DEMOTEC – a Toolbox for Monitoring Cultural Heritage,
some results and recommendations

Based on several projects

Development of a Monitoring System for Cultural Heritage through European Cooperation

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General results
DEMOTEC inquiry 2003-2004

- Some, not all countries have national preservation goals.

- Monitoring is the responsibility of the state authorities, but in some countries decentralization to regional authorities often results in varying goals and non-compatible methods.

- 5 respondents reported to collaborate with other sectors for some monitoring goals (cultural, environmental and agricultural sectors).

- Few standards are implemented although the need is seen.

- Todays status: Focus on field work and individual monuments - less focus on landscapes.

- Cost and lack of competence the strongest limiting factors.

- Articulated need for comprehensive (multiscale) programs, improvement of methods and analysis.

- Landscape monitoring the new ”Dream focus”.

Proposed definition:

- Environmental Monitoring is a program with the scope to assess the state of cultural heritage and cultural environments *through regular and systematic inspection.* Monitoring is a basic element in establishing a preservation strategy for the most important cultural heritage values.

- Common for all monitoring programs is the documentation of changes by *comparing the state of cultural heritage before and now.*

- Monitoring should <u>underpin the positive effects</u> of a management strategy. While also <u>uncovering undesired development</u>, erosion, decomposition and hazards for cultural heritage. An important aspect of monitoring is the potential *to identify problems before they are too widespread –i.e. early warning systems*.

Monitoring -A matter of relevance to international CH organisations?

How do we know the effects of national goals and international charters for Cultural Heritage (a need for some common indicators)?

Do we need to establish a forum to raise debate and attention to the issue of CH monitoring/ preservation goals in advisory and decission-making authorities (cf. Nature conservation goals – Biodiversity Convention)?

AND is there a need to establish a supporting working group to exchange views, measures and methods?

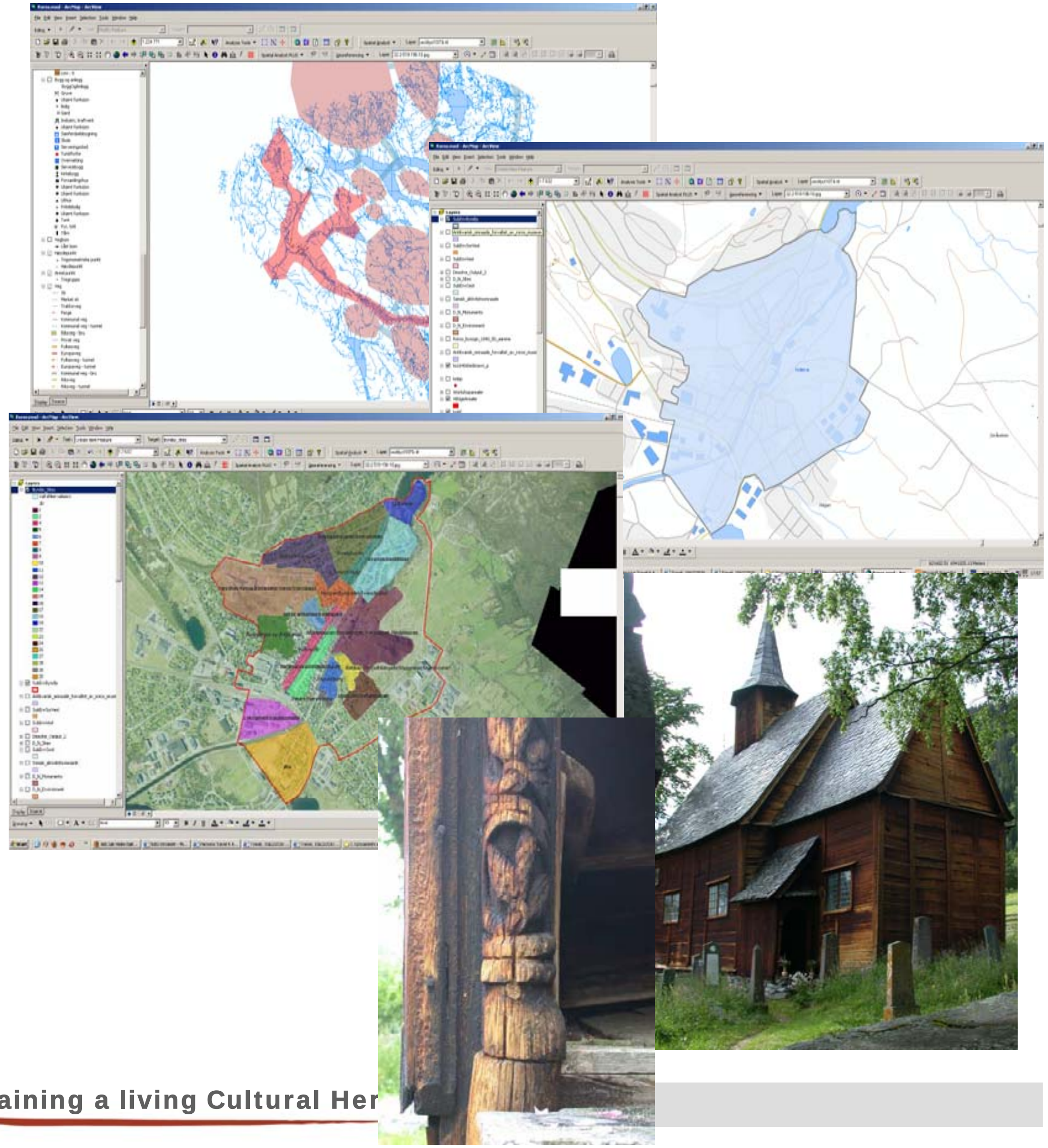
Landscape, environmental and social development trends influencing CH preservation

