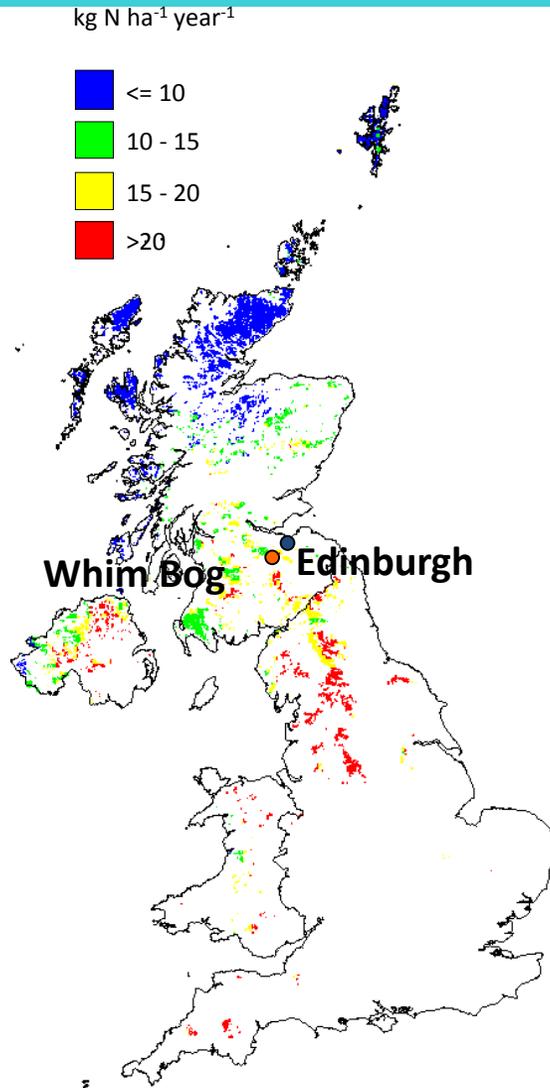




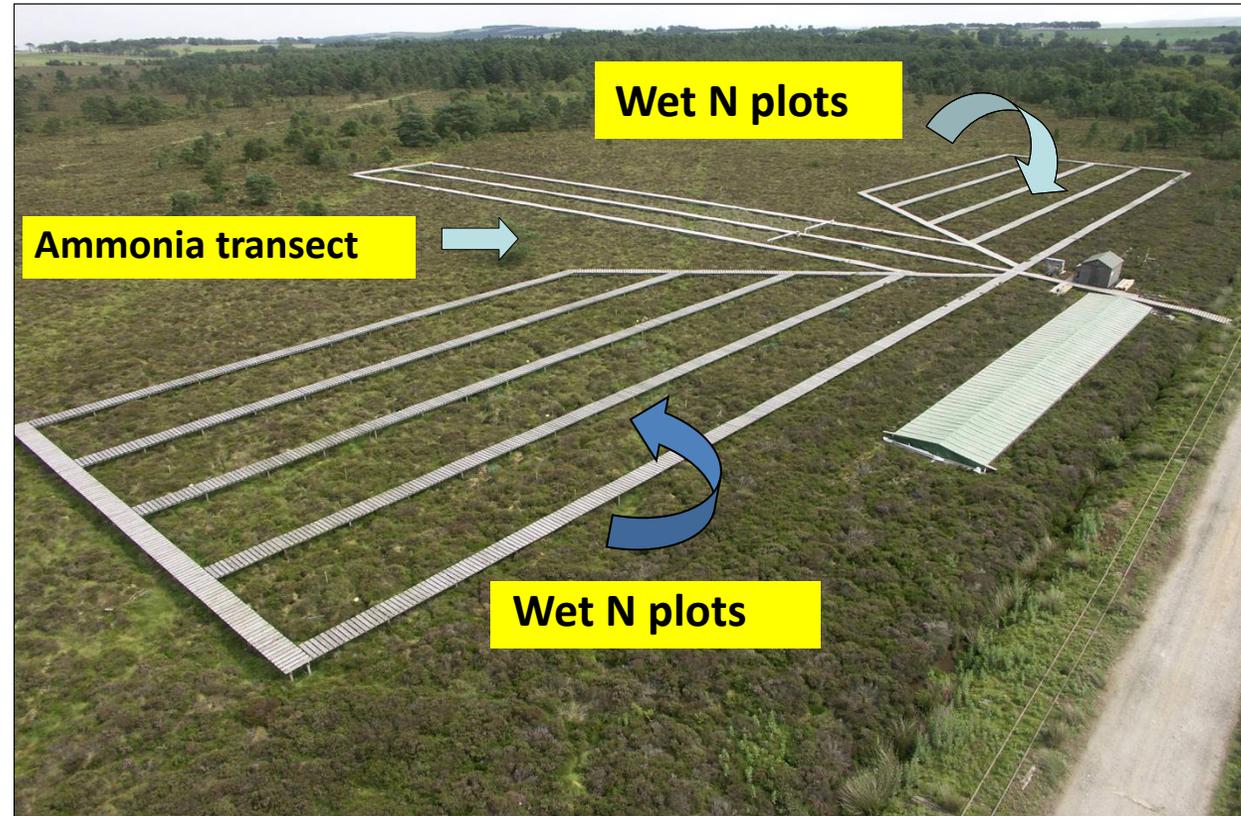
What does adding Nitrogen to a bog do to the soil water?

Netty van Dijk, Sarah Leeson, Matt Jones, Lucy Sheppard,
Ian Leith and many others

Whim Bog N Manipulation Fieldsite



Operational from 2002



Total N deposition 2003-2005
overlaid on the bog habitat distribution

WHIM BOG – field N manipulation

Globally unique automated, free air ammonia release (dry deposition) and wet treatment plots

