

## **Environmental Inspection, Gough Island Wildlife Reserve, September 2000**

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### **Progress since previous change-over period**

1. The newly introduced weed *Sagina procumbens* has been contained and almost eradicated. Niek Gremmen, Jaco Barendse, the *Sagina* eradication team and the Gough 45 team are congratulated for their efforts.
2. Almost all containers used this change-over, had been sandblasted and re-painted, and will apparently be dedicated for use on Gough Island alone. The Department of Environmental Affairs and Tourism (DEA&T) are thanked for their efforts in this regard.

### **Problem areas noted during this change-over period**

1. Not all containers were refurbished (i.e. sandblasted, re-painted and dedicated for use on Gough). Two old National Public Works Department (NPWD) containers were used. The refurbished containers were also not painted a different colour for easy recognition..
2. The holding store at the harbour, where freight was to be held prior to loading onto the ship, was found to show signs of rodent infestation by a private eradication company tasked by DEA&T.
3. Soil and an alien grass plant from Marion Island (*Poa annua*) were found embedded in the foot of a NPWD ladder. These ladders had last been used on Marion Island and not been washed since. Although *P. annua* has already been introduced to Gough and is now a widespread alien, this incident illustrates the means by which introductions between these two islands can occur.
4. Pieces of plant material were found pinched between the ropes of cargo nets. These nets were presumably last used on Marion Island.
5. Although rat guards are used on ropes, no measure exists for preventing rodents from boarding the *S.A. Agulhas* along the gangway.

6. The cement slab outside the NPWD warehouse (on which containers are often placed) remains unweeded (despite calls for this in every environmental report since 1995) and when I visited this warehouse a container was standing outside on these weeds.
7. I am concerned that there is no set protocol for team leaders and conservation officers to follow in the case of landing personnel and parcels from vessels onto Gough Island.
8. The blackout blinds installed in the base allow light to escape out of the edges.. This led to a bird strike of about 100 birds on one night during the change-over.
9. Increased scientific work on the island has led to higher impacts on certain hiking paths.

### **Recommendations for immediate action**

1. The continued monitoring and eradication of *Sagina* areas should be given the highest priority and be a mandatory task of all over-wintering teams.
2. ALL containers used on Gough should be sandblasted, re-painted and dedicated for use on Gough Island alone. I recommend that DEA&T be in charge of ALL containers, and that NPWD request containers from DEA&T (not use their own). I also recommend that these containers be colour coded for easy recognition
3. The use of a holding store at the harbour should cease. Freight should be transferred from the stores of DEA&T, NPWD and freighting companies directly onto the ship.
4. NPWD should be notified that their current precautions to prevent the introduction of alien species are inadequate and that this lack of caution could have serious financial as well as political repercussions for DEA&T. All equipment used on Marion Island and in South Africa, should be thoroughly cleaned before being taken to Gough Island.
5. The use of the same cargo nets on Marion and Gough Islands presents another method of transfer of alien plant species between the two islands. A separate set of cargo nets should thus be dedicated to each island, or the nets should be thoroughly steam cleaned on the return trip of each voyage.
6. Attention should be given to the design of a structure that will prevent rodents boarding the *S.A. Agulhas* along the gangway (and attached net), but will not compromise safety regulations
7. I have compiled a protocol to be followed by the team leader and conservation officer in the case of landing personnel from vessels other than the DEA&T relief vessel (see attached document). I recommend that this be implemented immediately.
8. Runners which hold blackout blinds flush against the window frames should be installed at all windows in the base

9. Short aluminum ladders should be placed at badly eroded parts of the path of the regular “Golden Highway” route to Tafelkoppie (as recommended in Peter Ryan’s 1999 environmental report). I also recommend the use of the alternative path to Goney Dale in order to reduce the impact on the regular “golden highway” route. The path up the Rowetts and also from Windy Ridge to Waterfall Camp are extremely sensitive areas and should be monitored for serious degradation.

### **Longer term recommendations**

1. I recommend that a post be created for a full-time environmental officer on the overwintering team. This person can oversee all environmental issues (see attached duty statement) as well as undertake long term monitoring of certain key indigenous species (e.g. censuses of threatened seabird species and seals during their breeding season; monitoring breeding success and demographics of certain seabird and seal species; monitoring fungus infected *Phyllica* trees; etc.). This will lead to a more informed management of the island.
2. The construction of an additional landing platform behind the kitchen area will obviate the need to land containers in the vegetation at this location. Landing all cargo on clean, soil free landing platforms will minimize the chances of introduced plant species being able to germinate.

