Kettlebaston Roadside Verge Erosion Survey, 2007 - February 2011 Update

Introduction

The datum locations remain the same, and dimensions have been taken as per the original survey. Every attempt has been made to record this data accurately, but owing to the uneven, and often sloping, nature of the reference sites this was not always possible.

Measurement 1 (M1): From the datum marker to the first evidence of erosion (ground-cover plants still undisturbed / edge of rut / change of ground level).

Measurement 2 (M2): From the datum marker to the absence of ground-cover / extent of regrowth.

Measurement 3 (M3): From the datum marker to the extent of the roadside debris (often indistinct).

Locations 16 & 19 were abandoned due to the loss of the datum markers.

Location no.20 was added in March 2009.

Analysis & Conclusions

- Whilst there are a few exceptions, it is fair to say that the majority of our verges **are** being eroded. This has become far more evident since producing a new set of graphs comparing dimensions over a three year time gap (those at the start of the project against the last two readings).

- The largest loss is not of undisturbed verge, but the areas that are routinely over-driven (the second set of figures - the 'olive' readings); in fact **an average of 9cm** over the 18 viable datum points for the three year period between September 2007 and November 2010 (the largest loss being 20cm near Evans Corner).

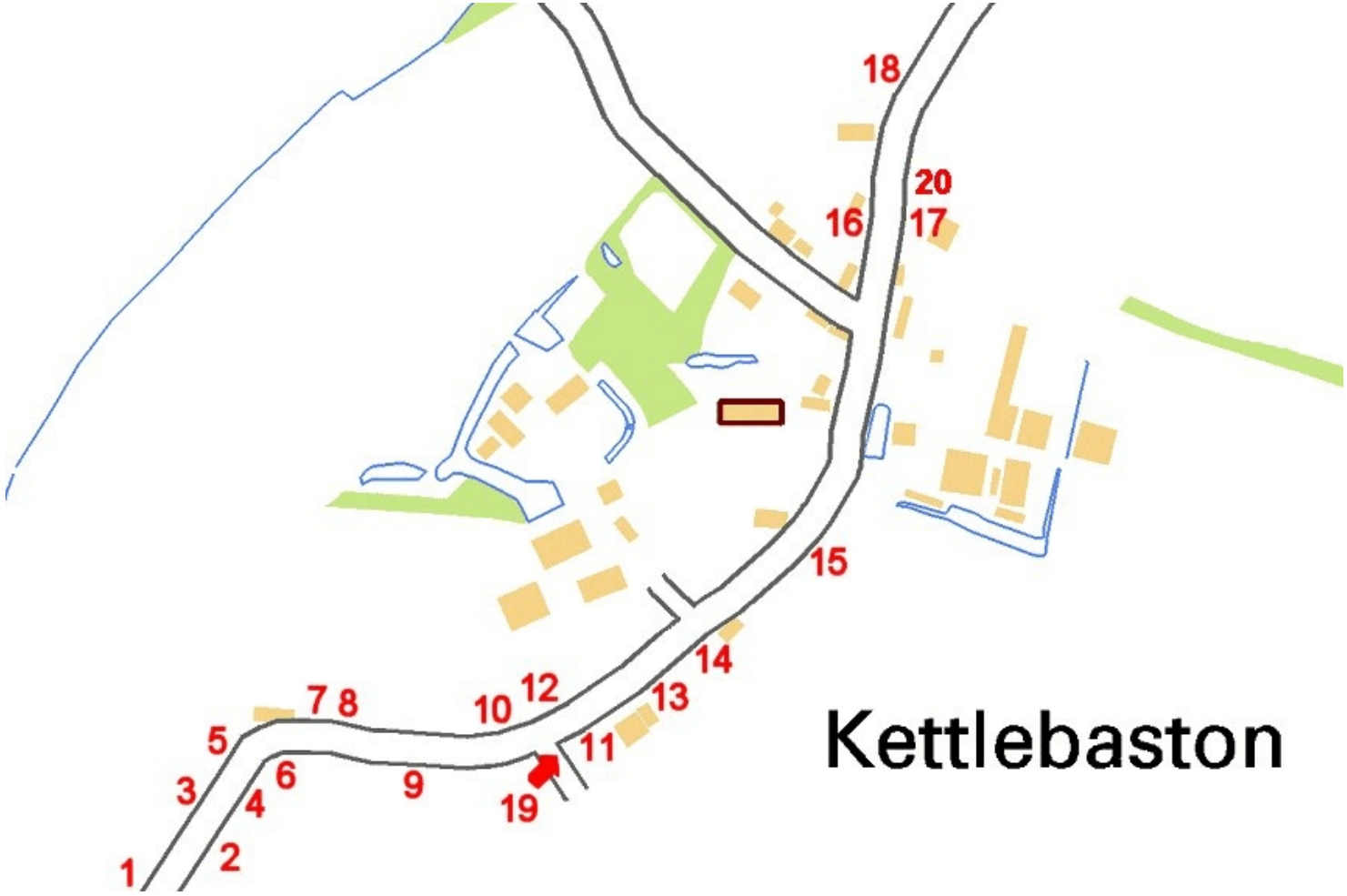
- Several unofficial passing places are evolving. This is particularly notable at locations 2 (downhill of Evans Corner), 15 (beside Stone Cottage & opposite Church House), and 18 (just beyond Dockyard). Additionally, damage to the 'village green', opposite the stud entrance and Durley's front lawn were noted this spring. Increased erosion was also evident along the bank opposite Evans Corner where lorries / tractors have caused impact damage (usually avoiding other vehicles).

- The phenomenon whereby saturated ground 'spreads' over winter was completely unexpected and goes a long way to explaining how our verges regain ground so quickly, but sadly they cannot keep pace with the traffic damage in most locations.

- The verges have sustained an unusually large amount of damage during the sugar beet harvest this year (December 2010 / January 2011). It is therefore recommended that the latest set of dimensions be viewed with a degree of caution as the figures do not represent a complete annual cycle.

- The decision to chose static and permanent survey datum points has largely been successful, but it is noted that since vehicles avoid these objects (trees, poles etc.) erosion is greatest at other sites (in between the markers). However, I consider that attempting to use my own pegs would have proved even less useful as they were far more likely to be disturbed/destroyed during mechanical verge maintenance.

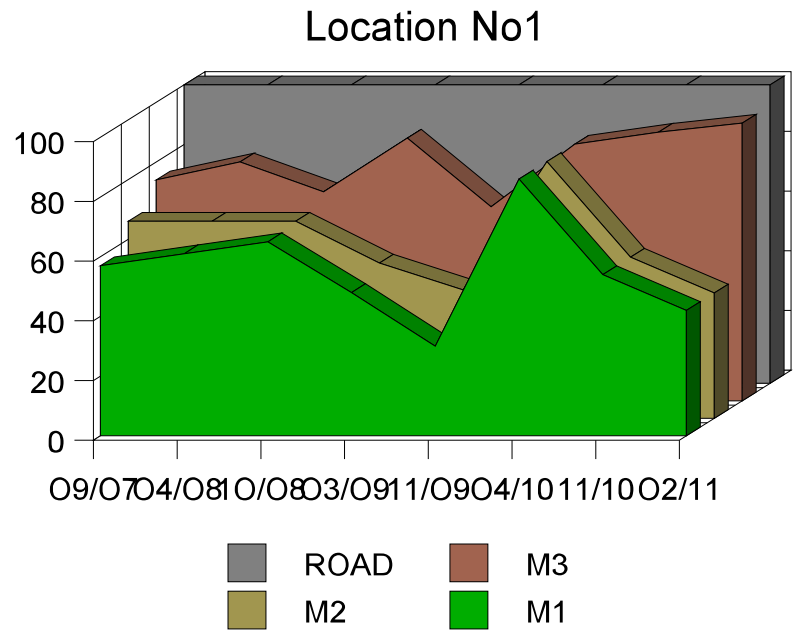
- No more surveys are scheduled, and the project is officially closed, but extending the study would probably be of long term benefit. Any volunteers?
- Given that funds are unlikely to be available from external sources for the foreseeable future, the Parish Council should consider acquiring a quantity of topsoil and grass seed to assist regrowth in eroding areas (and decide which, or if, any sites should be allowed to evolve naturally).

