

Attack of the drones to fight tree rot

Miniature aircraft will spy on the spread of fungal infections in remote forest

Julia Horton

DRONES more commonly associated with the war on terror are to patrol the skies over Scotland in a bid to eradicate diseases that threaten to wipe out swathes of forest.

The unmanned planes are smaller than conventional drones and armed with high resolution cameras to capture images that will help woodland managers spot telltale signs of fatal fungal infections in trees.

A trial carried out by the Forestry Commission Scotland at Carradale on the Kintyre peninsula used drones to map the spread of Phytophthora ramorum, a fungus which has recently spread from rhododendrons to larch - forcing estates to fell thousands of trees in a bid to contain the outbreak. The aerial devices also took to the skies over the west coast to assess storm damage in some of the most inaccessible parts of the country.

Now a study carried out for the Forestry Commission suggests that every forestry manager in Scotland should have access to a small-scale drone to improve all aspects of woodland management.

"Only the wide application and routine use of this technology directly by forest managers will enable the technology to deliver its potential benefits, cost effectively," said Ian Thomas, a chartered forester who helped compile the study. "This means every forestry manager having the technology in the boot of their car, and knowing how to use it."

Thomas, who monitored the Carradale trial in August, said that the cameras on board drones can spot the early signs of disease in trees better than most other methods of detection, including foot patrols. "A



lot of these diseases have been tucked away unnoticed in forests where access is very difficult," he said. "With this, you don't have to set foot in a forest to see if there's a problem, so you don't have the risk of potentially transferring the disease to another forest, which can happen during ground surveys. The rhododendrons [at Carradale] are completely inaccessible. Using one of these you can get really detailed images, not just of the leaves but the veins on the leaves. It worked really well."

Costs for hiring the Unmanned Aerial Vehicles (UAVs) are £1,000 to £2,000 a day, which forestry experts admit is expensive. But they argue it is more economical than the existing method of paying for helicopter surveys at around £1,000 an hour.

The remote-controlled drones have GPS technology on board and can be pre-programmed to map a specific area.

Thomas acknowledged that people living in the woodland areas where drones will be used might have privacy concerns about the prospect of

overhead cameras capturing high-resolution images. But he stressed such issues were "negligible" because of the remoteness of the locations and the short flight times.

"I can understand why people would think, oh my God. The thought of drones up there surveying people is the most depressing thought ever, but from a forestry management point of view, being able to see from the air is a marvel-

ous thing," he said. "I think it will improve the standards of forestry management in Scotland. There's a lot of potential for this."

The drones used by the Forestry Commission are supplied and controlled by Scottish firm Cyberhawk, based in Livingston, where staff meet strict regulations on flying the vehicles for commercial purposes.

Stuart Thomas, Cyberhawk's survey manager, said: "The benefits of UAVs over helicopters include flying below the clouds. Full-sized manned aircraft often have to stay above a certain height. We are the only company in Scotland doing surveys and inspections and it is definitely a growth area."

But he warned against giving drones to estate managers to use the devices themselves. "Some people might feel that that's the next step, but it would need some changes in

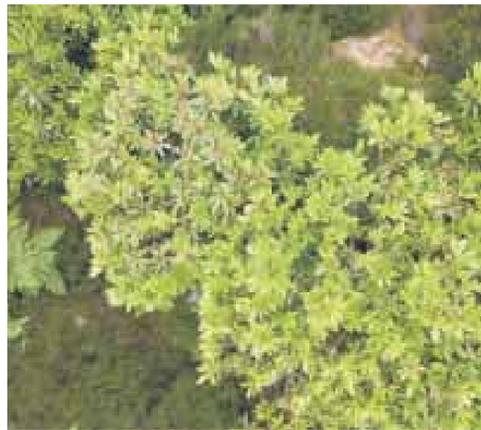
growing timber trade and if left unchecked could prove as devastating as Dutch elm disease, which wiped out millions of trees.

Hugh Clayden, the Forestry Commission's tree health policy adviser, said the drone trials were part of a concerted effort to increase early detection of disease to limit damage.

He said: "We need to raise awareness in the forestry sector that we're now likely to be increasingly getting pests and diseases. If you haven't spotted a disease in the first four years it's very difficult to eradicate, so we have to learn how to live with them."

