GOUGH ISLAND INSPECTION 1991

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Executive Summary:

An environmental inspection of the weather station and environs at Gough Island was made during a 18-day visit to the island in September-October 1991 at the request of the Tristan da Cunha Administrator and the U.K. Foreign and Commonwealth Office.

The current status of the station was deemed to be adequate, with several improvements having taken place during the current year. These include the removal of disused aerials and other superfluous structures, and the packaging of plastics along with metal and glass wastes for return to South Africa. However, greater emphasis should be given to educating short-term visitors to the island, to ensure suitably "environmentally-friendly" attitudes, including the necessity to sort refuse at source. Less persistent packaging should be used given the problem of wind-bourne litter.

Rat-excluders were not on the ship's hawsers prior to sailing from Cape Town; these should be used prior to all voyages to Gough Island. The weather station and environs should be inspected annually for signs of rats during takeovers. Leafy vegetables, which are a potential source of alien invertebrates, were again brought ashore, but were immediately returned to the ship. No leafy vegetables should be landed. Recommendations are made to remedy two other areas of concern; the spillage of diesel and light pollution emanating from the station at night. Diesel spills during pumping should be avoided by switching to a more robust pipe, and spills on the island contained by building a spill trap under the tanks. Effective blackout-blinds should be fitted to all windows at the station, and use of external lights strictly limited. An apparently insoluble problem at this stage is bird mortality as a result of collisions with aerials. Consideration should be given to reducing the size of the current aerial arrays wherever feasible.

Commercial fishing vessels operating off the island also are a major source of light pollution; all extraneous lights should be doused as soon as birds start to gather round the ship at night. Dumping of non-degradable wastes by fishing vessels should be prohibited. Several instances of animals being entangled in debris were reported, and artefacts were found in the regurgitations of seabirds breeding at the island. There were no reports of unknown fishing vessels, or of illegal landings at the island. However, the composition of beach debris suggests a marked increase in oriental fishing activity in the vicinity of Gough.

Erosion along paths was not significantly greater than that observed during previous visits. Where possible, routes on upland areas should follow ridges rather than cutting across slopes. Gough Island experienced a particularly severe rainstorm on 15 April 1991, which resulted in many peatslips, and massive flooding along watercourses. Much of the stream-side vegetation was washed away, exposing fresh mud banks which are being colonized primarily by introduced grasses. This event may facilitate a rapid increase in alien plant cover, and should be monitored. In particular, the area around the upper magnetometer hut was washed over and may have carried propagules of localized alien plants downstream; these have to be searched for

and weeded out during future inspections. Installations carried away in the floods included the station's water-supply line and various cables. All debris that was not washed out to sea was recovered and removed from the island.

As part of the inspection, several long-term monitoring projects were continued during the visit. The mapping of the distribution patterns of alien plants was completed along the east coast of Gough Island.

A Conservation Officer of Tristan da Cunha who has both biological training and previous experience of Gough Island should undertake annual inspections at the time of the South African weather station takeover visits, both to assess the environmental state of the island and to continue long-term monitoring studies with conservation significance, and to report thereafter to the Tristan authorities.

SUMMARY OF RECOMMENDATIONS

1. Rat-excluders should be on all ship's hawsers prior to sailing for Gough, and there should be an annual inspection of the base area for signs of rats.
2. No leafy vegetables should be landed, and poultry products should be incinerated.
3. All landed material should be inspected for propagules. In particular, sand and other construction materials should be steam-cleaned prior to coming ashore. Landing of such material should be kept to a minimum.
4. The pantry should be thoroughly cleaned and infested foodsuffs removed from the island to eradicate infestations of flour weevils *Tribolium* spp.
5. The upper magnetometer hut and the area downstream of it should be inspected annually for signs of the two localized alien plants, *Conyza sumatrensis* and *Senecio burchellii.* Any plants found should be carefully weeded out (including roots) and incinerated.
6. Paths on upland areas should follow ridges to reduce slope erosion.
7. A more robust pipeline should be used for pumping diesel ashore.
8. Traps should be built under the diesel tanks and taps to contain accidental spillages.
9. Effective blackout blinds should be fitted to all windows on the weather station, and the number of outside lights reduced.
10. Ships anchored off the island should also keep their light emissions to a minimum.
11. The switch to satellite-based communications should be encouraged to allow the reduction in the number of radio aerials.
12. The exhaust from the crane's generator should be redesigned to void upwards.
13. Emphasis should be given to educating in particular short-term visitors to the island, to ensure suitably "environmentally-friendly" attitudes, including the necessity to sort refuse at source, and the dangers of leaving on outside lights after dark.
14. All visitors should be explicitly warned not to dispose of noxious wastes in the waste-water system (e.g. photographic chemicals, turpentine, etc.).
15. The current incineration system should be reviewed to reduce the risk of tussock and peat fires and the spread of unburnt and partially-burnt material. Consideration should be given to adopting a "garbage in-garbage out" approach to the weather station.
16. Degradable packaging should be used given the problem of wind-borne litter.
17. Dumping of persistent wastes (all except food and sewage) by vessels fishing around the island should be prohibited.
18. An annual inspection should be conducted by a Tristan Conservation Officer with biological training, experience of Gough Island and the alien plants and animals found there. Such inspections should incorporate long-term monitoring studies to assess man's impact on the biota.