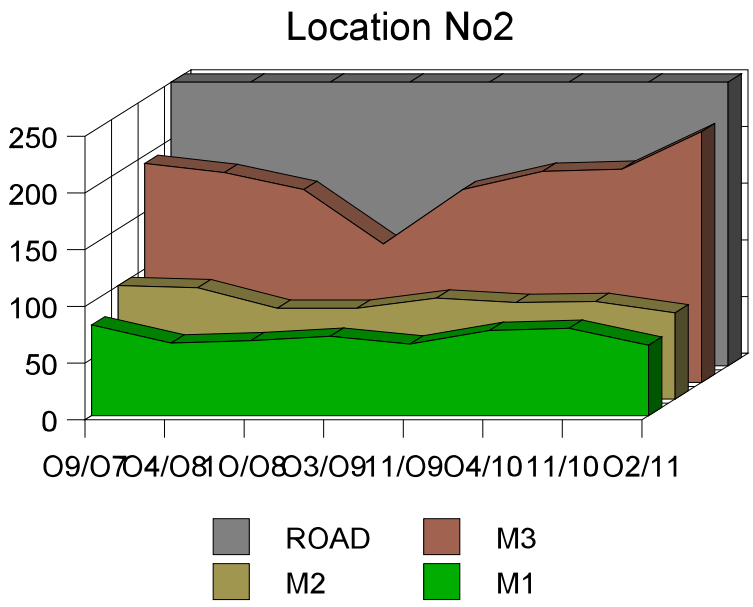


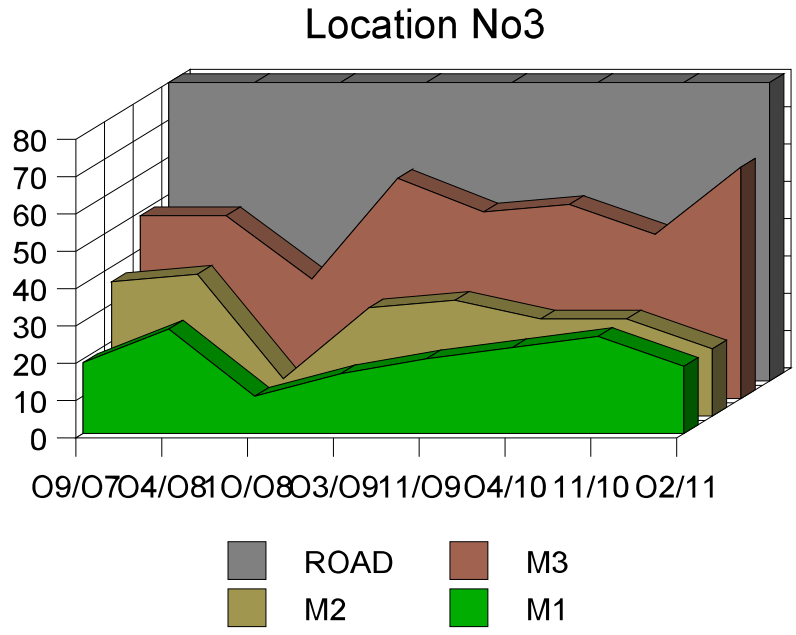
Ref. No.	Location
1	Telegraph Pole
2	Oak Tree
3	Roadside Reflective Marker
4	Field Maple Tree
5	Roadside Reflective Marker
6	Fire Hydrant Marker (on bank)
7	Roadside Reflective Marker
8	Roadside Reflective Marker
9	30mph Roadside Signpost
10	Footpath Marker Finger-post
11	Telegraph Pole
12	30mph Roadside Signpost
13	Telegraph Pole
14	Telegraph Pole
15	Telegraph Pole
16	Coniferous Tree
17	Telegraph Pole
18	Telegraph Pole
19	Martin’s drain
20	Footpath Marker (Durrants)

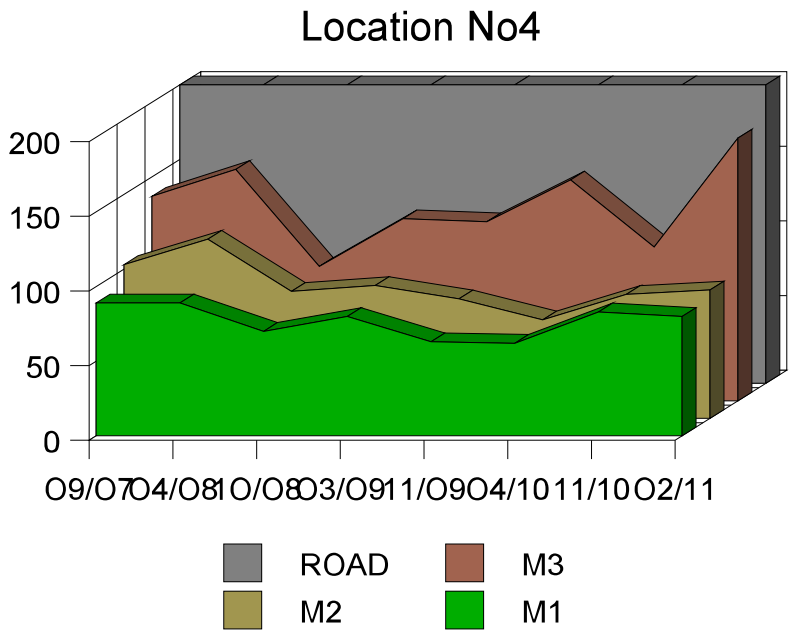
Erosion / regrowth shown
as centimetres / time

Diminishing green readings show erosion
Elevated brown readings show increased debris





