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Preventing the brownification of water

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Pilot summary

Problem:

Brownification of lake water is a major problem for drinking water supply, biodiversity and tourism

Reason for brownification:

- Unfavourable forest management (tree species) → increase in dissolved organic matter (DOM) flux to surface water
- Drainage systems (e.g. ditches in forests) → direct, fast, inflow of DOM into the lake
- Extreme weather events → further increase of inflow
- Leakage of DOM from peat bogs

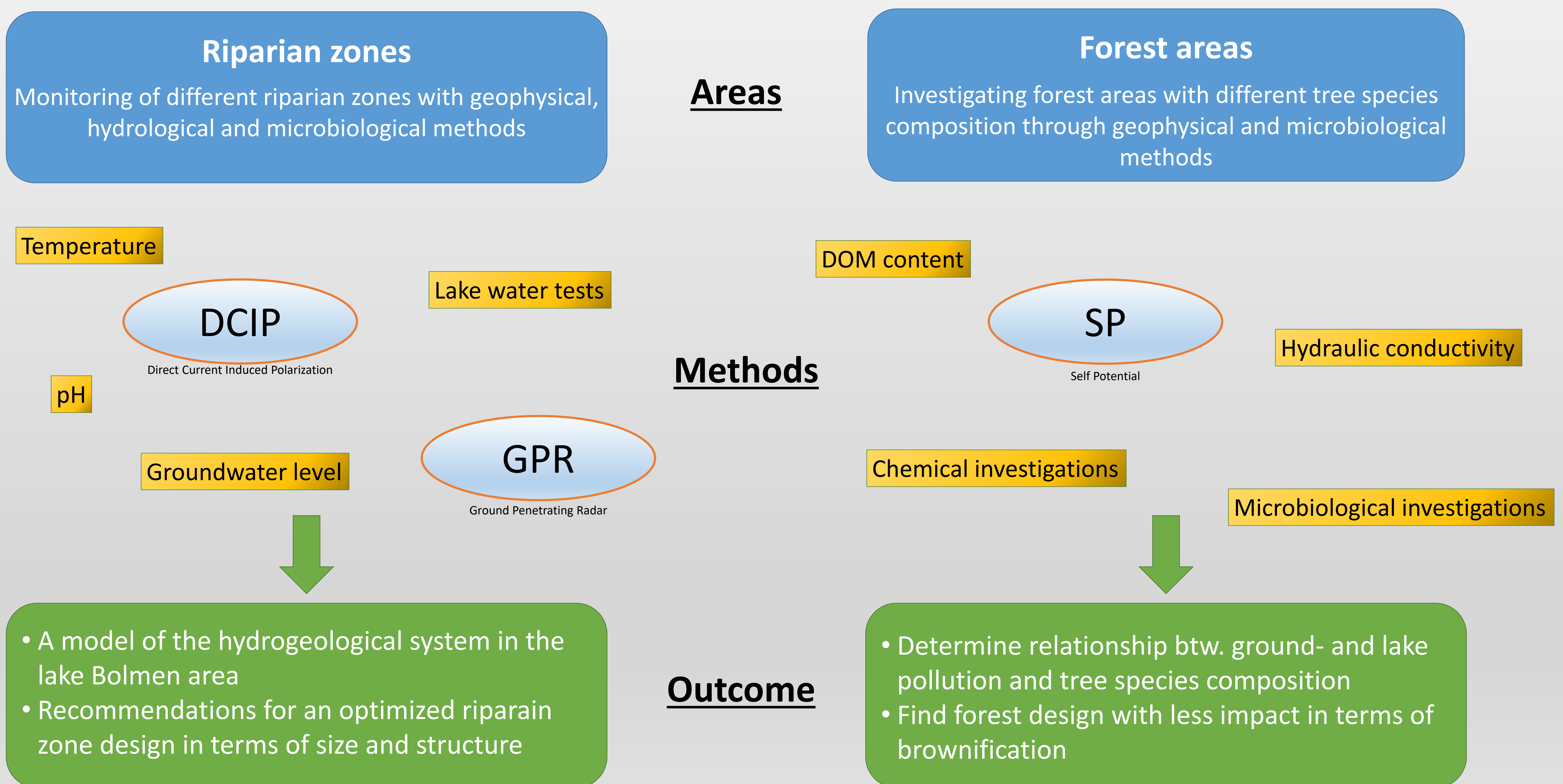
Challenges/possible solutions:

- Creating more and larger riparian zones
- Avoid any direct drainage into the lake
- Better forest water management
- Knowledge of the complex hydrogeological system (here, of lake Bolmen)



Activities

- Investigations of ditched drainage leading directly to the lake vs. natural/re-established riparian zones of different size and structure
- Investigation of the effect of different tree species in the forest to the organic matter release (including seasonal changes)
- Combining both approaches to build a conceptual model



Governance



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