

ANNUAL ENVIRONMENTAL INSPECTION REPORT, GOUGH ISLAND NATURE RESERVE, OCTOBER 2003

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New environmental procedures adopted during the 2003 takeover

1. Cardboard, paper and wood are being stored in containers for return to South Africa and will no longer be incinerated on the island.
2. Waste foods which will not break down rapidly in sea water (e.g. meat bones, dried fruit pips) are being stored frozen, along with waste poultry produce, for disposal in South Africa.
3. Waste food is only being disposed of into the sea during the hours of darkness, to avoid attracting scavenging birds.
4. The voluntary activities to be undertaken by the Gough 49 Team Conservation Officer (Mr Norman Leveridge) were reviewed and expanded (Appendix I).

Recommendations for action

1. A dedicated two-person team with the requisite fixed-rope skills to be appointed by the Tristan Government should be based on Gough for a minimum of two weeks in the early summer (prior to flowering) to continue the *Sagina* eradication programme on an annual basis until eradication is finally achieved. To this end the boiler continues to need repair and herbicides need to be supplied. The South African authorities should support this activity by providing accommodation and meals at the base free of charge. **Action:** GINRAC & DEAT.
2. An Environmental Impact Assessment should be undertaken during the 2004 takeover to decide on a course of action for the removal or securing of the deteriorating wooden and polystyrene-filled helicopter platform. **Action:** GINRAC, with advice from DEAT & NDPW.
3. The principle of using island-dedicated containers should be extended to include those used by the National Department of Public Works (NDPW). Reusable 40-l plastic "tote bins" and ship's nets, slings and ropes used in offloading need thorough cleaning and inspection for propagules between all voyages. **Action:** DEAT & NDPW.

4. Following an assessment of feasibility during the 2004 takeover, incineration of all waste materials ashore at Gough should finally be halted and the incinerator and its wooden and concrete platform removed. **Action:** GINRAC & DEAT.
5. Irradiation of potatoes supplied to the island should be considered, both to avoid the further introduction of growing plants and invertebrates, and to lengthen their shelf life. Infested food must be sealed and frozen for disposal in South Africa and not be disposed of on the island. **Action:** DEAT.
6. Restrictions on recreational fishing from South African supply vessels and from the shore within the Gough Island Nature Reserve should be considered as part of the revision of the reserve's management plan. **Action:** GINRAC.
7. Consideration should be given to removing the following redundant structures in the vicinity of the base: external lights and supports to helipad and associated cabling and control box; concrete base of removed diesel tank and the pump hut at "Joe Roos"; crane lookout and associated steps and railings; structures (ladder, etc.) on Archway Rock; redundant poles at Blechnum Bridge; deteriorating "welcome" signs near helipad; various poles around base; and the incinerator and associated platforms (see 4 above). Extreme care will be needed to avoid spreading *Sagina* from infested sites **Action:** DEAT.
8. All outside doors without self-closing devices should be fitted with them to reduce the risks of light pollution at night. **Action:** DEAT.
9. No further rehabilitation attempts of seals and penguins should be made from the *S. A. Agulhas* and South African organizations which attempt to rehabilitate marine animals (e.g. the Western Cape SPCA and the SANCCOB Foundation) should be informed/reminded of this and the reason for it. **Action:** DEAT.

Voyage schedule

After a three-week delay to the original sailing schedule, the m.v. *S. A. Agulhas* sailed from Cape Town on 23 September, arriving at Tristan da Cunha on 28 September to off-load passengers and cargo. The vessel sailed from Tristan on the evening of 1 October, arriving at Gough Island the next afternoon, when shore-based personnel went ashore by helicopter. Following a return to Tristan for a medical examination and the planned weather buoy run, the ship returned to Gough on 13 October. After back-loading, the ship left for Tristan on 15 October, arriving there the next day. After loading passengers and cargo, the vessel departed for Cape Town in the late afternoon of 17 October, docking in the morning of 23(?) October.

