

TIWAI

The Listening Facility of The Southland Branch New Zealand Radio DX League 1974 - 2011.

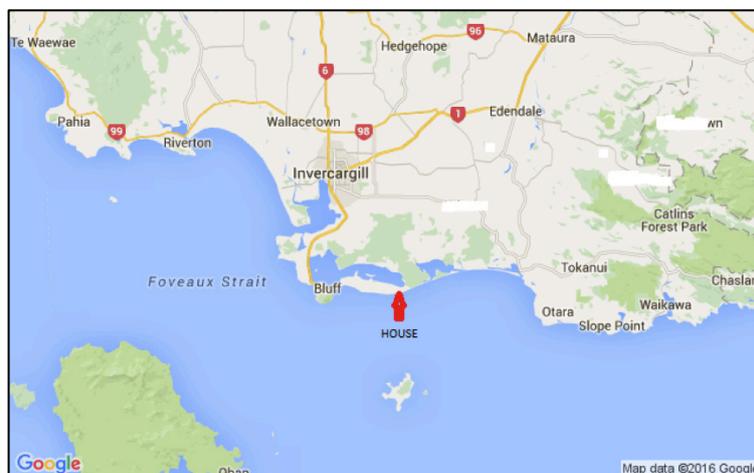
by Steven Greenyer



The Southland Branch of the New Zealand Radio DX League was fortunate in obtaining a permanent DX location that would be the envy of DXers around the world. A permanent material house located kilometres from the nearest man-made electrical interference and with sufficient land to erect Beverage antennas of very long lengths. The Branch has shared this location with DXers from through-out New Zealand and the world. In total, over 90 DXers and hobbyists have enjoyed the facilities.

In the early nineteen seventies the Southland Branch had several very active members who had at various times, used out of town locations for Dxing. The value of these locations was well known, especially in light of increasing man-made noise that was making city sites less suitable, especially for medium-wave and tropical band Dxing.

It was with this background that Branch member Wyn Machon working at the Tiwai Point aluminium smelter, raised the possibility of the Branch obtaining the use of a farmhouse located on the Tiwai peninsula, as a listening location. Through arrangements made by Wyn the consent to use the house on land leased by the smelter was obtained. The house was located at the northern end of the Tiwai peninsula about 16 kilometres south of Invercargill and about ten kilometres from the aluminium smelter, located at the opposite end of the peninsular. The peninsular is about 500 metres wide at this point with the sea to the east and south, Awarua Bay and the peninsular to the west and the Waituna lagoon to the north. Much of the land surrounding it is peat swamp over the top of white silicon gravel. The gravel road to the house developed many pot holes over the years and with little maintenance from the owners branch members spent many hours attempting to fill these.



The house is three bedrooms of concrete block construction and originally served as a farmhouse for the Tiwai run. Members did most of the maintenance on it including painting it several times. The site was close to what was known as Bushy Point a stop over for early travellers from Bluff to Invercargill and the location for a limited period of gold recovery on the nearby beach. Bushy Point was also the site of an early hotel owned by the family of Premier Joseph Ward a biography of him mentions him dancing on the bar.

For a number of years the original wooden farmhouse stood alongside the newer house until it was demolished by Bob and Dulcie Dunstone and Steven and Jeannette Greenyer due to its hazardous condition, Apart from the small stables there was also a shearing shed, part of this building had originally been a quarantine station at the other end of the peninsular for the port of Bluff until transported to its new site.

While the first entry in the visitors' book is of Ray Crawford and Paul Aronsen on the 27 January 1975 the site was in use a little earlier than these dates. An initial test of the site by Ray Crawford and Sutton Burtenshaw involved the erection of a short wire antenna from the house to the shearing shed about 100 metres away, on hooking up to Sutton's Philips Continental cordless radio their first thought was that the radio was faulty as there was so little noise from the speaker. There was however no fault, it was simply that the site was so noise free compared to previous listening experiences. A short time later, members Wyn Machon, Sutton Burtenshaw, Steven Greenyer, Paul Aronsen and Bruce Cavenagh erected the first permanent long aerial. This was done using hard drawn copper wire supported on manuka poles dug straight into the peaty ground. The aerial was about 300 metres long and was erected to hear North Americans but was effectively 180 degrees in the wrong direction for a beverage, but in these pre-balun and termination days it worked well off the back end.

