**WITHOUT ATTACHMENTS**

**EEP15**

**Working Group 1**

**WP – Bird Deterrents**

# Scope;

* Prepare information pertaining to effectiveness of bird deterrents, specifically by identifying measures that authorities are using or have trialed, and the measure of success or level of effectiveness.

# Requirements for bird deterrents;

* Helipads
* Lanterns / AtoNs
* Solar panels
* Structural components.

## Methods trialed or being practiced

Below are details of methods currently being practiced, or previously trialed, and the level of effectiveness.

* **Sweden**
* See Input Paper (Attachment 1), which outlines attempts to mitigate problems with cormorants and bird lime at their lighthouse. The input paper documents issues with identifying effective measures. Sweden commissioned a study by university student utilizing range of different methods with mixed results;
* Mocking birds - Unsuccessful
* Gas cannons – Initial results were promising however initial results diminished and the gas cannon was later decommissioned.
* Sound scarers – Was trialed using bird distress calls. After second month, cormorants completely ignored the sound scares. Conclusion was that the bird scares were ineffective.
* Methods
* Laser guns – possible use of laser guns was researched, however further investigation of both studies, showed that suppliers were not confident on the use of laser guns for bird deterrents.
* Mobile phone base station – First site showed signs of effectiveness, however second site didn’t, therefore evidence of electro-magnetism as an effective bird deterrent was inconclusive.
* Shared for all of the tested methods are their inability to disperse birds in

a time consistent way.

* **Japan**
* See Input Paper 2 (Attachment 2), outlining tests of bird deterrent devices on 239 AtoNs.
* Devices included ‘Pyramidal metal attachments’ and attachments consisting of ‘wire or synthetic fiber’. Mixed results and details of level of effectiveness for type of deterrent are provided in the Input paper.
* Vertical mounting of solar panels was also successful but required additional solar components to address power loss. In some cases, there was no sufficient room for additional solar panel arrays.
* **Australia**
* A variety of different methods have been used by AMSA.
* Bird rollers – mounted on solar panels and structural components on a variety of different structure. Bird rollers have proven reasonably successful.
* Vertical mounting of solar panels – successful but requires additional solar components to address power loss.
* Installing cones on top of flat lantern services, to remove areas for bird purchase

Figure 1. Bird Rollers installed in Australia

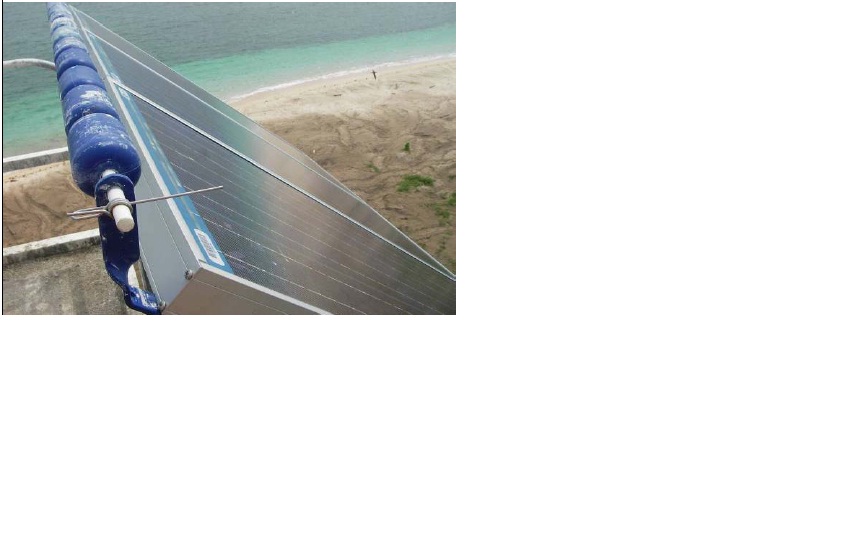
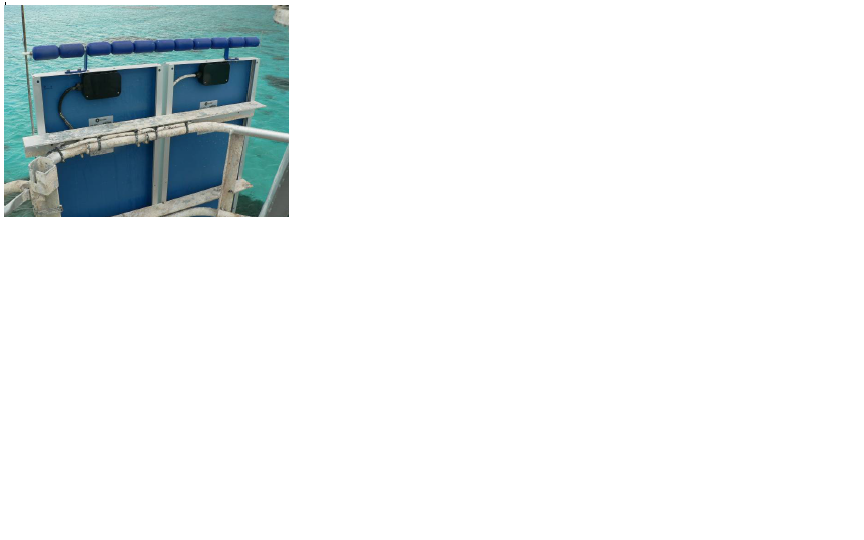


Figure 2. Adding cones to flat lantern surfaces



* **Papua New Guinea**
* Problem with severe bird lime coverage encountered in locations in PNG on recently refurbished navigation aids. Several different methods trialed.
* Heavy gauge stainless spikes proved too effective and resulted in birds being impaled on spikes and dying, covering solar panels and lanterns, resulting in outages
* Commercially available bird spikes out of Australia have proved successful; however method of attaching bird spikes has required some changes.
* Must be noted that all sites visited bi-annually, and if the maintenance visits were extended it is possible the method of adhesion may fail.
* Trinity House
* Adaptation of blue paint which has proven successful against deterring birds / cormorants from using helipad.
* Trinity House has been requested to provide details on whether there is a particular tone / shade of blue used.
* Brazil
* Brazilian authorities used a Simple scheme for preventing bird fouling to obscure solar panels or lens installed on buoys.
* Practical observations indicated that seagulls tend to defecate in nearly horizontal bursts, whilst perched on steel buoy guard rails.
* A simple elevating platform proved effective in reducing the fouling effect that, otherwise, rendered the lanterns unusable after a short period of installation, mainly because of insufficient recharging.
* The figures below show the arrangement without the elevating platform, to the left, and with the elevating platform, to the right.

Figure 3. Methods used by Brazilian authorities



Figure 4. Cone installed on top of lantern in Norway.



# RECOMMENDATION

* In order to increase the amount of information available on this subject, other authorities should be consulted for information on the issue of bird deterrents, particularly on deterrents or bird control measures previously used or currently implemented, including the level of effectiveness.
* If possible, information on any situations where the problem is specific to a certain species of bird (such as cormorants) which may enable countries to better identify control measures if the bird issue is specific to one type of bird.

**ATTACHMENT 1 – INPUT PAPER**

**ATTACHMENT 2 – INPUT PAPER**