Mobile phone technology to tackle environmental threats

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Curly Waterweed - a highly invasive aquatic plant that favours still or slow flowing water. It is a very vigorous invasive plant, capable of choking water bodies and exacerbating flood risk. Image by Dave Kilbey

A mobile phone app developed at the University of Bristol has been rolled out nationally to help tackle a growing threat to the environment.

Advanced technology developed by the Nature Locator team is now playing a key role in enabling the public to use their phones to track where unwelcome plants, known as Invasive Non-Native Species (INNS), are growing across the UK.

Despite having exotic sounding names such as Creeping Water-primrose, Parrot's Feather and American Skunk-cabbage, non-native plants can cause a lot of damage.

They pose a threat to biodiversity, increase flood risk and affect the state of our water environment, costing the British economy a minimum of £1.7 billion per annum.

Tackling the problem in such a high-tech fashion is The Environment Agency which has teamed up with the Nature Locator Project at Bristol University and the NERC Centre for Ecology & Hydrology (CEH).

The national launch of the PlantTracker app, developed by the University's Nature Locator team, follows the success of a trial in the Midlands where people helped locate Japanese Knotweed, Himalayan Balsam and Floating Pennywort - three particularly problematic INNS.

The app works by enabling the public to photograph 14 such invasive plant species they encounter and also obtains an accurate GPS location at the same time. The record is then submitted and verified by expert botanists and the results appear on the PlantTracker project website.

Dave Kilbey, the Nature Locator Project Manager, said: "This is a really exciting project which I believe is set to become a core service in tackling invasive plants in the UK, a problem which costs the UK economy hundreds of millions annually.

"Developing such apps through the Nature Locator project is proving to be an effective way to engage the public in scientific research which will ultimately be of great benefit to the environment."

Previously, data collection was patchy, with records hard to verify and lacking accurate geographic reference. The PlantTracker project has

addressed these problems by combining the development of a smartphone application with the power of crowd-sourcing data collection.

Critically, each record collected is verifiable since it is comprised of a photograph along with other relevant metadata. Records are also accurately geo-located since the app utilises the phone's inbuilt GPS capabilities.

The Nature Locator project team works in the research and development division of IT Services, which explores how the internet and other technologies can aid research, future learning and management processes.

The PlantTracker app is available free from the iTunes App Store and Google Play Store by searching for planttracker (one word), or from the website planttracker.naturelocator.org/ where people can follow the progress of the project.

Provided by University of Bristol