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09/07 04/08 10/08 03/09 11/09 04/10 11/10 02/11
ROAD
M3
M2
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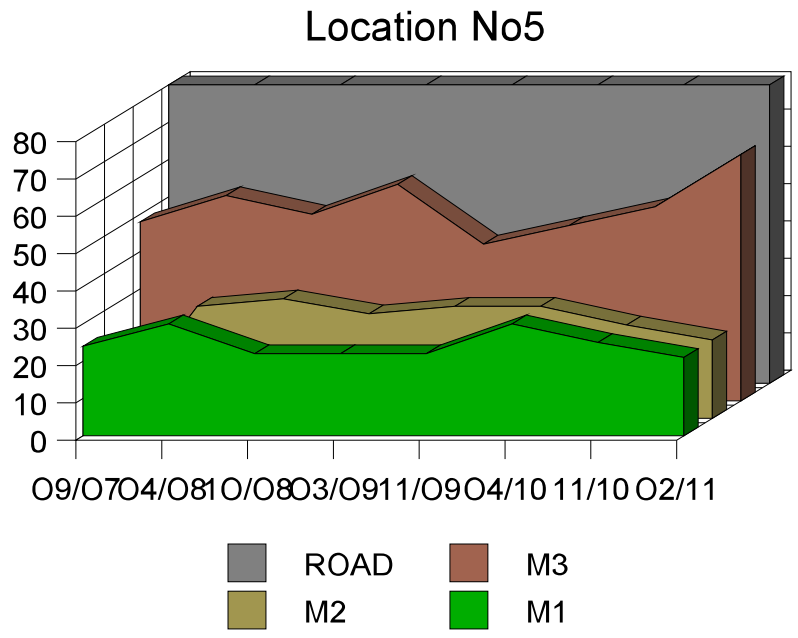
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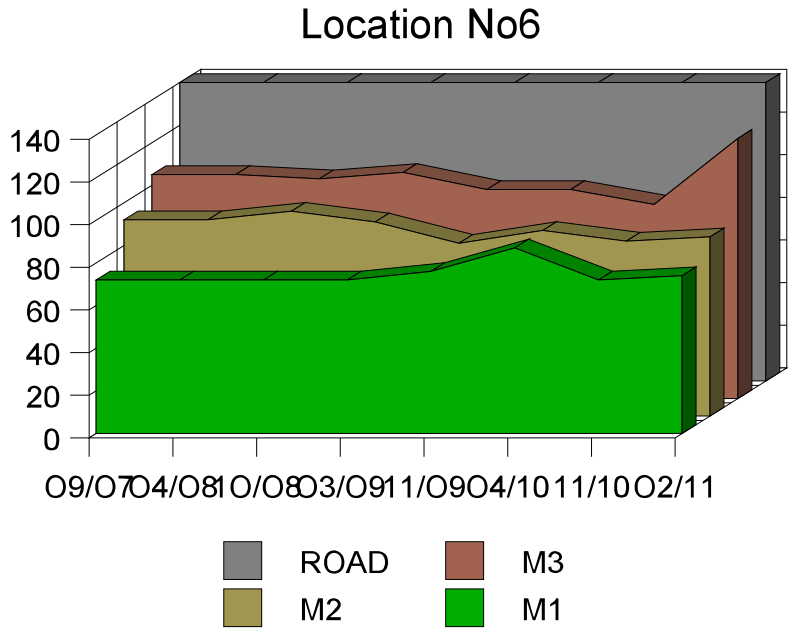
M1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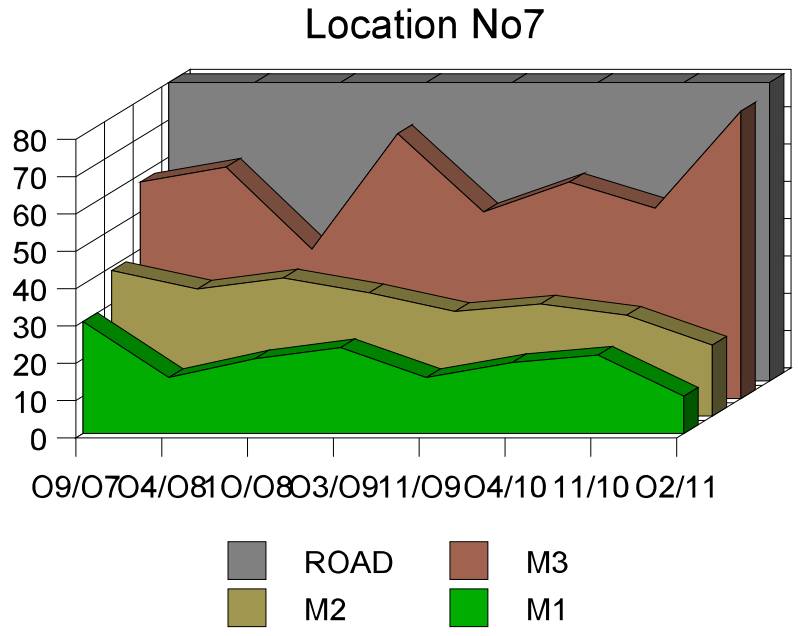
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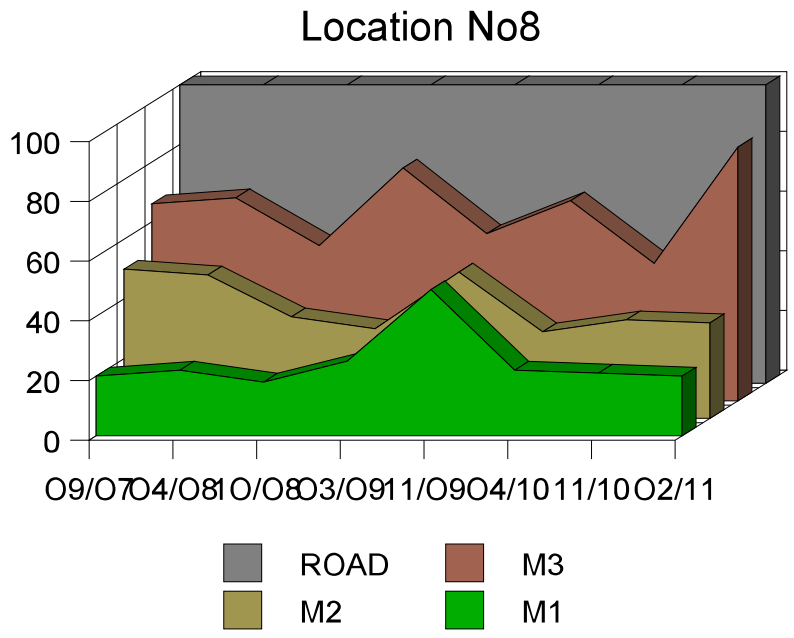
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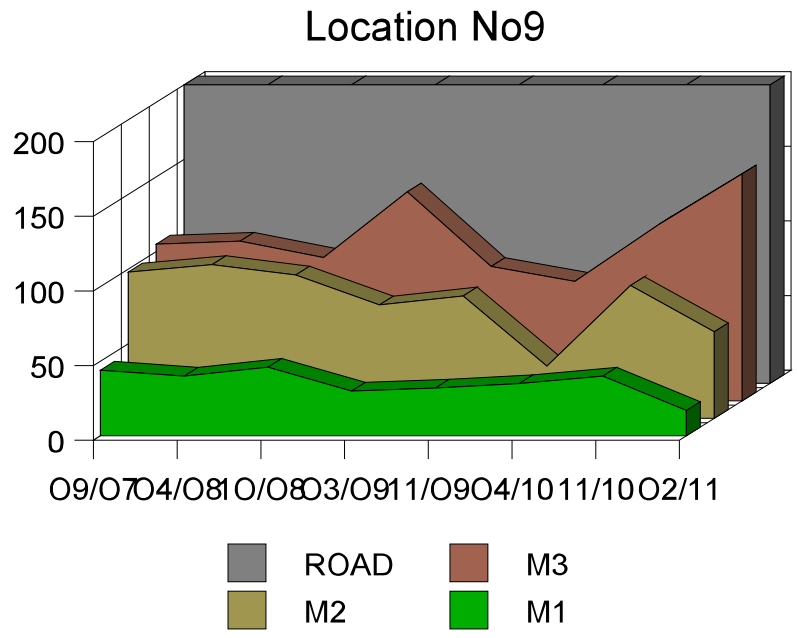
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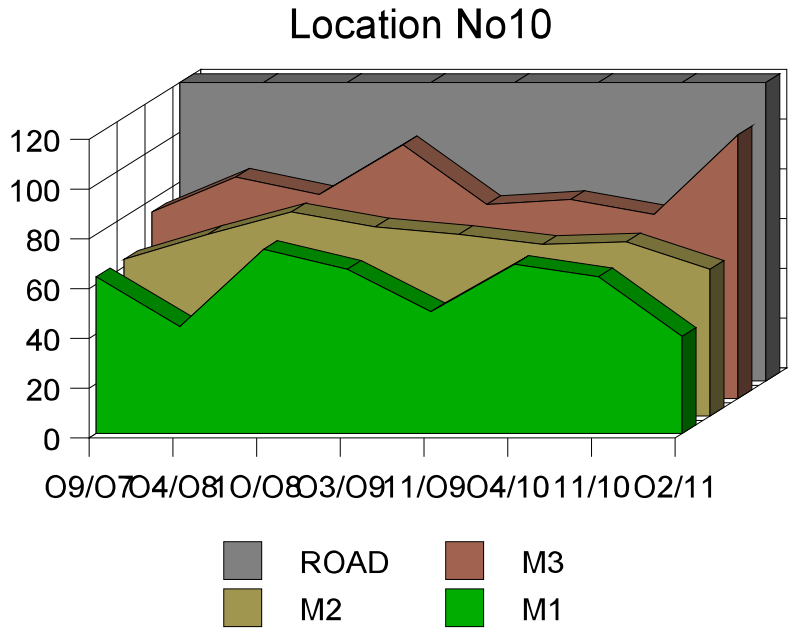
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ROAD
M3
M2
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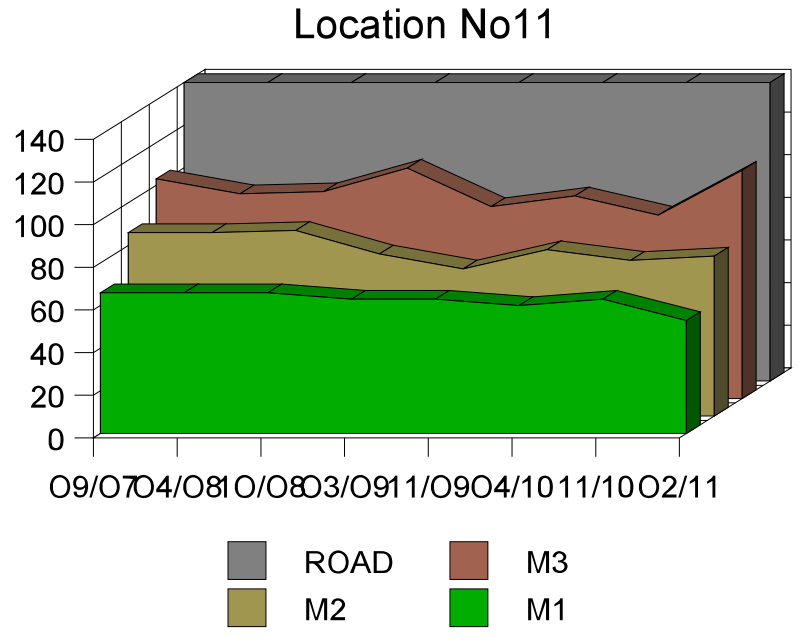
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ROAD
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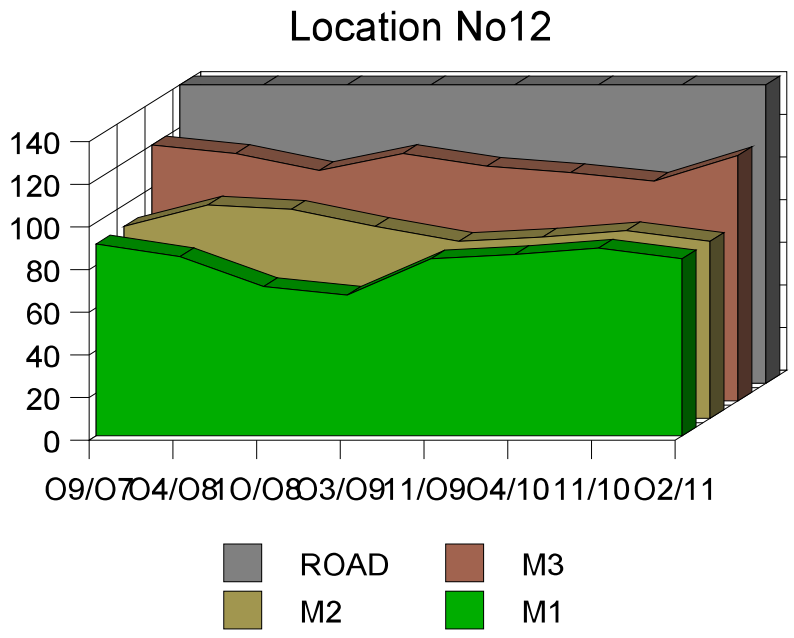
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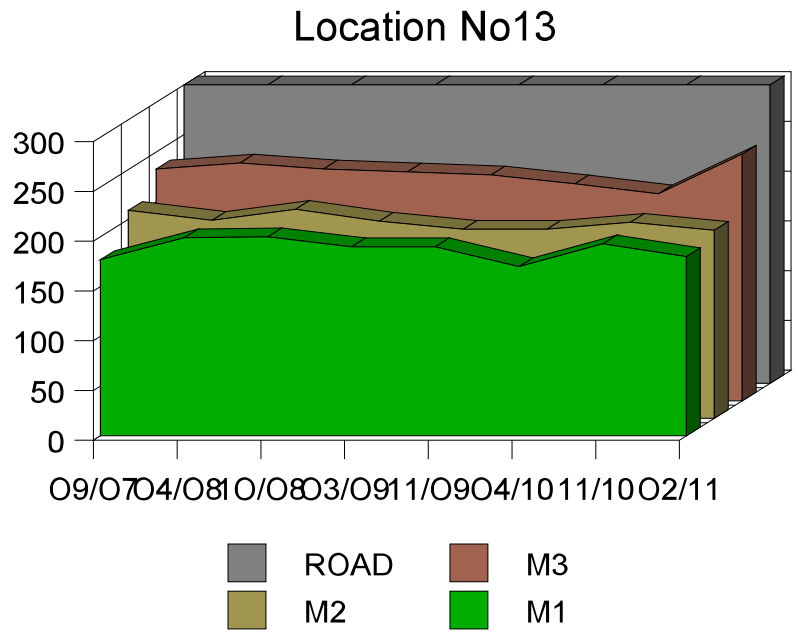