INTRODUCTION

Gough Island was visited during the annual relief voyage of the M.V. *S.A. Agulhas* in September-October 1991. After sailing from Cape Town on 19 September, Gough Island was reached on the afternoon of 25 September, but personnel only went ashore the following day. Most of the cargo and approximately two-thirds of the diesel was transferred to the island on 26 September, with the remainder being transferred on 27 September. Off-loading was slowed by problems with the ships thrusters and numerous stoppages during diesel pumping (see below). The *Agulhas* left Gough Island for Tristan da Cunha at 18h00 on 27 September, leaving the following personnel at the station:

Six members each from the old and new teams (with one member from each team leaving on the ship to perform meteorological observations)
Three representatives from the South African Department of Environment Affairs (DEA)
One supervisor from the South African Weather Bureau
A seven-member maintainance team from the South African Department of Public Works and Land Affairs (DPWLA)
Three radio technicians from the South African Air Force
One British representative
A cook and a minister of religion

The *S.A. Agulhas* returned to Gough Island early on 13 October. Inclement weather restricted loading to the transfer of crayfish from the *Hekla*. Cargo and visitors leaving the island were transferred aboard on 14 October, and the *S.A. Agulhas* sailed for Tristan. While at Tristan, I spent a day ashore, having discussions with the Administrator and other parties interested in island conservation. After pumping diesel and collecting passengers, the *Agulhas* headed for Cape Town on 17 October, docking on 23 October.

During the 18-day stay at Gough Island I investigated the conservation status of the island, assessing the severity of various anthropogenic impacts on the environment. I concentrated on terrestrial ecosystems; impacts on the sea around Gough were limited to pollution and its consequences (i.e. excluding the direct impact of commercial fisheries on marine ecosystems). Particular attention was focused on the impact of the weather station (base). As part of the inspection, several long-term environmental monitoring projects which require annual checking were maintained.

STATUS OF THE WEATHER STATION

The weather station was in a satisfactory condition on arrival at the island. Damage to the water-supply system and some cables caused by the April flood (see below) had been repaired, and most of the debris removed. The Gough 36 team put a lot of effort into ensuring that alien plants were removed from the station environs and that no litter was lying around. The team is also to be congratulated for taking down several aerials that were no longer in use, thus reducing the number of bird-injuries caused by collisions with aerials and support stays.

There were few structural modifications to the station during the current relief trip. Most of the DPWLA work involved maintenance work such as replacing catwalks, servicing equipment, etc. The large airline navigation mast that was immediately behind the station was dismantled,

which will reduce the numbers of bird-strikes at night. However, the mast should have been removed sooner, as it has not been used for the past four years.

A new satellite communications system was installed at the station, as a back-up for the high frequency (HF) radio when direct HF transmission to South Africa is problematic. The satellite system uses only a small aerial, which will have very little impact on birds flying at night. Ideally, this form of communication should entirely replace the HF system, as this would allow the dismantling of the large rhomboidal array of antenna masts to the west of the station. However, the greater cost of using satellite communications on a regular basis, plus the need to maintain daily contact with Tristan, may deter DEA from adopting this policy.

With the installation of the satellite communications system, the proposed parallel feeder line designed to boost performance of the HF aerial array now need not be erected, unless additional motivation is forthcoming. It is unlikely that the feeder line would have a severe impact on the local biota, but the policy should be adhered to restricting the number of buildings and other constructions to the minimum essential for the functioning of the station. A new coaxial cable was laid from the station to the main antenna, with the old cable being left *in situ* as a backup.