Activities prior to sailing

Because of my late return from Marion Island on 19 September, not all the usual pre-voyage inspections could be carried out, neither could I attend the cargo planning meeting on 9 September, although I was able to attend the earlier general planning meeting for the voyage on 7 August when I brought up various environmental matters

in relation to the forthcoming inspection. However, I inspected the DEAT Antarctic & Islands Directorate's Paarden Eiland stores on 22 September. The stores, including the clothing section, were in a clean and tidy condition, and, for once, no cobwebs were observed. The rodent bait stations had been inspected on 2 and again on 15 September. It was observed that the exteriors of orange containers were being washed down prior to their loading on an open truck for removal to the ship. Empty containers still to be packed had clean interiors.

Extermination certificates for rodents dated 22 September 2003 were supplied for the premises of Lihou Agency, Table Bay Marine and Thrutainers Container Depot (also on 12 September), showing that the premises were free of signs of infestations by rodents and had then been treated with Racumin. Further, two crates at the S.A. Container depot were fumigated with Phostoxin for three days against pests over the period 19-22 September and found to be free of rodents on completion. Copies of these certificate are attached as Appendix II. No certificates were available for the *S.A. Agulhas* or for the NDPW stores. However, both facilities had been inspected and suitably treated prior to the August 2003 voyage to Marion Island.

On 22 and 23 September the ship was inspected for the presence of rat guards. Guards were in place on all hawsers, but as before previous voyages in recent years, were deemed to be inadequate in halting the movements of rodents. Cone-shaped guards are once again recommended.

An illustrated environmental lecture was given to members of the new Gough 49 team on 22 September.

Activities aboard ship prior to arriving at Gough Island

An environmental talk was given to all personnel going ashore at Gough Island and to interested Tristan passengers on 26 September. Aspects of the island's management plan were outlined and information given on such matters as alien quarantine, waste treatment, black-out procedures, danger of fires, avoiding disturbance of wildlife, path erosion, etc. Unfortunately, a short video tape on Gough and its wildlife brought along to illustrate the talk broke before it could be shown. A Group Leaders' meeting was held aboard ship on 28 September, when *inter alia* environmental matters were discussed.

After the ship had sailed from Cape Town I learnt that it was carrying a young Subantarctic Fur Seal *Arctocephalus tropicalis*, with the intention of releasing it in Gough waters, following a request from the South African SPCA. No prior approval for this proposed action had been obtained from the Tristan authorities. I pointed out that its release would be in contravention of both the island's management plan (paragraph 5.1.2; p. 36) and a SCAR (Scientific Committee on Antarctic Research) standing resolution adopted to avoid the risk of introducing diseases and to which South Africa is a consenting party. The problem was put to the Tristan Administrator telephonically prior to arrival at Tristan da Cunha who subsequently replied that the seal may not be released within the Tristan-Gough Exclusive Economic Zone (EEZ, within 200 nautical miles). I requested that the seal be released at sea prior to the ship arriving within the EEZ, but in the event the seal was kept aboard the vessel and only

released on the southern buoy run on 7 October at 40° 08.8'S, 14° 25.1'W, well outside the EEZ. No objection to the seal being aboard the vessel while it was within Tristan-Gough EEZ waters was received from the Administrator. **No further such well-meaning rehabilitation attempts of seals and penguins should be made from the S. A. Agulhas and such South African organizations which attempt to rehabilitate marine animals (e.g. SPCA and the SANCCOB Foundation) should be informed/reminded of this and the reason for it by the South African authorities.**

Telephonic approval was received from the Administrator for both recreational fishing from the vessel within Tristan and Gough waters and for the placement of food caches in the upper reaches of Gough by helicopter. On arrival at Tristan a license was received from the Head of Natural Resources (Appendix III), allowing for fishing for consumption aboard the vessel. Fishing is discussed in detail below.

At Tristan da Cunha I went ashore on three consecutive days and met both the Administrator, Mr Bill Dickson, and the Head of Natural Resources, Mr James Glass for brief discussions pertaining to conservation issues at Gough.

A “boot-washing ceremony” was held aboard the vessel on 2 October prior to arriving at Gough. All (n = 38) personnel expecting to go ashore at Gough (including day visitors) attended. Soles of all footwear was scrubbed in a bleach (sodium hypochlorite) solution and protective clothing, back packs and camera/video bags carefully inspected for propagules (invertebrates, plant material). No invertebrates and very little plant material were found. It was pleasing that boots and protective clothing issued by DEAT appeared propagule free.