The very low noise level was impressive, so low in fact that on more than one occasion we wondered if the radio was working correctly so low was the noise level before stations faded in. As there was no power present one of the first sets used was the Philips Continental Cordless. This was a fairly simple battery mantel radio, with the addition of Murata I.F. bypass filters provided very good reception. On occasions larger battery vibrator sets were used, such as Ray Crawfords AR88. These were replaced around 1975 by Barlow Wadley receivers which were a major advance with direct frequency read-out and the later addition of digital read-out screens. Over the years several antennas where erected this culminated in the extension of an existing North American aerial by Ray Crawford to a 6000 ft long monster. In later years this was cut back to around 4500 ft for ease of maintenance.

THE HOUSE.

The house has three bedrooms, a kitchen, lounge and bathroom. The toilet is a long drop outside. A coal range in the kitchen provides heating, cooking and hot water facilities via a wetback, while an open fire in the lounge heats that area. The coal range was very temperamental and frequently smoked the house out. Listening rooms were heated in winter with kerosene heaters. While the house was wired for 230 volt electricity there is no electricity supply within 6 kilometres as the original generator had been removed. Initial trials where made using fixed gas lighting. This was replaced with portable gas lanterns for several years. With solar panels becoming more common on the 27 November 1982 the fixed wiring was adapted for use with a 12 volt DC supply. A grant from a local community charitable trust enabled the purchase of a solar panel for use with several large forklift traction batteries obtained from the smelter. Over the years new batteries where purchased along with a second solar panel. Unfortunately the solar panels which had been in place for many years were stolen in 2004 and had to be replaced. A small DC generator was built by Eddy MacAskill and this was used to top the batteries up in times of greater use.



An early photo, old wooden house still standing



The house in later years

ANTENNAS

For the first few years the aerial wires were carried on manuka poles about 3-4 metres in length, these were gathered from a stand of manuka off the Tiwai road towards Invercargill. These were put straight into a hole dug in the peat; copper wire on porcelain insulators was strung from these. While some of these poles lasted many years they were prone to falling over after loosening in the wet peat and eventual rotting. The condition of the poles was not aided when in one year a large herd of cattle was put into the surrounding land, and while they cleared a lot of undergrowth they also pushed some of the poles over. Being located on a peninsular and exposed to not infrequent gales these also took a toll on the antennas, The farm area contained remnants of old farm fences with both concrete and wooden fence posts. When these were in the right place the poles were wired to them. This led to the use of concrete fence posts to hold poles up in the line of the aerals. It was no easy task carrying these posts through swampy ground, and over and around thickly matted reeds. The posts because of their weight had a tendency to tip over in the wet ground, Once a hole is dug in the peat it is impossible to pack it tight around the post so this led to the further development of pouring concrete around their base, this was carried by hand in buckets up to 300 metres distant. The odd aerial could be reached by four wheel drive land-rover which certainly made the task easier. This was usually in the former farm paddock areas which were much drier and created less stability problems for posts. At about this time the last remaining stands of manuka in the area disappeared and the a change was made to the use of tanalised timber for the poles. This was usually 50mm by 50mm square and about 3-4 metres long. As movement of the poles in the frequent winds tended to loosen the posts and create other maintenance problems, wire binding of the two together was used. This was superseded by the use of stainless steel banding which could be made very tight by the use of a special tool. This binding had the disadvantage that maintenance beyond the reach of a step ladder meant that the binding had to be cut and hence wasted. As a result of this and the fact that most concrete posts had holes in them a move was made to using two stainless steel or brass bolts which allowed one bolt to be removed and the pole tilted over for repairs or replacement of wire. Hard drawn copper was used for some of the early aerals but in later years galvanised wire of about 18 gauge was preferred as it was readily available and cheap. As previously stated carrying concrete posts and buckets of concrete up to 300 metres was no fun and concrete posts gave way to tanalised wooden fence posts. These round posts usually had one flat side cut on them to allow the pole to sit close to them and had the bottom sharpened to allow them to be driven into the ground with a mallet or large hammer. Because they were driven and the ground was not dug up they were quite stable and as the final solution to the post and pole requirement were as close to perfect as could be obtained and generally gave few problems.

