Doubts swirl around plan to use rigs as reefs

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Offshore oil platforms could be allowed to remain in place as artificial habitats for marine life, under legislation before the US Congress.

The planned law is being backed by oil companies — who stand to save hundreds of millions of dollars in decommissioning costs — and by local fishermen. Its impact would be felt mainly in the Gulf of Mexico. But environmentalists see the law as little more than a ruse to conserve the companies' cash. Ecologists are unsure of the idea's merits, but some say that there is no real evidence to support it.

Current federal law requires companies to remove platforms within a year after the oil stops flowing, and to leave the sites as they found them. But the Rigs to Reefs Act of 2003, which is sponsored by Representative David Vitter (Republican, Louisiana), would allow platforms to be left in place as artificial reefs to provide habitat for coral, fish and other species. There are more than 4,000 offshore platforms in the gulf, with around 100 being decommissioned every year.

"Offshore oil and gas platforms are home to some of the most prolific ecosystems on our planet," Vitter told a subcommittee of the House Resources Committee on 17 September, when he introduced the bill.

No one disputes the fact that the rigs lead to local concentrations of wildlife, and the idea is often touted as a 'win-win' proposition that would benefit both business and the environment. But some ecologists think that, instead of providing a habitat for the growth of new fish, the platforms merely attract fish from elsewhere, making the fish easier to catch and putting even more pressure on overfished species such as red snapper. Catching them is, as Vivian Newman of environmental organization the Sierra Club puts it, "like shooting fish in a barrel".

Scientists studying the ecology of the gulf agree that the question of attraction versus production is a critical one, but are divided over the answer. Robert Shipp, a fisheries scientist at the University of South Alabama in Mobile, has studied the effects of artificial reefs on red snapper populations for 15 years, and is convinced that, since the oil industry began building platforms almost 60 years ago, the gulf's snapper population has rebounded.

Alabama has allowed recreational fishermen to create around 20,000 artificial reefs off its coast, constructed primarily of specially shaped cement pyramids and domes. This has transformed its 1,200-square-mile area from habitat favouring less economically valuable species, such as flatfish and porgies, to one where snapper and grouper thrive. "It's changing the nature of the biomass," says Shipp. "If you have more reefs, you will

Ecologists are unsure whether artificial reefs are a help or a hindrance in fish conservation.

Climb the rigging: populations of endangered fish can surge around disused oil platforms.

have more reef species, and those are the valuable ones."

But fisheries scientist Charles Wilson of Louisiana State University in Baton Rouge believes that the red snapper population may still be in trouble. The fish on the artificial reefs in Alabama are smaller and are reproducing earlier than those in Louisiana, he says: "This could be a sign of excessive fishing pressure." As fishermen keep catching the adults, the population responds by reproducing at a younger age. Other fisheries have shown this effect before collapsing from overfishing, he says.

And attracting fish to artificial reefs could pose another problem, according to marine ecologist Felicia Coleman of Florida State University in Tallahassee. Species such as grouper have evolved to spawn in particular areas of the gulf so that their young are transported by currents to near-shore nurseries. But because hard substrate is so scarce in the mud-dominated gulf, the fish could be

attracted to platforms where currents will send the spawn further offshore to die, instead of towards the shore. "As far as platforms contributing to productivity of fish populations are concerned, I'd say the jury is still out," Coleman says.

States such as Texas and Louisiana already have rigs-to-reefs programmes for state-controlled coastal waters, under which oil companies give the states half of the money saved, to help with maintenance. But issues of liability have limited the programmes' popularity, and only around 100 platforms have been donated thus far. The proposed law would relieve the oil companies of liability for any damage caused by the rigs and allow them to be left in federal waters, further offshore, increasing savings to the industry.

Although the proposed Rigs to Reefs Act is aimed primarily at the Gulf of Mexico, the same approach may also be used in California, where a bill allowing the practice was passed by the state legislature in 2001, but vetoed by then governor Gray Davis. That bill could be revived and signed by the state's new governor, Arnold Schwarzenegger, environmental groups say.

But the ecological picture is murkier in California than in the Gulf of Mexico, because many natural reefs already exist. Fish ecologist Mark Carr of the University of California, Santa Cruz, has been comparing species and numbers of fish at natural and artificial reefs. He has found that the story varies for each species and for each reef.

"To really identify the ecological consequence of artificial reefs, we need to know how well the fish grow, survive and reproduce, and what their relative fates are," says Carr. "We just don't know yet."