



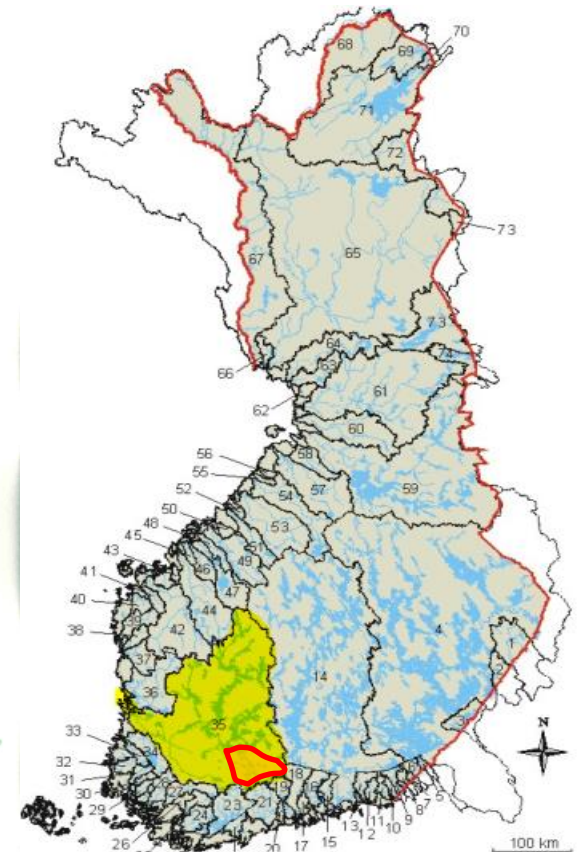
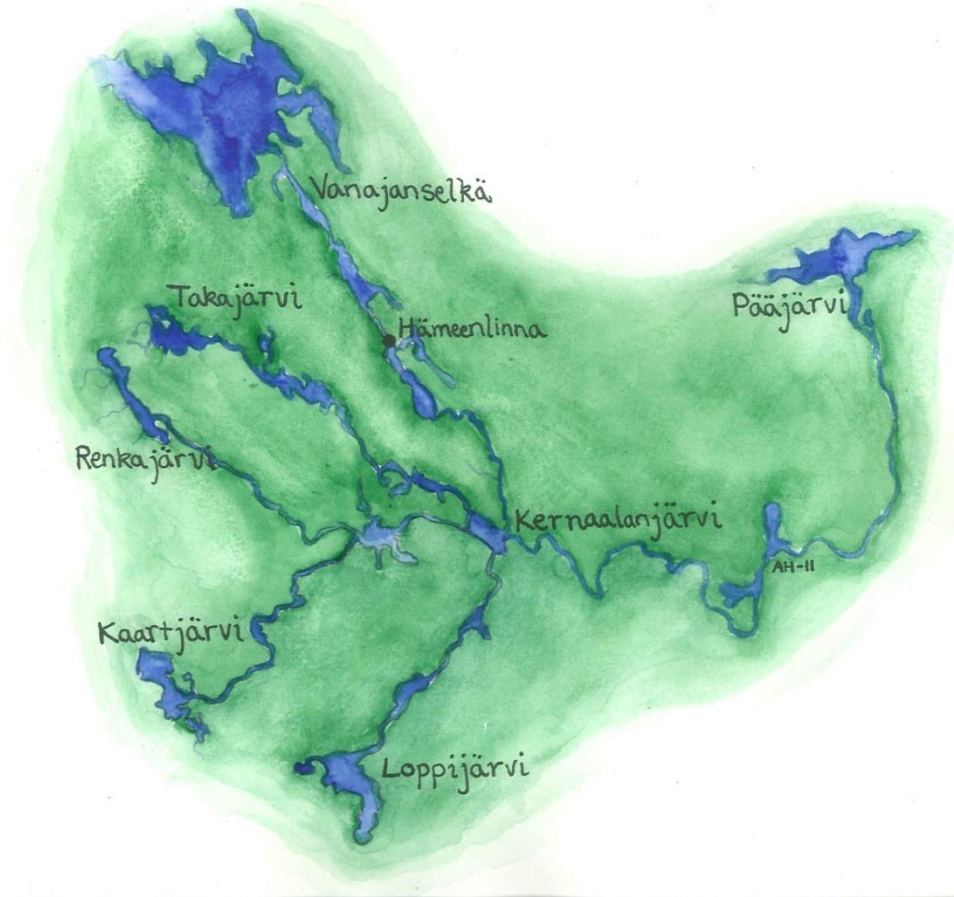
# Save the Inland Waters – Save the Sea

Secretary General Sanni Manninen Johansen  
Vanajavesi Centre, Vanajavesi Foundation

# Lake Vanajavesi: From bad to poor



# Vanajavesi: A Network of Lakes and Rivers



# Practical approach of Vanajavesi Centre



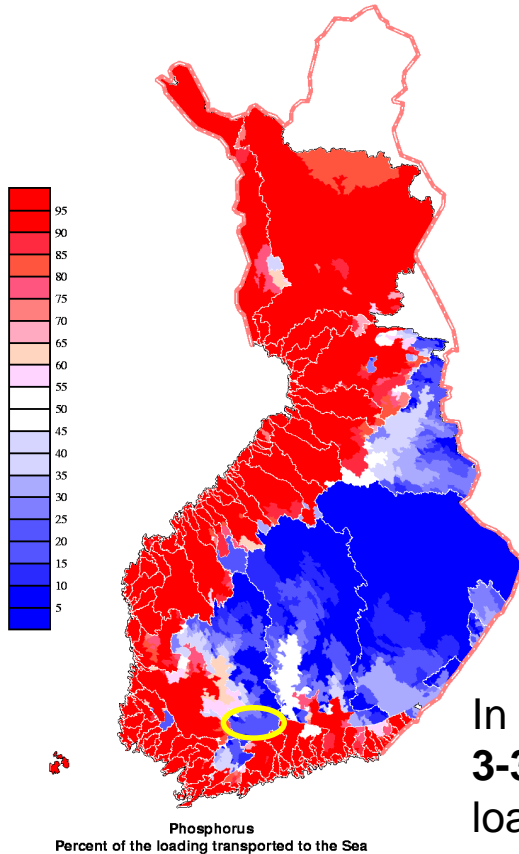
Eutrophication  
Hazardous substances  
Biodiversity  
Fish passes  
Invasive species  
Cultural & business aspects

