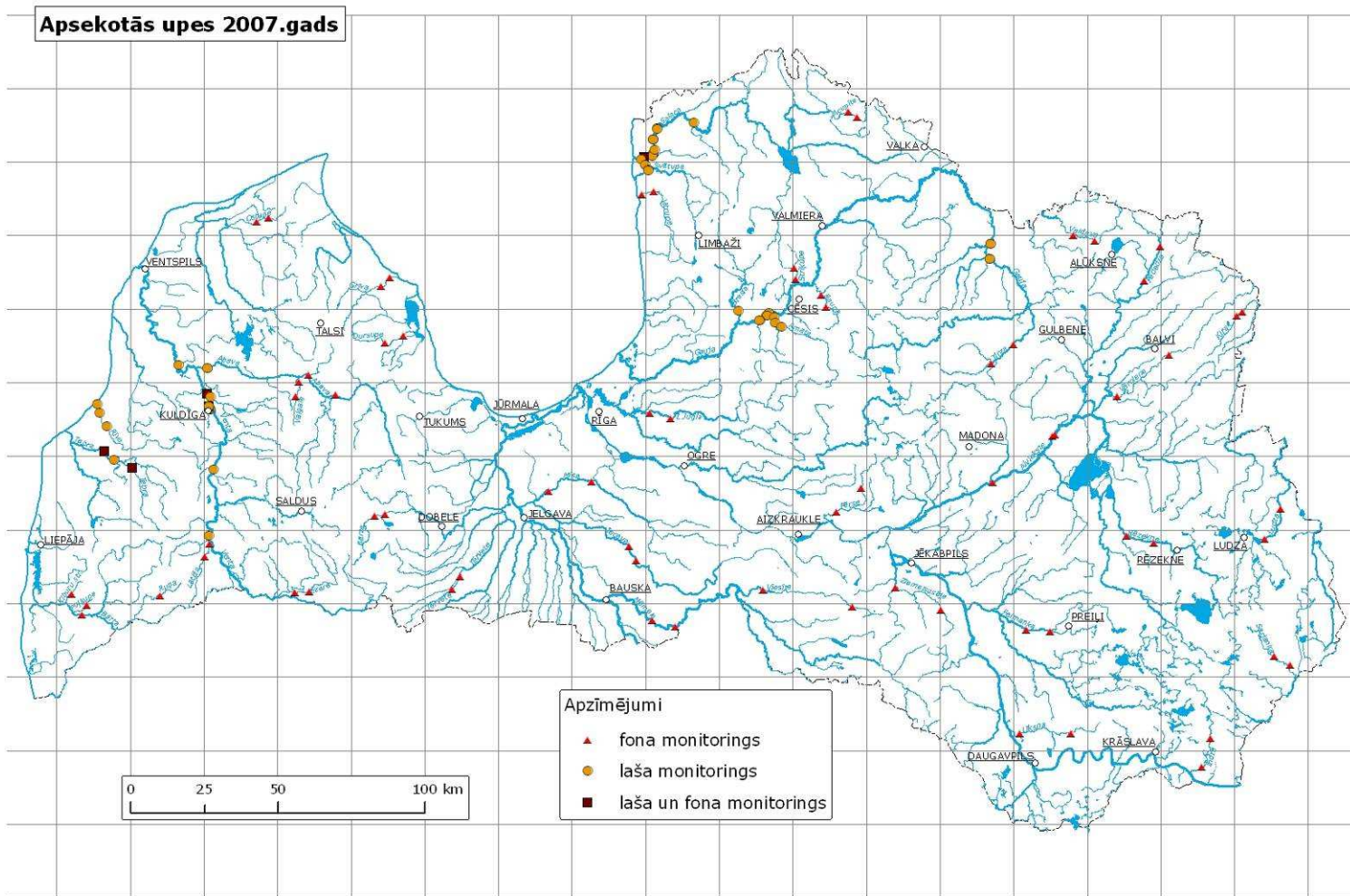


Evaluation of the R.Lielupe in the context of the Transboundary River catchment

Andris Urtans, Nature Conservation Agency,
North Vidzeme Biosphere reserve
Kiev 28.04. 2010.

