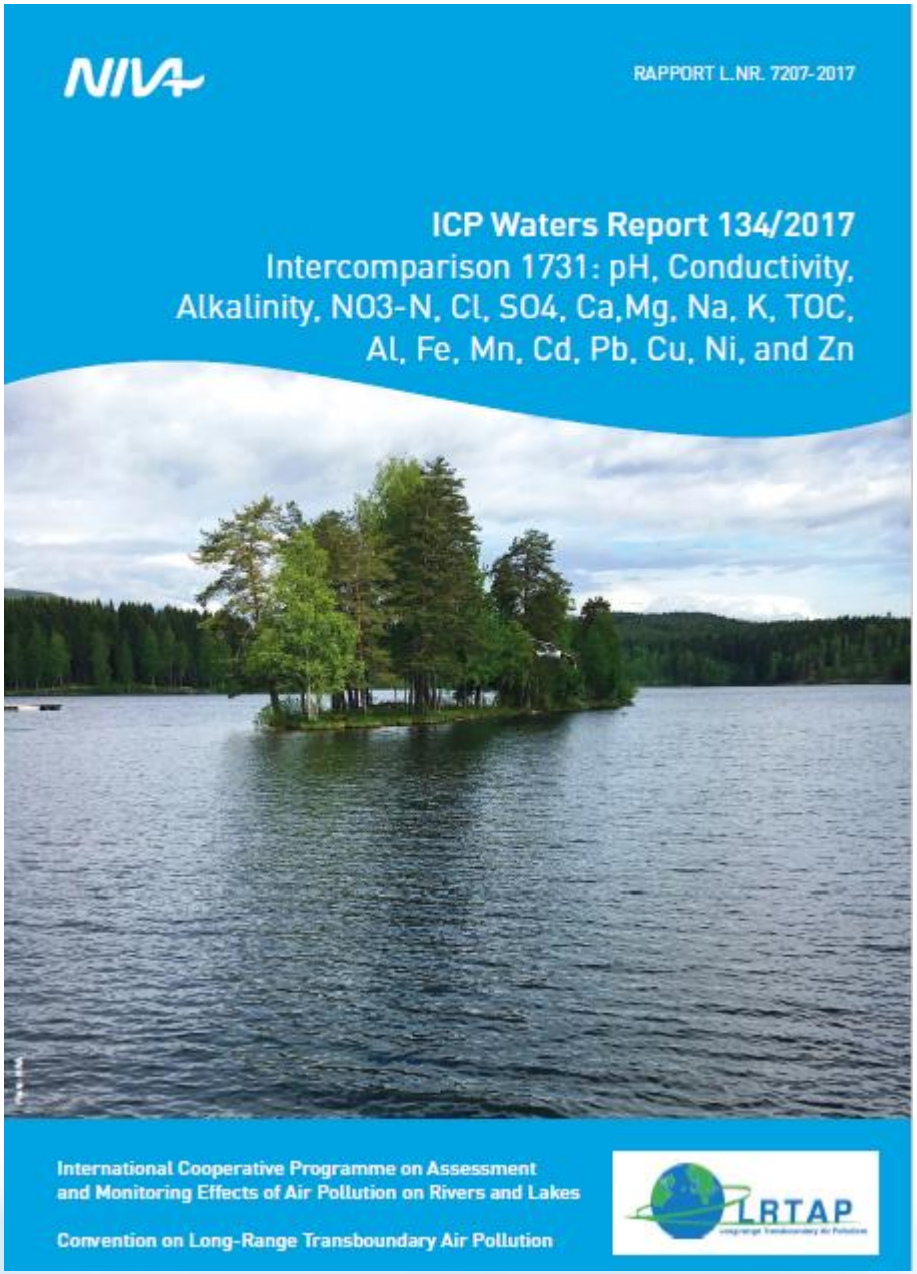
Intercomparison 1731

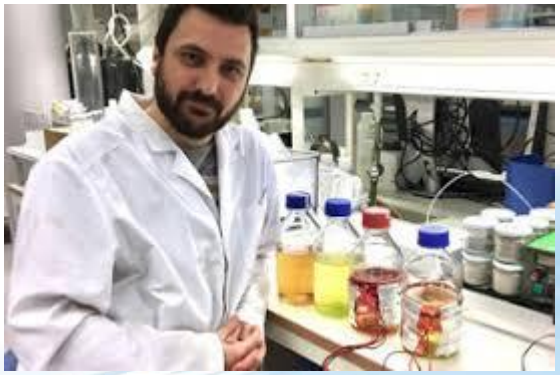
pH, conductivity, alkalinity, total phosphorous, nitrate, TOC, major ions and trace metals