A severe storm was centred over Gough Island on 8 October, with wind speeds at the station exceeding 160 $km.h^{-1}$. This resulted in some damage to the weather station, with several doors being blown off, aerials snapping, one outbuilding being demolished, a sewage line rupturing, etc. A large amount of debris was carried into the vegetation surrounding the station, primarily from the upper-air balloon inflation room, which had both the front and back doors ripped off. Over the following two days approximately 5 m^3 of litter was collected from around the station. Most of the litter was composed of plastic (polystyrene packaging, polyethylene bags) or paper (shredded paper packaging, cardboard boxes, newspaper). Much low density litter such as polystyrene packing chips probably was carried far from the station or into the sea. In future, preference should be given to using more readily degradable packaging.

STATUS OF THE REST OF THE ISLAND

The most obvious changes to have occurred at Gough Island during the last year are the large number of peat-slips and the massive stream erosion caused by an exceptional rain event on 15 April 1991. On that day, 152 mm of rain was recorded at the Transvaal Bay weather station, with 88 mm falling within two hours. The rivers in the area rose up to 5 m above their normal levels, resulting in severe erosion along watercourses, with the destruction of much stream-side vegetation. The newly exposed mud banks are being colonized primarily by introduced grasses (*Holcus*, *Agrostis* and *Poa*), and to a lesser extent by the introduced *Rumex obtusifolius*. No practical management can be undertaken to counter this spread of alien plants, but the situation should be monitored.

The flood washed away the dam, filter, and piping that supplied water to the station, as well as cabling that crossed the river to the upper magnetometer hut and some of the aerial arrays. Much of this debris was disposed of by the Gough 36 team, and the remainder was collected by a work party set-up during the relief period.

The paths around the station and those leading along ridges on the island plateau were quite badly eroded in places. However, the degree of erosion was little changed from that encounterd

during 1990. Team members should be discouraged from walking off the main routes, especially on the upland area, where the wet heathlands are particularly sensitive to trampling. Routes along ridges should be used in preference to those cutting across slopes.

No evidence of illegal landings at the island was found, either during the relief, or earlier during the year. Apart from a few passing cargo vessels, no unknown craft were sighted either during or after the six-month period when the island was closed to commercial crayfishing. However, a survey of stranded debris on beaches along the eastern shore of the island found eight driftnet floats, none of which previously had been seen on the island. Also, after the local fishery, most debris was manufactured in the orient, whereas previously South America was the major source of beach rubbish. These facts suggest an increased presence by oriental fishing in the vicinity of Gough Island. A Taiwanese soup tin in pristine condition indicates that such a vessel recently had been operating close to Gough.

WASTE-MANAGEMENT AND POLLUTION

Diesel

According to the Gough 36 diesel mechanic, Philip Reichert, there were no diesel spills during the year. Nevertheless, spill-trays, designed to contain accidental discharges from the tanks, should be constructed. Only some 5 000 l was left in the weather station's tanks (<5% of storage capacity) as a result of less fuel than normal being delivered during the 1990 Gough relief voyage (due to the cutting short of the takeover to evacuate an injured passenger from Tristan).

Approximately 150 000 l of diesel was pumped ashore from the *S.A. Agulhas* in September 1991. During this operation, numerous leaks developed in the hose, resulting in some diesel escaping into the sea. The sea was calm during both days when pumping took place, and on 27 September a long slick was visible extending from Transvaal Bay southwest to at least Cavern Head. No slicks were seen on 26 September, although leaks also occurred on that day, and at one stage the deck of the *Agulhas* was awash with diesel after excessive pump pressure ruptured the hose. A dispersant was added to this spill, and the treated diesel was then hosed off into the sea. Only one small spill occurred while pumping diesel ashore at Tristan, when the pipe came off the ship's pump outlet.

Waste disposal

Solid waste at the station is sorted into three categories: food wastes, burnables (paper and wood), and articles to be crated for return to South Africa (tins, bottles, and plastics). Food wastes are dumped into the sea via a shoot at the top of a hole in the sea cliff ("Skivvygat"). Burnables are burnt in an open grating, mounted on a small cement base, which works adequately as long as the wind is not so strong as to blow unburnt material out of the incinerator. Ashes are washed into the sea. Tins and bottles are crushed prior to packing into crates for return to South Africa. The collection of plastics for return to South Africa was instituted this year, having been incinerated in previous years.

