

► August 2014 and February 2015 before they could reach China. Seven had been sent by Chinese citizens living in Bolivia. Eight more were reportedly intercepted in 2016, and a package of 120 fangs was seized in China, says Angela Núñez, a Bolivian biologist who is researching the trade.

Those packages could represent the deaths of more than 100 jaguars, although it's impossible to be sure, Núñez says. In northern Bolivia, where several Chinese companies are working, radio advertisements and flyers have offered US\$120 to \$150 per fang — more than a month's income for many local people. Two Chinese men have been arrested for trading in jaguar parts. One, detained in 2014, received a three-year suspended sentence. The other, arrested in 2016, is awaiting sentencing but failed to appear for two recent court hearings.

Worldwide, very few wildlife-trafficking cases lead to criminal sentences, Nijman says. “The deterrent is when somebody ends up in jail,” he says — but that rarely happens.

Fangs and skulls seized in Bolivia, as well as 38 fangs confiscated in Lima, Peru, in 2015, could have come from jaguars that were killed recently, or years ago. Because the cats have large territories, Núñez says that genetic studies could determine whether poached animals came from populations in Bolivia.

That also interests Brazilian biologist Thais Morcatty, who is doing her PhD research with Nijman. There is a domestic market in Brazil for jaguar skins as home decoration, but parts of the animals have also been shipped abroad

from Rio de Janeiro and São Paulo, she says.

More than a century ago, jaguars roamed forests, savannahs and scrub land from the southwestern United States to Paraguay. Deforestation and other disturbances caused by people — especially the expansion of agriculture — have cut the cats' habitat in half, says wildlife ecologist John Polisar, who coordinates the jaguar programme at the Wildlife Conservation Society in New York City.

**“It’s often Chinese-to-Chinese trade, but it’s turning global.”**

Central and South America. Estimates of the remaining jaguar population range from about 60,000 to nearly three times that number.

A farmer who loses a cow or calf to a predator might kill a jaguar in retaliation, even though that animal might be innocent. After habitat loss, such killings are the second-biggest threat to jaguars, says Esteban Payán, director of the northern South America jaguar programme at Panthera, a global wild-cat conservation organization. The retaliatory killings also provide a sporadic supply of animal parts to the wildlife trade, but sparse data make it difficult to know whether the incidents are isolated cases.

Measures designed to help people coexist with jaguars could reduce such killings, Payán says. In some cases, electric fences have discouraged jaguars from crossing from forests

into pastures, and solar panels that power the fences can also run some light bulbs or a small refrigerator for the farmer's family (H. Quigley *et al.* *PARKS* 21.1, 63–72; 2015). That can revolutionize life for them, he says.

Other tactics that have shown promise include putting bells on cows and installing flashing lights around pastures to help keep predators at bay. Introducing guard animals to a herd, such as burros (a type of donkey), can also discourage predators, he says.

Governments could help by providing incentives, says biologist Ricardo Moreno, director of the non-profit group Yaguará Panama. Now, a farmer who buys a cow on credit must repay even if he loses an animal, says Moreno, who mixes scientific studies and work with communities and policymakers to protect jaguars. But making loans contingent on better livestock management would benefit farmers, lenders and jaguars, he says.

Meanwhile, researchers and some government officials in Latin America are watching the wildlife trade warily. Belize's environment ministry is offering a US\$5,000 reward for information about the jaguars killed there, and Polisar's group is collecting data from around the region.

Although the links to international trafficking in Bolivia are clear, Payán worries this is “just the tip of the iceberg” of a broader trading network, because there are anecdotal reports of trafficking in other countries. Conservation groups are no match for “the violence, the money and the scale” of organized poaching rings, he says. “The potential threat is huge.” ■

## UNIVERSITY WALKOUT

# UK universities cope with disruption from huge strike

*Pension changes spur more than 40,000 academics to walk out on research and lectures.*

BY ELIZABETH GIBNEY

Britain's leading research universities are coping with the disruption wrought by a nationwide strike, as academics protest against changes to their pensions. The walkout, which began on 22 February, is one of the largest by university staff in the country's recent history and is disrupting scientific experiments, conferences and lectures.

More than 42,000 academics — members of the University and College Union (UCU) — were called out on strike from 64 institutions across the United Kingdom. About 25,500 of those members are research staff, and the

dearth of lecturers is predicted to affect more than 1 million students. Fourteen days of strikes are scheduled over four weeks.

Academics are walking out over planned changes to the Universities Superannuation Scheme, the main pension fund for 190,000 faculty members and staff at many of Britain's older, research-intensive universities. A 2017 valuation found that the fund had a growing deficit of £12.6 billion (US\$17.6 billion) — one of the largest of any private UK pension scheme. Universities UK, which represents the academic employers, says that the fund will be difficult to sustain without reform. It proposed changes — pushed through in January — that would see

pension income go from having a guaranteed element to being entirely dependent on investment return. According to financial models commissioned by Universities UK, pension recipients would lose £2,000–5,000 of income a year, depending on salary. The UCU puts the loss at as much as £10,000 a year, and says that the proposals are based on an overly pessimistic view of the fund's deficit. That position is backed by a growing number of UK institute heads, who have broken ranks on the issue.