"Helicopters are good for the big surveys we do because they can cover the ground faster but they are obviously expensive. These remotely controlled aerial vehicles are much cheaper and can be used on a much smaller scale by owners of small woodlands who want to satisfy themselves that their trees are OK. People have to know what they've got. It's not rocket science. Are your trees healthy? If not, what's the cause and what can be done?"

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» The automated drones will carry high-resolution cameras that can transmit close-ups of leaf damage even in the most inaccessible forests

Appeal for witnesses to road death

Rory Reynolds

A PEDESTRIAN has been killed after being struck by a vehicle in East Ayrshire.

The 55-year-old man was walking along the B7081 Irvine Road in Crosshouse at about 8.55pm on Friday when the accident happened.

He died at the scene, Strathclyde Police said.

The 47-year-old driver of the Rover was uninjured, and stopped to help police with their inquiries. The force is appealing for any witnesses to get in touch.

Meanwhile, a driver is in a serious condition after a collision in Aberdeen involving a van and a lorry. The white Mercedes Sprinter crashed into the lorry, which was parked in a lay-by on the A956 Wellington Road around 4.45am yesterday.

Fire crews were called to the scene and assisted paramedics in freeing the man.

Grampian Police said the driver, aged between 30 and 40, suffered serious injuries and was taken to Aberdeen Royal Infirmary.

Inspector Ewan Innes said: "The road was quiet at the time and obviously the weather and road conditions are a factor that will feature in our inquiries, although I would not wish to speculate at this stage of the investigation."

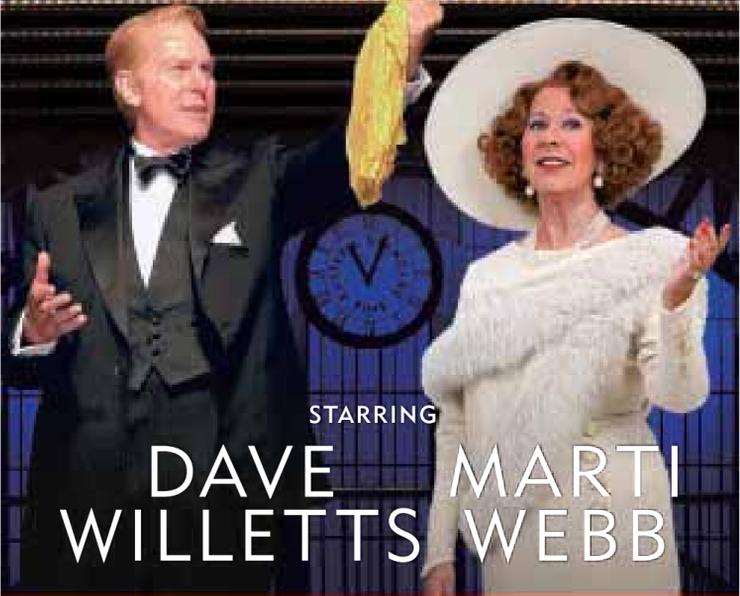
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GLASGOW HERALD

Ken Clarke backtracks after tax break quip

Andrew Woodcock

CABINET minister Ken Clarke has backed away from comments suggesting the Conservatives may not make good on a promise to give tax breaks to married couples during the course of this Parliament.

In a newspaper interview yesterday, Clarke suggested married couples should not "count on" receiving the break before the 2015 poll, claiming he did not remember anyone in the government promising it.

His comments seemed to be at odds with the Tory manifesto promise in the 2010 election of a transferable tax allowance that could be worth £150 a year to married couples when one spouse stays at home.

But a spokeswoman said Clarke accepted the change will happen, and was not intending to make a statement of policy in his comments.

The measure was opposed by Liberal Democrats, but was not ruled out in the Coalition Agreement, which stated merely that Lib Dem MPs would be free to abstain when measures were brought forward in Parliament.

Clarke said it was too early to be certain the economy is bouncing back and predicted "a long hard road" ahead.

"We never committed ourselves to married couples' tax by the end of the Parliament," the minister without portfolio said. "I'm married, I'm not counting on it. I don't remember anyone promising that kind of thing."

However, a spokeswoman for Clarke said yesterday: "It was a comment, not a statement of policy. Any tax changes are a matter for the Chancellor. He accepts the changes will happen."

On the economy, Clarke - a former chancellor - said: "It would be absolute folly to turn around and say it will all be fine by Christmas."

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