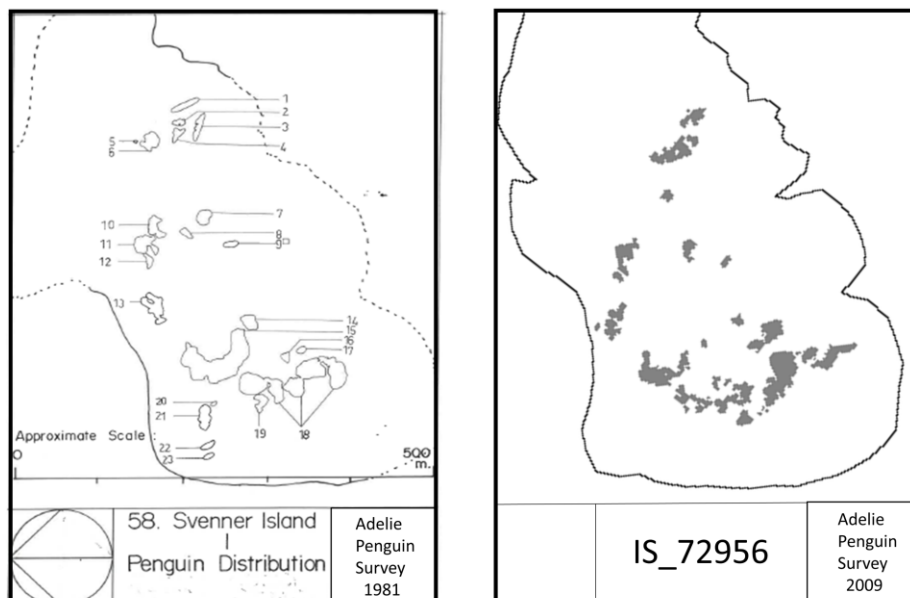


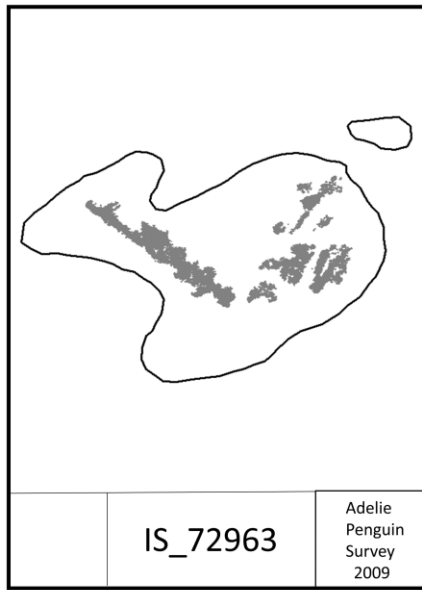
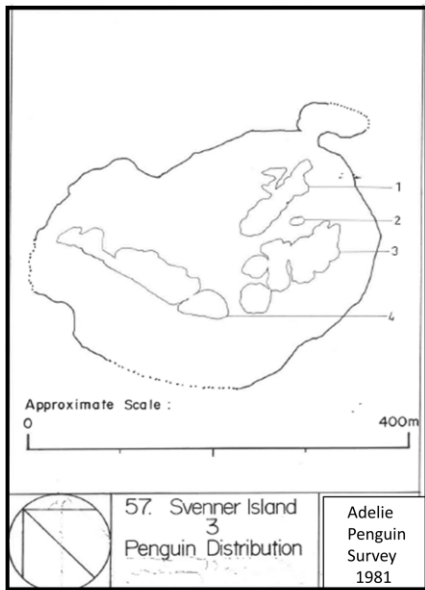
Supplemental Material.

Figure S1. Comparison of historical and recent Adélie penguin breeding sites and colony maps in southern Prydz Bay.