# Communication activities



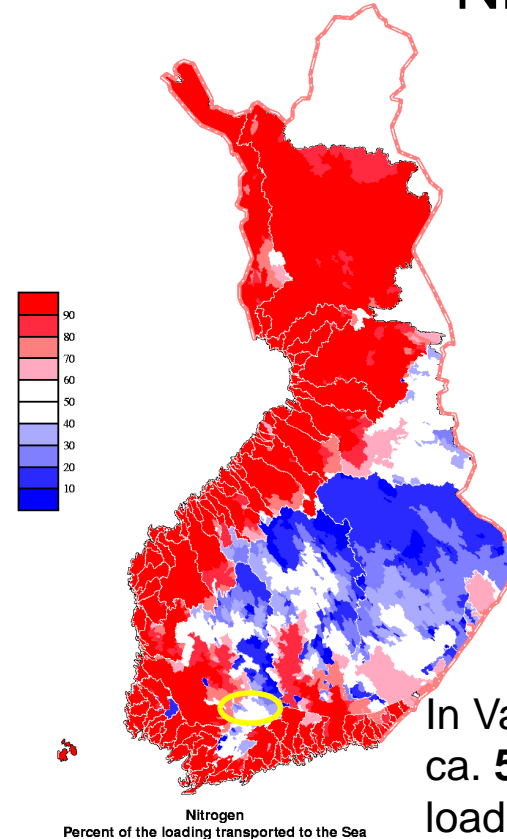
# Nutrients to the Sea, %

## Phosphorus



In Vanajavesi area,  
**3-34 %** of the P  
load is transported  
to the Sea.

## Nitrogen



In Vanajavesi area,  
ca. **50 %** of the N  
load is transported  
to the Sea.

Source: Finnish Environment Institute

# Nutrients to the Sea, kg/m<sup>2</sup>/yr

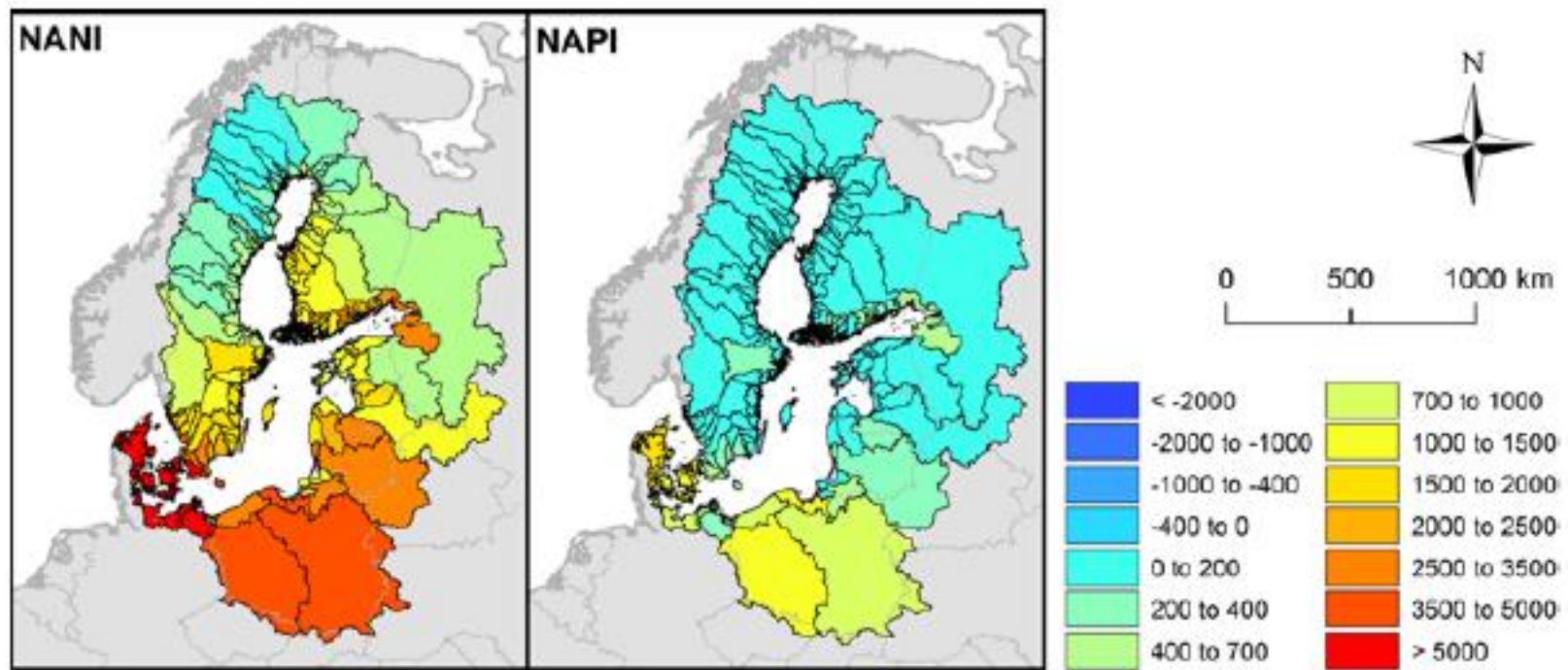
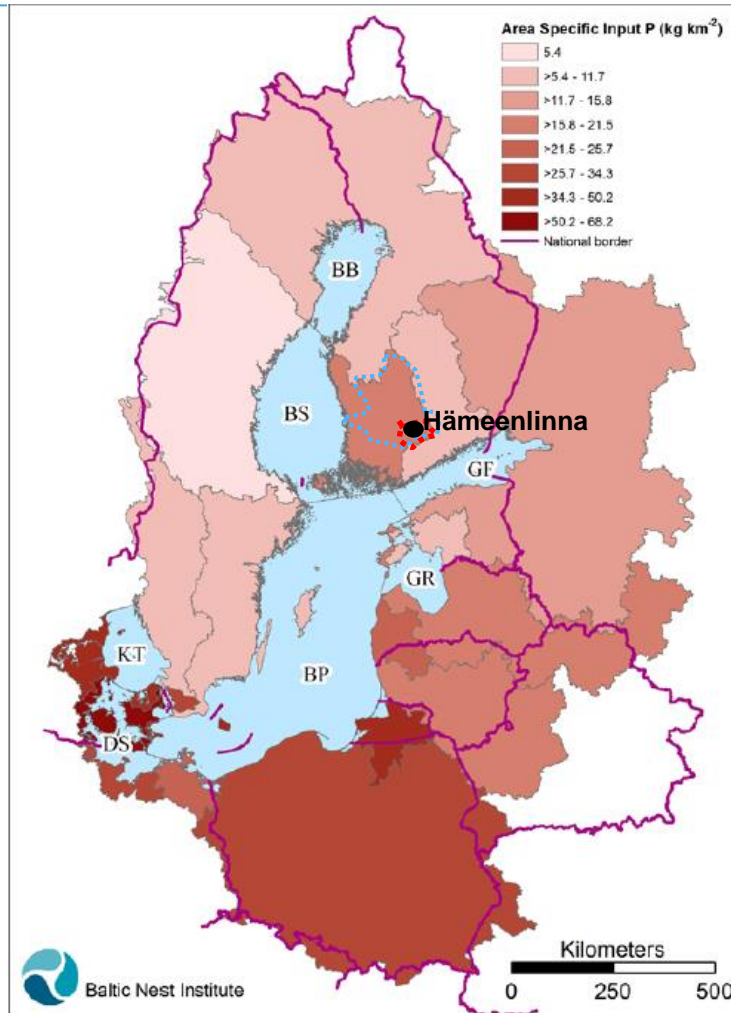


