CUSTOMER STORY AUGUST 2019

Protecting the Endangered Birds of Gough Island

British teams reliant on accurate and precise GNSS data leverage Trimble solutions to preserve populations of native birds on a remote island.

Southern Rockhopper penguins are common visitors to Gough Island. Houston could walk freely among the penguins, who showed little fear of humans.

Trimble®

Challenge

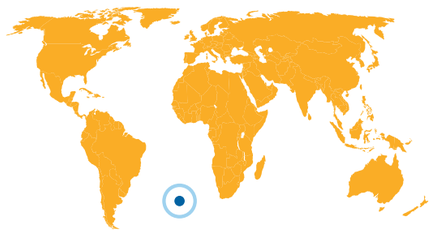
Gough Island is a World Heritage Site and one of the world's most important seabird nesting sites. Invasive rodents on this isolated and remote island are threatening the habitats of endangered birds there.

To protect the birds, the Royal Society for the Protection of Birds (RSPB) initiated a project to eradicate the mice from Gough Island. The work involves onsite mitigation efforts to control the rodent population. RSPB began planning for facilities needed to support the work. They received permission to establish temporary infrastructure to house, feed and support the taskforce. One of the overall goals is to install many temporary [trapping/planning?] structures with minimal impact on Gough Island's native flora and fauna. On top of a demanding schedule driven by how long people could stay on the island, John Houston of Taylor & Boyd Consulting Structural and Civil Engineers faced a lack of positioning infrastructure required to place these facilities.

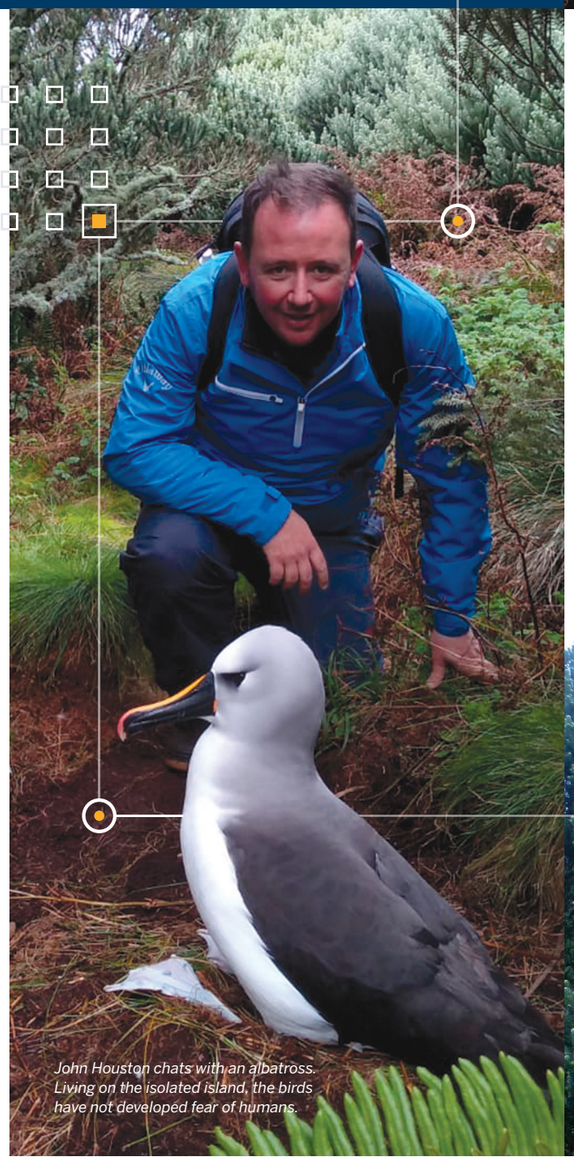
Solution

Using the Trimble CenterPoint® RTX real-time correction service and a Trimble R10™ GNSS receiver, John Houston leads the effort to collect hundreds of 3D points around the Gough Island project site. The RSPB uses these 3D points to gather topographic and geotechnical information, including mapping with GNSS in order to determine locations for the necessary planning facilities to begin the project of eradicating the invasive rodents.

Houston captured the location of existing structures and features, test pits for soil evaluation, and ground points for use in topographic modeling. The display on the Trimble Total Station C3 allowed Houston to follow his progress and ensure he covered the necessary ground. In spite of working more than a thousand kilometers from the nearest GNSS reference station, Houston achieved centimeter accuracy on all survey points; typically 3 to 5 cm in both the horizontal and vertical components.



Location Gough Island, South Atlantic Ocean



John Houston chats with an albatross. Living on the isolated island, the birds have not developed fear of humans.