**Treatments coupled to: wind direction and wind speed (dry dep)
rainfall and wind speed (wet dep)**

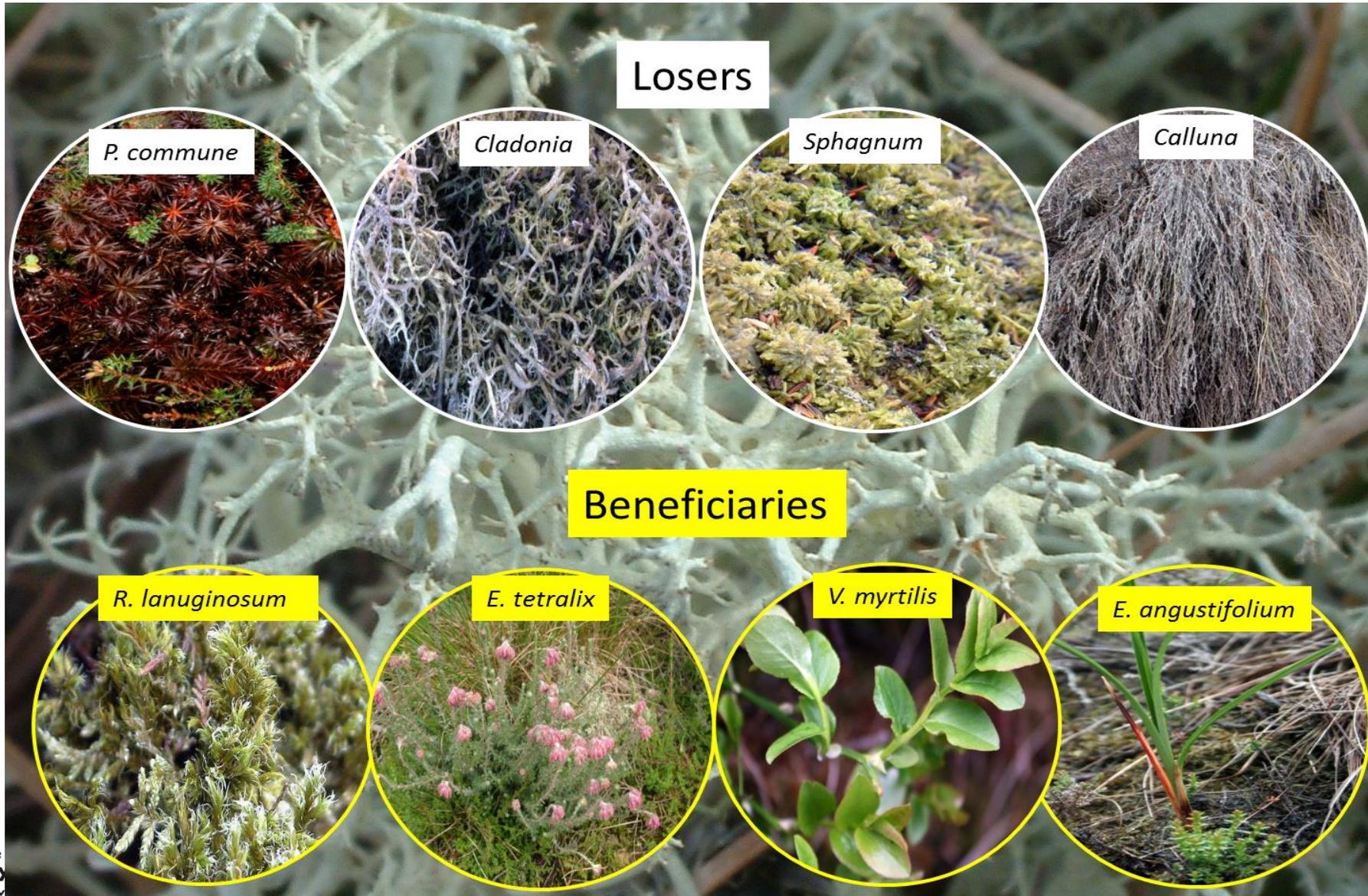
Running since 2002



Ammonia damage



Winners and losers

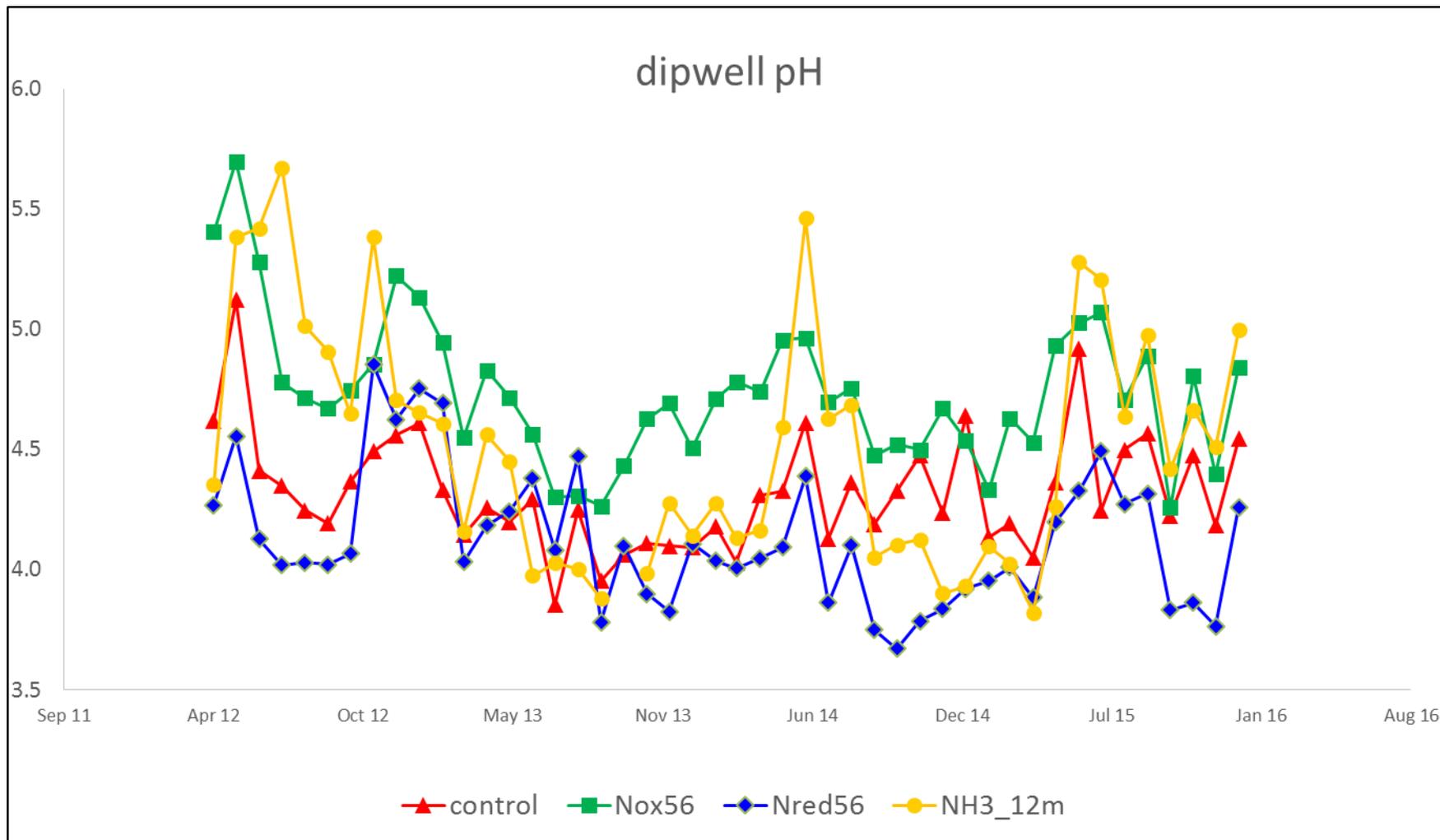


Soilwater chemistry at Whim

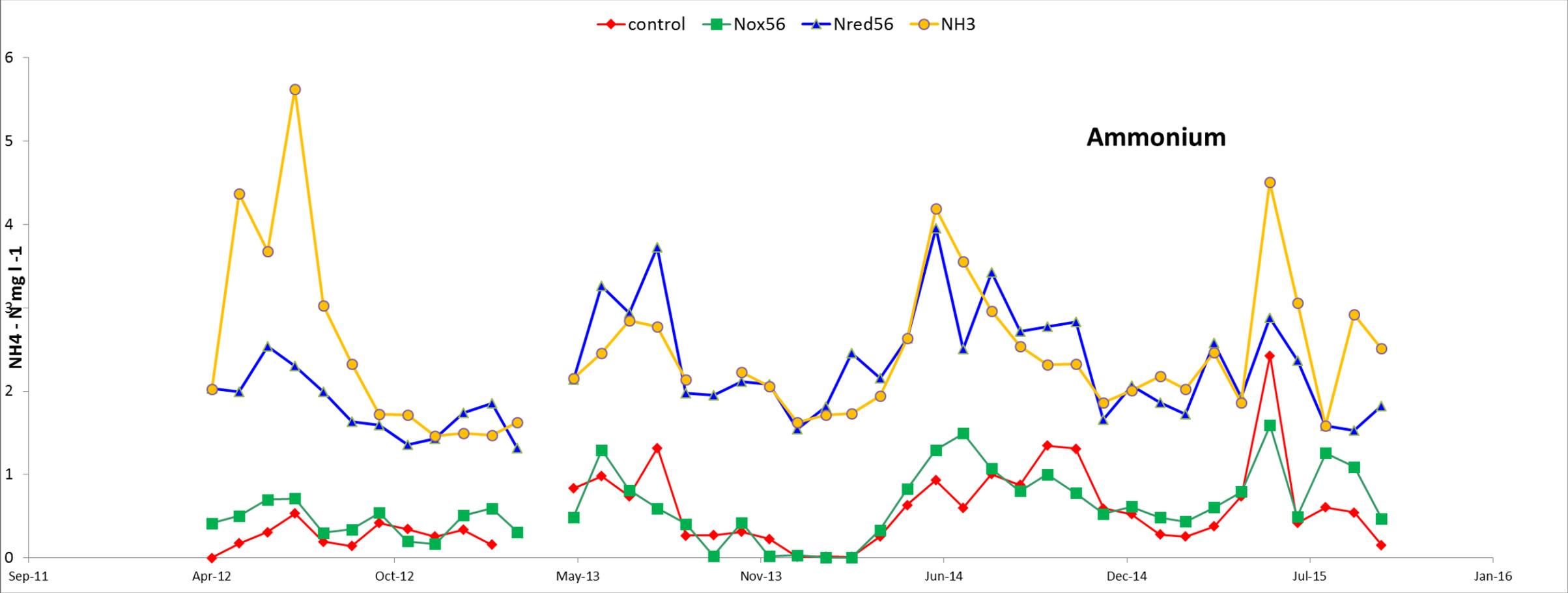
- **2006-2012** Rhizon samples: anions and cations (IC) + pH
for wet plots (except PK plots) + dry dep
- **From 2012** Dipwells: - anions and cations (Na, NH₄, K, Ca, Mg, Cl, NO₃, SO₄)
 - pH
 - DOC/DIC
 - Total Nmonthly (control, 56Nred, 56Nox, dry dep 12m)
+ seasonal (all wet plots + dry dep 12m) (until Jan 2104)
- **2015**: also some + dry dep