Figure 2.4. Net anthropogenic nutrient inputs for nitrogen (NANI, left panel, kg N km<sup>-2</sup> yr<sup>-1</sup>) and phosphorus (NAPI, right panel, kg P km<sup>-2</sup> yr<sup>-1</sup>) for the catchments. (Source: Hong et al. 2012)

Source: Updated Fifth Baltic Sea Pollution Load Compilation. HELCOM 2015.



# Baltic Sea Drainage Basin



River Kokemäenjoki  
watershed area



Vanajavesi watershed  
area

Source: Updated Fifth Baltic Sea Pollution Load  
Compilation. HELCOM 2015.

# www.vanajavesi.fi



## HÄMEEN SANOMAT

## KIERTOKAPULA



**HÄMEENLINNAN KAUPUNKI**  
Hyvä arki asuu Hämeenlinnassa

precis.



**Suomen  
HOPEALINJA**





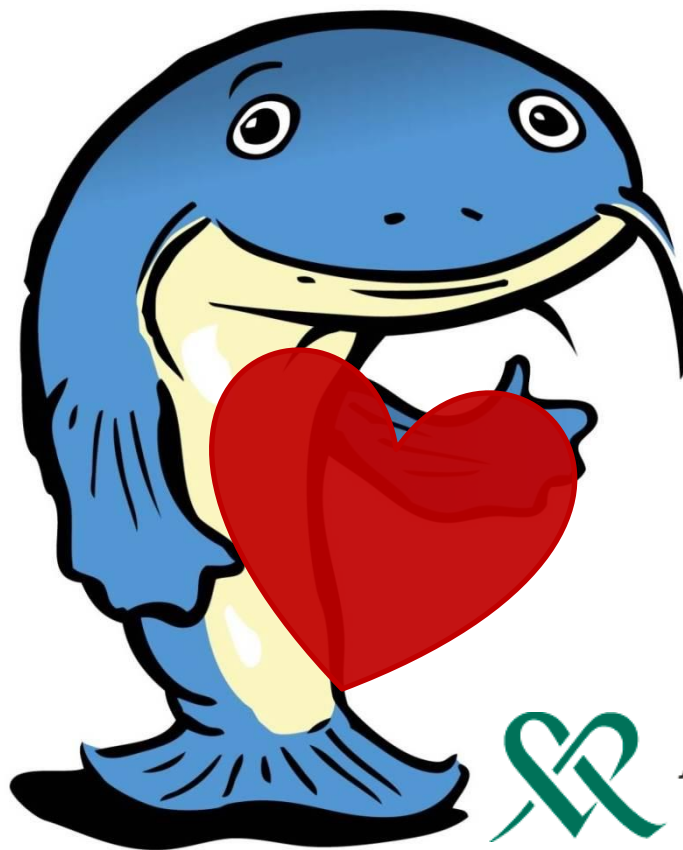
# Päähäyhteistyökumppanit 2014-2017

ETELÄ-HÄMEEN  
**Osuuspankki**

 **HS-Vesi**

**HAMK**  
HÄMEEN AMMATTIKORKEAKOULU  
UNIVERSITY OF APPLIED SCIENCES

**onninen**



HÄMEENLINNAN  
**OSUUSMEIJERI**



**tervakoski**



**MEHILÄINEN**  
AUTTAA. HOITAA. HUOLEHTII.



