

Rhos1: Notes from field visits for tensiometers and OLF

When the overland flow traps have initially been set up, there has been some testing of the system resulting in tips being recorded. These tips have been edited from the raw data files. These points will usually have comment box saying this.

15/06/05	Tensios degassed
23/06/05	Cut grass
19/07/05	Downloaded data and on inspection noticed that all sensors were giving the same, non sensible, readings. This was attributed to a storm event that may have caused some sort of electrical surge in the logger. The same was observed in all manipulation plot loggers.
26/07/05	Degassed tensios and cut grass
26/07/05	Re-installed tensios at 10 cm depth. Not all but those that were lose as a result of the dry conditions.
03/08/05	Installed 1 tipping bucket for the overland flow. There was a similar occurrence as was observed on 19/07/05. Sensor all started acting strangely around the same time as a big rain event (don't know if it was an electrical storm or not). However, one can see that as soon as I started doing things to the logger the sensors started making sense again. One thing to note that may be of relevance was that the desiccant needed changing. This may therefore be an effect of moisture in the logger.
31/10/05	Data was downloaded All OLF trap holes were full of water and gutters blocked mainly with dead worms.
01/09/05	Changed the wiring.
09/11/05	OLF trap holes full of water and gutter blocked. Do not know for how long it was blocked. Ignore any data between collected in the morning of this day
15/11/05	All OLF trap holes full of water but no gutters blocked
07/12/05	Trap 1 blocked – Action unblocked
14/12/05	Any tips that may have occurred on the 14 th and 15 th of December are due to soil sampling in the pits
10/1/06	Tensios degassed

20/01/06	Traps all working correctly				
26/01/06	Alex worked on OLF plots, see table below Notes from Alex- tipping bucket removal for sediment sampling				
	Plot	Date	Time disconnected	Time reconnected	Tips audible
	1	26/01/2006	12:56	13:15	
	2	26/01/2006	13:55	14:31	1
	3	26/01/2006	15:18	15:35	1
01/02/06	Traps all working correctly. Batteries changed Battery changed for Delta –T logger. Needs new desiccant				
17/02/06	Plot 2 OLF trap tube blocked, only 3 tips to clear it though so not much water in the system. Battery changed for OLF Vents cleared on plot 2, although not fully covered Changed desiccant				
	Trap 2 pump in OLF trap hole had got stuck and hole half filled with water				
05/04/06	~08:45-09:10GMT Glued nuts on OLF tipping buckets. Tips at this time should be disregarded.				
07/04/06	Alex was collecting sediment samples, tips should be ignored between 10 and 6.				
20/04/06	Big battery failed – plot 1.3 pump stuck on. The dexion frame is bent which pushed the pump down and caused it to stick on. Levelled it with a stone and seems ok. ~13:00-14:30 GMT tips should be ignored as checking t.b. rocker nuts were still glued – all ok. Degassed tensios. Changed big battery.				
04/05/06	Cut grass and checked vents – all OK				
10/05/06	Inspected t/b's. Trap 3 (seems to be 1 in excel file) not working as it was making reed switch stick on – fixed but needs recalibration				
18/05/06	Changed batteries for OLF, gutters and holes clear				
25/05/06	All traps full of water. Not able to fix it on the day				
31/05/06	Pits still full of water, battery changed. Pump repaired for Plot 1 (worm stuck in pump). Tiny tag changed as not working				
01/06/06	Degassed and cut grass				

07/06/06	Dug trenches above plots at Rhos1. Tensiometer for plot 1.2 had been damaged. Rubber tube cut and reattached. Will need degassing. Enlarged pits and put dexion posts in with pump attached. Ignore tips from 07.45 to 13.00
13/06/06	Everything working OK
21/06/06	Checked battery for OLF-OK
28/06/06	Degassed and cut grass in plots. Plot 1.1 tensiometer had been chewed. Replaced and degassed (needed lots of water). Infiltration readings done for Plot 1.3, needed lots of water
05/07/06	Big battery checked- ok 12.65v. All plots OLF cleared and calibration done. Part of 1.3 edges filled in with soil.
06/07/06	Permeameter readings taken on 1.1. Tensios degassed.
14/07/06	Degassed. Reset clock on delta t.
17/07/06	Finished filling in edges all 3 plots, fitted netted sump covers. Permeameter readings continued. Ignore all tips at rhos 1 all day.
18/07/06	Permeameter done plot 2 and some 3
19/07/06	Permeameter done plot 3
26/07/06	Downloaded delta t to make sure it's working. Plot 3 tipping bucket to be recalibrated as changed because double beep occurring for one tip. Plot 2 new reed switch required as continuous signal instead of separate beeps – circuit continuously closed. Ignore data from rhos 1 delta t morning 8-10am. Degassed.
01/08/06	16:30GMT. Changed batteries on delta t and OLF.
03/08/06	Degassed. Tipping bucket at 1.3 recalibrated- ignore tips 8-11am BST
09/08/06	Degassed tensios
10/08/06	Ignore tips between 08:00-12:30. replaced t/b trap 2 rhos 1 and recalibrated. Logger checked and readings ok. Trap 1 t/b not working and removed. Possible reed switch problem. Reinstalled rhos 1 plot 3 10cm tensio.
16/08/06	Degassed
23/08/06	Degassed. Changed big battery