ROAD
M3
M2
M1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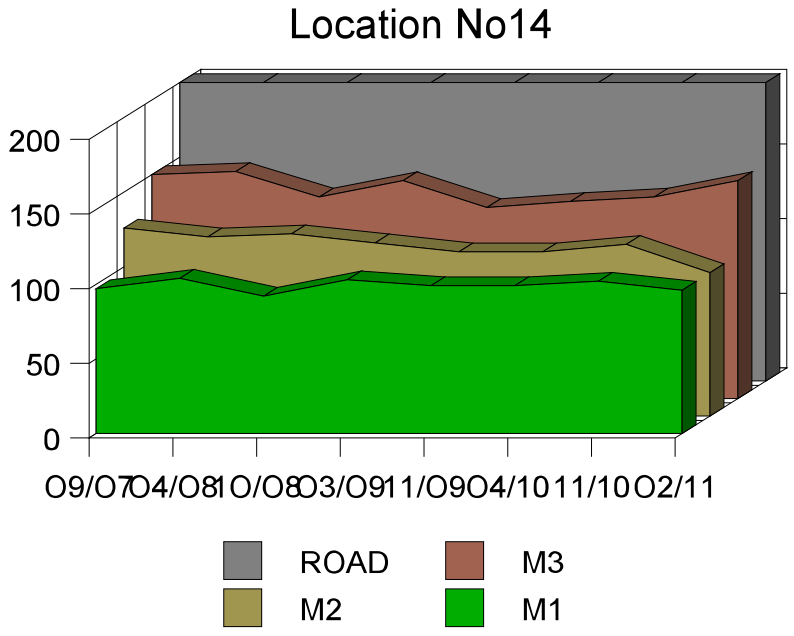
M2
M1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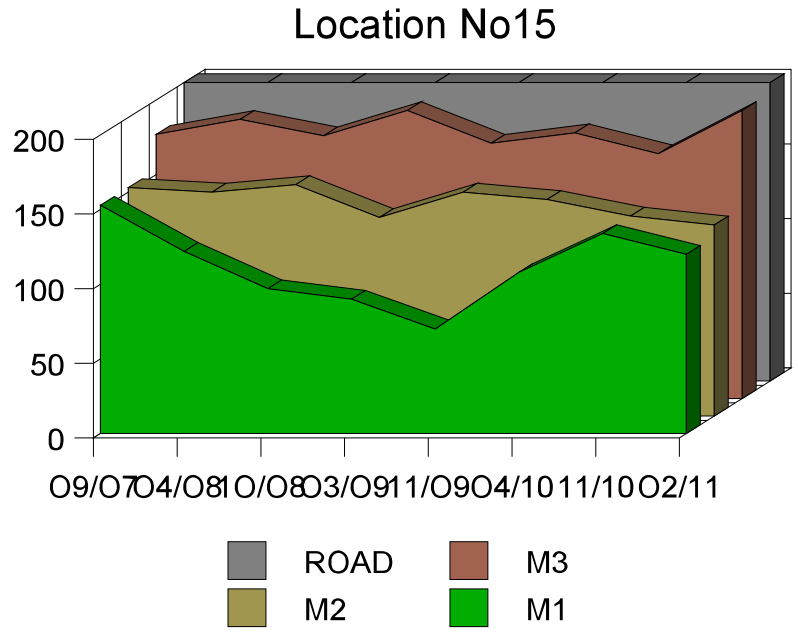
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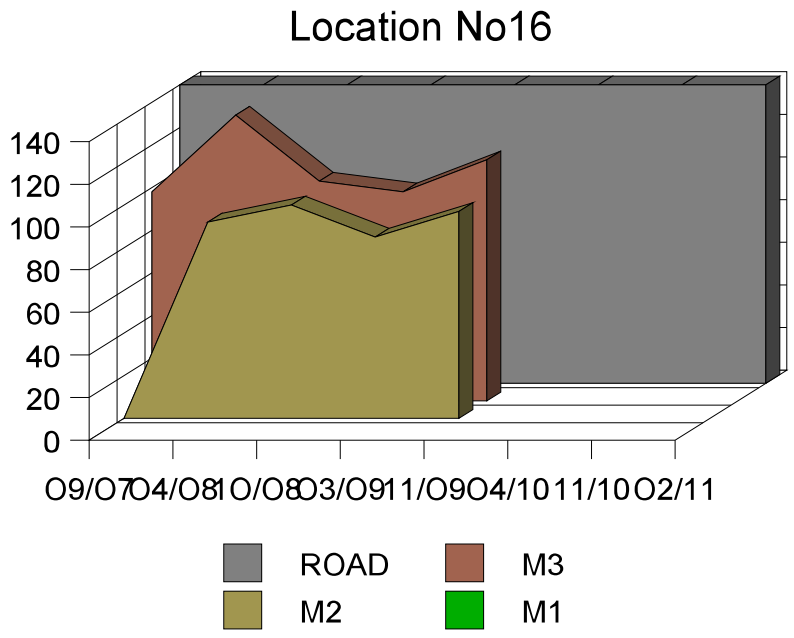
ROAD
M3
M2
M1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ROAD
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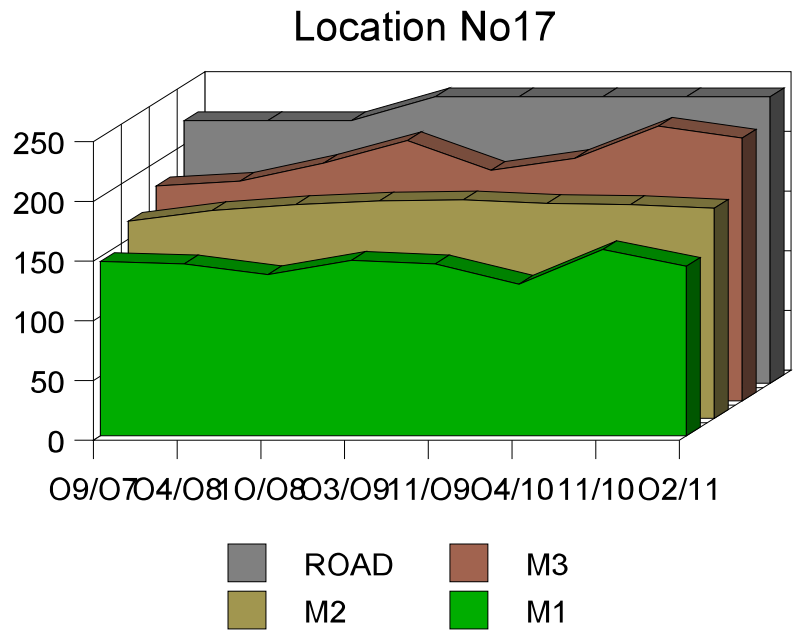
M1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ROAD
M3
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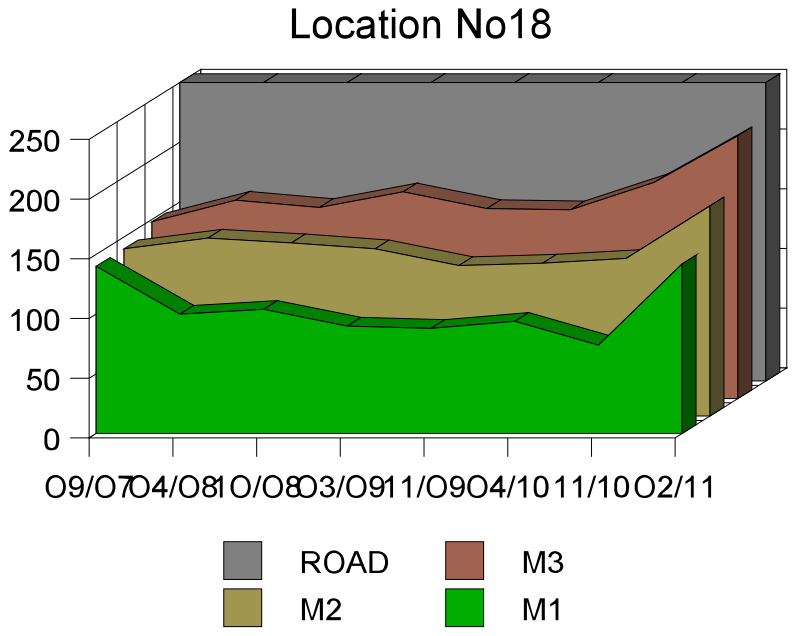
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ROAD
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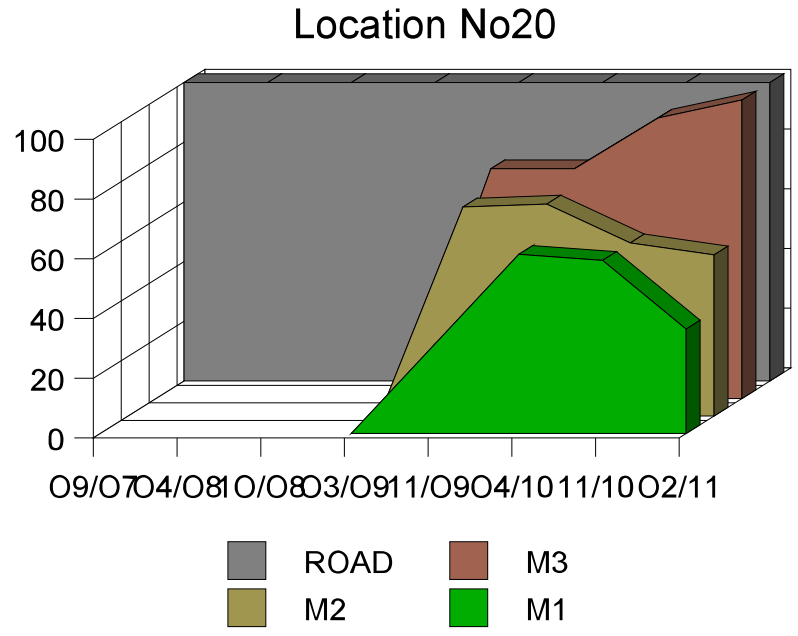
M2
M1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09/07
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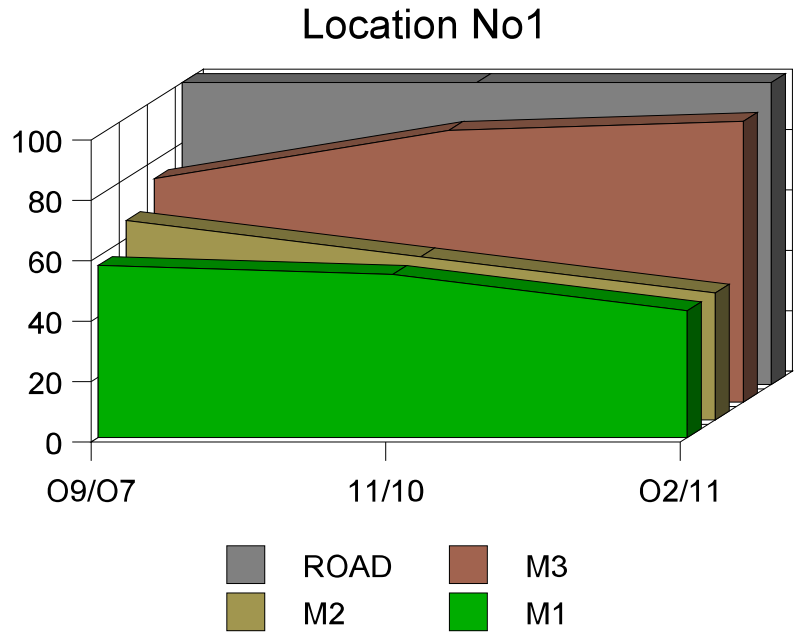
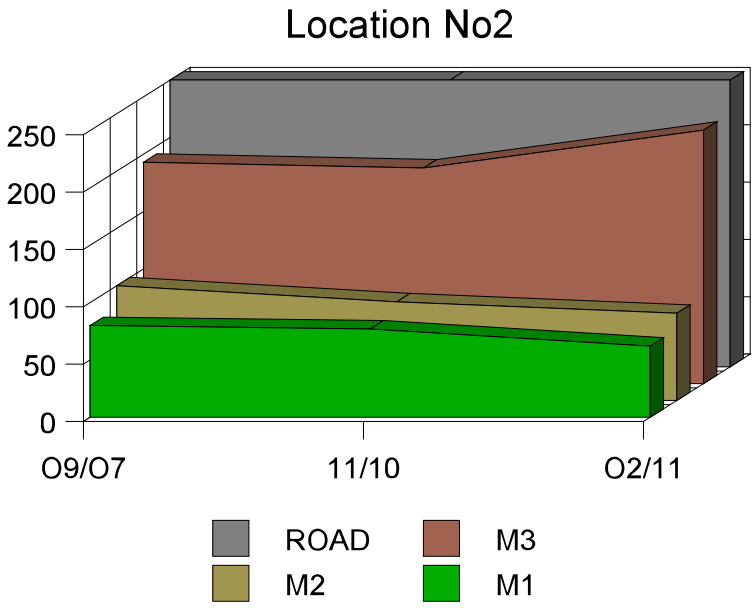
03/09
11/09
04/10
11/10
02/11
ROAD
M3
M2
M1