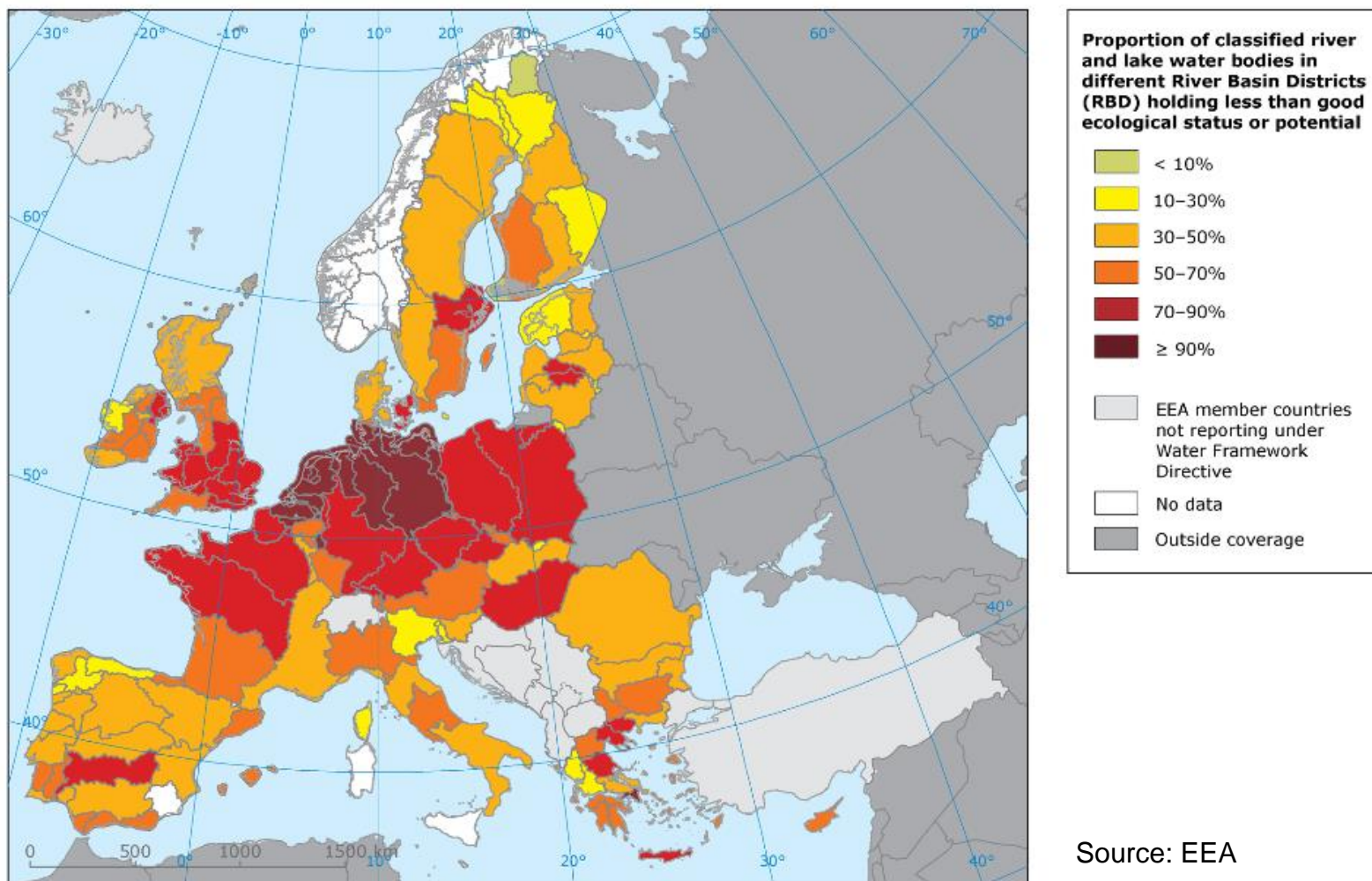
**HÄMEEN SANOMAT**



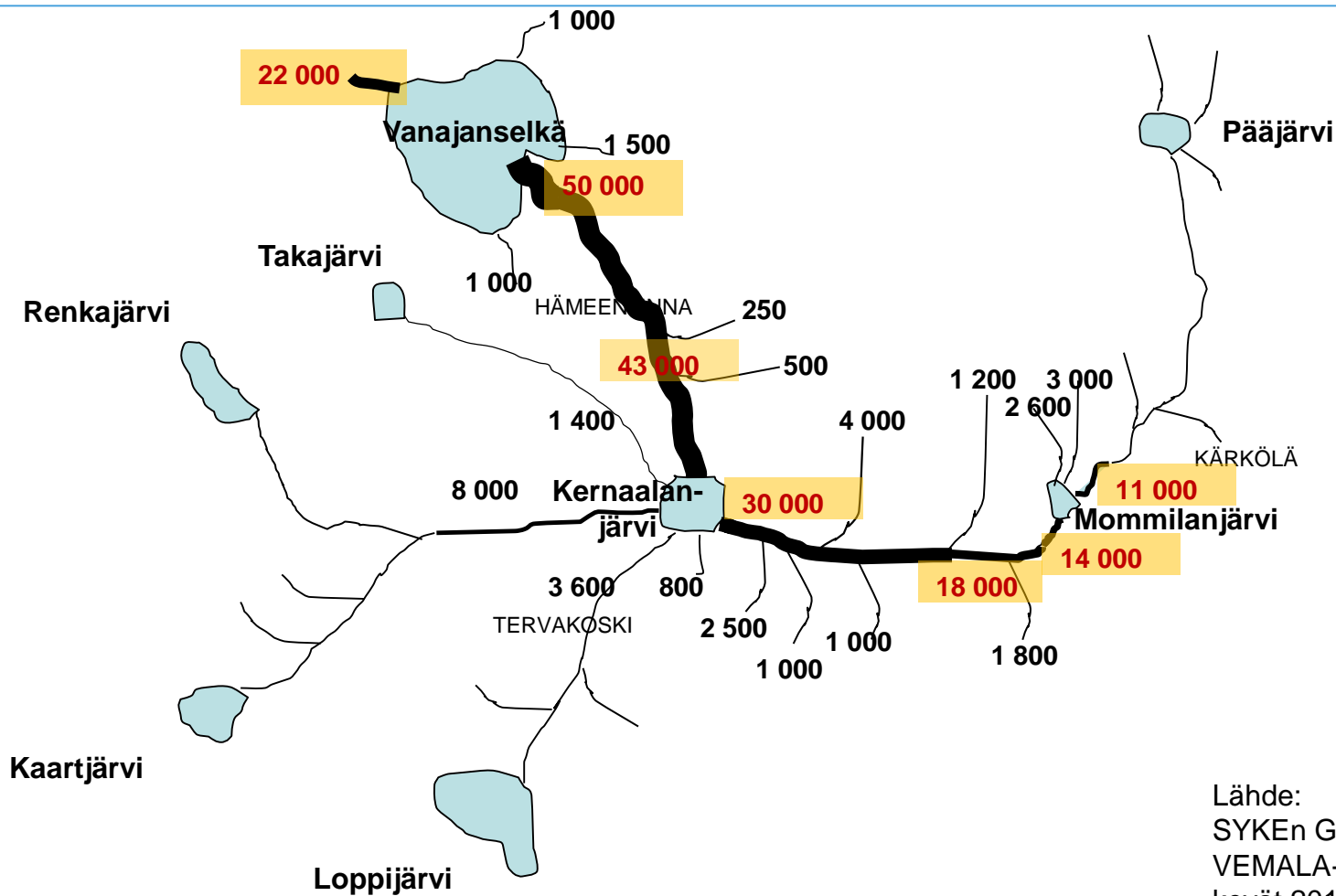
KOULUTUSKUNTAYHTYMÄ  
**TAVASTIA**



# Share of freshwater less than good status, %



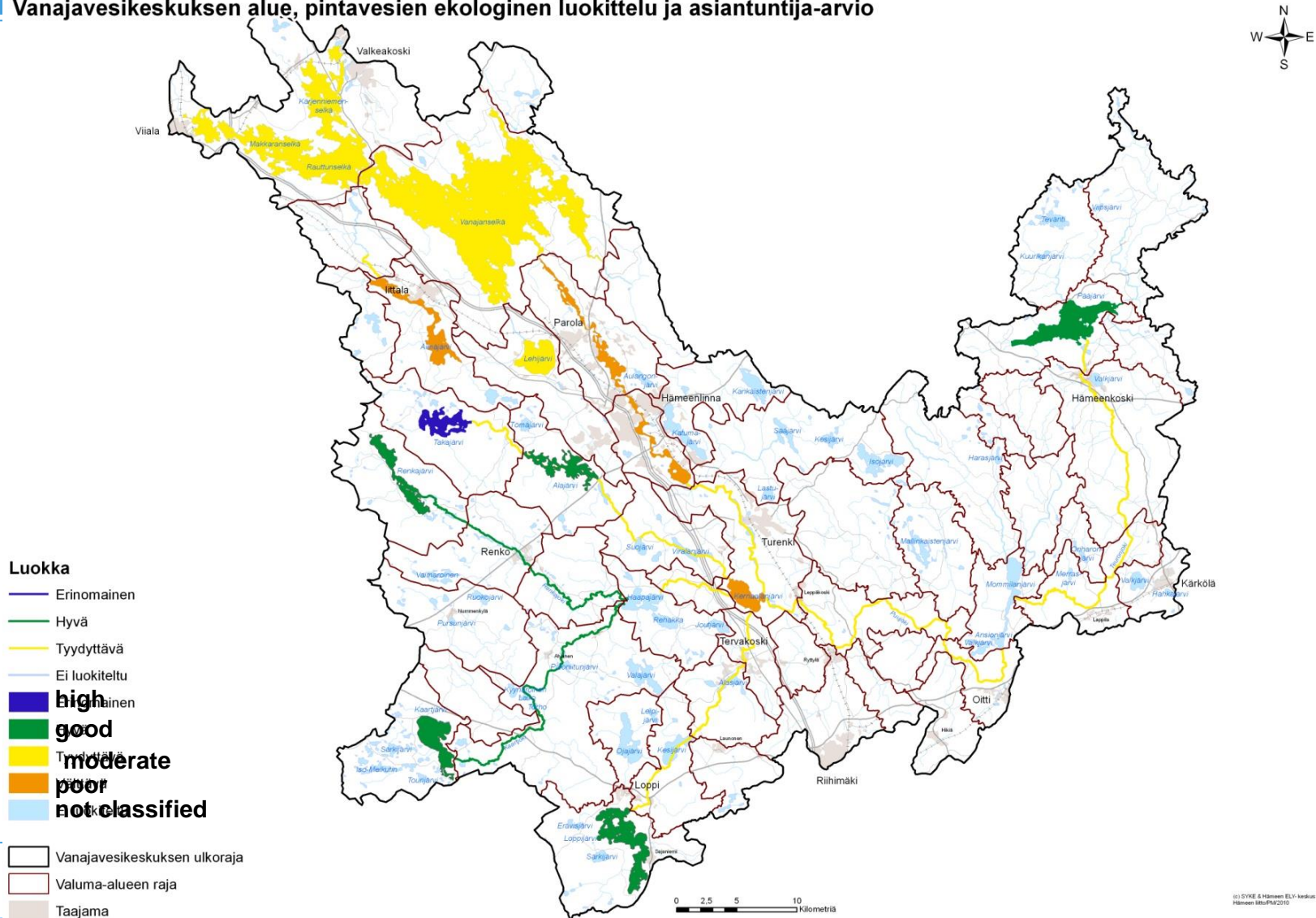
# Phosphorus kg/a



Lähde:  
SYKE:n GisBloom-hanke,  
VEMALA-malli,  
keväät 2013

# Status of lakes and rivers

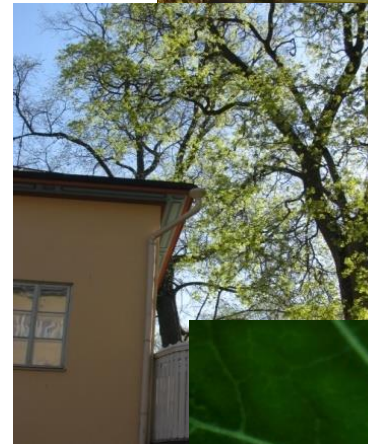
Vanajavesikeskuksen alue, pintavesien ekologinen luokittelu ja asiantuntija-arvio

