남극 특별보호구역 지정 · 관리에 관한 연구

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제 출 문

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I. 서론

백색의 제7대륙이라고 불리는 남극대륙은 지구의 마지막 남은 원시대륙으로서 지구육지 표면의 10분의 1을 차지한다. 이는 한반도의 60여배 또는 중국과 인도를 합친 것과 같은 크기로 약 1천4백만km$^2$에 이르는 지구상에서 다섯 번째의 크기를 가진 대륙이다.

남극대륙은 예전에 남반구에 위치한 호주, 뉴질랜드, 칠레, 아르헨티나와 어업관련 산업이 활발했던 영국, 노르웨이, 프랑스 등 7개국에 의해 영유권이 주장되어왔다. 따라서 미국, 러시아 등 영유권 주장 유보국가들은 지속적인 남극활동을 보장받기위해 남극을 관리하는 국제기구의 필요성을 인식하고, 미국의 요청에 의해 1959년 12월 1일 12개국이 워싱턴에서 남극조약에 서명하게 되었다. 모두 14개 조문으로 구성된 남극조약은 남위60도 이남의 빙하와 해안을 포함한 지역의 평화적 이용과 과학연구의 완전한 자유보장을 표명하고, 남극에 대한 기존의 영유권주장을 동결할 것을 명시하고 있다. 조약운영의 실질적 권한은 12개 원초서명국과 과학기지 설치 등을 통해 실질적으로 남극연구활동을 수행하고 있는 국가들이 가지고 있다. 이들 국가를 남극조약 협의당사국(ATCP, Antarctic Treaty Consultive Party)이라 지칭하며, 이들 국가들만이 매년 개최되는 남극조약 협의당사국회의에서 투표권을 행사할 수 있다. 우리나라라는 1989년 10월 9일 남극조약협의당사국 지위를 획득하였다. 남극조약에는 12개 원초서명국과 추후 가입된 34개국을 합쳐 총 47개국(2009년 7월 현재)이 가입되어있고 그중 협의당사국 지위를 갖고 있는 나라는 총 28개국이다.  

이러한 남극대륙은 영유권 및 그 주변해역이 갖는 경제적, 과학적 가치로 인하여 각국의 관심이 증대하고 있다. 일반적으로 남극에 대한 관심은 4개의 분야로 구분할 수 있는데, 첫째, 남극에 대한 주권적 권리에 대한 각국 정부의 관심, 둘째, 남극을 연구기지로 활용하려는 과학자들의 관심, 셋째, 광물 및 해양생물자원에서 관광에 이르는 광범위한 상업적 관심, 넷째, 남극을 자연상태 그대로 보존하고자 노력하는 환경보호가들의 관심으로 나눌 수 있다.  

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1) 협약에 관한 자세한 사항은 다음의 남극조약과 관련된 홈페이지를 참조할 것: [http://www.ats.aq/](http://www.ats.aq/)

이러한 남극에 대한 인간의 관심에도 불구하고 현재까지 지리적 격리 등과 함께
남극조약체제, 특히 남극조약협의당사국회의 노력에 의하여 잘 보호되어 왔으나
환경보호에 관한 기존의 남극조약체제는 그 기여가 미약하였으므로, 1991년『환경
보호에 관한 남극조약의정서』(Protocol on Environmental Protection to the
Antarctic Treaty, 이하 ‘의정서’)가 채택되면서 환경보호에 관한 포괄적인 규범이
갖추어지게 되었다. 동 의정서는 1991년 10월 스페인 마드리드에서 채택되어 일명
마드리드의정서로 명명되는데, 남극환경과 관련생태계의 보호와 남극의 자연적,미학적
가치 및 과학적 연구를 수행하기 위한 지역으로서의 가치를 포함하여 남극의 고유한 가치보호를 남극활동에 고려하여야 할 기본사항으로 규정하고 있으며, 남극활동
과 관련 생태계에 유해한 어떠한 남극자원 개발 활동도 수행할 수 없도록 하고
있다. 마드리드 의정서는 환경보호를 위하여 국제사회에서 채택한 문서 중 가장 광
범위한 법적 문서이다3).

마드리드 의정서는 남극조약협의당사국들에게 의정서에 포괄되어 있는 남극조약체제의 의무사항을 국내적으로 이행하기 위한 입법을 하여 당사국들은 의정서
의 준수를 위해 법률, 규칙, 행정조치, 이행조치를 채택하는 등 적절한 국내적 조치의 의무를 명시하고 있다.

우리나라는 마드리드의정서에 1996년 1월 2일 비준서를 기탁하여 1998년 1월
14일 발효되었고, 2004년 3월 22일 법률 제7195호인 “남극활동및환경보호에관한
법률”이 제정되었다. 동 법은 총 6개의 장 27개 조문으로 구성되어 우리나라의 남극활동에 필요한 사항을 정하여 남극환경의 보호와 남극관련 과학기술의 발전에 기여하기 위한을 목적으로 하고 있다.

최근까지 남극조약에서는 남극의 주요 동식물 서식지, 극한지 사막생태계, 사적지
중 특별한 지역을 보호하기 위하여 1991년 마드리드의정서 제5부속서(2002년 발효, 이하 ‘부속서’)로 결실을 보았는데, 동 부속서에서는 보호대상 가치(제3조 제1항), 보호구역의 유형과 예(제3조 제2항)와 함께 남극특별보호구역 체제의 기본적 틀을 정하고, 당사국들도 하여
급 체계적으로 그러한 지역을 찾아서 현존하는 남극특별보호구역(ASPA, Antarctic

4) 당사국간 협의에 의한 국제법적 규제로 구조적으로 포괄적, 배타성을 갖는 남극조약체제(Antarctic Treaty
System)는 남극조약, 남극조약에 따라 시행중인 조치, 남극조약과 관련하여 발효중인 별도의 국제문서들에 의한
문서에 따라 시행중인 법적개념
* 자세한 사항은 환경부(2004) 남극환경보호의정서 국내법 제정에 따른 환경법령 개정의 전략적 도입방안에
관한 연구, pp. 4-14 참고
Specially Protected Area) 리스트에 추가해야 할 것이라고 규정하고 있다(제3조 제2항). 또한, 부속서에는 남극특별보호구역 이외에도 남극특별관리구역(ASMA, Antarctic Specially Managed Area)에 대한 규정(제4조)이 있다.

본 보고서는 제2장에서 남극보호구역의 역사 및 개념을 소개하고, 제3장 남극특별보호구역을 지정하기 위한 절차를 설명하였고, 제4장에서는 우리나라는 2009년 남극특별보호구역을 지정하기까지 일련의 과정을 요약하였다. 제5장에서는 우리나라가 지정한 남극특별보호구역의 향후 관리방안 등에 대한 제언을 하였고, 마지막으로 부록에서는 남극특별보호구역 지정을 위한 국제협력과 관련한 세부활동에 대한 내용을 일자에 따라 정리하고 보호구역 현황 등 참고자료를 수록하였다.
II. 남극보호구역 개요

1. 남극보호구역 역사

남극에서의 특별보호구역에 관한 첫 시발점은 1964년 제3차 남극조약협의당사국회에서 합의된 남극동식물군의 보존을 위한 합의규칙(Agreed Measures for the Conservation of Antarctic Fauna and Flora)에 기초하고 있다. 동 합의규칙은 남극 환경보호를 위한 최초의 권고로 합의규칙은 명령적 문언을 갖춘 조약형태로 특별보호구역(Specially Protected Area, SPA) 및 특별과학적관심지역(Site of Special Scientific Interest)로 구분하였다. 그 주요내용은 다음과 같다.

- 남극조약체제(Antarctic Treaty System)지역을 특별보전지역(Special Conservation Area, SCA)으로 선언하였다. 그러나 합의규칙은 남극육지지역에만 적용 (제1조)
- 남극고유의 포유동물이나 조류를 살상, 포획, 방해하는 행위 제한 (제6조 제1·2항)
- 부속서A에 열거된 고유의 포유동물과 조류는 특별보호종(Specially Protected Species, SPS)로 지정되어 특별한 보호를 받는다 (제6조 제5항), 각 남극조약협의당사국은 그러한 생물의 생활환경을 보호하고 해안과 빙붕에 인접한 해안의 오염을 감소시킬 노력 요구 (제7조 제102항)
- 독특한 자연생태계를 유지하기 위하여 특별한 생태학적 관심을 갖는 구역은 SPA로 지정되어 보호를 받음 (제8조)

상기 합의규칙을 시작으로 1991년 의정서가 채택되기 전까지 남극의 보호구역은 8가지 유형 즉, 특별보호구역(Specially Protected Areas), 특별과학적관심지역(Sites of Special Scientific Interest), 특별해양과학관심지역(Marine Sites of Special Scientific Interest), 사적지 및 기념물(Historic Sites and Monuments), 무덤(Tomb), 특별보류지(Specially Reserved Areas, SRA), 다목적활용계획지역(Multiple Use Planning Area, MUPA), 환경모니터링프로그램지역(CEMP, CCAMLR Environmental Monitoring Program Site)으로 구분이 되었다. 이러한 유형의 보호구역이 설정된 것은 크게 다음과 같은 4가지 이유에 근거한다:

① 남극동식물군의 보존을 위한 합의규칙의 제8조에서의 특별보호구역은 동식물만을 보호하기 위해서만 지정할 수 있다
② 특별보호구역은 동식물보호보다도 과학활동을 보호하기 위해 필요했다. 그러
한 이유로 특별과학적관심지역(SSSIs)에 관한 개념이 탄생했다(Recommendations VII-3 및 VIII-3).

③ 다른 주요사항들도 고려한 보호지역의 지정이 필요하다는 인식이 증가함에 따라 특별보류지(SRA)의 개념이 시작되었다(Recommendation XV-10). 그러나 동 권고조항은 시행되지 않았고 환경보호에 관한 남극조약의정서에서도 채택되지 못 하였다.

④ 남극기지주변을 보호할 수 있는 어떠한 방법이 없었으므로 다목적활용 계획지역(MUPA)의 개념이 도입되었다(Recommendation XV-11). 그러나 동 권고조항 역시 시행되지 않았고 환경보호에 관한 남극조약의정서에서도 채택되지 못 하였다.

이후, 보호구역의 지정에 관한 논의는 의정서 제2부속서(남극동식물군 보존)의 제정과 맞물리 지속적으로 논의 되어왔고, 남극에서의 동식물, 지질, 과학, 자연적 가치를 보호할 수 있는 합리적 보호구역지정을 위한 대안을 찾는 데 있어 다음의 사항에 합의를 하였다.

① 타 지역과 특별히 차별점이 있는 지역
② 남극협의당사국의 직접적 관리지역이 아니면서 방문객의 숫자가 많아져서 규제가 필요한 지역으로, 방문객에게 확실한 규제방법을 전달할 수 있는 지역
③ 기지주변의 지역으로 기지의 정부(들)가 지역내의 활동관리를 가장 잘 할 수 있는 지역
④ 보호구역으로 지정될 과학기지 주변지역은 영토권과 어떠한 관련성이 없어야 하며, 남극조약 제7조에 의거한 검열에 방해가 되지 않아야 함
⑤ 남극협의당사국 만장일치로 합의된 허가의 시행은 남극조약 제8조에 의거한 허가를 시행하여야만 됨

- 남극조약 제8조에서는 ‘남극지역에서의 모든 사람에 대한 관할권에 관한 체약당사국의 각자 입장을 침해할 없이, 남극지역에 있는 동안 자기의 업무를 수행할 목적으로 행하는 모든 작위 또는 부작위에 대하여 그들의 국적국인 체약당사국의 관할권에만 복종한다’라고 명시됨
2. 남극보호구역 유형

상기 보호구역지정을 위한 논의의 결과로 환경보호에 관한 남극조약의정서의 제5부속서인 ‘구역보호 및 관리’(Area Protection and Management)가 제정되어 2002년 5월 24일에 발효되었다. 동 부속서에서는 남극의 환경보호구역을 남극특별보호구역(ASPA, Antarctic Specially Protected Area) 및 남극특별관리구역(ASMA, Antarctic Specially Managed Area) 2가지 종류로만 구분하고 있다. 이들의 가장 큰 차이점은 남극특별보호구역은 환경적, 과학적, 역사적, 미학적, 자연상태의 가치를 보호하기 위하여 지정하지만, 남극특별관리구역은 인간의 활동을 보호(규제)하기 위하여 지정한다는 점이고, 남극활동자의 입장에서는 남극특별보호구역에의 출입에는 허가가 필요하지만, 남극특별관리구역에는 허가가 필요치 않다는 것이다. 이에 관한 것은 제5부속서의 제3조 및 제4조의 제1항의 목적에 잘 표현이 되어있다.

- 제3조 (남극특별보호구역) 제1항: 해양을 포함한 어떠한 지역도 뛰어난 환경적, 과학적, 역사적, 미학적 또는 자연적 가치와 동 가치의 조합 또는 진행중이거나 계획된 과학탐사를 보호하기 위하여 남극특별보호구역으로 지정될 수 있다.
- 제4조 (남극특별관리구역) 제1항: 활동이 수행중이거나 또는 향후 수행될 수 있는 해양을 포함한 어떠한 지역도 활동에 대한 계획 및 조정을 돕고, 일어날 수 있는 분쟁을 회피하며 당사국간 협조를 증진시키거나 또는 환경영향을 최소화하기 위하여 남극특별관리구역으로 지정될 수 있다.

현행 두 종류의 보호구역으로 지정되기 위한 가장 중요한 점은 관리계획이라 할 수 있다. 이에 관해서는 제5부속서 제5조에 기술된 바와 같이 남극특별보호구역에의 출입은 관리계획에 관련된 사항의 허가를 반드시 지참해야만 한다. 그러나 관리계획서에서의 조건이 아닌 사항에 대하여 활동을 하는 자는 허가가 있어도 원활히 외가 된다. 반면에, 남극특별관리구역에서는 관리계획이 ‘행동지침’으로 만들어져 있으나 방문객이 그러한 행동지침을 꼭 숙지해야한다는 규정은 없다. 다만, 그러한 규 정에 주의를 해야만 한다는 암묵적 동의가 있다.
3. 남극보호구역 현황

환경보호에 관한 남극조약의정서의 제5부속서인 ‘구역보호 및 관리’(Area Protection and Management)가 제정된 후, 그 전에 있었던 특별보호구역(Specially Protected Areas) 및 특별과학적관심지역(Sites of Special Scientific Interest)은 남극특별보호구역으로 자동적으로 바뀌면서 번호 및 명칭이 재조정 되었다. 2009년 7월 현재 71개소의 남극특별보호구역 및 7개소의 남극특별관리구역이 있다. 특히, 남극특별보호구역은 2009년 7월 현재 영국이 14개소(1개소 칠레와 공동), 미국 13개소, 뉴질랜드 12개소, 호주 11개소(1개소 중국과 공동)로써, 단독으로 지정한 것만을 본다면 전체 남극특별보호구역의 73.2%, 공동지정한 것까지 고려한다면 전체의 76%에 달한다(부록 1참조).

아시아권에서는 중국이 2008년 단독으로 한 곳(ASPA168)을 지정하였고, 동남호주와 공동으로 한 곳(ASPA169)를 지정한 바 있다. 일본은 1987년 한 곳 (ASPA141)을 지정하였고, 인도는 2005년 자국에서 남극협의당사국회의를 개최한 해에 한 곳(ASPA163)을 지정한 바 있다. 우리나라라는 남극조약 체결 50주년을 맞은 올해 제32차 남극조약 협의당사국회의에서 지정 승인을 받음으로써 전체 남극조약협의당사국 중 15번째로 남극특별보호구역을 지정한 국가가 되었다. 비록 다른 국가와 비교하면 우리나라라는 남극 환경보호 노력의 후발주자이냐 우리나라의 조약 및 의정서 가입 시점을 고려할 때 금번 남극특별보호구역의 지정은 상당히 고무적이라고 할 수 있다. 이를 통해 남극환경보호에 대한 우리나라의 위상을 제고할 수 있었으며, 향후 새로운 남극보호구역 지정 또는 확대 지정에 대한 초석을 마련하였다고 할 수 있을 것이다.
III. 남극특별보호구역 지정절차


동 지침서는 다음의 주요 목표를 가지고 있다.
① ASPA 관리 계획 수립 주체를 도움
② 관리 계획의 일관된 달성을 돕고, 평가-채택-이행을 촉진함
③ 관리 계획이 의정서의 조건을 충족할 수 있도록 도움

관리계획이 초안작성에서 최종 승인되기까지의 과정이 다음과 (그림 1)의 흐름도에 요약되어 있다.

철요서

제안서 통과

SCAR에 제출

CEP에 제출

안이 합당하면 CCAMLR에 제출

관리계획 조안 작성

국내외의 자문

의견수렴

의견수렴

(그림 4) 남극특별보호구역의 관리계획 승인 개요
(그림 1)은 개략적인 남극특별보호구역의 승인과정 흐름을 이해하는데 도움을 줄 수 있을 것이다. 의정서와 합의된 문건에 근거한 구체적인 절차는 다음의 (표 1)과 같다.

(표 2) 남극특별보호구역 승인절차

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- 회의 45일 전까지 CEP(ATCM)사무국에 Working Paper형식으로 제출  
- 회의 30일 전까지 회의 주최국이 3개 언어(영어 외 불어, 러시아어 및 스페인어)로 번역 및 배포  
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•CEP는 의견(advice)을 정리해 ATCM에 제출 | - 의정서 제5부속서 제6조 ('02발효)  
- CEP VI 보고서 부속서4('03) |
| ATCP의 검토 | ATCM 남극조약협의 당사국 (ATCPs) | ICG(intersessional contact group) 설립을 승인 | | |

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• 관리계획 초안 검토에 있어 ICG의 역할  
  - 관리계획의 내용 명료성, 일관성, 예상 효과 검증  
  - ASPA 계획 초안에 대해서는 ASPA 관리계획 마련 지침을 고려  
  - 관리계획들(첨부된 지도 포함) 간 접근의 일관성 확보 | - CEP 보고서 9절 지침('98)  
ATCM27 보고서 부속서(’04) |
| | 온라인 디스커션 포럼 운영 | | • ICG가 회합될 CEP 웹사이트에 디스커션 포럼을 수립 및 운영  
  - 관리계획 제안자는 디스커션 포럼의 모니터링 개건 의견에 대응, 이후의 CEP제출에 적절하도록 관리계획을 수정  
  - 전체 CEP 회원 및 웹사이트 참여 가능 | - ATCM27 보고서 부속서(’04) |
| | ICG의 검토 보고 | | • 각 ICG의 신의 결과(각종 추천의견 포함)와 SCAR 및 CCAMLR의 의견은 ICG의 진행자가 차기 개최되는 CEP회의에서 보고 | - CEP VI 보고서 부속서(’03) |
| 2차 세션 중 | ATCM의 검토 및 조례 채택 | ATCM (ATCPs) | • ATCPs가 계획안을 검토, 필요시 초안 제작성 요구  
  - 28개(2008.04 현재) ATCPs 중 2/3 이상의 회의 참가로 정족수 성립  
  - 참가 ATCPs 대표자 전원의 승인  
  → ATCM 조례(Measure)채택 | - CEP I 보고서 제5부속서(’98)  
ATCM 운영규칙 (’05개정) |
| 2차 세션 후 (ATCM 종료 후) | 조례 발효 | ATCPs | • 조례에서 다른 상세규정을 두지 않는 한, 90일 동안 협의당사국들 중 기간(90일)의 연장을 요구하거나 조례 체택 승인 불가 입장을 취하는 Depository를 통고하지 않는다면, 계획안이 체택된 ATCM 종료 90일 후 승인된 것으로 간주.  
• 승인 즉시 Depository는 모든 당사국들에게 관리계획을 배포  
• 관리계획에서 달리 규정하지 않는 한, ASPA 또는 ASMA의 지정은 영구적 | - 의정서 제5부속서 제6조(’02발효) |
| 관리계획 승인 후 | 계획 재검토 | | • 관리계획은 매 5년마다 재검토하고 필요시마다 개정. 개정된 관리계획은 이전과 같은 동의절차를 따름. | - 의정서 제5부속서 제6조(’02발효) |
대상지 지정에 의해 해양 생물자원의 채집이 일어나거나 잠재적 채집 가능성 이 있는 경우, 또는 관리계획 초안에 CCAMLR 관련 활동을 제한 또는 방해 하는 규정이 있을 경우

** CEP는 ATCM과 함께 같은 장소에서 1년에 한 번 회의. ATCM의 동의 하 에, 업무수행에 필요할 때 CEP는 연례회의 사이에도 회의 개최 가능. CEP는 비공식 개방형 ICG들을 개설해 특정 사안을 논의하고 결과를 CEP에 보고하 도록 함(CEP 운영규칙 9번)

<주요문서>
- ASPA 관리계획 마련을 위한 지침
  (Appendix 5 to the CEP I Final Report, 1998)
- CEP 운영규칙(1998)
- The 2nd Antarctic Protected Areas Workshop(XXIII ATCM/WP37, 1999)
- CEP 문서 전달 및 취급 지침, 2001
- 마드리드의정서 부속서V- Area Protection and Management(2002년 발효)
- CEP의 ASPA와 ASMA 관리계획 초안 및 수정안 검토를 위한 지침
  (Annex 4 to the CEP VI Final Report, 2000채택-2003개정)
- 관리계획 초안 검토를 위한 ICG 위임사항(Annex 4 to the Final report of XXVII ATCM, 2004)
- ATCM 운영규칙(2005개정)
- 예비 비공식그룹(a trial informal group)의 관리계획 초안 검토를 위한 위임사항
  제안(Appendix 2 to the CEP X Final Report, 2007)

※ 약어 참고
- CCAMLR : 남극해양생물자원 보존협약 (Convention on the Conservation of Antarctic Marine Living Resources)
- SCAR : 남극연구 과학위원회 (Scientific Committee for Antarctic Research)
- CEP : 환경보호위원회 (Committee for Environmental Protection)
- ATCM : 남극조약협의회의 (Antarctic Treaty Consultative Meeting)
- ATCP : 남극조약협의당사국 (Antarctic Treaty Consultative Parties)
실제적으로 이루어지는 남극특별보호구역 지정 과정을 요약하면 다음과 같다.

① 영문 관리계획서 작성
② 남극조약 사무국(ATCM) 제출
  ◦ 조약상의 절차에는 CEP(환경보호위원회)에 제출토록 되어 있으나, 별도의
  CEP 사무국이 없으므로 남극조약 사무국에 제출
③ 남극조약 사무국이 영어 외 3개 언어로 번역(불어, 러시아어, 스페인어)
④ 4개 언어로 번역된 관리계획서를 CEP 관계자에게 통보하고 남극조약 당사국
  총회 시 개최되는 CEP 회의에서 관리계획서 검토
⑤ 남극조약 당사국총회 시 개최되는 CEP 회의에서 검토, 보완 여부 결정 및
  Discussion Forum(이하 D/F) 운영 주제 및 참여국 즉석 결정
  ◦ 보완 필요 등 문제가 제기되는 사안은 재검토 및 보완을 조건으로 온라인
    D/F(Discussion Forum)에 상정
    － 그러나, 2007년 이후 신규 보호구역을 지정하려는 관리계획서는 모두
      D/F(SGMP, Subsidiary Group for Management Plans)을 거쳐야 함
    － CEP 부의장 책임하에 D/F 운영하며, 부의장은 각각의 관리계획서를 개별
      운영할 수 있는 운영자 선정
  ◦ 운영 주체가 결정되면 참여국도 동시에 결정
⑥ D/F 운영(1년간)
  ◦ CEP 회의는 1년 주기로 개최되는 남극조약 협의당사국회의와 함께 개최되므
    로 관리계획서 제출된 년도의 다음 해까지 기다려야 함
    － 다만, D/F를 1년간 계속하는 것은 아니고, 보통 D/F 운영 후 5~6개월 내에
      보완 요구 사항이 완료되며 이후 계획서 제출국가 보완 추진
⑦ 계획서 제출 후 약년도까지 보완요구 사항 등에 대한 보완이 완료되면 보완
  작성된 관리계획서를 다시 남극조약 사무국(ATCM)에 남극조약 당사국총회
  개최 45일전까지 제출
⑧ 남극조약 사무국이 3개 언어로 추가 번역(영어 외 불어, 러시아어, 스페인어)
⑨ 남극조약 당사국총회 시 개최되는 CEP 회의에서 최종 검토 후 당사국총회에
  검토 의견 제출
  ◦ 검토 결과 특별한 이견이 없는 경우 당사국총회에 이견 없음을 통보
  ※대개의 경우 이미 D/F에서 보완이 완료된 상태로 제 제출되므로 그대로 통과
⑩ CEP에서 이견이 없는 경우 ATCP(남극조약당사국)이 계획에 동의
⑪ ATCP(남극조약당사국)가 계획에 동의한 후 90일 이내에 특별한 이의 제기
  또는 문제가 없는 경우 계획 승인 및 관리계획 발효
Ⅳ. 우리나라의 남극특별보호구역 지정 추진과정

1. 배경

"환경보호에 관한 남극조약의정서"가 1991년 스페인 마드리드에서 채택되어 남극조약협의당사국들은 남극 환경보호 활동을 추진한 결과, '08년까지 남극기지 보유국(20개국) 중 14개국이 70개의 특별보호구역을 지정·관리 중에 있었다.

