

APPENDIX 1

TABLE A1

The four global criteria for identifying IBAs (from Birdlife International 2020)

IBA criterion	Explanation	Description
A1: Globally threatened species	The site is known or thought regularly to hold significant numbers of a Globally Threatened species.	The site qualifies if it is known, estimated or thought to hold a population of a species categorized on the IUCN Red List as globally threatened (Critically Endangered, Endangered and Vulnerable). Specific thresholds apply to species in the three threat categories. The list of globally threatened species is maintained and updated annually for IUCN by BirdLife International (www.birdlife.org/datazone/species).
A2: Restricted range species	The site is known or thought to hold a significant population of at least two range-restricted species.	Restricted-range bird species are those having a global range size less than or equal to 50,000 km ² . “Significant population”: it is recommended that site-level populations of at least two restricted-range species should be equal to or exceed 1% of their global population. This criterion can be applied to species both within their breeding and nonbreeding ranges
A3: Bioregion-restricted assemblages	The site is known or thought to hold a significant component of the group of species whose distributions are largely or wholly confined to one biome-realm.	Bioregion-restricted assemblages are groups of species with largely shared distributions which occur (breed) mostly or entirely within all or part of a particular bioregion. Bioregions are defined by the WWF classification of biome-realms. Many biome-realms hold large numbers of species restricted to them, often across a variety of different habitat types; networks of sites must be chosen to ensure, as far as possible, adequate representation of all relevant species. In data-poor areas, knowledge of the quality and representativeness of the habitat types within sites alongside incomplete knowledge of the presence of bioregion-restricted species can be used to inform site selection. Many biome-realms cross political boundaries; where this is so, national networks of sites are selected to ensure that all relevant species in each country are adequately represented in IBAs. Thus biome-realms require that the networks of sites take account of both the geographical spread of the biome-realm and the political boundaries that cross them, as appropriate. Under “significant component” it is recommended to use 30% of the number of bioregion-restricted species within a biome realm within a country or five bioregion-restricted species, whichever is greatest.
A4: Congregations	The site is known or thought to hold congregations of $\geq 1\%$ of the global population of one or more species on a regular or predictable basis.	Sites can qualify whether thresholds are exceeded simultaneously or cumulatively, within a limited period. In this way, the criterion covers situations where a rapid turnover of birds takes place (including, for example, for migratory land birds).

TABLE A2

List of Antarctic IBAs with Emperor Penguins *Aptenodytes forsteri*

Name	IBA	Latitude	Longitude	IBA area (km ²)	Estimated population (year)
Snow Hill Island	069	64.52°S	57.45°W	2.14	~3,885 chicks (2004)
Smith Peninsula	100	74.39°S	60.88°W	2.92	4,018 penguins (2009)
NW Berkner Island (Gould Bay)	101	77.71°S	47.68°W	5.00	8,242 penguins (2009)
Luitpold Coast	103	77.28°S	33.70°W	5.00	6,498 penguins (2009)
Dawson-Lambton Glacier	104	76.07°S	26.65°W	5.00	2,598 penguins (2009)
Brunt Ice Shelf (Halley Bay)	105	75.54°S	27.41°W	1.77	22,510 penguins (2009)
Stancomb-Wills Glacier	106	74.10°S	23.09°W	3.52	5,455 penguins (2009)
Drescher Inlet	107	72.83°S	19.22°W	3.68	2,305 penguins (2009)
Riiser-Larsen Ice Shelf	108	72.12°S	15.11°W	4.77	4,013 penguins (2009)
Atka Ice port [Bay]	109	70.61°S	08.12°W	4.25	9,657 penguins (2009)
Muskegbukta [SANAE]	110	70.00°S	01.42°W	4.31	3,193 penguins (2009)
Princess Ragnhild Coast	114	69.95°S	27.22°E	3.79	6,870 penguins (2009)
Riiser-Larsen Peninsula	115	68.77°S	34.40°E	4.54	4,652 penguins (2009)
Kloa Point	118	66.64°S	57.29°E	2.86	3,283 penguins (2009)
Taylor Rookery	119	60.89°S	67.45°E	0.26	2,927 ± 320 breeding pairs (2013)
Auster Rookery	125	67.39°S	63.98°E	5.00	7,855 penguins (2009)
Cape Darnley [Flutter]	127	67.88°S	69.71°E	4.40	~8,000 chicks (2013)
Amanda Bay	128	69.25°S	76.85°E	17.15	~9,700 chicks (2014)
West Ice Shelf	140	66.54°S	81.83°E	5.00	3,436 chicks (2011)
Haswell Island	141	66.53°S	93.02°E	5.01	~13,000 adults (2010)
Shackleton Ice Shelf	142	64.99°S	96.18°E	5.00	6,471 penguins (2009)

