Customer:
Cornwall County Council

Project:
Trimble GPS v. Japanese Knotweed

Solution:
Trimble GeoXT Handheld

Case Study

Trimble GPS v. Japanese Knotweed

Warning: Japanese knotweed is a non-native invasive plant that is severely damaging our countryside and property. With your co-operation it can be controlled. (Guidance for Householders & Landowners)

Introduced to the UK in the mid-nineteenth century as an ornamental plant, knotweed grows rapidly with mature plants reaching 3m. Unfettered by the pests and diseases that control it in Japan, it has become highly invasive in the UK with its vigorous growth in summer and thick mulch of decaying canes and leaves in winter excluding almost all of our native species. And the problems don't stop there…it can cause extensive damage to concrete structures such as foundations, flood defences and roads and can easily grow through tarmac surfaces.

Fallopia japonica – a co-ordinated approach

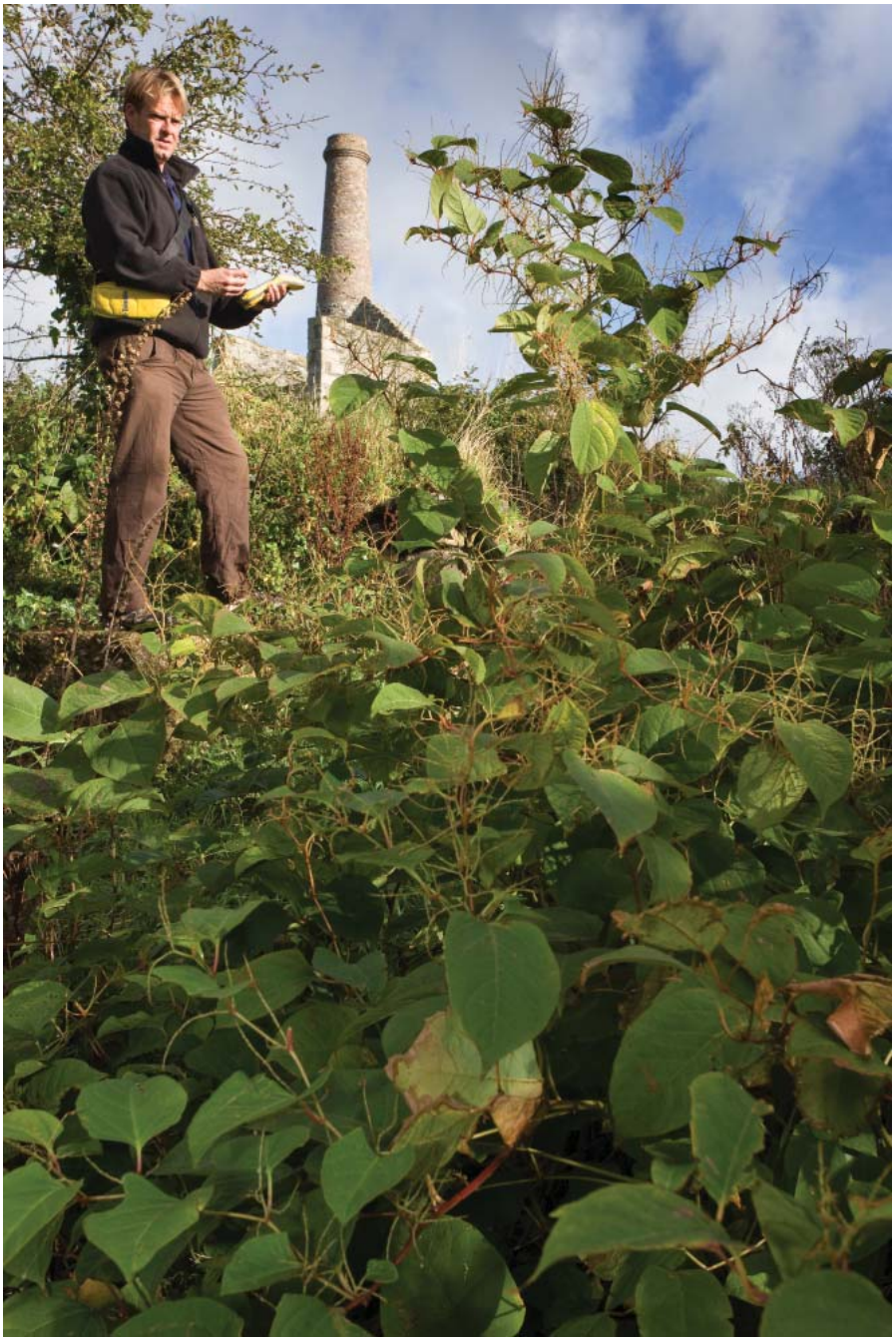
One county with a co-ordinated approach to the control of Japanese knotweed is Cornwall. The Cornwall County Council is a major partner of The Cornwall Knotweed Forum and active in both eradicating knotweed and providing advice on its management for everyone from planners and property developers to landscape designers and members of the public. Cornwall C.C. Countryside Officer, Adam Chell explains, "Here in the Living Environment Department we are responsible for managing assets such as country parks, trails and Public Rights of Way. As part of our approach to eradicating knotweed, we need to set an example to everyone by managing it successfully ourselves and that means a planned approach. It can cost between £1000 and £2000 to spray a 10m² area of dense growth over a three year period. However costs can escalate dramatically when you look at the 'dig and dump' option regularly used by developers, (digging up the plant and all the root system and taking to a registered landfill site). A site this size would require the removal of around 1200 cubic metres of material**. This would need to be taken to a registered landfill site at a charge of around £250 per cubic metre to accept contaminated waste such as this, so that's £300,000 even before transport costs!"