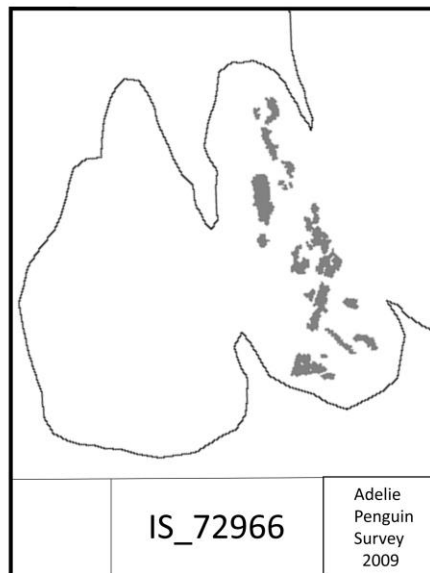
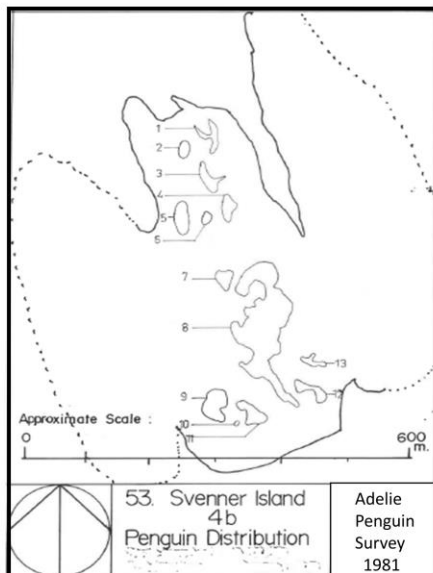
The left-hand panels are the original maps produced manually from vertical aerial photographs taken by Whitehead and Johnstone (1990). Numbered polygons are colony boundaries, solid lines are obvious coastlines, and dashed lines are possible coastlines obscured by ice. The right-hand panels are maps produced in a geographic information system from the survey results in Southwell et al. (2013). Grey polygons and black lines are colony boundaries and coastlines respectively digitised from vertical aerial photographs. The alpha-numeric site identifiers (prefaced by 'IS_') in the right-hand panels are from the spatial reference and identification system in Southwell et al. (2021). The original maps of island coastlines and colony boundaries are more coarsely mapped than the recent maps, but their common features are obvious enough to match historical and recent locations with high confidence in most cases. The presence of snow and ice can make accurate mapping of complete island coastlines difficult even with recent data sources.



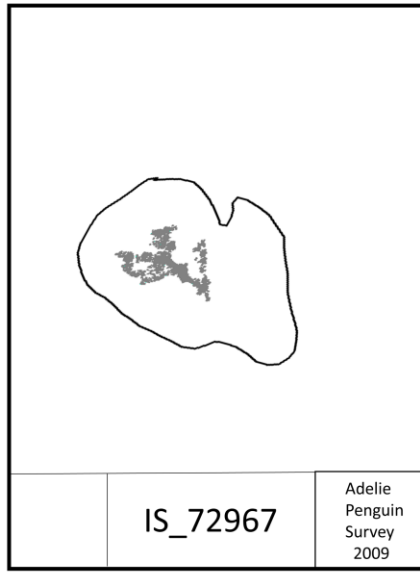
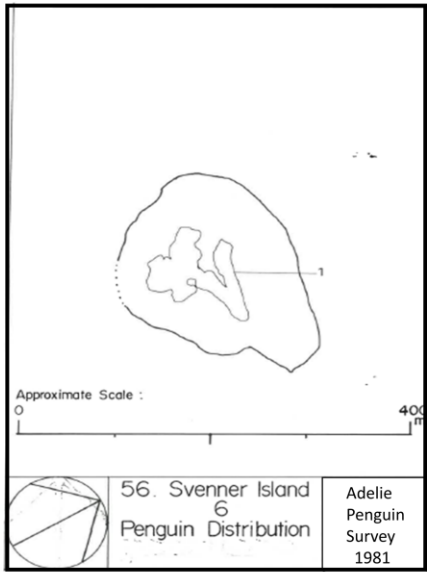
Confidence level of match: high