## **Background and schedule**

Peter Ryan attended the relief planning meeting on 17 July 2000. This was very useful, and the inspector or his nominee should be invited to this meeting in future years. I attended a cargo planning meeting held at the DEA&T offices, Cape Town, on 16 August 2000. The *mv S.A. Agulhas* departed Cape Town on 31 August, reaching Tristan da Cunha on 5 September. Unfavourable weather conditions did not allow cargo to be offloaded and we sailed for Gough Island the same afternoon, arriving at Gough the following morning (6<sup>th</sup>). All personnel and luggage were flown ashore the same day and cargo was offloaded over the next two days (7<sup>th</sup> and 8<sup>th</sup>). The *S.A. Agulhas* then departed on the buoy run and to offload cargo at Tristan, returning on the 15<sup>th</sup>. After attempting to pump diesel on the 16<sup>th</sup> and 17<sup>th</sup>, this operation was successfully carried out on the 18<sup>th</sup>. Backloading of cargo began on the 20<sup>th</sup>, and the *S.A. Agulhas* left Gough on the morning of the 22<sup>nd</sup>. We arrived at Tristan the following morning (23<sup>rd</sup>), where I was able to go ashore and to briefly meet with the Administrator, Brian Baldwin, and the head of the Natural Resources Department, James Glass. This was extremely informative and I would like to thank the SAAF for this opportunity. The ship departed the same evening, arriving back in Cape Town on the 28<sup>th</sup>.

## **Activities prior to sailing**

### *Store inspections*

The stores of DEA&T, NPWD, Table Bay Marine (Pty) Ltd, and Lihou agency were inspected prior to cargo being transported to the *S.A. Agulhas*. These stores were found to be clean and showed no signs of rodent infestations. I subsequently received certification that these stores were inspected by a rodent extermination company prior to use for the trip. Three of the four stores were inspected by the same company (which is registered with the Department of Agriculture), while the NPWD stores were inspected by a separate company.

When I inspected the NPWD stores, one of the refurbished containers going down to Gough had been moved outside and was standing on a cracked slab of cement outside the building. Several species of weeds (including *Sonchus sp.*) were growing through these cracks. NPWD have been asked to weed this area in every environmental report since 1995. I mentioned this problem to the NPWD personnel present and asked them to wash the underside of these containers when lifting them with the forklift for loading.

It was stated in the July planning meeting that NPWD will be moving their stores to an internal store in the Customs House, before the next relief voyage to Gough Island (P. Ryan *personal communication*). This problem will thus hopefully finally resolve itself. Otherwise, all stores were very clean and the relevant parties should be commended on their effort. I was especially impressed by the effort made by “Table Bay Marine” to place all loose items in sealed containers, thus preventing the entry of rodents and other alien propagules before or during transport to the ship.

#### *Holding store at the harbour*

At the cargo planning meeting held at DEA&T offices, Cape Town, it was established that cargo would be transported from the relevant stores to a holding store at the harbour (at E and F Berths) before loading onto the ship. I requested that an effort be made to establish that this holding store was also rodent free. Mr. Sam Oosthuizen (DEA&T) contracted “SWAT pest control” to inspect these premises, who found signs of rodent infestations. Unfortunately, at this stage Table Bay Marine had already sent some of their supplies to this holding store. I recommended that these supplies be removed immediately, however due to logistical difficulties this was not possible. After establishing from Table Bay Marine that all supplies that had been sent down were in sealed containers, I decided that these containers could remain in the store until loaded onto the ship (over the weekend). This was not an ideal situation, but under the circumstances and given that the containers were all well sealed (I had previously inspected these at the “Table Bay Marine” stores) I felt that we did not have an alternative and that it was permissible.

I recommend the use of a holding store at the harbour cease, and that all cargo be transported directly from the stores of the freighting companies to the ship. It is pointless for store managers to go to such an effort to keep their stores rodent-free, if their freight is going to stand in a rodent infested holding store at the harbour for a weekend prior to loading. I would like to commend DEA&T for their commitment in having the stores inspected by an independent company (despite assurances by harbour authorities that these stores were rodent free). See earlier comments re this point

#### *Rodent free measures aboard the S.A. Agulhas*

When I inspected the vessel two days before sailing I found rat-guards had been secured on mooring ropes in an effective manner. I am also in possession of a rodent free certificate (see attached copies) issued by a rodent extermination company.