Prior to arriving at Gough on 2 October the helicopter hangar was carefully inspected with the aid of a torch for propagules. A single live “Daddy Long Legs”-type spider was briefly seen on a piece of equipment but escaped capture. Prior to flying operations at Gough the helicopter wheels were scrubbed with a bleach solution and its interior inspected.

A request was made on the outward voyage that all ship’s nets, ropes and slings that would be used in cargo operations at Gough be first cleaned by washing. **Reusable 40-l plastic “tote bins” and ship’s nets, slings, and ropes used in offloading need thorough cleaning and inspection for propagules between all voyages.**

Activities ashore at Gough Island

I accompanied the inspection party which went ashore on the first helicopter flight on the afternoon of 2 October. The base and its immediate surrounds were found to be clean and tidy. However, it was noted that the old wooden helicopter platform was “leaking” polystyrene particles at two places and that a number of wooden planks showed signs of rotting. Much of the platform is covered with alien grasses (mostly *Poa annua*). **An Environmental Impact Assessment should be undertaken during the 2004 takeover to decide on a course of action for the removal or securing of the deteriorating platform.**

Following my advice, landing sites for containers were chosen on the wooden helicopter platform, on mainly alien grasses beside the freezers and the upper-air and maintenance buildings, on a catwalk beside the inflammables store and on the concrete platform adjacent to the crane. Containers were flown in by helicopter on 3 October. All containers/loads were inspected on their arrival ashore and as they were unpacked over the next few days. All appeared clean and no propagules or dirt were found. All DEAT orange containers were marked "G", denoting they were dedicated for use at Gough only. **The principle of using island-dedicated containers should be extended to include those (blue containers) used by the National Department of Public Works (NDPW) which are not so marked or used.**

On 4 October a total of 77 000 l of diesel fuel was pumped ashore. Sea conditions remained exceptionally calm during the whole operation and no leaks were discerned or reported ashore or from the ship. As is usual practice, the hose was first tested for leaks under air pressure and ship's boats patrolled the hose line during the whole pumping operation.

On 5 October the shore crane's 12-m jib arm was removed to the ship and replaced by a longer (15-m) one.

On 5 October I guided a four-person camping party to the islands' interior. An orange container packed with camping food was placed in Goneydale and two plastic boxes were placed at Waterfall Camp by helicopter. Interiors and exteriors of these containers were checked and found to be clean prior to their packing at the base on 4 October. Over the period 5-7 October counts were made of Tristan Albatross *Diomedea dabbenena* chicks in the Albatross Valley, Spire Crag and Goneydale count areas. Poor visibility due to mist halted a complete count, which will be completed after the takeover. Eighty-three Tristan Albatross chicks were banded in Goneydale. Chicks in Tarn Moss, Albatross Valley and Goneydale were inspected for signs of wounds putatively caused by introduced House Mice *Mus musculus*: only a few with healed wounds were found, nearly all on Tarn Moss. Two nights were spent camping at Waterfall Camp and one night in Goneydale. The route out was via the Goneydale river and the path was found to be well overgrown and not recognizable for much of its length. This path was last well used in 2000/2001.

In addition, the upper section of the Southern Giant Petrel *Macronectes giganteus* breeding colony below Low Hump was visited, and surveyed (117 incubating/brooding birds) and 65 incubating birds banded and 12 recaptured. Blood was collected under permit from 15 incubating birds for genetic study.

During the upland survey the only artifact found was a plastic bottle cap in Albatross Valley, most likely regurgitated by an Tristan Albatross. The site of the container previously placed at Waterfall Camp and removed in 2001 was found and photographed: it shows signs of rehabilitation and no alien plants were noticed. However, obvious signs of two-year-old footprints in the vicinity of the container and camp site were still present, showing the sensitivity of the upland vegetation to trampling. Alien plants (*Poa annua* and the Broad-leaf *Dock Rumex obtusifolius*) were observed alongside the river in Goneydale, but no *Sonchus* thistles were seen along the river as in previous years.

