Significant impact on water - agriculture

- A joint project between the Swedish Agency for Marine Water Management and the Swedish Board of Agriculture

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Questions

- Is it possible to achieve a good water environment according to WFD and still have a competitive Swedish agriculture?
- Could a national strategy assist in placing measures on a local level?
- Would a division of the agriculture into different geographical groups be helpful in order to designate measures?
- Is working thematically (eg per sector, per environmental issue etc) the way forward, or is it more effective to work including all aspects at once?

Strategy for prioritization of water measures in agricultural areas

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- Improve knowledge on agriculture as a hydromorphological pressure – similar project on hydropower national strategy
- Support when making decisions regarding water measures in agricultural areas
- Improve knowledge on how measures best should be placed for minimum impact on agricultural production
- Guidance on where it could be possible to use exceptions and appoint heavily modified water
- Improve cooperation between responsible authorities

Method

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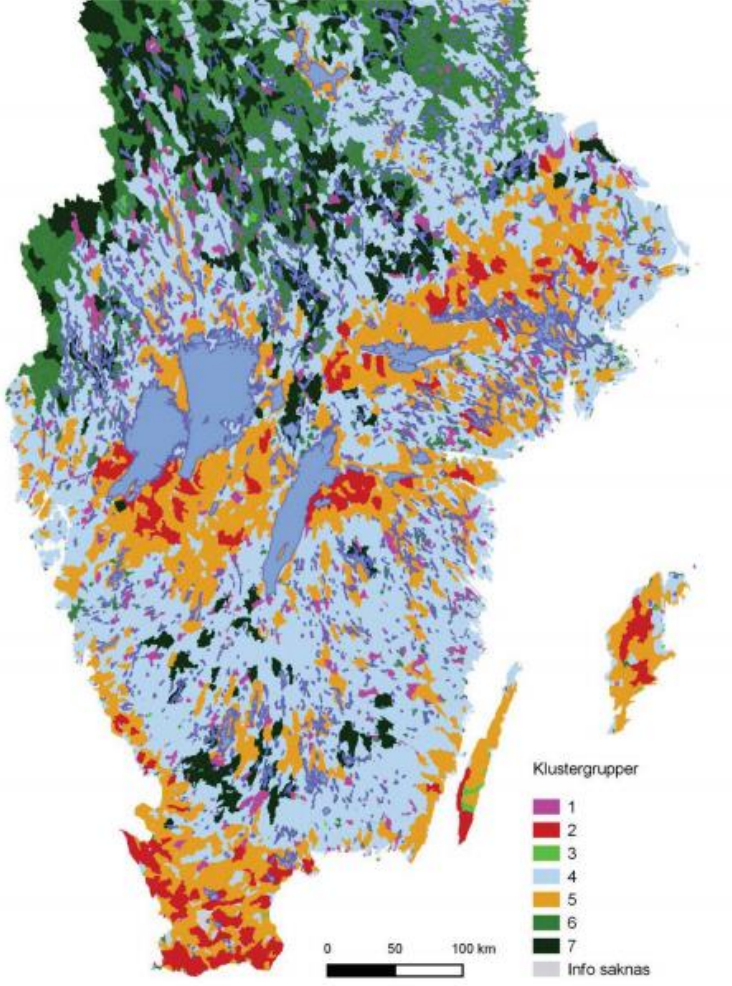
- Define scale to analyze relationship between agricultural and environmental values – 51 000 subcatchments where characterized
- Standardize a set of indicators and parameters to describe the agriculture
- Compare agricultural values against data for pressures, state and environmental values
- Use both *Hierarchical cluster analysis* and *K-means cluster analysis* to compare parameters and group subcatchments into seven groups based on its characteristics.
- Main focus on hydromorphological pressures. Links to eutrophication and environmental measures were briefly analysed

