Sharks don’t mix

A SCIENTIFIC study has identified two distinct populations of great white sharks in Australian waters, with Eyre Peninsula sharks making up part of a population west of the Bass Strait.

The paper, published in the journal Marine Ecology Progress Series, showed studies had found the genetic makeup of sharks west of the Bass Strait - including South Australia and Western Australia, were different to sharks on the eastern seaboard of Australia.

One of the study’s researchers, Professor John Pandolfi, a chief investigator at the ARC Centre for Excellence for Coral Reef Studies and University Queensland, said this genetic difference occurred despite the lack of any physical barrier between the regions.

“This shows that while the sharks can roam around Australia and across ocean basins, they repeatedly return to their home region to breed,” he said.

The study examined tissue samples from 97 sharks collected around Australia since 1989, an exercise involving CSIRO scientist, Doctor Barry Bruce.

Dr Bruce and his team undertook an extensive shark tagging program, and said many of the tissue samples were also taken using a biopsy probe on sharks around Neptune Island.

“Our tagging and tracking showed that white sharks travel thousands of kilometres,” Dr Bruce said.

“But sharks tagged off Western and South Australia rarely went east.

“You get the odd one that went through Bass Strait, but in every case that we saw that happen, the shark went back to South Australia.”

Dr Bruce said the “western” sharks would leave Neptune Island and move across the Great Australian Bight to about Exmouth in Western Australia, before moving back south again.

On the contrary, “eastern” sharks moved right up the Australia’s eastern seaboard to the Great Barrier Reef and down the east coast of Tasmania.

“But we’ve never had a shark tagged in eastern Australia move across (Bass Strait).”

This observation led to genetic testing of the tissue samples last year to determine whether there was more than one breeding population.

“Now we know that while white sharks across Australia can mix, the intriguing thing is that they seem to return to either east or western regions to breed.”

The study builds on results by other international research teams that have identified separate genetic populations of white sharks across ocean basins, but is the first time such differences have been found at the regional scale.

Dr Bruce said it was an interesting find, and the idea of having two genetic shark populations made the animals more at risk from impacts of fishing or changes in the local marine environment.

The study found a key would be to develop regional rather than national management strategies, and ensure populations were monitored in both regions.