On 9 October a visit to Tafelkop was made to band Tristan Albatross chicks and mark their nests (n = 9). Ascent and descent were both made via the “Golden Highway” route, which was found to be little used and not clearly visible in many places, although still deeply incised. The Gough 48 team had undertaken very few walks (see below) and it is thus significant that path recovery by overgrowth appears to be a relatively quick occurrence.

On 9 October the pantry was inspected. Numerous weevils(?), both alive and dead, were found in a plastic box (F62) containing 2.5-kg packs of Snowflake-brand brown bread flour. The box was sealed for return to South Africa and examples collected for identification. One dead weevil(?) was found in box F123 containing 500-g packets of Ouma-brand whole wheat rusks. These foods formed part of the 2002 supply. All eggs supplied were marked as having been irradiated (“radurised”) in South Africa on 19 September 2003 with a “requested minimum dose of 2 kGy” (batch 17321). A total of c. 400 kg of washed potatoes had been supplied in 20-kg pockets and on inspection several pockets were found to be clean of soil and invertebrates. However, all potatoes inspected had commenced sprouting. No other fresh produce (fruits and vegetables) were taken ashore. **Irradiation of potatoes supplied to the island should be considered, both to avoid the further introduction of growing plants and invertebrates, and to lengthen their shelf life.**

On 12 October the 2003 and earlier years’ food supplies that remained were checked in the food store: no invertebrates were found. The Gough 49 team intends to clean and fumigate the pantry with “fumitabs” (Gamma BHC 440g/Kg) prior to restocking it from the food store with new produce. The Gough 48 team reported that the pantry had been checked for weevils in November 2002 and in September 2003. On the latter date Pronutro-brand breakfast cereal infested with weevils was discarded in “Skivvygat”. **In future infested food must be sealed and frozen for disposal in South Africa and not be disposed of on the island.**

On 11 October a “clean-up” of the base surrounds was held. Two waste containers were filled with assorted materials found around and under buildings, as well as from the Blechnum Bridge site, including rotten wood, rusted steel (some items were cut up by blow torch) and plastic items. During the clean-up a pile of sand-filled plastic bags was found showing signs of deterioration. Most of the bags were removed and the exposed sand will be checked throughout the year for any signs of alien plants which will be weeded out and kept for identification (see Appendix I). On 13 October the disused diesel fuel staging tank was removed by helicopter from the “Joe Roos” area and flown to the ship. It had been previously been emptied of its remaining contents into 11 200-l drums which were also then flown to the ship. No leaks occurred at the site which was tidied up subsequently of small items of rubbish, although the tank’s two concrete base supports and adjacent pump hut remain in place. On 13 October all full waste containers were flown to the ship.

The Gough 49’s supply of frozen foods was flown to the base on 13 October in ship’s nets. All loads were inspected on arrival and no propagules were found. Again, no fresh produce was sent ashore.

On 14 October a five-person party flew to the ship to undertake small boat landings on the eastern shore to undertake various wildlife counts and beach debris and alien

plant surveys. Rough sea and strong wind halted any landings, during which time the *S. A. Agulhas* pumped 90 000 l of fuel to the f.v. *Edinburgh* in Quest Bay. No leaks occurred during this operation.

The Atlantic Yellow-nosed Albatross *Thalassarche chlororhynchos* study colony at Transvaal Bay was visited on four occasions during the takeover. A member of the Gough 49 team will continue this long-term (+20-year) study over the 2003/2004 summer.

Food waste treatment and incineration

For many years annual environmental inspection reports have called for the management plan to be implemented in terms of maceration (to <10 mm) of food wastes and for an improved system of incineration of paper, wood and cardboard, without satisfactory resolution.