Aims and objectives of ICP Waters

- Assess the degree and geographic extent of the impact of atmospheric pollution, in particular acidification, on surface waters
- Collect information to evaluate dose/response relationships
- Describe and evaluate long-term trends and variations in aquatic chemistry and biota attributable to atmospheric pollution
- Maintain and develop an international network of surface water monitoring sites
- Promote international harmonisation of monitoring practices by:
  - Maintaining and updating a manual for methods and operation
  - Conducting inter-laboratory quality assurance tests
  - Compiling a centralised database with data quality control and assessment capabilities
- Develop and/or recommend chemical and biological methods for monitoring purposes
- Report on progress according to programme aims and short term objectives as defined in the annual Work Programme
- Conduct workshops on topics of central interest to the Programme Task Force and the aquatic effects research community
- Address water related questions in cooperation with other ICPs



Carlos Escudero-Oñate (NIVA) organised the intercomparison and wrote the report



Participation in intercomparison 1731

- 88 laboratories were invited to participate
- 38 laboratories from 21 countries accepted the invitation and submitted results for one or more parameters

Participation from 21 countries

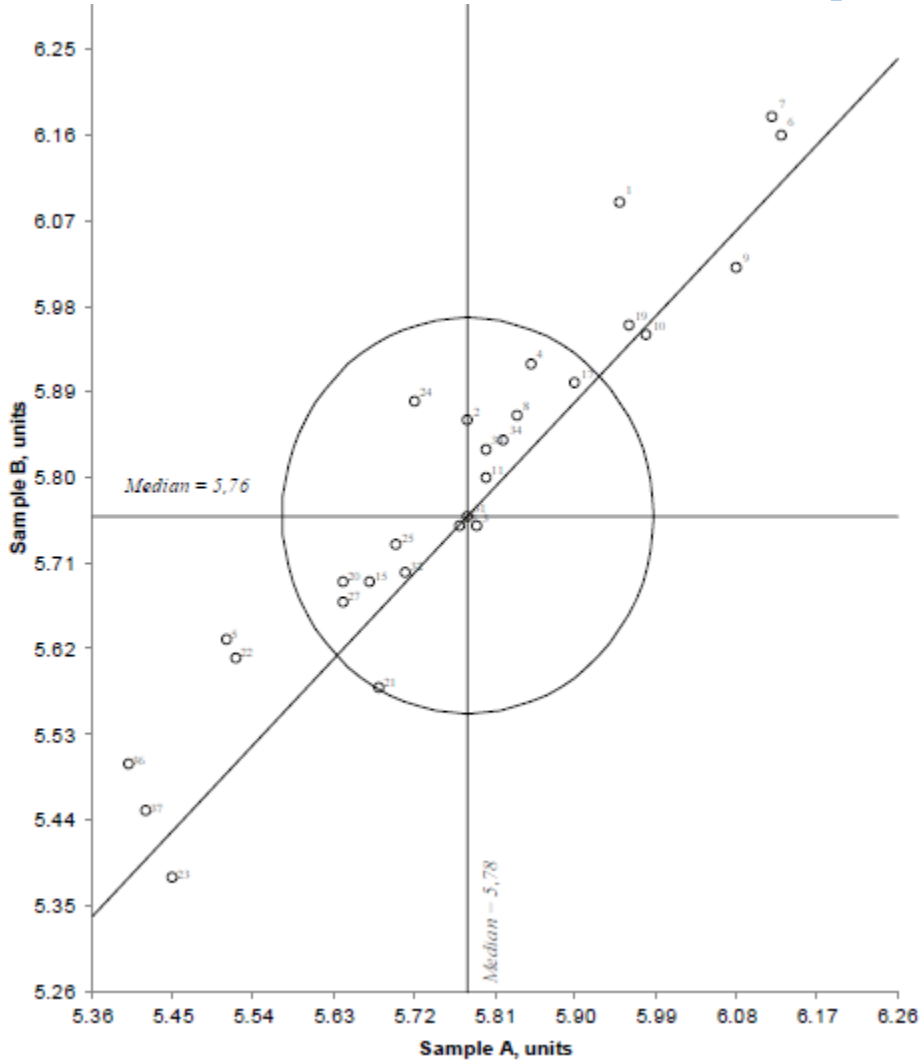
Country	No. of labs.	Country	No. of labs.
Austria	1	Netherlands	1
Belgium	2	Norway	1
Canada	1	Poland	2
Czech Republic	1	Moldova	1
Estonia	1	Russia	5
Finland	1	Serbia	1
France	1	Spain	1
Germany	6	Sweden	1
Ireland	4	Switzerland	1
Italy	2	UK	3
Lithuania	1		

