

Solving the seagrass mystery

May 13 2015, by Cristy Burne



Recently the team have turned their attention to green turtles (*Chelonia mydas*) or goorlil, tagging the herbivores to study how often and when they use seagrass beds. Credit: Silke Baron

The waters of the Bardi Jawi Indigenous Protection Area (IPA), 160km north of Broome, are paradise for seagrass: warm water, lots of light and a pristine, protected environment means these seagrasses grow fast, so why are they so short?

The answer, according to CSIRO marine ecologist Dr Mat Vanderklift, could change the way we think about healthy seagrass systems.

"The dictum in seagrass ecology is that seagrass is mostly not eaten, but that's perhaps just a modern phenomenon," he says.

"Most of what we know about seagrass comes from places that have been heavily fished and hunted for centuries, but if we look at places with pretty intact food webs, places like the Kimberley, it seems that seagrass is eaten a lot."

Working with the Bardi Jawi Rangers, Dr Vanderklift is part of an ongoing collaborative project to learn more about ecological processes in the Kimberley.

"We're currently focused on understanding how much seagrass is being eaten, and what's eating it," he says.

The team's 2014 work indicates part of the answer lies with the rabbitfish (*Siganus lineatus*) or barrbal, a food source important to local communities.

The initial clues, he says, came from the mouth morphology and gut contents of a single fish.

Subsequent analysis of 30 barrbal caught in three places around islands in the Bardi Jawi IPA indicated "half to three-quarters of what's in their stomach is seagrass," Dr Vanderklift says.



A picture of a rabbitfish or barrbal. Credit: Mat Vanderklift

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"When we're out there on the boat, we can see as the tide's rising, these turtles are moving out across the [seagrass](#) beds," he says.

"A logical inference is that they're coming in to eat the seagrasses."

Dr Vanderklift says he is excited by what the team has already achieved and will continue to learn.



Seagrasses in-situ in the Kimberley. Credit: Mat Vanderklift

"The rangers have a wealth of experience and knowledge about the system, and combining that knowledge with some of the approaches we are taking in as scientists is really profitable," he says.

Established in 2006, the Bardi Jawi Rangers are facilitated by the Kimberley Land Council and manage more than 250km of coastline and 340,700 hectares of land, 95,000ha of it is Bardi Jawi IPA.

"I get to spend time and interact with these guys and learn from them," Dr Vanderklift says.

"They teach me a lot, they know a lot."

Provided by Science Network WA

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