At the cargo planning meeting held at DEA&T offices, I was informed that although rat-guards are used on the mooring lines, no measures are taken to prevent rodents boarding the vessel along the gangplank and attached catch net. I asked Captain John Klopper to try to implement some measure to prevent this. He replied that he was reluctant to do this as it would compromise safety regulations. I recommend that thought be given to the design of a structure that will prevent rodents from boarding the vessel by this means, without compromising safety regulations.

### **Activities during sailing**

#### *Environmental awareness lecture*

Niek Gremmen and I presented a lecture to all passengers aboard the S.A. Agulhas. This lecture dealt with sensitivity of these island as well as practical conservation measures. Niek Gremmen presented a comprehensive slide show dealing mostly with the threat of introduced species to these islands. Prior to sailing, on 28 August, Peter Ryan gave a similar lecture to the new team and interested personnel from DEA&T at the Cape Town offices of DEA&T.

#### *Inspection of hold*

While at sea Jaco Barendse and I inspected the hold of the ship. Here we found the following:

1. Several NPWD ladders were covered in mud. One aluminium ladder had a plug of mud in base of one leg (the plastic foot piece was missing). Embedded in this plug was an entire grass plant (including a seed head). The plant was identified by Niek Gremmen as *Poa annua*, an alien species that occurs around the base at Marion Island. When I spoke to Gary Hardenberg (NPWD leader) about this matter, he said that these ladders had come straight from the Marion trip (i.e. had not been used in the interim) and that his team had forgotten to wash them.
2. Cargo nets had pieces of grasses wedged between the strands of the ropes. None of these could be identified to species, but these nets were probably also last used on Marion Island.

I reported these matters to Alma Human (DEA&T co-ordinator) and showed her the samples I had collected. We agreed that this equipment should be cleaned before being

transported to the island and that it should be landed on the cement slab for inspection prior to use. She notified the captain of the *S.A. Agulhas* in this regard.

## **Activities on Gough Island**

### *Base inspection*

The base was in a very good condition and it was obvious that the over-wintering team had worked hard at maintaining it. I inspected the landing area at the crane for any signs of *Sagina procumbens* as most containers were to be landed here. No signs were found here. Antwanette Lombard (Leader of Gough 45) pointed out a small patch of *Sagina* at the incinerator. This was marked off and treated at the first possible opportunity. A catwalk was also placed over this area to prevent people treading in the soil and transporting seeds elsewhere.

### *Cargo offloading*

This went without major incident. Most containers were landed on the cement slab at the point and at the helipad. Five containers were landed behind the kitchen. Nets were also used to land loose frozen foodstuffs behind the kitchen. Due to the fact that pieces of grass had been found in these nets while in the hold of the ship, these were landed on the catwalks.

Washed potatoes were the only fresh produce that was landed.

### *Sagina eradication*

During the past year, Gough 45 did an exceptional job of containing *Sagina* to the logistic zone, as well as removing large amounts of plants and soil. During June/July Niek Gremmen and his *Sagina* eradication team managed to remove all visible plants as well as treat the soil in order to kill the seed bank. The success of this operation was evaluated during this change-over period.

Overall the operation was found to have been a huge success and only a few small patches of newly sprouted seedlings were found. These areas were treated appropriately during the change-over.

Although this initial eradication attempt has been a success, the ultimate success of any eradication attempt lies in a long term effort. Despite the exceptional efforts of Niek

Gremmen and his team, it is almost inevitable that a few seeds will have survived. If these seedlings are not detected at an early stage, they may spread very quickly to such an extent that a large scale (and expensive) eradication procedure needs to be repeated. If these seeds manage to escape from the logistic zone on the soles of a team members boots, the situation may be irreversible. I thus echo Niek Gremmen's concern that long term monitoring and eradication of *Sagina* be given the highest conservation priority and become a mandatory duty of the present and future over-wintering teams.

### *Path degradation*

Increased scientific work on Gough Island has led to increased impacts and degradation of paths (Table 1). Walks to Tafelkoppie and beyond showed a three fold increase over the previous over-wintering team. Of these walks, 46% were made by the two scientists (one of whom was only there for six months). I found the regular "Golden Highway" path up to Tafelkoppie to be badly eroded in places. The paths up the Rowetts (from Michael's Col) and down from Windy Ridge to Waterfall Camp were also in a bad state.

**Table 1.** Summary of walks undertaken over the past two years (units = people trips). As only one path was primarily used to the high-lying regions of the island, totals presented are inclusive (i.e. a walk to Waterfall camp is included in the Tafelkoppie and Goney Dale totals as well).