Termination Poles

With several antennas coming into the house a decision was made to have three main termination poles just outside the house. This would take the load of the aerials off the house and allow a general tidy up of the leads.

Arthur Williams who was a Post & Telegraph employee arranged the procurement of some old telephone poles. On a particularly cold and wet Saturday afternoon, Steven Greenyer Lindsay Robinson, Neville Henry and Arthur Williams undertook the removal of three old telephone poles from a disused rural line. The poles were dug loose by hand and lifted out of their hole with an old timber jack and brute strength. They were then placed on a tandem trailer and transported to Tiwai, after suitable holes were dug by hand they were erected, as they were in the vicinity of 7 metres long this operation took some care but they stood in position one each at the north, east and west sides of the house until the last one was pulled down when the house was vacated.

North termination pole
Stables in background.



The number of aerials continued to grow with antennas now aimed at Europe, Asia, North America (two), the Caribbean and South America (2). Some experimentation and alteration was made and one of the North American antennas aimed at Alaska and the Caribbean antenna were removed. These were replaced with a new antenna aimed at the Eastern USA and parts of Central America. As one of the original South American antennas was in poor condition it was replaced on a new beam by a twin wire beverage. The twin wire concept was suggested by Bob Dunstan, the antenna was constructed very much like a telephone line, a single pole with a cross arm with two insulators supporting wires about a metre apart. At the end of the antenna furthest from the house one wire was earthed via a 470 ohm resistor, the other being left open ended. Bob built a phasing unit which functioned very well until in later years modern phasing units such as the MFJ 1035 became available. The real value of a two wire beverage is the ability to null unwanted stations and effectively steer the receiving direction of the antenna.

With so many antennas now coming into the house the problem of interaction of the lead ins was considered and a decision was made to use coaxial cable. This necessitated the use of matching transformers or baluns at the antenna and once again Bob Dunstone built these.

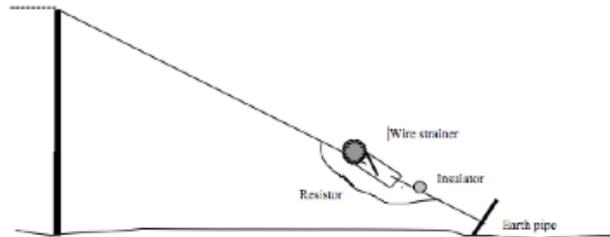
The final antenna arrangement settled on was:

CONTINENT	AZIMUTH	LENGTH
North America	73 degrees	612 metres
North/Central America	85 degrees	440 metres
South America twin wire	116 degrees	363 metres
South America	122 degrees	330 metres
Europe	257 degrees	300 metres
Asia	315 degrees	355 metres

There was also a 60 and 90 metre dipole, 2 metre VHF $\frac{1}{4}$ wave vertical and in later years a 20 metre ham band dipole.

The Asian aerial was the most difficult to maintain as it passed through a row of old pine trees and was subjected to many breakages due to falling branches, in the frequent strong winds that buffet the area.

Termination of the antennas was usually made with a 470 ohm resistor; various methods of achieving this were tried. The final method solved not only the termination problem but also the method of straining the antenna up. Previously working from the top of a ladder a device known as a Post Office wire strainer was attached to the pole and the wire and the antenna tightened from the house pole end. The eventual solution was to drive a metal earth pipe in at the end of the antenna with a wire attached to it. Between this wire and the end of the antenna wire was attached a wire fence strainer, later types had a ceramic insulator incorporated into the strainer; a termination resistor was put in circuit across the strainer by the way of two wire fly leads. The antenna could now be tightened at ground level and alterations to the termination made easily.



CONVENTIONS

Two NZ Radio DX League conventions have been held at the site. The First in 1978 from the 23 to 27 March attracted 25 visitors, with 10 from out of Invercargill and Australian Ernie Moore. Caravans were utilised to supplement the house accommodation and additional temporary aerials erected. The transport and requirements of all these visitors required considerable effort from the Southland Branch members. As with events like this conditions improved markedly when the Convention ended and most members had departed, with Panama being logged on two MW frequencies by the late stayers.

