

Setting the scene, define the problem

- Driving damages
- Sediment transport
- Attitude
- Economy
- Supplying the industry just in time



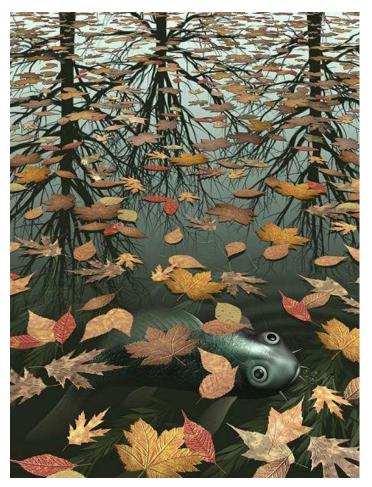


Environmental challenges associated with forestry

- Erosion, sedimentation
- Nutrient export (eutrophication & acidification)
- Carbon balances
- Biodiversity loss
- Mercury



Riparian forest



Painting: M.C. Eischer

- Create a link between upland soils and water courses.
- Important for biodiversity both on land and in water.
- Greenhouse gas balance.
- Nutrient retention both nitrogen and phosphorous.

Gundersen P, Laurén A, Finér L, Ring E, Koivusalo H, Saetersdal M, Weslien J, Sigurdsson B, Högbom L, Hansen K (2010) Ecosystems services provided by forest by the water in the Nordic countries. AMBIO, 39:555-566.

