

Isles of Scilly Seabird Recovery Project: Frequently asked questions

Seabirds in the Isles of Scilly

How important are the islands for seabirds?

The Isles of Scilly are internationally-important for seabirds with breeding populations of 14 species and approximately 20,000 birds. The UK supports a significant proportion of the world and European populations of two species: the European storm petrel and the Manx shearwater.

The population of storm petrel on the islands is of international importance. There were 1,398 pairs in 2006. It is one of only two locations in England where Manx shearwater breed. Geographically the islands lie at the southern edge of both these species' ranges.

If they are already important why do you need to do anything more?

Seabird populations in Scilly are important but also vulnerable. They face a variety of threats. On land a major threat is predation of eggs and chicks by rats. The overall population of seabirds declined by 24% between 1983 and 2006. To ensure that the islands' seabird populations can meet future challenges, their current conservation status and breeding range need to be optimised. To maximise the resilience of the existing population a feasibility study has reviewed current work protecting the uninhabited islands from rats. It has also identified opportunities to enhance numbers of Manx shearwater and storm petrel in particular on inhabited islands, by providing currently unoccupied and potentially suitable habitat through future rat removal work. An assessment of whether rat control would work on St Agnes and Gugh, so that these two species could colonise unoccupied habitat, will be included in the feasibility study.

The feasibility study

The feasibility undertook:

1. A review the current work of The Isles of Scilly Wildlife Trust (IOSWT) on rat abatement. It will also look at and evaluate new and alternative ways of doing the work.
2. A brief assessment of how possible it might be to introduce rat control right across the archipelago.
3. A more detailed assessment of the inhabited islands of St Agnes with Gugh.

Various important questions were raised in a workshop held on St Mary's in March 2010 and through consultation with various experts and people who had undertaken this type of work on other islands. The purpose of the feasibility study was to answer these questions. The support of the local population will be crucial. Access by rats to sources of winter food will need to be curtailed. The risk of re-invasion from other islands will be examined.

Who managed the project?

The feasibility study was managed by Paul St Pierre (RSPB). The project team is Jules Webber (Natural England), David Mawer (IOSWT) and Clare Lewis (Isles of Scilly Area of Outstanding Natural Beauty (AONB)).

Who carried out the feasibility study?

Elizabeth Bell (WMIL) carried out the study. They carried out this type of work successfully on Lundy and An expert contractor who has done similar work on other inhabited islands in the UK is being engaged to carry out the feasibility study. This will take place during October-December 2010.

Who was contacted in the feasibility study?

The feasibility study contacted a range of organisations and individuals on the Islands to seek their views, support and gather the required information. The initial stages of the study ruled out some options for rat control that were clearly unrealistic. This allowed the study to focus on options for rat control that look more realistic: on St Agnes and Gugh. In total over 150 people were interviewed. Key stakeholders on the main inhabited islands of St Mary's, St Martins, Tresco and Bryher were interviewed. Drop in sessions were held on St Mary's and in addition, 55 randomly selected people were interviewed on St Mary's. All of the community on St Agnes and Gugh were interviewed. The purpose of this selection was to provide greater understanding of the views of the people who live on the islands and to ensure that those most likely to be affected were contacted.

How was the wider public involved?

The public were sign posted to Clare Lewis, Environmental Awareness Coordinator for the Isles of Scilly AONB as the first point of contact. Local points of contact on the different islands were identified, who held background information on the study and could quickly signpost anyone to the project team. These contacts included:

Richard McCarthy - St Agnes Marian Bennett - Bryher Mike Nelhams - Tresco Zoe Julian - St Martin's Clare Lewis - St Mary's

Did the partnership have local support to carry out the feasibility study?

The support of local people will be essential in achieving a successful outcome for the project. For one thing, much of the work will need to be carried out on private land and keeping the public informed will play a major part in the feasibility study. The study is itself one of the agreed actions within the Isles of Scilly Seabird Conservation Strategy which in turn is supported by the Isles of Scilly AONB Management Plan. This was produced by the AONB Joint Advisory Committee (JAC), which itself consists of islanders in various capacities as well as representatives from statutory and non-statutory bodies.

The planned scope of the feasibility study emerged from a workshop held on St Mary's in March 2010 which was attended by a variety of local people from different sectors within the community.

If there was local support when would a project happen?

There was local support for rat removal work on the inhabited islands of St Agnes and Gugh and the project were given the go-ahead to try and secure the funding by the community there. The project is currently looking into funding but due to the timescales it is unlikely that any work will be undertaken until the winter of 2012-13 at the earliest.

You specifically mention St Agnes and Gugh. Why these islands?