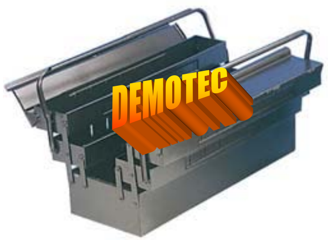
The dominant landscape trends are the same all over Europe:

<u>Urbanisation</u>, <u>infra-structure development</u>, <u>change in land-use</u>, <u>climatic change</u>, <u>pollution, nature disasters,</u> <u>extended use of cultural heritage objects towards tourism purposes</u>, and several other major spatial trends represent a serious challenge to cultural heritage management in Europe.

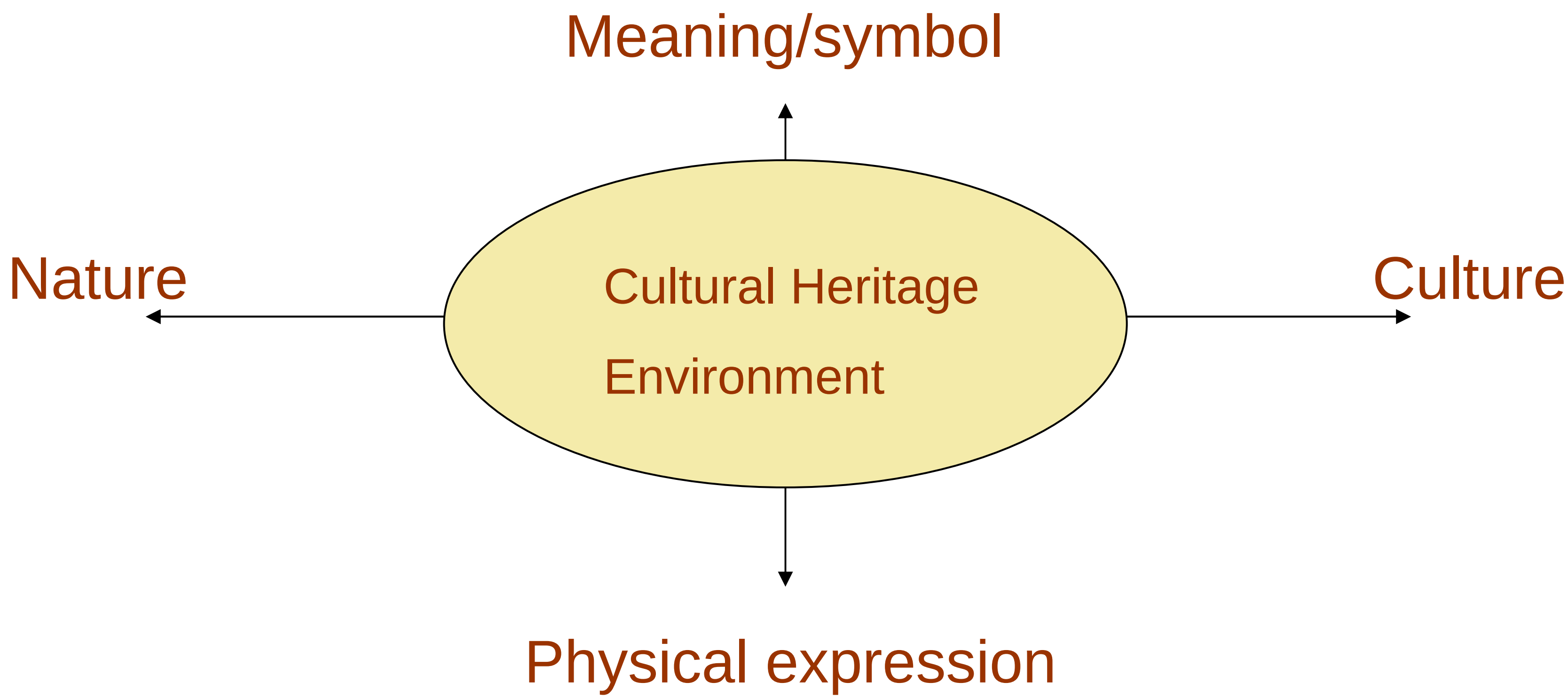
A flexible hierarchical system

- Landscape
  - -cultural environments
  - -localities
- Monuments/ ind. sites
- Material structure