Destination	1999/2000 Gough45	1998/99 Gough44	2000 changeover	1999 changeover
<b>Seal Beach</b> (Includes Tumble down Beach and Yellow-nosed Albatross colony)	171	98	80	76
<b>Admirals</b> (Includes Snoekgat)	63	21	14	42
<b>Tafelkoppie</b> (Includes all walks beyond the Golden Highway)	93	34	24	23
<b>Goneydale</b> (Includes all walks beyond South Peak)	68	17	21	7
<b>Waterfall Camp</b> (Includes all walks beyond the Rowetts)	24	8	8	6

This year the over-wintering team sees a further increase in the scientific component. Special care should thus be taken to monitor the state of the paths and attempts should be made to prevent unnecessary degradation. I recommend that aluminium ladders be placed at badly eroded inclines along the "Golden Highway" route up to Tafelkoppie. Furthermore, I recommend that scientists also use the path along the western banks of the

main river draining Goney Dale, as an alternative route to and from Goney Dale in order to limit the impact on the regular path.

#### *General environmental conduct at the base*

At the initial welcoming meeting, Antwanette Lombard (Leader and Conservation officer of Gough 45) clearly laid out all conservation measures to be followed during the takeover period. Subsequently Niek Gremmen gave a lecture on the *Sagina* eradication and monitoring program. Alex Jones also gave a talk that dealt with environmental issues away from base and path maintenance.

#### *Waste disposal*

Waste disposal is conducted in a suitable manner, however improvements can be made. Skivvy gat, where all waste food is disposed, is only flushed during storms. The use of a food macerator would prevent access to food by scavenging seabirds. The installation of a high temperature incinerator will also allow the incineration of all bones and poultry waste.

#### *Base lights and bird strike*

Changeover personnel were very diligent about keeping the blinds down at night. Despite this we had one incident of bird strike during the changeover period, when approximately a hundred birds (mostly broadbilled prions) collided with the base. All these birds were collected and released further away from the base, in the vegetation. The next morning only two mortalities were detected.

This bird strike was due to the design of the blinds. At some windows the blinds hang slightly away from the windows, allowing light to escape from the edges when viewed at an angle. A runner on the edges of these window frames, which would hold the blind flush against the window frame, would prevent this happening. Such a device has already been installed in the radio room (presumably by a team member). I have spoken to Deryck (Team Leader and Conservation Officer) and Chris (Team Diesel mechanic) about this problem and asked them to try to do something about it.

I also noted that there was a blind missing from the NPWD workshop and that there are no spare blinds in the base.

### *Diesel pumping*

Diesel pumping went without incidence and no spills occurred. The pipe was pressure tested with air up to 5 bar before fuel was pumped. Fuel dispersant, buckets and scrubbing brushes were placed close at hand during the operation. I would like to thank the NPWD team and ship's crew for the professional and careful manner in which they approached this task.

### *Other environmental issues noted during the year by the Gough 45 team*

During January 2000, ten dead Tristan Albatrosses *Diomedea dabbenena* were seen floating within a close proximity of each other on the West coast of Gough, by Nick du Plessis, the Captain of the crayfish vessel *Kelso*. Although they were not able to collect the carcasses, it seems unlikely that this could have been caused by natural phenomenon. In my opinion it is more likely that these birds had been caught by an illegal tuna *Thunnus spp.* longline vessel and then dumped after hauling the line.

A Subantarctic fur seal *Arctocephalus tropicalus* was noted with a Tuna longline hook embedded in its mouth at Seal Beach. An oiled Northern rockhopper penguin *Eudyptes chrysocome moseleyi* was also noted during the winter months. This animal was in poor condition and had obviously been oiled for some time. To my knowledge this is the first record of an oiled seabird at Gough Island.

Several fur seals were once again noted to have plastic and nylon "nooses" around their necks, although the exact number was not recorded. Most of the above information was gleaned from speaking to team members, and no formal records were made during the year. I urge that more formal records be kept of these incidents (see attached duty statement).

### **Acknowledgements**

I would like to thank Ms Alma Human (Voyage OIC), Mr. Frans Hoffman (Assistant OIC) and Mr. Sam Oosthuizen of DEA&T for their helpfulness and commitment to dealing with environmental issues. I would also like to thank all group leaders as well as Major Carstens (SAAF) and Captain Klopper (*S.A. Agulhas*) for the friendly and open manner in which all activities were conducted.

D.C. Nel  
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