These two islands have important – and vulnerable - seabird populations and could support many more. The human population is also quite small. Perhaps most importantly, the islands are separated by deep water from the rest of the islands, limiting scope for rat re-invasion. The islands are also those nearest to Annet, by far the most important of Scilly's seabird islands and removal of rats from St. Agnes and Gugh can only help minimize the risk that rats invade Annet.

What did the Feasibility study find out and what recommendations did it make?

A review the current work of The Isles of Scilly Wildlife Trust (IOSWT) on rat abatement found that:

1. Based upon a random sample of people on the Isles of Scilly there was 100% support for the control of rats to protect the seabird populations on uninhabited islands.
2. The present rat control on the uninhabited islands is adequate, but could be improved with increased staffing, increased monitoring, adequate transport and co-operation with residents, other agencies and Council of the Isles of Scilly contractors.
3. Monitoring tools (rodent motels, tracking tunnels, chocolate wax etc.) need to be used on the uninhabited islands to aid with rat incursion detection. The use of wooden boxes in sensitive locations will improve aesthetics.
4. Accurate records of re-incursion (i.e. detection location, date) and subsequent action should be maintained. It is important to get a pattern of re-incursion and relate this to tide, month, behaviour, foraging and detection probability.
5. Additional baiting on the inhabited islands could reduce the frequency of rat incursion to the uninhabited islands.
6. A new Isles of Scilly Wildlife Trust warden position (or contract rat control position) should be developed to undertake all rat monitoring (September to April) work on the uninhabited islands and buffer zones on inhabited islands. The responsibilities should be to visit all islands regularly, implement monitoring stations (tracking tunnels and chocolate wax), monitor bait and monitoring stations, data entry and analysis.

The brief assessment of how possible it might be to introduce rat control right across the archipelago found that:

1. It is **not** currently feasible to remove rats from the whole archipelago.
2. Rats **are** having an impact on social, economic and conservation factors on the Isles of Scilly; particularly with regards to seabird productivity, public health, public enjoyment, damage to properties, animal health, vegetation growth and crop damage.
3. Rat control, damage, contamination and health issues cost the Isles of Scilly were estimated to be up to £200,000 per year; St Mary's £160,000, Bryher £7,500, St Martin's £12,500, Tresco £5,000 and St Agnes and Gugh £15,000. There are two recorded cases of wile's disease on the islands
4. The population estimate for brown rats on the Isles of Scilly was 34,500 brown rats on St Agnes and Gugh is 3100 brown rats, on Bryher is 2500, on Tresco is 7450, on St Martin's is 5100 and on St Mary's is 16350 brown rats. This is a density of between 20 and 25

brown rats per hectare depending on the habitat type. Most inhabited islands around the world have rat densities that range between 15 and 50 rats per hectare (depending on habitat). Black rats (*Rattus rattus*) have been recorded historically on the Isles of Scilly (in particular on Samson between 1300 and 1478) but are presumed to have died out in the late 1400s; they were not found as part of this survey. Rats were recorded eating Scilly shrews, blackberries, seeds, heather, invertebrates, limpets, crabs and *Pittosporum*.

5. The removal of rats from Bryher, Tresco and St Martin's **is not** feasible without these three islands being targeted together. In addition a number of issues would need to be addressed on the islands to reduce the food available to rats e.g. feeding of gamebirds. Based on random interviews, a project to remove rats from Bryher, Tresco and St Martin's would be supported by the local community.
6. Due to a number of factors (including poor waste management, lack of public support and presence of other predators), the removal of rats from St Mary's **is not** currently feasible.
7. Based on random interviews, the proposal to remove rats from St Mary's was not completely supported by the local community. Only 62% of those residents interviewed supported the proposal; others thought it was not achievable or not appropriate as they didn't realise Manx shearwaters were present on St Mary's. 15% of those interviewed considered that rats should not be controlled at all on St Mary's. This makes a removal programme on St Marys unfeasible.

A more detailed assessment of St Agnes and Gugh found:

1. The removal of rats from St Agnes and Gugh **is** feasible. Based on interviews of all the residents, the proposal to remove rats from St Agnes and Gugh was supported by the local island community.
2. A number of factors need to be addressed prior to the programme such as reduction in use of poison prior to operation, safety of pets, storage of stock and chicken feed, harvesting and storage of potatoes, compost and general waste disposal and storage.
3. House mice (*Mus musculus*) have been recorded on St Agnes and Gugh in the past but were also not caught during this survey.
4. Any rat removal programme undertaken on St Agnes and Gugh should be a ground-based operation using bait stations using difenacoum (Neosorex[®], a cereal-based wax block) from October to March (approximately 180 days).
5. The entire community on St Agnes and Gugh were supportive of the proposal to remove rats from their island. In addition other off-island communities were supportive of the idea that it was undertaken as a pilot project. The community were willing to implement all requirements to ensure the success of the project such as alternative waste management, potato and animal feed storage systems.
6. Community concerns ranged from pet and children safety, farming issues (being able to grow feed crops as usual), funding and justification of expense. Mitigation and technical information covering these concerns was provided to all households.