Nred added as NH₄Cl; Nox added as NaNO₃

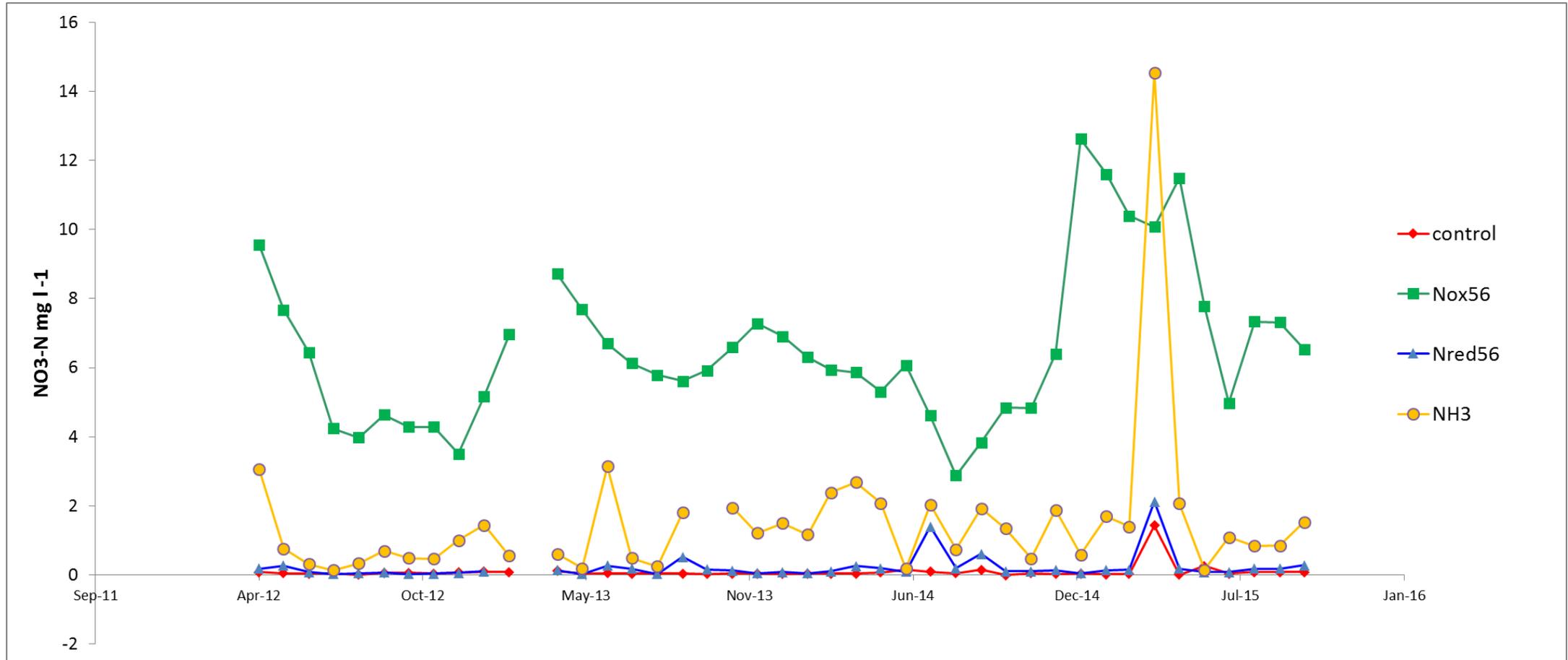
pH



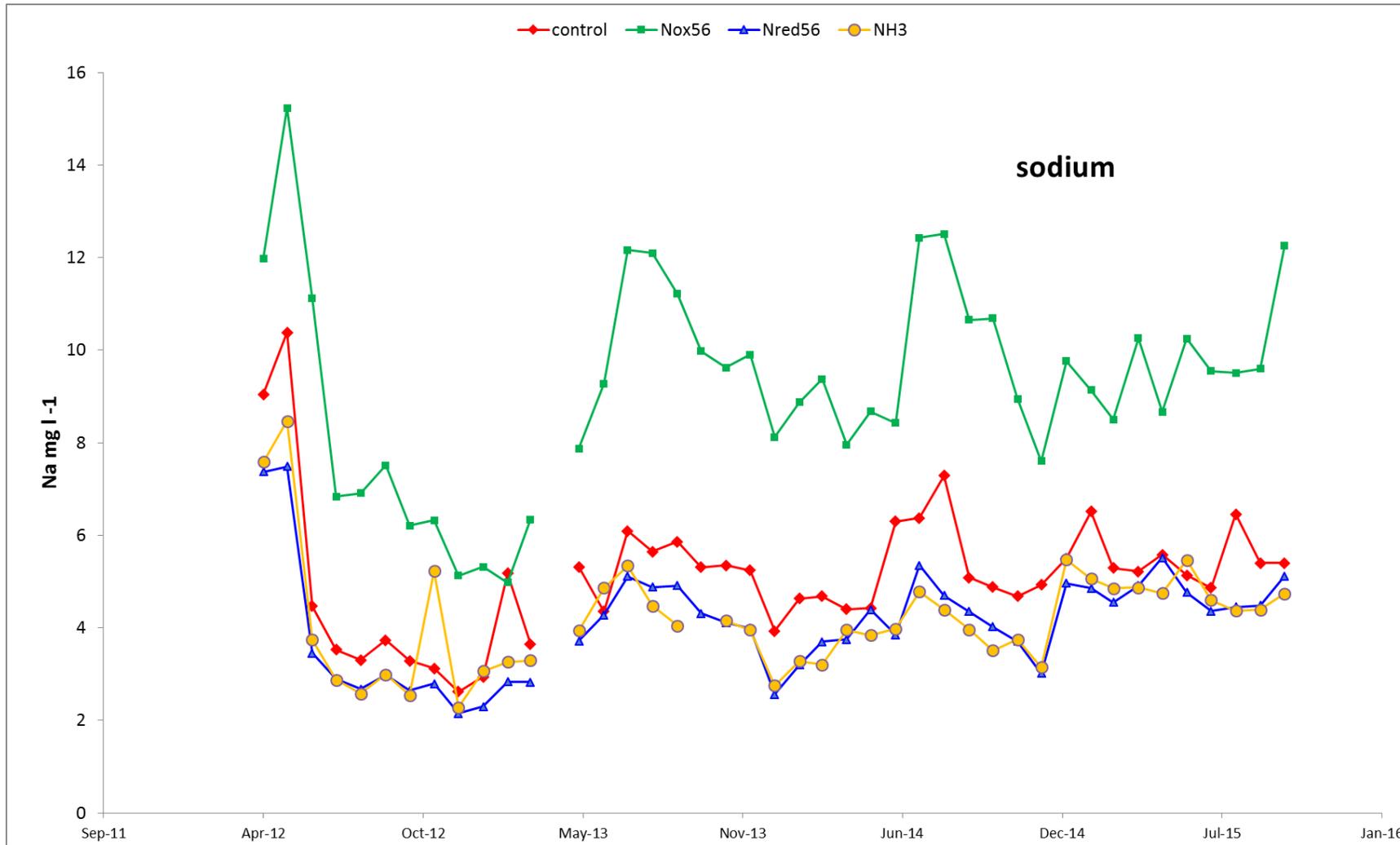
Ammonium



