

# 'Inadequate science' in US habitat plans

[WASHINGTON] Conservation measures that were designed to balance the interests of endangered species and land developers are often based on inadequate scientific data, according to the most comprehensive review yet of government-sanctioned Habitat Conservation Plans (HCPs).

Improving the science in HCPs would require "major [government] agency initiatives or policy alterations", according to the study, sponsored by the American Institute of Biological Sciences and the National Center for Ecological Analysis and Synthesis at the University of California at Santa Barbara.

Under the US Endangered Species Act, landowners are allowed to kill (or 'take') endangered plants and animals or destroy habitat as long as they produce a formal plan to mitigate the loss. The Clinton administration has promoted HCPs as a way of defusing tension between property rights advocates and conservationists. But some scientists have criticized the plans as being too inflexible (see *Nature* 391, 829; 1998).

The 18-month study involved more than 100 graduate students and 13 faculty advisors at eight universities, who reviewed more than 200 HCPs, 43 of them in detail. The US Fish and Wildlife Service (FWS), the main government agency responsible for protecting endangered species, has approved more than 240 HCPs, and 200 more are on the way.

The reviewers point out that it is too early to evaluate whether the plans are working. Rather, they looked at the quality of data used in forming the plans, and how well the data were analysed.

In general, the FWS and the National Marine Fisheries Service, which administers a much smaller number of HCPs, were found to be doing a good job of analysing the data they have. But, in many cases, "crucial, yet basic, information on species is unavailable".

Although the current status of species on HCP-affected lands is generally clear, much less is known about the likely effects of 'takes' or the effectiveness of mitigation measures. In only 25 per cent of cases was there a quantitative estimate of take as a result of development and the effect that this would have on the population's viability.

The proposed mitigation measures "commonly suffered from an absence of data indicating they were likely to succeed". Only about half of the 43 HCPs reviewed in detail included a clearly outlined programme to monitor whether a species declined or recovered after the plan was enacted.

The review team, led by Peter Kareiva of the University of Washington and Frances James of Florida State University, acknowledged that science and the law have different standards. The Endangered Species Act requires only that a plan be based on the



Net losses: chinook salmon in Washington's Nisqually River are to be classed as endangered.

"best available" information, and gathering sufficient data may not be practical in all cases. But they say HCPs covering large areas, protecting several species or lasting for long periods, should be held to higher standards.

When critical data are absent, "an HCP should not be initiated or approved". These "high-impact" plans should go through scientific advisory committees and independent peer review, according to the scientists.

The study team recommends the creation of a federally funded database containing information about listed species, which should be made available to HCP planners as well as the general scientific community.

"Frankly, we think that centralized and readily accessible data on endangered species could do for species protection what centralized and accessible data on criminals and outstanding warrants has done for public

safety protection," says the team. "Surely, if we can do this for law enforcement, we can also do it for environmental protection."

The environmental group Defenders of Wildlife said the report pointed to "serious holes" in conservation plans. The group's legal director, Bill Snape, said "HCPs must have solid scientific information and assured protections for species. This study confirms our greatest fear that this is not the case."

But the FWS takes issue with the study findings in a response posted on its web site: "We do not agree with the report's conclusion that the Service lacks adequate scientific data and analysis to support many of the approved HCPs," it says.

The FWS accuses the study authors of a "questionable methodology" in using a 'one-size-fits-all' questionnaire to judge the adequacy of data, and claims that reviewers may have overlooked relevant information. They may not have considered that states or tribes would do some of the monitoring. And answers may not have reflected how the FWS gathers information on take.

James says the authors reviewed a wide range of documents, including biological opinions. Even if some material was missed, she says, it is unlikely to have changed the report's overall conclusions.

Meanwhile, the FWS says it will address most of the problems identified in the study in a soon-to-be-revised version of a handbook for HCP planners. It will call for HCPs to establish "measurable biological goals and objectives" and to be more flexible when there are "significant biological data gaps or uncertainty". HCP developers will be asked to develop better monitoring strategies, and will be expected to increase public participation in the planning process. **Tony Reichhardt**

## Australia battles to mine heritage site

[SYDNEY] The dispute between the Australian government and Unesco over development of a large uranium mine has widened internationally. The mine at the centre of the row is in the World Heritage Area of Kakadu National Park in the Northern Territory (see *Nature* 396, 606; 1998).

Environment minister Robert Hill has claimed that, since being given until April by Unesco to produce new evidence, the government is having to "waste" more than A\$1 million (US\$630,000) "to prepare reports for foreign bureaucrats". This follows Hill's attack on the credibility of the recommendation by the Swiss-based IUCN, the World Conservation Union, that the park be placed on Unesco's 'endangered' list.

IUCN director-general David McDowell called Hill's attack "a misinterpretation of

the purpose and content" of a 1997 statistical record by IUCN of human impacts on 126 natural sites.

Earlier this month, the World Archaeological Congress in Cape Town, South Africa, resolved that there was "a serious threat posed to the ecosystems, archaeological and rock art sites". The congress has written to the Australian government urging an immediate halt to preparatory work on the mine.

Jacqui Katona, executive officer of the Gundjehmi Aboriginal Corporation, which represents the local Mirrar people, describes Hill's claims of bias and ideological campaigning by some of the world's most conservative environment and heritage organizations as "both unprofessional and embarrassing". **Peter Pockley**