



# WG4 New methods and technology summary

eDNA

Satellite  
observations

Drones  
and other  
UV

Interfaces

# eDNA – rapid progress in all countries – we need standards!

## Finland

Implementation and standardization of molecular monitoring methods

Strong international co-operation

## Sweden

Possible to use DNA methods for ecological status assessments, but work remains:

- techniques for routine use
- improvement of reference libraries
- development of indices
- ecological thresholds
- reference conditions

## Norway

Classification is most relevant

Most promising is invertebrates

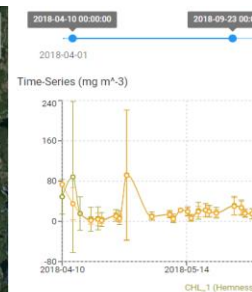
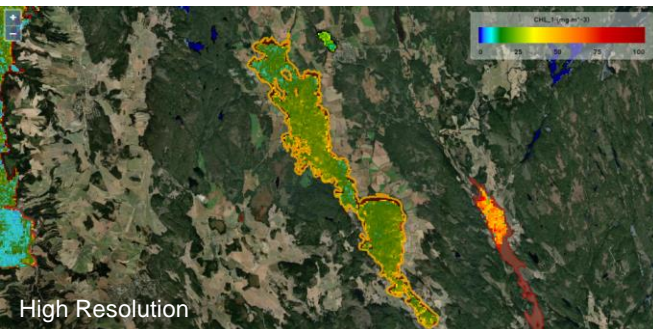


# Satellite observations =Earth Observations(EO)

## Norway

ØKOSAT-project

preparation for taking  
EO in use for WFD  
for the next  
(5th)cycle



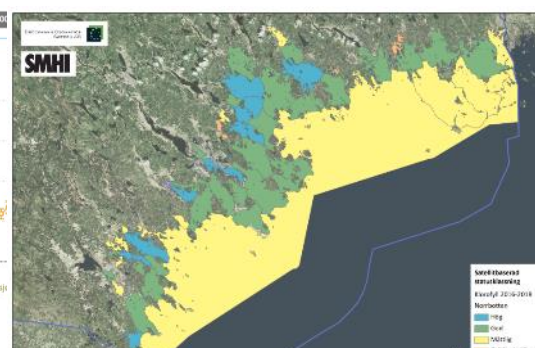
## Sweden

Surveillance monitoring –  
National effort

EO based information  
generated for Cycle 2 – 4

Operational monitoring –  
Regional / Local effort

Coast & Lakes – Sentinel-3  
and -2 based services since  
2020

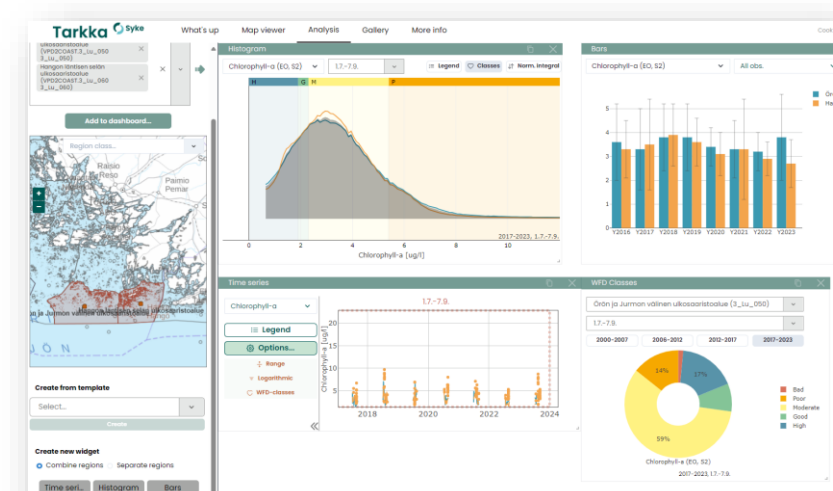


## Finland

3rd round for providing  
EO for WFD

Open EO interface  
Tarkka.syke.fi

Linked with water  
management system



# Drones and UV: Very promising results

## Iceland

Case study about the feasibility of underwater drones for monitoring in deep oligotrophic lakes

Next: Can we use it for other macrophytes



## Norway

### Drones and satellite observations

*Drones can be used for coastal habitat mapping (including e.g. macrophytes, sediments), increasing the spatial coverage and knowledge. Large potential for many applications*

