Corals stay close to home

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The thought of coral reefs tends to conjure up images of tropical vacations, complete with snorkeling among tropical fish in crystal clear waters.

Rapid climate change, and increased pollution, ocean acidification and overfishing threaten to darken this picture considerably. These factors heavily stress corals, and thus put both the countless marine organisms that count on corals for habitat and shelter, and the $1 billion dollar tourism industry fueled by coral reefs at significant risk.

Conservation biologists have been scrambling to find ways to conserve and protect these remarkable sea creatures. However, the design of marine reserves requires knowledge of the distances moved by the mobile juvenile stage of corals so that the natural processes that maintain healthy populations can be encouraged.

A recent study by Australian biologist Jim Underwood has found surprisingly that despite the fact that corals cast their eggs and sperm haphazardly into the oceans, certain species of coral show remarkable fidelity to their home range.

Underwood sampled DNA from coral reefs in the Indiana Ocean and found that individual corals located in the same group of reefs are more closely related than previously thought.

These results suggest that since most recruitment of these Indian Ocean coral populations comes from other locally sourced coral, one cannot

depend on genetic material from distant populations of corals to replenish or restore degraded local populations. In these regions, marine reserves that maintain high local genetic diversity should be favoured.

More information: The complete study can be found in the May 2009 issue of *Evolutionary Applications*.
www.blackwellpublishing.com/eva_enhanced/

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