



Tony Reiger, the founder of the Southern Wetlands Trust, is a wildfowl and wetland enthusiast who has devoted himself to restoring Big Lagoon to being the major landscape feature and resource for birds that it once was.

BIG LAGOON DESERVES ITS NAME ONCE MORE

FARM OVERVIEW:

- Enterprise: Leased sheep grazing for 400 ewe hoggets and some forestry.
- Property Size: Total area of 56ha; 23 ha of open water lagoon, 9ha wetlands, 20ha sheep grazing, 2ha home block & 2ha forestry.
- Property location: Taramoa, SW Southland plains, 2kms from coast.
- Average annual rainfall: 1150 mm
- Altitude: 6m a.s.l.
- Soil Type: Mostly Invercargill peat, with a finger of Mokotua loam.
- Ecological values: Significant Ombrotrophic (rain fed) peat wetland provides habitat for native fish, insects and 70 species of waterfowl, wetland and shore birds. Rare remnant vegetation sequences covering the transition between freshwater wetlands and Podocarp forest are present.

Tony Reiger is a man with a mission. Having been inspired about New Zealand by reading about it as a child growing up in the United States, he made his first visit in 1978 and finally achieved his dream of retiring here in 2004. He came with the express intent to purchase land in order to lead the restoration of a significant wetland. After looking around at various options, he couldn't resist the challenge and appeal of literally reconstructing Big Lagoon.

Historically, Big Lagoon was well known to local Iwi and Pakeha alike for its abundance of food. Indeed many pictures and memories survive of days shooting and fishing at the lagoon. Being a coastal lake wetland, it provided important habitat for Tuna (eels) to grow to adulthood and for waterfowl, wetland birds and shorebirds to breed, feed and moult. Originally the lagoon covered an area of 17 hectares, but after major drainage efforts were made in 1982 to expand grazing lands, it was reduced to less than 3 hectares of open water. The habitat quality of the remnant wetland was also seriously compromised by the increased nutrient supply from surrounding farmland.

One reason for the popularity of the Big Lagoon restoration is the recreational opportunities it provides for game hunters. A remnant of the vegetation sequence from rush land to forest is visible in the background.



Once Tony Reiger had ownership of the property in 2003, he immediately embarked on the project to reinstate the Lagoon, starting works in October of that year. After seeking hydrological and engineering advice from Environment Southland, the construction of the dam was begun. The dam has a thickness of 12 feet with a blue clay cap acting as a seal. After drainage had lowered the water table, the peat bed of the old Lagoon shrunk from the effects of drying and oxidation in the open air. This shrinkage was so marked that the dam had to be raised several metres above the adjacent ring drain in order to retain a water body close to the original lagoon size.

“I AM A PASSIONATE RETIRED SCHOOL TEACHER WHO HAS TURNED MY HOME INTO A CLASSROOM” EXPLAINS TONY REIGER.

The wildlife has returned quickly to Big Lagoon. Before the water level was raised, 20 bird species were recorded to be using the remnant lagoon; now this tally has risen to 70. Numbers of birds have risen dramatically too; over the last three years the population of Paradise Shelduck using the lagoon to moult has risen from 32 to almost 1000. Whilst this is fantastic news, it has created some teething problems. Neighbouring pastoral farmers cautiously welcomed the abundance of wildfowl because of the possible impact of such numbers on pastures production. Also, the integrity of the as yet sparsely vegetated

dam wall has become threatened as a result of the bank erosion caused by so many birds waddling out of the waters. Unfortunately, any bare ground created by the birds is further eroded by the effects of wave action upon the artificially straight structure. A remedial measure of building a 600 metre length of wooden wall was taken recently that will ensure no breaches occur in the medium term. In the long term, restoration of a natural vegetation sequence along the lagoon edge will increase habitat diversity and will also provide more physically resilient buffer zones.

Construction efforts have not stopped at the dam. Innovative ways of enhancing the habitat diversity are being trialled. For example, lagoon islands have been made from stacks of used car tyres staked with waratahs. This basic structure is

then surrounded by bales of oat straw to provide a substrate for plantings to become established on. In addition, wet meadows bordering the lagoon have had ponds dug in them. Tony’s vision is to continue the habitat enhancement work and hopes to eventually create a fully functioning wetland ecosystem. He is realistic that implementing such a vision requires an adaptive management



approach and is grateful for the advice from organisations such as the NZ Landcare Trust. In reality, our understanding of wetland ecosystems is still fledgling and Tony hopes that by encouraging students to conduct research at Big Lagoon as it evolves, this knowledge gap will start to be filled.

Owing to the sheer scale of the works involved, the initial stages of the restoration project have had high capital costs. Despite generous financial support from the Game Bird Habitat Trust, the NZ Landcare Trust and the Biodiversity Condition Fund, Tony estimates that the project has been 85% privately funded so far, but whilst funds permit he is determined to continue with the vision. A big step was securing the long term fate of the site. Following a period of negotiations on the management regime, the wetland and lagoon area was placed into a 32 ha QEII National Trust covenant that will be managed by the specifically created Southern Wetlands Trust.

The overriding motivation for Tony is to provide a place for people to visit. Tony hopes that visitors are able to enjoy the wetland environment and to learn about its values and importance to society and the economy. The reserve caters for a range of visitors. Disabled access is enabled by the maintenance of a level track around the entire perimeter. Hunting parties are welcome and in recent years popularity has meant limits being placed on numbers. Parties agree to only shoot common wildfowl species such as Canada Geese, Paradise Shelduck and Mallards. Hunters are also obliged to contribute a day of their time to the restoration project in exchange for every day they come to shoot.

Big Lagoon is the second largest freshwater lagoon on the southern coastal plain.

Being a retired school teacher and a passionate educator, Tony has gladly turned over part of his home to develop a research and educational facility. The facility provides a venue for school parties, visitors and tertiary research students alike. The educational aims are to engender a greater understanding of wetland ecology, protection methods and hunting procedures in all ages. In a sense, the work has only just begun but with more and more people able to appreciate the sense of wildness and abundance that the lagoon captures, future restoration success should be assured. In 2008, the Southern Wetlands Trust were winners of the Rural Category in the Environment Southland Environment Awards, for their work in restoring Big Lagoon.



The track in the centre of the image follows the artificial dam that allowed the lagoon on the right to fill again. On the left, a portion of the ring drain is visible; note that the level of the lagoon is raised some distance above the drain.