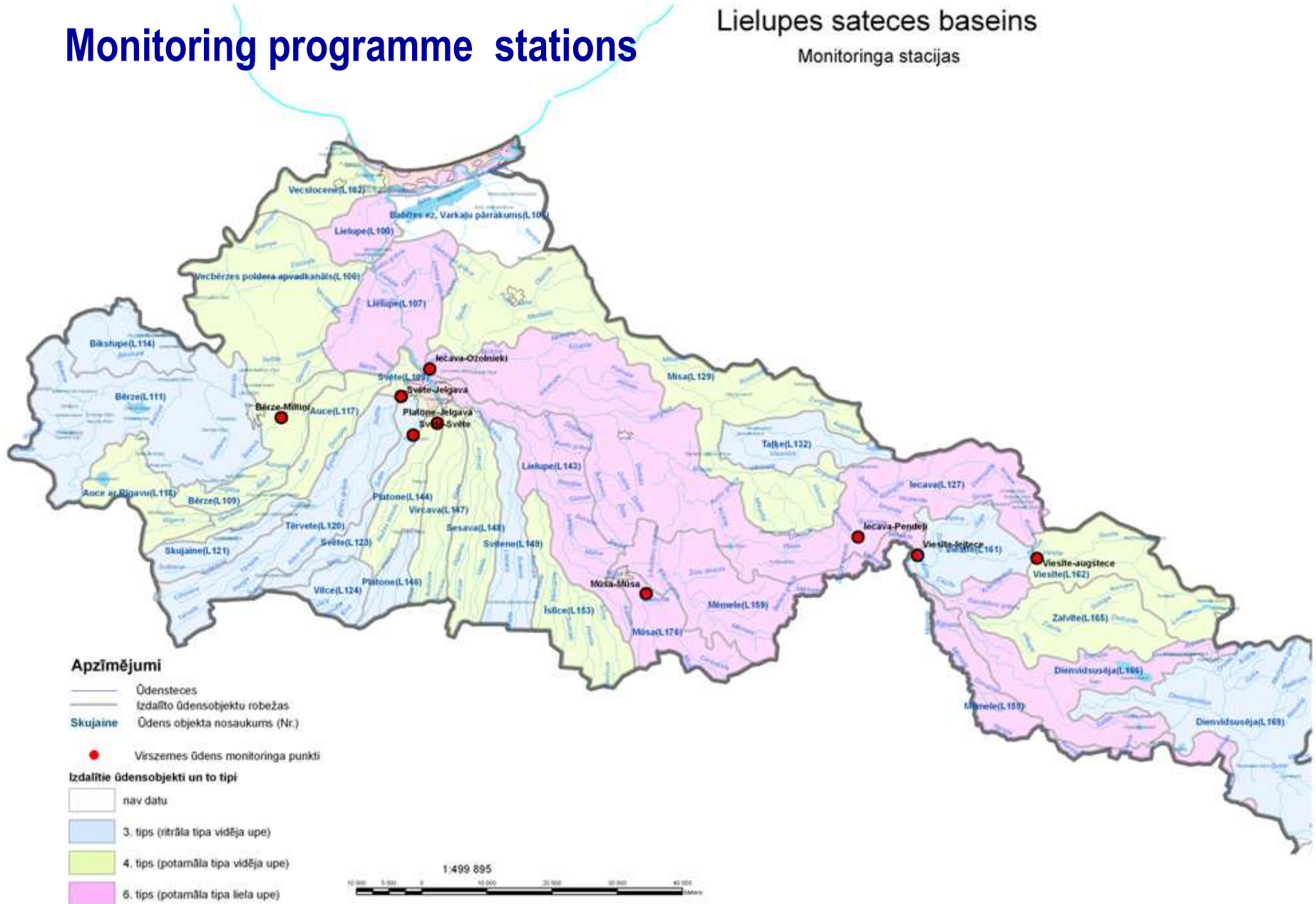


R.Lielupe within the network of Latvian rivers



Monitoring programme stations

Lielupes sateces baseins
Monitoringa stacijas



General characteristics

- Length 119 km, from the outflow of r.Memele 310 km
- Catchment 17600 sq.km,in Latvia 8800 sq.km
- Annual discharge 3,6 kubic km;
- Slope 11 m (0,09 m/km),
- Nemunelis (Memel)- 199 km (LT-75km,LV-40 km),
84 km along the border
- Musa - 157 km (LT-133;LV-18 km), 7 km along the border
- Intensive agriculture both in Latvia and Lithuania

Socio-economic services/ Cultural values/ Nature

- Intensive use of water for agriculture and industry, water storage reservoirs (LT),
- Fishing, tourism
- Historical agricultural area with open landscape, in XIX century birthplace of many first Latvian politicians and entrepreneurs.
- Riverine landscape as a migration corridors,
- Karst processes (Birzai Regional Park).