우리나라는 세종기지 건설('88), 남극 제2기지 건설 추진, 쇄빙연구선 건조 등 인프라 확충 및 과학연구 활동은 지속적으로 전개 하고 있으나 남극 환경보호를 위한 적극적 조치는 미흡하다고 판단하여, 남극조약 협의당사국 지위에 걸맞은 환경 모범국가로서 국제적 위상을 제고하기 위해 남극 환경보호에 관한 적극적 조치의 일환으로 남극특별보호구역의 지정을 추진하게 되었다.

2. 주요 추진 경과

우리나라의 남극특별보호구역 지정 경과를 시계열적으로 요약하면 다음과 같다.
① '06.1.30~2.4 : 남극 빌랑스하우젠 러시아기지에서 개최된 필데스반도 남극 특별관리구역(ASMA)지정과 관련된 회의(독일환경부 주관)에서 우리나라의 펭귄마을(Narębski Point)의 남극특별보호구역 지정 필요성, 보호방안, 관리방안 등을 발표하여 국제적인 협력과 동참을 유도하였음
② '05.12~'06.11 : '남극 특별보호구역 지정에 관한 연구'를 통해 펭귄 집단군 서지인 Narębski Point(‘펭귄마을’)을 지정 대상으로 검토
③ '06.12.13 : 남극 특별보호구역 지정 관련 관계부처 협의를 통해 특별보호구역 지정 필요성에 대해 합의
④ '07.2~'08.3 : 동 지역에 대한 현지조사 연구 ‘남극특별보호구역 지정을 위한 기초조사 연구’를 수행, 이를 바탕으로 제31차 남극조약 회의 제출을 위한 관리계획서 초안의 작성 및 관계부처 협의
⑤ '08.6 : 우크라이나 키예프에서 개최된 제31차 남극조약 협의당사국회의에 관리계획서 초안 제출 및 동영상 상영 (부록 2)
⑥ '08.6~'09.2 : 남극조약 온라인 D/F(SGMP)를 통해 전문가 검토의견을 수렴하여 관리계획서 수정본 제출. 동 부분의 진행과정은 (부록 3)에 자세히 기록되어있다.
⑦ '09.3~'09.4: 일부 국가가 지정 목적 등에 대해 문제를 제기하며 차기 회의로 연장할 것을 제안하여 이에 대한 논리적 설득 및 외교적 접촉을 병행하였다. 우리의 대응과정은 (부록 5)에 자세히 기술되어 있다. 이러한 문제제기에는 우 라이나가 지정하려는 남극특별보호구역이 위치한 남셰틀랜드 군도의 지정 학적 위치와 관련된 이유가 있었을 것으로 사료된다. 아래 (그림 4) 참조.
⑧ '09.4.17: 미국 볼티모어에서 개최된 제32차 남극조약 협의당사국회의에서 승인
⑨ '09.7.16(예정): 승인 후 90일 경과 시 최종 확정

<특별보호구역 지정 절차도>

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(그림 5) 남극 지도

• 남셰틀랜드 군도와 남극반도는 영국, 아르헨티나, 쿠레 세나라의 영유권 주장이 겹침

(그림 4) 남극 지도

• 남셰틀랜드 군도와 남극반도는 영국, 아르헨티나, 쿠레 세나라의 영유권 주장이 겹침
3. 우리나라 남극특별보호구역 현황

3.1 선정기준 및 위치

○ (선정기준) 우리나라의 효과적 관리 가능성 및 지역의 보호가치
○ (위치 및 면적) 세종기지 남동쪽 2㎞ 떨어진 해안가 언덕에 위치한
약 1㎢ 면적의 Narębski Point(‘일명 펭귄마을’)

※ 남극대륙 본토에서 북쪽으로 가장 멀리 떨어진 남셰틀랜드군도내 킹조지섬의
바튼반도 해안가에 위치(ASPA No.171로 승인)

3.2 지정 목적

○ 인간 간섭으로부터 펭귄마을의 생태적-심미적-과학적 가치 보호

여러한 지역을 보호대상으로 지정하기 위해서는 그 지역의 가치에 대한 중요성에
대한 의미가 부각되어야한다. 따라서 ‘환경보호에 관한 남극조약의정서’ 제5부속서
제3조 제5항의 (a)-(j)에서 남극특별보호구역으로 지정될 수 있는 근거를 마련하
고 있다. 우리나라가 지정하려고하는 남극특별보호구역은 동 조항에 의거하여 생태
적 가치, 미적가치, 과학적 가치 및 그러한 가치들을 종합한 복합적 가치를 지정근
거로 하고, 지정목적은 동 가치들을 인간의 간섭으로부터 보호하기 위함이다.
3.3 주요 가치 현황

♡ 생태적 가치

펭귄마을의 종 다양성은 상대적으로 타 지역에 비해 높은 것으로 조사되었다. 특히, 동 지역에서 번식하는 조류는 견투펭귄, 턱끈펭귄, 갈색도둑갈매기, 남극도둑갈매기, 남방큰물갈매기, 칼집부리물떼새 등 7종이 있으며, 아델리펭귄, 남극가마우지, 북극제비갈매기, 아델리펭귄, 북극표범 등 5종은 동 지역에서 번식은 하지 않지만 관찰되었다. 또한, 포유류로는 남방코끼리, 웨델해표 등 2개종이 관찰되었다. 또한, 식물의 경우 남극의 토착 유관속 현화식물 2개종 중 남극좀새풀 1종을 포함하여 지의류 35속 51종, 선태식물 24속 36종 등 총 88종의 식물이 관찰되었다.

♡ 과학적 가치

펭귄마을에서 번식하는 두 종의 펭귄은 남극해양에 풍부하게 분포하는 동물성 플랑크톤의 일종인 크릴을 먹이로 이용하고 있다. 남극 해양환경 변화에 따른 크릴의 생산량변동은 동 지역에서의 펭귄개체군의 변동에 직접적인 영향을 미치고 있다. 기후변화는 면도사슬에 영향을 미치게 된다. 따라서, 동 지역에서의 펭귄개체군의 장기간 모니터링은 지구환경변화 예측과 대책 수립에 중요한 역할을 할 것이다. 특히, 동 지역은 바톤반도내 조류의 분포가 집중되어 있어, 조류와 식생문서와의 관계를 연구하는데 적합한 지역으로 평가되며 다양한 미소환경이 발달되어있어 현재까지의 조사에서 분포가 밝혀지지 않은 잠재적인 미기록종 및 신종의 서식확률이 매우 높은 것으로 지속적인 관심을 필요로 한다.

♡ 심미적 가치

‘환경보호에 관한 남극조약의정서’ 제5부속서에서 정의하는 심미적 가치는 인간의 감상과 직관으로 인정될 수 있는 쾌적함, 아름다움, 영감적인 요소들임을 의미하며 상당히 주관적인 평가가 이루어질 수 있는 부분이다. 대상 지역은 대부분의 사람들의 동의하는 수려한 기암절벽과 해안선 그리고 펭귄 군서지가 어우러져 아름다운 경관을 이루고 있으며, 남극의 자연현상과 조화를 이루며 인간의 감성을 자극할 만하다.

4. 관리계획서 주요내용

남극특별보호구역은 남극조약 당사국 모두 관리하는 것이지만, 실질적·실질적으로 관리가 가능한 우리나라가 주도적으로 관리하게 된다. 그리고 우리나라가 동 지역을 보호하기 위해 제안한 관리계획의 주요내용은 다음과 같다.
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<th>구분</th>
<th>주요 내용</th>
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</thead>
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<td>지정 목적</td>
<td>미적과학적 가치 보호 및 인간 간섭 최소화</td>
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<td>관리 활동</td>
<td>방문자 교육, 안내 표지판 설치 및 관리, 생태계 모니터링</td>
</tr>
<tr>
<td>허가증</td>
<td>허가증 없이 동 지역 출입 불가 - 과학 목적을 위해서만 발급 가능(산란기 접근 제한) - 관리 활동은 관리 계획서에 따라 이루어져야 함 - 동 지역 방문시 허가증 지참할 것</td>
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<tr>
<td>접근 경로</td>
<td>남극세종기지를 통한 육로 접근 및 보트를 통한 해로 접근</td>
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<tr>
<td>활동 제한</td>
<td>동 지역의 생태계 보호를 위해 활동 제한 (소음) 모터장비 등 소음유발 장치 사용 제한 (반입) 살아있는 동식물 밀접한 관리금지 (보관) 음식류 등의 보호구역 내 보관 금지 (폐기물) 폐기물은 외부로 반출해야 함 (포획·채취) 허가되지 않은 토착 동식물의 포획·채취 금지 (시설물) 과학연구 및 관리활동에 필수적인 시설물 외 설치 불가 및 기간 만료 후 설치 흔적 제거</td>
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<tr>
<td>보고서</td>
<td>활동 보고서 허가기관에 제출 및 당사국·관련 기구간 정보 공유</td>
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5. 남극특별보호구역 지정의의

우리나라의 남극특별보호구역 지정의 주요 의의는 다음과 같이 정리할 수 있을 것이다. 첫째, 남극환경보호에 관한 주도적 권한 행사할 수 있다. 남극조약은 남극에 대한 영유권 주장은 동결하고 있고 남극특별보호구역의 지정은 영토 개념과는 별개이지만, 남극 지역에 대한 출입통제 및 지속적인 모니터링 등 광범위한 환경 보호를 위한 적극적인 역할 수행이 가능할 것이다. 둘째, 보호구역 내 우리나라의 자율적 연구 활동 수행 및 다른 나라 연구 활동에 대한 동향 파악이 가능하다. 광범위한 생물다양성은 그 자체만으로도 높은 연구 가치를 지니며, 기후변화의 영향 등 남극환경 연구에 기여가 예상된다. 또한, 특별보호구역에 대한 방문 및 활동 내용이 공유되는 바 타국의 연구 활동 동향을 보다 용이하게 파악 가능함으로써 국제적인 연구활동력이 강화될 것으로 기대된다. 셋째, 남극활동에 대한 국제적 위상개선으로 남극 제2기지 건설 등 연구 인프라 확충 사업에 긍정적인 파급효과가 가져올 수 있다. 금번 특별보호구역 지정을 계기로 우리나라가 개발에 초점을 둔 남극활동을 하고 있다는 인식을 블록시키고, 남극환경보호에 적극적으로 참여하고 있다는 사실을 홍보할 수 있다.
V. 남극특별보호구역의 관리방향

1. 남극특별보호구역 방문보고서

남극특별보호구역의 보전과 관리를 위하여 관리계획서 7(x)에서는 보호구역 안에서 수행된 활동에 대한 보고서를 보호구역 방문 허가증 소지자 중 책임자가 허가증을 발급한 당국에 가능한 신속하게 최대 6개월 이내에 제출하도록 되어있다. 동 보고서는 영구보관되며 남극협의당사국, SCAR, CCAMLR, COMNAP 등이 보고서를 열람할 수 있도록 되어있다. 또한, 보고서의 형태는 각 관리계획의 주체가 결정할 수 있으나, 최소한 SCAR의 요구조건을 충족시켜야 한다. 따라서, 우리나라라는 우선적으로 SCAR의 방문보고서를 원용한 방문보고서를 활용하고, 향후 필요에 따라 방문보고서의 양식을 변경하는 것이 바람직할 것으로 판단된다(부록 10 참조).

2. 향후 관리방향

제32차 남극조약 협의당사국회의('09.4)에서 우리나라 최초로 남극특별보호구역 (펭귄마을)이 최종 승인됨에 따라 적극적인 후속조치를 이행하여 펭귄마을에 대한 중장기적인 과학적·체계적 관리를 이행하고 남극환경보호의 선도적 역할을 수행할 필요가 있다. 향후 이에 관한 연구를 기반으로 더 많은 역할이 도출되고, 남극 전반의 환경보호에 대한 전반적인 투자 및 기여가 있을 것으로 기대된다. 5년 후인 2014년에는 그간 현재의 관리계획을 운영하였을 때 발생한 문제점 및 새로운 사항을 고려하여 보호구역의 관리계획을 효율적으로 운영하기 위하여 수정할 수 있다. 우선적으로 효과적인 관리 및 향후 관리계획서의 수정을 위해 다음의 사항들이 필요할 것으로 사료된다.

2.1 남극법령 시행규칙 관련

※ 우리나라는 남극조약 가입('86) 및 환경보호의정서 발효('98) 이후 『남극활동 및 환경보호에 관한 법률('04)』 및 동법 시행령('05)을 제정하였으나 현재 시행규칙은 미제정 상태

※ 외교통상부 주관으로 환경부, 국토해양부 공동 입법
남극 특별보호구역 방문 허가서 및 보고서, 환경영향평가 서식 등 법령 규정 사항에 대한 근거규정 및 서식 마련 필요

법 제14조(남극특별보호구역 등의 보호) 및 영 제16조(남극특별보호구역 등의 고시)에 의거 남극 특별보호구역의 명칭 및 위치에 대한 고시 필요
※ 금번 지정된 펭귄마을을 뿐만 아니라 기 지정된 70개소에 대한 고시 필요

2.2 펭귄마을 환경관리계획 수립 및 이행(기 제출한 관리계획서 이행)

체계적인 생태계 모니터링 계획 수립·이행
- 세계 최초로 CCTV 설치를 통한 상시 모니터링 구축 등 펭귄마을 생태계 전반에 대한 기초 자료를 확보
- 대기, 수질, 동식물 등 모니터링 대상 선정 및 기존 환경법과 연계한 측정방법을 설정하여 포괄적·체계적인 모니터링 시행

펭귄마을 주요 접근 경로에 대한 표지판 설치

특별보호구역 방문객에 대한 행동지침 등 교육 방안 포함

2.3 남극 특별보호구역 확대 지정 추진

현재 보호구역 경계는 육지지역으로 한정되어 있으나, 펭귄마을 서식 생태계의 보호·관리를 위해 주변 해역을 포함하도록 확대 지정 필요

특별보호구역 지정 후 5년마다 재검토가 실시되므로 차기 재검토 시기에 맞추어 펭귄마을 확대 지정 추진

2.4 대국민 교육 및 홍보 방안 마련

법 제22조(홍보 및 교육)에 따라 남극환경 보존의 중요성을 일깨우기 위한 홍보 및 교육 방안 강구

남극생태계지도 등을 포함한 리플렛 및 홍보 동영상 등을 제작·배포하여 남극 환경보호에 대한 국민적 관심 유도

초·중·고 주요 과목 교과서에 남극 특별보호구역 관련 내용을 반영하여 교육 및 홍보 효과 극대화

2.5 남극 환경관리지침 마련(Field Manual)

남극 세종기지 활동을 포함한 남극 활동 전반에 대해 남극 환경에 미치는 영향을 고려한 남극 환경관리지침 마련

법 제15조(폐기물의 처리 및 관리) 및 영 제22조(폐기물관리계획 등)에 따라 폐기물관리계획 수립 및 오·폐수 관리 지침 마련

- 19 -
남극환경보호의정서에서 요구하는 유류오염 등 비상사태 예방 및 대응을 위한 위기대응지침 마련

2.6 중장기 극지환경 연구계획 수립
- 현재 남극연구활동진흥기본계획(국토부 주관)에 포함된 기존 연구과제와 중복을 배제하고, 극지환경에 초점을 둔 차별화·특화된 중장기 극지환경연구 과제 발굴
- 기후변화, 생물다양성 등 주요 분야별 우선 연구 분야 선정 및 장기 로드맵을 마련, 차기 5개년 남극연구활동진흥기본계획에 포함 추진
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</tr>
<tr>
<td>ASPA 166</td>
<td><strong>Port-Martin, Terre Adélie</strong></td>
<td></td>
<td>France</td>
<td>Measure 1 (2006)</td>
<td></td>
<td>2006</td>
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</tr>
<tr>
<td>ASPA 167</td>
<td><strong>Hawker Island, Vestfold Hills, Ingrid Christensen Coast, Princess Elizabeth Land, East Antarctica</strong></td>
<td></td>
<td>Australia</td>
<td>Measure 1 (2006)</td>
<td></td>
<td>2006</td>
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<tr>
<td>ASPA 168</td>
<td><strong>Mount Harding, Grove Mountains, East Antarctica</strong></td>
<td></td>
<td>China</td>
<td>Measure 2 (2008)</td>
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<tr>
<td>ASPA 169</td>
<td><strong>Amanda Bay, Ingrid Christensen Coast, Princess Elizabeth Land, East Antarctica</strong></td>
<td></td>
<td>Australia &amp; China</td>
<td>Measure 3 (2008)</td>
<td></td>
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<td>2013</td>
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### ANTARCTIC SPECIALLY PROTECTED AREAS

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Former Number</th>
<th>Proponent</th>
<th>Designation</th>
<th>Modification/Review</th>
<th>Annex V format adoption</th>
<th>Next review</th>
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### ANTARCTIC SPECIALLY MANAGED AREAS

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<th>Name</th>
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<th>Annex V format adoption</th>
<th>Next review</th>
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<tr>
<td>ASMA 1</td>
<td>Admiralty Bay</td>
<td>Brazil, Poland, Ecuador &amp; Peru</td>
<td>Measure 2 (2006)</td>
<td></td>
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<td>2011</td>
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<tr>
<td>ASMA 2</td>
<td>McMurdo Dry Valleys, Southern Victoria Land</td>
<td>New Zealand and USA</td>
<td>Measure 1 (2004)*</td>
<td></td>
<td>2004</td>
<td>2009</td>
</tr>
<tr>
<td>ASMA 4</td>
<td>Deception Island</td>
<td>Argentina, Chile, Norway, Spain, UK &amp; US</td>
<td>Measure 3 (2005)</td>
<td></td>
<td>2005</td>
<td>2010</td>
</tr>
<tr>
<td>ASMA 5</td>
<td>Amundsen-Scott South Pole Station, South Pole</td>
<td>USA</td>
<td>Measure 2 (2007)*</td>
<td></td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>ASMA 7</td>
<td>Southwest Anvers Island and Palmer Basin</td>
<td>USA</td>
<td>Measure 1 (2008)</td>
<td></td>
<td>2008</td>
<td>2013</td>
</tr>
</tbody>
</table>
Proposal for a new Antarctic Specially Protected Area at Narębski Point, Barton Peninsula, King George Island

Attachments:
ASPA Narębski Point Management Plan
Map 1. Location of Narębski Point in relation to the King George Island and existing ASPAs
Map 2. Detailed Geomorphology of Narębski Point
Map 3. Distribution of bird nests and habitats in the ASPA
Map 4. Vegetation distribution of the ASPA
Map 5. Geologic details of the ASPA
Proposal for a new Antarctic Specially Protected Area at Narębski Point, Barton Peninsula, King George Island

Working Paper submitted to the Committee for Environmental Protection
by the Republic of Korea

1. Introduction
The Republic of Korea proposes the designation of Narębski Point, Barton Peninsula, King George Island as an Antarctic Specially Protected Area (ASPA) under Article 3 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty.

Narębski Point, terrestrial area excluding intertidal zone, has high species richness of flora and fauna, and the abundance of some of these is, in some cases, exceptional. The cover of mosses, lichens, and grasses is very extensive. There is the largest Chinstrap penguin colony in King George Island and the area also contains large number of Gentoo Penguins and breeding areas of seven other birds. As such, the Area provides exceptional opportunities for the scientific study of terrestrial biological communities.

The Management Plan aims to protect the unique terrestrial ecosystem found in the Area and, in particular, reduce the risk of invasive species introductions from both local and global sites.

2. Management plan format
The Management Plan has been prepared in accordance with the requirements of Annex V to the Protocol and the Guide to the Preparation of Management Plans for Antarctic Specially Protected Areas, appended to Resolution 2 (1998) of Antarctic Treaty Consultative Meeting XXII.

3. Intersessional review
The draft management plan is submitted for consideration by the Committee for Environmental Protection. The Republic of Korea would be pleased to convene an intersessional contact group to discuss the draft plan for full consideration at CEP XII.
Management Plan for
Antarctic Specially Protected Area No. X
Narębski Point, Barton Peninsula, King George Island

1. Description of Values to be Protected
The Narębski Point region has a wide range of important natural, scientific and aesthetic values. The Area is designated primarily to protect the site’s ecological values. It also has great scientific value due to its unusual biodiversity, which includes numerous species of birds and flora. The unique topography of the Area together with the abundance and diversity of the vegetation create highly favourable conditions for the formation of numerous microhabitats which, in turn, support the development of biodiversity and give the Area exceptional aesthetic value.

The Area has high species richness of flora and fauna, and the abundance of some of these is, in some cases, exceptional. The cover of mosses, lichens, and grasses is very extensive. Especially it has the largest number of Chinstrap Penguin (*Pygoscelis antarctica*) in King George Island. There are also Gentoo Penguin (*Pygoscelis papua*) and breeding areas of seven other birds: Brown Skua Skua (*Catharacta lonnbergi*), South Polar Skua (*Catharacta maccormickii*), Kelp Gull (*Larus dominicanus*), Antarctic Tern (*Sterna vittata*), Southern Giant Petrel (*Macronectes giganteus*), Wilson’s Storm Petrel (*Oceanites oceanicus*), and Pale-faced Sheathbill (*Chionis alba*).

The values to be protected are those associated with an example of a site which has been subjected to minimal disturbance by human activity, except for occasional monitoring studies of the mammal and bird populations, and geological and geomorphological studies.

2. Aims and Objectives
Management of ASPA No. X aims to:
- avoiding major changes in the structure and composition of the flora and fauna communities;
- preventing unnecessary human disturbance;
- permitting the development of the scientific research that cannot be carried out elsewhere, as well as the continuity of ongoing long-term biological studies established in the area; and
- protect the Area’s aesthetic values, including by disallowing the installation of structures.

3. Management Activities
The following management activities will be undertaken to protect the values of the Area:
- Personnel accessing the site will be specifically instructed, by their national program (or competent authority) as to the content of the Management Plan;
- the staff to be posted at the King Sejong Station will be specifically trained on the conditions of the Management plan;
- Movement will be limited to areas free of vegetation,
- Movement will avoid proximity to fauna, except when otherwise required by scientific projects and the corresponding permits of harmful interference have been obtained;
- Collection of samples will be limited to the minimum required for approved scientific research plans;
- Visits other than for approved science projects shall be limited to that necessary for management and maintenance purposes; and
• All signs, as well as other structures and scientific markers erected in the Area will be secured and maintained in proper conditions;

4. Period of Designation
Designated for an indefinite period.

5. Maps
Maps 1 and 5 are attached at the end of the present management plan as annexes. Map 1 shows the location of Narębski Point in relation to the King George Island and existing ASPAs. Map 2 shows the Narębski Point in detail. Map 3 shows the distribution of bird nests and habitats in the ASPA. Map 4 shows the vegetation distribution of the ASPA. Map 5 shows the geologic details of the ASPA.

6. Description of the Area

6.1. Geographical co-ordinates, limits, and natural features
Narębski Point is located on the southeast coast of Barton Peninsula, King George Island and the ASPA area is boundarised as latitude 62° 13’ 40”S - 62° 14’ 23”S and longitude 58° 45’ 25” W - 58° 47’ 00” W. Boundaries are drawn based on the water drainage system in the area enclosed by 4 peaks of Nam-Bong, Yibong, Taebaek-Bong, and Jiri-Bong. Southwest boundary can be easily recognisable due to its isolated geomorphology. The ASPA includes only terrestrial area excluding intertidal zone. The Area has high species richness of flora and fauna, and the abundance of some of these is, in some cases, exceptional. The cover of mosses, lichens, and grasses is very extensive. The most conspicuous vegetal communities are the associations of dominant lichens, the moss turf dominated by Usnea-Himantormia. The present flora includes the 1 Antarctic flowering plant species, 51 lichens species, 30 mosses species, 6 liverworts species, and 1 algae species.