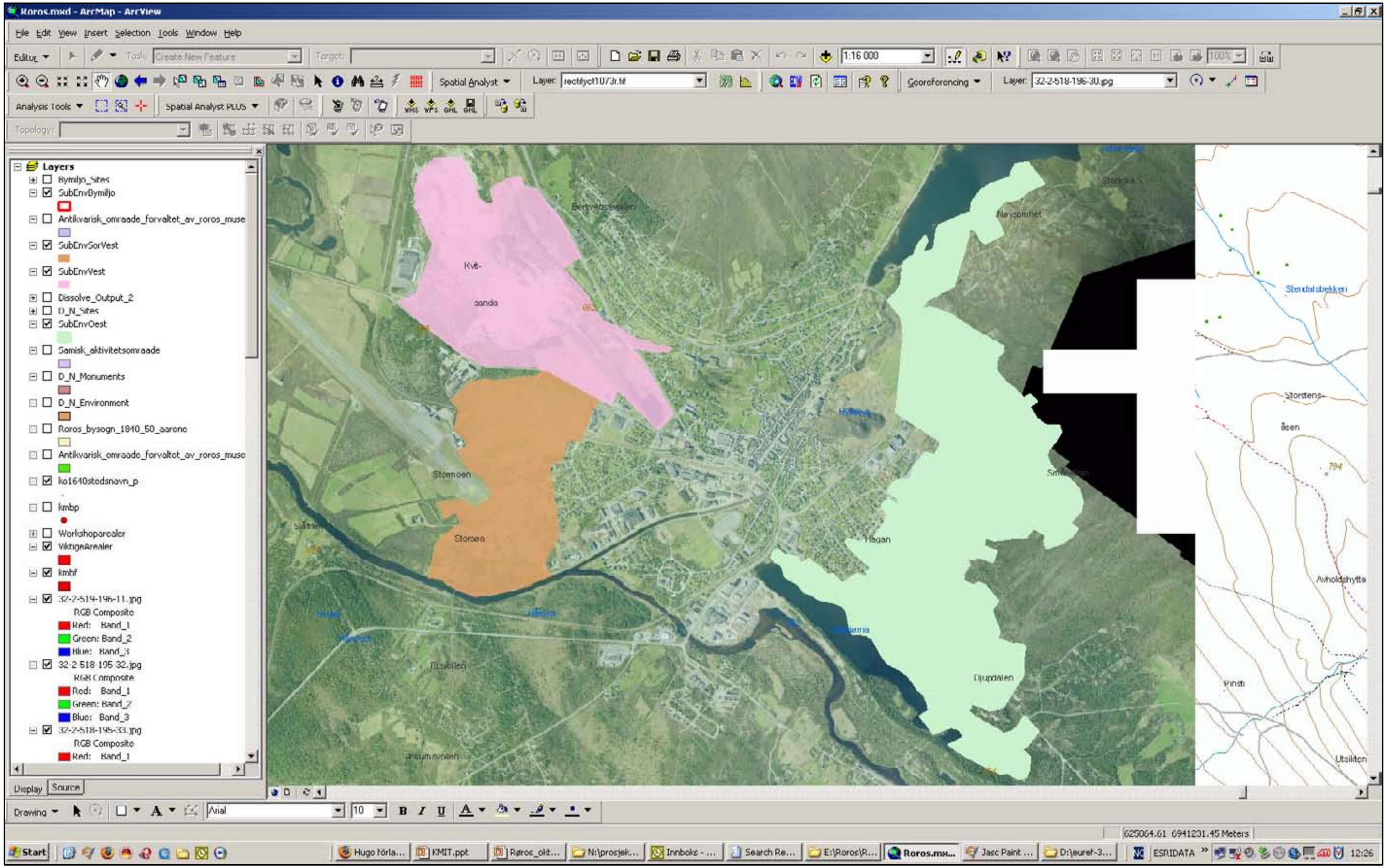


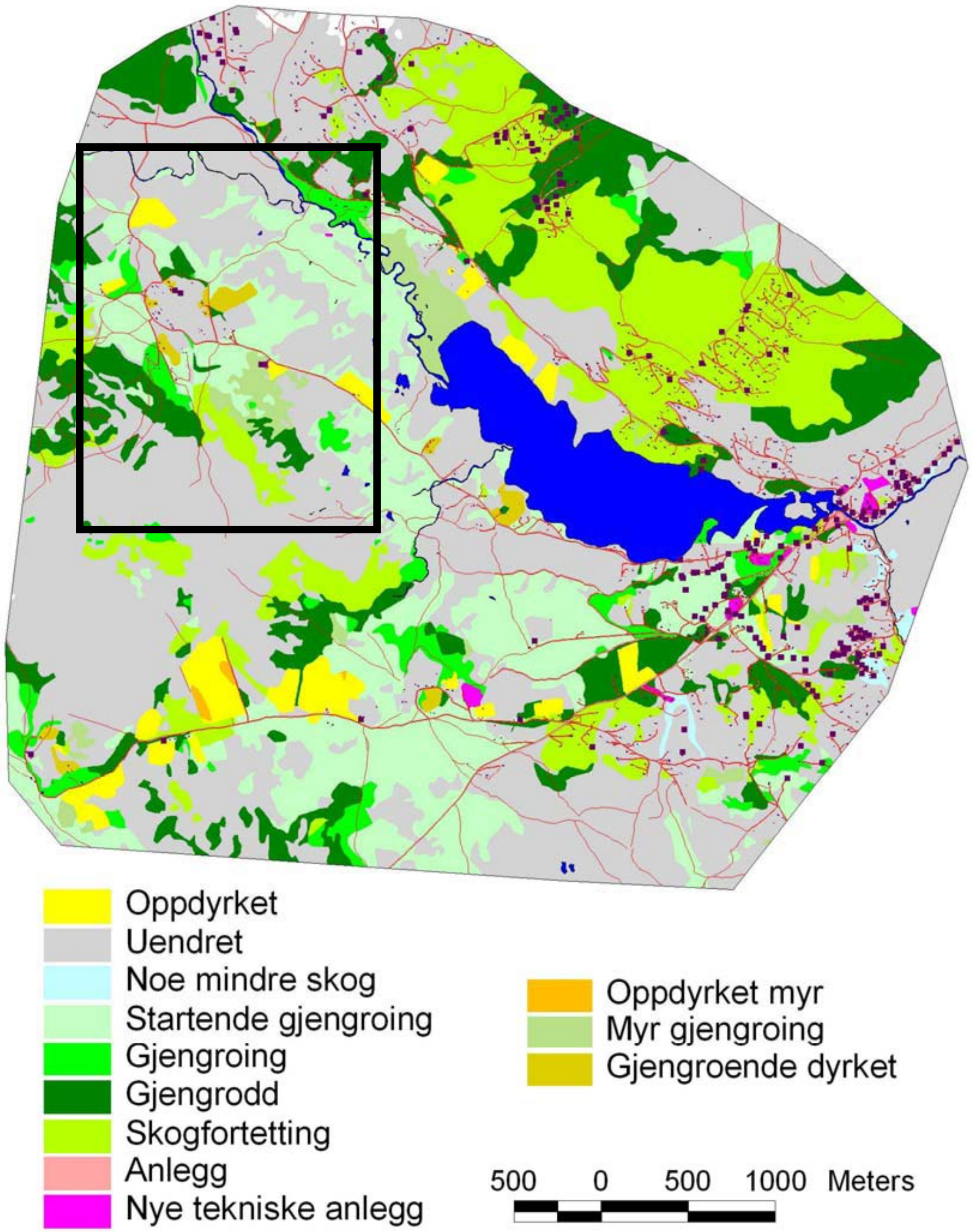


A cultural heritage environments perspective



Cultural environments in the vicinity of Røros WHS