The second convention was held at Easter 1982, 8 to 12 April. This attracted a smaller number of DXers with 15 DXers including three out of town and Larry McKinney from the USA. Conditions must have been reasonable as some of the stations logged included Canadians CFCX 6005, Panama 840, and a Dunedin pirate station on 3850 with 1.9 watts.

40th AGM

The Southland Branch hosted the 40th Anniversary celebrations of the NZ Radio DX League over the 20 to 23 of October 1988. Many of the visitors to this event took the opportunity to spend a night or two DXing at Tiwai.

Get Together.

The past few years have seen a small number of DXers from New Zealand along with Australian regular Ray Crawford spend a week at Tiwai around March/ April when Latin American stations are at their best. During one of Ernie Moore's visits in 1979 a sizeable earthquake occurred. Aussie, Ernie, had never experienced an earthquake before. Our first thought was how much of a risk we were at if a tsunami was on its way. Ray Crawford and Steven Greenyer drove back to the smelter to check on families and get the latest, fortunately good news.

Branch Meetings.

The Southland Branch held the February Branch meeting at Tiwai since the 1970s. Usually held on the fourth Tuesday in the Month and over in time to hear early evening US stations, in recent years it has been held on a Saturday to allow more time to socialise and DX. In previous years when membership was strong BBQs were held with families who often returned to Invercargill and left the DXers to carry on listening.

Logging Highlights.

Not all the best loggings were recorded in the visitors' book but the following must have inspired visitors enough to make a note:

- 3/2/75 Merv Branks, Bahamas 1540 kHz
- 8/6/75 Ray Crawford, Panama 1320 kHz
- 21/6/75 Steven Greenyer & Paul Aronsens, Belize and Upper Volta on SW
- 26/1/76 Arthur Williams, Radio Paradise ???
- 29/2/76 Eric McIntosh, 3XF Special.
- 14/4/77 Chris Martin, MW Bolivians
- 8/6/79 Steven Greenyer, CKWX 6080 kHz 10 watts
- 6/12/079 Stu Forsyth, Best static I've heard for years.
- 17/3/80 Ray Crawford & Bob Dunstone, 3 Argentines & 2 Uruguayans on MW.
- 17/1/81 Stu Forsyth & Alastair Stewart, logged 2 low power European pirates.
- 28/1/80 Ray Crawford, Radio Apintie
- 26/2/81 Lindsay Robinson, CKFX
- 29/2/84 Mark Nicholls, Radio Antilles 930
- 20/10/84 Tony Magon, 2UNE 1610, Manx Radio 1368
- 12/8/84 Bill Whitacre from the USA, WLW & WHAM
- 12/8/85 Tony Magon, HCJB 690, AFRTS Panama 790, Dominica 1060
- 2/9/85 Steven Greenyer, WASG & WPMP on hurricane specials

Overseas Visitors to Tiwai

Name	Country	Year
Chris Martin	Australia	1975, 1976, 1977
Norm Maguire	Hawaii	1975, 1977
Harry Weatherley	Australia	1976, 77, 1982, 85, 88
Günter Jacob	Germany	1977
Keith Barton	Australia	1977, 1980
Ernie Moore	Australia	1977, 1978, 79, 1980
Sam Dellit	Australia	1977
John Campbell	Australia	1978
Dave Lawson	Australia	1980
David Appleyard	Sweden	1981
Rex Gillett	Australia	1982
Larry McKinney	USA	1982
W. Widrig	USA	1983
Bill Whitacre	USA	1984
Ray Crawford	Australia	1985, 1997, 2003, 2004
Leigh Morris	Australia	1985
Arnie Skoog	Sweden	1989
Jens Frost	Denmark	1990

New Zealand Visitors

The visitors' book records many New Zealander DXers who have also visited the site, many returning several times. In addition members of the Southland Branch have availed themselves of the opportunity.