There are 9 species of nesting birds in the Area: Chinstrap Penguin (Pygoscelis antarctica), Gentoo Penguin (Pygoscelis papua), Brown Skua (Catharacta lombergi), South Polar Skua (Catharacta maccormickii), Kelp Gull (Larus dominicanus), Antarctic Tern (Sterna vittata), Southern Giant Petrel (Macronectes giganteus), Wilson’s Storm Petrel (Oceanites oceanicus), and Pale-faced Sheathbill (Chionis alba). And 5 non-breeding bird species in the Area are Adelie Penguin (Pygoscelis adeliae), Antarctic Shag (Phalacrocorax bransfieldensis), Arctic Tern (Sterna paradisaea), Cape Petrel (Daption capense), and Black-Bellied Storm Petrel (Fregatta tropica).

The most numerous colonies correspond to those of the Chinstrap Penguin (Pygoscelis antarctica) and Gentoo Penguin (Pygoscelis papua). A summary of the estimated number of nests by species is presented in Table 1.

Table 1. Estimated number of nests by species

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of nests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentoo Penguin</td>
<td>Pygoscelis papua</td>
</tr>
<tr>
<td>Chinstrap Penguin</td>
<td>Pygoscelis antarctica</td>
</tr>
<tr>
<td>Brown Skua</td>
<td>Catharacta lombergi</td>
</tr>
<tr>
<td>South Polar Skua</td>
<td>Catharacta maccormickii</td>
</tr>
<tr>
<td>Kelp Gull</td>
<td>Larus dominicanus</td>
</tr>
<tr>
<td>Antarctic Tern</td>
<td>Sterna vittata</td>
</tr>
<tr>
<td>Southern Giant Petrel</td>
<td>Macronectes giganteus</td>
</tr>
<tr>
<td>Wilson’s Storm Petrel</td>
<td>Oceanites oceanicus</td>
</tr>
<tr>
<td>Pale-faced Sheathbill</td>
<td>Chionis alba</td>
</tr>
</tbody>
</table>

As well, the Area has great aesthetic value. The great diversity in relief and coastal forms, due to the presence of different geologies and a pronounced system of fractures, in addition to an extensive and varied vegetation cover, provide unusual scenic diversity in the Antarctic environment.
6.ii. Restricted zones within the Area
None.

6.iii. Location of structures within the Area
There are no structures within the Area. A refuge facility is located about 100m away from the Area to the Southeastern coast. And King Sejong Station (Republic of Korea), located 2 km to the northwest of Narębski Point, is the closest major facility.

6.iv. Location of other Protected Areas within close proximity
- ASPA No. 125, Fildes Peninsula, and ASPA No. 150, Ardley Island, King George Island, South Shetland islands lies about 20km to the west.
- ASPA No. 128, Western Shore of Admiralty Bay, King George Island, South Shetland islands lies about 25km east.
- ASPA No. 132, Potter Peninsula, King George Island, South Shetland islands lies about 10km east.
- ASPA No. 151, Lions Rump, King George Island, South Shetland islands lies about 35km northeast.

7. Permit Conditions
Entry into the Area is prohibited except in accordance with a permit issued by appropriate national authorities as designated under Article 7 of Annex V of the Protocol on Environmental Protection to the Antarctic Treaty.

Conditions for issuing a permit to enter the Area are that:
- It is only issued for a scientific purpose, in accordance with the objectives of the Management Plan, that cannot be met elsewhere;
- The actions permitted will not jeopardize the natural ecological system of the Area;
- Any management activities (inspection, maintenance, or revision) are in support of the objectives of the Management Plan;
- The actions permitted are in accordance with this Management Plan;
- The permit, or authorised copy, must be carried by the principal investigator authorized to enter the Area;
- The Permit shall be valid for a stated period and identify the competent authority; and
- An end of project(permit) report is given to the competent authority mentioned in the permit.

7.i. Access to and movements within the Area
- Access to the Area will be permit issued by a competent authority, and will only be issued for activities which are in accordance with this Management Plan.
- Access to the area will preferably be on foot. Access to the area is possible along the coast or via ridges close to King Sejong Station. No access from the sea and air is permitted except in an emergency.
- Vehicle traffic of any type is not permitted inside the Area with the exception of an emergency.
- The operation of aircrafts over the Area will be carried out, as a minimum requirement, in compliance with that established in Resolution 2 (2004), “Guidelines for the Operation of Aircraft near Concentrations of Birds”. As a general rule, no aircraft should fly over the ASPA at less than 610 metres, except in cases of emergency or aircraft security. However over flights should be avoided.
- Maximum of 15 people is permitted in the Area at the same time.
- Tourism or any other recreational activity is not permitted. Movements within the Area will be made without disturbing the fauna and flora, especially during the breeding season.

7.ii. Activities which are or may be conducted within the Area, including restrictions on time and place
• Scientific research activities that cannot be conducted elsewhere and that do not jeopardise the ecosystem of the Area.

• Essential management activities, including monitoring.

• Greater constraints may need to be placed on activities between the end of October and the beginning of December. This period is considered particularly sensitive because it is concomitant with the egg-laying for nesting birds in the Area.

7.iii. Installation, modification or removal of structures

• No additional structures will be built or equipment installed within the Area.

• Any scientific equipment installed in the Area, as well as any sign of the investigation, should be approved by permit and clearly indicated, showing the country, the name of the principal investigator, and the year of installation. All the installed materials should pose the minimum risk of pollution to the Area or the minimum risk of causing disturbance to the vegetation or to the fauna.

• Signs of investigation should not remain after the permit expires. If a specific project cannot be finished within the allowed time period, an extension should be sought that authorizes the continued presence of any object in the Area.

7.iv. Location of field camps

• The Parties that utilize the Area will normally have King Sejong Station available for lodging.

• Only tents shall be installed, with the purpose of housing instrumentation or scientific material, or for employees as a base for observation.

7.v. Restriction on material and organisms which may be brought into the Area

• No living animals or plant material shall be deliberately introduced into the Area.

• No uncooked poultry products of fresh fruit and vegetables are to be taken into the Area.

• No herbicides or pesticides shall be introduced into the Area. Any other chemical product, which should be introduced with the corresponding permit, shall be removed from the Area upon conclusion of the activity for which the permit was granted. The use and type of chemical products should be documented, as clearly as possible, for the knowledge of other researchers.

• Fuel, food and other material are not to be stored in the Area, unless required for essential purposes connected with the activity for which the Permit has been granted, provided it is stored inside the tent and a way that prevents its access by wildlife.

7.vi. Taking or harmful interference with native flora and fauna

• Any taking or harmful interference, except in accordance with a permit, is prohibited. When an activity involves taking or harmful interference, these should be consistent with the SCAR Code of Conduct for the use of Animals for Scientific Purposes in Antarctica as a minimum requirement.

• Information on taking or harmful interference will be exchanged through the System of Information Exchange of the Antarctic Treaty, and its record should be incorporated, at the least, into the Antarctic Master Directory or, in Korea, into the National Institute of Biological Resources and Korea Polar Research Institute Data Centre.

• The researchers that take samples of any kind will show that they are familiar with previous collections to minimize the risk of possible duplication.

7.vii. Collection or removal of anything not brought into the Area by the permit holder

• Any material from the Area may only be collected and removed from the Area with an appropriate permit. Collection of dead biological specimens for scientific purposes should not exceed such a level that the collection degrades the nutritional base of local scavenger species.

7.viii. Disposal of waste
Any non-physiological waste shall be removed from the Area by the generators of the waste, and at the
time of their departure from the Area. Residual waters and domestic residual liquids can be discharged
into the ocean, in accordance with Article 5 of Annex III of the Madrid Protocol.

Waste resulting from research activities in the Area can be temporarily stored at King Sejong Station
until it is removed. Such waste should be treated in compliance with Annex III to the Madrid Protocol,
marked as trash, and appropriately closed to avoid accidental losses.

7.ix. Measures that may be necessary to ensure that the aims and objectives of the Management Plan
continue to be met

- Permits may be granted to enter the area to carry out biological monitoring and site inspection activities,
  including the collection of plant material and animals for scientific purposes, to erect or maintain notice
  boards and any other management measures.
- All scientific structures and instrumentation, including research markers, installed in the Area must be
  authorized in a permit and clearly identified by country, name of principal researcher and year of
  installation.
- Research markers and structures must be removed at or before the expiry of the Permit. If specific
  scientific projects cannot be concluded within the permitted time, applications must be made for an
  extension to leave the items in situ.
- When it is necessary for scientific purposes, signs can be installed at the locations where experiments are
  being carried out.

7.x. Requirements for reports

The main permit holder, for each permit and once the activity has finished, shall submit a report of the
activities conducted in the Area, using the format previously turned in together with the permit. The report
should be sent to the permit issuing authority.

Records of permit reports relating to the ASPA will be exchanged with the rest of the Consultative Parties as
part of the System of Information Exchange according to Art. 10.1 of Annex V.

The permits and reports should be stored and made accessible to any interested Party, SCAR, CCAMLR,
COMNAP, so as to provide necessary information of human activities in the Area to ensure adequate
management.

ANNEX 1. List of flora in the Site

**Taxa**

**Lichens**

*Acrospora austroshetlandica* (C.W. Dodge) Øvstedal
*Bryoria* sp.
*Buellia anisomera* Vain.
*Buellia russa* (Hue)Darb.
*Caloplaca lucens* (Nyl.) Zahlbr.
*Caloplaca subbolubulata* (Nyl.) Zahlbr.
*Cetraria aculeata* (Schreb.) Fr.
*Cladonia borealis* S. Stenroos
*Cladonia chlorophaea* (Flörke ex Sommerf.) Spreng.
*Cladonia furcata* (Huds.) Schauer.
*Cladonia gracilis* (L.) Willd.
*Cladonia merochlorophaea* var *novochlorophaea* Sipman
*Cladonia pleurota* (Flörke) Schauer.
*Cladonia pyxidata* (L.) Hoffm.
Cladonia scabriuscula (Delise) Nyl.
Haematomma erythromma (Nyl.) Zahlbr
Himantormia lugubris (Hue.) I. M. Lamb
Huea coralligera (Hue) C. W. Dodge & G. E. Baker
Lecania brialmontii (Vain.) Zahlbr.
Lecania gerlachei (Vain.) Darb.
Lecanora polytropa (Hoffm.) Rabenh.
Lecidea cancriformis C.W. Dodge and G.E. Baker
Lecidella carpathica Körb.
Massalongia carnosa (Dicks.) Körb.
Ochrolechia frigida (Sw.) Lynge
Pannaria austro-orcadensis Øvstedal
Pertusaria excudens Nyl.
Physcia caesia (Hoffm.) Fürnr.
Physcia dubia (Hoffm.) Lettau
Physconia muscigena (Ach.) Poelt
Placopsis contourtuplicata I. M. Lamb
Porpidia austrosheltandica Hertel
Pseudophebe pubescens (L.) M. Choisy
Psoroma cinnamomeum Malme
Psoroma hypnorum (Vahl) Gray
Ramalina terebrata Hook f. & Taylor
Rhizocarpon geographicum (L.) DC.
Rhizoplaca aspidophora (Vain.) Redón
Rhizoplaca melanopthalma (Ram.) Leuckert & Poelt
Rinodina olivaceobrunnea C.W. Dodge & G. B. Baker
Sphaerophorus globosus (Huds.) Vain.
Stereocaulon alpinum Laurer
Tephromela atra (Huds.) Hafellmer ex Kalb
Tremolecia atrata (Ach.) Hertel
Turgidosculum complicatum (Nyl.) J. Kohlm. & E. Kohlm
Umbilicaria antarctica Frey & I. M. Lamb
Umbilicaria decussata (Vill.) Zahlbr.
Usnea antarctica Du Rietz
Usnea aurantiaco-atra (Jacq.) Bory
Xanthoria candelaria (L.) Th. Fr.
Xanthoria elegans (Link) Th. Fr.

Mosses
Andreaeaa depressinervis Cardot
Andreaea gainii Cardot
Andreaea regularis Müll. Hal.
Bartramia patens Brid.
Bryum argenteum Hedw.
Bryum orbiculatifolium Cardot & Broth.
Bryum pseudotriquetrum (Hedw.) C.F. Gaertn. et al.
Ceratodon purpureus (Hedw.) Brid.
Chorisodontium aciphyllum (Hook. f. & Wils.)
Dicranoweisia brevipes (Müll. Hal.) Cardot
Dicranoweisia crispula (Hedw.) Lindb. Ex Milde
Ditrichum hyalinum (Mitt.) Kuntze
Ditrichum levis-smithii Ochyra
Encalypta raptocarpa Schwägr.
Hennediella antarctica (Ångstr.) Ochyra & Matteri
Notoligotrichum trichodon (Hook. f. Wils.) G. L. Sm.
Pohlia drummondii (Müll. Hal.) A. K. Andrews
Pohlia nutans (Hedw.) Lindb.
Pohlia wahlenbergii (Web. & Mohr) A. L. Andrews
Polytrichastrum alpinum (Hedw.) G. L. Sm.
Polytrichum strictum Brid.
Racomitrium sudeticum (Funck) Bruch & Schimp.
Sanonia georgico-uncinata (Müll. Hal.) Ochyra & Hedenäs
Sanonia uncinata (Hedw.) Loeske
Schistidium antarctici (Card.) L. I. Savicz & Smirnova
Syntrichia filaris (Müll. Hal.) Zand.
Syntrichia princeps (De Not.) Mitt.
Syntrichia saxicola (Card.) Zand.
Warnstorffia sarmentosa (Wahlenb.) Hedenäs

Liverworts
Barbilophozia hatcheri (A. Evans) Loeske
Cephalozia badia (Gottsche) Steph.
Cephaloziella varians (Gottsche) Steph.
Herzogobryum teres (Carrington & Pearson) Grolle
Lophozia excisa (Dicks.) Dumort.
Pachyglossa disstifidolia Herzog & Grolle

Algae
Prasiola crispa (Ligtf.) Menegh.

Flowering plants
Deschampsia antarctica Desv.
Map 1. Location of Narębski Point in relation to the King George Island and existing ASPAs
Map 2. Detailed Geomorphology of Narębski Point
Map 3. distribution of bird nests and habitats in the ASPA
Map 4. Vegetation distribution of the ASPA

Us : Usnea spp., S: Sanonia, Pr : Prasiola, Chr : Chorisodontidum aciphyllum, A : Andreaea, R : Ramalia terebrata,
Cr : Crustose lichens, H : Himantormia lugubris
Map 5. Geologic details of the ASPA
부록 3. SGMP 2008 ~ 09 활동

1. 부의장(호주) : 한국의 관리계획서 논의계획 알림

**ASPA (new): Narębski Point (Korea, Republic of)**

by Australia » Mon 08 Sep 2008 10:11pm

Dear SGMP members

Please submit comments on the management plan by clicking "Post reply" at the top of the page. Upload your completed checklist file by using the "Add an attachment" tool at the bottom of the page.

Comments on this management plan will be coordinated by Birgit Njaatad - thank you Birgit.

The deadline for comments is 3 October 2008.

Best regards,
Ewan

2. 호주 의견

by Australia » Wed 01 Oct 2008 9:30pm

Dear SGMP members,

Please find attached my comments on the draft management plan for Narębski Point.

Birgit - please let me know if you would like clarification of anything.

Regards,
Ewan

3. 일본의견

by Japan » Fri 03 Oct 2008 12:52 am

Dear CEP colleagues,

Please find attached Japan's comments on the draft management plan for Narębski Point.

Best regards,
Yusuke SAITO
4. 영국의견

by United Kingdom » Fri 03 Oct 2008 5:10 pm

Hi Birgit,

My comments on [Narębski Point] Barton Peninsula Management Plan attached.

Best wishes, Rod

5. 인도의견

by India » Mon 06 Oct 2008 7:03 am

Dear Birgit and SGMP Members

Please find attached herewith comments on ASPA-Narębski Point

With warm regards

Rasik Ravindra, Anoop Tiwari, India

6. 아르헨티나의견

by Argentina » Mon 06 Oct 2008 7:47 pm

Dear Birgit and SGMP colleagues,

Attached are the Argentine comments to the draft Management Plan for Narebski Point, King George Island.

Our thanks to Birgit for coordinating discussions on this proposal for designation of Narebski Point as an ASPA.

Best regards

Rodolfo A. Sánchez

Dirección Nacional del Antártico

Cerrito 1248 C1010AAZ

Buenos Aires, ARGENTINA

Phone: +54 11 4816 2352

rsanchez@dna.gov.ar
Dear all,

Thank you all for detailed and to the point comments on the draft management plan for Narębski Point. It has been a pleasure to try to pull it all together into a coordinated advise to the proponent. I'm glad to say that most comments were along the same lines, and I have not found any obvious point or matter that the SGMP seems to disagree on. That's a good start. That having been said, I hope you can take the time to read through the draft advise and i) see that your comments have been taken aboard in an appropriate manner and ii) assess whether the draft advise is clear, consistent and to the point.

Note, my own comments to the plan have been incorporated into this draft advise.

Cheers to all,

Birgit
This draft advice is great. As mentioned to you separately, I still have a question about the reference to the SCAR Composite Gazetteer but I am happy to be educated on this matter! A couple of trivial editorial suggestions in the attached.

Best regards,

Ewan

10. 한국 : 의견종합초안에 대한 질의

by Korea, Republic of » Wed 29 Oct 2008 5:52 pm

Dear Brigit and SGMP members;

Thank you all for the comments on the Narebski Point draft management plan.

I am trying to revise the draft management plan reflecting the comments received as much as possible, but have two questions on the comments, of which

(1) regarding many comments on the name of the places, Narebski Point can be found from SCAR KGIS (King George Island GIS Project) http://www.kgis.scar.org/, so I guess there will be no problem to use the name. However, the other names of Nam-Bong,Yi-Bong, etc has not been registered and there is no name on those places. As such, I would like to put just numbers instead of names, meanwhile we are applying the names to SCAR. Will it be all right?

and (2) 2nd circle at 5.3(i) (i) in the checklist, regarding the comments "there need to be some explanation or line of reason why 15 is considered as the maximum number of people allowed in the Area",

I look forward to having your suggestions.

With many thanks,

Jaeyong CHOI

11. 인도 : 의견종합초안에 대한 의견

by India » Mon 03 Nov 2008 7:28 am
Dear Birgit

We regret to mention our views a bit late on summary. We appreciate comprehensive work carried out by you to bring together all the comments of the reviewers. We do not have any further comments on the final compilation of the summary.

Regards
Anoop

12. 운영자 : 최종적으로 수렴된 의견 종합

by Norway » Tue 04 Nov 2008 1:22 pm

Dear all,

Thanks for input to my draft coordinated response on Narebski Point. I have now pulled together the few incoming comments I have received, and attach the final version of the coordinated response here. I hope I have not missed out on any input.

Thanks also to Jaeyong Choi for comments posted that indicate that Korea already is in the process of revising the plan based on the comments of the SGMP. As regards to the specific questions/comments that are raised, I'm open from input from others, but would initially make the following notes:

* As Ewan has noted, I believe it is correct that it is NOT a requirement for official place names to be lodged with the SCAR Composite Gazetteer, although Parties are encouraged to do so. All names should, however, be formally approved by a Consultative Party.

* As for the question regarding further explanation for the 15 person limit. As far as I am aware of the only management plans that put limit on number of people are those which contain historic huts - but others may correct me in this regard? The rational for limiting number of people in these areas is clearly based on physical size of hut and safety issues (risk to historic artefacts). Introducing a limit to number of people in a protected area (which does not contain a hut) is a bit of a new concept, and it seems useful to ensure that the rational for
having such a limit is clear, so that it is obvious why this site in particular needs such a
management provision, so that it does not set an unclear precedent.

Best regards,

Birgit

13. 한국 : 수정관리계획서 제출

by Korea, Republic of » Thu 05 Feb 2009 7:28 pm

Dear colleagues,

For your consideration, revised draft management plan for Narebski and response of the
SGMP's comments are attached.

Best Regards,

Jaeyong CHOI

14. 일본 : 수정관리계획서에 대한 의견

by Japan » Mon 09 Feb 2009 1:23 pm

Dear Dr. Choi,

Thank you very much for your hard work to incorporate our comments into the revised draft.
I have three comments on the revised draft. I am looking forward to having discussions with
you and SGMP colleagues.
Should you have any questions, please feel free to ask.

Best regards,

Yusuke
Japan’s comment on draft management plan for Narebski Point

7(ii) Activities which are, or may be conducted within the Area, including restrictions on time and place

Constraints on the use of motor-driven tools and any activity likely to generate noise and thereby cause disturbances to nesting birds during the breeding period.

(Japan’s comment)
When is the “breeding period?” Visitors may not be very familiar with the birds’ breeding cycles. Therefore, I would propose to write down the finite duration (such as from October 1 to April 30 next year), as seen in other ASPAs.

7(v) Restrictions on materials and organisms that may be brought into the Area

No uncooked poultry products or fresh fruit and vegetables are to be taken into the Area.

(Japan’s comment)
Eating fruits and vegetables could be an effective way to keep the researchers in good health. Therefore, it might be too hard for the researchers to prohibit bringing fresh fruits and vegetables into the area.

Map2. Boundary of the ASPA

Regarding the Point 13, why is it located 50m or so away from the peak? The boundary should follow the peaks. I would propose the Point 13 be located about 50m south east of what is proposed in the revised draft.
Dear SGMP

I have now gone through the revised draft management plan (incl. checklist with comments) submitted by Korea on basis or earlier comments from the SGMP.

My consideration of the situation is that Korea has in an adequate and sufficient manner responded to our comments and made the necessary revisions to the management plan (see my attached commented checklist….).

Japan has provided a few comments based on the revised management plan. With respect to these, I have the following comments/recommendations:

• On pt. 7 (ii), third bullet: Japan suggest defining the breeding period, and adding this in the text. I myself think this point needs to have verbs added, as it as it stands sounds a bit strange in the context of the heading of this section. Thus, the bullet could be changed to read (along the lines of) Constraints may be put on the use of motor-driven tools and any activity likely to generate noise and thereby cause disturbances to nesting birds during the breeding period (from October 1 to April 30).

• On pt. 7 (v): Japan suggests that it may be a too strict requirement to forbid fruit in the Area. However, my suggestion is that this prohibition is acceptable as activity in the area will be short-termed (seeing that camping in the area is not allowed) and that fruit can be eaten while outside the area…. But any other consideration in this regard is of course welcome.

• On Map 2: Japan queries why Point 13 is it located 50m or so away from the peak and suggests that the boundary should follow the peaks, thus proposing that Point 13 be located about 50m south east of what is proposed in the revised draft. I would suggest Korea consider the query, and do any revision they find appropriate based on this.

All the best,

Birgit
※ 참고 : SGMP 온라인 포럼 접속 및 활동

남극협약 사무국 홈페이지 (http://www.ats.ag)
Environmental Protection

Area Protection and Management / Monuments

Specially protected areas were first established in 1954 under the Agreement for the Conservation of Antarctic Fauna and Flora. Earlier categories of protected areas were replaced by Annex V to the Environment Protocol, which was adopted in 1991 and entered into force in 2002, and which provides for the designation of Antarctic Specially Protected Areas (ASPA) and Antarctic Specially Managed Areas (ASMA).

An area of Antarctica may be designated an ASPA to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research. An area where activities are being conducted or may be conducted in the future may be designated as an ASMA, to assist in the planning and coordination of activities, avoid possible conflicts, improve cooperation between Parties or minimize environmental impacts.

From its inception the ATCM has emphasized the need to protect sites or monuments of historical interest, which led in 1975 to the establishment of an office for Antarctic Sites and Monuments (HSM).

Special areas may also be designated under the provisions of CCAD and CCAMLR.

The ATCM has adopted guidelines to assist Parties in selecting sites for designation and in preparing management plans.