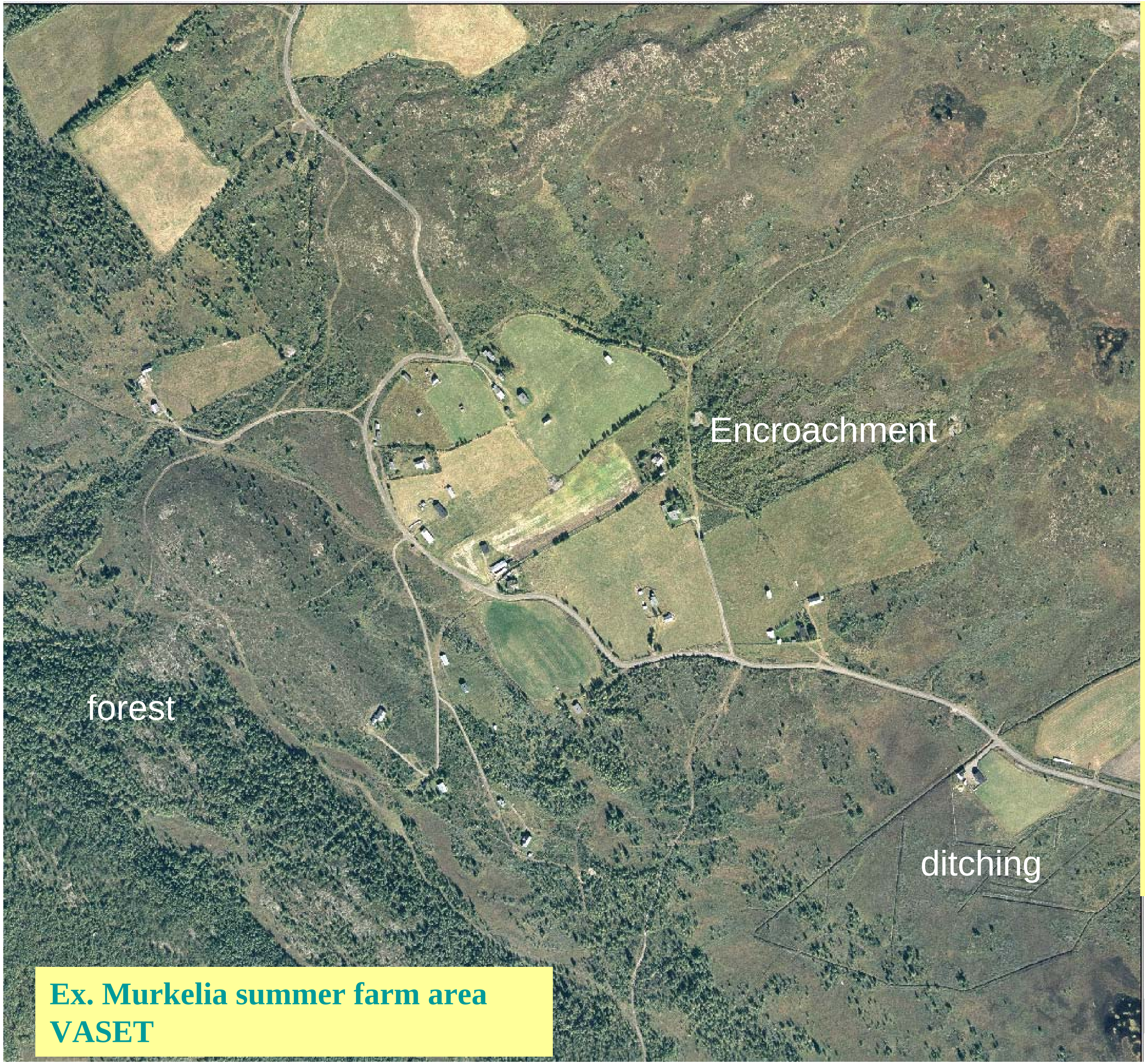


Endring i arealbruk for kulturmiljø Vaset

Datagrunnlag DMK – polygoner

Manuell tolking av flyfoto 1965 og Orthofoto 2000

Detaljanalyse innenfor rammen