Preparation of the samples

- Water from Lake Sognsvann
- Filtered (0,45 µm), stored at room temperature and equilibrated with atmosphere
- pH lowered with HCl and H_2SO_4 (sample set AB). TOC increased by adding humic acid. P was added as phytic acid.
- Sample set CD was spiked with metals and conserved (0.5 % HNO_3)

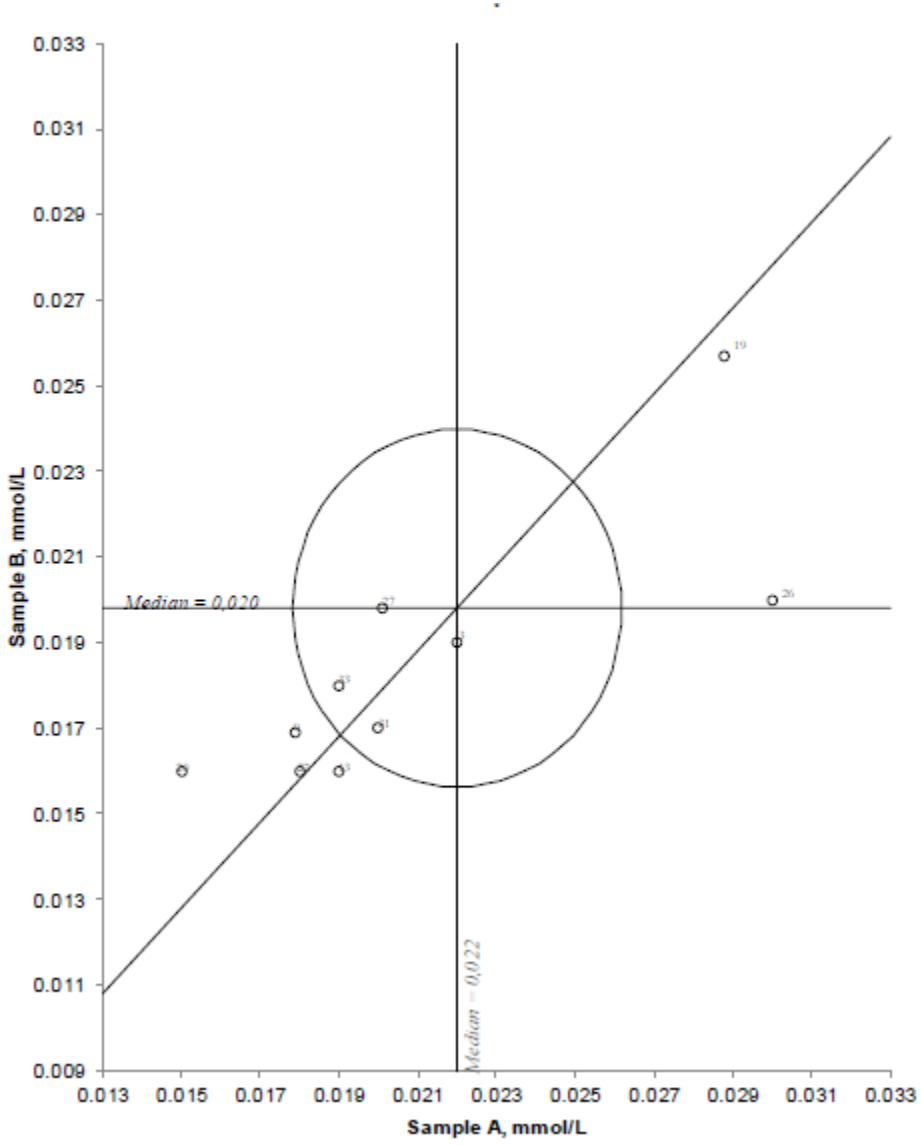
Results

pH



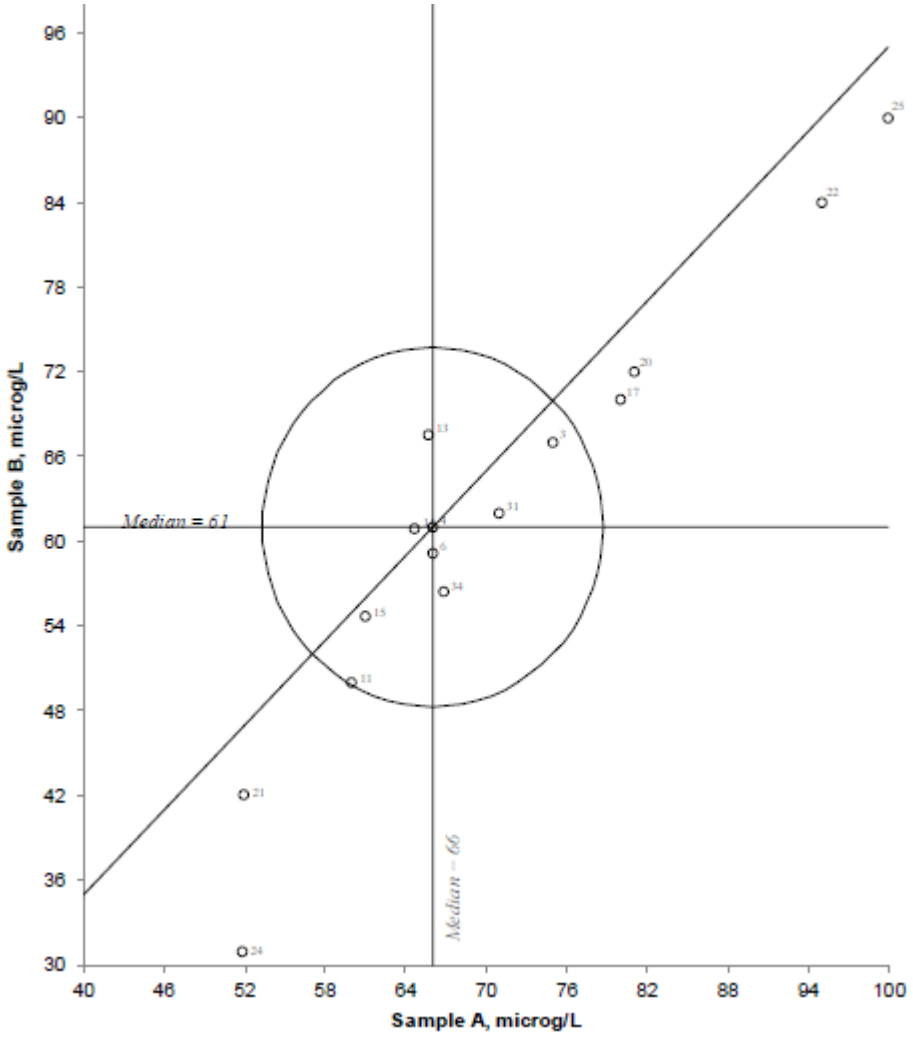
- 53 % of results were acceptable
- This is compareable to earlier results