Documents:
- Annex V (Protected Areas)
- Guide to the Preparation of Management Plans for Antarctic Specially Protected Areas
- Guidelines for implementation of the Framework for Protected Areas
- Guidelines for handling of pre-1959 historic remains
- Report from the first Protected Areas Workshop
- Report from the second Protected Areas Workshop
- Guide for presentation of WPs on ASPAs and ASMASs
- Checklist to assist in the inspection of ASPAs and ASMASs
- Environmental Impact Analysis for the Antarctic continent
- Guidelines for the designation and protection of HSM

Information:
- List and status of ASPA and ASMA management plans
- List of Antarctic Sites and Monuments
- ATCM resources related to protected areas

Related Sites:
- CCAMLR
- SCAR
- CONWAP/LAREN
남극협약 사무국 환경보호위원회 사이트

온라인 Discussion Forum 초기 로그인 화면
로그인 후 초기화면 (토론방 전체목록)

SGMP 구성원 간 토론방 (internal)
펭귄마을 관리계획서 관련 SGMP 토론방 목록

ASPA (new): Narebksi Point (Korea, Republic of)

Dear SGMP members,

Please submit comments on the management plan by clicking "Post reply" at the top of the page. Upload your completed checklist file by using the "Add an attachment" tool at the bottom of the page.

Comments on this management plan will be coordinated by Brigit Hjastad - thank you Brigit.

The deadline for comments is 3 October 2008.

Best regards,

Evan's comments on draft management plan for Narebksi Point

Dear SGMP members,

Please find attached my comments on the draft management plan for Narebksi Point. Brigit - please let me know if you would like clarification of anything.

Regards,
Checklist for Draft ASPA/ASMA Management Plans

<table>
<thead>
<tr>
<th>✔</th>
<th>ASPA</th>
<th>New Location: Narębski Point</th>
<th>Reviewer: SGMP (Birgit Njåstad: comment coordinator)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td>ASMA</td>
<td>Proponent(s): Korea, Republic of</td>
<td></td>
</tr>
</tbody>
</table>

Reference / comments

1. Summary: Content, clarity, consistency and likely effectiveness.

Content:

<table>
<thead>
<tr>
<th>평가항목</th>
<th>검토의견</th>
<th>답변</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td>Does the management plan provide sufficient details about the special features of the site and any requirements for access and management to ensure that individuals planning to visit the site and national authorities responsible for issuing permits are able to do so in a manner consistent with the purpose for designation?</td>
<td>Yes, generally this Management Plan is well prepared and sufficiently detailed to allow national authorities responsible for issuing permits to do so in a manner consistent with the purpose for designation. The Management Plan can, however, be further improved (note comments in the following document), and particular attention should be given to:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o The rational for protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o The use of place names, including Narębski Point, which do not seem to be recognized in the SCAR Composite Gazetteer or similar.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Further detail could be given regarding the location and extent of important features.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Reference to supporting documentation.</td>
</tr>
</tbody>
</table>

Clarity:

| ~ | Is it clear why the site is being designated, and what additional measures (beyond the general provisions of the Protocol and Annexes) apply to the Area as a result? | It is clear that the site is being designated for its biological significance. However, a number of values have been identified as reason for protection, and primary purpose is therefore less conspicuous. Consideration could be |
| | | In the introduction, primary purpose of ASPA designation is described |
| | | The proposed area is |

- Introduction is prepared and the management plan is elaborated based on the comments received. |
- Narębski point is recognized at SCAR Composite Gazetteer (1994, Polish, ref. No. 10083). The other place names, which are not registered, are replaced by numbers.
- Locations and important features are detailed in ‘6. Description of the area’ section. |
- Bibliography is added and citation made in the text.
given to making a clear statement on primary purpose for designation.

- Furthermore, it is recommended that the proponent provide more details on how it was determined what should be protected and why, i.e. the main reasons for protection. It is important to remember that concepts of quality and environmental risk should constitute the basis to assess the area’s need for enhanced protection, as stated by the Guidelines for implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol (http://www.ats.aq/documents/recatt/Att081_e.pdf).

  Given that this area is proposed as a new ASPA, it would be important that the proponents refined the primary reason for designation and included published scientific data and other relevant bibliography associated to it (particularly on bird censuses as it is for example noted that some research would indicate that there exist larger Chinstrap colonies than those from Narebski, this in contradiction with the statement in the plan that this is the largest known chinstrap colony). It would also be useful if the difference between this suggested site and other nearby ASPAs (there are at least 3 ASPAs within 15 km from Narebski whose primary reason for designation is, in general terms, their biodiversity) was also clearly indicated. Further information along these lines would considerably help the SGMP assess further the relevance of this area as a candidate to become an Antarctic Specially Protected Area.

Consistency:

- Are the provisions consistent with those given in other similar (and effective) existing management plans, and is the management plan internally consistent – that is, are the provisions consistent with the aims and objectives?
- The proponent is to be congratulated for preparing a plan that is consistent with both the Guide to the preparation of management plans for Antarctic Specially Protected Areas and other management plans recently reviewed and adopted.

frequently visited even during the reproductive period and the number of visitors has been increasing. (added in Introduction)

- Section 6(i) is supplemented and corrected with the research publications on penguins and other birds.
- The recent internationally recognised penguin census data available covering King George Island was published in 1988 by Shuford & Spear “Surveys of Breeding Penguins and other seabirds in the South Shetland Islands, Antarctica, Jan. – Feb. 1987”, U.S. Department of Commerce
## Likely effectiveness:

<table>
<thead>
<tr>
<th></th>
<th>On the basis of information provided, or with modification as suggested, is the management plan likely to be effective in achieving the stated aims and objectives?</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
<td>With the modifications suggested below, the management plan is likely to be effective in protecting the important sensitive features of Narębski Point.</td>
</tr>
</tbody>
</table>

## 2. Consistency with the provisions of Annex V to the Protocol, particularly Articles 3, 4 and 5, and relevant CEP guidelines:

### Annex V, Article 3 – Antarctic Specially Protected Areas (ASPA)

3.1 Does the management plan clearly indicate that the area is proposed to protect:

<table>
<thead>
<tr>
<th></th>
<th>Section 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Outstanding environmental values</td>
</tr>
<tr>
<td>✓</td>
<td>Outstanding scientific values</td>
</tr>
<tr>
<td>✓</td>
<td>Outstanding historic values</td>
</tr>
<tr>
<td>✓</td>
<td>Outstanding aesthetic values</td>
</tr>
<tr>
<td></td>
<td>Outstanding wilderness values</td>
</tr>
<tr>
<td></td>
<td>A combination of the above</td>
</tr>
<tr>
<td>✓</td>
<td>Ongoing or planned scientific research</td>
</tr>
</tbody>
</table>

3.2 Does the management plan clearly indicate that the area is proposed as an example of:

<table>
<thead>
<tr>
<th></th>
<th>Section 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities</td>
</tr>
<tr>
<td>✓</td>
<td>Representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems</td>
</tr>
<tr>
<td>✓</td>
<td>Areas with important or unusual assemblages of species, including major colonies of breeding native birds or mammals</td>
</tr>
<tr>
<td></td>
<td>The type locality or only known habitat of any species</td>
</tr>
<tr>
<td>✓</td>
<td>Areas of interest to ongoing or planned scientific research</td>
</tr>
<tr>
<td></td>
<td>Examples of outstanding geological, glaciological or</td>
</tr>
</tbody>
</table>

---

1 Refer to Table 1 in *Guidelines for Implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol*

2 Refer to Table 2 in *Guidelines for Implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol*
geomorphological features

| ✔ | (g) Areas of outstanding aesthetic and wilderness value | Section 1 |
|   | (h) Sites or monuments of recognized historic value |     |

Annex V, Article 4 – Antarctic Specially Managed Areas (ASMA)

4.1 Does the management plan clearly indicate that the area proposed is:

| n/a | (a) An area where activities pose risks of mutual interference or cumulative environmental impacts |
| n/a | (b) A site or monument of recognized historic value |

Annex V, Article 5 – Management Plans

Introduction

• As suggested in the Guide to the preparation of management plans for Antarctic Specially Protected Areas, it would be useful for the management plan to include a brief Introduction.
  o Existing information provided elsewhere in the Working Paper and current draft plan could be used for this purpose.
  o The introduction could ia. provide a short overview of historical, aesthetical, geomorphological features that are unique to the area.

Size of ASPA or ASMA

5.2 Does the management plan state why the area proposed is considered to be of sufficient size to protect the values for which the special protection or management is required?

5.2 Does the management plan state why the area proposed is delimited by a catchment boundary, although there is no statement of why this design is required (eg. no indication as to whether the biological values to be protected are widespread throughout the entire area or not). A discussion should be included to provide sufficient argument for choice of delimitation and size.

5.3(a) Description of values

<table>
<thead>
<tr>
<th>5.3(b) Aims and Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Does the management plan describe, specifically, what is intended to be achieved by the Management Plan and how the Plan will address protection or management of the value or values?</strong></td>
</tr>
<tr>
<td>- The management plan provides a justification for the site’s designation in Section 1. Note, however, comment above regarding the need for further refinement and discussion on justification.</td>
</tr>
<tr>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5.3(c) Management Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Where appropriate, does the management plan detail management activities that relate to the stated aims and objectives, including any cooperative action by two or more Parties (otherwise state “None required”)?</strong></td>
</tr>
<tr>
<td>- Management activities are detailed in Section 3. However, dot points 3, 4, &amp; 5 are requirements for visitors to the Area rather than Management Activities, and should therefore be deleted. Some other suggestions to improve this section includes:</td>
</tr>
<tr>
<td>- Clarify what is meant by “maintenance purposes” (maintenance of what) in dot point 6</td>
</tr>
<tr>
<td>✓</td>
</tr>
</tbody>
</table>

- This section is simplified by reflecting all the comments received.
- This section is modified to

- Dot points 3 & 4 is relocated to “7(i) Access to, and movements within the Area” and dot point 5 is removed due to the point that all activities in the site are depend on the permit condition.
- This section is modified to
5.3(d) Period of Designation

Does the management plan include an expiry date or otherwise state that designation is for an indefinite period?

- Cf. Section 4

5.3(e) Description of the Area

(i) Geographical coordinates, boundary markers and natural features

- Boundaries are described in Section 6(i). It is suggested that the following points are considered in this context:
  - As the ASPA boundary is an irregular shape, the description of the Area boundary could be more detailed, including where possible the coordinates of the peaks and other features that delineate the boundary.
  - Geographical coordinates (longitudes and latitudes) should be put on major points (features) as seen on other ASPAs.
- Species of flora and fauna are generally described in Section 6(i), but no written description of the location or extent of these features is given. For example, where are the vegetated areas and bird colonies/nests located? Such descriptions could also include cross-references to the maps.
- Specific comments:
  - Should Pale-faced sheathbill read snowy sheathbill (*Chionis alba*)?
  - What year are the population or nest estimates in Table 1 from?

- Major points and their GPS coordinates are included in Map 2.
- Location and features of flora and fauna are explained in ‘6(i) Penguins, Other birds, and Vegetation’ with cross-reference to Map 3 & 4.
- "Pale-faced" (Shirihai, 2002) is used as well as "snowy" (Clark et al., 1992). Also, “greater sheathbill” (Coria et al., 1996) and “Yellow-billed sheathbill” (Clark et al., 1992) are sometimes used.
- Population was estimated in the year 2006/07, as specified in the table.

---

4 Refer to Table 6 in Guidelines for Implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol.
<table>
<thead>
<tr>
<th>Does the management plan use only place names that are formally approved by a Consultative Party and shown on the maps (including acceptable alternatives)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
</tr>
<tr>
<td>✔</td>
</tr>
</tbody>
</table>

| (ii) Access to the area |
| Does the management plan clearly describe (and show on maps) preferred access routes to the site by land, sea or air, including suitable alternatives? |
| ✔ | There is no description of preferred access routes, and no such routes are shown on the maps. In accordance with the Guide to the preparation of management plans for Antarctic Specially Protected Areas the proponent should consider adding a new sub-section in Section 6 providing a description of the preferred access routes (see section 3.6.2 of the Guide). |
| ✔ | Map 6. Access routes to the ASPA is added and the text is modified to include foot and boat access routes(Cf. 7(i)). |

| (iii) Location of structures within and adjacent to the site |
| Does the management plan describe and accurately locate all structures (including scientific stations, research or refuge facilities) within or adjacent to the site including, where possible, the date erected and responsible country? |
| ✔ | Cf. Section 6(iii) |

| (iv) Location of other protected areas in the vicinity |
| Does the management plan state the name and number of any ASPAs, ASMAs, HSMs, CCAS Seal Reserve, CEMP sites in the vicinity (i.e. within approximately 50 km) and the approximate distance and direction from the site? |
| ✔ | Cf. Section 6(iv). The SGMP suggests the following additions: |
| ✔ | The following protected areas are included: |
| ✔ | o Reference to ASMA #1, Admiralty Bay |
| ✔ | o Reference to HSM # 36, 50, 51 and 52 |
| ✔ | o Reference to ASPA # 133, Harmony Point, Nelson Island, South Shetland Islands (this ASPA lies in area covered by Map # 1 and }

- 61 -
### 5.3(f) Special Zones Within the Area

- Does the management plan justify, describe, and identify on maps the boundaries and features of any special zones established within the site in which activities are prohibited, restricted or managed to achieve the stated aims and objectives (otherwise note that there are no special zones)?

- Cf. Section 6(ii).

### 5.3(g) Maps

- Does the management plan include, in a format that is capable of retaining all detail if reduced or photocopied, a general location map to show the position of the site and the location of any other protected areas in the vicinity, and at least one detailed map of the site showing those features essential for meeting the stated objectives?

- Cf. Section 5 and Maps 1 to 5. But note:
  - The proponent should refer to guidance on maps in Appendix 3 of the *Guide to the preparation of management plans for Antarctic Specially Protected Areas*.
  - For both Maps 4 and 5 it is suggested that the proponent consider grouping some information so as to make the map easier to read. Other option would be to eliminate lesser important information. Given their current scale and the size one usually prints these maps, with all the information they include at the moment, these maps are rather difficult to read.
  - Map 2, 3 and Map 4 should include the ASPA boundary.
  - It is suggested that the proponents consider adding a geological map of the ASPA which would enrich the document.
  - In Section 5 there is a minor typographical error.

- All maps are redrawn according to the Guide and the comments received.

---

5 Refer to guidance in Appendix 3 to *Guide to Preparation of Management Plans for Antarctic Specially Protected Areas*, and “Checklist of features to be considered for inclusion on maps” (reproduced at Attachment A)
| 5.3(h) Supporting documentation | error – the first sentence should read “Maps 1 to 5…”
| | o See additional comments in Attachment A below. |
| **×** Does the management plan cite or append any additional documents that may be relevant, such as to provide the values of the site in greater detail? | **•** No. It is suggested that the proponent adds a bibliography or list of selected references. |
| **◦ Bibliography is added.** |
| 5.3(i) Terms and Conditions for Entry Permits (ASPAs) / 5.3(j) Code of Conduct (ASMAs) | (i) Access to, and movement within or over, the Area (ASPAs/ASMAs)
| | Does the management plan describe any restrictions on the means of transport, points of access, routes and movement within the site including, for aircraft, approach paths and minimum overflight height? |
| **✓** | **•** Cf. Section 7(i). The following notes are made, however:
| | o The reason for prohibiting accessing into the Area from the sea and air is unclear and needs to be clarified. It is in this context noted that other national research programs (eg. Argentina) also conduct research in this area, and that the safest manner to access the area for these programs may be by sea (with small zodiacs); accessing in the manner described in the management plan could in some of these instances entail longer and more risky open water traverse. Consideration should be given to whether such sea access to the site could be continued and allowed for also in the future. However, if anchoring or mooring of sea craft, or other aspects of sea access, in fact is a problem for maintaining the values that are to be protected, this should be clearly stated (and documented). If access by sea is to be prohibited along with air access as suggested, then the word “preferably” must be removed in this bullet – there would in fact remain no other option than by foot.
| | o There need to be some explanation or line of |
| | **◦ Access to the area by boat (without anchoring) is added. The boat can be landed near the refuge facility (see 7(i) and Map 6).** |
| | **o Removed as suggested.** |
| | **◦ Corrected as suggested.** |
| (ii) Activities which may be conducted within the Area (ASPAs/ASMAs) | reason for why 15 is considered as the maximum number of people allowed in the Area.  
- “Access to the Area will be permit issued by a competent authority,” is grammatically incorrect and could/should probably read “Access to the Area will be under permit issued by a competent authority”.  
- The first part of the last bullet does not relate to the issue of access and movement in the area, and should be removed. It is covered by 7ii – where tourism is not mentioned, and thereby by default not allowed. | Removed as suggested. |
| (iii) Installation, modification, or removal of structures (ASPAs/ASMAs) | Does the management plan detail what activities may be undertaken within the area and any conditions (including when permitted activities can take place)? | Cf. Section 7(ii), but note:  
- Third bullet could be expanded on to make clearer what kinds of constraints are envisioned.  
| | Does the management plan record what structures are permitted within the site, or note that no structures are permitted? | Cf. Section 7(iii), but note:  
- In first bullet it is stated that no additional structures may be installed, but earlier it has been stated that there are no structures in the first place.  
- Also there is a discrepancy between the first and second bullet in that the first states that no equipment may be installed, while the second specifies constraints to scientific equipment. First bullet should probably read “No structures will be built and no equipment installed within the Area with the exception of possible scientific equipment essential for research in the area and for which a permit has been obtained”.  
| (iv) Location of field camps (ASPAs/ASMAs) |  | Modified and clarified as suggested.  
<p>|  |  | The word “additional” is deleted and sentence revised as suggested. |</p>
<table>
<thead>
<tr>
<th>✓</th>
<th>Does the management plan describe, and show on the maps, the location of any field camps within the site and any conditions on use?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Does the management plan describe prohibitions and give guidance on the management of materials to be used or stored in the site, including guidance on storage, handling and removal?</td>
</tr>
<tr>
<td>✓</td>
<td>Does the management plan specify requirements for taking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>Cf. Section 7(iv), but note:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The rational for allowing permits for tent is unclear and could be expanded on. In this context consider defining “tent” further.</td>
<td></td>
</tr>
<tr>
<td>• It is suggested that the reference to “employees” is removed and that it instead reads “…or as a base for observation.”</td>
<td></td>
</tr>
<tr>
<td>• In this section there should be indication about preferred camping site, or provide guidance about camping locations within the area.</td>
<td></td>
</tr>
<tr>
<td>• Consider moving the third point of section 7(ix) to this section (deals with removal of structures, an issue to be covered by this section – cf. heading)</td>
<td></td>
</tr>
<tr>
<td>• Consider moving the first bullet as it does not relate to management of the area. Other stations may be used as base as well, and the text should therefore be kept somewhat “nation neutral”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>(v) Restrictions on materials and organisms which may be brought into the site (ASPA)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Does the management plan describe prohibitions and give guidance on the management of materials to be used or stored in the site, including guidance on storage, handling and removal?</td>
</tr>
<tr>
<td>✓</td>
<td>Does the management plan specify requirements for taking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>Cf. Section 7(v). However, note the following:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• In point one of in this section the restriction on organisms should clearly include microorganisms and soils. Given that a stated aim outlined in the covering Working Paper is to reduce the risk of invasive species introductions, this section should include provisions for preventing such introductions. For example, the inspection and thorough cleaning of all clothing, footwear and equipment before entry to the ASPA.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>(vi) Taking of, or harmful interference with, native flora and fauna (ASPA/ASMA)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Does the management plan specify requirements for taking</td>
</tr>
</tbody>
</table>

| | **Cf. Section 7(vi), but give consideration to the** |

| | Modified this section as one sentence that read “Camping is prohibited within the ASPA except in an emergency, but the use of the refuge facility located on the shore near the eastern boundary of the Area is strongly encouraged.” |

| | Comments were included in the dot point 3 at 7(v) |

| | Corrected as appropriate |
of, or harmful interference with, native flora and fauna, with adherence to the requirements of Article 3 of Annex II as a minimum?

<table>
<thead>
<tr>
<th>(vii) The collection or removal of materials not imported by the permit holder (ASPA/ASMAs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the management plan clearly state what items or samples can be removed by the permit holder?</td>
</tr>
<tr>
<td>- Cf. Section 7(vii), but note:</td>
</tr>
<tr>
<td>- Realizing that the language also has been used and has been adopted in other current management plans it is reasonable to ask at what level will the nutritional base of local scavenger species be degraded, and how is such a level defined?</td>
</tr>
<tr>
<td>- We suggest the proponent consider using text from other recently adopted plans (eg. ASPA 129) along lines of:</td>
</tr>
<tr>
<td>- “Collection or removal of anything not brought into the Area by the Permit holder shall only be in accordance with a Permit and should be limited to the minimum necessary to meet scientific or</td>
</tr>
</tbody>
</table>

- This section was rewritten reflecting the comments received.

- Removed

- Revised as suggested
management needs.

- Anything of human origin likely to compromise the values of the Area, which was not brought into the Area by the Permit Holder or otherwise authorized, may be removed unless the impact of removal is likely to be greater than leaving the material in situ: if this is the case the appropriate authority should be notified.”

<table>
<thead>
<tr>
<th>(viii) Disposal of waste (ASPA/ASMAs)</th>
<th>Cf. Section 7(viii). The following notes are made, however:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>o The word “Any non-physiological waste” is unclear and difficult to understand, and it is unclear what the difference between “residual waters” and “domestic residual liquids” is. A proposed revision of the whole paragraph would be as follows (as seen in ASPA110 and 115): “All waste, including human wastes, shall be removed from the Area. Human wastes may be disposed into sea, in accordance with.....”</td>
</tr>
<tr>
<td></td>
<td>o “The Protocol on Environmental Protection to the Antarctic Treaty” should be used instead of “Madrid Protocol”</td>
</tr>
<tr>
<td></td>
<td>o Reflected as recommended.</td>
</tr>
<tr>
<td></td>
<td>o Corrected as suggested.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(ix) Measures that may be necessary to continue to meet the aims of the Management Plan (ASPA)</th>
<th>Cf. Section 7(ix)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>o Suggest deleting each of these dot points which repeat statements in other sections of the plan. There is no requirement to list additional measures here if no such measures are considered likely.</td>
</tr>
<tr>
<td></td>
<td>o Modified as one dot point and the text revised taking into account other recently adopted plans.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(x) Requirements for reports (ASPA/ASMAs)</th>
<th>Cf. Section 7(x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7(3) Requirement to carry permit (ASPA)</td>
<td>○ Does the management plan include a note that all permits should contain a condition requiring the permit holder to carry a copy of the permit whilst in the ASPA?</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>• Cf. Section 7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5.3(k) Exchange of Information</th>
<th>○ Does the management plan include provisions relating to the circumstances in which Parties should seek to exchange information in advance of activities which they propose to conduct?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• If the site had been used exclusively by persons authorised by the Korean authorities (and were expected to continue to be used exclusively by such personnel) provisions for exchange of information would not necessarily be necessary. However, given the fact that the site is used by researchers from other nearby research stations, the proponent may wish to consider including brief guidance on advance exchange of information on proposed activities between the relevant national programs.</td>
</tr>
<tr>
<td></td>
<td>• Last dot point in Section 3 is added: “National Antarctic Programmes operating in the region are encouraged to consult with each other and exchange information to ensure that activities in the Area are undertaken in a manner consistent with the aims and objectives of this Management Plan”</td>
</tr>
</tbody>
</table>

**Other CEP guidelines**

<table>
<thead>
<tr>
<th>○ Are any other CEP guidelines relevant to the proposal?</th>
<th>• Yes, Guidelines for the Operation of Aircraft near Concentrations of Birds in Antarctic. Reference to these overflight guidelines is important, in particular as this ASPA is in close proximity to Marsh airstrip</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ If so, is the draft management plan consistent with those guidelines?</td>
<td>• Cf. Section 7(i)</td>
</tr>
</tbody>
</table>

**3. Primary reason for designation**

| ○ Does the management plan clearly state the primary reason for the area’s designation?² | Cf. Section 1 (to protect the site’s ecological values) |

² Last dot point in Section 3 is added: “National Antarctic Programmes operating in the region are encouraged to consult with each other and exchange information to ensure that activities in the Area are undertaken in a manner consistent with the aims and objectives of this Management Plan”
<table>
<thead>
<tr>
<th>4. Contribution to the Antarctic protected areas system</th>
</tr>
</thead>
<tbody>
<tr>
<td>×  Does the management plan clearly state how the proposed</td>
</tr>
<tr>
<td>Area complements the Antarctic protected areas system as a</td>
</tr>
<tr>
<td>whole?(^\text{6})</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>* A new Introduction taking into account these comments is</td>
</tr>
<tr>
<td>added.</td>
</tr>
</tbody>
</table>

\(^6\) Refer to Table 3 in *Guidelines for implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol*
<table>
<thead>
<tr>
<th>Checklist of features to be considered for inclusion on maps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Essential Features</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.1 Title</th>
<th>The following suggestions are offered to improve issues related to title of maps:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>• In Caption of Map 2 the word “Geomorphology” should be replaced by “Topography” as the Map shows only topographical contours and no geomorphological features.</td>
</tr>
<tr>
<td></td>
<td>• Map 3 includes information on hauling out seals. Given that haul-out locations are more variable than breeding sites it is suggested to consider eliminating them. If these are to remain, then the caption (“distribution of bird nests and habitats in the ASPA”) should include a mention to seals.</td>
</tr>
<tr>
<td></td>
<td>• Map 5 gives details of geomorphological features but no geological details, hence the title should read as “Geomorphological Details of the ASPA”.</td>
</tr>
<tr>
<td></td>
<td>Corrected as suggested.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2 Latitude and longitude coordinates</th>
<th>The following suggestions are offered to improve issues related to coordinates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>• Information is lacking and should be considered added in Map 4</td>
</tr>
<tr>
<td></td>
<td>Latitude and longitude coordinates are included in all the maps.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3 Scale bar with numerical scale</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>The following suggestions are offered to improve issues related to legends:</td>
</tr>
<tr>
<td></td>
<td>• Legends should be added to Maps 1 and 2.</td>
</tr>
<tr>
<td></td>
<td>• The legends in Maps 3 to 5 should be expanded to allow identification of all features shown in those maps.</td>
</tr>
<tr>
<td></td>
<td>Legends are modified in all the maps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.4 Comprehensive legend</th>
<th>The following comments relates to the issue of place names:</th>
</tr>
</thead>
<tbody>
<tr>
<td>×</td>
<td>• Ensure that all place names indicated on maps are formally recognized (cf. earlier comments that indicate</td>
</tr>
<tr>
<td></td>
<td>Please refer to comments on section 5.3(e) of this</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.5 Adequate and approved placenames</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>~</td>
<td>The following suggestions are offered to improve issues related to legends:</td>
</tr>
<tr>
<td></td>
<td>• Legends should be added to Maps 1 and 2.</td>
</tr>
<tr>
<td></td>
<td>• The legends in Maps 3 to 5 should be expanded to allow identification of all features shown in those maps.</td>
</tr>
<tr>
<td></td>
<td>Legends are modified in all the maps</td>
</tr>
</tbody>
</table>
that the SGMP does not have information available to conclude that the names are recognised named as mentioned in SCAR-Composite Gazetteer of Antarctica).