Ex. Murkelia summer farm area VASET

CHE scale: Change in landscape structure, landuse and -cover

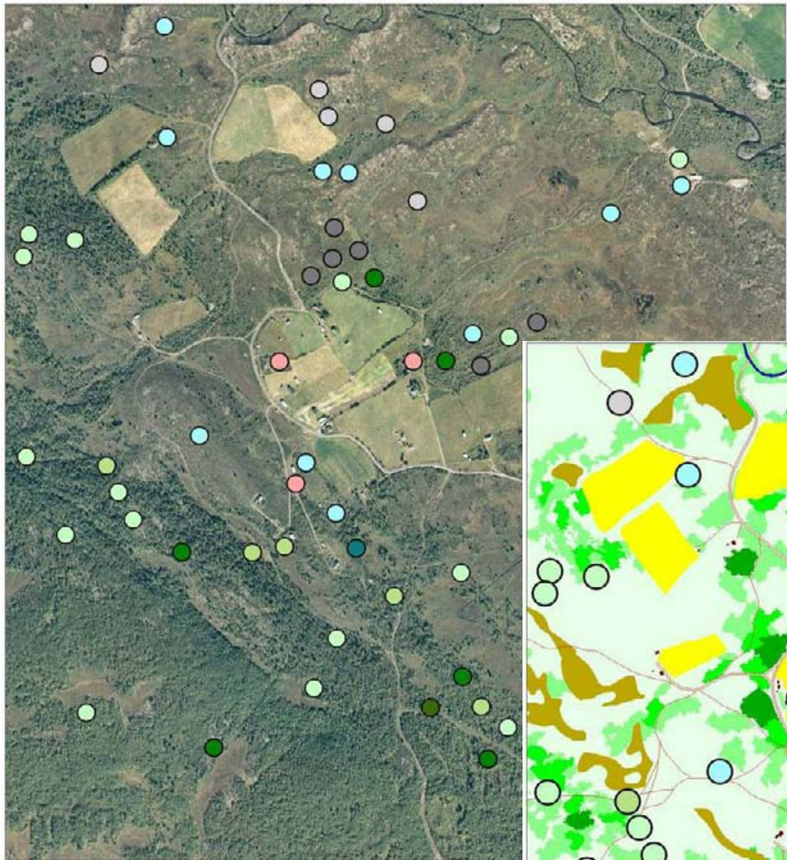
Data:

Rectified aerial photos 1965
Orthofoto 2000
Soil type maps
Chosen viewpoints (photos)
Synthesized preservation status for cultural heritage based on Norwegian Standards for buildings and prehistoric monuments.
Interviews

