

# Environmental monitoring

## Role of citizens increasing

The Finnish Environment Institute (SYKE) coordinates national monitoring of environmental pressures and the state of the environment. The Environmental Monitoring Strategy 2020 sets the guidelines for example monitoring water, biodiversity and air. We have over 100 000 lakes and ponds to be monitored.

An important direction is involving citizen and providing them with suitable tools. Also, to measure the exact state of each of these water bodies, much effort is put into the development of both satellite and model -based services. Both of them need validation and calibration data, which citizens can provide.

### Wiki – the web service of Finnish lakes and the Baltic Sea



The LakeWiki contains basic information on each Finnish lake over 1 ha in extent and tools for sharing ie. observations and pictures. The idea of LakeWiki is to become a virtual meeting point for people living around a specific lake, where local people can discuss the state of their lake and start restoration projects with the help of authorities. In LakeWiki citizens can maintain observation sites, upload pictures, announce events, discuss matters related to a specific lake or water protection in general.



### Wiki -mobile services

*AlgalWatch* – an smartphone app for sending and browsing observations on algal blooms.

- taking a photo
- assessing amount of algae
- sending your observation.



*A water quality sensor Secchi 3000* - a low cost water quality sensor based on image analysis

- for water turbidity measurements (TSM)
- for secchi depth measurements
- for water color measurements
- Chromophoric *dissolved* organic matter measurements (CDOM).



Secchi3000 and a mobile phone on the top of the device. Inside the container there is the measurement structure with plates consisting of white, grey and black target areas.

### Other Internet based services

#### *Porpoise watch*

The harbour porpoise is protected by law in Finland. Public observations were started in order to obtain more information on harbor porpoise distribution and abundance in the Baltic Sea.

#### *Jelly fish watch*

Jellyfish are not sampled in biological monitoring programs in Finland, thus public observations were started to be collected through an internet form.

#### *Alien species*

Invasive species are considered one of the major threats to the marine ecosystems and biodiversity worldwide. Currently, alien species are rarely detected in coastal surveys and the arrival of a new species may go unnoticed for years. Therefore, we invite the public to report observations of aquatic alien species and odd-looking fish in the coastal areas.

