



AWS IoT Enabled Smart Wildlife Drinking Water Station

Sri Lanka's Department of Wildlife wanted to improve the health of wildlife in Kumana National Park which is located in a drought-prone area. In order to reduce mortality during dry periods, they had to send staff twenty miles into the forest to check water levels and commission expensive tankers to replenish the ponds. Persistent Systems designed and deployed a cellular connected, solar powered ground water pump system that could be managed remotely from an AWS IoT based application, eliminating the need for on site water level inspections and tanker deliveries deep within the park.

CHALLENGES AND SOLUTIONS

REQUIREMENTS	AWS BASED SOLUTION
Securely connect and manage pump twenty miles away from park office	Cellular IoT Gateway connecting to AWS IoT Core. RDS for storing gateway, sensor and actuator "metadata"
Handling & Storing Time Series Output of pond monitoring system and pump	AWS Kinesis, S3 and Dynamo DB for message brokering and storing
Notification of park staff	Email notifications leveraging AWS SES
Running high availability managed service on behalf of client.	High availability foundation implemented using EC2 via Elastic Beanstalk, CloudWatch

BENEFITS

- ✔ **Increased Animal Health**
Ensures that animals have sufficient drinking water within park
- ✔ **Reduced Energy & Water Expenses**
Reduces need for costly water tankers to resupply drinking water ponds
- ✔ **Increased Staff Productivity**
No need to travel deep into park to manually survey water levels onsite



ABOUT PERSISTENT AND AWS

Persistent Systems is an AWS partner with an extensive track record of designing and delivering custom IoT, data analytics and dashboarding cloud-based and mobile applications for clients.

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