R.Musa close to the border with Lithuania



R.Svete next to R.Lielupe



R.Musa close to the border with Lithuania

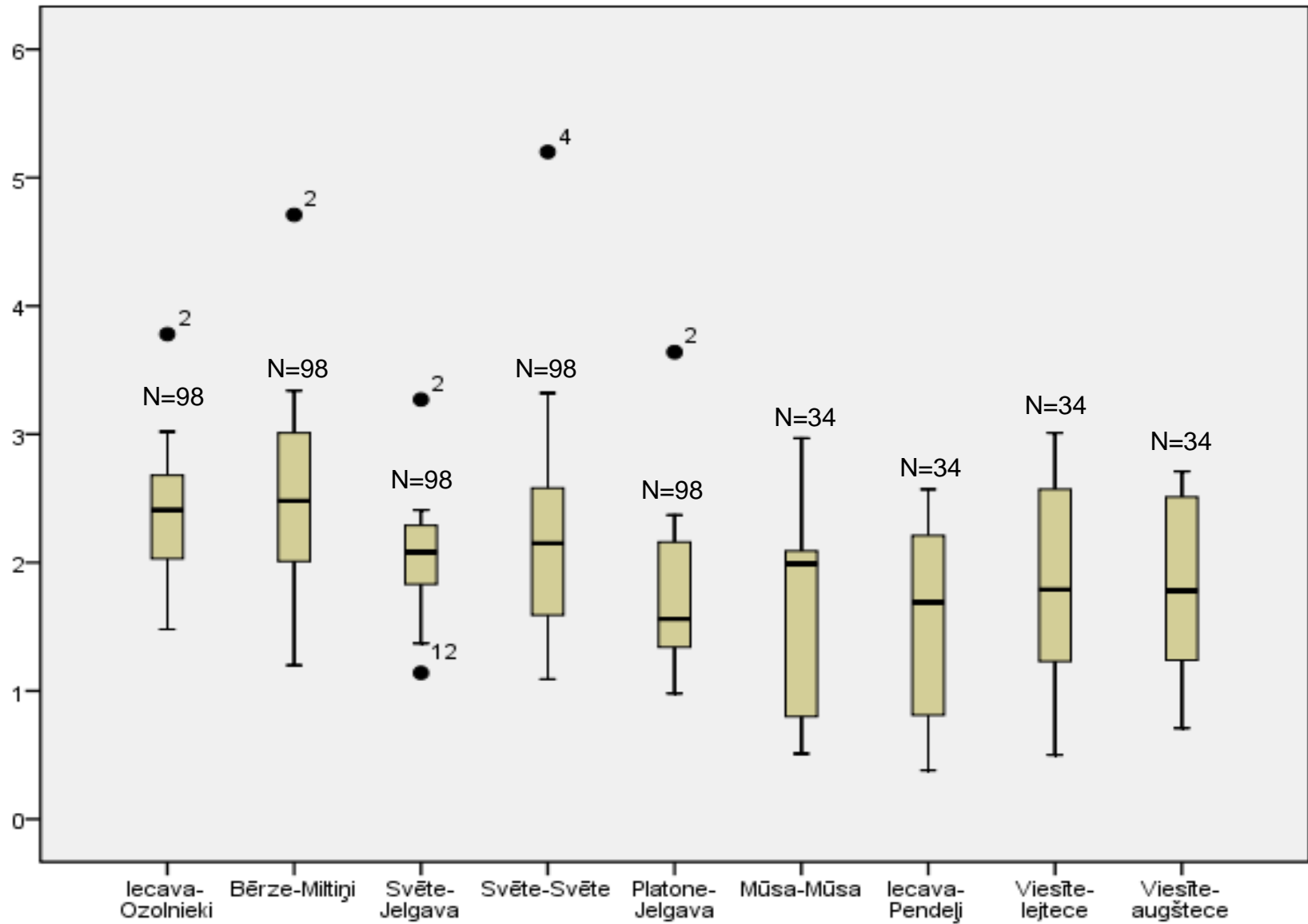


Pressure Factors and Transboundary impacts

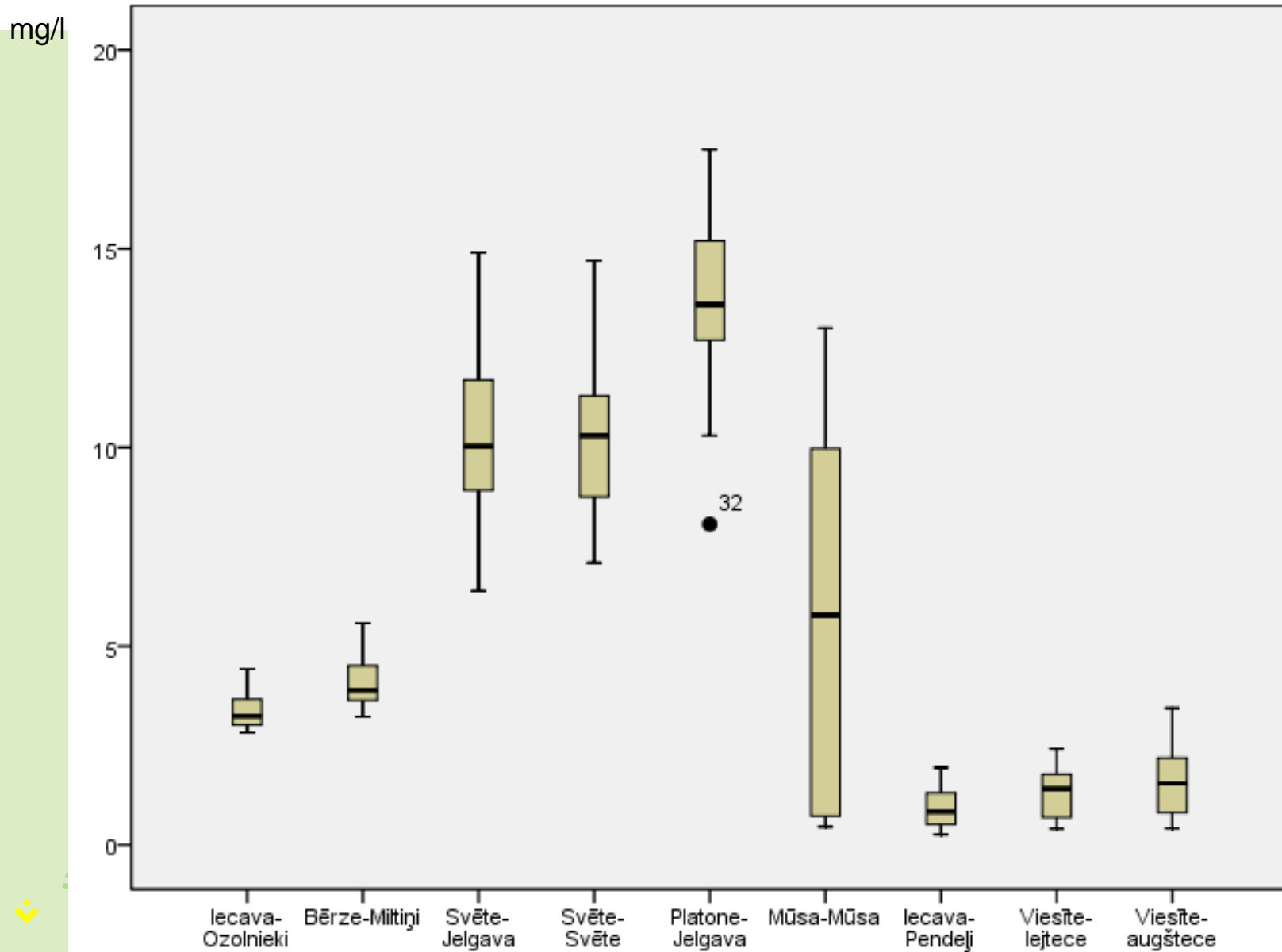


BOD₅

