

Waituna Lagoon: shore transects

Notes and photos

Peter Johnson May 2004

Shore vegetation at Waituna Lagoon, Southland, was recorded on 9 transects in April 1995 and reported by: Johnson, P. N.; Partridge, T. R. 1998: Vegetation and water level regime at Waituna Lagoon, Southland. Science for Conservation 98. Wellington, Department of Conservation. 53 p.

These 1995 transects were not intended to be permanent ones, so were not marked. But with ongoing monitoring in mind, the sites were revisited, with Kate McNutt and Andy Cox, DOC, Southland, on 24 and 25 April 2004. We had hoped that the lagoon level would have been low. Indeed the lagoon had been open and tidal until 4 April 2004, but closure followed by rain had brought the level up to 2.02 m on 25.4.04 (staff gauge, Currans Ck bridge), i.e. inundating the lower elevation turf communities and some of the oioi rushland, and hindering our relocation of transect sites and the permanent marking of the start of each transect beside the shore.

Nevertheless, aluminium stakes were placed as close as possible to the transect sites, to act as permanent markers, for future vegetation monitoring. Photos included in the Johnson & Partridge report, along with additional photos taken in 1995 by PNJ, were used to help with approximate relocation of the sites. Some of these photos were re-taken in 2004.

The following photos and notes are intended to help with more precise relocation of transects, and their further permanent marking, when lagoon level is again favourably low. Reference is made to numbered transects (see earlier report for location map), and also to P.N. Johnson film/ negative nos.



Near Transect 1. 3.4.1995. Lagoon level 1.40 m. View to east from near or possibly on the transect line, which runs inshore towards the right (south). PNJ photo ref. 238.21.



Near Transect 1. 3.4.1995. Lagoon level 1.40 m. View to east. The transect crosses from left to right across somewhere near the 'bay-head' of grass marsh. PNJ photo ref. 238.16.

Note re vegetation: from casual observation no marked change was apparent at this site since 1995. However, changes in extent of oioi rushland at and near this site, and into nearby Hansens Bay, will be best assessed by air photo interpretation, to further the time-sequence of changes shown in Figs 5 and 6 of Johnson & Partridge report (and of subsequent report by Greg Ryder?).



Transect 2. 3.4.1995. View to east or slightly south-east, probably from the transect line itself at about its 40 m point (40 m in from the 1995 outer edge of rushland). The scrub features may help in determining the transect location. On our April 2004 visit, from the dinghy, we could only get a very rough idea of this transect location. PNJ photo ref. 238.22.



Near Transect 3. 3.4.1995. View to west. Note Bluff Hill as reference point, aligned with shore at a time when lagoon level was 1.25 m. Transect 3 runs inshore to right somewhere very close to here. PNJ photo ref. 238.24.



Near Transect 3. 24.4.2004. An attempt to re-take the 1995 photo above, from thigh-depth water with lagoon level at 2.02m. PNJ photo ref. 414.1.

Note re vegetation near transect 3: oioi rushland appears to be more dense that in 1995. Also in 2004 quite a lot more gorse along the line of and close to the slightly elevated gravel storm-ridge just inshore of the rushland zone.



Transect 4. 4.4.1995. (Lagoon level 1.30 m). Photo looking about west from on or very near the transect, which runs from shore of bay on right, up and across the raised gravel ridge on left. PNJ photo ref. 238.29.

Note re vegetation near transect 4: no obvious changes evident since 1995.



Transect 5. 4.4.1995. Photo looking about south-west from grassy incline at about the 120 m point of the transect. PNJ photo ref. 239.15.



Transect 5. 25.4.2004. An attempt to retake the 1995 photo above. PNJ photo ref. 414.9.

Note re vegetation in upper part of transect 5: maybe slight increase since 1995 in density of knobby clubrush inshore of the oioi rushland zone.



Transect 5. 25.4.2004. A photo (view slightly east of south) to show location of new marker peg (near centre) PNJ photo ref. 414.8.

Note re transect relocation: this should be more readily achieved when lagoon is again at low level, at which time it should be possible to place a marker representing the shoreline end of the transect, with reference to the raised gravel bar, and enclosed muddy hollow shown on the profile drawing (Fig 24 of Johnson & Partridge report).



Transect 7 5.4.1995. (Lagoon level 1.19 m) Photo looking slightly north of east. The transect started in this little bay and crossed the three-square sedgeland, heading inshore to right. PNJ photo ref. 239.16.