Because of the imminent revision of the island's management plan, a proposal shortly before the voyage by DEAT to replace the current incinerator (illustrated in the plan) by a larger one with a new concrete base was put on hold. Consequent to a decision by the new team to recycle such "burnables" during the year, it is not now recommended that the incinerator be replaced and that all solid waste products be recycled. **Following an final assessment of feasibility of such recycling during the 2004 takeover, incineration of all waste materials ashore at Gough should be halted and the incinerator and its wooden and concrete platforms removed.**

A recommendation was agreed to by the new team to adopt the current practices at South Africa's base at Marion Island of not dumping "hard" wastes such as meat bones and dried fruit stones/pips and of dumping all food wastes only in the hours of darkness to avoid attracting scavenging birds (as put in place during the takeover). It is considered that the remaining "soft" food wastes will rapidly fragment when dumped in Skivvygat. It is therefore suggested as a consequence that the need for a macerator should be reconsidered in the management plan revision as perhaps no longer necessary. **Waste foods which will not break down rapidly in sea water (e.g. meat bones, dried fruit pips) are being stored frozen, along with waste poultry produce, for disposal in South Africa.**

Light pollution

No bird strikes took place during the takeover. Closure of blinds at night was carried out properly. **It is suggested that all outside doors without self-closing devices be fitted with them.**

The *Sagina* problem

Efforts were made to weed out thistle *Sonchus* spp. plants in the base vicinity before they flowered and set seed. My impression was that there were fewer plants present than during my last visit in 1992. A vigorous patch of potatoes *Solanum tuberosum*

growing next to the waste food disposal site at Skivvygat was removed and the tubers frozen for return to South Africa. The Gough 48 team had removed plants from this site in mid 2003. Gough 49 Team members will continue to remove potato plants from this site as they appear. A visit to the site of the Upper Magnetometer Hut on 1 x October found it be completely overgrown with a dense stand of Annual Fern *Histiopteris incisa*, Broad-leaf Dock and a small patch of *Poa annua*. No signs of the previously present *Senecio* and *Conyza* plants were seen. It is now near-certain that these two weeds have been successfully eradicated from the island. However, annual visits during takeovers are still recommended to check for their presence.

Much effort was put into assessing and treating Procumbent Pearlwort *Sagina procumbens* in the base vicinity during the short takeover. No plants were found outside the previously known area, but limited time and access problems to cliffs meant that only the Admiral's area was checked on 15 October and found to be free of *Sagina*. Additionally, no *Sagina* was observed on other likely inland sites, such as exposed peat on paths, unused albatross nests, on the wooden helicopter platform or on exposed rocks at "Golden Highway".

Sagina plants were found growing at all previous reported localities but heavy growths were only found at the base of the peat slip between the crane and the disused crane lookout, in the less accessible parts of the Joe Roos area, and on the immediate cliff edge below the crane among and below nests of Sooty Albatrosses *Phoebastria fusca*. The last two sites had not been visited or treated during the year by the Gough 48 Conservation Officer for safety reasons, presumably explaining the relatively heavy growths present. With the hot-water boiler still inoperable (see below) and limited time available, eradication efforts during takeover were concentrated on the mechanical removal of plants in these difficult-of-access sites. With the help of team members, including one of the new team who has rope-climbing skills and equipment, c. 250 kg of plants and adhering soil were removed by hand, pen knife and trowel and stored in strong plastic bags in nine sealed 40-l plastic "tote bins". The bins were transferred to the *S. A. Agulhas* inside the helicopter on 15 October, where they were stored in an empty laboratory until 20 October when their contents were disposed of into the ocean at 35° 22.8'S, 03° 57.3'E, c. 1325 km from Gough. The bags and bins were then thoroughly washed of all visible residues inside and out. It is intended to arrange for the incineration of the bags in Cape Town to avoid any propagules being released. No plants seen or removed during the takeover had yet commenced flowering, so their removal should lessen the new seed load.

During the year the Gough 48 Conservation Officer had sprayed *Sagina* plants with a mixture of the provided herbicides at the more accessible sites on a roughly monthly basis, resulting in few plants other than seedlings being present on the crane concrete platform and in its vicinity during the takeover. All such seedlings and small plants seen were removed. Some areas were also treated with boiling water (from a kettle) to kill seeds during the year and a limited amount of mechanical weeding was carried out.

Reasonable efforts were made to wash footwear on leaving the crane area by most people during takeover.

During the takeover members of the NDPW attempted to repair the boiler. However, the spare parts said to be present on the island could not be found and the boiler was found to be heavily rusted in places, and as a consequence could not be repaired at the time. A report on what parts are required to make it operable has been requested from the NDPW. This may not be a high priority since the most growth of plants is now taking place on steep slopes and cliffs, where mechanical weeding to bed rock, followed by heat treatment by gas-fired blow torch appears a more feasible option for removing plants and killing seeds.