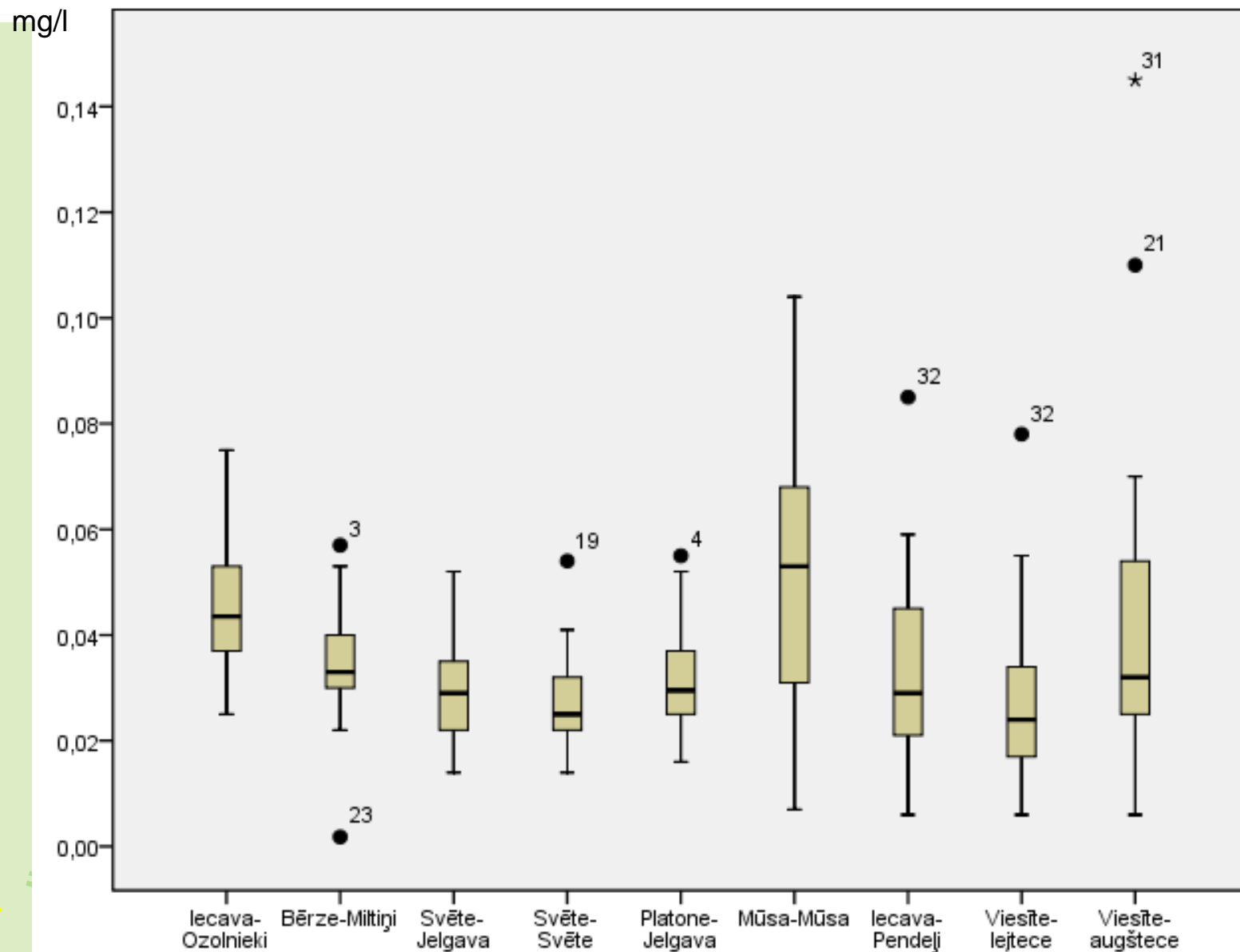
mg/l



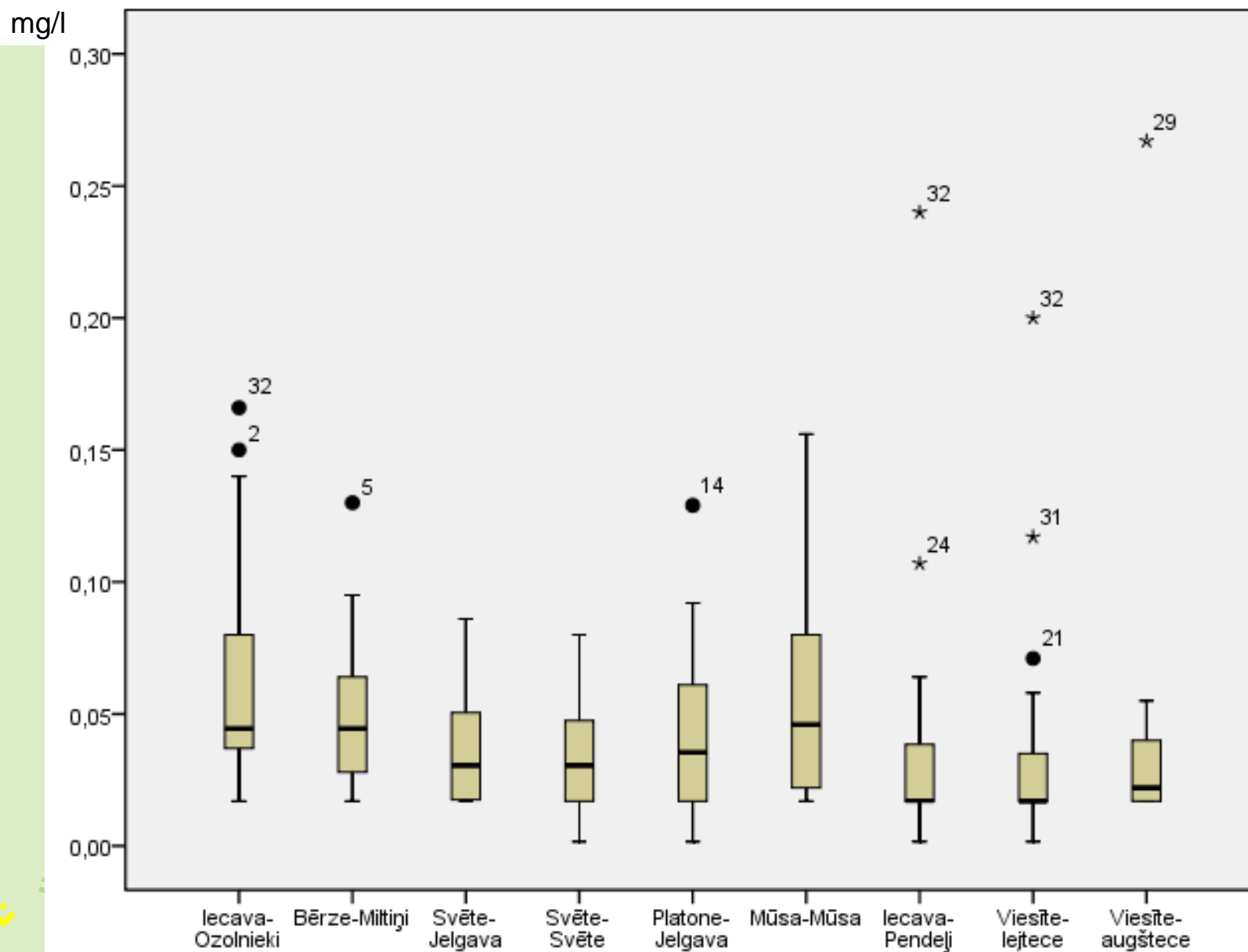
Total Nitrogen (N_{tot}) in R.Musa



