

# THIS WEEK

## EDITORIALS

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## Fishy limits

*The European Union has set a worrying trend by ignoring scientific advice on overfishing. It must put long-term sustainability plans ahead of short-term political gains.*

Fish have a memory capacity that goes far beyond what they are usually given credit for, but do European politicians? If not, the Ghost of Christmas Past could remind ministers of any number of grim scenes from recent years: the decades of overfishing, the large decline in stocks such as cod, and the dire and repeated warnings from scientists that ocean resources are being depleted faster than they can recover.

With a little seasonal flexibility, the Ghost could even show politicians the agreement they signed in 2013 to use proper scientific advice when setting annual fishing quotas, formally known as total allowable catches (TACs). And, if they are still refusing to wake up, the Ghost could take them on a brief trip back to last week, when the policy-makers turned their back on that promise.

Never mind the Ghost of Christmas Present: a meeting last week in Brussels saw the giving and receiving of Christmas presents from the politicians to each other, to their domestic fishing industries and to vocal lobby groups. Although the headline news celebrated the recovery of some iconic fish stocks — North Sea cod among them — and the increased licence that fishermen again have to scoop them up in greater numbers, the story beneath the surface was not so happy. For many species, scientific advice was again ignored, and TACs that look unsustainable were agreed.

Cod in the Kattegat Sea, the shallow and treacherous waters between Denmark and Sweden, are still struggling, and face a much more uncertain future than their cousins in the North Sea. The meeting last week offered them little cheer. The agreed TAC is some three times the size of the quota recommended by the International Council for the Exploration of the Sea, the scientific body that advises the European Union. Celtic Sea cod and Southern hake are among the other fish for which scientists had proposed stricter limits than the politicians agreed, and which are now left exposed to overfishing.

One reason why the outcome of the Brussels meeting is so disappointing is that it comes after encouraging signs that the message on overfishing was finally getting through.

Research published last month shows that since 2001, European fisheries TACs have been an average of 20% higher than scientific advice suggested (G. Carpenter *et al. Mar. Policy* **64**, 9–15; 2016). But the picture is improving. The same study found that whereas fishing was 33% above the recommended level in 2001, it was only 7% higher in 2015. There is more scrutiny on fisheries, more public interest and seemingly more political will to tackle the problem than there has been in the past. When promising to respect the scientific advice on quotas in 2013, Europe also pledged to move towards catches based on a different, more ecological, measure of stock health called maximum sustainable yield by 2020.

The message sent last week by the willingness of the European policymakers to ignore scientific advice places a question mark over whether progress can be sustained, and the 2020 target reached.

Despite the recovery of some landmark species (only after, it should be said, draconian and last-ditch fishing curbs were placed on them), study after study has shown that many European fish species remain in peril. Just last week, the Marine Stewardship Council, a non-profit organization dedicated to tackling overfishing, suspended all five cod fisheries in the Eastern Baltic Sea from its scheme that awards sustainable status to fish products.

**“Sustainable fishing offers more security than haphazard political agreements.”**

Fishing is a difficult political problem. One analysis has found that overfishing is more likely where fish stocks are large and exploited by a number of different countries (see [go.nature.com/mhx6q4](http://go.nature.com/mhx6q4)).

Low quotas have a genuine social and economic impact on a vulnerable sector and the people who work in it. It is natural that politicians want to protect jobs and maintain livelihoods. But scientists and conservationists want that too. They just think a little further ahead. Ultimately, sustainable fishing offers more security than haphazard political agreements made behind closed doors from year to year.

Announcing the most recent round of TACs, Karmenu Vella, the EU fisheries commissioner, said: “We cannot jeopardise the longer term sustainability for the shorter term considerations.” No one could disagree with that. Vella added: “We are on track in our sustainability targets.” Universal agreement for that statement will be harder to find. The Ghost of Christmas Yet to Come awaits. ■

## Quantum leap

*Physicists can better study the quantum behaviour of objects on the atomic scale.*

Erwin Schrödinger was an interesting man. Not only did he conceive a most imaginative way to (theoretically) kill a cat, he was in a constant state of superposition between monogamy and not. He shared a household with one wife and one mistress. (Although he got into trouble at Oxford for this unconventional lifestyle, it didn't pose a problem in largely Catholic Dublin.) Just like the chemist Albert Hofmann, who tried LSD (lysergic acid diethylamide) on himself first, Schrödinger might have pondered how it would feel for a person to be in a genuine state of quantum superposition. Or even how a cat might feel.

In principle, quantum mechanics would certainly allow for Schrödinger, or any of us, to enter a state of quantum superposition.

**CORRECTION**

The Editorial 'Fishy limits' (*Nature* **528**, 435; 2015) wrongly implied that the European Commission had set the fishing quotas. They were set by the Council of Ministers.