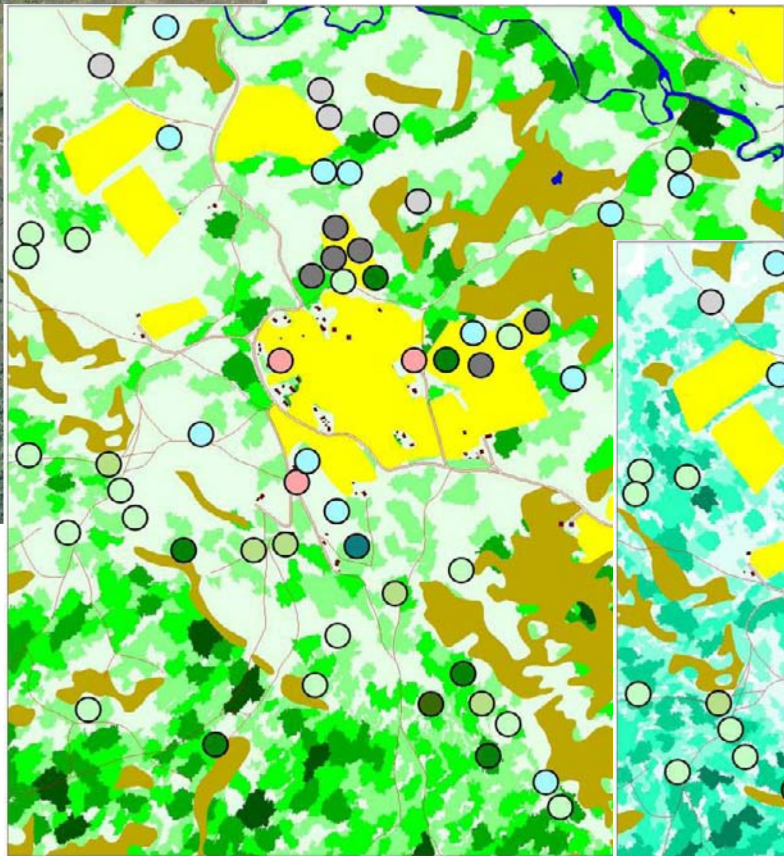
What is being measured?

e.g.Vegetation index
Cadastre structure
Land-use change
Road structure ,density of housing development
Preservation change for cultural heritage.

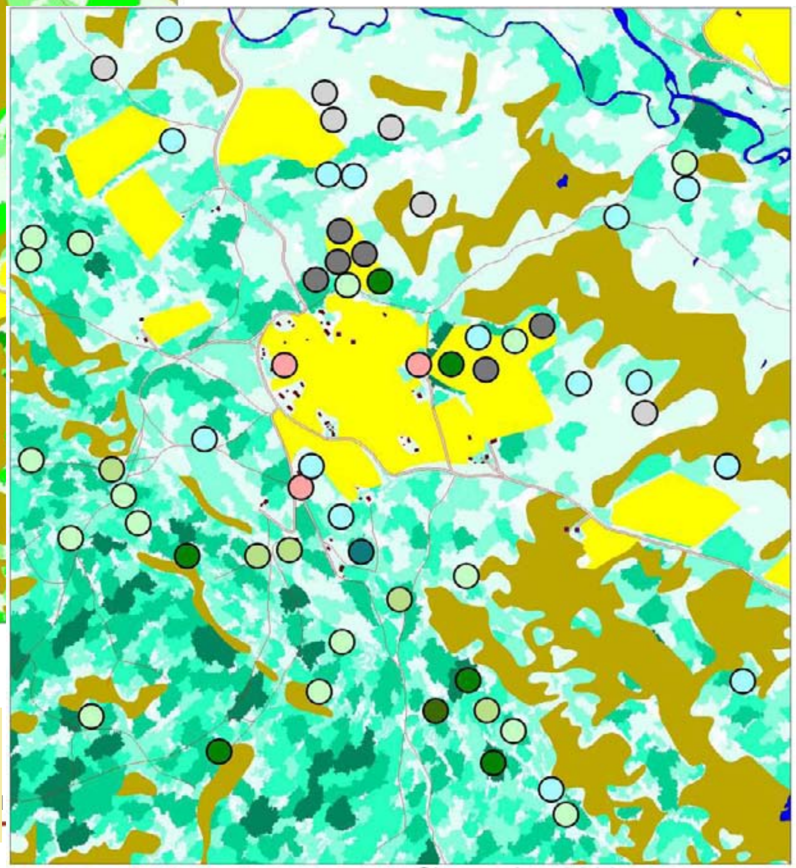
Forest density in the area around Myrkelia measured automatically based on orthophotos, shadow and texture (DEFINIENS professional/Arc View Analyst) and quality control of automatically derived analysis by TOV methodology.