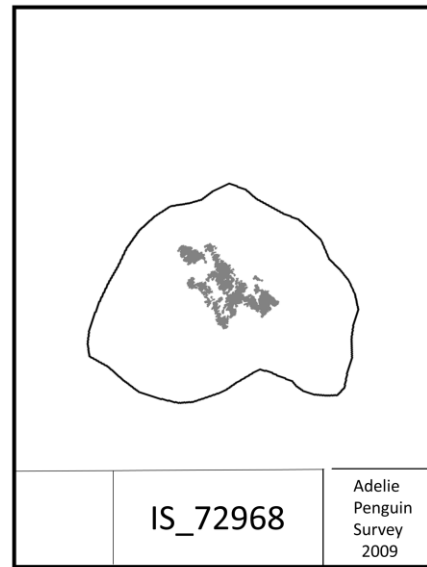
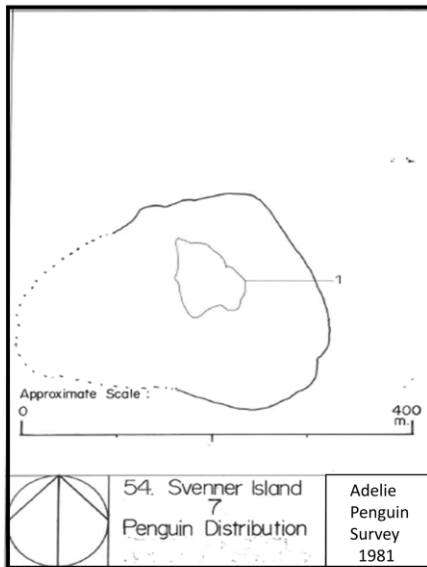
Confidence level of match: high



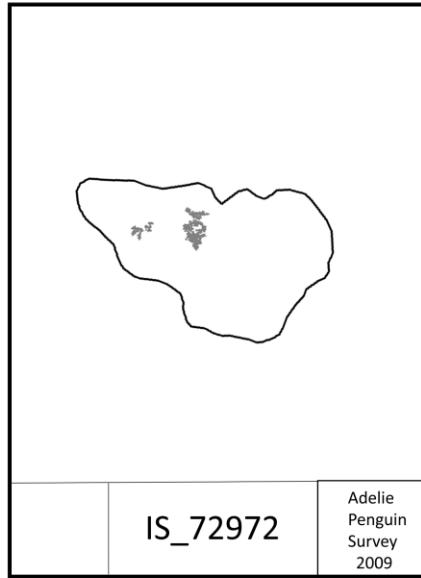
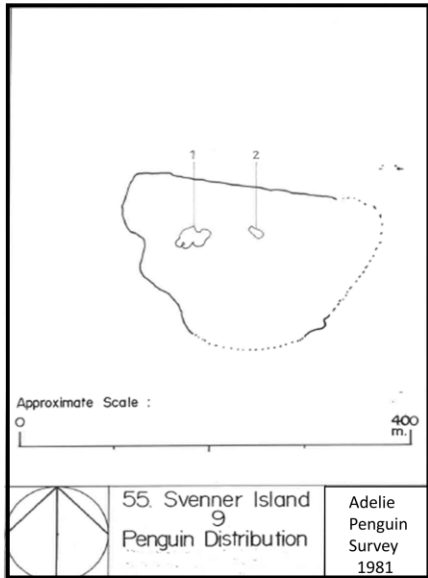
Confidence level of match: high



