Case Study

The Center for Plant Conservation at San Diego Zoo Fights to Save Species from Extinction

caspio

CENTER FOR PLANT CONSERVATION
at SAN DIEGO ZOO° GLOBAL

COMPANY PROFILE

The Center for Plant Conservation (CPC) at San Diego Zoo is an institution dedicated to preventing the extinction of US flora. The CPC conducts conservation research and maintains the National Collection of Endangered Plants, which contains more than 750 of America's most imperiled native plants.

saveplants.org

CHALLENGE

The CPC needed an online database solution that would meet its custom application requirements and allow volunteers with limited training to input data from different computers in multiple locations — all on a tight budget.

SOLUTION

Caspio's low-code application development platform put development capabilities into the hands of the people who were closest to the project requirements — the ecologists and conservationists, empowering them to self-address their needs.

BENEFIT

Caspio enabled the CPC to rapidly build a custom online database application to its precise requirements, capable of securely maintaining millions of records without spending thousands of dollars on programming costs.

"Caspio was the perfect solution for our problem. I was able to easily create web forms even though I have minimal web development experience."

Dr. Katie Heineman
Scientist, the CPC at San Diego Zoo

SAVING PLANTS IN PERIL

Thousands of American plant species are at risk of extinction. Hawaii alone is home to 238 species with fewer than 50 plants left in the wild, making it the "endangered species capital of the world." That's why researchers at the CPC needed to act quickly in their conservation and restoration efforts to save these endangered plants from extinction.

A key component of these efforts is to identify the right pollinators of rare plants. "Plants rely on pollinators to reproduce," said Dr. Katie Heineman, a scientist at the CPC. "The reproduction process requires the correct pollinators (animals like bees, ants, wasps, some lizards, bats and birds) which help transfer pollen from one flower to another."

VOLUNTEER-DRIVEN DATABASE PROJECT

For conservationists to correctly identify these pollinators, the CPC needed a standardized database system that was both secure and easily accessible by multiple people using different devices. Dr. Heineman and her team struggled with their legacy system because they could only access it using the computers in their office. Training was also a challenge because the technical background of the volunteer-based team was limited. As the CPC enlisted more volunteers, the need for a user-friendly database application became an imperative.

To address these challenges, Dr. Heineman initially thought of installing the database system on all the volunteers' personal computers. However, given the increasing number of volunteers enlisting at the CPC, she realized this would not be practical. She also considered hiring a web programmer to build the application, but that would have been too costly and time-consuming.

EMPOWERING USERS WITH CASPIO

As Dr. Heineman searched for a more cost-effective solution, she discovered Caspio and was impressed by its ability to empower users with little to no web development background to quickly build online database applications using an intuitive point-and-click interface. "Caspio was the perfect solution for our problem. I was able to easily create web forms even though I have minimal web development experience," she said. "Additionally, because the forms can be embedded on any website, our volunteers could access them from any computer or mobile device."

The CPC used Caspio's low-code development platform to build the CPC Pollinator of Rare Plants Database — a database that would help conservationists and ecologists reproduce endangered plants in the wild.

Because Caspio is built on Microsoft SQL Server, the CPC's new online database provided not only a robust solution that is capable of maintaining millions of records, it also provided a secure one, ensuring the safekeeping of valuable data. Caspio's highly customizable platform also enabled Dr. Heineman to tailor their application to prevent duplication and errors — a feature she was not able to find in off-the-shelf solutions. As a result, Dr. Heineman and her team have increased both the quality and speed of their data collection campaigns.

What's more, the CPC was able to achieve this at a fraction of what it would have cost if they hired a web programmer to build the application. "Caspio has also provided large savings for our organization," said Dr. Heineman.

Visual Application Builder

Caspio's point-and-click user interface enables Dr. Heineman to create web forms quickly and easily.

