

such assessments should be conducted and their outcomes incorporated into the related sphere of 'risk management', whereby regulators and other agencies take action in response to an identified risk.

The proposed bulletin would increase the range of circumstances in which formal risk assessment would be required before government agencies could take action or set regulations. It would also put in place firm guidelines on how these assessments are conducted.

This effort echoes the legislation on risk assessment and cost-benefit analysis that the Republican-led Congress attempted to pass in the late 1990s. That legislation failed, opposed by moderate Republicans such as Sherwood Boehlert, now chair of the House science committee, who rightly saw it as an attempt to stifle the Environmental Protection Agency (EPA), the Food and Drug Administration and other regulators.

That legislation was, at least, a relatively transparent attempt to roll back regulation, which at the time was an important element in the Republicans' political agenda. The call for government to get off the backs of companies and individuals had considerable resonance then, and indeed it still has. But it is an argument that has lost some of its political appeal, and it is certainly not being made in public to support the White House's proposed risk-assessment bulletin.

Some risk assessments done by government agencies do fall short

of reasonable standards. Only last week, a National Academies panel criticized an assessment by the EPA into the chemical dioxin. But these shortfalls could be addressed without tying up the whole government in a set of rules to be administered from the centre by a small, heavily politicized office with few technical staff — the OMB's Office of Information and Regulatory Affairs.

It is not the first time the OMB has sought to reform the regulatory environment through this office, whose recently departed director, John Graham, was a former head of the Harvard Center for Risk Analysis. When it proposed a strict definition of how the science behind regulatory decisions should be peer-reviewed, the National Academies cried foul, and the definition was relaxed.

This time, the OMB has asked the National Academies to review the proposed bulletin, confident that such a review will endorse its technical content. But the bulletin's technical content is not being disputed: what is at issue is its scope, suitability for purpose, cost and the effort that might be wasted in enforcing compliance.

The motivation of Graham, his mooted successor Susan Dudley of George Mason University in Virginia, and indeed of President Bush himself, is not really in doubt. What they want is not better regulation, but less regulation. They should admit as much, instead of hiding their agenda behind the mantra of 'sound science'. ■

Save the lungfish

An Australian dam project threatens a living fossil.

The Australian lungfish, *Neoceratodus forsteri*, has become the focus of an important conservation battle in Queensland (see page 232). State government plans to build a dam on the Mary river could threaten the species' survival, conservationists say.

Far be it from *Nature* to put one species above another, but in this case the authorities making the dam decision need to be aware that there are particular reasons why the lungfish is worth conserving.

The fish, also known as the Queensland lungfish, is native to the Burnett and Mary rivers in southeastern Queensland. It is also found in small numbers elsewhere in the state, but these are largely introductions, and not very successful ones at that. The Burnett is already being dammed, and a second dam, on the Mary River, would effectively destroy the last pristine habitat for the species.

The Australian lungfish is the most scientifically interesting of six known, surviving species of lungfish — a kind of fish that was prevalent in both sea and freshwater during the Devonian period (some 400 million years ago). Like all primitive fishes it has a lung, as well as gills. The immediate (but not very close) relatives of the lungfish include the coelacanth, as well as the ancestors of all land-living vertebrates. This makes the lungfishes 'living fossils' of great value in studying the biology of the earliest ancestors of land animals (see E. B. Daeschler *et al. Nature* **440**, 757–763; 2006). Studying the species may provide a unique insight into how our own vertebrate ancestors made the journey from water to land.

But while the other lungfish species, found in Africa and South America, have come to resemble amphibians, the Australian one is more fish-like. Fossils of the species date back 100 million years, to

a time when dinosaurs stalked the land. Its prominent, fleshy fins and heavy scales make it look exactly like a Devonian lungfish from hundreds of millions of years earlier — quite unlike the smooth-skinned, bootlace-finned African lungfishes, for example.

Although the Australian lungfish can swim in deep water as an adult, it tends to forage in the shallows and has an absolute requirement for shallow, slow-flowing, weed-choked water in which to spawn. The permanent flooding caused by the dams will destroy this habitat. There are plans to create a channel to allow fishes to migrate past the Mary River dam, but this does not address the fish's peculiar reproductive requirements. In addition, the introduction of other fishes, such as tilapia, is thought to be threatening the lungfish through predation on its eggs and young.

Scientists and others concerned about the fate of the lungfish will be able to put their views forward during extensive environmental assessments, which both the state and the federal government will now undertake to consider the impact of the current dam proposal — not just on the fish, but on the local ecosystem and economy as a whole. Obviously the impact of the project has to be weighed against the water needs of southeastern Queensland, Australia's fastest-growing region. And evolutionary biologists opposed to the dam must also consider creative ways of ensuring that the fish can survive, in the event that the dam is built.

But the status of the Australian lungfish as rare, distinctive and of profound interest to evolutionary biologists makes its conservation much more important than that of an attractive species of bird, say, which has many living relatives. This distinction should be brought to the forefront in making a decision on the proposed dam. ■

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