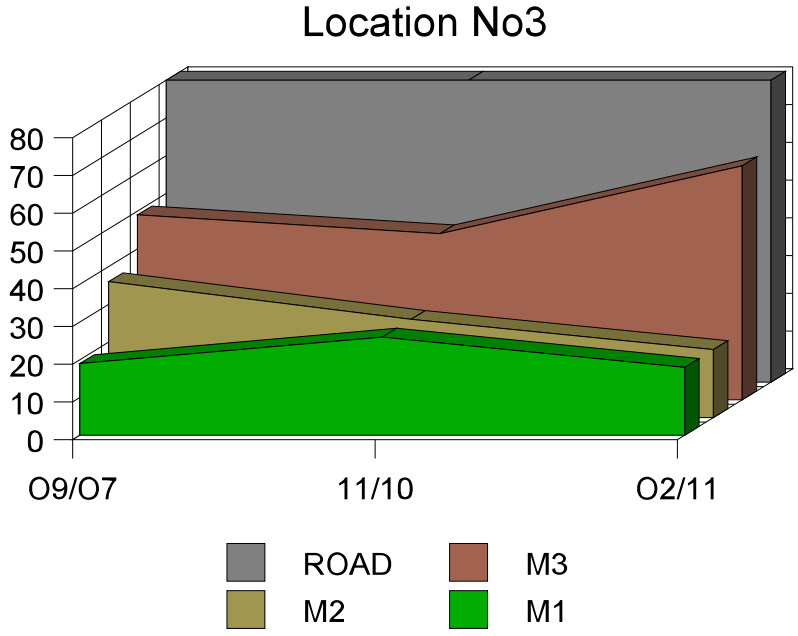
Initial reading against last two readings showing trend of erosion / regrowth