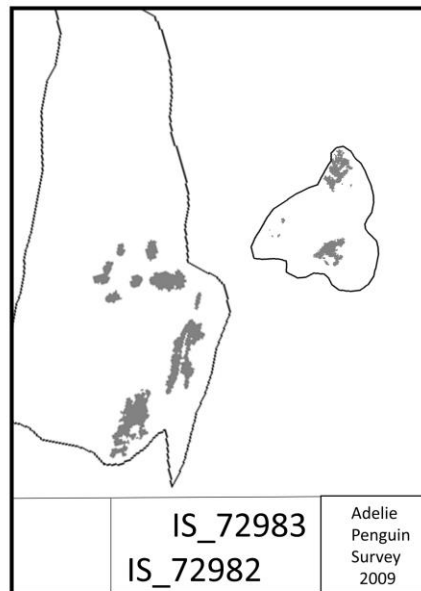
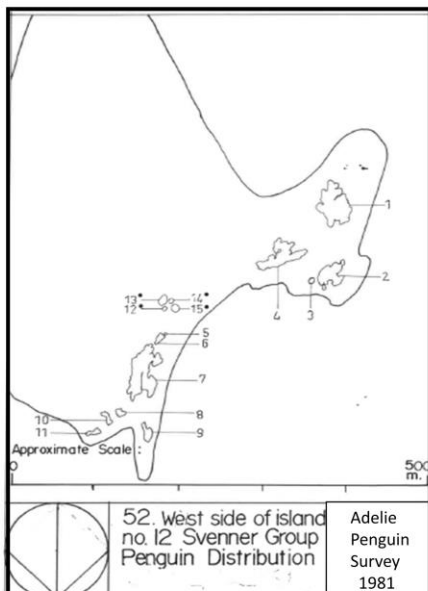
Confidence level of match: high



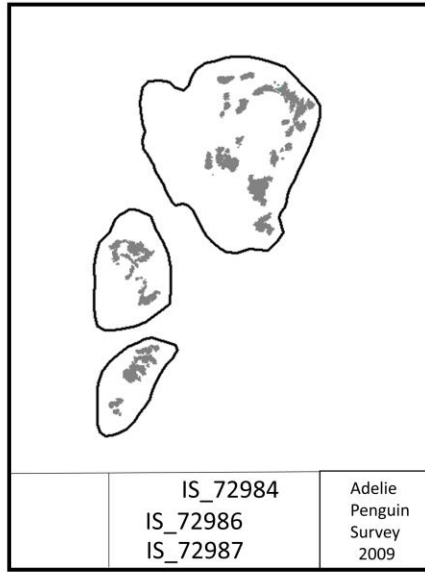
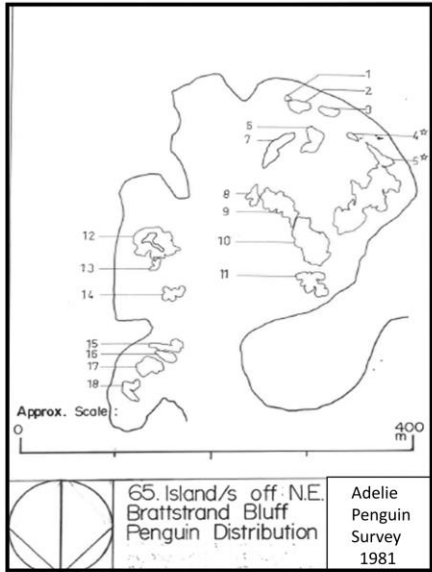
Confidence level of match: high