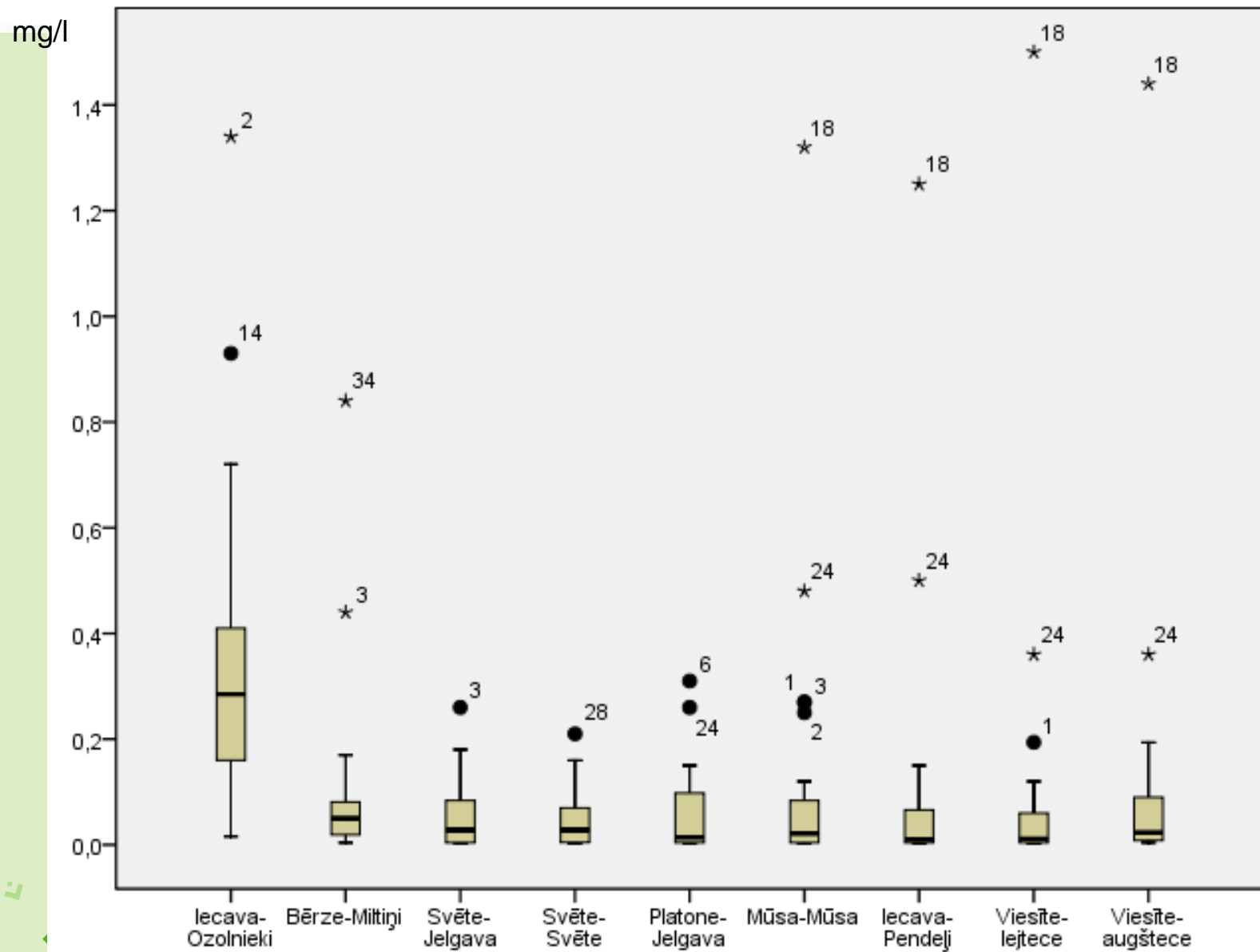
Total Phosphorus (P_{tot}) in the R.Musa



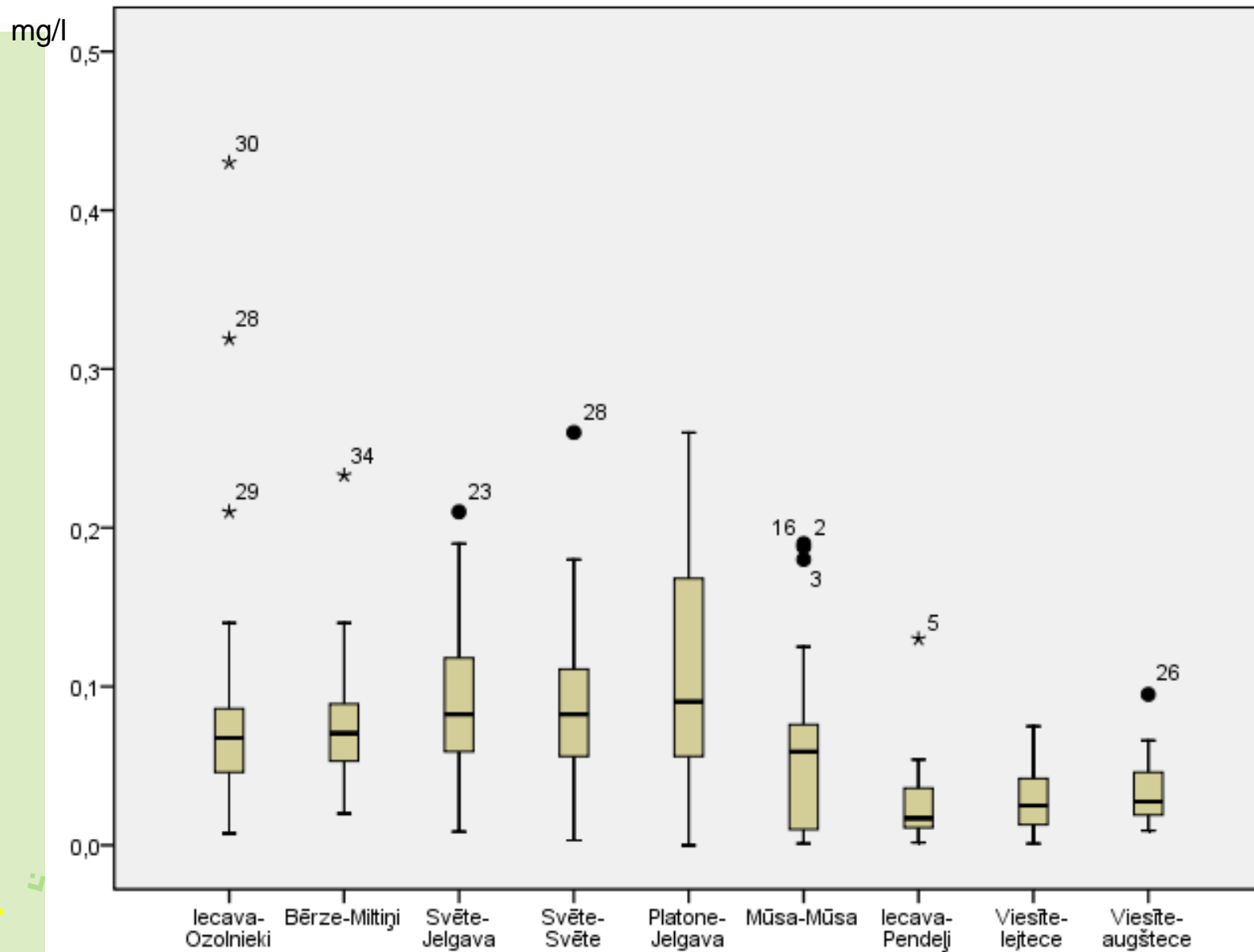
Phosphates (PO_4^{3-})



