

Customer Story



Photography by Andy Hay, rspb-images.com

Industry

Conservation/
Environment

Focus

Big Data
Analytics

Business Issue

RSPB was faced with growing data sets and an expanding range of disparate data sources in its scientific research, which is required to understand conservation problems and to test and develop solutions.

Solution

SAS® Base
SAS/STAT®
SAS/ETS®
SAS/ACCESS®
SAS® Visual Data Discovery

Benefits

- SAS helped RSPB produce firm scientific evidence needed to confidently implement conservation initiatives
- SAS was used to merge data sets such as sea temperatures, fishing grounds and foraging habits of albatrosses across the Southern Ocean to inform their conservation
- Programmes underpinned by SAS included merging data sets on yellowhammer and skylark nesting success, agricultural cropping patterns and pesticide usage to inform their conservation.

Big data analytics is RSPB's secret weapon in saving endangered birds



SAS® offers the Royal Society for the Protection of Birds the vital information for conservation action, and assistance in understanding and resolving urgent environmental problems

Populations of many bird species are in rapid decline. Intensive farming, climate change and over-exploitation of the oceans are affecting bird habitats and food supplies leaving some vulnerable to extinction. As the UK's largest nature conservation charity, The Royal Society for the Protection of Birds (RSPB) is using SAS' big data analytics to understand the problems affecting birds and other wildlife and to test and develop conservation solutions.

Each year, large-scale commercial longline fishing kills tens of thousands of albatrosses. Out of the world's 22 albatross species, 17 have been identified as threatened. In the UK, once common species like house sparrows and starlings have suffered large population declines in both rural and urban areas.

The UK charity relies heavily on scientific research and data analysis to help them take the right action to protect birds and other wildlife in their natural habitats. Researchers regularly conduct diagnostic studies to understand the causes of population decline.

They also test different conversation methods to determine which techniques or scenarios are most effective for different species. As a result, the organisation has a large number of data sets which require careful analysis and interpretation if the conservation problems are to be clearly understood.

"We need to make sense of a variety of large and complex data sets. For example, tracking the movements of kittiwakes and gannets as they forage at sea produces millions of data points" said Dr. Will Peach, Head of Research Delivery at RSPB.

The organisation implemented SAS® advanced analytics solutions to help understand the data RSPB collects, in order to develop evidence-based conservation programmes and to advocate environmental policies in the UK and abroad.



“ Conservation informed by evidence is always more likely to succeed than that based on guesswork or anecdote. SAS enables us to produce the firm scientific evidence needed to confidently implement our initiatives. ”

Dr Will Peach, Head of Research Delivery Section, RSPB

“Conservation informed by evidence is always more likely to succeed than that based solely on guesswork or anecdote,” continued Peach. “SAS enables us to produce the firm scientific evidence needed to confidently implement our initiatives.”

Since deployment over 15 years ago, research conducted using SAS makes up a large proportion of the organisation’s scientific output. Programmes underpinned by SAS have included tackling problems faced by skylarks and yellowhammers breeding on UK farmland, merging data on nesting success with information on agricultural cropping patterns and pesticide usage. RSPB also used SAS to analyse foraging habits of albatrosses across the Southern Ocean in order to minimise death rates. The organisation gathered data from tags worn by the birds and merged that with external data sets such as sea-surface temperatures and the location of fishing grounds.

Furthermore, RSPB used SAS software to measure the effectiveness of the European Union’s Birds Directive in protecting vulnerable wild bird species across Europe.

“Scientific research is extremely fast-moving. Many software solutions struggle to keep up with the latest statistical methods. However, SAS is always ahead of the game in its adoption of the latest cutting-edge statistical techniques. As such, going forward, SAS will undoubtedly continue to be integral in our pursuit of evidence-based conservation actions needed to help save our birds and wildlife,” concluded Peach.



**SAS gives the Royal Society for the Protection of Birds
THE POWER TO KNOW®**

www.rspb.org.uk/forprofessionals/science/

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