Riparian forests

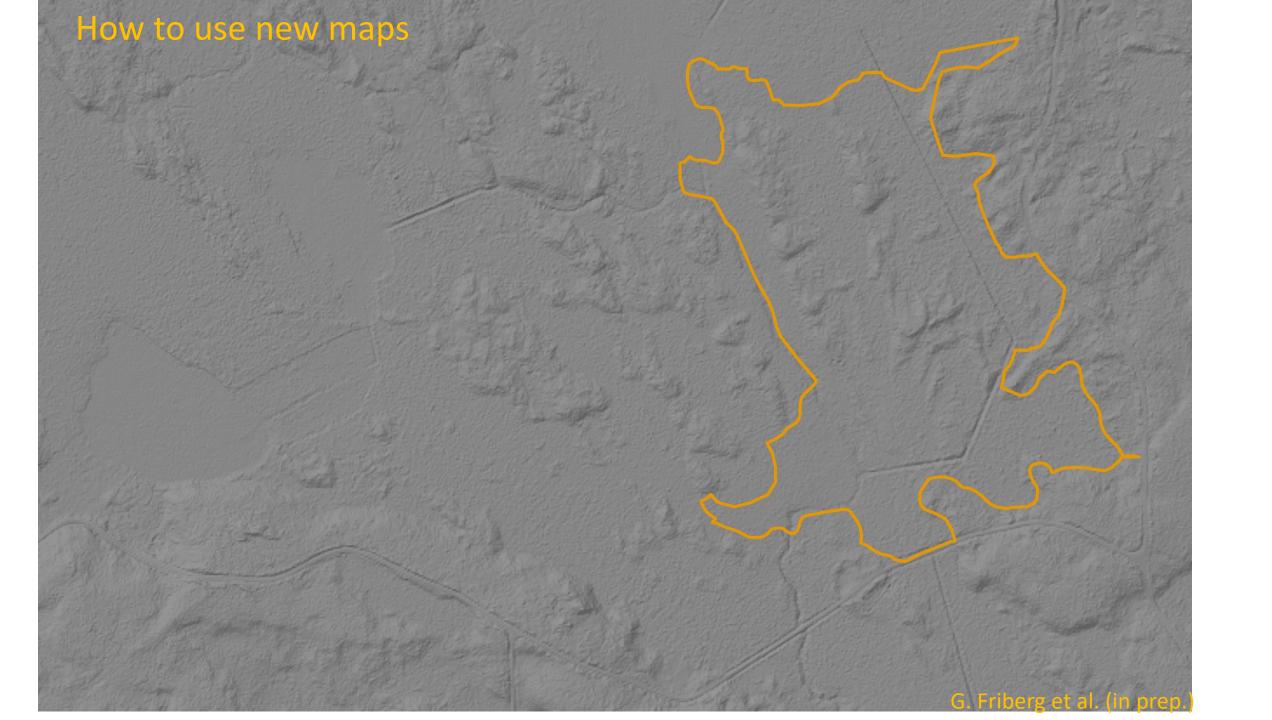


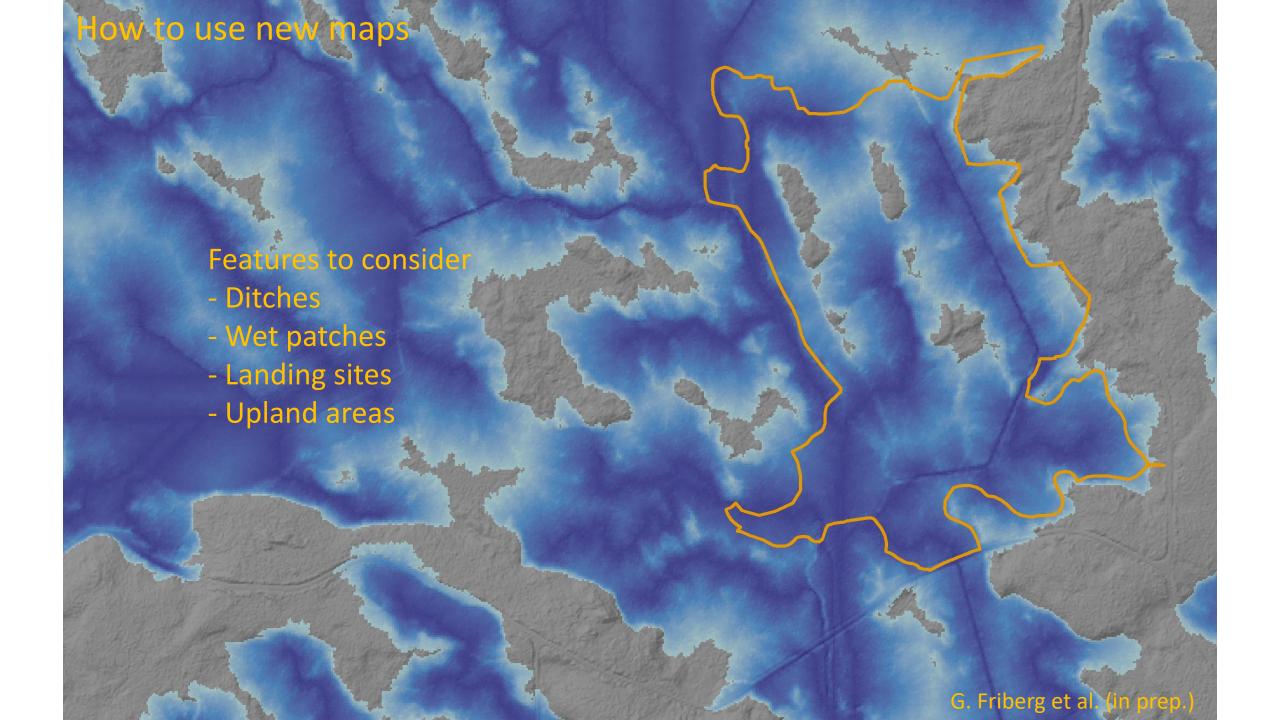
Photo: Lars Högbom

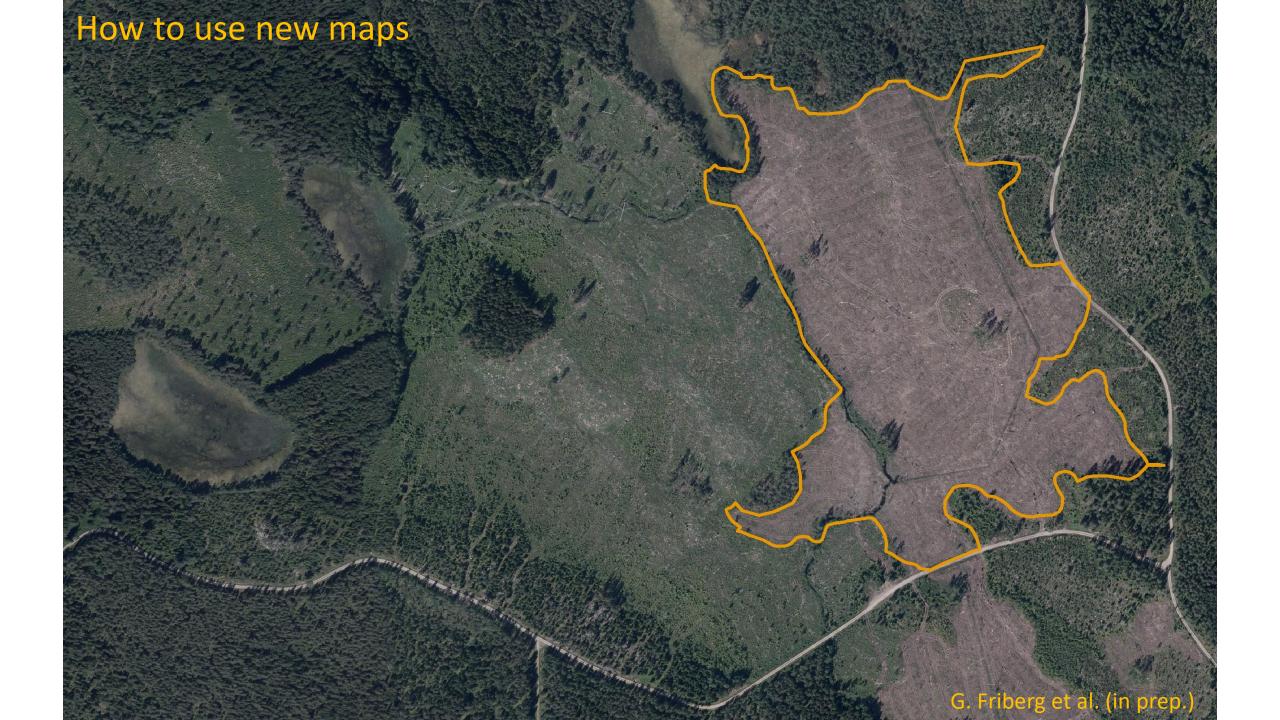
Important for

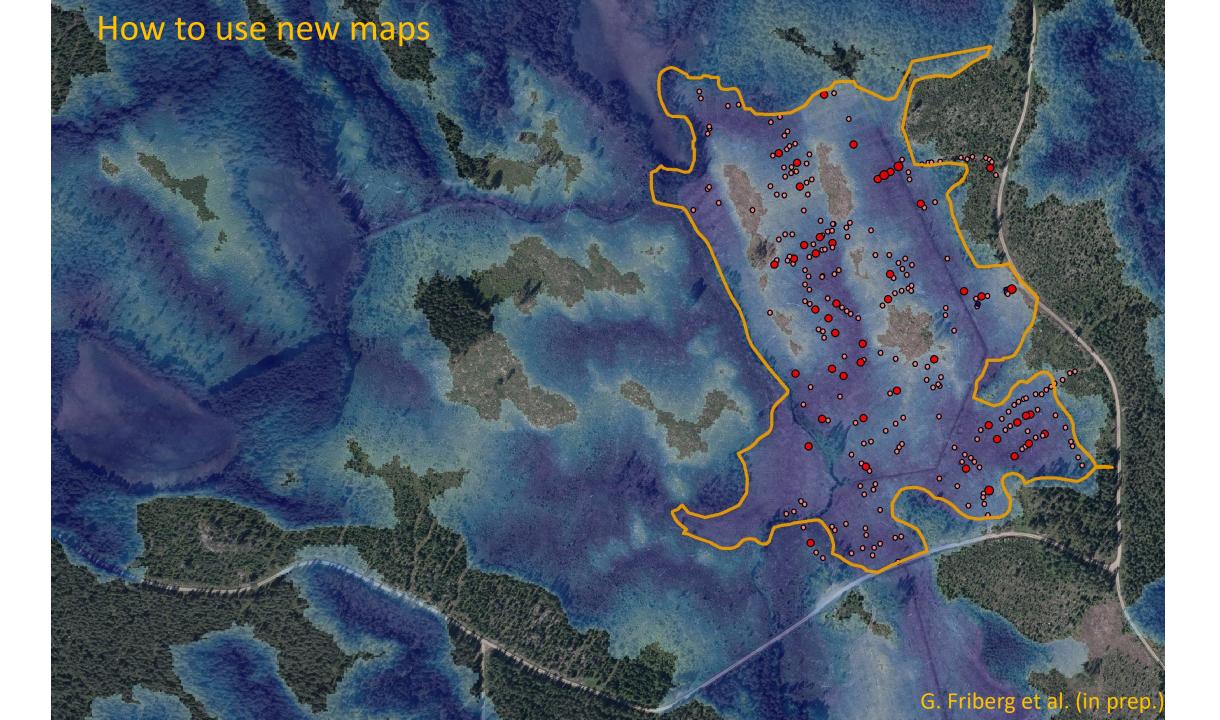
- Litter input
- Micro climate, shade
- Water chemistry
- Biodiversity
- Coarse woody debris
- Stream bank stability
- Flow velocity











Changing attitudes



Previously we have delivered about 120 one day courses to operational forestry (machine operators, entrepreneurs and planners), a mix of basic ecology, hydrology and handson examples and, most importantly, discussions. Now we have money for 100 more days.



Film project – based on the courses and current scientific finding we are at the moment producing a film on logging operations and awareness of soil and water.

Swedish version in 2016

English version 2017

Reality check

Ongoing activities

- 'Traceless the movie' (FORMAS + Interreg)
- WAMBAF (Intereg) forestry and water within the Baltic Sea Region.
- 'Traceless the courses' (Rural Development Founds) ~100 1-day courses on water protection for machine operators, contractors, forest planners, forest owners, and decision makers at all levels.
- 'EFFORTE' (BBI/PPP) making an International version of the education material
- Car-ES (Nordic Research Council) a Nordic/Baltic network on environmental services including water issues
- **PESFOR-W** (COST action) payment for environmental services
- **SusFor** (Vinnova) an advocacy platform aiming to increase the awareness of forests, forestry in H2020 and beyond.
- IUFRO div 3.05 Forest Operation Ecosystem