<table>
<thead>
<tr>
<th>Checklist Item</th>
<th>Recommendation</th>
<th>Status</th>
</tr>
</thead>
</table>
| 1.6 Map projection and spheroid | The following suggestions are offered to improve issues related to map projection:  
  - The maps lack information about map projection and spheroid. This needs to be included. | ×      |
| 1.7 North arrow      | The following suggestions are offered to improve issues related to direction:  
  - North arrows should be added to Maps 1, 2, 3 and 5.  
  - North arrows are added. | ×      |
| 1.8 Contour interval | The following suggestions are offered to improve issues related to contour intervals:  
  - Contour lines are shown on Maps 2, 3 & 5 but no contour interval is given.  
  - Contour intervals are added. | ×      |
| 1.9 If image data are included, date of image collection | Map projection is included in all the maps (see below the scale on each map) | n/a    |

2. Essential topographical features

<table>
<thead>
<tr>
<th>Map 4</th>
<th>Map 4</th>
<th>Map 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Coastline, rock and ice</td>
<td>2.2 Peaks and ridge lines</td>
<td>2.3 Ice margins and other glacial features</td>
</tr>
<tr>
<td>Map 4</td>
<td>Map 4</td>
<td>Map 4</td>
</tr>
</tbody>
</table>
| 2.4 Contours (labelled as necessary) survey points and spot heights | The following suggestions are offered to improve issues related to contours:  
  - For the sake of clarity, consideration should be given to deleting some contours on Map 2. | Modified as suggested. |

3. Natural features

<table>
<thead>
<tr>
<th>Map 4</th>
<th>Map 4</th>
<th>Map 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Lakes, ponds, streams</td>
<td>3.2 Moraines, scree, cliffs, beaches</td>
<td>3.3 Beach areas</td>
</tr>
<tr>
<td>Map 4</td>
<td>Map 4</td>
<td>Map 4</td>
</tr>
</tbody>
</table>
| 3.4 Vegetation | The following suggestions are offered to improve issues related to vegetation:  
  - Vegetation distribution is shown in Map 4, although many of the markings on the map are unidentified in Map 4 is modified. | Map 4 is modified. |
The following suggestions are offered to improve issues related to bird and seal colonies:

- Bird nests and habitats are shown in Map 3, although it is difficult to identify some of the features on the map.
- Caption of map 3 includes information on hauling out seals. Given that haul-out locations are more variable than breeding sites we would suggest eliminating them (cf. also comment about caption above if these are retained).

**4 Anthropogenic features**

<table>
<thead>
<tr>
<th>n/a</th>
<th>4.1 Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>4.2 Field huts, refuges</td>
</tr>
<tr>
<td>~</td>
<td>4.3 Campsites</td>
</tr>
</tbody>
</table>

Cf. earlier comment about recommended site for field camps. If such sites are recommended, then these should be included on a map. Please refer to section 5.3(i)(iv) in this checklist.

| n/a | 4.4 Road and vehicle tracks, footpaths |
| n/a | 4.5 Landing areas for fixed wing aeroplanes and helicopters |
| n/a | 4.6 Wharf, jetties |
| n/a | 4.7 Power supplies, cables |
| n/a | 4.8 Aerials, antennae |
| n/a | 4.9 Fuel storage areas |
| n/a | 4.10 Water reservoirs and pipes |
| n/a | 4.11 Emergency caches |
| n/a | 4.12 Markers, signs |
| ✗  | 4.13 Historic sites or artefacts, archaeological sites |

- Cf. earlier comment about reference to ASMA 1 and a number of HSMs. These should be shown on the location map. Added to the map.
### 5. Boundaries

<table>
<thead>
<tr>
<th></th>
<th>5.1 Boundary of Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• The boundary of the Area is not clearly marked on maps 2 to 5. This is a very important feature for the maps, and should be more easily identifiable.</td>
</tr>
<tr>
<td></td>
<td>• It seems that the ASPA is referred to as Barton Peninsula in Map 1 (which is in contradiction with rest of text and maps, although note earlier comments re. place names).</td>
</tr>
<tr>
<td></td>
<td>• All maps include ASPA boundaries.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>5.2 Boundaries of subsidiary zone areas. Boundaries of contained protected areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.3 Boundary signs and markers (including cairns)</td>
</tr>
<tr>
<td></td>
<td>5.4 Boat/aircraft approach routes</td>
</tr>
<tr>
<td></td>
<td>5.5 Navigation markers or beacons</td>
</tr>
<tr>
<td></td>
<td>5.6 Survey points and markers</td>
</tr>
</tbody>
</table>
부록 5. 수정관리계획서 최종보완수정 작업

1. 한국 : 수정관리계획서 보완 내용설명

**Revision of revised management plan**

by Korea, Republic of » Mon 16 Feb 2009 1:50 pm

Dear SGMP;

Thank you very much for your comments and recommendations. I have checked and amended the revised draft management plan based on the comments. The responses and the modifications made are as follows:

(1) 7(ii) 3rd bullet _ changed:

  • Constraints may be placed on the use of motor-driven tools and any activity likely to generate noise and thereby cause disturbances xcv 31).

(2) 7(v): Considering comments by Birgit, no change was made.

(3) Map 2:

  Thank you very much for the comments by Japan. It is my mistake to draw the line near the Point 13 look as like as a peak. Actually that is not a contour line but a lake line. If you check the Map 5, you can find that. As such, I modified all relevant maps accordingly.

(4) Map 6:

  The anchoring point near the area is removed, because the area is accessible by small boat without anchoring (cf. 7(i)).

with many thanks,

Jaeyong CHOI
Dear SGMP members

I am pleased to note that Korea has provided very thorough and helpful responses to the SGMP's original comments, plus a few additional matters recently raised by Japan. To allow us to finalise our advice to the CEP, I now consider the SGMP's review of this management plan complete. I will circulate a draft Working Paper for your consideration soon.

Many thanks to Korea and to all SGMP members for your excellent work.

Best regards,
Ewan

Dear SGMP colleagues,

First of all, I apologize for these very late comments to the draft management plan of Narebski point posted by Korea on February 5th, 2009. The reason for this delay was connected to the fact that XXX, during the latest month has made some bilateral contacts with Korea and the SGMP convenors, expressing certain concerns on this presentation, which are now presented to the Forum, after a Convenors’ suggestion. The fact that this time the intersessional period was shorter than usual did not give us enough time to reach consensus before the deadline proposed.

Our concerns are mainly associated to the primary reason for designation of this area as an ASPA. As this constitutes the basis of a likely designation, we wanted to make some preliminary consultations with the proponent before posting them in the Forum.

[Main concerns] Under the introductory section, the draft MP states that "The area is rich in flora and fauna, of which the abundance of some species is exceptional. One of the most conspicuous features is the presence of over 2,900 pairs of Chinstrap penguins and over 1,700
pairs of Gentoo penguins (Kim, 2002):" and the draft MP also says that \"There are also 12 other bird species (7 breeding and 5 non-breeding species).\".

We have consulted data on bird species included in 4 Management Plans of ASPAs situated in close proximity to Narebski (not further than 25 km away from it). We thought this was an essential step to ensure consistency between neighbor ASPAs.

These ASPAs were: Harmony Point (ASPA 133), Ardley Island (ASPA 150), the Western shore of Admiralty Bay (ASPA 128) and Potter Peninsula (ASPA 132). Except from the first one, the remaining areas are all situated in King George Island.

The results of this survey were summarized in a table (attached to this message) which clearly shows that:

1. All bird species present in Narebski are present elsewhere in the other 4 areas;
2. With the exception of chinstrap penguins, the abundance of such bird species in Narebski is the lowest (and there are one ASPA with much more abundance of these penguins and another one with equivalent numbers);
3. No bird species are exclusive of Narebski;
4. Some bird species which are present in some of the 4 areas considered, are not present in Narebski.

We are aware that bird species are not the only value present in Narebski point. However, according to the existing proposed wording it seems that bird species are a particularly special value in the area, especially when one reads that the area holds a rich fauna and flora. Being birds the only fauna present in the area, then the reader may be misled by such a wording.

In addition, as the draft management plan also states in its Introduction that designation aims “to protect its ecological, scientific, and aesthetic values from human interference”, we would like to recall once again the Guidelines for implementation of the framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol (Resolution 1, 2000). These, apart from providing guidance for assessing the potential of an area or site for protection, also include the concept of environmental risk as a very important aid in assessing the area’s need for enhanced protection.

At this respect, the Guide to the preparation of Management Plans for ASPAs (appended to Resolution 2, 1998) says that the aims of the Plan might be, inter alia, to prevent any human interference with specified features or activities in the area.
The point is that we haven't clearly seen in the Korean proposal any reference to activities being carried out (or planned to be carried out in the future) that are -or might be- threatening the values present in the area.

Finally, the Introduction section says that “Long-term protection and monitoring of diverse range of species and assemblages at Narębski Point will contribute to the development of appropriate regional and global conservation strategies for the species and will provide information for comparisons with elsewhere”.

In principle, we see merit in designating new ASPAs, but we are cautious about the use of this tool, particularly because of the need to ensure consistency between ASPAs. This is in line with the development of appropriate regional conservation strategies for the species involved, as the draft management plan points out.

[Summary of main concerns] After having carefully considered this draft management plan, XXX is mainly concerned about the following aspects of it:

1. The description of the values present in the area includes some information that may be misleading.

2. As currently written, the proposed Management Plan does not adequately articulate with other neighbor ASPAs, which may hinder the development of appropriate regional conservation strategies.

3. The sources of environmental risks are not conveniently explained.

[Recommendations] Based on these comments, XXX considers that the primary reason for designation of Narebski point as an Antarctic Specially Protected Area should be further reworked, in order to ensure that this designation would significantly add to further protect values present in the region of King George Island and its surroundings.

Therefore, XXX considers that some extra work is needed on this draft Plan, in order to fully satisfy the requirements of Annex V and the Guidelines agreed by the CEP, associated to protected area management. The CEP might wish to consider these elements provided by XXX - in conjunction with the existing draft MP-, but a priori our concerns don't mean an objection to approve this draft Plan. Rather, these mean that the proposal might need further adjustments, which might take some extra time. We are aware that on certain occasions, more time means a better proposal, even if our time frames are not what we originally expected.

Best regards, XXX
<table>
<thead>
<tr>
<th>Bird Species</th>
<th>Number of nests Narebski point</th>
<th>Number of nests Harmony (ASPA 133)</th>
<th>Number of nests Ardley (ASPA 150)</th>
<th>Number of nests W shore Admiralty Bay (ASPA 128)</th>
<th>Number of nests Potter (ASPA 132)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentoo Penguin <em>Pygoscelis papua</em></td>
<td>1719</td>
<td>3347</td>
<td>4635</td>
<td>2287</td>
<td>Appx 4000</td>
</tr>
<tr>
<td>Chinstrap Penguin <em>Pygoscelis antarctica</em></td>
<td>2961</td>
<td>89.685</td>
<td>9</td>
<td>2545</td>
<td>--</td>
</tr>
<tr>
<td>Adelia Penguin <em>Pygoscelis Adeliae</em></td>
<td>--</td>
<td>--</td>
<td>334</td>
<td>15.151</td>
<td>Appx 4000</td>
</tr>
<tr>
<td>Brown Skua <em>Catharacta lonnbergi</em></td>
<td>4</td>
<td>11</td>
<td>Present in the area Data not available</td>
<td>--</td>
<td>Less than 100</td>
</tr>
<tr>
<td>South Polar Skua <em>Catharacta maccormicki</em></td>
<td>27</td>
<td>61</td>
<td>Present in the area Data N.A.</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Kelp Gull <em>Larus dominicanus</em></td>
<td>6</td>
<td>128</td>
<td>Present in the area Data N.A.</td>
<td>46</td>
<td>--</td>
</tr>
<tr>
<td>Antarctic Tern <em>Sterna vittata</em></td>
<td>41</td>
<td>100-150</td>
<td>Present in the area Data N.A.</td>
<td>132</td>
<td>Less than 100</td>
</tr>
<tr>
<td>Southern Giant Petrel <em>Macronectes giganteus</em></td>
<td>9</td>
<td>746</td>
<td>Present in the area Data N.A.</td>
<td>201</td>
<td>Less than 100</td>
</tr>
<tr>
<td>Wilson's Storm Petrel <em>Oceanites oceanicus</em></td>
<td>19</td>
<td>--</td>
<td>Present in the area Data not available</td>
<td>Present in the area Data N.A.</td>
<td>200</td>
</tr>
<tr>
<td>Blackbellied storm petrel <em>Fregata tropica</em></td>
<td>--</td>
<td>--</td>
<td>Present in the area Data N.A.</td>
<td>Present in the area Data not available</td>
<td>--</td>
</tr>
<tr>
<td>Pale-faced Sheathbill <em>Chionis alba</em></td>
<td>2</td>
<td>144</td>
<td>Present in the area Data N.A.</td>
<td>2</td>
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</tr>
<tr>
<td>Cape petrel <em>Daption capense</em></td>
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<td>479</td>
<td>Present in the area Data N.A.</td>
<td>290</td>
<td>--</td>
</tr>
<tr>
<td>Blue eyed shag <em>Phalacrocorax atriceps</em></td>
<td>--</td>
<td>45</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Response to the Comments
by Korea, Republic of » Sun 22 Mar 2009 5:25 pm

Dear SGMP colleagues;

As XXX explained, there have been some communications among Korea, XXX, and SGMP Conveners regarding the introductory section of the Management Plan (MP) for Narębski Point. Previously on 26th Feb, I sent the tentatively revised introductory section reflecting XXX’s concerns, as a starting point for the mutually agreeable text. No further comment was made by XXX since then, and a few weeks later, the comments were finally posted on the CEP forum (dated 16 March 2009 7:39 pm). However, XXX did not consider the suggested revised introductory section that I had sent earlier, and just reiterated the same concerns raised at the outset.

I respect XXX’s sincere consideration with regard to the MP for Narębski Point, but I wish to point out that the XXX’s main concerns seem hard to reason out.

First of all, the meaning of “consistency between neighbor ASPAs” is not clear. Every ASPA have their own characteristics, and that is why there are and need to be different Management Plans. If there needs to be “consistency between neighbor ASPAs”, such argument should be further considered and discussed in the CEP because the “consistency” is not found anywhere in the Annex V of the Protocol on Environmental Protection to the Antarctic Treaty or Guidelines for Implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol (Resolution 1, 2000). Furthermore, if there needs to be “consistency between neighbor ASPAs”, the currently revised and submitted ASPA 125 and ASPA 150 Management Plans should also be further reworked since ASPA 125, ASPA 150 and Narębski Point are all located within 25km of each other in the King George Island, and the same rule should be applied to any new and revised management plans.

Secondly, the MP for Narębski Point reads: “The primary reason for the designation of the Area as an ASPA is to protect its ecological, scientific, and aesthetic values from human interference.” From the previous sentence, it is hard to reason out how the readers of this MP can be misled regarding the reason why the Area is planned to be designated as an ASPA.
However, as XXX argued, if the numbers of avian fauna are to be compared to the neighboring ASPAs in the King George Island (that excludes ASPA 133 located in Nelson Island), the number of Chinstrap Penguins in Narębski Point is the largest, with 9 species nesting in the area (see Table 1). When making comparisons, generally we do not compare one with the others combined. Please refer again to Table 1, which shows that Narębski Point holds no less a value for bird species when compared one to one with the other neighboring ASPAs. I am quite convinced that the presence of 9 nesting bird species including the largest number of Chinstrap Penguins constitutes “a particularly special value in the area.” In addition, the MP lists up the species of terrestrial vegetation in detail, while the other ASPAs do not contain such detailed information, further making it impossible to compare the value among the neighboring ASPAs.

The last point is directed toward the source of environmental risk – again a newly raised argument on the part of XXX. The MP for Narębski Point clearly reads: “Some studies noted that King George Island has the potential for tourism development (ASOC, 2007 & 2008; Peter et al., 2005) and visitors to the King Sejong Station have increased from less than 20 people a year in the late 1980s to over 110 in recent years.” Based on such trend, a precautionary approach was deemed imperative against the potential serious damage to the nature of Narębski Point, from the obvious reason that a once-damaged nature would be practically impossible to recover its original state.

Notwithstanding the above reasons, I have made some revisions to the introduction of the MP, reflecting the suggestions made by XXX, which can be found attached to this note. As a last remark, I wish to make myself clear: More time for the preparation of the MP means more interference to the invaluable nature of Narębski Point.

Hoping for the SGMP members’ arduous efforts to bear fruit, I remain,

Yours Sincerely,

Jaeyong CHOI
Chungnam National University
Republic of Korea
**Introduction**

Narębski Point is located on the southeast coast of Barton Peninsula, King George Island. The Area is delimited as latitude 62° 13’ 40”S - 62° 14’ 23”S and longitude 58° 45’ 25”W - 58° 47’ 00”W, and easily distinguished by mountain peaks on the north and the east boundaries and coastline on the southwest boundary.

The unique topography of the Area gives the outstanding aesthetic beauty with panoramic views, and the Area provides exceptional opportunities for scientific studies of terrestrial biological communities with high diversity and complexity of ecosystem. In particular, the coverage of mosses and lichens is very extensive. The most conspicuous vegetal communities are the associations of lichens and the moss turf dominated by *Usnea-Himantormia*. The present flora includes 1 Antarctic flowering plant species (only 2 flowering plant species were found as yet in the Antarctica), 51 lichen species, 29 moss species, 6 liverwort species, and 1 algae species.

Another noticeable feature in the Area is that over 2,900 pairs of Chinstrap Penguins – the largest number in King George Island – and over 1,700 pairs of Gentoo Penguins inhabit in the Area (Kim, 2002). There are also 12 other bird species (7 breeding and 5 non-breeding species). Among them, the 7 breeding birds include the Brown Skua (*Catharacta lonnbergi*), South Polar Skua (*Catharacta maccormicki*), Kelp Gull (*Larus dominicanus*), Antarctic Tern (*Sterna vittata*), Wilson’s Storm Petrel (*Oceanites oceanicus*), Pale-faced Sheathbill (*Chionis alba*), and the Southern Giant Petrel (*Macronectes giganteus*).

The Area also includes water-shed systems, such as lakes and creeks, where dense microbial and algal mats with complex species assemblages are frequently found. These fresh water resources are essential to the diverse life forms in this Area. The high biodiversity of terrestrial vegetation with complexity of habitats enhance the potential values of the Area to be protected.

Through the Korea Antarctic Research Program, scientists have visited the Area regularly since 1980s in order to study its fauna and flora and geology. In recent years, however, Narębski Point has been frequented by visitors from the nearby stations with purposes other than scientific research, particularly during the reproductive season, and vulnerability to human interference has been increasing. Some studies note that King George Island has the potential for tourism development (ASOC, 2007 & 2008; Peter *et al.*, 2005) and visitors to the King Sejong Station have increased from less than 20 people a year in the late 1980s to over 110 in recent years.

The primary reason for designation of the Area as an Antarctic Specially Protected Area is to protect its ecological, scientific, and aesthetic values from human interference. Long-term protection and monitoring of diverse range of species and assemblages at Narębski Point will contribute to the development of appropriate regional and global conservation strategies for the species and will provide information for comparisons with elsewhere.
(Table 1) Number of Fauna in ASPAs neighboring to Narebski Point in King George Island*

<table>
<thead>
<tr>
<th>Bird Species</th>
<th>Number of nests Narębski point</th>
<th>Number of nests Ardley (ASPA 150)</th>
<th>Number of nests W shore Admiralty Bay (ASPA 128)</th>
<th>Number of nests Potter (ASPA 132)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentoo Penguin</td>
<td>1719</td>
<td>4635</td>
<td>2287</td>
<td>Appx 4000</td>
</tr>
<tr>
<td>Pygoscelis papua</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinstrap Penguin</td>
<td>2961</td>
<td>9</td>
<td>2545</td>
<td>---</td>
</tr>
<tr>
<td>Pygoscelis antarctica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelia Penguin</td>
<td>--</td>
<td>334</td>
<td>15.151</td>
<td>Appx 4000</td>
</tr>
<tr>
<td>Pygoscelis Adeliae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown Skua</td>
<td>4</td>
<td>Present in the area Data not available</td>
<td>--</td>
<td>Less than 100</td>
</tr>
<tr>
<td>Catharacta lomnbergi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Polar Skua</td>
<td>27</td>
<td>Present in the area Data N.A.</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Catharacta maccormicki</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kelp Gull</td>
<td>6</td>
<td>Present in the area Data N.A.</td>
<td>46</td>
<td>--</td>
</tr>
<tr>
<td>Larus dominicanus</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antarctic Tern</td>
<td>41</td>
<td>Present in the area Data N.A.</td>
<td>132</td>
<td>Less than 100</td>
</tr>
<tr>
<td>Sterna vittata</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Giant Petrel</td>
<td>9</td>
<td>Present in the area Data N.A.</td>
<td>201</td>
<td>Less than 100</td>
</tr>
<tr>
<td>Macronectes giganteus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilson’s Storm Petrel</td>
<td>19</td>
<td>Present in the area Data N.A.</td>
<td>Present in the area Data not available</td>
<td>200</td>
</tr>
<tr>
<td>Oceanites oceanicus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blackbellied storm petrel</td>
<td>--</td>
<td>Present in the area Data N.A.</td>
<td>Present in the area Data not available</td>
<td>--</td>
</tr>
<tr>
<td>Fregetta tropica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pale-faced Sheathbill</td>
<td>2</td>
<td>Present in the area Data N.A.</td>
<td>2</td>
<td>--</td>
</tr>
<tr>
<td>Chionis alba</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cape petrel</td>
<td>--</td>
<td>Present in the area Data N.A.</td>
<td>290</td>
<td>--</td>
</tr>
<tr>
<td>Daption capense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue eyed shag</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Phalacrocorax atriceps</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* information provided by XXX

Working Paper submitted by Australia on behalf of the SGMP

Abstract

In accordance with its Terms of Reference #1 to #3, the Subsidiary Group on Management Plans (SGMP) reviewed the four draft management plans referred by CEP XI for intersessional review. This paper reports on the review process and conveys the SGMP’s advice that the CEP: approves Chile’s revised management plans for Antarctic Specially Protected Areas (ASPA) 125 Ardley Island and ASPA 150 Fildes Peninsula; notes that the SGMP has not reached consensus on its advice regarding Korea’s draft management plan for a proposed new ASPA at Narębski Point; and notes that the United States will further amend the management plan for ASPA 106 Cape Hallett and submit a revised version in 2010.

