

Artificial Nest Sites as a tool to enhance breeding Seabird Monitoring on Skellig Michael



Figure 1: A Storm Petrel pair in a nest box on Inishtrahull, Co Donegal

Background to seabird monitoring on Skellig Michael

- A Natura 2000 site designated as a Special Protection Area for a range of breeding seabird populations.
- Strategically important in terms of Ireland's overall seabird monitoring programme to inform conservation management actions at the national and international levels
- Other important natural history features coexist with the seabird populations – this site is also a Nature Reserve
- NPWS undertakes surveys, monitoring and research work on a near annual basis since the early 1990s facilitated by OPW and NMS
- Due to logistical constraints, the range of works have been largely confined to standard seabird surveys of a subset of the island's populations and pulsed censuses of other bird populations.

World Heritage Property Management Plan 2020 – 30

This plan, which is now up and running:

- recognises the importance of the island's natural heritage alongside its built heritage
- frames the scope of the seabird monitoring and conservation management work for this decade

- Objective No 4 of the Management Plan is to identify and conserve the natural heritage of the island. Flowing from this objective are 18 specific actions.
- Natural Heritage conservation also cross cuts across other objectives of the Management Plan including: Statutory and Policy; Sustainable tourism and Visitor Management; and Research

In order for these objectives to be met it is necessary for NPWS to increase the level of on island effort to begin to develop a sustainable and fit for purpose seabird monitoring programme for the period 2020 – 2030.

Core to this development is the planned deployment of artificial nest structures which, depending on their abundance, location and occupancy rates could significantly increase our capacity to monitor the breeding adult population, estimates productivity rates and further characterise the phenological patterns on Skellig Michael for a range of seabird species.

The primary target species are:

- Storm Petrel
- Manx Shearwater

But also Puffin who may colonise boxes designed for Manx Shearwater

A purpose built wall with Storm Petrel nesting habitat was built for the 2018 breeding season. The site location was opportunistic and not in or close to an area of high Storm Petrel usage. This may be the reason that it remains uncopied thus far. Plans to entice birds to prospect this habitat using tape lures early in the season are in place for 2023.



Figure 2: Manx Shearwater and egg in a Welsh colony

Learning from this our revised plans are to locate smaller but more nest boxes at or close to areas of high target species concentration. The types of structure depend on the species.

Manx Shearwater nest box design:



A simple wooden box with no bottom, a hinged lid and an access hole plus tube is sufficient for Manx Shearwater if sited correctly. These boxes are dug into soils of suitable depth, location and aspect. This design has been in use for many years on Welsh colonies. Our plan is to deploy 20 of these units in two discreet areas as set out in Figures 4 and 5.

We understand that these target areas need to be away from those areas accessible by tourists and in areas that are likely to be of no or low archaeological significance. Once installed such structures are very discreet and would not be overly obvious.

Figure 3: Manx Shearwater nest box installation



Figure 4: Manx Shearwater nest box area 1



Figure 5: Manx Shearwater nest box area 2

Storm Petrel nest box designs:

We propose two broad types of Storm Petrel nest boxes to be deployed on Skellig Michael. The choice of the particular type will depend on the location. Type 1 is essentially a wooden box with three discreet nesting chambers (see Figure 6). The chambers can be inspected via a removable lid. This type of box is best suited to hard ground immediately abutting a rock wall and it would be envisaged that the box would be anchored via rocks on top of and alongside the box, these will be in non-public access areas and the use of rocks will also aid blending them into the environment. Initially we intend to set up three units of this Type I Storm Petrel box at three locations (see Figure 7).



Figure 6: Type I Storm Petrel nest box



Figure 7: Areas for type I Storm Petrel nest boxes

The second type of Storm Petrel Nest Chamber design is a unit built from plastic pieces of plumbing as per Figure 8.



Figure 8: Snapshots of the Type II design

This Type II design is ideally suited for installation into rubble mounds. It is proposed to initially install up to 10 of these units in the scree above the Beehive huts (as per Figure 9). As these structures are almost completely covered by the rubble and due to their precise siting, they would be invisible to tourists visiting the monastery complex.



Figure 9: Rubble pile for type II location and rock face to the right for type 1



Figure 10: Areas for nest box installation

In summary the need for a greater knowledge base in relation to the Special Conservation Interests of Skellig Michael is becoming more important. Accessible locations for monitoring, depending on quantity, location and occupancy rates could significantly increase our capacity to monitor the breeding adult populations, estimates productivity rates and further characterise the phenological patterns on Skellig Michael for a range of seabird species. Such information is required in order to inform the assessment of impacts potentially caused by tourists and other anthropogenic pressures on the seabird populations of this SPA.

This will aid us to fulfil the obligations required under EU legislation and the management plan 2020 - 2030.