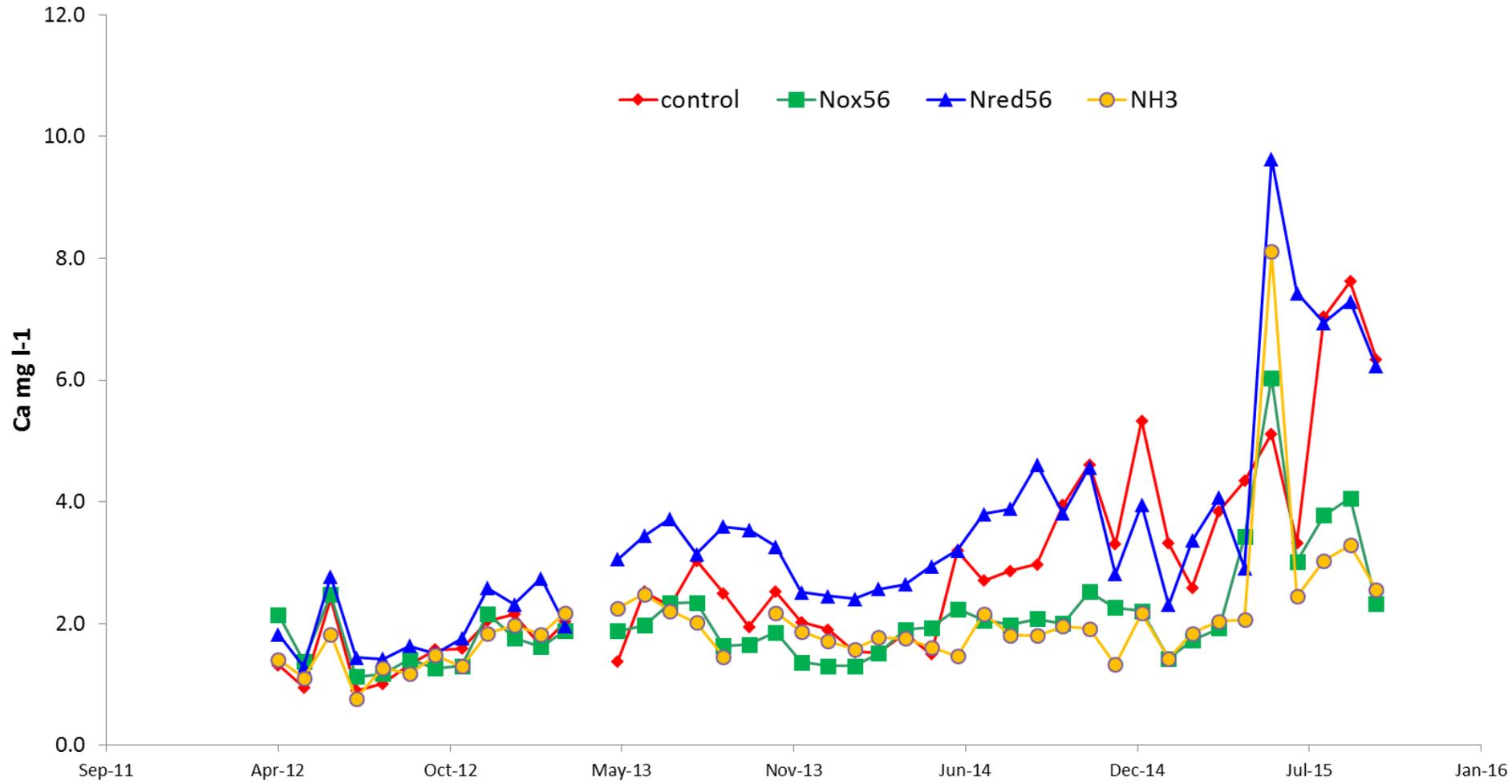
Nitrate



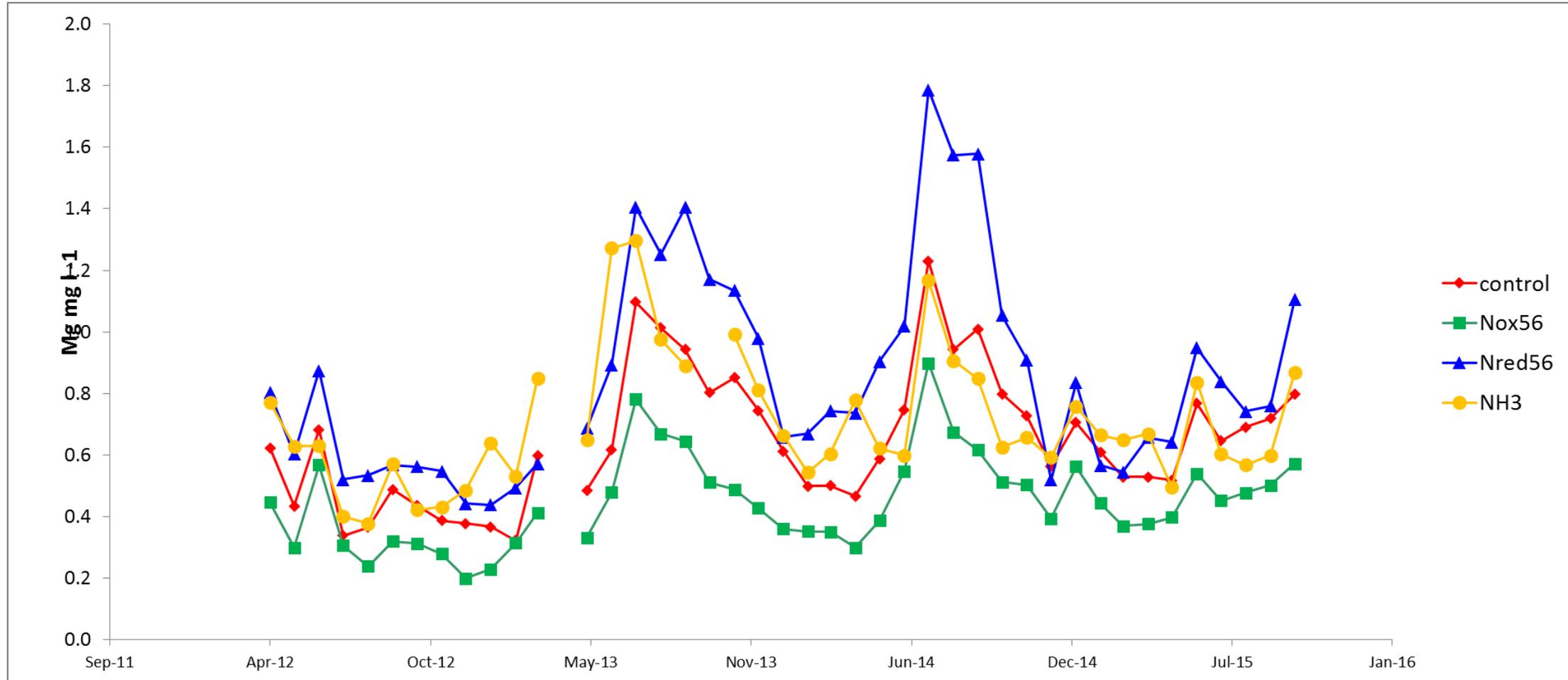
Sodium



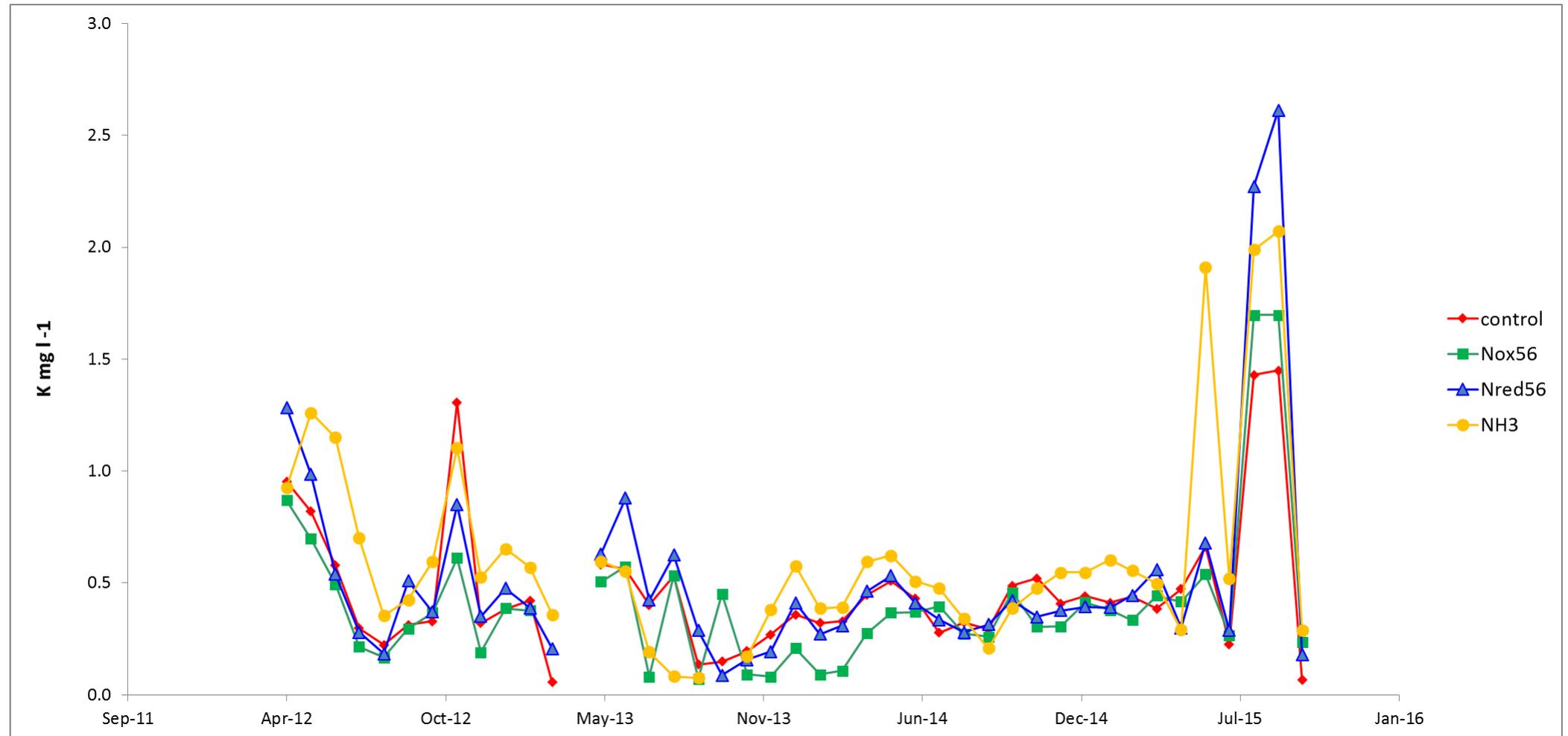
Calcium



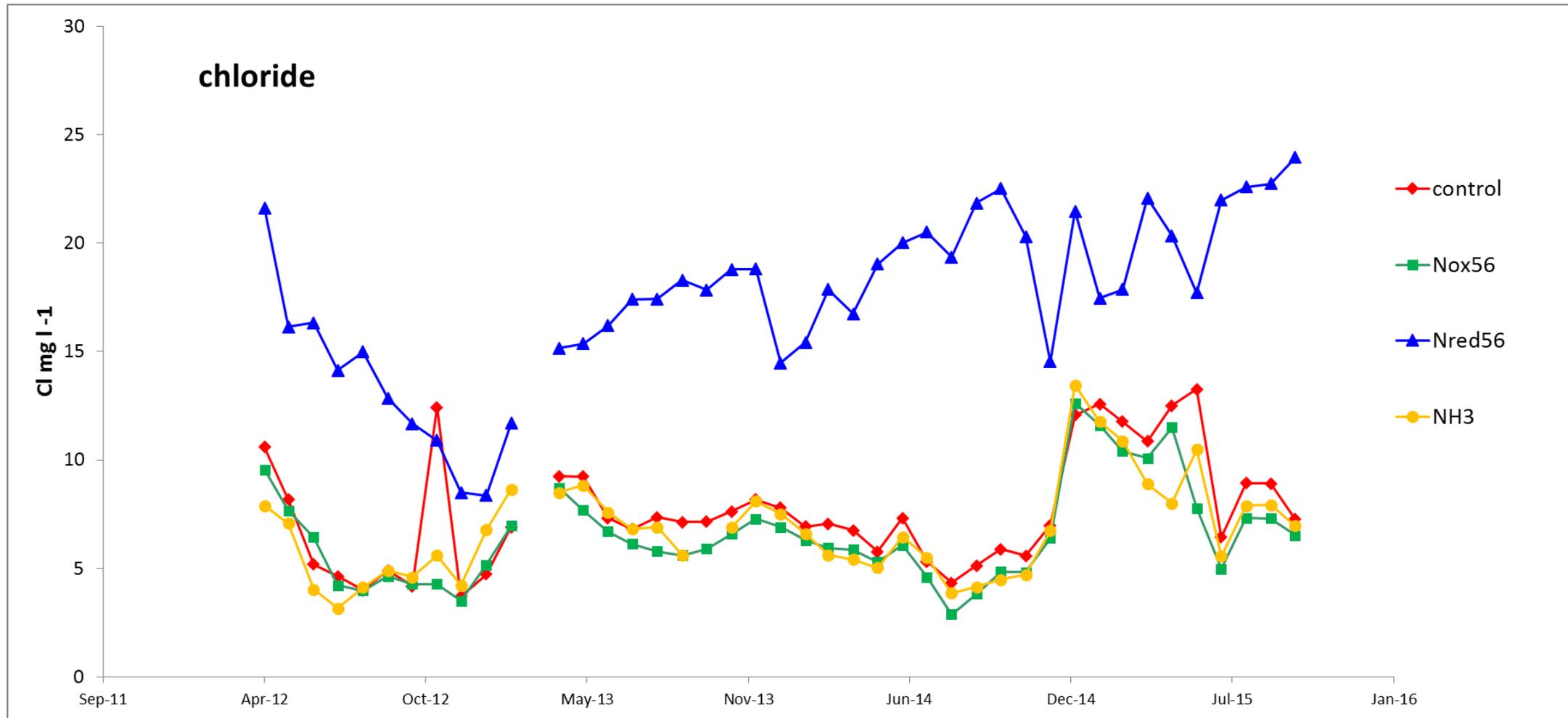