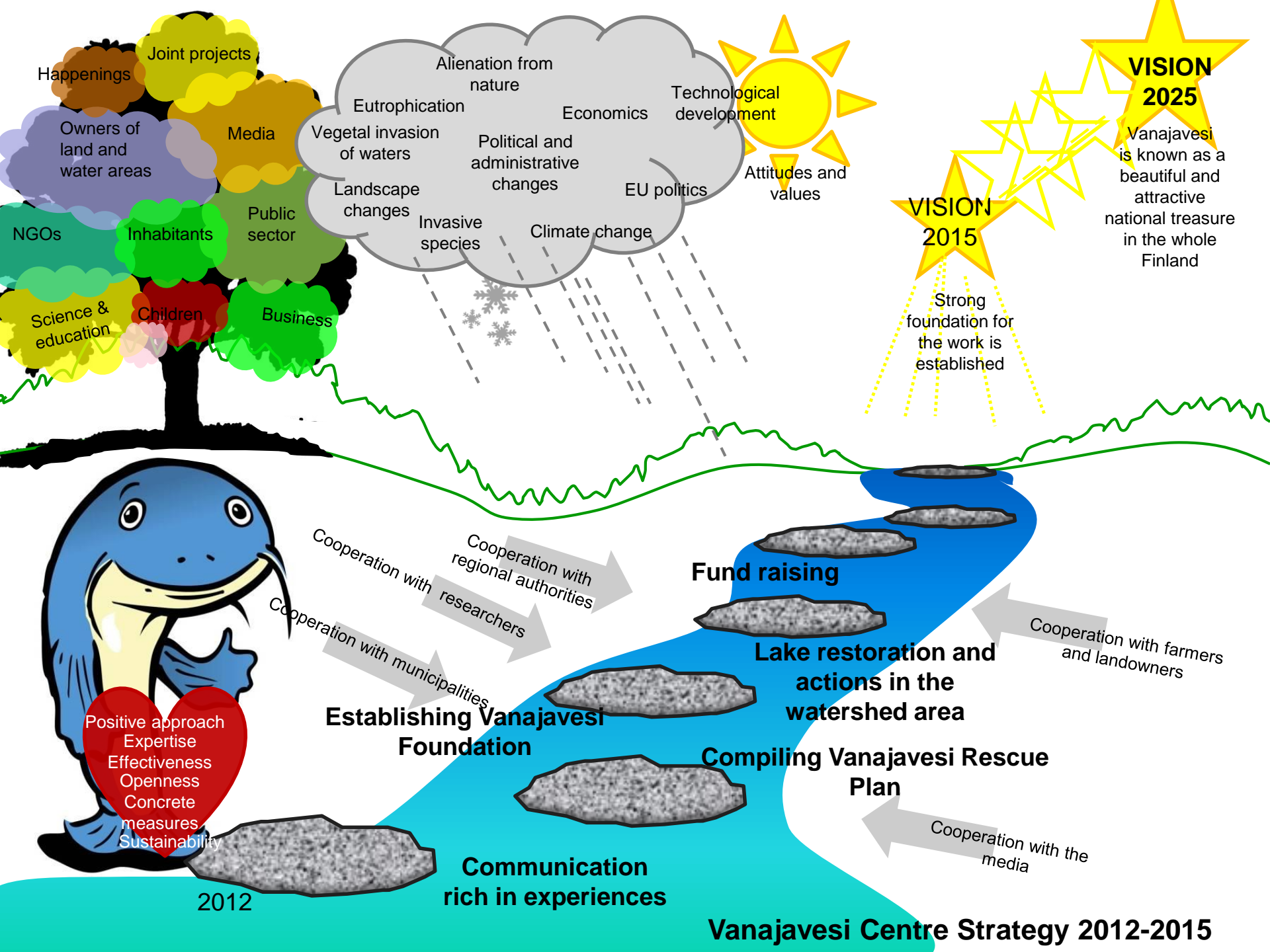


# Not water alone...

## What does Vanajavesi mean to us?

- The lakes, rivers, beaches
- Other environmental values
  - natural biodiversity
  - cultural landscape
  - climate change
- Tourism and recreation
- Living surroundings
- Business and culture
- History ja archaeology
- Research and know-how





# The Beginning

- 
- 1. Project to establish Vanajavesi Centre  
2009 ->**
  - 2. Aiming at a permanent Vanajavesi  
Centre**

# Aiming at the good status

- **Business as usual, it would take decades to reach the good status in Vanajavesi lakes and rivers**
- **Main problem: eutrophication due to excess nutrient runoff**
- **It takes determined and long-term action to reach the goal**
- **In order to take care of Vanajavesi, we need to take care its whole watershed area.**



# What needs to be done?



1. **Minimize runoff**  
(agriculture, rural housing, cities and municipalities, industry)
2. **Try to catch nutrient that already have got into the waters: e.g. creating wetlands, using chemical treatments**
3. **Restoration of eutrophied lakes and rivers**

# An Example of Classification

<b>Lake Vanajavesi</b>					
Type: Large Humic-rich lakes					
<b>Physical &amp; Chemical factors</b>				<b>Value</b>	<b>Class</b>
		total Nitrogen		1022,5 µg/l	moderate
		total Phosphorous		25,5 µg/l	good
		Secchi-depth		1,675 m	high
<b>Biological factors</b>					
		a-Chlorophyl		16,75 µg/l	moderate
		Phytoplankton biomass		0,35 mg/l	moderate
		harmful blue-green algae		0,22 %	bad
		fish		missing data	
		benthic animals		missing data	
Hydrological & Morphological changes				8	poor
Estimation of pressures				missing data	
<b>Estimated class</b>		<b>moderate</b>			

