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## STORY ARCHIVE

### Crushing Critters

(08/05/2008)

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**Majestic stretches of golden sand are considered to be Australian icons – national treasures, even. But Thomas Schlacher, from the University of the Sunshine Coast says that not enough attention is paid to preserving Australia's famed beaches and that we could be loving them to death by “treating our beaches like roads”**

**The Associate Professor has recently completed an investigation into the impact 4WD traffic is having on Macro-benthic Invertebrates - the tiny creatures that make their homes in sand, including sea-snails, shrimp and other tiny animals. In fact, many of these critters are so small they can tunnel between sand grains.**

**Catalyst's own surfing scientist, Ruben Meerman, heads to Queensland's Sunshine Coast to take a microscopic peek at the hidden world of sand life.**

## TRANSCRIPT

**Narration:** Thankfully, vehicle access to our sandy shores is carefully controlled... keeping erosion, vegetation damage and scenes like this to a minimum.

With eighty per cent of our population living just a short drive from the coast, we're a nation of beach lovers...

**Ruben Meerman:** But recent research here on the sunshine coast has uncovered a reason for keeping our beaches car free that most of us are completely unaware of.

**Narration:** You could be forgiven for thinking a vast beach like this one is pretty much a barren expanse apart from the odd seagull or crab.

But there's a hidden world right under your feet...

**Ruben:** Every handful of this stuff is actually brimming with life. And the critters who live here have to be seen to be believed.

**Narration:** These are macrobenthic invertebrates.

They live in the tiny spaces between grains of sand... and they're dying by the billion under the wheels of our recreational vehicles.

Thomas Schlacher is an Associate Professor of Marine Science at the University of the Sunshine Coast.

**Ruben:** G'day Thomas!

**Associate Professor Thomas Schlacher:** G'day Ruben!

**Ruben:** You look very busy!

**Assoc. Professor Schlacher:** Always busy on the beach!

**Narration:** He recently led the most comprehensive investigation ever conducted into the impact four wheel drive traffic is having on the residents of our sacred sands.

There are literally thousands of species of invertebrate living on the sea floor and beach.

They range from single celled 'microbenthic' organisms, through the meiobenthic range up to half a millimetre in size, and the larger 'macrobenthic' fauna.

We looked at the slightly larger ones, by large I mean larger than 1 millimetre. This is large for us. You know.

**Narration:** These animals are easily overlooked, but they play a crucial role in the food chain.

Some actually clean the grains of sand as they eat, keeping our beaches spic and span.

**Assoc. Professor Schlacher:** The fuel comes in from the surf zone as little algae being deposited on the beach. And the little critters take on that intermediate role of processing that material and passing it on to the fish and birds.

**Narration:** Those fish and birds are a big part of what attracts us to the coast in big numbers.

**Assoc. Professor Schlacher:** On any given day 250 000 cars travel up and down this beach.

**Narration:** Thomas chose 'Noosa North Shore' as one of two four wheel drive beaches to compare with two nearby, car free beaches.

Sand samples were taken from the lower, middle and upper shore.

In total, they sieved three thousand, six hundred core samples and then, back in the lab counted more than 12 000 specimens across 37 species.

The difference between the car free beaches and this beach is alarming.

**Assoc. Professor Schlacher:** Roughly speaking you get about half the amount of animal... and half the number of species. So it's a large reduction in diversity, in biomass and in abundance.

**Narration:** The impact of four wheel drives is clear.

In the lower shore, where there's hardly any traffic, there was almost no difference in fauna levels.

But in the middle and upper shores, where traffic is concentrated, the reduction in life is staggering.

**Assoc. Professor Schlacher:** Nine out of ten samples that we took on this beach had no fauna whatsoever. They were devoid of life.

**Narration:** Wiping out these little guys is environmental destruction on a massive scale... and it's effect on the fish and bird population is anyone's guess.

Incredibly, most of the smaller invertebrates generic to Aussie beaches have never been described to science.

All we know... is that we're crushing them...

**Assoc. Professor Schlacher:** The constant traffic also makes the habitat, particularly for the species further up quite unsuitable.

**Narration:** This beach has never been open to four wheel drives.

It's only a few kilometres from Noosa North Shore and has identical sand grain geometry, moisture content and beach profile...

The abundance of macrobenthic life here is plain to see.

Just a single core about the size of kids' beach bucket, we counted more than fifty amphipods alone.

**Assoc. Professor Schlacher:** I think the point we like to get across here is that the beach is not a marine desert. It's a living ecosystem, It is full of life.

**Ruben:** That's one bucket full, so there must be billions of these guys out there.

**Assoc. Professor Schlacher:** You're welcome to count them. Not me.

**Narration:** Perhaps it's time we stop thinking of the sand as just another highway.

Topics: [Environment](#), [Nature](#)

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