Magnesium



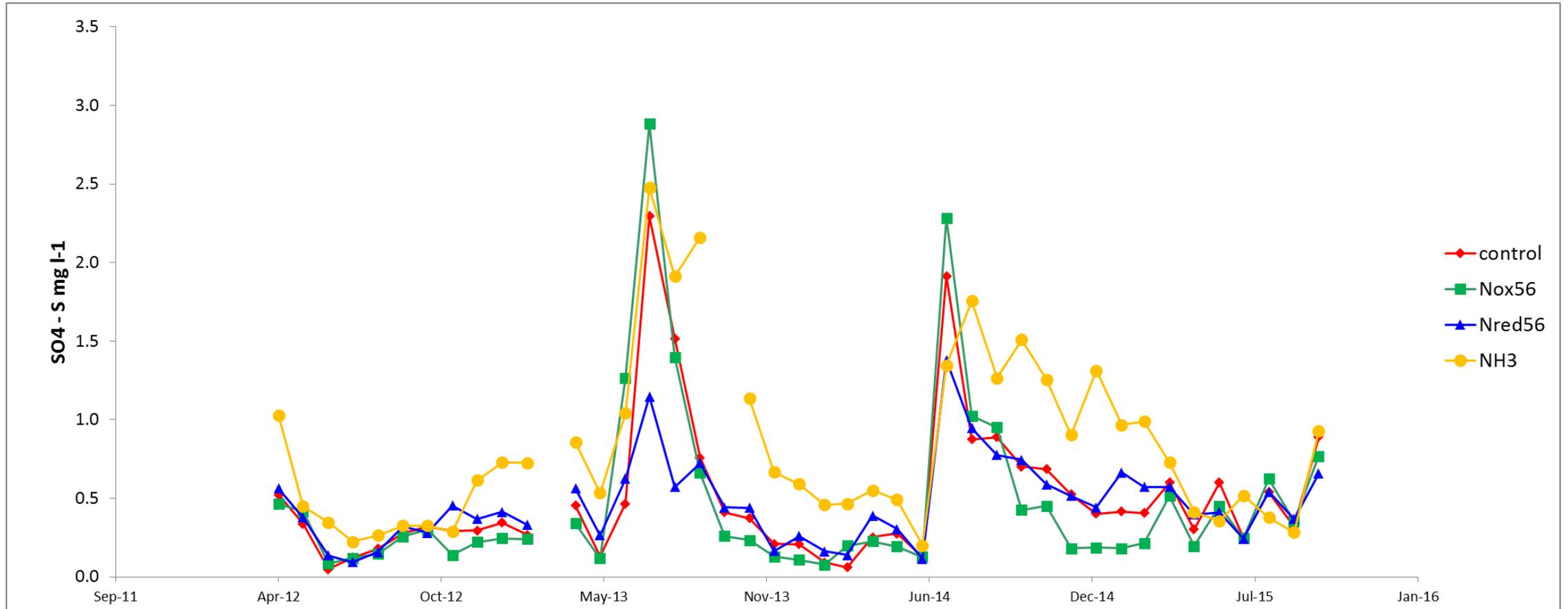
Potassium



Chloride

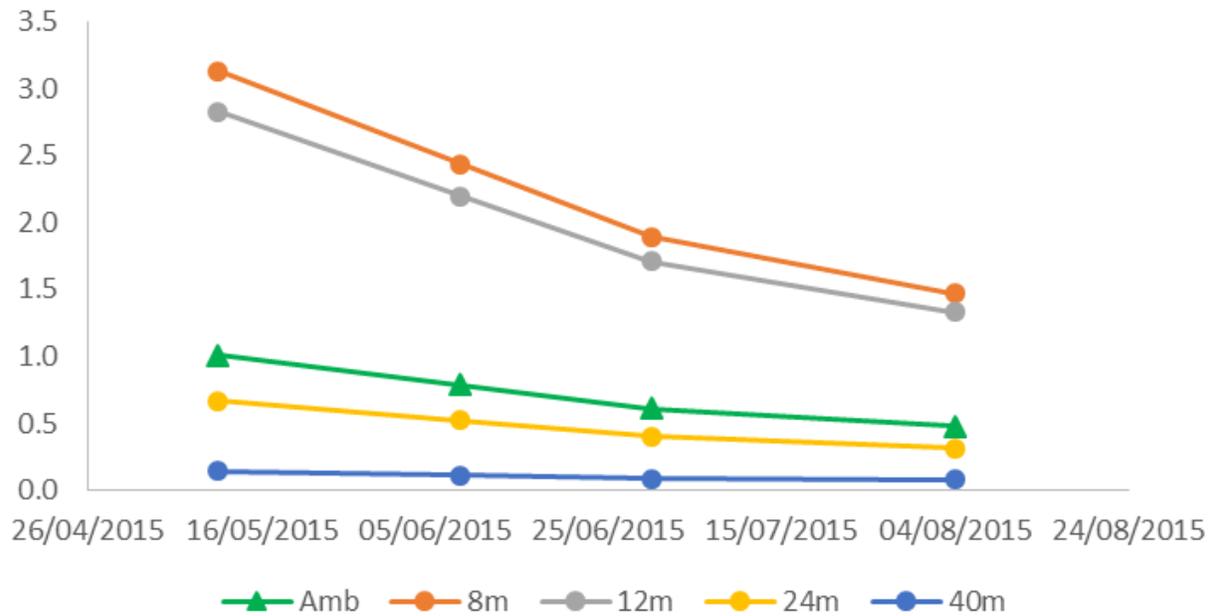


Sulphate