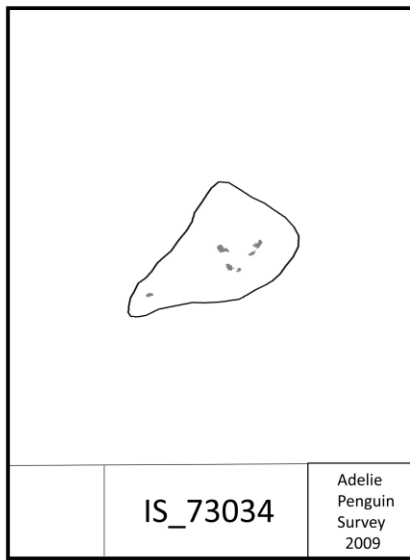
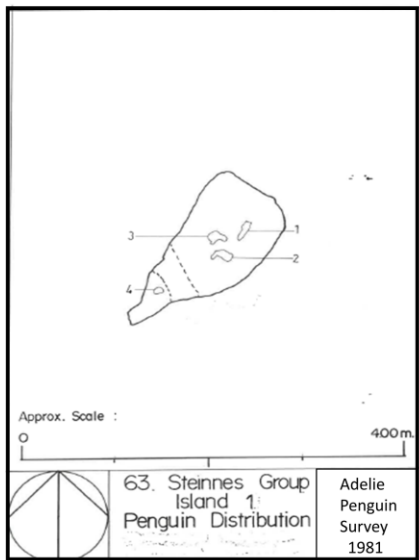
Confidence level of match: high



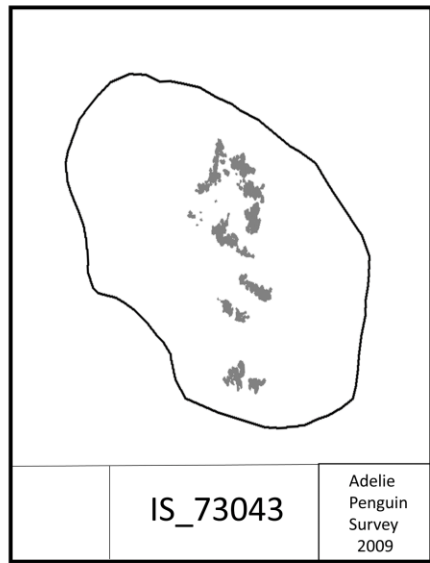
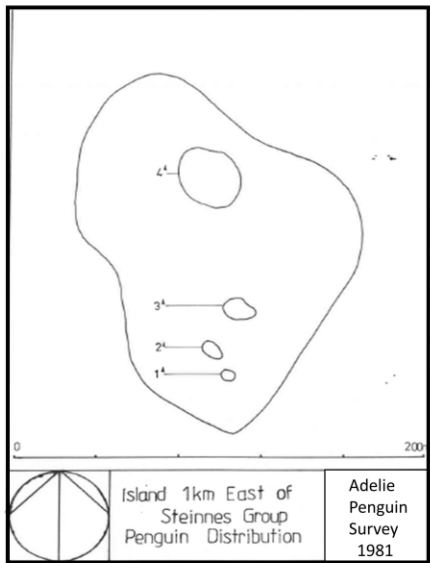
Confidence level of match: high