Transect 7 5.4.1995. Photo looking slightly north of east. The transect comes up through oioi rushland on left then up gorse/ grass slope onto crest of coastal beach ridge. PNJ photo ref. 239.20.

Note re vegetation in upper part of transect 7: in 2004 less gorse, because it has been sprayed.



Transect 7 5.4.1995. Photo looking about south-west, probably across about the 40 m point on transect. The transect comes up from lagoon shore which is out of photo on right. PNJ photo ref. 239.18.



Transect 7 25.4.2004. An attempt to re-take 1995 photo above. PNJ photo ref. 414.7.

Note re vegetation in this part of transect 7: maybe oioi slightly more dense than in 1995. Also creeping bent (*Agrostis stolonifera*) under the oioi might be more common than in 1995, but this could change over short-term because this site is accessible to sheep grazing.



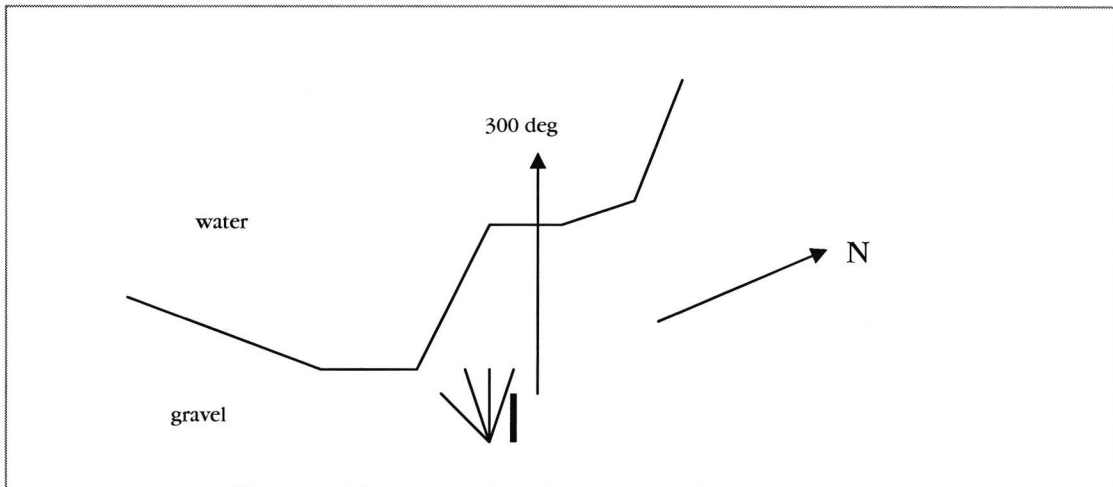
Near Transect 9 9.4.1995. (Lagoon level 1.25 m). Photo looking about north-west; the person with survey marker pole is probably on the transect line. PNJ photo ref. 239.27.

Note re vegetation in the vicinity of transect 7: By 2004 the *Carex coriacea* sward is much less evident along this section of shore, having been partly replaced in the lower part of its zone by oioi rushland, and along its upper part by gorse which is now common as 2-3 m dense bushes fringing the outer edge of the manuka scrub.

Transect 7

Pole: E 2175089, N 5394617 +/-5.9m

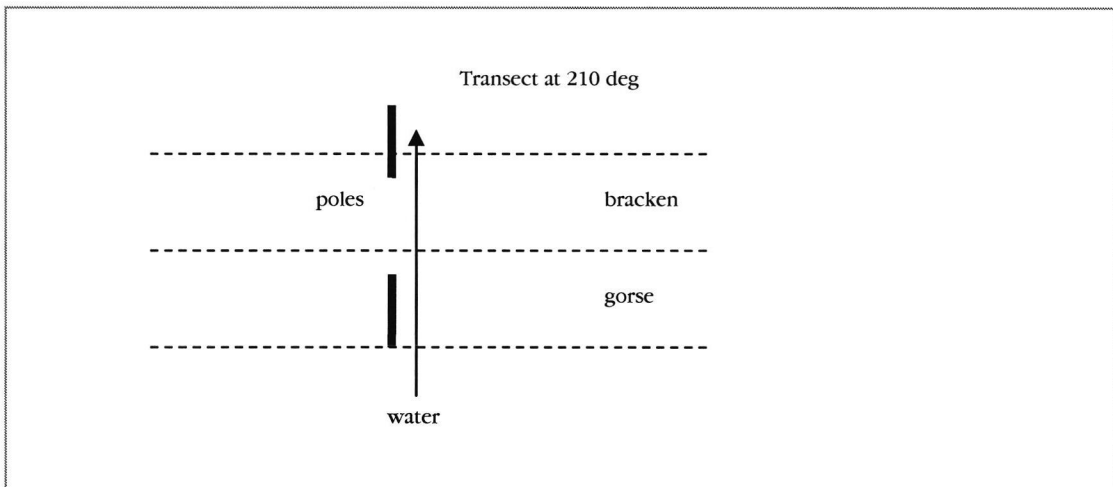
The pole is located in a flax bush approximately 50m along transect up first scarp. Transect is at a back bearing of 300 deg from the pole back towards the water. Water now covers a large portion of the vegetation.