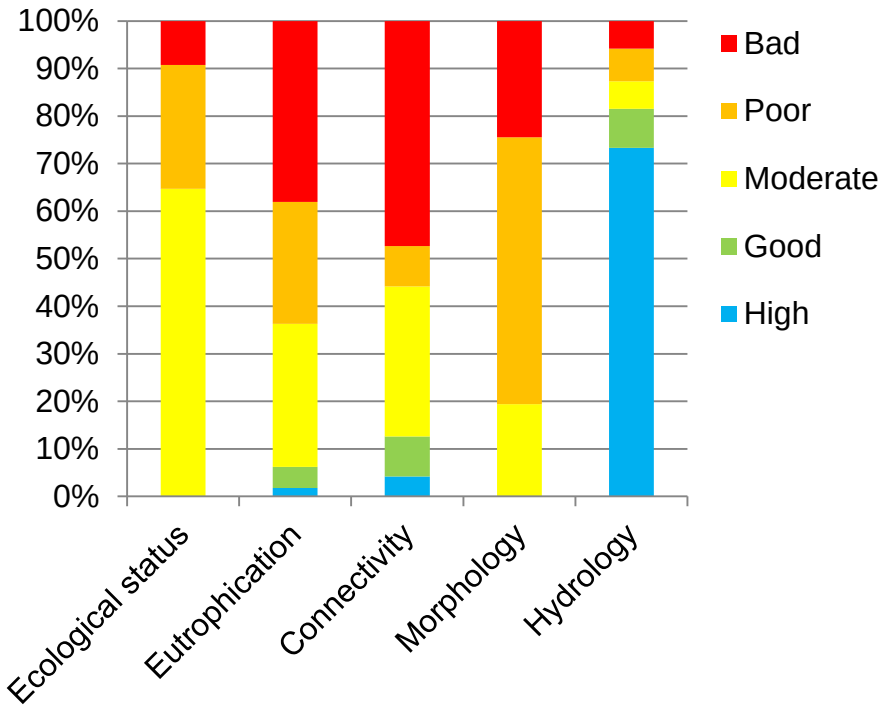
Results

- Maps of cluster groups
- General relationship between agriculture and hymo pressures
- Relationship between agriculture and subcatchment characteristics (i.e soils, topography, climate e.t.c)
- Difficulties: finding data on national scale, production data on field scale, economical data



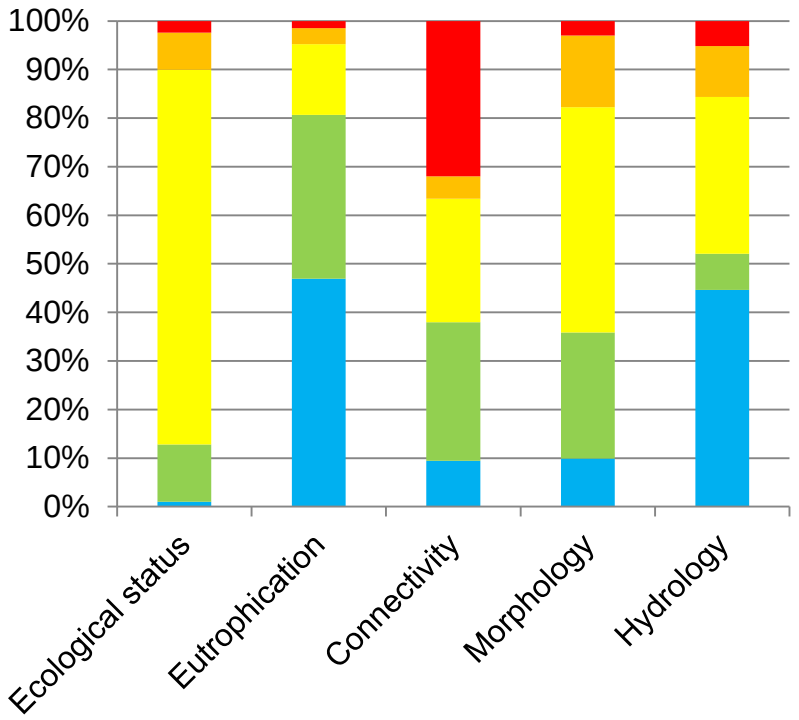
Intensive agriculture

Avg. 61 % crop land in subcatchment



Less intensive agriculture

Avg. 10 % crop land in subcatchment



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Future challenges and discussions

- Define significant impact – without production goal
- How designate measures with respect to all environmental pressures from agriculture
- How address the marine environment when using exemptions in agricultural areas

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