Apart from litter arising from exceptional events such as the storm that blew off doors and thus released stored packing material, most solid wastes are channeled into the waste-disposal system. There is little littering on the island, although surplus construction materials sometimes are left at the work site. Waste sorting at source probably is efficiently undertaken by team members, but is neglected by some short-term (relief period) visitors to the station. Greater

emphasis should be given to educating short-term visitors as to the need to conserve the environment at Gough Island.

Waste-water management at the station involves piping untreated sewage into the sea. Two pipelines, one each from the main station and the emergency base, lead to the top of the sea-cliffs, where they void waste-water. A few small drains open directly onto the ground; these should be connected to the sewage system. The larger pipeline, that from the main station building, flows into the hole used to dispose of food wastes. Noxious liquid wastes (e.g. used engine oil, turpentine, etc.) are collected in drums and returned to South Africa.

Solid wastes from the crayfish vessels operating around Gough Island are dumped overboard (pers. comm. from various team members, Ryan 1991). In addition to being aesthetically unacceptable, discarded debris causes animal mortality through entanglement and ingestion (see below). Large numbers of giant petrels *Macronectes* spp. and Pintado Petrels *Daption capense* scavenge behind the ships. Dumping of all persistent debris should be prohibited within the island's territorial waters (see Ryan 1991). Some refuse was dumped from the *S.A. Agulhas* during her voyage to and from Gough Island, in apparent contravention of DEA regulations.

Lights

Light is one of the major year-round pollutants emanating from the meteorological station, and one with a serious impact on the local fauna. The venetian blinds fitted to most (but not all) windows are inadequate to prevent substantial amounts of light being emitted from the station. Also, the current blinds are difficult to use, and thus windows are often left unshuttered at night. In addition to lights inside the station, there are avenues of lights along the catwalks. These are often left on long into the evening, at least during the takeover period, causing unnecessary hardship for large numbers of birds breeding around the station.

Vessels off Gough Island also emit light pollution. The *S.A. Agulhas* was very good about turning off most of her lights while anchored off the station, but the *Hekla* persisted in using spotlights mounted above the bridge to illuminate the entire foredeck while the factory was in operation (see Ryan 1991).

Heat

Exhaust fumes from the two diesel generators in the power shack are now voided upwards, so there is little danger of the adjacent peat drying out and catching fire. The crane has a separate generator, with the exhaust deflected down onto the ground. This is seldom used for prolonged periods; nevertheless, it is recommended that the exhaust be redesigned to void upwards.

There is a risk that sparks blown from the incinerator could set fire to the adjacent tussock grass during a particularly dry period; the new team was appraised of this danger. Consideration should be given to installing an efficient, "closed" incinerator, which would also limit the fallout of unburnt or partially burnt material. However, a simpler approach would be to adopt a "garbage in-garbage out" policy, following the current practise of Antarctic Treaty bases, and thus reducing incineration to a minimum.

IMPACTS ON NATIVE BIOTA, AND RECOMMENDATIONS FOR MITIGATING IMPACTS

Diesel spills

The relatively small surface-slicks of diesel are unlikely to have a major impact on marine organisms, but could affect seabirds by destroying the waterproofing on their feathers. This results in them becoming waterlogged, and almost invariably leads to their death, either through drowning or hypothermia. The species most likely to be affected is the flightless Rockhopper Penguin *Eudyptes chrysocome*, which is less likely to be able to avoid a slick than species which can fly. An examination of the penguin colony at Seal Beach shortly after pumping operations revealed no oiled birds. However, the slicks also could contaminate large numbers of Great Shearwaters *Puffinus gravis* which congregate in large rafts just offshore during this time of the year, particularly off South Point. An oiled Yellownosed Albatross *Diomedea chlororhynchos* has been seen previously at Gough Island.

In order to reduce the risk of diesel spillages, the hose line used to pump diesel should be thoroughly inspected for leaks prior to pumping. The type of hose used should be changed to one similar to that used at Tristan (heavy-duty irrigation piping) to reduce the frequency of leaks. This more robust pipeline takes up more storage space, but could be housed on Gough. The rate of pumping should be regulated below that at which blow-outs are likely to occur. Spill trays should be built under the station storage tanks and taps to contain diesel spills and drips on land. Such trays have apparently been constructed at Macquarie Island by the Australian Antarctic Division.