It seems clear that the efforts of a single person during a short (12-day) takeover, even with the willing help of volunteers from team member(s) then and throughout the year, is insufficient to conduct an adequate eradication programme. **To address the problem properly, a dedicated two-person team with the requisite fixed-rope skills to be appointed by the Tristan Government should be based on Gough for a minimum of two weeks in the early summer (prior to flowering) to continue the *Sagina* eradication programme on an annual basis until eradication is finally achieved. The South African authorities should support this activity each year by providing accommodation and meals at the base free of charge.**

Fishing

In terms of the issued license (Appendix III) recreational fishing by hand line only took place within both Tristan and Gough waters from the vessel. No fishing took place from the shore of Gough during the takeover. A number of species caught was photographed for later identification and for potential use in the planned Darwin Initiative-funded field guide to the islands. Although the license required fish to be caught for consumption aboard the vessel only, this restriction was lifted *post hoc* by the Tristan Administrator on 17 October in a conversation with the vessel's Master, allowing fishers to take their catches back to South Africa for personal consumption only. As far as I was able to check, the fishing restriction in terms of the issued license of a minimum size (250 mm) for Five Fingers *Acantholatris monodactylus* was adhered to. **Restrictions on recreational fishing from South African supply vessels within territorial waters and from the shore within the Gough Island Nature Reserve should be considered as part of the revision of the reserve's management plan, following advice from the Department of Natural Resources on Tristan da Cunha.**

Matters of environmental interest reported or recorded by Gough 48 team members during 2002/2003

Most members of the Gough 48 team undertook very few walks away from the base during their year, and kept no written records of occurrences of environmental interest. However, a interview with the team's Conservation Officer revealed the following information in addition to that mentioned elsewhere in this report:

1. Approximate number of walks undertaken (persons per route): Seal Beach/Yellow-nosed Albatross study colony 50; Admiral's 10; water intake 25; Tafelkop 4; halfway to Goneydale 10. No walks were taken into the island's interior past Tafelkop or to

the east-coast beaches. Nearly all walks (save to water intake site) were undertaken by the Conservation Officer on his own.

2. No incidents of poaching vessels (seen or heard) were recorded. Five cruise ships and one cargo ship were seen during the year. **Note:** during the takeover a yacht *Glory of the Seas* flying the Norwegian flag arrived in Gough waters and anchored in Transvaal Bay for several days to affect needed repairs. The Tristan Administrator was informed of its arrival via e-mail in accordance with the requirements of the island's management plan. Permission was granted by the Administrator for the lone yachtsman to come ashore, but this only took place after the end of the takeover. Instructions were left that he must wash his boots before landing and bring no fresh produce ashore.

3 One female fur seal was seen entangled at Seal Beach. No birds or seals were seen oiled. **Note:** during the takeover a Subantarctic Skua *Catharacta antarctica* was killed by the helicopter while landing at the Gough base.

4. No fish were caught from the shore, and few fishing attempts were made.

5. Few bird strikes occurred on the buildings. A few birds collided with the radio shack aerial.

6. Two Killer Whales *Orca orca* were seen in December 2002, two Humpback Whales *Megaptera novaeangliae* were seen in c. August 2003 and two "yellow-billed" (?Cattle) egrets were seen, one of which was present for several months.

7. Approximately a thousand house mice were reported as killed in the base, including in the food store, and disposed of in Skivvygat.

8. Beach debris was regularly (c. weekly) collected at Seal Beach and disposed of in the waste treatment system. Items collected with approximate numbers included plastic water/cool drink bottles (12), polystyrene floats (4), and buoys & ropes (5). Copper wire (aerial cable?) was observed in the river between the Waterfall and Seal Beach; it still requires removal.

Activities on Tristan da Cunha

Discussions on matters pertaining to the conservation of the Gough Island Nature Reserve and the revision of its management plan were held with the Administrator, Mr Bill Dickson and the Head of the Department of Natural Resources, Mr James Glass.