Dibble Glacier	149	66.01°S	134.79°E	5.00	<i>12,476</i> penguins (2009)
Pointe Géologie	150	66.67°S	140.01°E	0.37	<i>3,588</i> pairs (2013)
Mertz Glacier*	160	67.31°S	145.90°E	6.41	<i>4,781</i> penguins (2009)
Cape Roget	169	71.99°S	170.60°E	3.71	<i>9,505</i> penguins (2009)
Cape Wadworth, Coulman Island	173	73.35°S	169.63°E	4.15	<i>25,298</i> penguins (2009)
Cape Washington	176	74.62°S	164.97°E	285.84	<i>~17,000</i> pairs (2010)
Bernacchi Head, Franklin Island	189	76.13°S	168.34°E	4.19	<i>7,561</i> penguins (2009)
Cape Colbeck	191	77.14°S	157.69°E	3.51	<i>11,438</i> penguins (2009)
Thurston Glacier	196	73.50°S	125.61°W	2.93	<i>9,505</i> penguins (2009)
Hummer Point, Bear Peninsula	197	74.37°S	110.19°W	4.90	<i>9,457</i> penguins (2009)
Brownson Islands	198	74.15°S	103.63°W	7.92	<i>5,732</i> penguins (2009)
Sikorski Glacier, Noville Peninsula	202	71.76°S	98.44°W	3.16	<i>3,568</i> penguins (2009)
Scorseby Head, Smyley Island	204	72.30°S	78.83°W	4.97	<i>6,061</i> penguins (2009)

* The two sub-colonies noted in Harris et al. (2015) have reunited and form a single colony (Wienecke et al. 2014).

The population threshold of > 1% of the global population was 2,380 pairs (Harris et al., 2015). Population size in italics are estimates from satellite images from Fretwell et al. (2012). Count units as reported in Harris et al. (2015).

TABLE A3

Annual changes in location of the Halley Bay colony from 2016–2024

Date	Latitude	Longitude	Distance moved (km)	Observations
06-Nov-16	75.548°S	27.495°W		~0.9 km ² fast-ice, colony was 0.7 km from ice edge. All fast ice gone by 17 Nov 2016
05-Oct-17	75.569°S	27.698°W	6.1	< 0.8 km ² of fast ice on 13 Dec 2017; ice gone 2 days later
16-Oct-18	75.571°S	27.691°W	0.3	Colony < 1.5 km from ice edge; a 2 nd group was 4.7 km west of 1 st group at 75.551°S, 27.539°W; ~2 km from fast ice edge; lots of cloud. All ice gone by 26 Nov 2018
11-Oct-19	75.548°S	27.557°W	4.5	Only a small group ~600 m NW of previous year's location; shelf moved ~350 m northwards; lots of cloud; no more ice on 21 Dec 2019
29-Sep-20	75.491°S	27.297°W	9.6	Colony was 2.7 km from fast ice edge; 9.5 km east of previous year's location; only ~5 km to go before A81 calves; no more ice by 08 Dec 2020; lots of cloud
04-Oct-21	75.492°S	27.327°W	0.8	Colony was 1.7 km from fast ice edge; 890 m west of 2020 position; fast ice gone by 16 Dec 2021
18-Sep-22	75.494°S	27.375°W	1.4	Colony was 520 m from fast ice edge; 1.3 km west of previous; all fast ice gone by 10 Dec 2022
04-Oct-23	75.453°S	26.239°W	32	Iceberg A81 (~1,500 km ²) calves on 23/24 Jan 2023; colony is now 32 km east of previous; small colony east of ice hummock and 1.6 km from fast ice edge; large tide crack 850 m from colony; very poor ice conditions in Dec. In 2024, no images until 21 Jan; most chicks probably survived
01-Oct-24	75.453°S	26.238°W	0.03	Colony area ~0.3 km ² , 1.1 km from ice edge but fragile new ice at edge; 2 nd small group at 75.467°S, 26.196°W and ~2 km south of 1 st group; 07 Oct all fast ice lost; both groups gone