

*"...trouble's takin' place in the lowlands at night..
Backwater blues done call me to pack my things and go"* Bessie Smith

From the 1950s, drained backswamps became the yards for new housing in New Orleans, only to flood during storms right through to the 21st century. Canal estates in the Gold Coast seemed a flash way to develop similar wetlands, though this woke up a swamp creature we now call acid sulphate soils. But centuries ago, in the Netherlands, the coastal people called these "cat clay soils": nasty when disturbed. In the late 1800s, one of their chemists, van Bemmelen, identified the dormant iron particles and demonstrated they created sulphuric acid.

This sulphuric acid oozes in soggy ground and flows out in waterways to the sea. It corrodes progress such as roads, concrete and steel pipes, buildings, bridges and culverts. In 2012, the CSIRO says this costs Tweed Council \$4 million in replacement works. They add it kills oysters and fish, costing NSW more than \$2 million. In Queensland, helping damaged farm and residential areas costs \$180 million a year. It can be up to 25% of the cost for any coastal development.

Back in 1841, Clement Hodgkinson described the coast of Northern Rivers as "extensive swamps of many thousand acres in extent, whose verdant sea, of high waving reeds and sedge, stretches away to the base of the distant forest ranges. There are several lagoons in these swamps, and the stagnant water is very generally diffused over their surface."

R. King, who was born in Ballina in 1869 and at eleven years of age "came across to Tyagarah", says near this backswamp were "big camps" of Aboriginal people. They "always camped where pipi and oyster could be obtained" as well as "fish, possum, native bear" and the "eggs of bush turkeys. "Wild horses and cattle were plentiful then." They roamed the wetlands up "to Cudgen". "Even in those days the opening of the Belongil was always troublesome".

In 2011, Mitchell Tulau completed an environmental history of the backswamps of NSW. He traced their social and legal history. In the late 1880s, local government encouraged "drainage unions" to make farms of floodplains and backswamps. In the early 1900s, the state government set Public Works Departments (PWD) to manage drainage trusts. Most of the trusts failed financially because "the land could not repay" the investments.

During a long dry period, the floodplains were "alienated, subdivided and settled." Then the weather changed and floods at Byron (1945), Kempsey (1949) and Maitland (1955) led to more state-wide "flood mitigation". This meant more drainage works. Belongil would eventually have eight kilometres of major drains and forty secondary ones.

By 1964, these works dried up most every wetland, supposedly to help farming and housing. Not everyone agreed but dissenters were ignored. There were other "causes" for floods, pollution and diminished fish stocks.

But in 1987, massive fish kills in the Tweed demanded fresh investigation. This led to the work of another Dutch scientist, Leen Pons. He had renamed the cat clays as acid sulphate soils. They go hand in hand with backswamps all around the world.

Our coasts are “young”, underwater as recently as a thousand years ago. The land and sea are old partners and backswamps are the gift of that relationship. Koalas and possums snoozing over large nurseries of fat fish. In NSW, some backswamps are now rezoned as national parks and reserves. When people restore such key land/sea links, birds and fish populations grow again, enhancing the adjacent coast. Of all the catchments in Northern Rivers, is there one of a significant size and location with the community interest necessary for such a transformation? Maybe it's on the west of the town of Byron Bay.

SOURCE OF DIAGRAM/CREDIT

<http://www.clw.csiro.au/acidsulfatesoils/atlasbackground.html>