Transect 9:

Transect: E 2171096, N5394606

Bearing of transect 210 deg mag. Two poles have been established to show the direction of the transect.



Kate McNutt
Technical Support Officer
Southland Conservancy, June 2004

Waituna Lagoon Transect Monitoring Site Description

Site visit on April 24 and 25 2004 with Peter Johnson (Landcare Research), Kate McNutt (TSO Monitoring Southland Conservancy), Andy Cox (TSM Southland Conservancy).

Objective: permanently mark and GPS original transects in Waituna Lagoon that Peter Johnson measured in 1995. All degrees are magnetic. Poles are aluminium angle irons (1.6m high) with pink triangles tied to the top for easy identification.

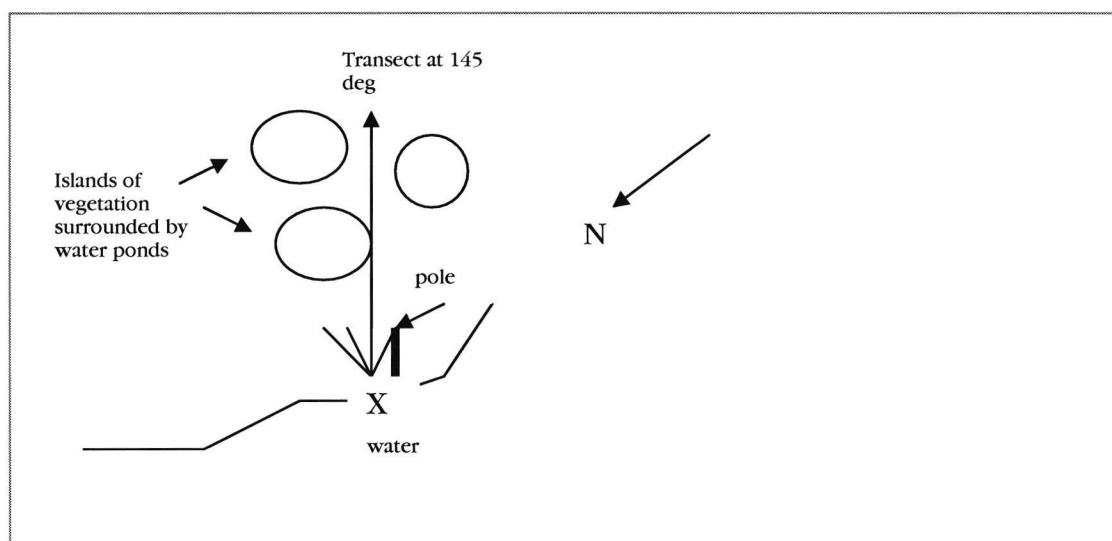
Ref: Johnson. P, Partridge. T.R 1998: Vegetation and water regimes at Waituna Lagoon, Southland. Science for Conservation 98, Wellington, Department of Conservation.

Johnson. P: Waituna Lagoon 2004: shore transects. Report for Southland Conservancy SOUCO 49797

Transect 1

Pole: E2174487, N5394935 +/-6m

Transect follows 145 deg from the pole placed in a nearby flax bush.



Transect 2

E 2177112 N 5394717 +/- 5.6m

This transect was almost completely covered by water and so the GPS location is an approximate.

Transect 3:

25m long.

E 2170895, N 5393105

Direction of transect is 140 degrees from the waters edge.

