

Brown to fight on to protect Wielangta forest

Australian Greens Leader Bob Brown says he will continue his fight to protect Tasmania's Wielangta Forest, despite the High Court rejecting his application in May to appeal against a full Federal Court ruling that forestry operations in the forest are legal.

The November 2007 Federal Court ruling had overturned Senator Brown's December 2006 victory, when a judge found that logging in the south-east Tasmanian forest threatened three endangered species: the swift parrot, the Wielangta stag beetle and the Tasmanian wedge-tailed eagle.

Legally, the issue comes down to wording within the national *Environmental Protection and Biodiversity Conservation Act* (EPBC Act) that exempts Regional Forest



The Tasmanian wedge-tailed eagle, one of the species that may be under threat in the Wielangta Forest. Digital Dimensions

Agreement (RFA) forestry operations from federal environmental scrutiny if they are carried out 'in accordance with' the RFA. After the December 2006 ruling against logging in the area, former Prime Minister John Howard

and former Tasmanian Premier Paul Lennon altered the RFA.

Senator Brown says it's now up to the federal government to overturn those changes made to the RFA, and adds that 'what is on trial now is the effectiveness of the EPBC Act'.

Zero tillage boosts harvests in war-torn Iraq

An Australian-led cropping project in Iraq has led to increased production of wheat, barley and legumes, increased uptake of the conservation farming technique zero tillage, and wider use of improved crop varieties.

The project is in the northern low-rainfall zone of Iraq, which produces 70 per cent of the country's cereals. Climate, soils and rainfall there are comparable with areas of southern Australia, where research and innovation has led to an average yield increase of 2.5 per cent annually over the past two decades.

In Iraq, cereal crop yields have been

falling by 1 per cent annually over a similar period of time, as the country has continued to be plagued by conflicts that have destroyed much of its infrastructure and human capital for crop-production research.

Through the project, Iraqi agriculturalists have been able to draw on expertise from ICARDA, a Syrian-based international agricultural research centre, and Australia to design 'best bet' production systems that combine cultivars and tillage practices.

Zero tillage (or direct seeding) is a soil and crop management option that places seed and fertiliser into an



Wheat, barley and other crops in Iraq are benefiting from zero tillage and other conservation farming techniques used in Australia. Sciencemage, Gregory Heath

undisturbed seedbed, packs the furrow and retains adequate surface residues to prevent soil erosion.

This management system, now practised across tens of millions of hectares worldwide, is suited to low-rainfall areas where it offers equivalent yields at a lower production cost than conventional

tillage, while improving soil quality and protecting it from wind and water erosion.

The project (see www.icarda.org/ACIAR) is co-funded by AusAID and the Australian Centre for International Agricultural Research (ACIAR).

Crystals that make solar power and purify air

University of Queensland researchers have grown the world's first titanium oxide (titania) single crystals with large areas of reactive surface which, they say, could lead to a new generation of solar energy technology in 5 to 10 years' time.

Team leader Professor Max Lu said the crystals' surfaces allow for high reactivity and efficiency in devices used for solar energy conversion and hydrogen production. Professor Lu says the new crystal production technique is 'very simple and cheap ... like cooking in an oven, and the crystals can be applied like paints'.

Apart from more cost-effective solar cells, the crystals could be used to purify air and water. 'The same principle for such materials to convert sunlight to electricity is also working to break down pollutants in water and air,' says Professor Lu. 'One could paint these crystals onto a window or a wall to purify the air in a room.'

'The potential applications of this technology in water purification and recycling is huge.'

The research, which involved collaboration with the Chinese Academy of Sciences, was published in *Nature*.



In years to come, windows coated with the new titanium oxide crystals could generate solar energy and purify air in a room. Istockphoto