Flexible User Management

Caspio's flexible user management capabilities provide secure access for CPC volunteers from any device.
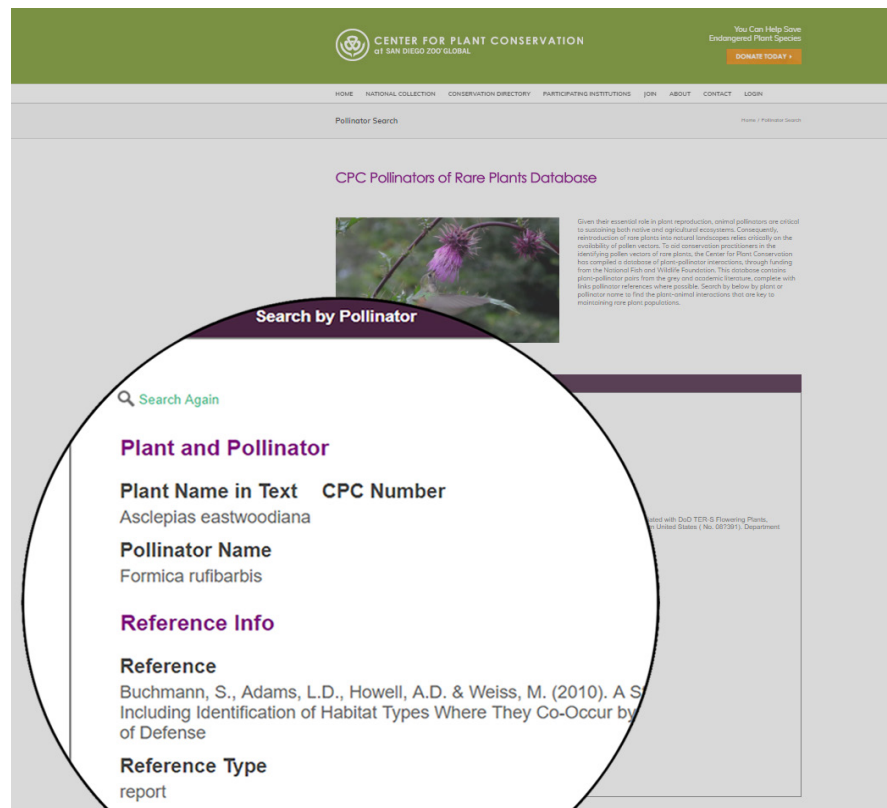
Built-in Cloud Database

Caspio's built-in Microsoft SQL Server allows the CPC to maintain extensive data sets, securely.

Rapid Deployment

The CPC is now deploying custom database applications quickly and at a fraction of the cost.

Public-Facing Pollinator Database Powered by Caspio

SUCCESS WITH CASPIO

"Using our new application, we've been able to meet our goal of documenting pollinators for over 1,000 endangered plant species. We will soon deploy a public-facing pollinator database on our website, which we hope will increase website visits through the search engine optimization feature that Caspio provides," Dr. Heineman shared. Dr. Heineman also appreciated the excellent customer support she received, stating, "the Caspio team has been unparalleled with their exemplary technical knowledge, responsiveness and politeness."

UNLOCKING NEW POSSIBILITIES

Inspired by the success of the CPC's pollinator database, the San Diego Zoo Global also adopted Caspio's low-code platform to create a database to track and maintain San Diego Zoo's seed collection. Today, the seed bank database contains 600 plant species in total. Meanwhile, the National Collection now includes over a thousand endangered species from all over the United States.

Overall, Caspio helped to improve the collaboration among research and botanical institutions. In a sense, Caspio is contributing toward the preservation and conservation of imperiled US plant species — and ultimately, in saving the environment. "A platform like Caspio can facilitate data sharing. We can do a lot more as a group than we can do individually," Dr. Heineman concluded.

Application Developer Spotlight: Dr. Katie Heineman

Dr. Katie Heineman jointly serves San Diego Zoo Global as a Scientist in the Plant Conservation Division. She is responsible for ensuring the quality of database records and data analysis for ongoing research projects in restoration and rare plant conservation.

Dr. Heineman works with the Center for Plant Conservation to update, expand and manage their Rare Plants Database. She is also working with the Native Plant Seed Bank to streamline the storage and analysis of seed collection and germination records. Using Caspio, she was able create an online database of the pollinators of over 1,000 endangered plant species.

COMPANY PROFILE

Caspio is the world's leading low-code development platform for online database applications, embraced by business professionals for its ease of use and trusted by IT professionals for its security and scalability. Business professionals use Caspio to make their organization more agile and customer centric. The all-in-one platform provides everything needed to capture data, share information and automate business processes. It combines a powerful online database, a visual point-and-click application builder and scalable cloud infrastructure. Caspio powers more than 1 million applications for businesses of all sizes in over 100 countries — ranging from global corporations and government agencies to universities, nonprofits and small businesses.

CORPORATE HEADQUARTERS

2953 Bunker Hill Lane, Suite 201
Santa Clara, CA 95054
United States

📞 +1 (650) 691-0900

🌐 caspio.com