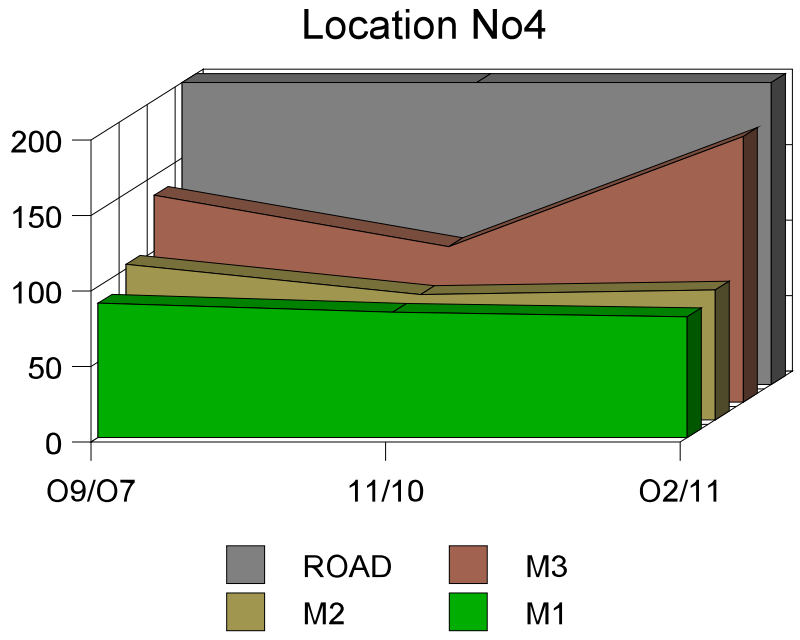
Diminishing green readings show erosion

Elevated brown readings show increased debris





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O9/O7
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O2/11
ROAD
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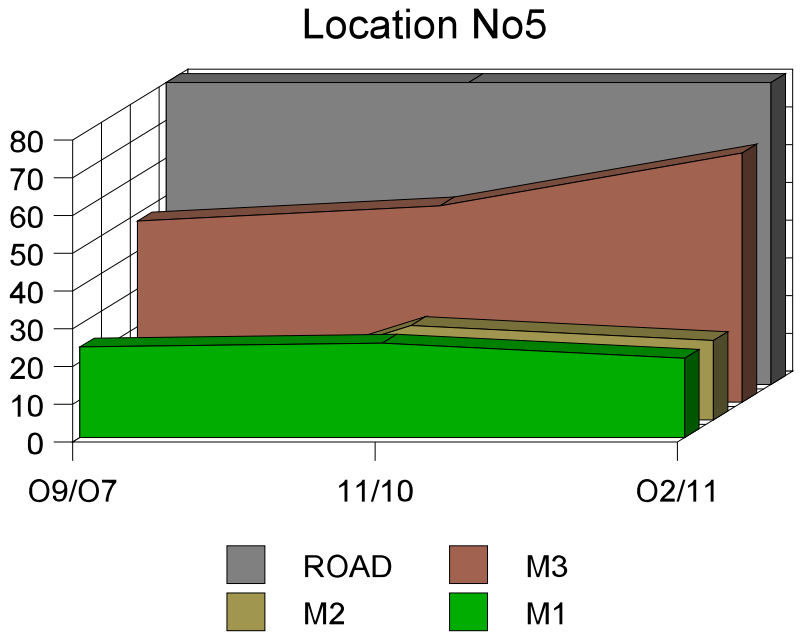
M2
M1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O2/11
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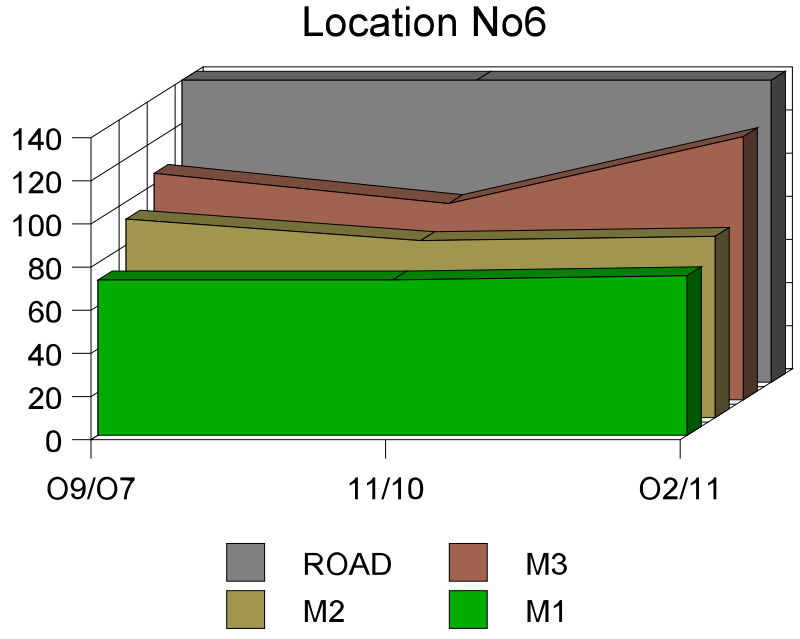
M2
M1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O9/O7
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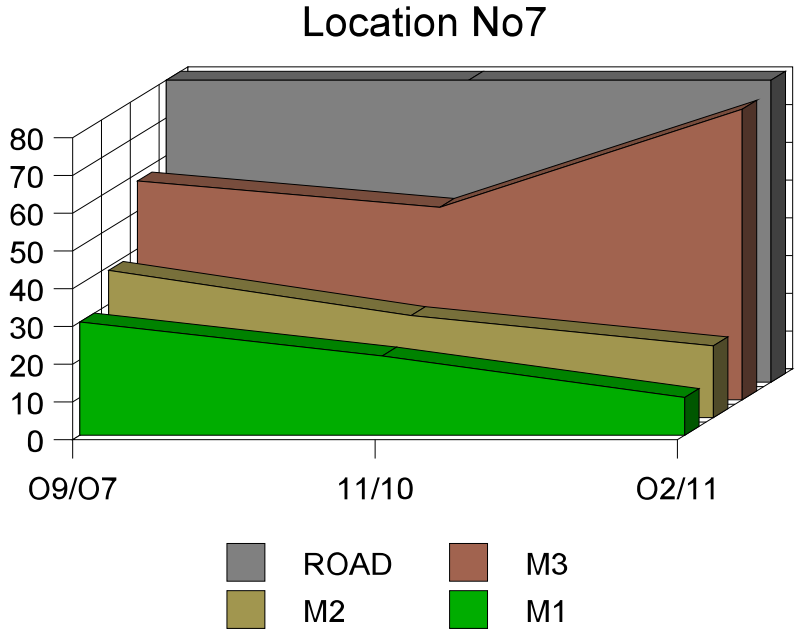
O2/11
ROAD
M3
M2
M1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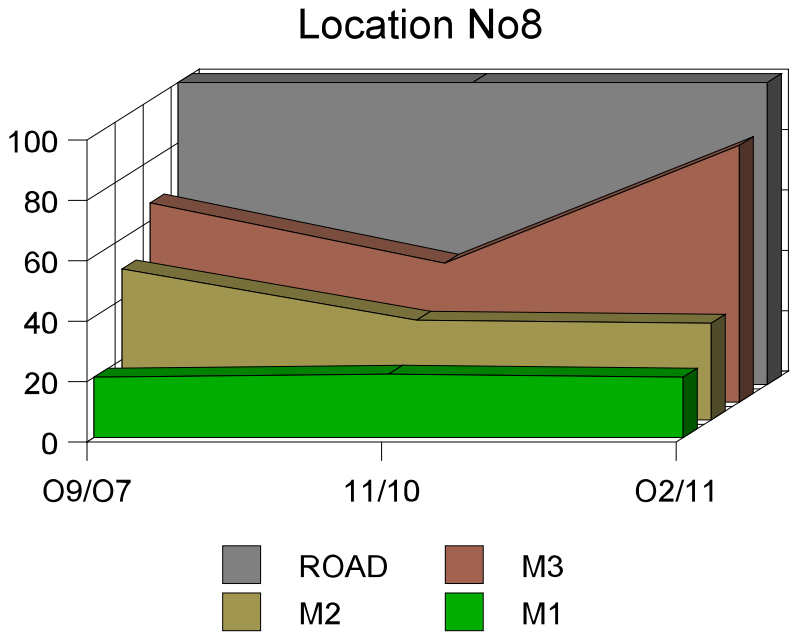
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O2/11
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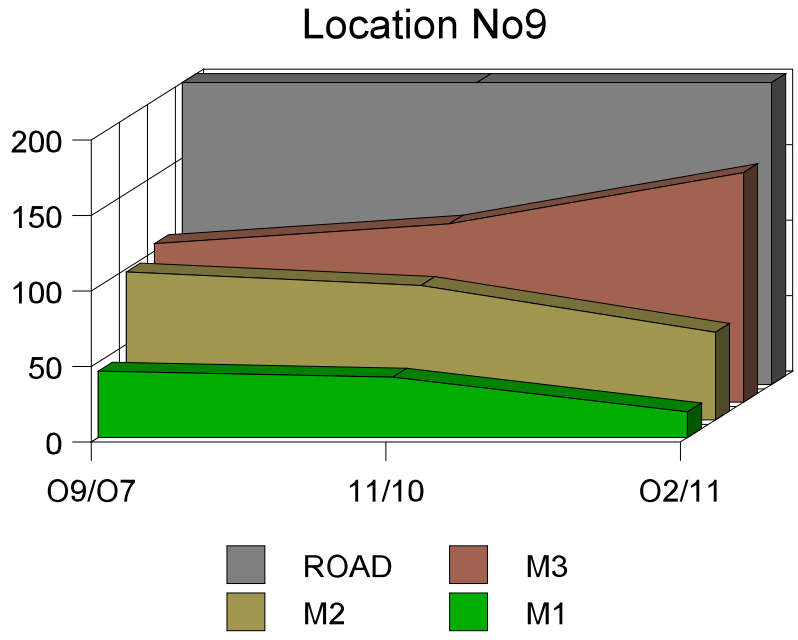
M2
M1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O2/11
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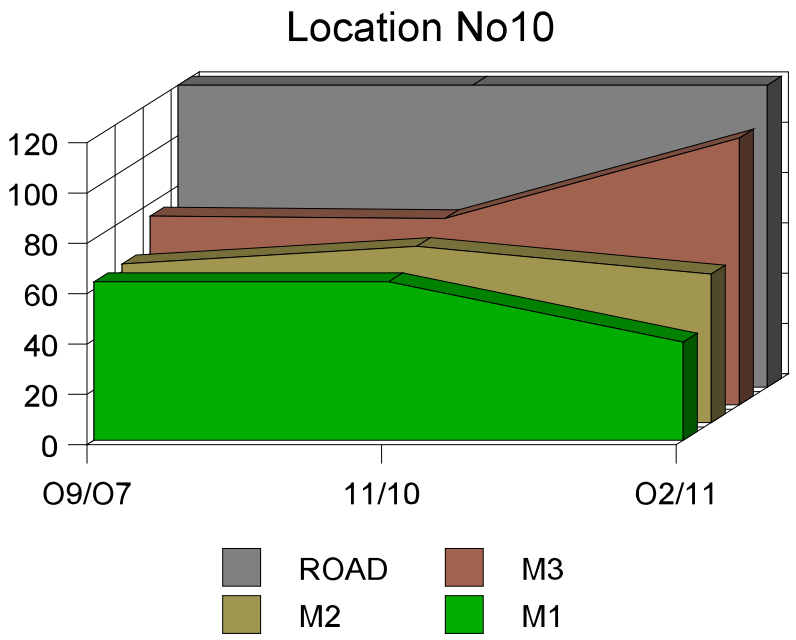
M2
M1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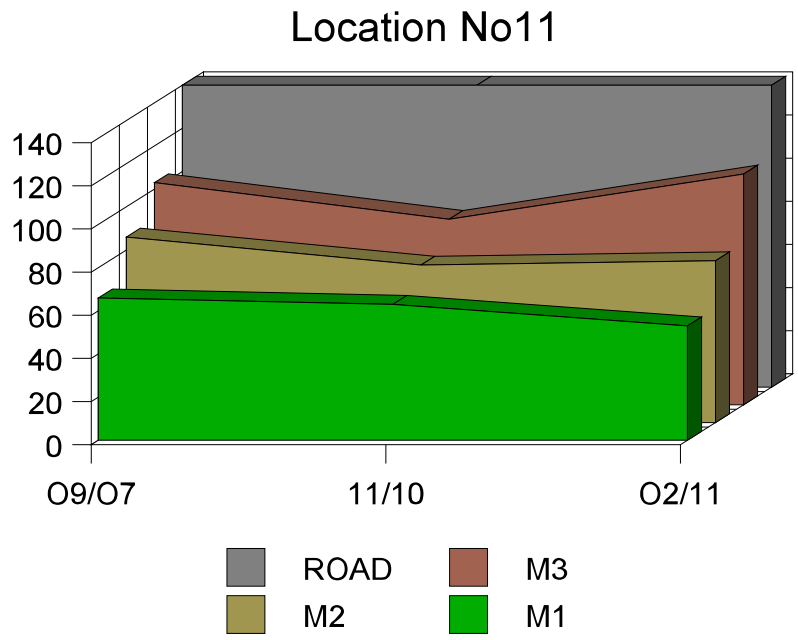
O9/O7
11/10
O2/11
ROAD
M3
M2
M1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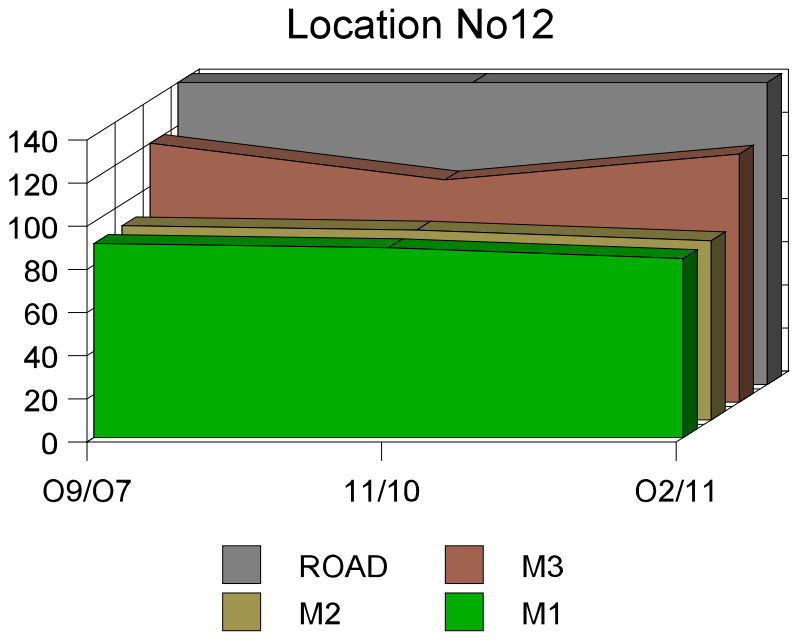
