

Empowering people to save nature

Fauna & Flora

The Challenge

- Standardise and expand the use of GIS throughout the charity

The Benefits

- Deeper insight into conservation challenges
- More efficient data collection and data sharing
- Improved visualisation of conservation priorities
- Effective empowerment of partners and communities

In critical conservation projects all around the world, the international nature conservation charity Fauna & Flora uses Esri's ArcGIS system to better understand the risks for threatened species, monitor changes in landscapes and prioritise intervention initiatives. Used by 175 staff across 20 countries, ArcGIS empowers everyone to make the best possible decisions and save nature.

The Challenge

Fauna & Flora works to protect all kinds of nature from pygmy hippos and turtles to ancient magnolia trees and seagrass meadows. Through partnerships with local communities, the charity addresses some of the most challenging global issues, including habitat destruction, illegal poaching and plastic pollution.

In conservation projects in Africa and the Asia-Pacific, around 30 conservationists had begun to use open-source geographic information system (GIS) software to map habitat changes. Outside of these small pockets of GIS usage, however, the technology was not widely known within the organisation and there was no common approach. "There were other teams who were not using GIS and didn't know that they needed it," explains Harriet Branson, Technical Specialist, Remote Sensing and GIS, at Fauna & Flora. "We wanted to make a wider range of GIS capabilities available to everyone and have a single GIS strategy for the whole organisation."

The Solution

After evaluating different options, Fauna & Flora opted for Esri's ArcGIS system, recognising that it offered a complete package of desktop, online and mobile solutions for analysing geospatial data, collecting data, story-telling, monitoring change on dashboards, sharing data via web maps and storing data centrally. "We felt that having a full range of GIS tools and capabilities, all in one place, would boost the accessibility and use of GIS throughout our organisation," recalls Branson.

The Conservation Technology Team at Fauna & Flora implemented ArcGIS Online and ArcGIS Pro, utilising the Esri UK training catalogue. It then organised live training sessions, with follow-along activities, to make regional teams aware of the ArcGIS capabilities available to them and show them how to best use their new GIS resources.

Almost immediately, the number of people using GIS internationally doubled from 30 to 60 and, within four years, there were more than 175 people using ArcGIS across 20 countries. These employees now use GIS for far more than just map generation, taking advantage of the full the range of ArcGIS solutions to gain insights, streamline data collection in the field, aid collaboration and improve data sharing.

In north west Liberia and southern Guinea, for example, Fauna & Flora used ArcGIS Pro classification tools on the desktop to create landcover mapping at three time intervals between 2000 and 2019. The regional team then used ArcGIS Survey123 on mobile devices to verify existing land cover conditions and conducted further analysis with ArcGIS Online to identify priority restoration areas, including wildlife corridors.

Fauna & Flora has developed a host of ArcGIS web apps and ArcGIS StoryMaps to aid communication and raise awareness of conservation projects. Visually stunning and highly compelling, two of its StoryMaps have been named as finalists in Esri's global StoryMap competition: The Guardians of Cao Vit Gibbons; and Community-Based Wildlife Crime Prevention.

“Being able to analyse data in a robust, accurate way is what makes conservation work”

Harriet Branson, Technical Specialist, Remote Sensing and GIS, Fauna & Flora



Fauna & Flora's StoryMap about the guardians of Cao Vit Gibbons

The Benefits

Deeper insight into conservation challenges

The creation of a single organisation-wide GIS platform triggered a massive uplift in the use of GIS. Geospatial data analysis is now routinely used to inform a wide range of conservation projects and has revealed far deeper insight into the challenges of climate change, pollution, deforestation and habitat loss. “Being able to analyse data in a robust, accurate way is what makes conservation work,” explains Branson. “We can now properly understand deforestation risks and how are species moving across the landscape and all this knowledge allows us to implement effective conservation strategies in the right locations.”

More efficient data collection and data sharing

By using ArcGIS Survey123 on mobile devices, instead of paper-based survey methods, Fauna & Flora has significantly improved the efficiency of its data collection workflows and achieved a tenfold increase in data sharing between in-country teams and the charity's UK headquarters. In Uganda, for instance, monthly primate species surveys are now available for analysis in the UK and Uganda almost straight away, saving at least five days per survey round. Consequently, faster decisions can be made about where buffer crop planting might be required in response to chimpanzee presence.

Improved visualisation of conservation priorities

Fauna & Flora can clearly visualise its data with ArcGIS to better understand the pressures on the natural environment and see where interventions are most needed. “ArcGIS allows us to visualise the landscape, monitor patterns across time and location, and see more clearly where conservation activities are urgently needed,” Branson says. “Using ArcGIS we can, for example, begin to understand the relationship between cardamon growth and the thinning of the forest canopy and then make better decisions about what to do.”

Effective empowerment of partners and communities

Through the use of ArcGIS web apps, dashboards and story maps, Fauna & Flora can more easily share information with corporate partners, regional stakeholders and local communities and empower them to make the best decisions. In a recent marine sensitivity project in the Adriatic, the charity created an ArcGIS web app for a corporate partner that enabled it to interrogate grid cells and look deeper into the data. As Branson says: “Sharing our data in visual formats makes it easier for other people to use it to improve their efforts on the ground, prioritise conservation projects and understand impacts on a wider scale.”

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