Introduction

The CEP’s proposal to establish a Subsidiary Group on Management Plans (SGMP) was approved by ATCM XXXI (Final Report paragraph 94).

The Terms of Reference for the SGMP, outlined in Appendix 3 of the CEP XI Final Report, include:

1) Examine any draft new or revised Management Plan to consider, in consultation with relevant experts if appropriate:
   • whether it is consistent with the provisions of Annex V to the Protocol, particularly Articles 3, 4 and 5, and with relevant CEP guidelines;
   • its content, clarity, consistency and likely effectiveness;
   • whether it clearly states the primary reason for designation; and
   • whether it clearly states how the proposed Area complements the Antarctic protected areas system as a whole.

2) Advise proponents of suggested amendments to the draft Management Plan to address issues in relation to 1) above.

3) Submit a Working Paper to the CEP with recommendations for the adoption or otherwise of each new or revised draft Management Plan, identifying where the Plan reflects comments received by Members, and where they have not been, the reasons for not doing so. The Working Paper is to include all revised Management Plans and the information required by the ATCM’s Legal and Institutional Working Group.

4) Provide advice to the CEP as necessary for the purpose of improving Management Plans and the process for their intersessional review.
This Working Paper reports on the SGMP’s activities under Terms of Reference #1 to #3. The SGMP’s activities under Term of Reference #4 are detailed in WP 8 Subsidiary Group on Management Plans – Report on Term of Reference #4: Improving Management Plans and the Process for Their Intersessional Review.

**Operation of the SGMP**

As agreed at CEP XI the SGMP was convened by one of the CEP Vice-chairs, Ewan McIvor from Australia (CEP XI Final Report paragraph 44). Through a note sent to all CEP contact points on 29 July 2008, CEP representatives were invited to nominate to join the SGMP, on the understanding that SGMP members would be expected to:

- participate for several consecutive intersessional periods so as to achieve continuity in membership and improved institutional knowledge;
- participate in the review of all Plans except those they have proposed; and
- in addition to reviewing draft management plans, contribute to providing advice to the CEP on improving management plans and the process for their review, in accordance with Term of Reference #4.

During the 2008/09 intersessional period the group was comprised of 17 members, including representatives from Argentina, Brazil, Chile, China, Germany, IAATO, India, Japan, Republic of Korea, New Zealand, Norway, Romania, SCAR, South Africa, United Kingdom and United States.

The SGMP conducted its work remotely, via the Discussion Forum, and followed a schedule consistent with the timeline in Appendix 3 to the CEP Final Report:

<table>
<thead>
<tr>
<th>Period</th>
<th>Action</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersessional period</td>
<td>• Antarctic Treaty Secretariat posts all draft Management Plans referred for intersessional discussion to the online Discussion Forum.</td>
<td>As soon as possible following CEP meeting 24 July 2008</td>
</tr>
<tr>
<td></td>
<td>• Interested CEP Members indicate their interest in participating in the SGMP.</td>
<td>15 August 2008</td>
</tr>
<tr>
<td></td>
<td>• Interested CEP Members and Observers post comments on draft Management Plans via the Discussion Forum.</td>
<td>3-6 months following CEP meeting 3 October 2008</td>
</tr>
<tr>
<td></td>
<td>• SGMP considers draft Management Plans in accordance with its Terms of Reference and prepares a report with recommendations for proponents. SGMP report is translated and posted to the Discussion Forum.</td>
<td>31 October 2008</td>
</tr>
<tr>
<td></td>
<td>• Interested CEP Members suggest issues for consideration by SGMP regarding Term of Reference #4 (improving Management Plans and the process for their intersessional review).</td>
<td>31 October 2008</td>
</tr>
<tr>
<td></td>
<td>• SGMP considers advice to the CEP under Term of Reference #4.</td>
<td>31 October 2008 to 2 February 2009</td>
</tr>
<tr>
<td></td>
<td>• Draft Management Plans are revised by proponents in response to comments provided by Members, Observers and the SGMP, and posted to the Discussion Forum.</td>
<td>60 days prior to CEP meeting. 5 February 2009</td>
</tr>
<tr>
<td>Working Paper deadline</td>
<td>• SGMP convenor submits Working Paper with recommendations for the adoption or otherwise of draft Management Plans.</td>
<td>45 days prior to CEP meeting. 20 February 2009</td>
</tr>
<tr>
<td></td>
<td>• As appropriate, SGMP convenor submits Working Paper with advice to CEP on improving Management Plans and the process for their intersessional review.</td>
<td>20 February 2009</td>
</tr>
</tbody>
</table>
Review of draft management plans

Four draft management plans submitted to CEP XI were referred for intersessional review by the SGMP:

- ASPA 106: Cape Hallett, Victoria Land (United States, ATCM XXXI/WP 13)
- ASPA 125: Fildes Peninsula, King George Island, South Shetland Islands (Chile, ATCM XXXI/WP 47)
- ASPA 150: Ardley Island, Maxwell Bay, King George Island (Chile, ATCM XXXI/WP 46)
- ASPA (new): Narębski Point, Barton Peninsula, King George Island (Republic of Korea, ATCM XXXI/WP 3)

Four SGMP members kindly volunteered to coordinate comments on the draft management plans, and to prepare draft advice to proponents using a standard checklist (developed by the Trial Informal Group during the previous intersessional period). All SGMP members were given the opportunity to comment on the draft advice before the final advice was prepared, translated into each of the official Treaty languages, and forwarded to the proponents. The SGMP’s initial advice to proponents was circulated to all CEP contact points on 11 November 2008, and made available to all CEP Members on the CEP Discussion Forum. The following sections provide a summary of the group’s review of each plan.

ASPA 106: Cape Hallett, Victoria Land

In its initial advice to the United States in November 2008 the SGMP noted that, with minor modifications, the management plan submitted to CEP XI as WP 13 would adequately address the provisions of Annex V and relevant CEP guidelines, and was likely to be effective in guiding management of the Area. The group noted that this is a mature management plan with provisions that have been periodically refined and updated since the Area was designated in the 1960s. The SGMP’s full advice is available on the Discussion Forum but, in particular, clarification was sought on the suitability of conducting tourism at sites adjacent to the Area, on provisions allowing access for ‘educational purposes’, and on whether the proposed flexible Area boundary (following a line 5 m from the seaward edge of the breeding colony of Adélie penguins) would create undesirable difficulties with administration, compliance and enforcement.

Separate to the SGMP, comments on the draft management plan were submitted by Ecuador.

In response the United States advised that it welcomed the SGMP’s comments, and was planning to prepare a revised draft management plan detailing a fixed Area boundary. Establishing a revised boundary and preparing new maps would require further field work, including surveying, which would delay resubmission of the revised plan until 2010. The United States has discussed those plans with New Zealand and it has been agreed that, given the low level of activity at the site, the threat to site integrity by the delay will be very low.

ASPA 125: Fildes Peninsula, King George Island, South Shetland Islands

In its initial advice to Chile in November 2008 the SGMP noted that, with suggested amendments, the management plan submitted to CEP XI as WP 47 would adequately address the provisions of Annex V and relevant CEP guidelines, and was likely to be effective in guiding management of the Area. The SGMP’s full advice is available on the Discussion Forum but, in particular, the group suggested that the proponent include more details about preferred access routes to the sub-areas and the specific locations of fossil outcrops.

Separate to the SGMP, comments on the draft management plan were submitted by Germany.

In February 2009 Chile submitted a revised draft management plan and a separate document explaining its responses to the SGMP’s comments. Following additional minor revisions, the SGMP considered the revised management plan and concluded that its comments had been adequately addressed by the proponent.

ASPA 150: Ardley Island, Maxwell Bay, King George Island

In its initial advice to Chile in November 2008 the SGMP noted that, with suggested amendments, the management plan submitted to CEP XI as WP 46 would adequately address the provisions of Annex V and relevant CEP guidelines, and was likely to be effective in guiding management of the Area. The group noted...
that the proponent had made significant improvements to the version of the management plan submitted to CEP X as WP25, including the clarification regarding tourist access to the adjacent visitor area. The SGMP’s full advice is available on the Discussion Forum but, in particular, it suggested the plan would be more effective with the addition of further details on preventing the introduction of non-native species, and greater emphasis on preventing accidental overflights of Ardley Island by aircraft using Marsh airfield.

Separate to the SGMP, comments on the draft management plan were submitted by Ecuador, Germany and Uruguay.

In February 2009 Chile submitted a revised draft management plan and a separate document explaining its responses to the SGMP’s comments. Following additional minor revisions, the SGMP considered the revised management plan and concluded that its comments had been adequately addressed by the proponent.

**ASPA (new): Narębski Point, Barton Peninsula, King George Island**

In its initial advice to Korea in November 2008 the SGMP noted that, with suggested amendments, the management plan submitted to CEP XI as WP 3 would adequately address the provisions of Annex V and relevant CEP guidelines, and was likely to be effective in guiding management of the proposed Area. The group congratulated the proponent for preparing a plan largely consistent with the *Guide to the preparation of management plans for Antarctic Specially Protected Areas* and existing ASPA management plans. The SGMP’s full advice is available on the Discussion Forum but, in particular, it recommended that the proponent clarify the rational for protection, the status of place names used in the draft plan, the location and extent of important features, and any relevant supporting documentation.

Separate to the SGMP, comments on the draft management plan were submitted by Ecuador.

In February 2009 Korea submitted a revised draft management plan and a separate document explaining its responses to the SGMP’s comments. Most members concluded that the group’s comments had been adequately addressed in the revised draft management plan, and that the SGMP should recommend approval by the CEP.

However, at the time of preparing this Working Paper, one SGMP member considered that further work on the draft management plan was required to fulfill the requirements of Annex V and the CEP’s guidelines, particularly with regard to the primary reason for designation. Consequently, the group has been unable to reach consensus in its advice to the CEP in the time available. It is intended that discussions will continue, with the aim of resolving outstanding issues before the CEP meeting. If a solution cannot be reached in that time, the SGMP will suggest that this matter be raised with the Committee for its consideration and advice on the suggested way forward.

**Coversheets**

Appendix 1 to this Working Paper contains introductory comments by the proponents, and coversheets prepared in accordance with Resolution 1 (2008).

**Advice to the CEP**

The SGMP suggests that the CEP:

1) Approve the attached:
   - revised management plan prepared by Chile for ASPA 125, Fildes Peninsula, King George Island, South Shetland Islands (Attachment A); and
   - revised management plan prepared by Chile for ASPA 150, Ardley Island, Maxwell Bay, King George Island (Attachment B).

2) Notes the SGMP’s advice on its review of the draft management plan prepared by Korea for a new ASPA at Narębski Point, Barton Peninsula, King George Island, and consider whether to approve the revised draft management plan (Attachment C).

3) Note that the United States plans to undertake further field work at ASPA 106 Cape Hallett and to finalise the revised draft management plan in 2010.
Appendix 1. Coversheets and introductory comments prepared by proponents

Introduction prepared by the Republic of Korea:

Revised Draft Antarctic Specially Protected Area (ASPA) Management Plan for Narębski Point, Barton Peninsula, King George Island

1. Introduction
At CEP XI (Kyiv, 2008) the Republic of Korea submitted WP3 proposing the designation of Narębski Point, Barton Peninsula, King George Island as a new Antarctic Specially Protected Area (ASPA) under Article 3 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty by presenting moving pictures on the natural features of the site.

Narębski Point is rich in flora and fauna, of which the abundance of some species is exceptional. There are large numbers of Chinstrap and Gentoo Penguins and the breeding areas of seven other birds including the nests of the Southern Giant Petrel. The cover of mosses and lichens is very extensive with high species diversity. In addition, 1 flowering plant species and 1 algae species were found in the Area. As such, the Area provides exceptional opportunities for scientific studies of terrestrial biological communities. The topography of the Area, together with the abundance and diversity of fauna and flora, gives the Area exceptional aesthetic value.

The Management Plan aims to protect the unique terrestrial ecosystem found in the Area from human interference.

2. Intersessional Review
Comments regarding the draft Management Plan were received from the Subsidiary Group on Management Plans (SGMP). The SGMP conducted a detailed critique of the plan, using a checklist, and provided specific comments on further improvement and clarification of the plan. The Republic of Korea responded to each comment with a brief explanation of the changes made or rationale for keeping the original text.

Some examples of modifications include an addition of introduction, refinement of description of values to be protected, revisions of aims and objectives and activities that may be conducted, amendments on the commented texts, adding a new access route to the Area from the sea, revision of maps for clarity, and the addition of a bibliography.

3. Management Plan Submission
This Working Paper has been prepared in accordance with the requirements of Annex V to the Protocol and the Guide to the Presentation of Working Papers Containing Proposals for Antarctic Specially Protected Areas, Antarctic Specially Managed areas or Historic Sites and Monuments appended to Resolution 1 (2008) of the Antarctic Treaty Consultative Meeting XXXII. This proposal for a new ASPA does not relate to any existing ASPA or ASMA nor does the proposed ASPA contain any marine area.

The Republic of Korea submits this revised Management Plan for approval by the CEP and ATCM.
1) Is a new ASPA proposed? Yes

2) Is a new ASMA proposed? No

3) Does the proposal relate to an existing ASPA or ASMA? No
   - First designation: n/a
   - First adoption of management plan: n/a
   - Any revisions to management plan: n/a
   - Current management plan: n/a
   - Any extensions of expiry dates of management plan: n/a
   - Renaming and renumbering as …………. by Decision 1 (2002). n/a

4) If the proposal contains a revision of an existing management plan, please indicate the types of amendment: n/a

5) If a new ASPA or ASMA is proposed, does it contain any marine area? No
Management Plan for Antarctic Specially Protected Area No. X
Narębski Point, Barton Peninsula, King George Island

Introduction

Narębski Point is located on the southeast coast of Barton Peninsula, King George Island. The Area is delimited as latitude 62° 13' 40"S - 62° 14' 23"S and longitude 58° 45' 25"W - 58° 47' 00"W, and easily distinguished by mountain peaks on the north and the east boundaries and coastline on the southwest boundary.

The unique topography of the Area gives the outstanding aesthetic beauty with panoramic views, and the Area provides exceptional opportunities for scientific studies of terrestrial biological communities with high diversity and complexity of ecosystem. In particular, the coverage of mosses and lichens is very extensive. The most conspicuous vegetal communities are the associations of lichens and the moss turf dominated by Usnea-Himantoria. The present flora includes 1 Antarctic flowering plant species (only 2 flowering plant species were found as yet in the Antarctica), 51 lichen species, 29 moss species, 6 liverwort species, and 1 algae species.

Another noticeable feature in the Area is that over 2,900 pairs of Chinstrap Penguins – the largest number in King George Island – and over 1,700 pairs of Gentoo Penguins inhabit in the Area (Kim, 2002). There are also 12 other bird species (7 breeding and 5 non-breeding species). Among them, the 7 breeding birds include the Brown Skua (Catharacta lonnbergi), South Polar Skua (Catharacta maccormicki), Kelp Gull (Larus dominicanus), Antarctic Tern (Sterna vittata), Wilson’s Storm Petrel (Oceanites oceanicus), Pale-faced Sheathbill (Chionis alba), and the Southern Giant Petrel (Macronectes giganteus).

The Area also includes water-shed systems, such as lakes and creeks, where dense microbial and algal mats with complex species assemblages are frequently found. These fresh water resources are essential to the diverse life forms in this Area. The high biodiversity of terrestrial vegetation with complexity of habitats enhance the potential values of the Area to be protected.

Through the Korea Antarctic Research Program, scientists have visited the Area regularly since 1980s in order to study its fauna and flora and geology. In recent years, however, Narębski Point has been frequented by visitors from the nearby stations with purposes other than scientific research, particularly during the reproductive season, and vulnerability to human interference has been increasing. Some studies note that King George Island has the potential for tourism development (ASOC, 2007 & 2008; Peter et al., 2005) and visitors to the King Sejong Station have increased from less than 20 people a year in the late 1980s to over 110 in recent years.

The primary reason for designation of the Area as an Antarctic Specially Protected Area is to protect its ecological, scientific, and aesthetic values from human interference. Long-term protection and monitoring of diverse range of species and assemblages at Narębski Point will contribute to the development of appropriate regional and global conservation strategies for the species and will provide information for comparisons with elsewhere.

1. Description of Values to be Protected

The Narębski Point area is designated as an Antarctic Specially Protected Area to protect its outstanding environmental values and to facilitate ongoing and planned scientific research.

The Area provides exceptional opportunities for scientific studies of terrestrial biological communities. Scientific research, including the monitoring of penguin colonies, has been carried out by several countries...
since the early 1980s. Outcomes of the research revealed the potential value of the Area as a reference site, particularly in relation to global warming and the impacts from human activities.

The unique topography of the Area, together with the abundance and diversity of fauna and flora, gives the Area an exceptional aesthetic value. Among others, the mountain peaks and the southernmost peaks provide breathtaking panoramic views.

For above reasons, the Area should be protected and subject to minimal disturbance by human activities with the exception of occasional monitoring studies including vegetation, bird populations, geological and geomorphologic studies.

2. Aims and Objectives

Management of Narębski Point aims to:

- Avoid degradation of or substantial risk to the values of the Area by preventing unnecessary human disturbance to the Area;
- Allow scientific research that cannot be carried out elsewhere, as well as the continuity of ongoing long term biological studies established in the Area;
- Protect the Area’s aesthetic and scientific values.

3. Management Activities

The following management activities are to be undertaken to protect the values of the Area:

- Personnel accessing the site shall be specifically instructed, by their national program (or competent authority) as to the content of the Management Plan;
- Signs illustrating the location and boundaries, with clear statements of entry restrictions, shall be placed at appropriate locations at the boundaries of the Area;
- All signs as well as scientific equipments and markers erected in the Area will be secured and maintained in proper conditions;
- The biological condition of the Area will be adequately monitored, including census on penguins and other birds populations;
- Visits shall be made as necessary (no less than once every five years) to assess whether the Area continues to serve the purposes for which it was designated and to ensure that maintenance and management measures are adequate;
- National Antarctic Programs operating in the region are encouraged to consult with each other and exchange information to ensure that activities in the Area are undertaken in a manner consistent with the aims and objectives of this Management Plan.

4. Period of Designation

Designated for an indefinite period.

5. Maps

Maps 1 to 6 are attached at the end of this management plan as Annex II.

- Map 1: The location of Narębski Point in relation to the King George Island and the existing protected areas
- Map 2: Boundary of the ASPA
- Map 3: Distribution of bird colonies and seal haul-out sites within the ASPA
- Map 4: Distribution of the plant communities in the ASPA
- Map 5: Geomorphologic details of the ASPA
- Map 6: Access routes to the ASPA
6. Description of the Area

6(i) Geographical co-ordinates, limits, and natural features

Narębski Point is located on the southeast coast of Barton Peninsula, King George Island and the Area is delimited as latitude 62° 13’ 40”S - 62° 14’ 23”S and longitude 58° 45’ 25”W - 58° 47’ 00”W. Boundaries are delimited by mountain peaks on the north and the east and coastline on the southwest. The southwest boundary can be easily recognized due to its distinguished geomorphology. The Area includes only the terrestrial area, excluding the intertidal zone. The total size of the Area is approximately 1 km².

The Area is rich in flora and fauna, of which the abundance of some species is exceptional. The cover of mosses and lichens is very extensive. There are large numbers of Chinstrap and Gentoo Penguins and the breeding areas of seven other birds including the nests of the Southern Giant Petrel. The high diversity in relief and coastal forms, due to the presence of different geologies and a prominent system of fractures, in addition to an extensive and varied vegetation cover, provides unusual scenic diversity in the Antarctic environment.

Climate

Meteorological data for the Area are confined entirely to observations at the King Sejong Station (1998-2007), about 2 km northwest of Narębski point. The climate is humid and relatively mild because of a strong maritime effect. The Area has an annual average temperature of -1.8 °C (maximum 9.8°C, minimum -23.1°C), relative humidity of 89%, total precipitation of 597.2 mm, and cloud cover of 6.8 Octas. The mean wind velocity is 7.1 m/s (37.6 m/s at the greatest), predominantly from the northwest and east throughout the year. The occurrence of blizzards in 2007 was 26 (total duration time 190 hours).

Geology

The lowermost lithostratigraphic unit in Barton peninsula is the Sejong formation (Yoo et al., 2001), formally regarded as a lower volcanic member. The Sejong formation is distributed in the southern and southeastern cliffs of Barton Peninsula (Lee et al., 2002). It is largely composed of volcanioclastic constituents gently dipping to the south and southwest. Mafic to intermediated volcanic lavas overlying the Sejong formation are widespread in Barton Peninsula, including the Area. They are mostly plagioclase-phyric or plagioclase- and clinopyroxene-phyric basaltic andesite to andesite with rare massive andesite. Some thick-bedded lapilli tuffs are intercalated with the lava flows. Mafic dikes, Narębski Point being one of them, cut the Sejong formation along the southern coast of the peninsula. Soils of the peninsula are subdivided into four suites based on bedrock type, namely those on granodiorite, basaltic andesite, lapilli tuff, and the Sejong formation (Lee et al., 2004). Soils are generally poor in organic materials and nutrients, except for those near seabird colonies.

Penguins

Colonies of Chinstrap Penguin (Pygoscelis antarctica) and Gentoo Penguin (Pygoscelis papua) are distributed on rocky inclines and hill crests of Narębski Point.

The Chinstrap Penguin is the most abundant breeding species at the site, with a total of 2,961 pairs observed in 2006/07. Chinstrap Penguins begin to lay eggs in early November and incubate for 32-43 days and the peak seasons of laying and hatching are estimated to be mid-November and mid-December, respectively (Kim, 2002). The maximum number of breeding Chinstrap Penguins was estimated at 7,306 pairs in 1986/87 (Trivelpiece et al., 1987), though their breeding population plummeted to 1,161 pairs in 1989/90 (Yoon, 1990). Since 1989/90, however, breeding pairs of Chinstrap Penguins have gradually increased and maintained its population at about 3,000 pairs from 1994/95 to 2006/07 (see Figure 1).

Breeding pairs of Gentoo Penguins have increased steadily from 556 pairs since 1986/87. A total of 1,719 pairs of Gentoo Penguins were counted in 2006/07 (see Figure 1). Gentoo Penguins start to lay eggs during mid-October, with the peak season occurring in late October. They incubate for 33-40 days and hatch in early December (Kim, 2002).
Other birds

There are 7 nesting bird species in the Area, including the Brown Skua (*Catharacta lomnbergi*), South Polar Skua (*Catharacta maccormicki*), Kelp Gull (*Larus dominicanus*), Antarctic Tern (*Sterna vittata*), Southern Giant Petrel (*Macronectes giganteus*), Wilson’s Storm Petrel (*Oceanites oceanicus*), and Pale-faced Sheathbill (*Chionis alba*). In addition, there are 5 non-breeding bird species in the Area, including the Adelie Penguin (*Pygoscelis adeliae*), Antarctic Shag (*Phalacrocorax bransfieldensis*), Arctic Tern (*Sterna paradisaea*), Cape Petrel (*Daption capense*), and Black-Bellied Storm-Petrel (*Fregatta tropica*). A summary of the estimated number of nests by species is presented in Table 1.

Brown Skuas and South Polar Skuas prey on penguin eggs and chicks, and some pairs of skuas occupy penguin sub-colonies as feeding territory during breeding season (Trivelpiece et al., 1980; Hagelin and Miller, 1997; Pezzo et al., 2001; Hahn and Peter, 2003). South Polar Skuas nesting in the Area do not depend on penguin eggs and chicks for their chick-rearing. On the contrary, during the 2006/07 season, all Brown Skua pairs (4 pairs) breeding in this Area were observed to occupy their own feeding territory in penguin sub-colonies and defend them.