Potential benefits of carrying out a rat control project

What birds will benefit and how do you know they will benefit?

In addition to the Manx Shearwater and the European storm petrel, puffins are also particularly vulnerable to predation by rats, so are smaller species such as the common tern. The removal of rats from Lundy through a similar Seabird Recovery Project produced a 250% increase in Manx Shearwater numbers within 5 years.

Ground nesting birds such as oystercatcher and ringed plover are susceptible to rat predation too along with land birds like the song thrush and even the house sparrow. Removal of rats could also maintain and secure the rat-free status of some of the islands' most important seabird colonies, notably Annet.

What about other wildlife?

The study reviewed other projects and found that on Canna the numbers of shrew there increased after the removal of brown rats. The study also set out various monitoring devices to determine the densities of rodents and shrews on St Agnes and Gugh. The results indicate that the highest densities of Scilly shrew on St Agnes and Gugh were where baiting is currently undertaken for rats. Therefore it is quite possible that rats are suppressing populations of the Scilly shrew.

Will rat removal increase the numbers of breeding gulls?

We do not believe that the work would significantly increase numbers of large gulls. They tend to breed in a range of natural and artificial locations where rats may or may not be present.

The RSPB and NE are currently monitoring breeding productivity on natural sites where rats are both absent and present as well as on 'artificial' sites in Hugh Town. This monitoring process was started after dramatic declines were recorded at natural colonies.

The population in more natural locations both with and without rats has been undergoing similar fluctuations in breeding productivity. This would seem to indicate that the breeding productivity of gulls may be linked to other issues.

As anticipated, their highest breeding productivity anywhere on the islands is in Hugh Town where an abundant food source supports high productivity and rooftop predators are few.

Removing food sources available in urban areas may well require gulls to relocate and collect food in other locations.

How will rat control affect tourism businesses?

The experience from Lundy where significant amounts of information was provided for visitors revealed no negative impact on the tourist economy. Rather, the increase in Manx shearwaters was a positive story for the island.

What other benefits could there be?

There are a considerable number.

Public money is currently made available to control rats around existing waste management sites.

Rat bait is also provided over the counter for private individuals on the islands. Removing rats altogether in certain areas could help reduce this ongoing cost.

Public money is already being used to control rats on uninhabited islands too. Appraisal of current work and further removal work could well reduce future costs here too.

Furthermore, rats carry various diseases that can affect humans as well as other animals. Their removal would help reduce the risk of the spread of such diseases.

Rats can and do cause damage to properties and crops. Their removal can and does provide an economic benefit to tourism as well as farming, eliminating the need for continued private baiting. The project would also help owners and managers of properties meet the requirements of Government food safety legislation. This, for example, requires exclusion of pests from buildings used for food storage. Waste management improvements that reduce rats would also serve to reduce the impact around such sites of gulls.

Rats

Which rat species occur in the Isles of Scilly?

The study found only brown rats on St Agnes and Gugh and no records of black rat after 1478 on the Isles of Scilly. Black rats (*Rattus rattus*) have been recorded historically on the Isles of Scilly (in particular on Samson between 1300 and 1478) but are presumed to have died out in the late 1400s.

How many brown rats are there on the Isles of Scilly?

The study estimated the population of brown rats on the Isles of Scilly was 34,500 (St Agnes and Gugh 3100 (9%), Bryher 2500 (7%), Tresco 7450 (22%), St Martin's 5100(15%) and St Mary's 16350(47%)). This is a density of between 20 and 25 brown rats per hectare depending on the habitat type. Most inhabited islands around the world have rat densities that range between 15 and 50 rats per hectare (depending on habitat).

Are rats a native species?

Brown rats are an introduced species. They arrived in the UK around 1720.

Can rats swim?

Yes. They certainly can. The study took this into account because it's something that will make the re-incursion risk of rats much higher for islands that are close together. Based upon the known swimming abilities of rats the study found that the inhabited islands could be grouped into three; St Agnes and Gugh; Bryher, Tresco and St Martins; and St Mary's. On this basis it is unrealistic to carry out individual removal projects on Bryher, Tresco and St Martins and these islands would need to be done together.

Wasn't a Scilly Shrew accidentally transported by boat to the mainland recently? What's to stop a rat coming the other way?

