

LITTLE BAY CLIFF

Environmental survey, October 2002

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Introduction

This survey has been conducted in a hurry. The failure of the Government of Gibraltar and of Golder Associates to properly consider the environmental aspects of cliff stabilisation works at Little Bay prior to the allocating of the tender for the works resulted in a complaint being made to Government pointing out the need for an assessment. The Technical Services Department agreed that such a survey should take place but placed a time limit of 22 October, a total of three weeks.

GONHS, through its Caving & Climbing Section, the Gibraltar Caving Group, organised a survey of the cliff, which included inspection and photography. The survey has been quick but thorough, and there has been little time to properly digest and assess the results or to prepare a thorough report. This, therefore, is a brief summary of results and recommendations.



One of the GONHS survey team on the cliff.

Methods

The survey team carried out a number of abseils down most sections of the cliff, photographing plants and noting possible nest sites. A number of caves/recesses were also inspected.

Potential problems

The potential environmental problems assessed were:

- Presence of nest sites of cliff nesting birds
- Presence of rare/protected plant species
- Presence of bats in caves/cracks, recesses, etc.

As the survey has been carried out at the start of the rainy season, some plants which may be present may not have yet emerged. This is another reason why environmental assessment needs to be carried out with time as part of the preliminary work.

Summary of observations

The cliff could be divided into three main areas:

- The eastern section consisting of shale-containing rock and some scrub.
- The central section holding some scrub vegetation and largely bare cliff.
- The western section holding chasmophytic vegetation, part of this being directly over the sea



The western section of the cliff

The eastern section consisting of shale-containing rock and some scrub.

The area of scrub in this section was found to be a resting site for Barbary Partridges *Alectoris barbara*. Cliffs in Gibraltar are important refugia for this species. By sheltering on inaccessible ledges when disturbed they are in fact able to increase their range to be able to live much closer to areas with human disturbance. This is an important adaptation to living in the restricted area of Gibraltar. It appeared that a diagonal ledge above the tunnel entrance may be used by the partridges as access to the scrub below the cliff east of the tunnel where they may feed and nest.

The bare areas of rock were found to hold neither nest holes nor plants.

There is also a cave, above the entrance to the vehicular tunnel, which showed no evidence of bats.

Recommendations:

- The areas with olive shrubs fall outside those recommended for any action. They should be retained.
- There should be no disturbance either to the vegetated area at the foot of the cliff.
- In order to achieve environmental gain nest boxes should be attached and concreted in to the cliff in the areas to be guncreted. These should be 6 swift boxes and two kestrel/little owl boxes.



The central section of cliff

The central section holding some scrub vegetation and largely bare cliff.

This section is vegetated by a number of chasmophytic species as well as some species of the scrub. They include Sea Asteriscus *Asteriscus maritimus*, *Pistacia lentiscus*, *Olea europea*, and some specimens of *Pistacia terebinthus*, which is not common. Another plant uncommon on the Rock and identified in the survey from this area is the Sea Kale *Cakile maritime*.

The characteristics of this central section extend over the top of the west section considered below. Here there is a fissure which still needs to be examined for the presence of bats and in any case is a potential bat roost.

There is one site along a fault on the limestone where there has been evidence of nesting by an undetermined bird species.

Within this section there is a bare area where guncreting is proposed.

Recommendations:

- Meshing may be appropriate as proposed. Care must be taken not to disturb the vegetation unduly.
- A gap should be provided in the mesh over the entrance to the nest hole.
- Gaps with a diameter of 10 to 15 cm should be opened in the mesh at various locations to coincide with ledges.
- Gaps of 5 to 10 cm should also be left at intervals to allow passage of small birds such as Blue Rock Thrush *Monticola solitarius* and Black Redstart *Phoenicurus ochrurus*.
- A gap must be left to coincide with the opening of the fissure mentioned above.
- In order to achieve environmental gain here also, nest boxes should be attached and concreted in to the cliff in the areas to be guncreted. These should be 6 swift boxes and two kestrel *Falco tinnunculus*/little owl *Athene noctua* boxes.



An impressive stand of *Aeonium haworthii*

The western section holding chasmophytic vegetation, part of this being directly over the sea

This area is botanically the most important. The survey has revealed a newly discovered, large population of well-established, mature *Aeonium haworthii*. Gibraltar is the only known location of this species outside the Canary Islands. While its origin may be introduced, it is also possible, given the fine nature of the seed and prevailing weather conditions that it has colonised naturally from the Canaries (Lamb, 1994). The colony at Little Bay is the most significant in Gibraltar. It is particularly important as it grows in association with *Aeonium korneliuslemsii*, the only European station where two species of *Aeonium* grow together in the wild, and with the Gibraltar Straits endemic *Limonium emarginatum*, the Gibraltar Sea Lavender.

The importance of the site is added to by the fact that it falls within the definition of two habitats listed in Annex I of the European Habitats Directive (Natural Habitat Types of Community Interest whose conservation requires the designation of Special Areas of Conservation):

Habitat Code 8210: *Calcareous rocky slopes with chasmophytic vegetation*;

and

Habitat Code 1240: *Vegetated sea cliffs of the Mediterranean coasts with endemic Limonium spp.*

The European status of the habitat in question gives it legal protection. Most of the habitat in question is outside the remit of the proposed works, but part of it at least would be covered by mesh. Other sections would be affected by the works even if they are not to be meshed themselves.

Any work in this area, including the placing of mesh will seriously disturb the vegetation.



Aeonium haworthii by the sea in association with *Limonium emarginatum*

Recommendations

- No works must be carried out to this area before the situation is re-appraised.
- Plans to scrape the cliff and place mesh in this section must be postponed pending this re-assessment.
- Consideration should be given to fencing off a small section of the extreme southwest of Little Bay *in lieu* of treating the cliff above.

- The method used to treat adjacent areas must avoid causing damage to the habitat in question.
- As an additional environmental improvement, the unsightly water intake pipes should be screened with a wall faced with limestone blocks with soil-filled crevices to allow natural colonisation by plants.

Conclusion

It is important that the recommended actions be carried out.

An additional recommendation is that

- ❖ **Care must be taken that no surplus or unused concrete, mesh, attachments or any other materials are left anywhere near the site.**

- ❖ **There should be a re-appraisal of all of Golder Associates' recommendations for Gibraltar's cliffs. This will ensure that environmental considerations are incorporated in the planning process at an early stage.**

And that, in view of the important findings following the survey by our Caving Section,

Reference

Lamb, B M.(1994). The genus *Aeonium* Webb & Berthelot in Gibraltar. *Almoraima* 11:191-194.

Acknowledgements

Michael Gil and Hector Montado of the Technical Services Section responded quickly and positively to the request from GONHS for an environmental assessment. Together with Golder Associates and Nuttalls Ltd (the contractors for the works) they provided full support and facilities in the work summarised here. We are grateful for this.

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