11/10
O2/11
ROAD
M3
M2
M1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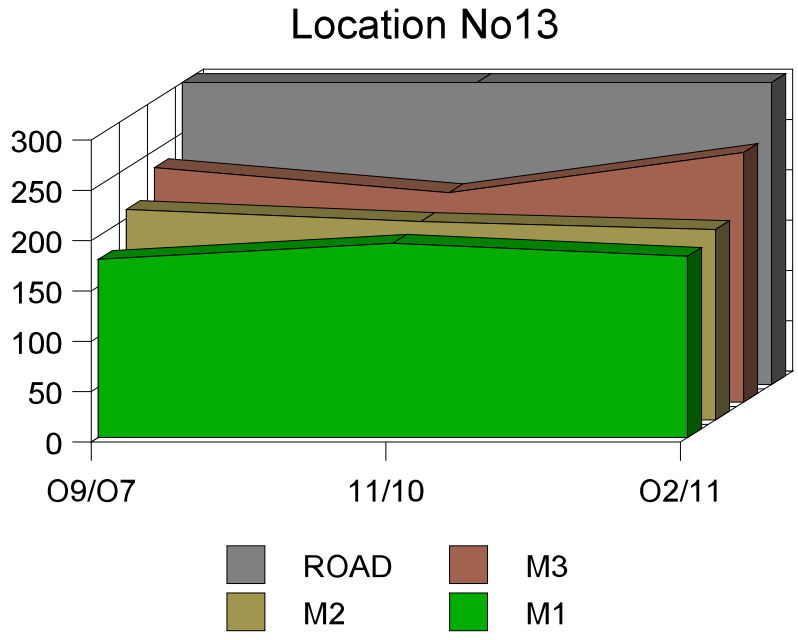
O9/O7
11/10
O2/11
ROAD
M3
M2
M1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11/10
O2/11
ROAD
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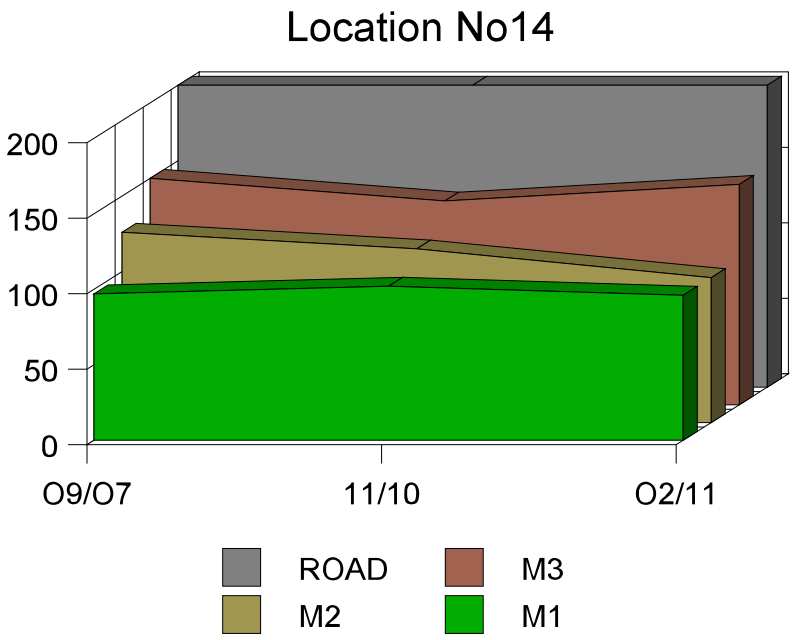
M2
M1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11/10
O2/11
ROAD
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M2
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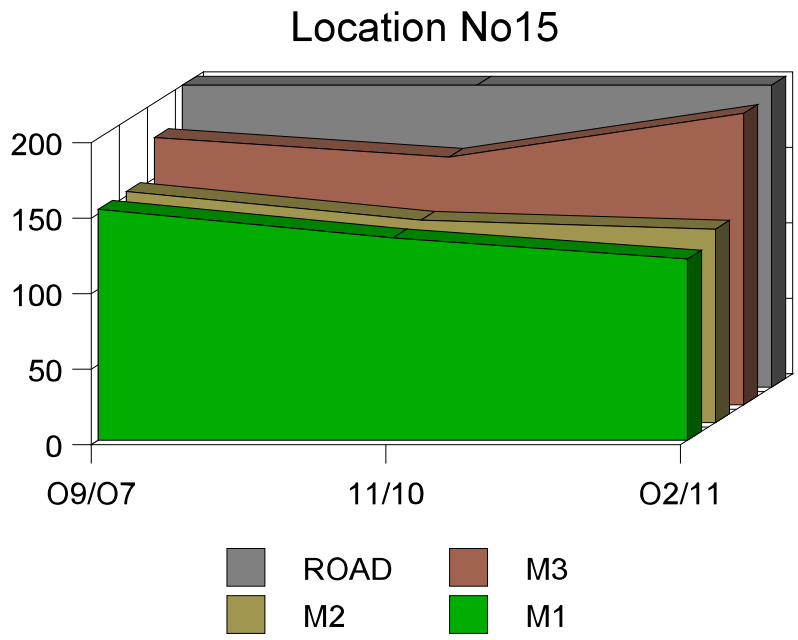
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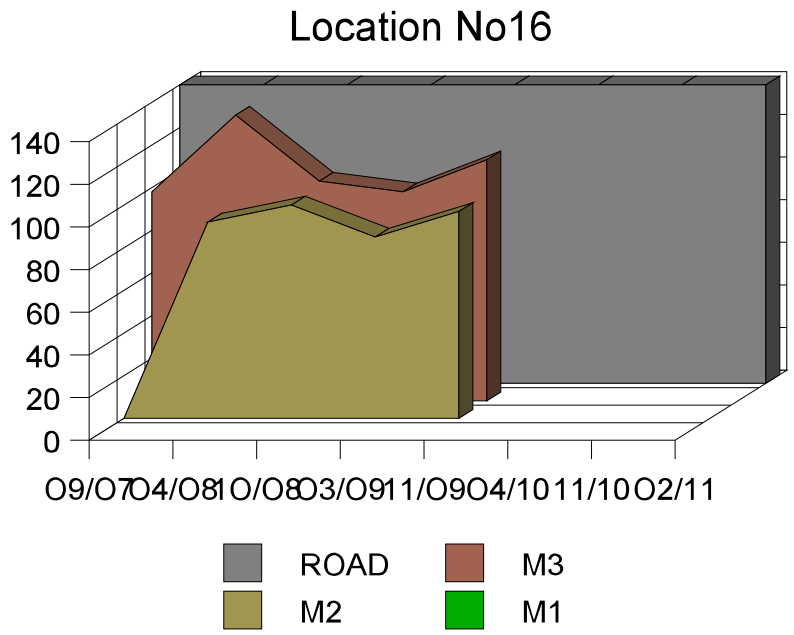
11/10
O2/11
ROAD
M3
M2
M1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O9/O7
O4/O8
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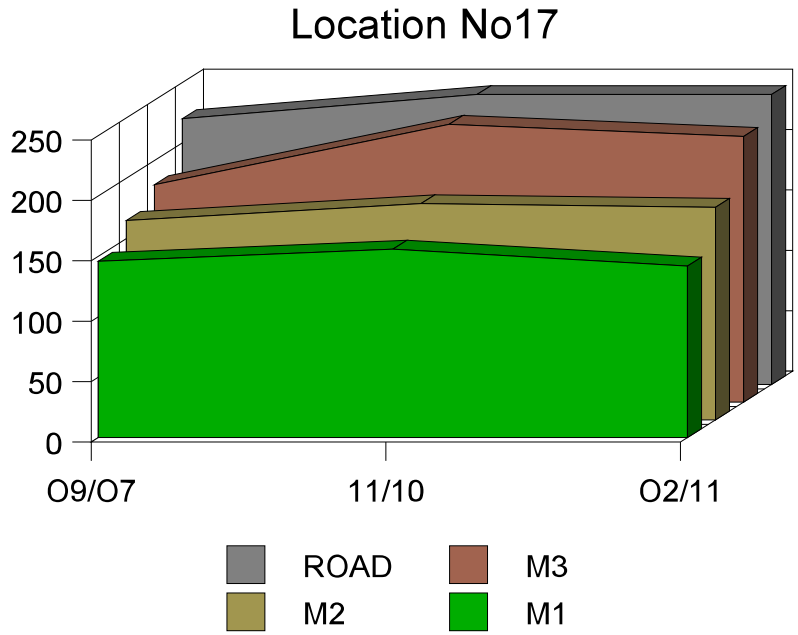
O3/O9
11/O9
O4/10
11/10
O2/11
ROAD
M3
M2
M1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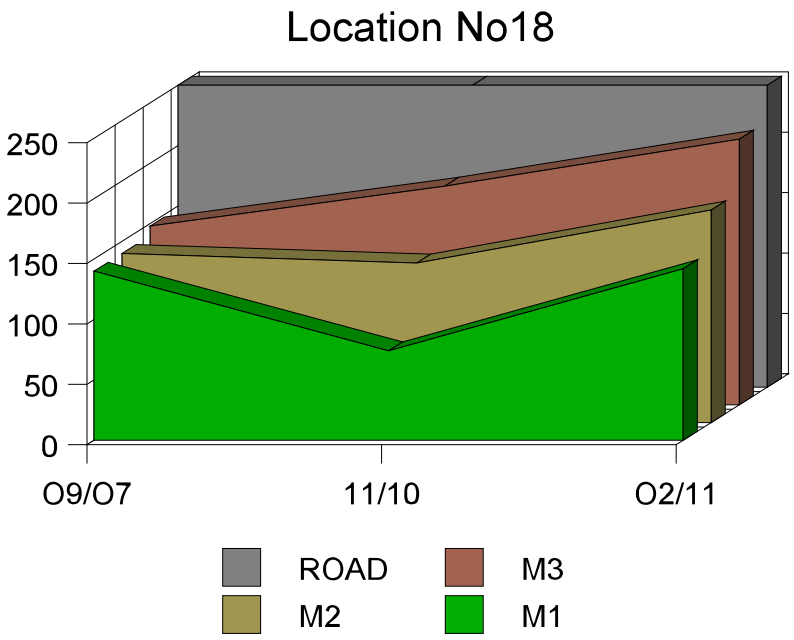
O9/O7
11/10
O2/11
ROAD
M3
M2
M1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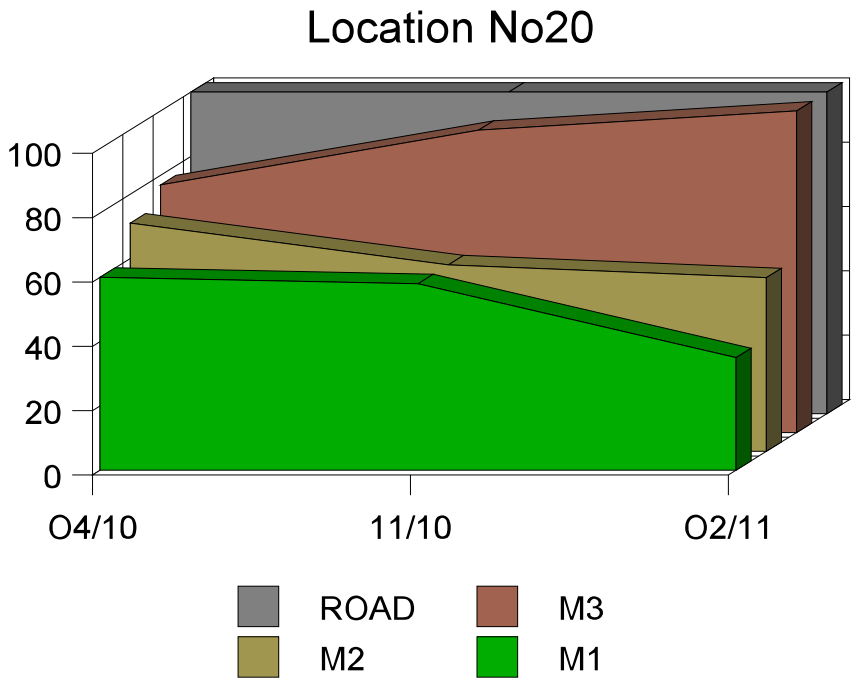
O9/O7
11/10
O2/11
ROAD
M3
M2
M1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80
60
40
20
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O4/10
11/10
O2/11
ROAD
M3
M2
M1