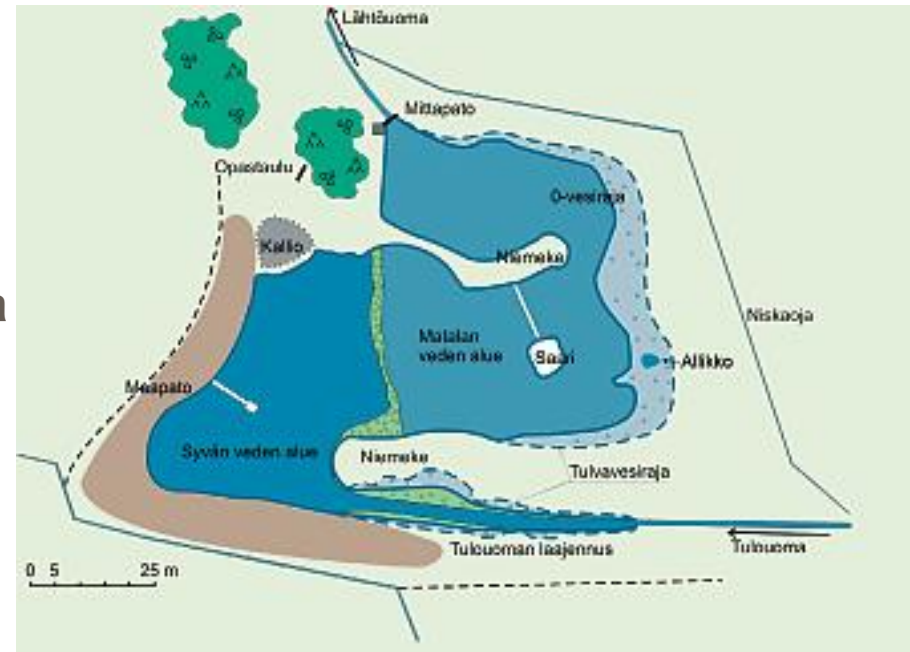
# Vanajavesi Centre

- On-going, long-term task, permanent staff
- Establishes projects, finds funding, co-ordinates, networks
- Action Plan



# Perustetaan kosteikkoja!

- **Veden virtauksen hidastuminen**  
-> ravinteiden ja kiintoaineksen pidähtyminen
- **Tasoittavat tulvahuippuja**
- **Luonnon monimuotoisuus, riista**
- **Maisema elävöityy**



Kuvat: Monivaikutteisen kosteikon hoito. Maaseutuverkosto. Varsinais-Suomen ELY-keskus. 2010.;  
Maatalouden monivaikutteisten kosteikkojen suunnittelu ja mitoitus.SYKE. 2007.

# Co-operation, e.g.



HÄMEENLINNAN KAUPUNKI  
Hyvä arki asuu Hämeenlinnassa



**Almost all municipalities**

- **Comenius Regio, Kk Tavastia (EU Lifelong Learning)**
- **GISBloom, algae, Finnish Environment Centre (EU Life+)**
- **web access to information**
- **laboratory & mapping (Kk Tavastia)**
- **Agricultural co-operation: farmers**
  - Central Union of Agricultural Producers and Forest Owners
  - ProAgria Häme
- **Private enterprises: Kiertokapula Oy**



[www.valkeakoski.fi](http://www.valkeakoski.fi)



HELSINGIN YLIOPISTO



**HÄMEEN SANOMAT**

**KIERTOKAPULA**



**MTK Häme**



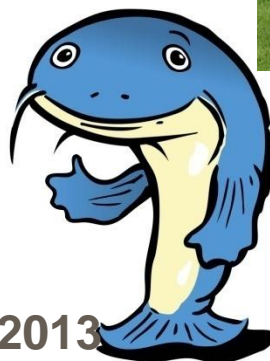
**VANAJAVESI**keskus  
elämää vedestä

# Towards Action Plan

- **Team Water, chairman professor Lauri Arvola**
- **The most important lake and river management approaches: TOP 4**
- **theses and student contribution**
- **preparation for a practical renovation (wetland)**
- **biomanipulation and consumption of the fish (bioenergy)**
- **collection of renovation suggestions from the public and NGOs**
- **2-3 concrete renovations a year**

# Communication

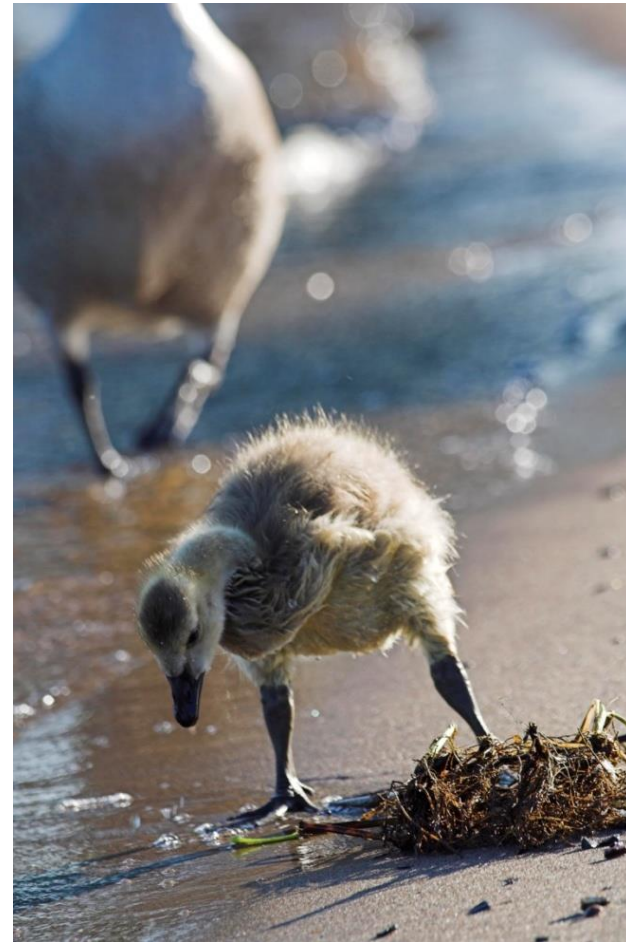
- [www.vanajavesi.fi](http://www.vanajavesi.fi)
- mascot Onni-Monni
- Photo competition
- Vanajavesi-DVD
- Fairs and happenings
- **Communication project 2011-2013**
  - European Agricultural Fund for Rural Development (EAFRD) 90 %
  - total ca. 520 000 €