On 17 October, a trip guided by James Glass was undertaken on foot to the old Atlantic Yellow-nosed Albatross study colony on the Base between Cave and Hottentot Gulches. With a view to its resuscitation, incubating birds were banded (16) and retrapped (5) on 19 nests whose co-ordinates were recorded by GPS. Although the limited time available precluded a complete check, it is estimated that the study area contained of the order of 25-30 occupied nests, suggesting no major decline since its last check in 1999. Bands and pliers were left with Ms Alison

Rothwell to continue the study as part of her Darwin Initiative project entitled “Empowering the people of Tristan da Cunha to implement the CBD”.

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John Cooper

22 October 2003

Onboard *S.A. Agulhas*

APPENDIX I

DUTY STATEMENT: TEAM CONSERVATION OFFICER – GOUGH ISLAND

The Conservation Officer is responsible for all conservation issues on Gough Island during the over-wintering period. Decisions regarding such issues should be made in conjunction with the Team Leader. This document is meant as a guideline and is by no means all-inclusive. All regulations pertaining to the Gough Island Nature Reserve (GINR) are dealt with in more detail in the GINR management plan. If in doubt, please consult with the Gough Island Nature Reserve Advisory Committee (chaired by the Tristan Administrator; Secretary Peter Ryan – see attached contact details).

RELIEF DUTIES:

Relief duties should be undertaken by the Environmental Inspector, appointed by the Tristan Government, in conjunction with the outgoing and incoming team Conservation Officers:

1. Inspect all premises where cargo and equipment is stored (i.e. DEAT, NPWD and all freighting companies' stores), to ensure that these premises are clean, have a rat-free certificate, employ effective means of preventing rodent infestation, and are free of any other propagules.
2. Ensure that all containers are clean and dedicated Gough Island containers.
3. Inspect the *SA Agulhas* to ensure that the vessel has a rat-free certificate, that rat guards are effectively deployed on all mooring lines and that propagules are reduced to the minimum.
4. Inspect the hold of the *SA Agulhas* before reaching the island, for any signs of rodents and other propagules (i.e. soils, seeds or insects).
5. Present a lecture aboard the *SA Agulhas* to all personnel visiting Gough Island dealing with the conservation status, the ecological sensitivity of the island and environmental conduct while on the ship and on the island during the relief period.
6. Inspect Zone 1, at the start of the relief, with the Team Leaders to ensure that the base is in an acceptable condition.
7. Inspect all food coming ashore, to ensure that no fresh fruit and/or vegetables are landed, that only de-boned poultry is supplied, and that the number of eggs is kept to the minimum required and are irradiated.
8. Inspection of the logistic zone for signs of introduced weeds, especially *Sagina procumbens*. Affected areas should be clearly marked out and treated as soon as possible. All personnel should be advised about the position of affected areas.
9. The outgoing team Conservation Officer should ensure that the incoming Conservation Officer is completely familiar with all *Sagina* eradication procedures, as well as the working of all equipment (especially the boiler).
10. Inspect all paths leading out of the logistic zone for any signs of newly introduced species, especially *Sagina procumbens*.
11. Present an information session to all personnel on the island regarding alien plants, their whereabouts, and measures needed to avoid assisting their spread, the risks of bird strike and how to avoid this, and all other provisions of the GINR management plan, including codes of conduct regarding animal approach distances.
12. Provide the necessary information to helicopter crews regarding seabird and seal colonies and their proximity to flying operations. Monitor helicopter activities to ensure

that sensitive areas on the island (especially the east coast Elephant Seal colony) are avoided.

13. Monitor the pumping of diesel from the supply vessel to the base. Ensure that the line is pressure tested with air and that no leaks have been detected, before diesel is pumped through. Ensure that dispersant and buckets and brushes are placed at critical points along the line on the island. Dispersant should also be aboard the small boat monitoring the line between the supply vessel and the island.
14. Monitoring all logistic activities to ensure that they comply with the provisions of GINR management plan.
15. Update this document (with approval of the GINR Advisory Committee).

ANNUAL DUTIES:

These duties are to be performed and/or coordinated by the over-wintering Conservation Officer. The over-wintering Conservation Officer is encouraged to consult with the GINR advisory committee, the out-going Conservation Officer, any biologists present on the team and any other contact persons provided at the end of this document.