Project Summary - Erosion/regrowth of undisturbed ground over a three year period (green zone - M1) **All dimensions in cm.**

Location Number	Initial Reading (Autumn 2007)	Autumn 2010 Comparison + Differential	Spring 2011 Comparison + Differential
No. 1	57	54 (-3)	42 (-15)
No. 2	80	77 (-3)	62 (-18)
No. 3	19	26 (+7)	18 (-1)
No. 4	89	83 (-6)	80 (-9)
No. 5	24	25 (+1)	21 (-3)
No. 6	72	72 (- 0)	74 (+2)
No. 7	30	21 (-9)	10 (-20)
No. 8	20	21 (+1)	20 (- 0)
No. 9	44	40 (-4)	17 (-27)
No. 10	63	63 (- 0)	39 (-24)
No. 11	66	63 (-3)	53 (-13)
No. 12	90	88 (-2)	83 (-7)
No. 13	177	193 (+22)	180 (+3)
No. 14	97	102 (+5)	96 (-1)
No. 15	155	134 (-21)	120 (-35)
No. 16	Inspection ceased due to loss of datum point		
No. 17	146	156 (+10)	142 (-4)
No. 18	140	74 (-66)	142 (+2)
No. 19	Inspection ceased due to loss of datum point		
No. 20	60	58 (-2)	35 (-25)

Project Summary - erosion/regrowth of disturbed ground over a three year period (olive zone - M2) **All dimensions in cm.**

Location Number	Initial Reading (Autumn 2007)	Autumn 2010 Comparison / Differential	Spring 2011 Comparison / Differential
No. 1	66	54 (-12)	42 (-14)
No. 2	100	86 (-14)	76 (-24)
No. 3	39	27 (-12)	19 (-20)
No. 4	103	83 (-20)	86 (-17)
No. 5	25	25 (-0)	21 (-4)
No. 6	92	82 (-10)	84 (-8)
No. 7	39	27 (-12)	19 (-20)
No. 8	50	33 (-17)	32 (-18)
No. 9	98	89 (-9)	58 (-40)
No. 10	63	70 (+7)	59 (-4)
No. 11	86	73 (-13)	75 (-11)
No. 12	90	88 (-2)	83 (-7)
No. 13	209	197 (-12)	189 (-20)
No. 14	126	115 (-11)	96 (-30)
No. 15	153	134 (-19)	128 (-25)
No. 16	Inspection ceased due to loss of datum point		
No. 17	165	179 (+14)	176 (+11)
No. 18	140	132 (-8)	176 (+36)
No. 19	Inspection ceased due to loss of datum point		
No. 20	71	58 (-13)	54 (-17)

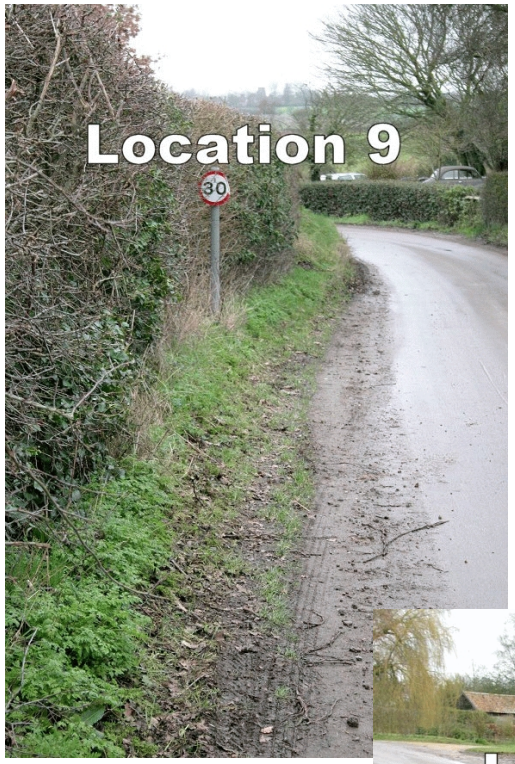
CLOSING NOTES

To reiterate, it should be recognised that the autumn-to-autumn columns in the last two charts probably provide a fairer overall indication of verge 'health', as the latest (spring) figures will show far greater erosion with zero chance of regrowth.

The **brown zone (M3)** on the graphs represent the deposition of roadside debris and are not of any great significance in themselves (except that they indicates where the eroded material has gone, and how recently the sweeping lorry has been round - infrequently in this case)!

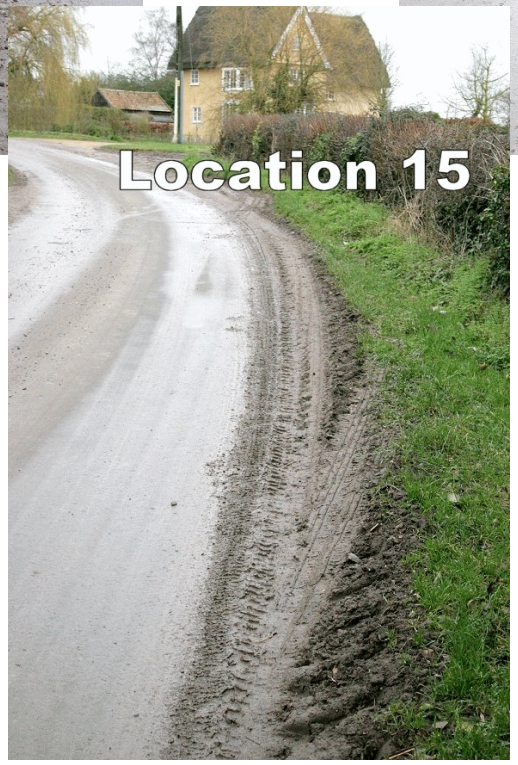
This project has provided a great deal of useful data, and (if nothing else) has created a semi-permanent 'line in the sand' to which householders can refer in the future, providing documentary evidence of verge depths during the 'noughties'.

To avoid potential disputes in the future, it is advised that all households should obtain photographs and record independent measurements of their property boundaries.


Location 9
30


Location 13


Location 14


Location 15


Location 18