Two pairs of Pale-faced (or Snowy) Sheathbill bred near penguin rookery in Narębski Point (2006/07). Pale-faced Sheathbills are omnivores and forage for food around the breeding colonies of seabirds. They feed on penguin faeces, eggs, and dead chicks, and also steal krill from penguins at the site.

Table 1. Estimated number of nests, by species (2006/07)

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of nests</th>
</tr>
</thead>
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<tr>
<td>Gentoo Penguin</td>
<td>1719</td>
</tr>
<tr>
<td>Chinstrap Penguin</td>
<td>2961</td>
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<tr>
<td>Brown Skua</td>
<td>4</td>
</tr>
<tr>
<td>South Polar Skua</td>
<td>27</td>
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<tr>
<td>Kelp Gull</td>
<td>6</td>
</tr>
<tr>
<td>Antarctic Tern</td>
<td>41</td>
</tr>
<tr>
<td>Southern Giant Petrel</td>
<td>9</td>
</tr>
<tr>
<td>Wilson’s Storm Petrel</td>
<td>19</td>
</tr>
<tr>
<td>Pale-faced Sheathbill</td>
<td>2</td>
</tr>
</tbody>
</table>
Vegetation

Most of the ice-free areas of Barton Peninsula are covered by relatively rich vegetation, dominated by cryptogamic species. The cover of mosses and lichens is very extensive within the Area. The most conspicuous vegetal communities are the associations of dominant lichens *Usnea-Himantormia* and the moss turf dominated by *Sanionia-Chorisodontium*. The algal community is dominated by the green fresh water alga *Prasiola crispa*, which is established around penguin colonies. The present flora includes 1 Antarctic flowering plant species, 51 lichen species, 29 moss species, 6 liverwort species, and 1 algae species. In the case of algae, only the species forming macroscopically detectable stands were recorded. No information on cyanobacteria and mycobiota occurring in this Area is available, as studies have not been undertaken. The detailed vegetation list is shown in Annex I.

6(ii) Restricted zones within the Area
None.

6(iii) Location of structures within the Area
There are no structures within the Area. A refuge facility is located about 100m away from the Area toward the Southeastern coast. The King Sejong Station (Republic of Korea), which is located 2 km to the northwest of Narečiñski Point, is the closest major facility.

6(iv) Location of other Protected Areas within close proximity
- ASMA No. 1, Admiralty Bay, King George Island, South Shetland islands lies about 8 km northeast.
- ASPA No. 125, Fildes Peninsula, King George Island, South Shetland islands lies about 11 km west.
- ASPA No. 128, Western Shore of Admiralty Bay, King George Island, South Shetland islands lies about 17 km east.
- ASPA No. 132, Potter Peninsula, King George Island, South Shetland islands lies about 5 km east.
- ASPA No. 133, Harmony Point, Nelson Island, South Shetland islands lies about 25 km southwest.
- ASPA No. 150, Ardley Island, King George Island, South Shetland islands lies about 9 km to the west.
- ASPA No. 151, Lions Rump, King George Island, South Shetland islands lies about 35km northeast.
- HSM No. 36, Replica of a metal plaque erected by Eduard Dallmann at Potter Cove, King George Island, lies about 5 km east.
- HSM No. 50, Plaque to commemorate the research vessel Professor Siedlecki which landed in February 1976, Fildes Peninsula, King George Island lies about 10 km west.
- HSM No. 51, Grave of W. Puchalski, an artist and a producer of documentary films, who died on 19 January 1979, lies about 18 km northeast.
- HSM No. 52, Monolith erected to commemorate the establishment on 20 February 1985 of Great Wall Station (China), Fildes Peninsula, King George Island lies about 10 km west.
- HSM No. 82, Plaque at the foot of the monument commemorating the Signatories to the Antarctic Treaty and successive IPYs, lies about 12 km west.

7. Permit Conditions
Entry into the Area is prohibited except in accordance with a permit issued by appropriate national authorities as designated under Article 7 of Annex V of the Protocol on Environmental Protection to the Antarctic Treaty.

Conditions for issuing a permit to enter the Area are that:
- It is issued only for scientific purposes that cannot be met elsewhere;
The actions permitted will not jeopardize the natural ecological system of the Area;

The actions permitted are in accordance with this Management Plan;

Any management activities are in support of the objectives of the Management Plan;

The permit, or an authorized copy, must be carried within the Area;

Permits shall be valid for a stated period and identify the competent authority;

A report regarding the visit shall be submitted to the competent national authority named in the permit.

7(i) Access to, and movements within or over, the Area

- Access to the Area is possible on foot along the coast or by small boat without anchoring. The access routes and the landing site are shown in Map 6.
- Pedestrian movements should be kept with caution so as to minimize disturbance to flora and fauna, and should walk on snow or rocky terrain if practical, but taking care not to damage lichens.
- Vehicle traffic of any type is not permitted inside the Area.
- The operation of aircraft over the Area will be carried out, as a minimum requirement, in compliance with Resolution 2 (2004), “Guidelines for the Operation of Aircraft near Concentrations of Birds.” As a general rule, no aircraft should fly over the ASPA at less than 610 meters, except in cases of emergency or aircraft security. Over flights, however, should be avoided.

7(ii) Activities which are or may be conducted within the Area, including restrictions on time and place

- Scientific research activities that cannot be conducted elsewhere and that do not jeopardize the ecosystem of the Area;
- Essential management activities, including monitoring;
- Constraints may be placed on the use of motor-driven tools and any activity likely to generate noise and thereby cause disturbances to nesting birds during the breeding period (from October 1 to March 31).

7(iii) Installation, modification, or removal of structures

- No structures will be built and no equipment installed within the Area, with the exception of scientific or management activities, as specified in the permit.
- Any scientific equipment installed in the Area should be approved by a permit and clearly identify the permitting country, name of the principal investigator, and year of installation and date of expected removal. All the equipment should pose a minimum risk of pollution to the Area or a minimum risk of causing disturbances to the flora or to the fauna.
- Signs of investigation should not remain after the permit expires. If a specific project cannot be finished within the allowed time period, an extension should be sought that authorizes the continued presence of any object in the Area.

7(iv) Location of field camps

- Camping is prohibited within the Area except in an emergency, but if necessary, the use of the refuge facility located on the shore near the eastern boundary of the Area is strongly encouraged (see Map 2).

7(v) Restriction on material and organisms which may be brought into the Area

- No living animals or plant material shall be deliberately introduced into the Area.
- No uncooked poultry products or fresh fruit and vegetables are to be taken into the Area.
- To minimize the risk of microbial or vegetation introductions from soils at other Antarctic sites, including the station, or from regions outside Antarctica, footwear and any equipment (particularly sampling equipment and markers) to be used in the Area shall be thoroughly cleaned before entering the
Area (any terrestrial activity should be consistent with the ‘Environmental code of conduct for terrestrial scientific field research in Antarctica’).

- No herbicides or pesticides shall be introduced into the Area. Any other chemical product, which shall be introduced with the corresponding permit, shall be removed from the Area upon conclusion of the activity for which the permit was granted. The use and type of chemical products should be documented, as clearly as possible, for the knowledge of other researchers.

- Fuel, food, and other material are not to be stored in the Area, unless required for essential purposes connected with the activity for which the permit has been granted, provided it is securely stored so that wildlife cannot have access to it.

7(vi) Taking or harmful interference with native flora and fauna

- Any taking or harmful interference, except in accordance with a permit, is prohibited and should be consistent with the SCAR Code of Conduct for the use of Animals for Scientific Purposes in Antarctica as a minimum requirement.

- Information on taking or harmful interference will be exchanged through the System of Information Exchange of the Antarctic Treaty.

7(vii) Collection or removal of anything not brought into the Area by the permit holder

- Collection or removal of anything not brought into the Area by the permit holder shall only be in accordance with a permit and should be limited to the minimum necessary to meet scientific or management needs.

- Anything of human origin likely to compromise the values of the Area, which were not brought into the Area by the permit holder or otherwise authorized, may be removed unless the impact of removal is likely to be greater than leaving the material in situ: if this is the case, the appropriate authority should be notified.

7(viii) Disposal of waste

- All wastes, including all human wastes, shall be removed from the Area. Human waste may be disposed of into the sea in accordance with Article 5 of Annex III of the Protocol on Environmental Protection to the Antarctic Treaty.

7(ix) Measures that may be necessary to ensure that the aims and objectives of the Management Plan continue to be met

- Permits may be granted to enter the Area to carry out biological monitoring and site inspection activities, which may involve the collection of a small number of samples for scientific analysis, to erect or maintain signboards, or to carry out protective measures.

7(x) Requirements for reports

The principal permit holder for each issued permit shall submit a report of activities undertaken in the Area. Such reports should include the information identified in the Visit Report form suggested by SCAR. This report shall be submitted to the authority named in the permit as soon as practicable, but not later than 6 months after the visit has taken place. Records of such reports should be stored indefinitely and made accessible to any interested Party, SCAR, CCAMLR, and COMNAP if requested, so as to provide necessary information of human activities in the Area to ensure adequate management of the Area.
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ASOC (2008) Some land-based facilities used to support/manager Antarctic tourism in King George Island, XXXI ATCM/IP41


Chang, S.K. (2004) Preliminary report on the ecology of the penguins observed in the cold years and a less cold year in the vicinity of King Sejong Station, King George Island off the Antarctic Peninsula. In: Annual report of environmental monitoring on human impacts at the King Sejong Station, Antarctica. KORDI, ECIP 03 102.


Ministry of Science and Technology (MOST) (1989) A study on Natural Environment in the area around the Korea Antarctic Station, King George Island (II). BSPG00081-246-7.


ANNEX I. List of flora in the Site

Taxa

Lichens
Acrospora austroshetlandica (C.W. Dodge) Øvstedal
Bryoria sp.
Buellia anisomera Vain.
Buellia russa (Hue) Darb.
Caloplaca lucens (Nyl.) Zahlbr.
Caloplaca sublobulata (Nyl.) Zahlbr.
Cetraria aculeata (Schreb.) Fr.
Cladonia borealis S. Stenroos
Cladonia chlorophæa (Flörke ex Sommerf.) Spreng.
Cladonia furcata (Huds.) Schaer.
Cladonia gracilis (L.) Willd.
Cladonia merochlorophæa var novochlorophæa Sipman
Cladonia pleurota (Flörke) Schaer.
Cladonia pyxidata (L.) Hoffm.
Cladonia scabriuscula (Delise) Nyl.
Haematomma erythromma (Nyl.) Zahlbr
Himantormia lugubris (Hue.) I. M. Lamb
Huea coralligera (Hue.) C. W. Dodge & G. E. Baker
Lecania brialmontii (Vain.) Zahlbr.
Lecania gerlachei (Vain.) Darb.
Lecanora polytropa (Hoffm.) Rabenh.
Lecidea cancriformis C.W. Dodge and G.E. Baker
Lecidella carpathica Körb.
Massalongia carnosa (Dicks.) Körb.
Ochrolechia frigida (Sw.) Lynge
Pannaria austro-orcadensis Øvstedal
Pertusaria excudens Nyl.
Physcia caesia (Hoffm.) Fürnr.
Physcia dubia (Hoffm.) Lettau
Physconia muscigena (Ach.) Poelt
Placopsis contourtuplicata I. M. Lamb
Porpidia austrosheltandica Hertel
Pseudophebe pubescens (L.) M. Choisy
Psoroma cinnamomeum Malme
Psoroma hypnorum (Vahl) Gray
Ramalina terebrata Hook f, & Taylor
Rhizocarpon geographicum (L.) DC.
Rhizoplaca aspidophora (Vain.) Redón
Rhizoplaca melanopithalma (Ram.) Leuckert & Poelt
Rinodina olivaceobrunnea C.W. Dodge & G. B. Baker
Sphaerophorus globosus (Huds.) Vain.
Stereocaulon alpinum Laurer
Tephromela atra (Huds.) Hafellmer ex Kalb
Tremolecia atrata (Ach.) Hertel
Turgidosculum complicatulum (Nyl.) J. Kohlm. & E. Kohlm
Umbilicaria antarctica Frey & I. M. Lamb
Umbilicaria decussata (Vill.) Zahlbr.
Usneaantarctica Du Rietz
Usnea aurantiaco-atra (Jaq.) Bory
Xanthoria candelaria (L.) Th. Fr.
Xanthoria elegans (Link) Th. Fr.
Mosses
Andreaea depressinervis Cardot
Andreaea gainii Cardot
Andreaea regularis Müll. Hal.
Bartramia patens Brid.
Bryum argenteum Hedw.
Bryum orbiculatifolium Cardot & Broth.
Bryum pseudotriquetrum (Hedw.) C.F. Gaertn. et al.
Ceratodon purpureus (Hedw.) Brid.
Chorisodontium aciphyllum (Hook. f. & Wils.)
Dicranoweisia brevipes (Müll. Hal.) Cardot
Dicranoweisia crispula (Hedw.) Lindb. Ex Milde
Ditrichum hyalinum (Mitt.) Kuntze
Ditrichum levis-smithii Ochyra
Encalypta rhaptocarpa Schwägr.
Hennediella antarctica (Ångstr.) Ochyra & Matteri
Notoligotrichum trichodon (Hook. f. Wils.) G. L. Sm.
Pohlia drummondii (Müll. Hal.) A. K. Andrews
Pohlia nutans (Hedw.) Lindb.
Pohlia wahlenbergii (Web. & Mohr) A. L. Andrews
Polytrichastrum alpinum (Hedw.) G. L. Sm.
Polytrichum strictum Brid.
Racomitrium sudeticum (Funck) Bruch & Schimp.
Sanionia georgico-uncinata (Müll. Hal.) Ochyra & Hedenäs
Sanionia uncinata (Hedw.) Loeske
Schistidium antarctici (Card.) L. I. Savicz & Smirnova
Syntrichia filaris (Müll. Hal.) Zand.
Syntrichia princeps (De Not.) Mitt.
Syntrichia saxicola (Card.) Zand.
Warnstorffia sarmentosa (Wahlenb.) Hedenäs

Liverworts
Barbilophozia hatcheri (A. Evans) Loeske
Cephalozia badia (Gottsche) Steph.
Cephaloziella varians (Gottsche) Steph.
Herzogobryum teres (Carrington & Pearson) Grolle
Lophozia excisa (Dicks.) Dumort.
Pachyglossa disstifidolia Herzog & Grolle

Algae
Prasiola crispa (Ligtf.) Menegh.

Flowering plant
Deschampsia antarctica Desv.
ANNEX II. Maps

Map 1. Location of Narębski Point (♀) in relation to King George Island and the existing protected areas (ASMA, ASPAs, HSMs)
<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
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<td>58°47'01.31&quot;W</td>
<td>62°14'00.86&quot;S</td>
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<td>58°45'20.71&quot;W</td>
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</table>

Map 2. Boundary of the ASPA
Map 3. Distribution of bird colonies and seal haul-out sites within the ASPA
Map 4. Distribution of plant communities in the ASPA

**Community abbreviations**
UV: unvegetated area
Cr: Crustose lichens
S: Sanionia spp., Pr: Prasiola
Chr: Chorisodontium aciphyllum
A: Andreaea, Us: Usnea spp.
R: Ramalina terebrata
Us-Cr: Usnea-Crustose lichens
R-Cr: Ramalina-Crustose lichens
S-Us: Sanionia-Usnea spp.
Us-A: Usnea-Andreaea
H: Himantormia lugubris
H-Us: Himantormia-Usnea
Us-H: Usnea-Himantormia

**Total coverage of each community (%)**
Cr: 75.2  S: 99.9  Pr: 86.8
Chr: 100  A: 93.8  Us: 95.4
R: 100  Us-Cr: 93.1
R-Cr: 100  S-Us: 98.2
Us-A: 98  H: 100
H-Us: 99.6  Us-H: 98.8
Map 5. Geomorphologic details of the ASPA
Map 6. Access routes to the ASPA
Antarctic Specially Protected Area No 171 (Narębski Point, Barton Peninsula, King George Island): Management Plan

The Representatives,

Recalling Articles 3, 5 and 6 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty providing for the designation of Antarctic Specially Protected Areas and approval of Management Plans for those Areas;
Noting that the Committee for Environmental Protection has recommended that Narębski Point, Barton Peninsula, King George Island, be designated as a new Antarctic Specially Protected Area, and has endorsed the Management Plan for this area annexed to this Measure;
Recognising that this area supports outstanding environmental, scientific, historic, aesthetic or wilderness values, or ongoing or planned scientific research, and would benefit from special protection;
Desiring to designate Narębski Point, Barton Peninsula, King George Island, as an Antarctic Specially Protected Area and to approve the Management Plan for this Area;

Recommend to their Governments the following Measure for approval in accordance with paragraph 1 of Article 6 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty:
That:
1. Narębski Point, Barton Peninsula, King George Island, be designated as Antarctic Specially Protected Area No 171; and
2. the Management Plan which is annexed to this Measure be approved.
부록 9. 외교통상부 고시('09.5)

외교통상부 고시 제2009-1호

남극특별보호구역 고시

「남극활동및환경보호에관한법률」제14조제1항 및 같은 법 시행령 제16조에
의거, 제32차 남극조약협의당사국회의에서 결정한 남극특별보호구역에 대하여
다음과 같이 고시합니다.

2009. 5. 29
외교통상부장관

1. 명칭 : 남극특별보호구역 제171번 “나레브스키 포인트”
   (ASPA no.171 “Narębski Point”)

2. 위치
   ○ 남셰틀랜드군도 킹조지섬 바튼반도
     남위 62°13′40″~62°14′23″, 서경 58°45′25″~58°47′00″
   ○ Barton Peninsula, King George Island, South Shetland Islands
3. 지도

<지도 1> 나레브스키 포인트 (ASPA No. 171) 위치 (위주)와 주변 보호구역

※ ASPA : 남극 특별보호구역
    ASMA : 남극 특별관리구역
    HSM : 남극사적지와 기념물
<지도 2> 나레브스키 포인트(ASPA No.171) 경계

<table>
<thead>
<tr>
<th>위치 측정</th>
<th>경도 측정</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 62°13′53.69″S 58°47′01.31″W</td>
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<td>7 62°13′40.97″S 58°45′35.60″W</td>
<td>NP 62°14′18.17″S 58°46′32.99″W</td>
</tr>
<tr>
<td>8 62°13′55.95″S 58°45′20.71″W</td>
<td></td>
</tr>
</tbody>
</table>
4. 기타사항

○ 나레브스키 남극특별보호구역의 관리계획서(한글/영문)는 외교통상부 남극 홈페이지(www.antarctica.go.kr) 공지사항관에서 열람하실 수 있으며, 자세한 사항은 외교통상부 국제법규과(Tel. 2100-7199) 및 환경부 지구환경담당관실(Tel. 2110-6560)로 문의하시기 바랍니다.
서론

나레브스키 포인트(Narębski Point)는 킹조지섬(King George Island) 바튼반도(Barton Peninsula) 남동 해안에 위치하고 있으며, 남위 62°13'40" ~ 62°14'23", 서경 58°45’25" ~ 58°47’00"에 자리한다. 북쪽과 동쪽 경계의 산봉우리와, 해안선으로 이루어진 남서쪽 경계를 따라 쉽게 구분되는 지역이다.

해당 지역은 독특한 지형으로 인해 경관이 수려하며 육상생태계가 다양하고 복잡하여 육상생물군집을 연구하기에 아주 좋은 곳이다. 특히, 이끼와 지의류가 넓은 지역에 분포하고 있다. 가장 두드러지는 식생은 Usnea–Himantormia가 주종을 이루는 지의류(lichens)와 선류(moss) 군락이다. 현존하는 식생으로는 남극현화식물 1종(‘07년 현재까지 남극에서는 고유현화식물 2종만이 발견되었음), 지의류 51종, 선류 29종, 태류(liverwort) 6종, 조류(鳥類) 1종이 있다.

또 하나의 주요한 특징은 2900쌍의 턱끈펭귄(킹조지섬 최다 개체수)과 1700쌍의 젠투펭귄이 이 지역에서 서식하고 있다는 점이다(Kim, 2002). 이 지역에는 또한 12종의 조류(鳥類)(번식조류 7종, 비번식조류 5종)가 서식하고 있다. 이들 중, 번식조류는 갈색도둑갈매기(Catharacta lombergi), 남극도둑갈매기(Catharacta maccormicki), 남방큰재갈매기(Larus dominicanus), 남극제비갈매기(Sterna vittata), 윌슨바다제비(Oceanites oceanicus), 칼집부리물떼새(Chionis alba)와 남방큰풀마갈매기(Macronectes giganteus) 등 7종이다.

이 지역에는 또한 호수와 개천 등으로 이루어진 집수계(集水界)가 있으며 이 곳에는 다양한 종이 복합적으로 얽혀있는 미생물과 조류(藻類) 집합체가 흔히 발견된다. 이러한 담수자원은 지역 내 다양한 생명체들에 필수적인 것이다. 식생분포지역의 복잡성과 함께 고도의 생물다양성을 내포하고 있는 육상 식생은 본 지역의 보호 가치를 한층 높이고 있다.

본 지역을 남극특별보호구역으로 지정하고자 하는 주된 이유는 인간의 간섭으로부터 이 지역의 생태학적, 과학적, 미학적 가치를 보호하고자 하는 것이다. 나레브스키 포인트에 서식하고 있는 다양한 생물종과 군집을 지속적으로 보호하고 모니터링함으로써 적절한 지역적, 세계적 종 보전 전략 수립에 기여하는 한편, 다른 지역들과의 비교연구를 위한 정보도 제공하게 될 것이다.

1. 보호대상 가치에 대한 서술

나레브스키 포인트는 이 지역의 뛰어난 환경적 가치를 보호하고, 현재 진행 중이거나 계획 중인 과학 연구를 촉진하기 위해 남극특별보호구역으로 지정되었다.

이 지역은 육상생물군집 연구를 위한 과학적 가치가 매우 높은 곳이다. 펭귄서식지에 대한 모니터링을 포함한 과학 연구는 1980년대 초반 이래로 여러 국가에서 시행되어왔다. 이들 연구의 결과를 통해 이 지역은 특히 지구 온난화와 인간 활동의 영향과 관련한 비교지역으로서의 잠재적 가치가 있는 것으로 밝혀졌다.

동 지역의 독특한 지형은 풍부하고 다양한 동식물상과 어우러져 특별한 심미적 가치를 지닌다. 무엇보다도 산봉우리들, 특히 최남단의 봉우리들이 장대한 경관을 이루고 있다.

상기 이유로 동 지역은 보호되어야 하며 식생, 조류군집, 지질학 및 지형학 연구를 포함한 모니터링 연구 외에는 인간 활동에 의한 간섭을 최소화해야 할 것이다.

2. 목표 및 목적

나레브스키 포인트의 관리 목적은 아래와 같다.

- 해당 지역에 대해 인간에 의한 불필요한 교란을 차단함으로써 지역의 가치가 손상되거나 실질적인 위험에 노출되는 것을 방지
- 다른 지역에서는 수행할 수 없는 과학적 연구 및 동 지역을 대상으로 하는 장기적 생물학 연구의 지속적 수행을 허용
- 동 지역의 심미적, 과학적 가치의 보호

3. 관리 활동

지역의 가치를 보호하기 위해 아래와 같은 관리 활동을 수행한다.
동 지역에 접근하는 사람들은 관리계획 내용을 해당 국가 프로그램 (또는 책임당국)이 진행하는 특별 교육을 받아야 한다.

출입 제한에 대한 내용이 명시되고 위치와 경계가 표시된 표지판을 보호구역 경계선의 적절한 위치에 설치하여야 한다.

동 지역 내 설치되는 모든 표지판 뿐 아니라 과학 기자재 및 표식물은 적절한 상태로 안전하게 유지되어야 한다.

동 지역 내 생물학적 조건은 펭귄 및 기타 조류 군집 계수를 포함하여 적절한 모니터링이 수행되어야 한다.

동 지역이 지속적으로 보호구역으로 지정된 목적에 부합하는지, 유지 및 관리 조치가 적정한지 평가하기 위해 필요한 경우 (최소 5년에 1회) 동 지역을 방문해야 한다.

지역 내에서 운영되는 국가 남극프로그램들은 동 지역 내 활동이 본 관리계획의 목표 및 목적에 부합하는 방식으로 수행되는지 여부에 대해 협의 및 정보교환이 될 수 있도록 해야 한다.