Waste disposal

The current waste disposal practices on the island, while fairly primitive, are adequate given the small amounts of waste which have to be dealt with throughout most of the year. If implemented properly, they should have little impact on the local biota. However, care must be taken to educate team members and DPWLA workers not to dispose of noxious substances in the waste-water system. Particular attention in this regard should be given to the disposal of used photographic chemicals; they should not be added to the waste water system. Consideration should be given to macerating food wastes prior to dumping in the sea, and some dry food wastes could be incinerated in preference to dumping into the sea, especially poultry wastes (including eggshells) which can carry avian diseases (e.g. Newcastle Disease). The switch to returning plastics for disposal in South Africa is welcomed.

Night strikes

Many of the birds breeding at Gough Island arrive and depart in the dark, when they are prone to collisions with buildings and other constructions. There are two allied problems: birds being dazzled by lights and either flying into buildings or falling prey to skuas, and birds colliding with objects with little visible outline, such as aerials and support wires. Both problems are exacerbated on dark nights, when visibility is further reduced. No serious nightbird "attack" occurred during the current inspection period, but outside lights often were left on all evening. On 12 October, the catwalk lights resulted in many birds striking the buildings.

Proper blackout blinds should be fitted to all station windows, and should be used as a matter of course. It is likely that birds are deleteriously affected by lights even when they do not actually fly into the station (cf. Ryan 1991). Serious consideration should also be given to discontinuing the use of catwalk lights; earlier teams managed perfectly well with torches.

Similarly, lighting on the crayfishing vessels should be redesigned to obviate the need to use spotlights to illuminate the entire foredeck during factory operations. In fact, it appears that the bridge-mounted spotlights are not essential, as they were turned off on the *Hekla* when the *Agulhas* doused her lights in response to birds coming aboard.

Two freshly dead Atlantic Petrels *Pterodroma incerta* were found with broken wings under the main antenna array; carcasses of other species have been found in previous years. The problem of birds striking aerials and support stays is more intractable; presumably bird mortality will persist until the aerials are removed. Thus the dismantling of several defunct aerials during the current year was a welcome development.

Entanglement
Members of Gough 36 removed netting, ropes, and packing straps from the necks of several Subtropical Fur-seals *Arctocephalus tropicalis* during the 1990-91 summer. They also freed at least two Rockhopper Penguins entangled in rope, one of which had lost the use of its foot, and was found with the knotted rope trapped in a rock crevice. A Subantarctic Skua *Catharacta antarctica* from the helipad roost was observed to have some orange polypropylene rope tied loosely around its upper leg, possibly having been caught by a fishing vessel.

Plastic ingestion
Six of 96 Wandering Albatross *Diomedea exulans* chicks ringed in Gonydale as part of the monitoring programme regurgitated plastic and other artificial objects, including a butter wrapper from Singapore, and a yoghurt lid from South America. Gough 36 team members found various plastic artefacts in regurgitations made by Yellownosed Albatross chicks, including a disposable cigarette lighter.

INTRODUCED ORGANISMS

Mammals
Rat excluders were not in place on the *S.A. Agulhas's* hawsers while docked in Cape Town prior to sailing for Gough Island. No sign of any introduced mammals other than house mice *Mus domesticus* was found during the inspection period. Mice have been largely excluded from the main station by sealing off all entrances. However, they remain abundant in the other buildings, especially the food store. A careful examination of the food store revealed no large faeces, which would indicate the presence of rats.

Invertebrates
In 1990, cabbages and cauliflowers containing live invertebrates (the snail *Helix adspersus* and various insects) were brought onto the island. This year, cabbages and lettuces were sent from the *Agulhas*, but were returned immediately at the order of the DEA co-ordinator, Richard Skinner. The following fresh fruit and vegetables were imported to the island: potatoes, onions, garlic, gem squash, pumpkin, carrots, cucumbers, tomatoes, lemons, grapefruits, oranges, tangerines, apples and pawpaws. In terms of the current Gough Island lease, no flora other than potatoes may be brought to the island, without prior written permission of the Governor. Inspections of other material brought ashore revealed no animal or plant propagules.