New Zealand

Phil Van de Pavred	Robin Chambers	David Norrie
Paul Ormandy	Bryan Clark	Arthur De Maine
Peter Grenfell	Ross Renton	Barry Williams
John Mainland	Gerald Harper	Jim Benzoni
John Lonie?	Peter Allchin	Ash Nallawalla
Stuart Forsyth	David Miller	Andy Gardner
Brian Summers	John Durham	? Morrish
Don Pearce	Jim Hope	Paul Stray
? Lawrence	Brian Marsh	Alastair Stewart

Southland Branch

Tony Magon	Eric McIntosh	John Poultney
Mark Nicholls	Steve Clington	Don Collie
Stan Simon	Arthur Williams	Paul Aronsen
Eddy MacAskill	Ray Crawford	Laurie Boyer
Ron Harkness	Dave Officer	Steven Greenyer
Sutton Burtonshaw	Lindsay Robinson	Merv Branks
Arthur Cushen	Neville Henry	Bruce Cavanagh
Wyn Machon	Dudley Carter	Leo Miezzenbeck
Charle Chester	Irene Simpson	Frank Glen
Harry Searle	Bob Dunston	Martin Flahive
Dick Murray	Noel Parry	Owen Crawford
Ritchard Lobb	Russell Winter	Lindsay Gallop
Allan Glennie	John Poultney	Keith Robinson
John Lawton	Allan Crawford	? Hawkins
? Larsen	? Bellet	? Tilling
? Gerken	Gavin Bennett	

In addition, wives, partners and families have visited or stayed overnight at the house.

Other Visitors

In 1994, 95 and 96, Andrew Ranum, P. Russell and S. Parker from the Department of Conservation spent several months staying in the house while they conducted surveys of fern birds and carried out tests on predator eradication, prior to introducing a similar programme on one of the sub Antarctic islands.

Additionally several visitors from the smelter passed through such as Dave Rodgers undertaking a Health and Safety Audit of the premises.

The house was also used by members of the Southland Ornithological Society due to the large numbers of wading birds that are present in the area.

No list of visitors would be complete without mentioning *Rattus rattus* or perhaps their cousin *Rattus norvegicus*. Over the years these occasionally not so little creatures have made random appearances, eating holes through the ceiling, under doors and devouring coaxial cable. On one occasion, round bait balls were thrown up into the ceiling, the next night we were sure they were playing football with them, such was the noise the rats made moving them around.



Ray Crawford DXing at Tiwai

Stu Forsyth DXing at Tiwai

1978 CONVENTION



Back : John Mainland, Jim Benzoni, Mark Nicholls, Sutton Burtenshaw, Owen Crawford, Ernie Moore, Ray Crawford, Steven Greenyer, Lindsay Robinson, Ross Renton, Arthur Williams.

Front : Charlie Chester, Paul Ormandy, J. Lonie, Arthur Cushen, Eric McIntosh, Bryan Clark, John Allchin, Bruce Cavanagh, Ash Nallawalla, Paul Aronsen, Harry Searle, Leo Miesenbeck



1982 CONVENTION

Back: Bob Dunston, Lindsay Robinson, Larry McKinney, Steven Greenyer, Harry Searle. Front: Paul Aronson, Arthur Williams, Bryan Clark, Arthur Cushen, Eric McIntosh, Mark Nicholls.



2003

Ray Crawford and Paul Aronsen (front), Arthur DeMaine, Steven Greenyer, David Norrie, Lindsay Robinson, Frank Glen, Paul Ormandy (rear), Eddie MacAskill, Tony Magon, Sutton Burtenshaw (rear), Eric McIntosh, Bryan Clark, Peter Grenfell.



2005

Ray Crawford, Sutton Burtenshaw, Steven Greenyer, Paul Aronsen, David Headland The twin wire beverage pole is visible in the background.

POST SCRIPT

In later years the land and house returned to DOC ownership. Due to declining Southland Branch membership and increasing costs for rent and compulsory insurance Paul Aronsen, who had been custodian, in consultation with other members closed the site. Sadly a report Steven received last year from an ornithological society member indicated the house was in disrepair with broken doors and windows and extensive damage inside.

Some of the DXers to use Tiwai in recent years



Sutton Burtenshaw



Steven Greenyer



Arthur DeMaine



Paul Ormandy & Tony Magon



DXing, Tiwai style!