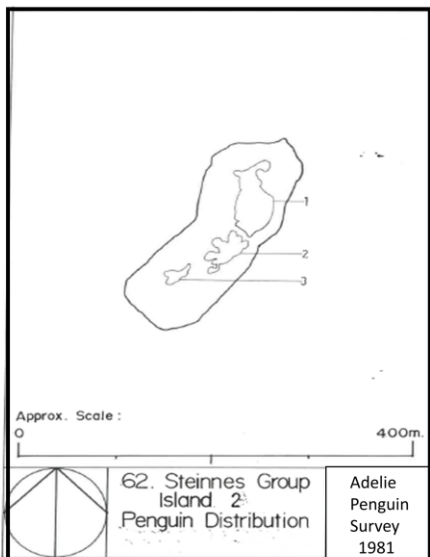
Confidence level of match: high



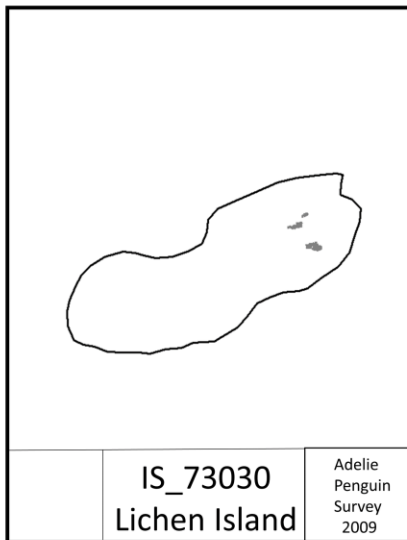
Confidence level of match: high



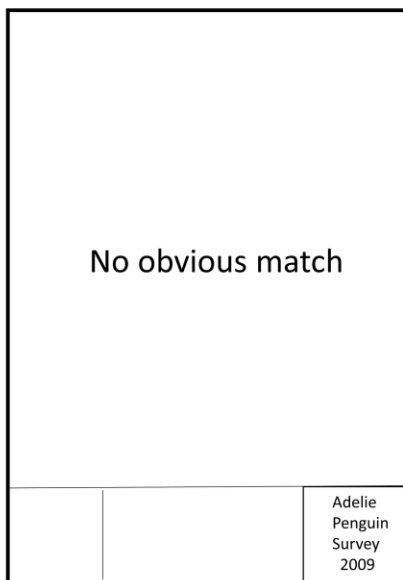
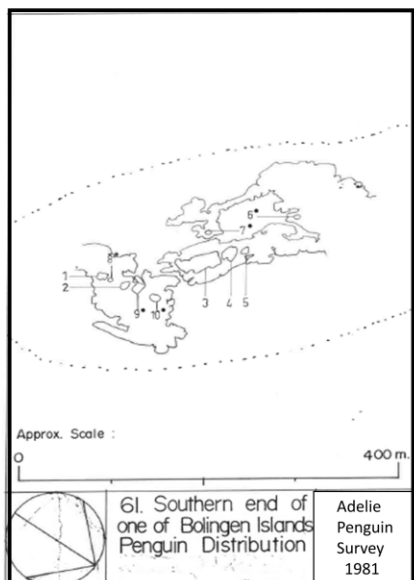
Confidence level of match: medium

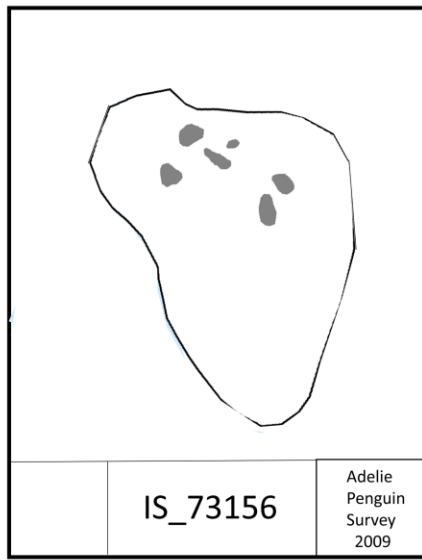
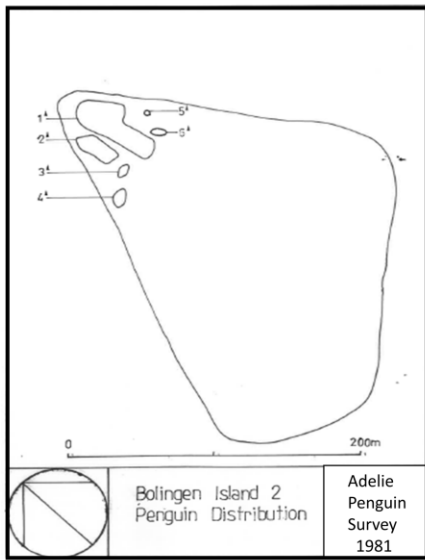


Confidence level of match: high



Confidence level of match: no photographs taken
and hence no map produced in 1981 survey, but match between
surveys very likely because of specific use of the official site name
in Whitehead and Johnstone (1990)





Confidence level of match: Low. Possible visual match in maps but the name on 1981 map doesn't match the name in the publication, giving a low confidence ranking