11-2-2015

RWU Faculty Member Andrew Rhyne Named Finalist in Wildlife Crime Tech Challenge

Public Affairs, Roger Williams University

Follow this and additional works at: https://docs.rwu.edu/weekatroger_featured_news

Part of the Higher Education Commons
RWU Faculty Member Andrew Rhyne Named Finalist in Wildlife Crime Tech Challenge

Rhyne is a contender for the People’s Choice Award and a $500,000 grand prize for creating real-time data analytics platform to enhance the detection of illegal wildlife trade

November 2, 2015 | Public Affairs Staff

Bristol, R.I. – From hunting trophies to museum and zoo exhibits, port inspectors with the U.S. Fish and Wildlife Service are responsible for processing hundreds of thousands of wildlife shipments each year. Yet the laborious and time-consuming process of cross-examining shipments to their lengthy paper invoices has created a blind spot for port agents, allowing illegal trade smugglers to import endangered species such as corals and endangered fish.

Andrew L. Rhyne, associate professor of marine biology in the Feinstein College of Arts and Sciences at RWU and research scientist at the New England Aquarium, says illegal wildlife trade dealers are able to take advantage of high-volume ports such as New York or Los Angeles, where agents have to prioritize time-sensitive legal trade items.

“Smuggling is counting on port agents being overwhelmed by the volume of shipments and their stack of accompanying paper documents so they commonly mislabel contents to avoid detection,” Rhyne says. “Invoices are often 30 or more pages with hundreds of lines of poor-quality data and errors. Inspectors have to visually cross reference and check the physical invoices and inspect each line of data, which significantly hinders their ability to thoroughly inspect shipments and monitor for illegal wildlife.”
Rhyne and Michael Tlusty, director of ocean sustainability science at the New England Aquarium, have created a real-time data system that digitizes invoices and automatically checks species identity and origin using optical character recognition software to advance the port inspection process. By linking species identification to invoices, the technology can enable forensic probability-based assessments as well as cross-reference import and export documents to better identify illegal trade.

They created the platform to more efficiently track the aquarium trade of marine animals and to combat the illegal trade of high-valued coral and fish species that were commonly mislabeled as lower-valued species. With its initial success in real-time monitoring for Philippines fish exports, the pair aims to expand the system to help track all wildlife shipments.

“We successfully developed this real-time monitoring system using marine aquarium fishes and invertebrates, but the software can be applied to the shipping of all wildlife products globally,” Tlusty says. “This will improve the management and sharing of data related to wildlife trafficking, detect and monitor existing transit routes and reveal shipment patterns that may indicate possible illegal trade.”

With the new platform, paper invoices are scanned, creating a database that is enhanced with links to species information including pictures and descriptions as well as a forensic analysis of each shipment. The analysis evaluates the species listed on the invoice against established lists of illegal, endangered or “lookalike” species. The software will also calculate the box size and weight to determine if the invoiced contents match the reported box contents. A shipment labeled marine fishes may actually contain corals and thus would be significantly heavier. The forensics evaluation of the shipment would indicate a heavier than average box for a containment with fish and therefore notify the agent that further inspection would be required.

To expand the use of the technology and create a tablet-based platform, Rhyne and Tlusty have entered the Wildlife Crime Tech Challenge, a global competition led by the U.S. Agency for International Development that awards as much as $500,000 to innovative science and technology solutions that tackle specific wildlife trafficking issues. Among 300 applicants, their submission has advanced to the finalist round, which includes 43 other applications from individuals and organizations around the world.

They are also in the running for the Wildlife Crime Tech Challenge People’s Choice Award, which allows the public to vote for their favorite finalist solution. The People’s Choice Awardee will receive recognition on the challenge website.

Voting for the People’s Choice Award will close on Nov. 16 -- vote for Rhyne’s real-time tracking solution by visiting the following link.