Alkalinity



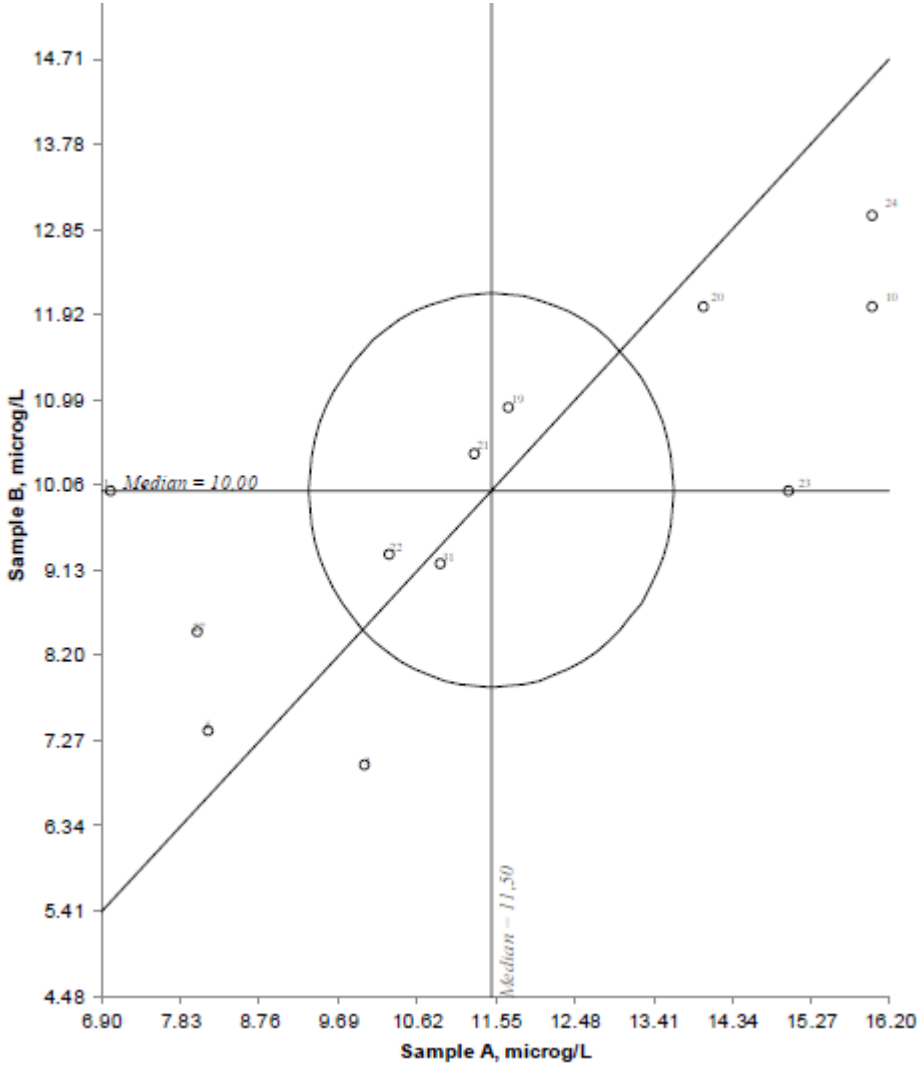
- 17 % of results were acceptable
- This is compareable to earlier results

Nitrate + nitrite



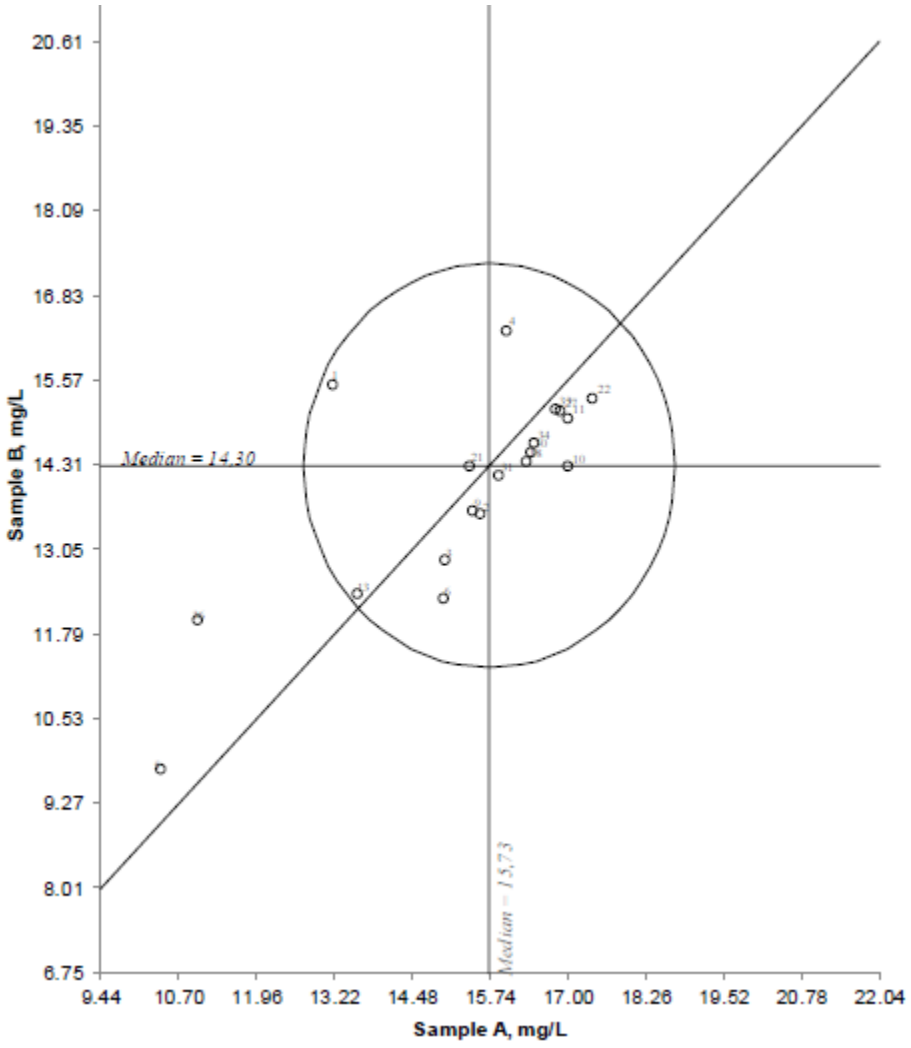
- 35 % of results were acceptable
- Percent acceptance each year depends on concentration