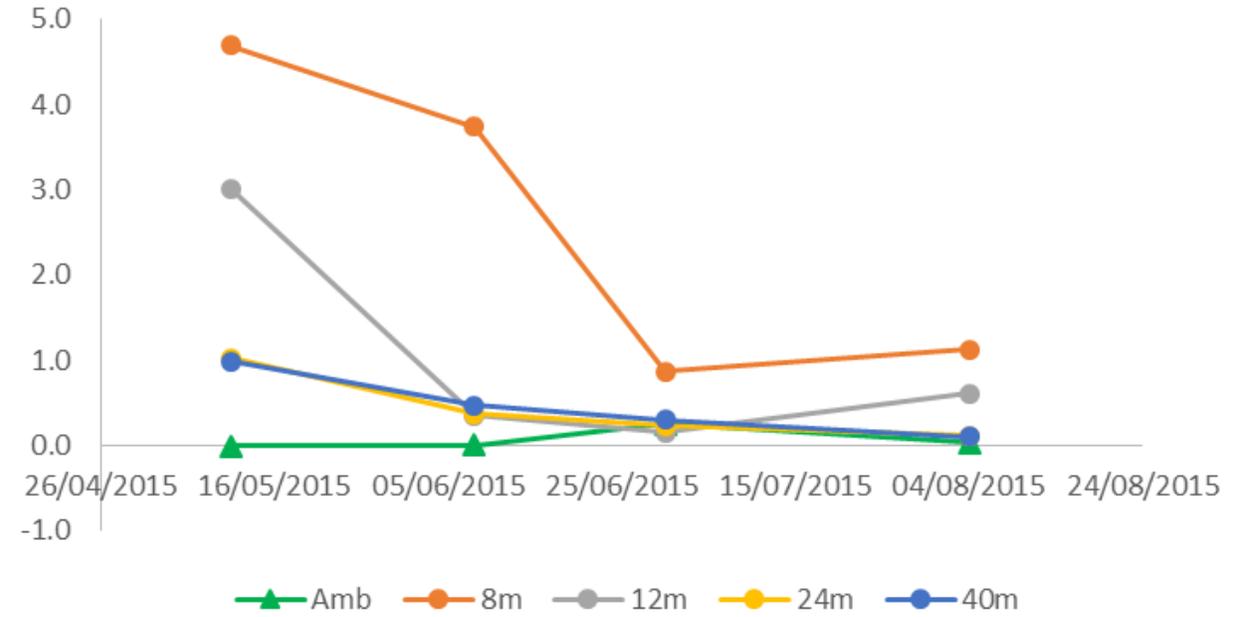


Ammonium and Nitrate along the dry dep transect in 2015

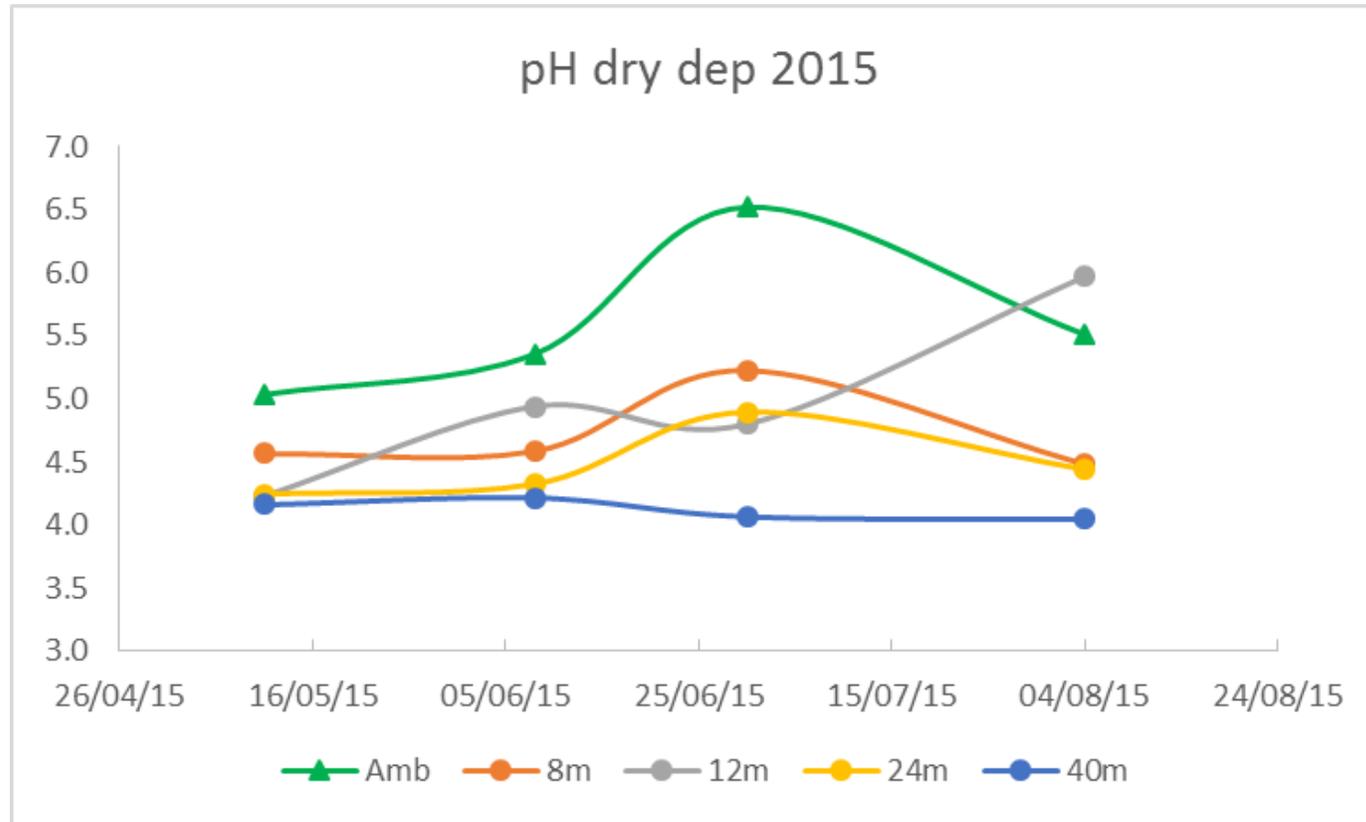
mg NH₄-N/l dry dep 2015



mg NO₃-N/l dry dep 2015



pH along the dry dep transect in 2015



Thank you!!





**Centre for
Ecology & Hydrology**

NATURAL ENVIRONMENT RESEARCH COUNCIL