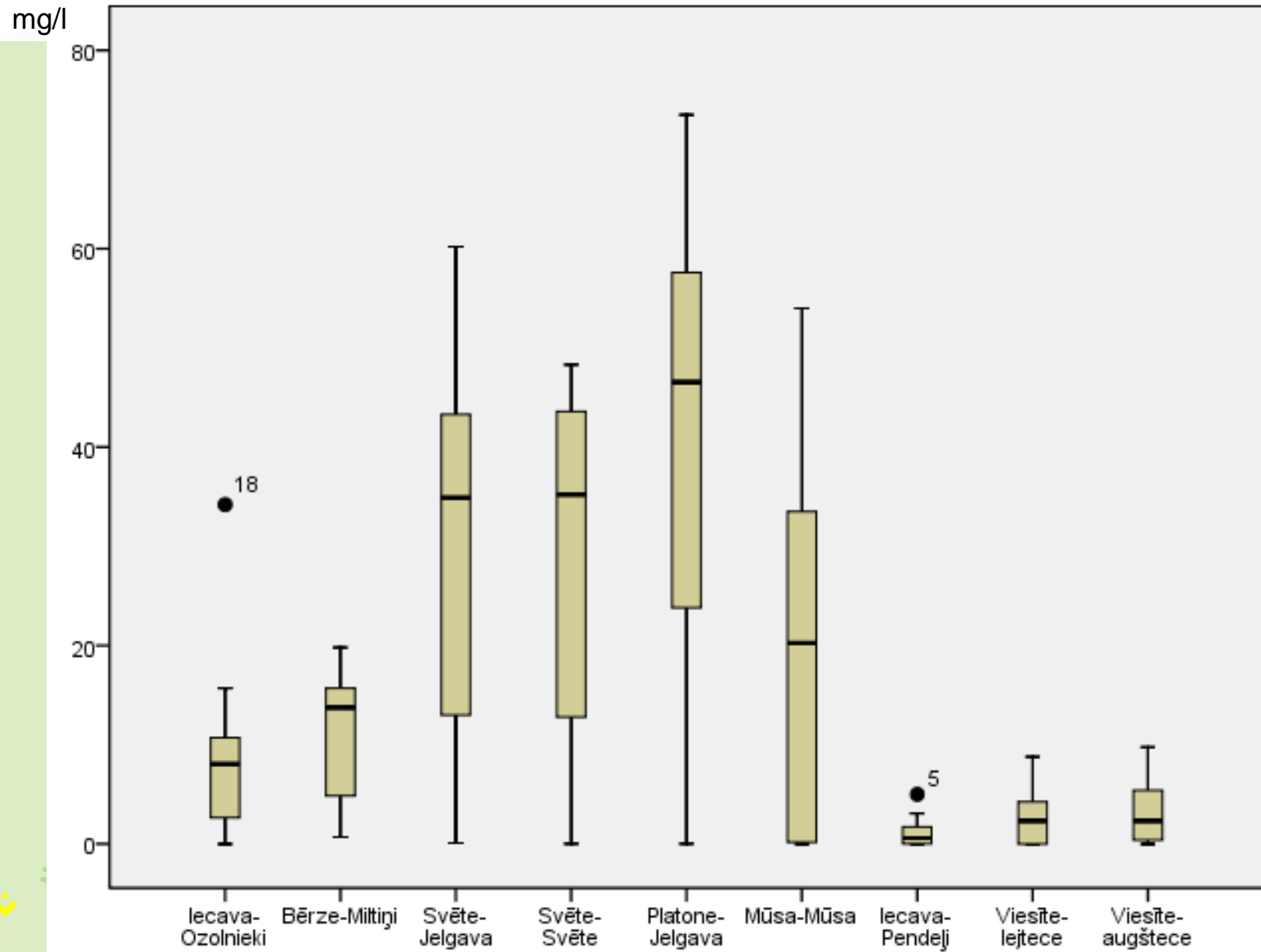
Ammonium (NH₄⁺)



