longline fisheries: are albatrosses affected by the diving behaviour of medium-sized petrels?. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 22: 436-445.
- Rayner MJ, Hauber ME, Steeves TE, Lawrence HA, Thompson DR, Sagar PM, Bury SJ, Landers TJ, Phillips RA, Ranjard L & Shaffer SA. 2011. Contemporary and historical separation of transequatorial migration between genetically distinct seabird populations. *Nature Communications* 2: 332, DOI 10.1038/ncomms1330.