REPUBLIC OF ESTONIA
ENVIRONMENT AGENCY

Interreg
Estonia-Latvia
European Regional Development Fund

EUROPEAN UNION

# Joint monitoring program for Koiva/Gauja and Salatsi/Salaca river basin

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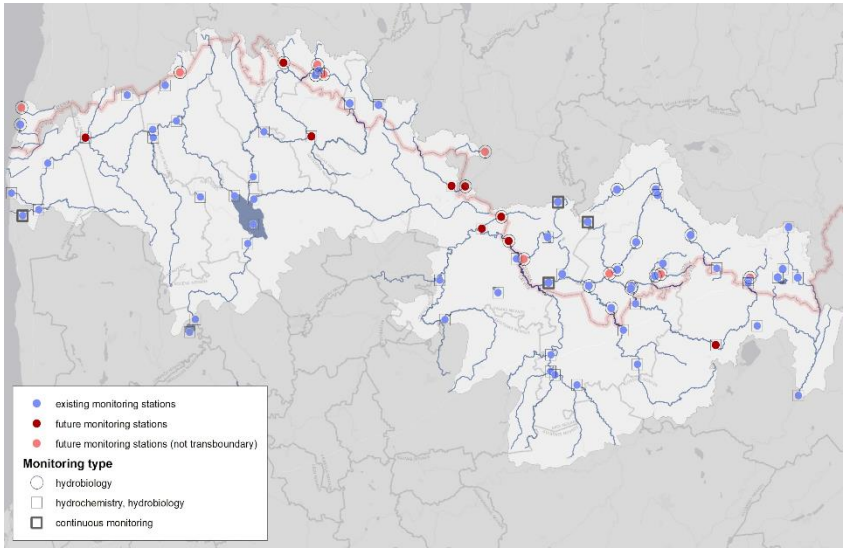
# ❖ Monitoring stations




| | Estonia | Latvia |
|---|---|---|
| Rivers | 18 | 23 |
| Lakes | 9 | 11 |
| Total | 27 | 34 |
| Transboundary | 9 | 7 |

## ❖ Monitoring as it is, Estonia/Latvia

**Surveilance monitoring**:

- Every year - continuous monitoring (Lake Ähijärv, Mustjõgi_5)
  intensive monitoring (Salaca, 0.5 km above Salacgrīva)

- Once in 6 years periood - surveilance monitoring

**Estonia**

- 50% higher (Pärlijõgi, Vaidva) and 30% lower human pressure (Gauja/Koiva)
- Same district WB same year (Koiva district, West-Estonia district etc)
- If no pressure, low hydromorphulogical risk and good nutrience level, consider 18 monitoring cycle (Pedetsi, Penuja, Ruhja)

**Latvia**

- Characteristing the status of surface water in each RBD
- Pollution and load to the sea
- Large water bodies (Salaca)
- Transboundary flows (Salaca)
- Information Exchange (Salaca)

## Operational monitoring

- Estonia - to get input for finding measures to improve status
  - to determinante pressures
- Latvia- environmental quality objectives are not reached
- Both- to evaluate the effect of implemented measures

## Investigative monitoring

- Estonia- 3 lake (Ähijärv, Kirikumäe järv and Pullijärv) in project area, suggested
- No investigative monitoring in Latvian side in this period

## ❖ Pilot study

- Why?

Resources are limited for monitoring prioritization of small lakes

- Where?

Lakes choosed: Aheru, Hino, Kirikumäe, Murati, Pabra, Köstrejärv, Ähijärv, Murati järv

**Conclusion of pilot stydy**

- Analyze is suitable for prioritising lakes
- Analyze can be used to evaluate the reliability of status class
- Adjusting remote sensing algorithms