Total P



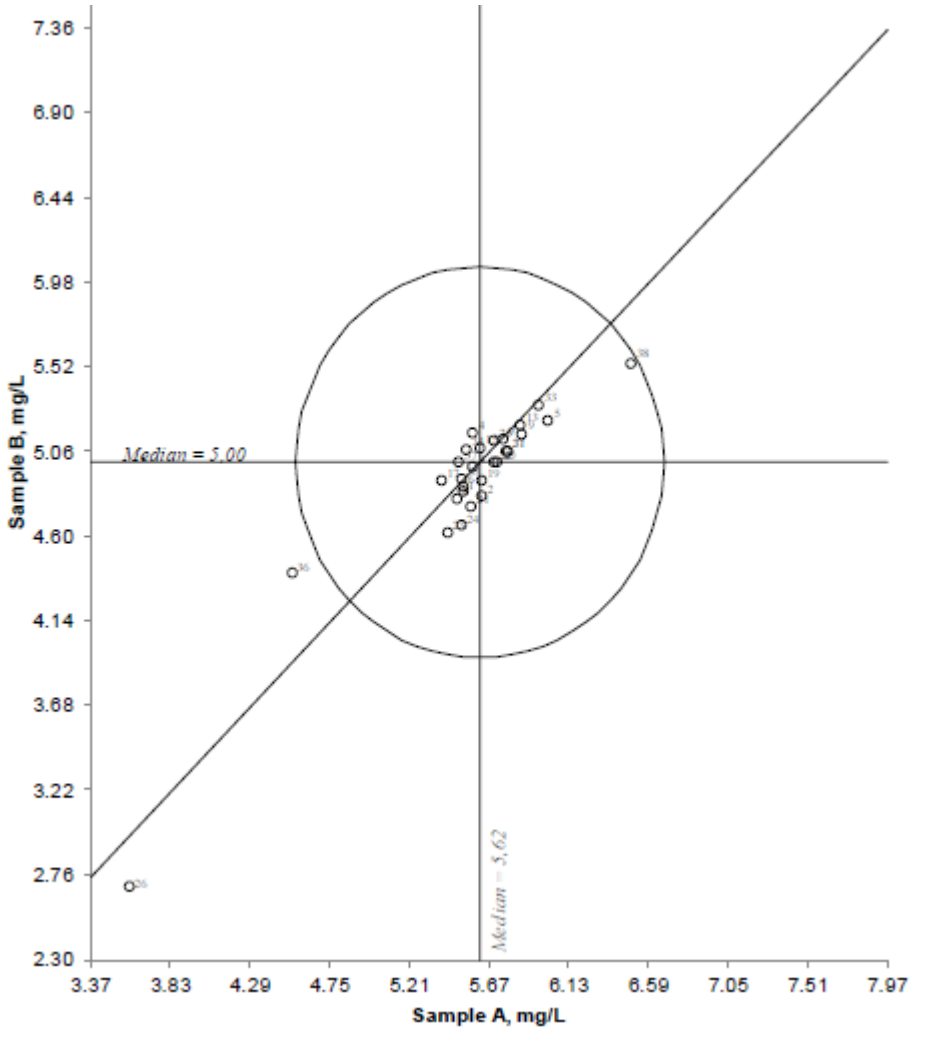
- 21 % of results were acceptable

TOC



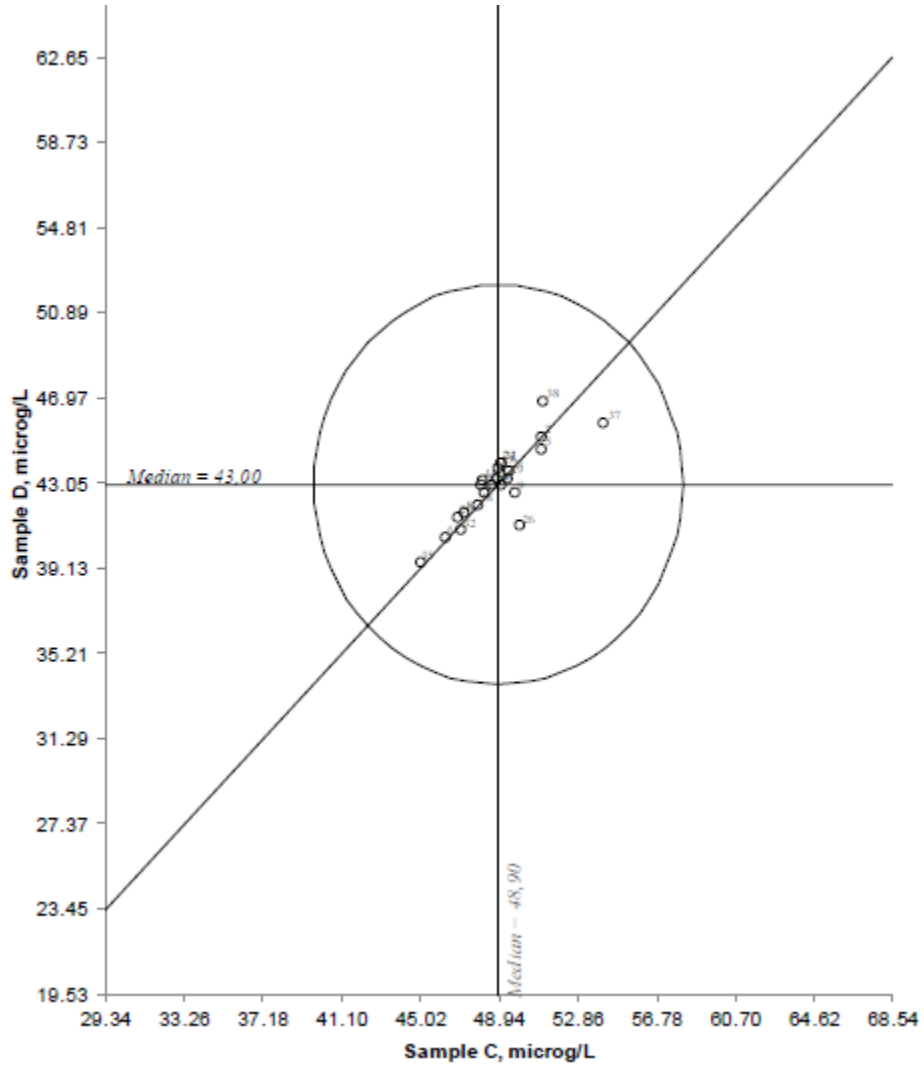
- 81 % of results were acceptable
- Same result as last year.

Sulphate



- 90 % of results were acceptable
- Similar to earlier years
- Other major ions show comparable results

Manganese



- 100 % of results were acceptable
- Good results also for other trace metals

But concentrations are very high….

Manganese,	CD	48.9	43
Cadmium,	CD	9.68	8.59
Lead,	CD	7.82	6.82
Copper,	CD	29.6	27.0
Nickel,	CD	14.3	12.7
Zinc,	CD	19.7	18.4

Conclusions

- Accuracy in determination of major ions and trace metals and TOC was very good(> 80 % had target accuracy < 20 %)
- Accuracy for pH, alkalinity NO3+NO2-N and Total P was poor (32 % or less had acceptable target accuracy)

Intercomparison 1832

- Samples have not yet been prepared
- Free for labs within UN-ECE and EECCA that deliver results to national monitoring programs. Others have to pay a minor fee
- It is still possible to participate
- Contact carlos.escudero@niva.no
- Suggestions for improvements/changes are welcome