1965

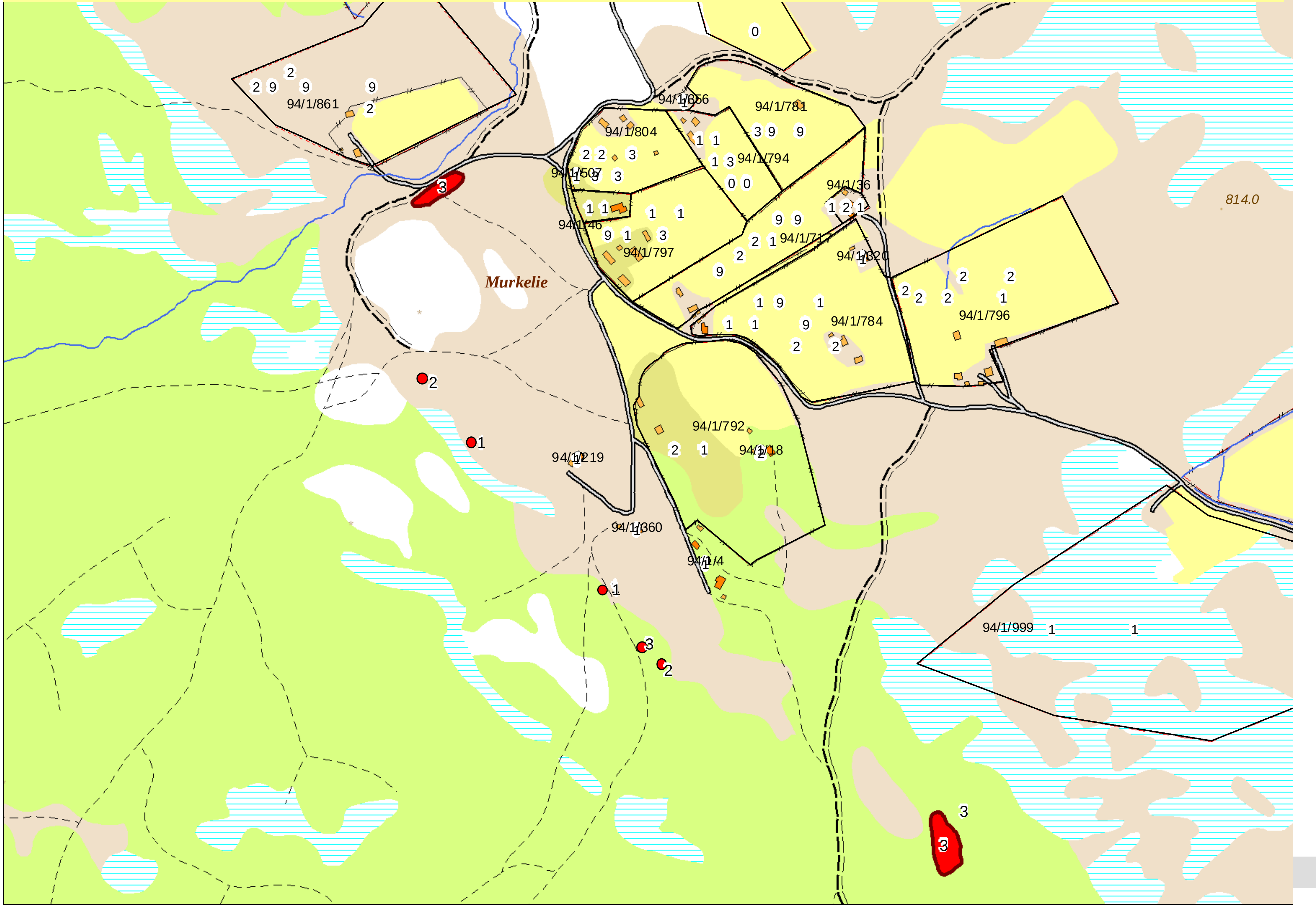


2000



Kvalitetssikring av automatisert analyse med TOV analyse metodikk.

Change analysis of cultural heritage at Murkelia



Summing up - recommendations

- We do need to get together to put monitoring of CH on the political agenda, we also need to discuss which issues of monitoring can be more readily solved in collaboration than by working individually.

Suggestions from DEMOTEC:

- Participatory approaches help create awareness and ownership, get input to values that need to be prioritised and the relevant drivers to follow.
- A tool-box type of thinking allows for adaptation and technological change.
- Stratified monitoring and use of easily accessible datasets.
- Introduce landscape or CHE scale to create overview, get ahead of the development situation, create early warning system that are indicator-based .
- A spatial approach to CH monitoring also creates a platform for collaboration between sectors, which will be important in order to establish systems for a wider environmental sustainability goal.