Future work- analyze for river cachment areas…

## ❖ Joint monitoring

### ○ Differences

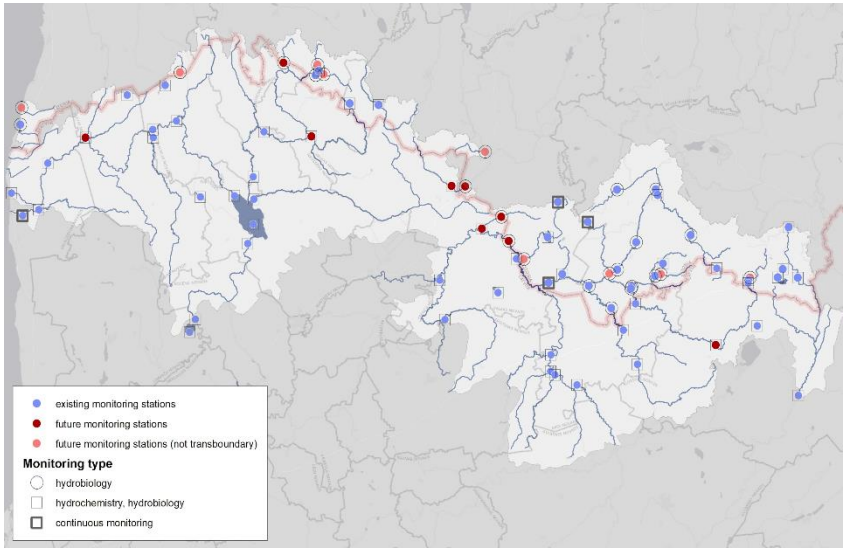
*Significant differences*

- Lack of dam database
- Lower quality upstream or downstream HPP
- Sensitive indicator to hydromorphological alterations
- Consideration of protected sites

*Less significant differences*

- Vegetation season mean or annual average value
- Phytobenthos methods
- Different monitoring frequency
  - macroinvertebrates Estonia 1 vs Latvia 2 times per year
  - lake phytoplankton Estonia 4 vs Latvia 2 times per year
  - zooplankton as a quality element

# Harmonized monitoring network




| | Estonia | Latvia |
|---|---|---|
| Future | 13 | 5 |
| Total | 40 | 39 |
| Transboundary | 13 | 12 |

- New stations to transbondary WB

Koiva
Pedeli riigipiirist Pika tänava sillani
Penuoja
Ujuste
Acupite_2
Pedele_2
Pužupe
Kaičupe
Vaidava_1

- New stations to not transboundary WB

Ahelo
Järveotsa
Kolga lähtest Soomesilla paisuni
Kuura
Laanemetsa
Lilli
Loode
Piiri
Vedäme

- **Harmonised monitoring network**

  *for ecological status assessment*

- Depending on location and flow direction
- In the end of waterbody or after pressure source
- Waterbodys with status less than good: before and after the source
- Change of monitoring points:
  - hydrochemical- no
  - hydrobiological- yes

*for chemical status assessment*

- Highest chemical pollution risk – Pedele_2/Pedeli_2 and Õhne_2/Omulupe
- PBDE (**Polybrominated diphenyl ethers-used as flame retardant)** found in lake Murati and Gauja/Koiva river
- In Estonian part Mustjõgi_5 instead of Koiva

- **Harmonised monitoring cycle**

*for ecological and chemical status assessment*

- Starts at 2022
- Not monitored- Atse/Acupīte_1, Lätеteperä/Akaviņa, and Pedeli_1/Pedele_1
- Status less than good- once per river basin managment plan
- Status good and stable, pressures not included- considered to be monitored with less frequency
- 3-4 transboundary WB for chemical status assessment 2022

## Harmonised quality elements

*For ecolocical status assessments*

| **LAKES** | Estonia | Latvia |
|---|---|---|
| Phytoplankton | X | x |
| Fish | X | X |
| Zoobenthos/macroinvertebrates | X | -/X |
| Phytobenthos | X | X |
| Marophytes | X | X |
| Physical-chemical elements | X | X |
| Zooplankton | X | |
| Hydromorphology | X | |
| River basin specific pollutants | X | X |

# *For ecolocical status assessments*

| **RIVERS** | Estonia | Latvia |
|---|---|---|
| Physical-chemical elements | X | X |
| Macrophytes | X | X |
| Phytobenthos | X | X |
| Zoobenthos/macroinvertebrates | X | -/X |
| Fish | X | X |
| Hydromorphology | | X |
| River basin specific pollutants | X | X |

*For chemical status assessments*

- Countries carry on their hazardous chemical monitoring programme
- Common status assessment = all hazardous chemicals

**Harmonised monitoring frequency and field work time for ecological and chemical status assessment**

- Ecologigal elements all within the same year, fish also 1-2 years later.
- In accordance with national monitoring planning
- Chemical status assessment- once in 2022
  Following monitoring based on the results
- Mustjõgi- Estonia will continue yearly monitoring

❖ **Harmonised status assessment**

- Monitoring and status data will be shared by latest 15th of May in the following year
- All data will be shared
- All avaliable monitoing data will be used to assess the status of water body.

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Vaidva jõgi. Photo by H.Timm