

PREFACE

NATURAL SCIENCE AND CULTURAL HERITAGE RESEARCH IN THE HEARD ISLAND WILDERNESS RESERVE

Since its first sighting around 1833, remote, cloud-shrouded, glaciated Heard Island and its vicinity have attracted interest: from sealers, from archaeologists, from historians, from scientists, from the fishing industry, from tourists.

Heard and McDonald Islands in the Southern Ocean, distant from present continents, are of scientific and historical interest for myriad reasons. How and when were these isolated islands discovered? What is the geological origin of the islands? How old are they? What are the present environmental conditions on the islands? What were environmental conditions in the past? Are environmental conditions changing? What organisms inhabit the islands? Where are they found on the islands? How did the organisms get there? How do the islands interact with the surrounding ocean, with the surrounding atmosphere, with other parts of the world? How have humans influenced the islands, their biota, the surrounding ocean? What will the islands, their biota, the surrounding oceans be like in the future?

Heard and McDonald Islands are some 4850 km southeast of southern Africa, 4350 km southwest of Western Australia, 1650 km north of Antarctica, and 466 km southeast of Iles Kerguelen. Heard Island (53°06'S, 73°32'E) is dominated by Big Ben, a 2750 m active volcano whose slopes are heavily glaciated. McDonald Island (53°03'S, 72°35'E) is also volcanically active. Their climates are cool, moist, windy and heavily influenced by the vast ocean that surrounds them. Close to but south of the Antarctic Polar Front, the islands are in a part of the world whose climate appears to be changing quite rapidly. Their native terrestrial floras and faunas include few species and none at present known to have been introduced by humans. In a part of the world that is predominantly ocean, these small islands annually accommodate thousands of seals, penguins and other sea birds congregating ashore to breed. Seal populations were exploited on Heard Island for about 30 years

from 1855. Fish populations are at present exploited, legally and illegally, in the ocean around Heard Island.

The Heard Island Wilderness Reserve includes Heard and McDonald Islands, nearby small islands and some surrounding ocean. It was inscribed on the World Heritage List in 1997. Scientific studies, begun with Drygalski's visit in 1902, have been conducted episodically as access was available. There is enormous interest in and scope for further scientific research on this fascinating and beautiful part of the world, for which Australia has prime responsibility.

The articles assembled here arise from a workshop held at the Australian Antarctic Division, Kingston, Tasmania, 29 June–1 July 1998, reviewing past research and planning future research in the vicinity of Heard Island. This is the first published volume devoted to articles concerning research in the Heard Island Wilderness Reserve. Its publication has been financially supported by the Australian Antarctic Division. Abstracts of all talks presented at the workshop have been published as *ANARE Research Note 101* (Selkirk 1998).

P.M. SELKIRK
Chair, Workshop Organising Committee

T. MOLYNEUX
P.G. QUILTY
D.M. STODDART
Members, Workshop Organising Committee

REFERENCE

- SELKIRK, P.M. (Ed.), 1998: Heard Island Wilderness Reserve: reports on natural science and cultural heritage research. *ANARE Res. Notes* 101: 1–40.