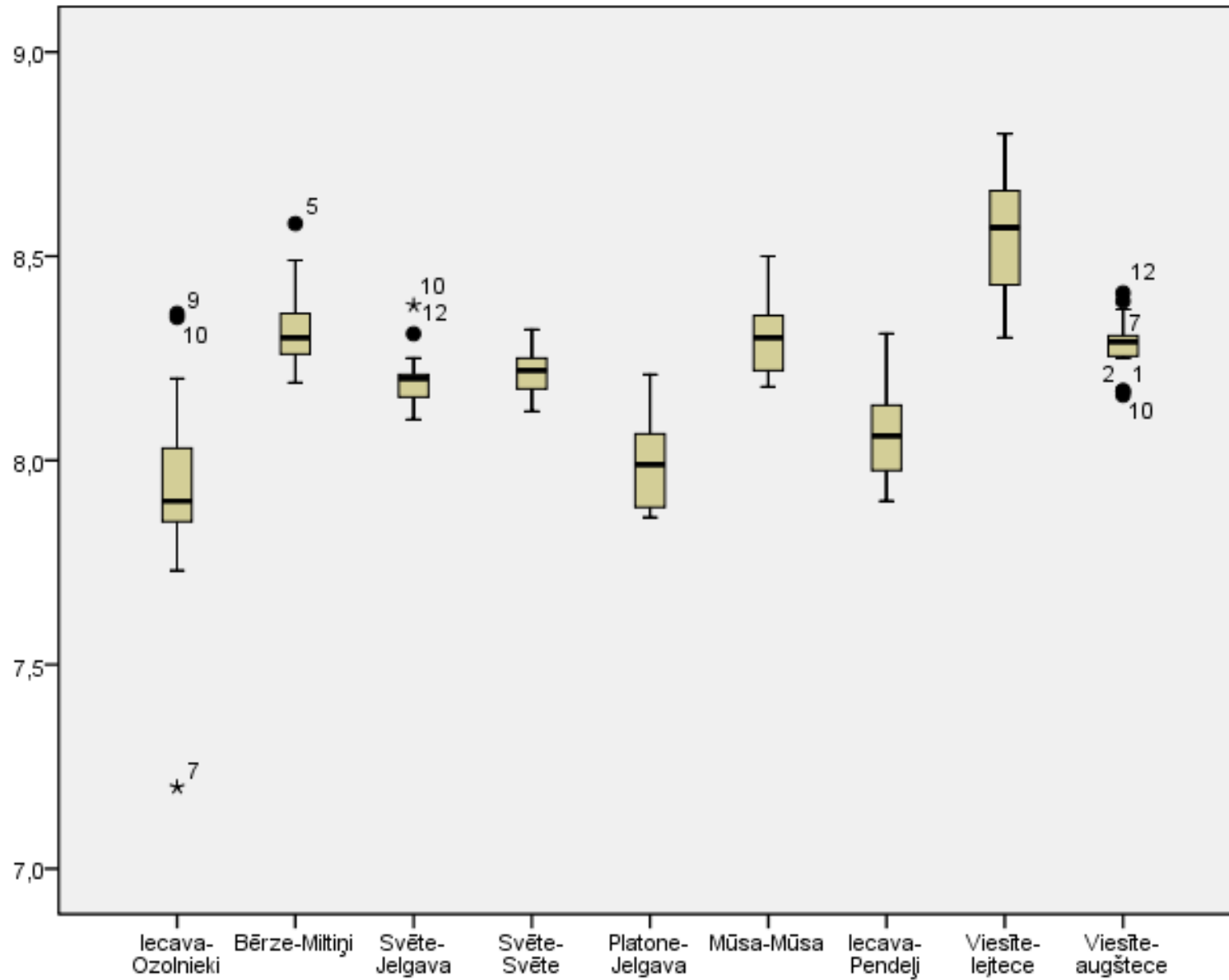
Nitrites (NO₂⁻)



Nitrates (NO_3^-)



pH



Conclusions

- High intensity of agriculture, (Musa -68% of the area in LT,52% in LV),
- Number of towns with industries on Lithuanian side- Siauliai, Pasvalis, Birzai, Rokiskis, Joniskis,
- 25,9% of available groundwater resources are abstracted,
- Transboundary pollution forms 60% N and 52% P load to the Gulf of Riga



Conclusions/Solutions

- More active introduction of best practices for agriculture,
- Installation and management of Protected belts along the rivers,
- Increase of transboundary municipal cooperation (roads, events),
- Awareness raising, education, involvement of local stakeholders,
- Support for local NGOs