As *Nature* went to press, the two sides were expected to begin fresh talks on 27 February. Universities UK told pension-scheme members in a letter that it would be open to reintroducing

## POLICY

## Florida bills to impact schools

*Residents could influence classroom materials.*

BY GIORGIA GUGLIELMI

Policy-makers in the United States are pushing to give the public more power to influence what educators teach students. Florida's legislature has started considering two related bills that, if signed into law, would let residents recommend which instructional materials teachers in their school district use in class.

The bills build on a law enacted in June 2017, which enables any Florida resident to challenge the textbooks and other educational tools used in their district as being biased or inaccurate.

But the bills, approved in mid-February by the education committees in the state's Senate and House of Representatives, go a step further, allowing the public to review educational materials and to suggest alternatives. The final decision on whether to follow the recommendations still rests with the school boards.

Attempts to influence what students learn typically tackle the issue head-on, by trying to change state education standards. A bill introduced in Iowa on 12 February would remove guidelines in the state's science education standards to teach evolution and the effects of human activity on climate.

Florida's bills could alter classroom content in a less direct way. Allowing taxpayers to have a say in what goes on in public schools seems innocuous, says Brandon Haught, an environmental science teacher in Orange City, Florida. But the bills, together with last year's law, expose schools to activists who oppose the teaching of topics such as evolution and global warming, he says.

What's more, the bills and the law use language that makes it easier for individuals to target such topics, says Glenn Branch, deputy director of the National Center for Science Education in Oakland, California. The documents state that educational materials should be "balanced" and "noninflammatory", but they don't specify who decides whether something is inflammatory, he says.

State Representative Byron Donalds (Republican), who sponsored last year's law and this year's bill in the House, says it's important that school boards consider different viewpoints. "You can debate on things and draw your own conclusions," Donalds says.

The bills must still be voted on by the full House and Senate, but Branch says that they have a good chance of becoming law in Florida. ■



Academics on the picket line at University College London.

LIZZY BROWN/NATURE

guaranteed benefits if economic conditions improve. But the group said that the upcoming talks would not reopen the January decision to move forward with the changes. The UCU has agreed to discussions, but said that strikes this week would continue because that decision was the "very reason" for the walkouts.

Academics already face pay rises below inflation, an insecure career path and increasing workloads, Sally Hunt, general-secretary of the London-based UCU, said at a press conference. "It has always been understood that part of the package that they could look forward to was a reasonable pension," she says. The action is "unprecedented," says Hunt. "I can't within my time in UCU remember anything as serious."

Striking staff are not doing research or attending tutorials, lectures or external commitments. Cancelled lectures will not be rescheduled, says the union. The first strike period lasts for five days, and four- and five-day phases are scheduled to follow. The UCU estimates that, across the 14 days, 575,000 teaching hours will be lost. More than 110,000 students have signed petitions calling for financial compensation for missed teaching.

### SCIENCE TO THE SIDE

Ian Gent, a computer scientist at the University of St Andrews, says that the strike could stop his team from bidding to host a doctoral-training centre in artificial intelligence, worth around £5 million. UK funding agencies announced the opportunity two weeks ago, with a short deadline. "It would be no surprise if we could not write the bid on time," says Gent. But the future well-being of staff is in jeopardy, he says, and academics must stand up against that.

The action will no doubt affect research, says Aimee Grant, who studies public health

at Cardiff University and is on a research-only contract. She will lose 14 days of work on her current project on breastfeeding in public spaces. Researchers with contracts such as hers, which are based on completing a defined project, will have to catch up out of hours, she says. But Grant urges other research-only staff like her to strike.

"We hope that employees recognise that changes are necessary to put the scheme on a secure footing, and that the proposed strike action will only serve to unfairly disrupt students' education," Universities UK said in a statement. It added that it was doing everything it could to minimize disruption. Cancelled academic conferences include a

**"I can't within my time in UCU remember anything as serious."**

seminar on archaeology and genetics at University College London and one on the Rohingya refugee crisis at SOAS University of London.

The strike comes after formal negotiations between the two sides ended in January. A narrow majority of the joint negotiating committee sided with Universities UK and approved the group's proposals to address the deficit; none of the five UCU committee members voted in favour of them. The changes are subject to a routine consultation period, during which Universities UK will discuss the plans with employers and affected employees, but they are not obliged to amend the proposals in response.

Earlier in January, the UCU had balloted its members on their willingness to strike should talks end unsuccessfully. Fifty-eight per cent voted, and 88% of them backed strike action. Universities UK estimates that those voting in favour of the strike account for 16% of academic staff at UCU-represented institutions. ■