4. 지정 기간
무기한

5. 지도
본 관리계획서 부속서Ⅱ에 지도 1 ~ 6이 첨부되어 있다.

- 지도 1: 콩조지섬 나래브스키 포인트 위치 및 주변 보호구역 위치 (ASPAs, ASMAs, HSMs)
- 지도 2: 남극특별보호구역 경계
- 지도 3: 남극특별보호구역 내 조류 군집 서식처 및 물개 출몰 지점
- 지도 4: 남극특별보호구역 식생도
- 지도 5: 남극특별보호구역 지형도
- 지도 6: 남극특별보호구역 접근경로

6. 해당 지역에 대한 기술
지리적 좌표, 경계표시 및 자연적 특성

나래브스키 포인트는 킹조지섬 바톤반도 남서쪽 해안에 위치한다. 좌표는 남위 62°13’40" ~ 62°14’23", 서경 58°45’25" ~ 58°47’00"이다. 경계는 북쪽과 동쪽의 산지와 남서쪽 해안선으로 이루어진다. 남서쪽 경계는 독특한 지형으로 인해 쉽게 구분이 가능하다. 보호구역은 조간대를 제외한 내부 육상 지역만을 포함한다. 지역 넓이는 약 1 km²이다.

동 지역은 동식물상이 풍부하며, 일부 종은 아주 번성하고 있는데 특히 지의류 및 선태류가 해당지역을 넓게 덮고 있다. 또한 턱끈펭귄과 젠투펭귄이 다수 서식하고 있으며, 남방큰풀매기 둥지를 비롯하여 7종의 조류가 번식하고 있다. 지질의 상이함과 암석의 조개질의 차이로 인해 헌성된 지형의 기복이나 다양한 해안의 형태는 해당 지역을 넓게 덮고 있는 식생과 어우러져 남극 환경 내에서 보기 드문 아름다운 경관을 만들어 내고 있다.

기후

지역의 기상 자료는 나래브스키 포인트 북동쪽 2km지점에 위치한 세종기지의 관측 자료 (1998–2007)에서 수집하였다. 기후는 강한 해양성 기후 영향으로 습하며 비교적 온난하다. 연평균 기온은 -1.8 °C (최고 9.8°C, 최저 -23.1°C), 상대습도는 89%, 총 강수량은 597.2mm, 운량은 6.8 Octas이다. 월평균 풍속은 7.1m/s (일평균 최고 37.6m/s) 이며, 연중 주풍향은 북서 및 동풍이다. 2007년 블리자드(폭풍설) 발생 일수는 26일이었다(총 지속시간은 190시간).

지질학

바톤반도 최하부의 암층서 단위는 세종층(Yoo et al., 2001)으로 이전에는 하부화산암층원으로 분류되었던 것이다. 세종층은 바톤반도 남부 및 남동쪽 절벽에 분포되어 있다(Lee et al., 2002). 세종층은 대부분 남쪽에서 남서쪽 방향의 경사를 보이는 화산쇄설암으로 구성되어 있다. 세종층 위로는 고철질에서 중성의 용암이 이 지역을 포함하여 바톤반도에 널리 분포하고 있다. 이들은 대부분 장석 및 단사취석 반정이 있는 현무암질 안산암 또는 안산암이며 드물게 괴상의 안산암도 나타난다. 두꺼운 리필리응회암층이 용암 사이에 분포하는 경우도 있다. 고철질 암맥 들이 반도 남쪽 해안을 따라 세종층을 관입하고 있으며, 나래브스키 포인트도 이 암맥들 중 하나이다. 바تون반도의 토양은 기반암 유형에 따라 4가지로 구분할 수 있는데, 화강암 토양, 현무암질안산암, 리필리응회암과 세종층 이다. (Lee et al., 2004). 토양의 경우 조류 서식지 근처를 제외하고는 일반적으로 유기물질과 영양소가 부족하다.
펭귄

턱끈펭귄(Pygoscelsis antarctica)과 젠투펭귄(Pygoscelsis papua)은 나레브스키 포인트의 바위가 많은 비탈이나 언덕 능선에 집단으로 서식한다.


젠투펭귄의 번식 개체수는 1986/87년 556쌍에서 지속적으로 증가했으며, 2006/07년 총 1,719 쌍이 번식하였다(도표1 참조). 젠투펭귄은 10월 중순 산란을 시작하며 10월말 집중적으로 산란한다. 포란기간은 33~40일이며 12월 초에 부화한다(Kim, 2002).

기타 조류(鳥類)

동 지역에는 갈색도둑갈매기(Catharacta lomnbergi), 남극도둑갈매기(Catharacta maccormicki), 남방큰제비갈매기(Larus dominicanus), 남극제비갈매기(Sterna vittata), 남방큰풀마갈매기(Macronectes giganteus), 월슨바다제비(Oceanites oceanicus), 칼집부리물떼새(Chionis alba) 등 7종의 조류가 번식한다. 또한, 아델리펭귄(Pygoscelis adeliae), 남극가마우지(Phalacrocorax
전위상의 비록갈매기(Sterna antarctica), 브래스필드갈매기(Sterna bransfieldensis), 알락풀마갈매기(Daption capense), 검은배바다제비(Fregatta tropicalis) 등 5종의 비번식 조류가 있다. 표1은 조사지 내에서 관찰된 번식조류의 동지수이다.

갈색도둑갈매기와 남극도둑갈매기는 펭귄의 알과 새끼를 먹이로 하며 일부 도둑갈매기들은 펭귄 번식기에 먹이장소로 펭귄서식지를 차지하기도한다 (Trivelpiece et al., 1980; Hagelin and Miller, 1997; Pezzo et al., 2001; Hahn and Peter, 2003). 이 지역에 동지를 둔 두 종의 도둑갈매기들은 새끼를 키우는데 펭귄 알과 펭귄 새끼를 주 먹이로 하지 않는다. 그러나 2006/07년 이 지역에서 번식한 모든 갈색도둑갈매기 (4쌍)는 펭귄 서식지내에서 먹이를 취한 것으로 관찰됐다.


<table>
<thead>
<tr>
<th>종(Species)</th>
<th>동지수</th>
</tr>
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<tbody>
<tr>
<td>Pygoscelis papua</td>
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<td>Catharacta maccormicki</td>
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<tr>
<td>Larus dominicanus</td>
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<tr>
<td>Sterna vittata</td>
<td>41</td>
</tr>
<tr>
<td>Macronectes giganteus</td>
<td>9</td>
</tr>
<tr>
<td>Oceanites oceanicus</td>
<td>19</td>
</tr>
<tr>
<td>Chionis alba</td>
<td>2</td>
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</tbody>
</table>

[표 1] 조류 종별 추정 동지 수 (2006/07)

식생

바톤 반도에서 결빙되지 않는 지역의 대부분은 비교적 풍부한 식생이 분포하고 있으며 대부분이 은화식물종이다. 이 지역 또한 선태류와 지의류가 널리 분포하고 있다. 가장 두드러진 군락은 *Usnea-Himantormia*가 주종을 이루는 지의류 군락과 *Sanionia-Chorisodontium*가 주종을 이루는 이끼 군락이다. 조류(藻類)군락은 담수녹조류 Prasiola crispa가 주를 이루며 펭귄 서식지 주변에 분포하고 있다. 현존하는 식생은 남극현화식물 1종, 지의류 51종, 선류 29종, 태류 6종, 조류 1종이 있다. 조류의 경우 육안으로 확인 가능한 종만 기록하였다. 이 지역 내에서 남조류 및 균류에 관한 연구가 수행되지 않아 이에 대한 정보는 포함되지 않았다. 상세한 식생 목록은 부속서 I에 기술되어 있다.
6(ii) 보호구역 내 제한구역

없음.

6(iii) 보호구역 내 구조물의 위치

현재 보호구역 내에는 어떠한 구조물도 설치되어 있지 않으며 보호구역에서 남동 해안쪽 100m 떨어진 곳에 피난시설이 위치하고 있다. 남극세종기지(대한민국)는 나레브스키 포인트 북서쪽 2 km에 위치하고 있으며 가장 인접한 주요 시설이다.

6(iv) 인접하고 있는 다른 보호지역의 위치

- ASMA No. 1, 어드미럴티 베이, 콩조지섬, 남셰틀랜드 군도, 북동쪽 8km에 위치
- ASPA No. 125, 필델스 반도, 콩조지섬, 남셰틀랜드 군도, 서쪽 11km에 위치
- ASPA No. 128, 어드미럴티만 서쪽해안, 콩조지섬, 남셰틀랜드 군도, 동쪽 17km에 위치
- ASPA No. 132, 포터 반도, 콩조지섬, 남셰틀랜드 군도, 동쪽 5km에 위치
- ASPA No. 133, 하모니 포인트, 텔슨섬, 남셰틀랜드 군도, 남서쪽 25 km에 위치
- ASPA No. 150, 아들리섬, 콩조지섬, 남셰틀랜드 군도, 서쪽 9km에 위치
- ASPA No. 151, 라이온스 럼프, 콩조지섬, 남셰틀랜드 군도, 북동쪽 35km에 위치
- HSM No. 36, 포터 코브에 Eduard Dallmann이 세운 기념패 복제품, 콩조지섬, 동쪽 5km에 위치
- HSM No. 50, 1976년 상륙한 연구선 ‘Progessor Siedlecki’ 기념패, 필델스 반도, 콩조지섬, 서쪽 10km에 위치
- HSM No. 51, 1979년 1월 19일 사망한 다큐멘터리 필름 제작자 W. Puchalski 무덤, 북동쪽 18km에 위치
- HSM No. 52, 1985년 2월 20일 중국 Great Wall 기지 설립 기념비, 필델스 반도, 콩조지섬, 서쪽 10km에 위치
- HSM No. 82, 남극조약 조인국 및 국제극지년(IPYs) 기념 조형물 아래에 설치된 기념패, 서쪽 12km에 위치
7. 출입 조건
환경보호에 관한 남극조약 의정서 제5부속서 제7조에 지정된 해당 국가의 허가당국이 발급한 허가증이 있는 경우를 제외하고는 보호구역 출입이 금지된다.

보호구역 출입 허가증 발행 조건은 아래와 같다:

- 다른 지역에서 수행할 수 없는 과학적 연구 수행의 경우에만 발급;
- 보호구역의 자연생태계를 교란시키지 않는 활동으로 한정;
- 관리계획과 일치하는 활동에 한정;
- 관리계획의 목적에 합치하는 관리 활동;
- 보호구역 내에서 허가증 또는 승인된 사본을 소지해야 함;
- 허가증에 명시된 허가기간 내 유효한 허가증이어야 하며 허가당국이 명시되어 있어야 함;
- 허가증에 명시된 허가당국에 보호구역 출입에 대한 보고서를 제출해야 함.

7(i) 보호구역 출입 및 보호구역 내/외의 이동

- 보호구역은 해안선을 따라 도보로 또는 닻을 사용하지 않는 소형 선박을 이용해 접근할 수 있다. 접근 경로와 상륙 장소는 지도 6 참조.
- 도보 이동 시 동식물에 대한 교란을 최소화하기 위해 주의해야 하며, 되도록이면 눈 위 또는 암석 지대 위로 걷되 지의류를 훼손하지 않도록 한다.
- 보호구역 내에서 어떤 종류의 차량도 이용할 수 없다.

7(ii) 시간과 장소에 대한 제한을 포함, 보호구역 내 수행되는 활동

- 다른 지역에서 수행할 수 없으며 보호구역 생태계를 교란하지 않는 과학 연구 활동
- 모니터링을 포함한 필수적 관리활동
• 번식기 중(10월 1일~3월 31일)에는 번식을 교란시킬 수 있는 동력을 이용한 기구 사용과 소음 발생 활동은 엄격히 제한된다.

7(iii) 구조물의 설치, 변경 및 제거
• 허가증에 명시된 과학 또는 관리 활동을 제외하고 보호구역 내에 구조물 또는 장비를 설치할 수 없다.
• 보호구역 내에 설치한 장비 및 과학연구기기는 허가국, 관리자, 설치일자 및 철거일자가 명시된 허가증을 받아야 한다. 모든 장비는 보호구역에 대해 오염 위험 또는 동식물에 대한 교란 위험이 최소화된 것이어야 한다.
• 허가증 만료 후, 설치물의 혼적이 없어야 한다. 만일 과학연구가 허가기간 중 완료되지 않아 장비가 원위치에 남아있어야 하는 경우, 허가증의 유효기간을 연장해야 한다.

7(iv) 야영장의 위치
• 비상시를 제외하고 보호구역 내 야영은 금지된다. 그러나 필요한 경우, 보호구역 동쪽 경계 근처 해안에 위치한 피난 시설의 사용을 강력히 권장한다 (지도 2 참조).

7(v) 보호구역으로 반입이 제한되는 물질 및 생물
• 살아있는 동식물 반입은 금지된다.
• 요리되지 않은 가금류, 생과일, 체소류의 반입은 금지된다.
• 다른 기지를 포함한 다른 남극 지역 및 남극 외 지역의 토양으로부터 미생물 또는 식생의 반입 위험을 최소화하기 위해, 보호구역 내에서 사용할 실험용 및 기타장비들(특히 샘플링 장비 및 표지마커)은 보호구역 내 반입되기 전에 완전히 세척해야 한다.(모든 육상 활동은 Environmental code of conduct for terrestrial scientific field research in Antarctica에 따라 수행한다).
• 제조제 및 살충제는 보호구역 반입이 금지된다. 허가증에 따라 반입된 다른 화학제품은 허가된 활동 종류와 함께 보호구역에서 반출해야 한다. 화학물질의 사용 및 유형은 다른 연구자들을 위해 가능한 한 명확하게 문서화해야 한다.
• 연료, 식량 및 기타 물질은 보호구역 내에 보관할 수 없다. 만일 허가된 활동을 위한 필수
적인 목적을 위한 경우에는 야생동물이 접근할 수 없도록 안전하게 보관하는 경우에 한하여 가능하다.

7(vi) 토착 동식물 포획 및 간섭

- 허가되지 않은 포획 및 유해한 간섭은 금지되며, 최소한 SCAR Code of Conduct for the use of Animals for Scientific Purposes in Antarctica 규정을 따르도록 해야 한다.
- 포획 또는 유해한 간섭에 대한 정보는 남극조약 정보교환 시스템을 통해 교환할 수 있다.

7(vii) 허가증 소지자에 의한 보호구역 내에서의 수집 및 제거

- 허가증 소지자에 의해 보호구역 내로 반입되지 않은 것의 수집 또는 제거는 허가증에 따라 이루어져야 하며, 과학적 또는 관리 필요에 따라 최소한의 수집 및 제거에 한정되어야 한다.
- 허가증 소지자에 의해 또는 허가에 의해 반입되지 않은 것으로서, 인간으로부터 기인하며 보호구역의 가치를 훼손하는 것은 제거되어야한다. 단 제거하는 것이 현재 상태를 유지하는 것보다 큰 영향을 미치는 경우는 제외한다. 다만 이런 경우, 적절한 당국에 통보해야 한다.

7(viii) 폐기물 처리

- 인간의 배출물을 포함 모든 폐기물은 보호구역에서 반출되어야한다. 인간의 배설물은 남극 조약 환경보호에 대한 의정서 부속서 III 제 5조에 따라 바다에 폐기 처리할 수도 있다.

7(ix) 관리계획의 목적을 달성하기 위한 필요 조치

- 과학적 분석을 위해 소량의 샘플 채취 활동을 포함한 생물학적 모니터링 및 지역 조사 활동 수행, 표지판 설치 및 보수, 또는 보호 조치 수행을 위한 보호구역 출입 시 허가증이 부여될 수 있다.

7(x) 보고 의무

발급된 허가증 소지자 중 책임자는 보호구역 내에서 수행된 활동에 대한 보고서를 제출해야 한다. 이 보고서에는 SCAR에서 제시한 방법 보고서 외벽에 명시된 정보가 포함되어야 한다. 동 보고서는 허가증에 명시된 허가 당국에 가능한 신속하게 제출되어야 하며, 보호구역 방문 후 최장
6개월 이내에 제출해야 한다. 방문보고서에 대한 기록은 영구 보관되며 요청이 있는 경우 관심 있는 당사국, SCAR, CCAMLR, COMNAP등이 보고서에 접근할 수 있도록 해야 하며, 보호구역의 적절한 관리를 보장하기 위하여 필요한 인간 활동 정보를 제공하여야 한다.
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부속서 1. 지역내 식물종 목록

분류군 (Taxa)

지악류 (Lichens)

* Acrospora austrosthetlandica (C.W. Dodge) Øvstedal
* Bryoria sp.
* Buellia anisomera Vain.
* Buellia russa (Hue) Darb.
* Caloplaca lucens (Nyl.) Zahlbr.
* Caloplaca sublobulata (Nyl.) Zahlbr.
* Cetraria aculeata (Schreb.) Fr.
* Cladonia borealis S. Stenroos
* Cladonia chlorophaea (Flörke ex Sommerf.) Spreng.
* Cladonia furcata (Huds.) Schaer.
* Cladonia gracilis (L.) Willd.
* Cladonia merochlorophae var novochlorophae Sipman
* Cladonia pleurota (Flörke) Schaer.
* Cladonia pyxidata (L.) Hoffm.
* Cladonia scabriuscula (Delise) Nyl.
* Haematomma erythromma (Nyl.) Zahlbr
* Himantormia lugubris (Hue.) I. M. Lamb
* Huea coralligera (Hue) C. W. Dodge & G. E. Baker
* Lecania brialmontii (Vain.) Zahlbr.
* Lecania gerlachei (Vain.) Darb.
* Lecanora polytropa (Hoffm.) Rabenh.
* Lecidea cancriformis C.W. Dodge and G.E. Baker
* Lecidella carpathica Körb.
* Massalongia carnosa (Dicks.) Körb.
* Ochrolechia frigida (Sw.) Lynghe
* Pannaria austro-orcadensis Øvstedal
* Pertusaria excudens Nyl.
* Physcia caesia (Hoffm.) Fürmr.
* Physcia dubia (Hoffm.) Lettau
* Physconia muscigena (Ach.) Poelt
* Placopsis contourtuplicata I. M. Lamb
Porpidia austrosheltandica Hertel
Pseudophebe pubescens (L.) M. Choisy
Psoroma cinnamomeum Malme
Psoroma hypnorum (Vahl) Gray
Ramalina terebrata Hook f. & Taylor
Rhizocarpon geographicum (L.) DC.
Rhizoplaca aspidophora (Vain.) Redón
Rhizoplaca melanophthalma (Ram.) Leuckert & Poelt
Rinodina olivaceobrunnea C.W. Dodge & G. B. Baker
Sphaerophorus globosus (Huds.) Vain.
Stereocaulon alpinum Laurer
Tephromela atra (Huds.) Hafellmer ex Kalb
Tremolecia atrata (Ach.) Hertel
Turgidosculum complicatum (Nyl.) J. Kohlm. & E. Kohlm
Umbilicaria antarctica Frey & I. M. Lamb
Umbilicaria decussata (Vill.) Zahlbr.
Usnea antarctica Du Rietz
Usnea aurantiaco-atra (Jacq.) Bory
Xanthoria candelaria (L.) Th. Fr.
Xanthoria elegans (Link) Th. Fr.

선류 (Mosses)
Andreaea depressinervis Cardot
Andreaea gainii Cardot
Andreaea regularis Müll. Hal.
Bartramia patens Brid.
Bryum argenteum Hedw.
Bryum orbiculatifolium Cardot & Broth.
Bryum pseudotriquetrum (Hedw.) C.F. Gaertn. et al.
Ceratodon purpureus (Hedw.) Brid.
Chorisodontium aciphyllum (Hook. f. & Wils.)
Dicranoweisia brevipes (Müll. Hal.) Cardot
Dicranoweisia crispa (Hedw.) Lindb. Ex Milde
Ditrichum hyalinum (Mitt.) Kuntze
Ditrichum lewis-smithii Ochyra
Encalypta rhaptocarpa Schwägr.
Hennediella antarctica (Ångstr.) Ochyra & Matteri
Notoligotrichum trichodon (Hook. f. Wils.) G. L. Sm.
Pohlia drummondii (Müll. Hal.) A. K. Andrews
Pohlia nutans (Hedw.) Lindb.
Pohlia wahlenbergii (Web. & Mohr) A. L. Andrews
Polytrichastrum alpinum (Hedw.) G. L. Sm.
Polytrichum strictum Brid.
Racomitrium sudeticum (Funck) Bruch & Schimp.
Sanionia georgico-uncinata (Müll. Hal.) Ochyra & Hedenäs
Sanionia uncinata (Hedw.) Loeske
Schistidium antarctici (Card.) L. I. Savicz & Smirnova
Syntrichia filaris (Müll. Hal.) Zand.
Syntrichia princeps (De Not.) Mitt.
Syntrichia saxicola (Card.) Zand.
Warnstorffia sarmentosa (Wahlenb.) Hedenäs

태류 (Liverworts)
Barbilophozia hatcheri (A. Evans) Loeske
Cephaloziadbadia (Gottsche) Steph.
Cephaloziellavarians (Gottsche) Steph.
Herzogobryumteres (Carrington & Pearson) Grolle
Lophoziaexcisa (Dicks.) Dumort.
Pachyglossadisstifidolia Herzog & Grolle

조류 (Algae)
Prasiola crispa (Ligtf.) Menegh.

현화식물 (Flowering plant)
Deschampsia antarctica Desv.

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부속서 II. 지도

[지도 1] 김조지섬 나레브스키 포인트 위치(●)와 주변 보호구역 위치
[지도 2] 남극특별보호구역 경계

<table>
<thead>
<tr>
<th>위도</th>
<th>경도</th>
<th>위도</th>
<th>경도</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 62°13′53.69″S 58°47′01.31″W</td>
<td>9 62°14′00.86″S 58°45′20.85″W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 62°13′50.48″S 58°46′52.37″W</td>
<td>10 62°14′06.96″S 58°45′30.62″W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 62°13′52.85″S 58°46′45.84″W</td>
<td>11 62°14′09.73″S 58°45′33.08″W</td>
<td></td>
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<tr>
<td>4 62°13′52.53″S 58°46′16.62″W</td>
<td>12 62°14′15.30″S 58°45′38.87″W</td>
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</tr>
<tr>
<td>5 62°13′54.18″S 58°46′09.53″W</td>
<td>13 62°14′16.43″S 58°45′50.37″W</td>
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</tr>
<tr>
<td>6 62°13′51.11″S 58°45′50.64″W</td>
<td>14 62°14′24.55″S 58°45′48.00″W</td>
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</tr>
<tr>
<td>7 62°13′40.97″S 58°45′35.60″W</td>
<td>NP  62°14′18.17″S 58°46′32.99″W</td>
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</tr>
<tr>
<td>8 62°13′55.95″S 58°45′20.71″W</td>
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[지도 2] 남극특별보호구역 경계
지도 3] 남극특별보호구역 내 조류 군집 서식처 및 물개 출몰 지점
[지도 4] 남극특별보호구역 식생도
[지도 5] 남극특별보호구역 지형도
지도 6] 남극특별보호구역 접근경로
부록 10. 외교통상부 고시
남극특별보호구역 방문보고서

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<td>13.</td>
<td>보호구역 내에 설치한 표시물, 기계, 기구 또는 기타 반입한 물건에 대한 설명 및 위치</td>
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(일자, 정도 및 위치 명시)
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<td>관리계획을 준수하기 위해 이번 방문기간 동안 행해진 조치:</td>
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| 17. | 보호구역에 대한 인간 영향의 관찰:  
|(이전 방문자들에 의한 영향과 금번 방문에 의한 영향을 구분할 것) |
| 18. | 보호구역의 보호가치가 적절하게 보호되고 있는지 평가: |
| 19. | 이전에 기록된 바 없는 보호구역 내 특이사항 명시: |
| 20. | 보호구역의 가치를 보호하기 위하여 필요한 향후 관리조치에 대한 건의:  
|(구조물이나 표시물 등의 위치 및 상태에 대한 평가 포함) |
| 21. | 보호구역에서 행한 과학연구 및 기타활동 요약: |
| 22. | 첨부된 보호구역 지도 사본 위에 아영지 위치, 육해공 이동경로, 시료채취 지점,  
설치물, 계획적으로 방출된 물질, 모든 영향, 이전에 기록된 바 없는 특이사항 표시: |
| 23. | 기타 의견 및 정보: |

외교통상부장관 귀하

20xx년 월 일

제출자: (인)