Inter-island and mainland boat traffic does pose a risk in this respect. It could allow rats to re-establish themselves after they had been removed. The feasibility looked at all the quays both on the islands and the mainland and spoke to a range of boat operators to determine the level of risk here and discuss the potential measures and training that would be needed to reduce the likelihood of a re-incursion and establish effective mechanisms to deal with any possible re-incursion.

Because of the level of cleanliness of the quays and the speed at which cargo was moved

Rat removal and control work

Is rat control work new on the islands?

Rat control and removal work has been going on across the uninhabited islands for over 15 years for seabird conservation purposes. Furthermore, rat baiting is currently undertaken by the Council as well as by private individuals for public health and food safety reasons on the inhabited islands.

Has removal been successfully carried out before on inhabited islands elsewhere?

There are two recent examples in the UK where rats have been successfully removed on inhabited islands: from Lundy off the north Devon coast and on Canna in the Inner Hebrides. Both sites have provided lessons.

However a feasibility study on Scilly was required because islands everywhere are different. Local issues will need to be identified and assessed in terms of their risk to a successful project being carried out.

How much would a removal project cost and who will fund it?

The feasibility study estimated that the cost of removing the rats from St Agnes and Gugh would be in the regional £160,000. However, such figures do not include the cost of preliminary work, including the need to remove or exclude rats from existing food sources and any work after to confirm that removal was successful.

Because the islands are designated as a Special Protection area for these seabirds they are eligible for LIFE funding. The project partnership is currently developing a LIFE funding bid. There is potential for significant in-kind support outside the islands through various would-be project partners. Indeed, the success of projects elsewhere has only been possible with the support of bands of trained volunteers.

What does rat removal involve?

The study proposed is for a five-year project. Detailed planning and risk assessments, permits and approvals, operational details, continued community consultation, a biosecurity strategy, contracts and monitoring and research programmes would be undertaken initially. The rat-removal operation would occur over winter; from October to March (in a single 180-day operation) in the winter of the third year). Monitoring for surviving rats would continue for two years before a final decision on the success of the rat removal programme could be given. Monitoring of invertebrate, land birds, seabirds and vegetation will continue through these two years as well. The study reviewed previous successful projects and identified the most appropriate method based upon local circumstances for St Agnes and Gugh would be a ground-based operation using the rodenticide 'difenacoum' in a block formulation. This work should be carried out during the winter months when success is likely to be highest due to limited natural rat food source availability. The bait should be enclosed in 'bait stations' to prevent poisoning of non-target species. These stations are then placed at regular intervals across the island and checked daily to assess progress and address any issues. Doing this in winter also avoids disturbing the breeding seabirds we are trying to protect, significantly reduces the minimal threats to non-target species and also avoids the main tourist season. Contingency plans are put in place to allow for speedy reaction to any re-infestation problems that may arise.

Isn't poisoning inhumane?

Rat poisoning is carried out widely across the UK by private individuals, contractors and public bodies including Councils. This project will conform to any relevant legislation on animal cruelty. The project as a whole will involve consultation with the RSPCA. It will need to conform to any advice the RSPCA may give on ensuring that methods used meet recognized standards.

Will there be lots of dead rats lying around?

Past experience from other projects found that rats always move back to their holes to die. On Lundy only three dead rats were found in the open over the duration of the project.

How will you stop poisoning other things?

The feasibility study assessed the risks and specific measures required on St Agnes and Gugh. Experience from other projects has shaped the design of rat bait stations to exclude non-target species such as birds, rabbits that are found on St Agnes and Gugh, as well as humans. The timing of the baiting will also mean that many bird species will not be present. The study found no recent evidence of mice on St Agnes and Gugh and higher numbers of Scilly shrew in areas currently baited than those not baited (Scilly shrew feed on invertebrates and do not normally feed on bait). This indicates that rats could be suppressing their population. Advice from the Health and Safety Executive will be sought to ensure that methodology and contingency plans meet the required standards.

Will there be any visual effects on the landscape?

Isles of Scilly Wildlife Trust bait stations remain in situ year round on uninhabited islands. The network of bait stations on Lundy was seasonal. The work was carried out in the winter from November to March. Bait stations were removed during the summer. The stations themselves are designed to be low to the ground although they may be flagged to aid their location. Permanent bait stations may be required in some instances to help detect any potential rat incursions. They might stay, for instance, around quays or waste sites or other locations identified by the assessment.

Who to contact with any questions not answered here

Clare Lewis, Environmental Awareness Coordinator for the Isles of Scilly AONB is your first point of contact. She will endeavour to answer any questions you have or will signpost you onto a source that can. Please contact her by email with any questions at clewis@scilly.gov.uk.