30/08/06	Changed sump covers. Cut thistles on plots.
31/08/06	Need to replace tb 1 – no trap in pit. Trap 2 and 3 ok.
28/09/06	All tensios degassed and grass cut. Changed big battery. Replaced pink mesh.
12/10/06	09:20 GMT pump batt. Changed. Hole in trap 2 half full of water – float switch stuck
19/10/06	Traps were checked to see if operating correctly. Trap 2 full of water, float switch activated to empty the hole. Float switch did work OK after this, but not reliable. Trap 1 and 3 OK.
26/10/06	Trap 2 hole full of water
27/10/06	Grass in cages cut
31/10/06	OLF trap 1 pump not working.
01/11/06	Replaced float switches in all 3 traps
05/12/06	Cut grass
13/12/06	Ignore tips between 15-16:30 Marked out plot corners, checked OLF OK and cleared leaves from trenches at the top of the plots
17/01/07	Lawn edging repaired on all plots.
13/03/07	Carried out ring infiltration experiment in the afternoon.
22/03/07	Because of doubts over OLF trap and tipping bucket at trap 1 tested by pouring water down. Flowed down through pipe OK and bucket tipped OK. There were approx. 8 tips at around 14:30GMT. Would be worth checking the data when downloaded to check these logged as there is the possibility of a problem with the reed switch! Cut grass
04/04/07	Ignore tips ~14:30. All tips recording OK. Plot 2 10cm tensio loose so re-inserted.
13/04/07	Downloaded trap 1 tinytag then replaced battery, seal and dessicant.
23/04/07	Degassed all tensios. Cut grass in plot 3 ~ 1615 – 1700
28/06/07	All traps OK.

	Grass cut in control tension cage
24/07/07	Holes full of water. Changed battery but pump in trap 3 not working.
31/07/07	Replaced fuse in delta T box for trap 3. Pump worked but not well enough so changed with brand new one. All pumps working OK.
15/08/07	Re-dug trenches around plots
30/08/07	All traps OK
04/09/07	Marked out survey quadrats
18/09/07	Destructive harvest in buffer strip of plots
25/09/07	1.2 hole full of water, float switch stuck, emptied pit. 1.3 hole full of water, float switch not working correctly, pit emptied.
02/10/07	Float switches cleaned and sprayed with WD40. Cleared gutters. Cut grass in cage in control plot.
09/10/07	All OLF traps OK.
12/10/07	De-gassed all tensios Damage to OLF in trap 2
23/10/07	Took N cores and checked all traps clear. No obvious problems.
30/10/07	13:30 Checked tipping buckets and all working OK. Ignore tips during this time. Cleared outlet pipes for OLF pumps.
09/01/08	All OLF pits OK, cleared some stuff out of gutters. Cut grass in plot 3 tensio cage. Re-inserted plot 1 10cm tensio because felt loose. All 10cm tensios seemed OK but all tensios in all plots vary in height above the ground by a few cm.
18/01/08	All pits OK 1.1: detached OLF pipe from TB to sample 11:15-16:15. 1.2: detached OLF pipe from TB to sample 11:15-16:15. 1.3: detached OLF pipe from TB to sample 11:15-11:45.
23/01/08	Pits OK, changed big battery.
30/01/08	Enlarged trenches above OLF plot.
19/02/08	Traps 1 and 2 working OK but trap 3 discovered that reed switch was catching on magnet stopping it tipping. Corrected this