GPS Solution

In 2000 Cornwall C.C. began manually recording knotweed locations reported by members of the public. However locations were never exact enough and producing maps for contractors could be time consuming. Adam continues, "It was obvious that we needed to refine our data collection process and were fortunate enough to borrow an old Trimble backpack GPS system. Although it was cumbersome, it convinced us that investing in a GPS would greatly improve our efficiency. Of course things have greatly moved on technology wise and when we contacted Trimble's UK distributor KOREC, they were able to demonstrate a Trimble GeoXT hand held GPS for us. It was rugged enough to withstand heavy usage (and a few butter finger moments that would have destroyed a mobile phone!) and highly portable, making it ideal for jobs where access is impeded by heavy vegetation. In recent years we've mapped over 4,000 knotweed sites and with locations sometimes being just the size of a single stem, the sub-metre accuracy that the Geo provides is perfect. Initially we achieved this using a Trimble GeoBeacon, and more recently, EGNOS*"

> "the GeoXT... cuts down our processing time to a tenth of what it was. "

Continued overleaf ▶▶



▲ Highly portable - the GeoXT is ideal for jobs where access is impeded by heavy vegetation

Software Benefits

Cornwall C.C. selected KOREC's FastMap Mobile data collection software to run on-board their GeoXT. "For us, the great thing about FastMap Mobile is that with the OS background map data, you can see on the screen exactly where you are and where you've mapped – previously the first time I saw what I'd collected was back in the office," explains Adam. "The software is also compatible with our corporate GIS, ESRI ArcView. This not only cuts down our processing time to a tenth of what it was, but also means that we can take our existing GIS data out into the field for checking. The whole process is very straightforward. In the office we design forms detailing exactly what attribute information we want to collect and then load them onto the Geo. Out on site we can then record a wide range of information using these predefined fields – is the knotweed site close to water (we can't spray near water without permission from the Environment Agency), who owns the site, what type of knotweed is it, what is the stem width, is the site accessible (can we get a JCB in to dig it up) etc.

The benefits that the new system has brought us are pretty clear. We can now quickly download accurate, collected information into our GIS so that knotweed locations can be viewed by everyone from the public to property planners; we can print off clear and accurate maps for our contractors to use when locating the knotweed for treatment; the system is transferrable and versatile – for example we can map the exact location of Rights of Way and then check against original map data to see if they have been moved."

Adam concludes, "Although we had a few teething problems with transferring data to our corporate GIS, KOREC's Technical Support has been very good and always there when we've needed them. Cornwall County Council is now well equipped to manage its knotweed problem and provide guidance to anyone interested in combating this invasive plant."

For further information on Japanese Knotweed, please visit www.cornwallknotweed.org.uk

*European Geostationary Navigation Overlay Service

** 20m x 20m x 3m- that's a 5m radius buffer zone around the visible plant growth and a depth of 3m- as recommended by Natural England as a minimum

Contact us:

Please do get in touch for further information on any of the products or services mentioned in this case study, a demonstration, support or just a chat about your requirements.

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