The pantry was heavily infested with flour weevils *Tribolium* sp., which were found in cereals and pasta as well as flour. Although this species is unlikely to occur outside the weather station, it seems sensible to try to eradicate the population. The new team, Gough 37, plans to

empty the entire pantry, disinfect it, and dump all infected stocks. Weevils apparently do not occur in the main food store, and are not a problem in food stores at Marion Island. The pantry should be inspected each year for weevils and other pests, and any infestations should be eradicated.

Plants

Despite the lack of ship-assisted support for a landing at Capsize Sands, the survey of the ranges and abundances of alien plants at Gough Island was completed with a overland visit to the eastern coastline between The Glen and Northeast Point. Only the relatively inaccessible western coastline has not been surveyed. Several introduced species are widespread at the island, but two are particularly serious in that they can form dense stands that appear to be able to exclude native species (*Holcus lanatus* and *Agrostis stolonifera*). Most other alien species occur primarily in disturbed habitats, and are subsequently displaced by native species.

Examination of the distribution patterns of the approximately 20 species of alien plants introduced to Gough Island suggests that only two, *Conyza sumatrensis* and *Senecio burchellii*, have become established at the island since the station was moved from The Glen to its present site above Transvaal Bay in 1963. Seeds of these species were brought to the island in building material used in the construction of the upper magnetometer hut in 1983 (Wace 1986), and the species have remained restricted to the immediate area of that hut. The Gough 36 team was assiduous in weeding out all fresh shoots of *Conyza* and *Senecio*. However, the area was washed over during the April flood, and it is possible that propagules were carried downstream (*Senecio* can regenerate from small pieces of stems or roots, whereas *Conyza* produces multitudes of very small, light seeds). Consequently, a thorough search of the area from the hut to Seal Beach should be undertaken during the coming summer, and any seedlings found destroyed. Such inspections and weeding of alien plants should be repeated annually during takeovers, necessitating that the inspector have some botanical knowledge (cf. Wace 1986).

An examination of the site around the new lower magnetometer hut, constructed during October 1990, revealed no alien plants. There was little evidence of recent construction, with a good growth of primarily *Scirpus* throughout. This hut was constructed on pylons driven into the ground, and did not require the use of any imported materials such as sand or stone chips which could harbour seeds and other propagules (cf. Wace 1986). Clearly this form of construction (which is also used for the main station) is to be preferred over methods requiring a standard cement foundation. It is recommended that construction requiring the importation of sand and stone chips be kept to an absolute minimum.

MONITORING PROGRAMME

Long-term studies of Yellow-nosed and Wandering Albatrosses, Southern Giant Petrels *Macronectes giganteus* and Subantarctic Skuas were maintained as part of the present inspection. A single Yellownosed Albatross ringed as a chick was sighted in the study colony. Continuation of monitoring will allow juvenile mortality to be assessed and related to any fishery-induced mortality. The opportunity also was taken to discuss the future of the Yellow-nosed Albatross study colony at Tristan after the departure of the education officer, Jim Kerr, in January 1992. It is hoped that Conrad Glass will be able to complete observations until the end of the 1991-92 breeding season, whereupon Ian Lavarello has expressed enthusiasm to head up the project, with assistance from Conrad Glass.

Several projects initiated at Gough Island in 1990 were carried forward as part of the 1991 inspection. These included a study of the endemic Gough Bunting *Rowettia goughensis* and a direct measure of the impact of mice on vegetation regeneration using exclosures on cleared plots. The many new peat slips offer the potential to test current thinking on vegetation succession on a number of equal-age sites. The position of fresh slips was plotted during this year, and the growth of vegetation can be monitored during any future visits to the island. Some additional work also was carried out on the status and regeneration of *Phylica arborea* trees at Gough Island. Humeri of birds killed by skuas and trogloscaptomyzid flies were collected for researchers in Scotland and Germany, respectively. A count of Southern Elephant Seals *Mirounga leonina* on the eastern coastline was conducted for the Mammal Research Institute, University of Pretoria. It is recommended that these monitoring studies be continued as part of an annual inspection during takeovers.

The annual inspection should be conducted by a Conservation Officer of Tristan da Cunha who has both biological training and previous experience of Gough Island. The inspector should both assess the environmental state of the island and continue long-term monitoring studies with conservation significance, and report thereafter to the Tristan authorities.

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