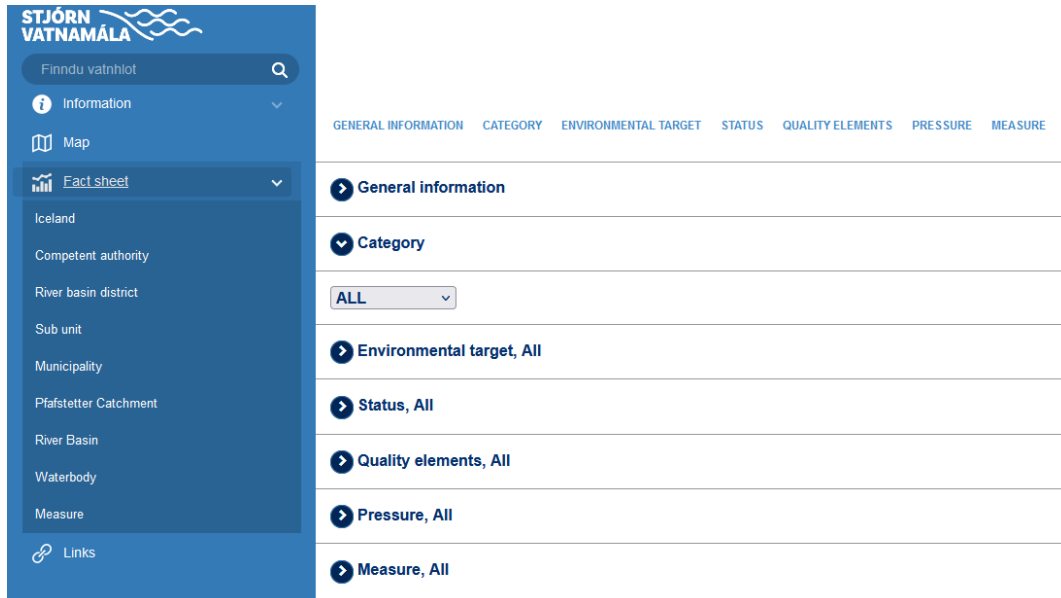


# Interfaces

1. Interfaces need to be simple and easy to use
2. They need to be able to compare with history (all cycles)
3. All data we are reporting should be accessible via APIs

## Iceland

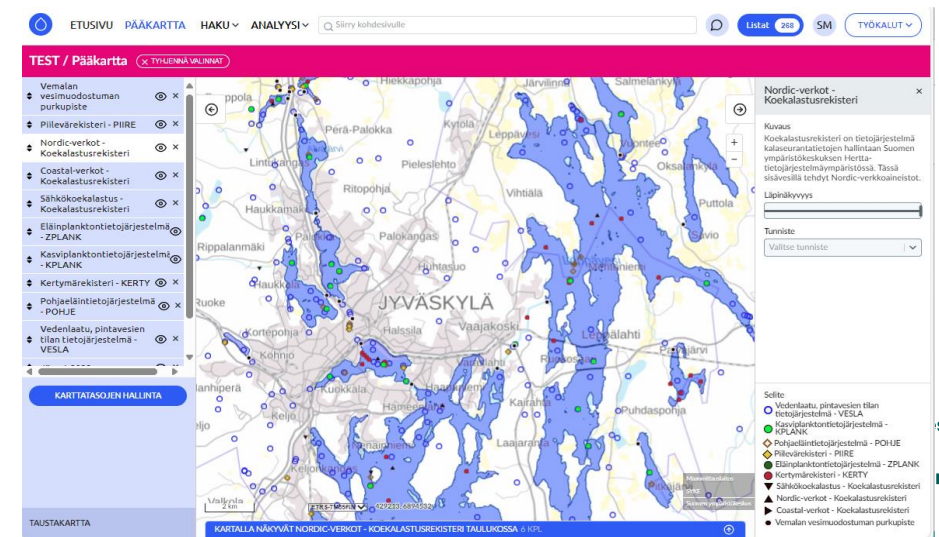
The Icelandic Water Portal



## Finland: Pisara, Drop

information system for marine and water management

Use of PowerPI



skus  
nstitute



# Survey on the use of EO for WFD: Finland, Estonia & JRC

In the future, what are the current WFD monitoring gaps that could be filled by using EO more?

- Chl-a
- Turbidity
- Surface temperature
- Mapping of hydromorphological modifications

What are the major obstacles for taking EO as one monitoring method to account in WFD?



**No1:** We don't have **common guidelines** on how to utilize EO  
**Major obstacle score: 48%**



**No2: Legal issues in WFD**  
(e.g. it is against current monitoring guidelines).  
**Major obstacle score: 44%**



**No3: Authorities are not well informed** about EO datasets and tools.  
**Major obstacle score: 38%**

What could be done to advance the use of EO in WFD status assessment ?

**No1:** Adjustment of national water management systems: **EO datasets integrated in national status assessment tool**

**No2:** Training courses

**No3:** User-friendly guidance  
**Score 63%**

**No4:** Collaboration and discussion among MS

# What could be done to advance the use of new methods, monitoring and technology in WFD status assessment ?

Collaboration and discussion among MS

# Overall conclusion

## What about 2027?

We as experts want to bring up the **need to update the monitoring guidelines** to utilise eDNA, satellite observations

**ECOSTAT working group work is needed** on this matter

Also **WG DIS** (Data information and sharing)

**Collaboration between countries**

## Maturity and readiness new monitoring, methods and technologies

- People working with new monitoring and standardisation are scientists
- We need to bring in the management to get things forward

End user perspective: Potential is endless!