Alien Species

1. The logistic zone, as well the entire area where *Sagina procumbens* has been recorded, should be searched thoroughly at at least two-month intervals during the summer (September to March) and three-month intervals during the winter. Any seedlings detected should be recorded and treated according the procedures set out in Niek Gremmen's "Manual for monitoring and eradication of invasive weeds". Detailed notes should be made in the "*Sagina* log-book".
2. The over-wintering team should be reminded of the importance of washing their boots before and after leaving the logistic zone, in order to prevent assisting the spread of alien plants.
3. The over-wintering team should be reminded to wash their boots immediately, if they step off the catwalks within the logistic zone.
4. Areas where *Sagina* has been recorded should be clearly marked and avoided, except when absolutely necessary. In this case shoes should be washed thoroughly immediately afterwards.

Indigenous Species

1. The over-wintering team should be reminded to not disturb animals in any way, especially when they are breeding.
2. Bird strike should be minimized by turning off all outside lights and by keeping blinds drawn after dark. On misty nights, interior lights should also be kept to the minimum.
3. Birds that do hit the base and are stunned should be collected in a container (beware of packing too many birds into a container) and released further away from the base, once they have recovered and during the night. Do not release them on the helipad as this is where skuas congregate.

Path Degradation and Peat Slips

1. The over-wintering team should be reminded of the danger of causing unnecessary peat slips through irresponsible hiking routes.

2. All recreational hikes and commuting hikes (for scientists) should be restricted to approved hiking paths as far as possible.
3. A register of all walks should be kept by the Conservation Officer, for safety reasons, as well to quantify the impact on various paths.
4. The state of all hiking paths should be assessed regularly and modifications suggested to the GINR Advisory Committee.

Visits by Ships

1. All visits are strictly regulated by the Administrator of Tristan da Cunha, who should be contacted for permission prior to landing any visitors or parcels. The exception is in the case of medical emergencies. In this case, DEAT and the Administrator of Tristan da Cunha should still be notified at the earliest possible opportunity (preferably prior to landing).
2. In the cases of approved visits and medical emergencies, the protocol for visiting ships should be followed.

Waste Management at Base and Field Camps

1. The Conservation Officer must ensure that waste is separated and contained and/or disposed of as prescribe by the GINR management plan.
2. Special attention and precaution should be given to the storage of hazardous wastes.
3. Any serious chemical or fuel spills should be quantified and reported to the GINR Advisory Committee and DEAT within 24 hours.

Other Activities

1. The Conservation Officer will ensure that no human-made structures are erected on the island without and Environmental Impact Assessment (EIA) and approval from the GINR Advisory Committee.
2. The Conservation Officer should make detailed notes (including date, time and location) of any incidences of deleterious effects to the environment that could possibly be human-related (e.g. animals entangled in debris or oiled).
3. Monitoring of the Yellow-nosed (Base) & Tristan (Tafelkop) Albatross study colonies, following procedures set out in instructions in Gough Laboratory.
4. Collect and record debris washed up at Seal Beach.
5. Recycle all dry paper and cardboard. Record times the incinerator is used.
6. Ensure meat bones and prune pips go into poultry waste container.
7. Boil potato peelings before dumping it in "Skivvygat".
8. Remove and boil potato plants (including tubers) growing at "Skivvygat" and elsewhere.
9. Check exposed sand about 20 metres past the German GPS receiver for alien plants. Remove any and keep herbarium specimens.
10. Weed out thistles as seen around base and anywhere away from coast before flowering.
11. Record ship / yacht visits (date, time, names etc.) and any evidence of poaching vessels.
12. Check pantry and food store for presence of invertebrates, especially weevils in flour, pasta etc. Collect specimens in alcohol. Fumigate if necessary.
13. Collect any "odd" invertebrates seen in base, including moths etc.

14. Keep an approximate record of number of mice killed in and around base.
15. Record all "night bird strikes" (on buildings).
16. Record all birds killed by hitting aerals, stays, etc. and keep corpses.

Amended by John Cooper

4 October 2003

CONTACT PERSONS

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