# Success factors

- **common desire & joint action**
- **communication**
- **positiveness**

**Thank you!**

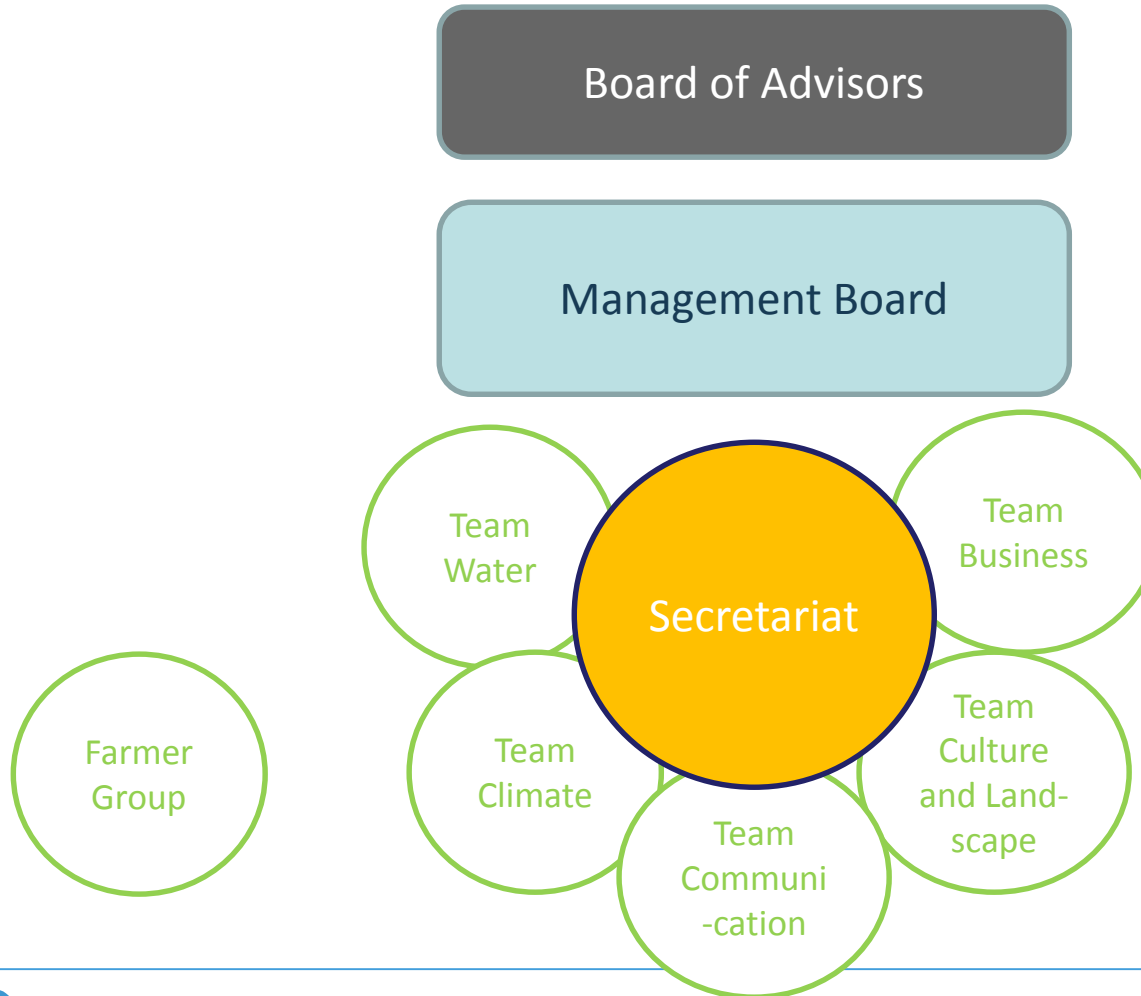




# Financing Vanajavesi Centre

- **2010 project: regional development funds + municipalities' funding**
- **2011-**
  - basic funding
    - municipalities
    - regional development funds
    - business sponsor
  - other funding
    - project funding + business sponsors + private people
  - ca. 350 000 €/year

# Organisation



# Goals

**In 15 years,**

- 1. Vanajavesi has reached good status and the status of its watershed area has improved**
- 2. Other environmental and cultural values have been strengthened**
- 3. Water tourism and recreation has increased**
- 4. Water know-how has improved**
- 5. Co-operation in this area has become stronger**
- 6. Fine waters have given positive image to people and business in this area**

**= The Appeal of this area has become stronger**

# Topics

## **The initiative will cover the following topics:**

- I. Protection, research, renovation and care of lakes and rivers
- II. Business, tourism and recreation
- III. Cultural landscapes and natural biodiversity
- IV. Adaptation to climate change
- V. Communication

# Kunnostetaan puroja ja ojia!

- Luonnonmukaiset purot mutkittelevat, mutta ojitettut on yleensä oikaistu
- Palautus luonnontilaisiksi
- Kiveäminen, soraistaminen
  - > Lisää elintilaa kaloille ja ravuille
- Kuoppia, pohjapatoja, uoman mutkittelu
  - > veden virtauksen hidastuminen
  - > ravinteiden ja kiintoaineksen pidäytyminen
- Tulvatasanteet tasoittavat tulvahuippuja
- Kalateitä patojen ohittamiseksi
- Maisema elävöityy



Ennen.



Jälkeen.



Ennen.

Jälkeen.

Uoma ennen ja jälkeen kunnostuksen.

Kuvat: Purot – elävää maaseutua. MMM. 2008.

# Saostetaan fosfori kemiallisesti!

- Fosfori kiinni purossa virtaavasta vedestä
- Vrt. Jätevedenpuhdistamoilla käytettävät kemikaalit
- Rauta, alumiini tai kalsium saostavat liukoista fosforia
- Esim. rautayhdiste ferrisulfaatti (Ferrix)
- Yhdistettynä laskeutusaltaaseen



Kuvat: Saloy Oy