	<p>problem.</p> <p>Tipping bucket re-calibration (between 15:00-17:00):</p> <p>Trap 1: 20 (5,5,5,5)</p> <p>Trap 2: 33 (6,6,7,7,7)</p> <p>Trap 3: 37 (7,7,8,8,7)</p>
03/03/08	<p>According to Miles pit 1 full of water although not up to height of tinytag, but it registered a tip earlier that day! Big battery was low but should have had enough charge for pumps. Changed big battery and pit 1 still did not empty.</p>
13/03/08	<p>Pits 2 and 3 OK. Pit 1 pump not working. Emptied water and detached pump and this was working OK, could have been float switch but didn't have a spare one with me.</p> <p>Plot 2 10cm tensio: replaced in new hole and de-gassed. Vents were also bit buried!</p>
18/03/08	<p>Pits 2 and 3 OK. Pit 1 full of water, drained. Pump and float switch OK – power problem (chewed through?)</p>
02/04/08	<p>Pits 2 and 3 OK.</p>
15/04/08	<p>Pits 2 and 3 OK. Installed external battery for pump in plot 1 and started Tinytag logging. Cut grass in control plot tensio cage. Removed vole nest from under pit cover in plot 2.</p>
01/05/08	<p>Tested larger elbow connection onto TB in pit 1 but wasn't flowing properly so removed and put on pit 2 TB. Ignore tips at both plots.</p>
7-8/05/08	<p>Drains installed in pits.</p>
16/05/08	<p>Attached new elbows and tubing to all TB's at all plots. Put out new gutter covers in fenced off plots.</p>
16/06/08	<p>Discovered upper part of TB with reed switch on had been put on the wrong way round so any tips will not have been recorded. Also ignore any tips from late afternoon today.</p> <p>Dried plot 2 10cm tensio.</p>
09/07/08	<p>16:00 (BST I think!)</p> <p>Plot 1: OK</p> <p>Plot 2: OK</p>
10/07/08	<p>08:30</p> <p>Plot 3: reed switch wrong way round – corrected.</p>
23/07/08	<p>Installed plywood boxes in TB pits to shore up sides. Mid afternoon – ignore any tips at this time.</p>
15/08/08	<p>Ignore tips on all plots in morning</p> <p>Plot 1: Around 5 tips</p>

	<p>Plots 2 and 3 TB's working OK</p> <p>Lowered TB's slightly as only slight drop into TB's.</p> <p>Tidied delta T box.</p> <p>Enlarged control plot pit cover.</p>
09/09/08	<p>16:00 GMT. Checked calibration on all TB and that correct number of tips was recorded by the loggers. Trap 1 and 2 were OK, but 3 was double tipping. When calibrating, recording values of 7,7,7 the logger was recording 47. The screw heights were uneven and this was adjusted and the TB recalibration. See calibration sheet. The grass was cut in the tensiometer cage.</p>
01/10/08	<p>Noticed that the covers for the OLF gutter are becoming damaged. Repaired a rip in 1.1, both will need replacing</p>
24/11/08	<p>Replaced the covering on the OLF gutters for the treatment plots, dug the pits out and reset the frames for the tipping buckets. Ignore tips during the afternoon. Enlarged the trenches at the top of the plots.</p>
08/12/08	<p>Covers removed from the tipping bucket holes at plots 1.1 and 1.2 to help stop vole damage to wires.</p>
21/01/09	<p>Adjusted height of tipping bucket at Rhos 1.3. Replaced one of the nuts holding the bucket in place that was missing. This might be the cause of the tb's strange behaviour. Next visit check that nut is still in place. Needs calibrating.</p>
12/02/09	<p>Tipping bucket for 1.3 recalibrated</p>
06/03/09	<p>Swapped tensios for calibration. Replaced reed switch on trap 3 T/B (Control plot).</p>
24/03/09	<p>Degassed tensios.</p> <p>Cut grass in control plot.</p>
02/04/09	<p>Checked T/B of plot 2 and it appeared to be working. Ignore the tips that occurred then.</p>
23/04/09	<p>Removed Tensio 1.10 from channel 1 to channel 10. Problem solved.</p>
13/05/09	<p>Cut the grass in the tensiometers cage of the control plot</p>
08/07/09	<p>Calib. check on olf 2 and 3, olf 2 and 3 where quite blocked, dismantled and unblocked both, tb2 now running freely although tb3 still not flowing very freely from drain pipe, may need to dig out tb a bit more to get better head.</p>
18/08/09	<p>Tensiometers removed from plot – serial nos. and locations</p>

M1.1	10cm 235	30 cm 243	50 cm 254
M1.2	10cm 224	30 cm 246	50 cm 3??
M1.3	10cm 232	30 cm 239	50 cm 256