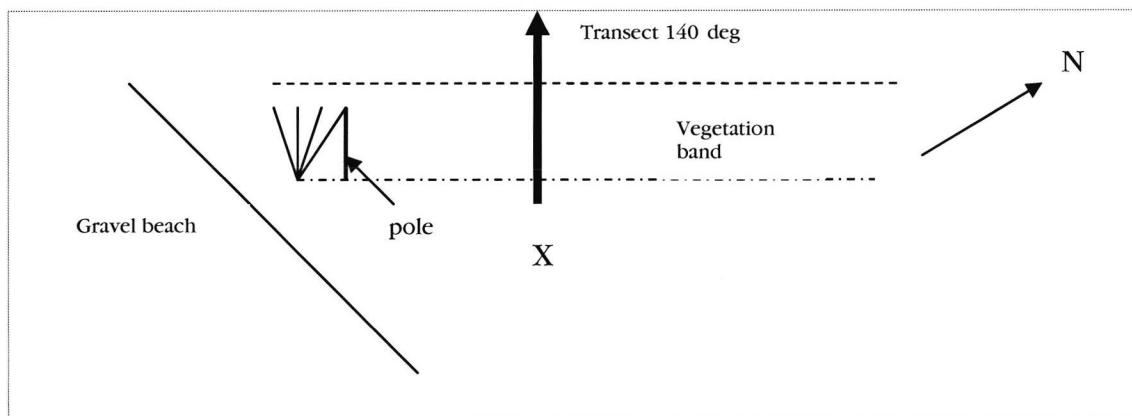
Transect 4:

Transect: E 2171298, N 5393375 +/-5m

Pole: E 2171289, N 5393368

14m long.

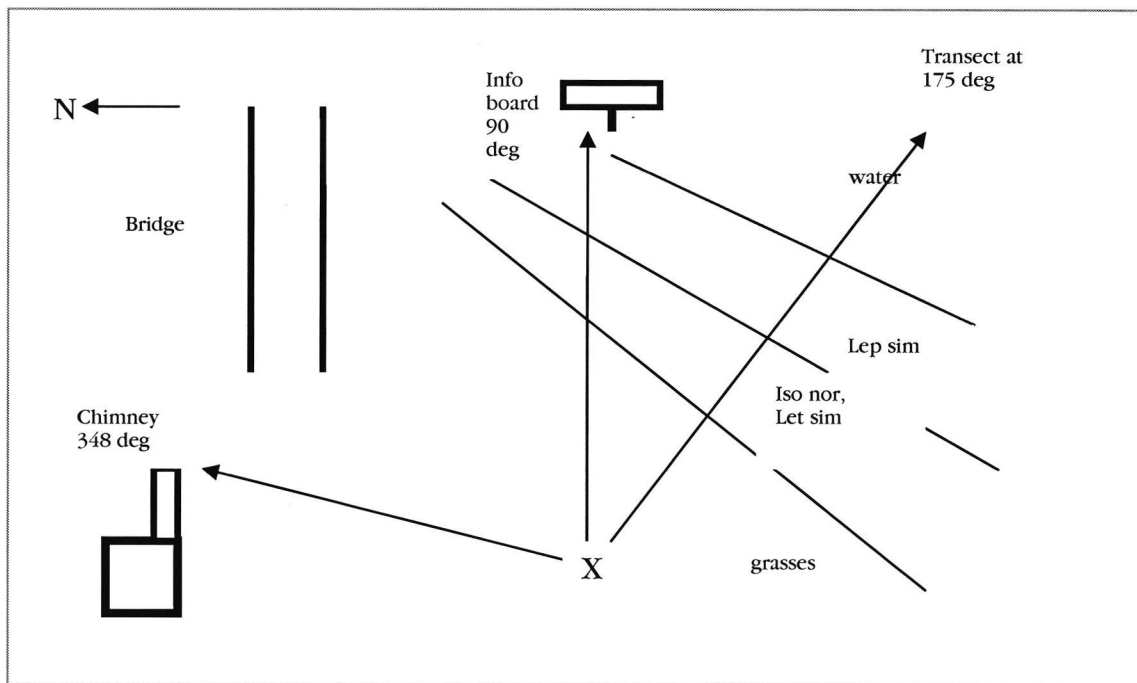
This transect (X) is located on the gravel peninsula but the turf shown in the photo in 1997 is now underwater because of high lagoon levels. A pole has been placed in a flax bush approximately 10 - 12m west of where the transect should cross.



Transect 5

E 2177112 N 5395623 +/- 6.3m

Transect starts (X) on the grassy flats on the western side of the Waghorn Bridge and runs at 175 deg through the grass into the vegetation zones and into the water (that covered the remainder of the transect). No peg was placed in the ground because it was too visible. The start of the transect is estimated to begin at 348 deg to the chimney of the closest crib and 90 deg mag to the information board.



Transect 6

E 2176022 N 5395816 +/- 10m

The pole is located in a flax bush approximately 10m to the west of the drain. The transect starts (X) 4m in from the road and 10m east from a large flax bush, runs at 182 deg down the western side of the drain.