Approach

A self-described "rookie surveyor," Houston quickly learned to operate the GNSS equipment. With CenterPoint RTX operating transparently, he could focus on the engineering aspects of his work. At the end of each day, Houston reviewed data on the controller, planned the next day's work and set up the system batteries for recharging.

Houston collected several points on the existing helipad and building foundations that will serve as reference points for the upcoming work on the island. Trimble CenterPoint RTX and the Trimble R10 GNSS receiver were instrumental in achieving the needed accuracy and productivity for the planned facilities as well as for the RSPB to overlay bird data on the topographic maps and identify flight paths and nesting areas.

Results

The data, which is the first topographical survey ever carried out on the Gough Island base since it was established in 1963, will aid the South African government in maintenance and operations of the island facilities specifically created for the taskforce leading the eradication effort.

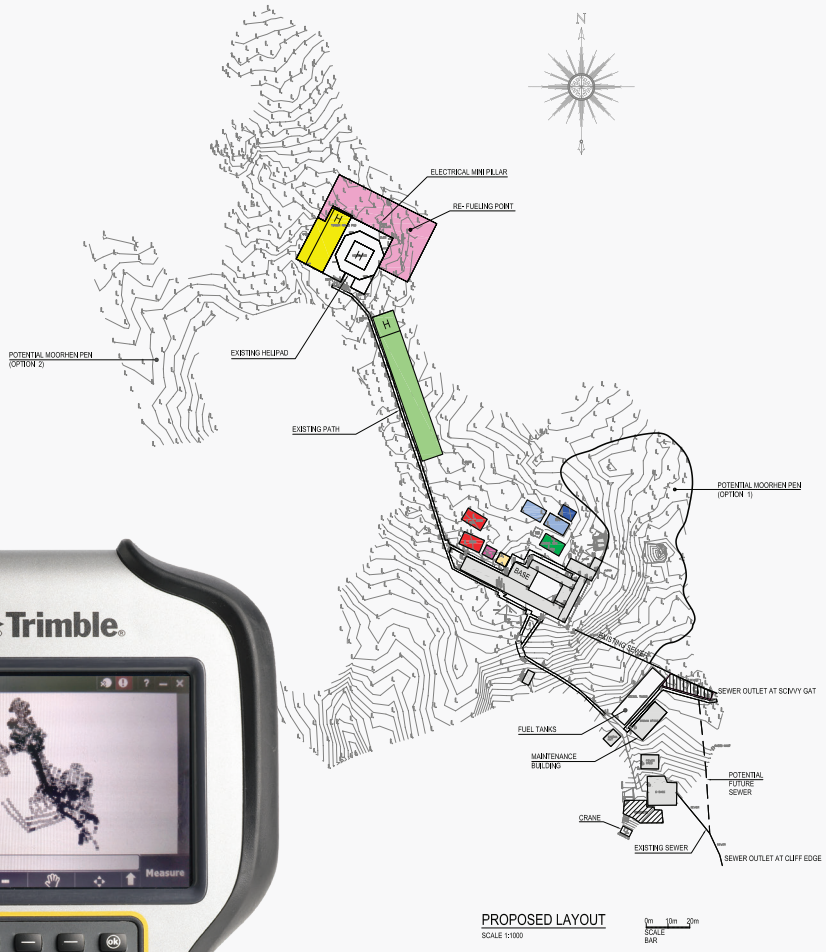
Utilizing Trimble technology, Taylor & Boyd developed 2D contour maps and 3D terrain models of the site, which they shared with RSPB. Houston departed Gough Island with survey data sufficient for RSPB to design and place temporary facilities in preparation for the launch of the eradication of the invasive species.

"The CenterPoint RTX was invaluable for the success of the project. If this technology works on Gough Island, then it will work anywhere."

– John Houston, Taylor & Boyd Consulting Structural and Civil Engineers

John Houston carries the GNSS receiver along a survey line on Gough Island. Cold weather and difficult terrain made days difficult.

Trimble®



The TSC3 displayed all the points captured with GNSS. The data were later transferred to CAD software for mapping and design.

Contact your Distribution Partner today

NORTH AMERICA
Trimble Inc.
10368 Westmoor Dr
Westminster CO 80021
USA

EUROPE
Trimble Germany GmbH
Am Prime Parc 11
65479 Raunheim
GERMANY
+49-6142-2100-0
Phone
+49-6142-2100-140 Fax

ASIA-PACIFIC
Trimble Navigation
Singapore PTE Limited
3 HarbourFront Place
#13-02 HarbourFront Tower
Two
Singapore 099254
SINGAPORE
+65-6871-5878 Phone
+65-6871-5879 Fax