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Joint action plan of measures for Gauja/Koiva and Salaca/Salatsi river basins

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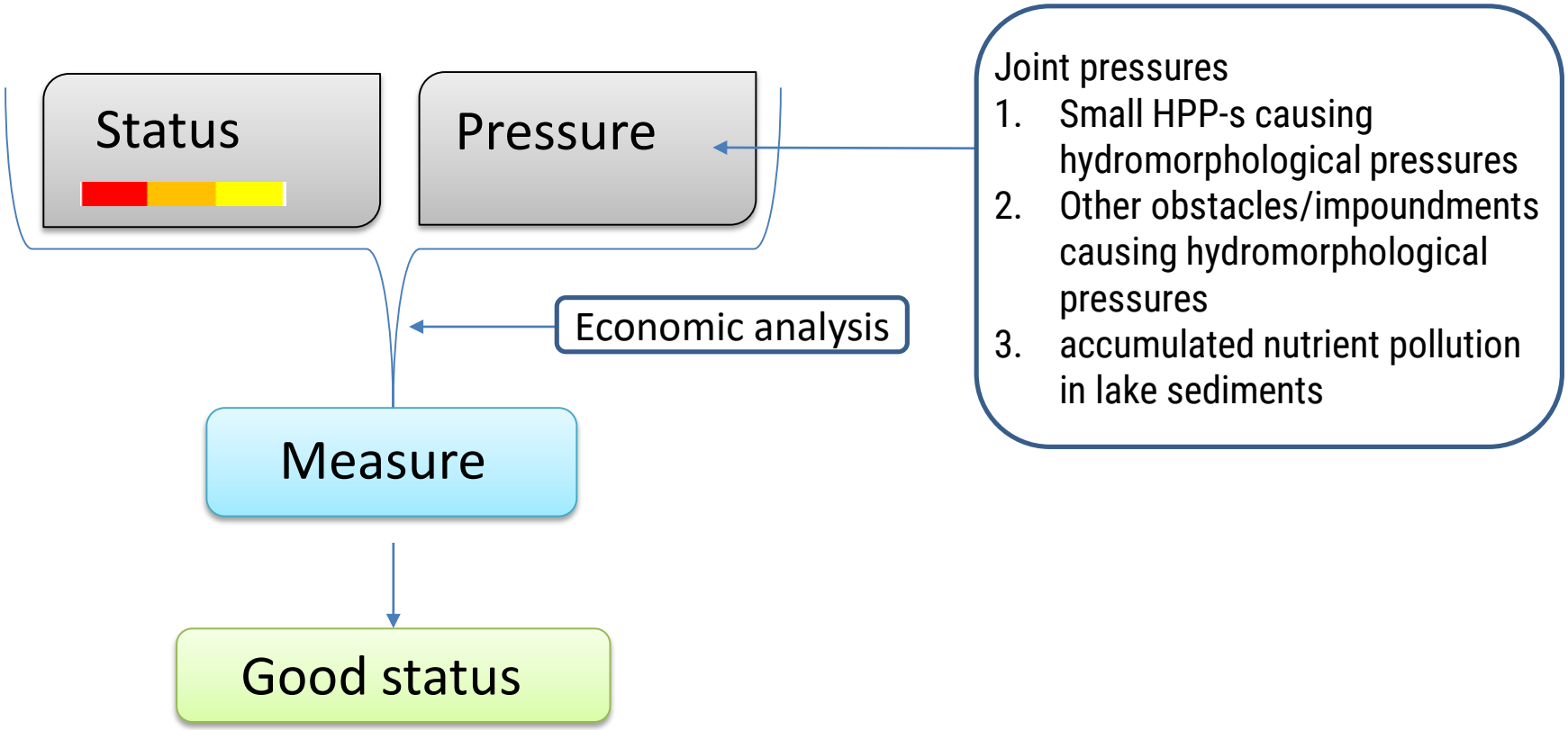
Introduction



Transboundary waterbodies

Pärlijõgi. Maa-ameti kaldaerofoto.

- Vaidava_2 / Vaidva_2
- Vaidava_1 / Vaidva_1
- Pērļupīte_1 / Pärlijõgi _1
- Pedele_2 / Pedeli_2
- Melnupe_2 / Peetri

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Small HPP-s causing hydromorphological pressures

Joint measures analysed
Building of a fish pass
Demolishing a dam
Environmentally friendly turbine
Improvement of an existing fish pass

Measures analysed only on Latvian side
Reconstruction or improvement of an existing fish pass
Maintenance of an existing fish pass
Implementation of ecological flow
Permanently lowering a dam
Opening migration way during spawning period

Vaidva_2 / Vaidava_2

		Moderate — Fish (HPP-s)*
	HPP	Measure
EST	Vastse-Roosa	Improvement of an existing fish pass
		Environmentally friendly turbine
LAT	Karva	Demolishing a dam
		Ecological flow implementation and building a fish pass
	Grūbe	Demolishing a dam
		Ecological flow implementation and building a fish pass

*HPP- hydropower plant

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Vaidva_1 / Vaidava_1

Measure
Implement measures proposed for WB Vaidva_1/Vaidava_1

- In Latvia failing GES in Vaidava_1 WB is due to effects of hydropower plants downstream, on water body Vaidava_2 (LVEE1008).
- Socially-informative measures are intended to address further point source nutrient pollution reduction possibilities from Alūksne city waste water treatment plant (WWTP) on WB Vaidava_1. WWTP currently meets state regulatory standarts.

Vaidava_1 at the source (near lake Murati, 2019).

Pedeli_2 / Pedele_2

Moderate	Fish (HPP-s)*	

	HPP	Measure
LAT	Dzirnavnieku	Demolishing the HPP and dam
		Ecological flow implementation and building a fish pass
	Kalndzirnavu	Demolishing the HPP and dam
		Ecological flow implementation and building a fish pass

*HPP- hydropower plant

Other obstacles/impoundments causing hydromorphological pressures

Joint measures
Building of a fish pass
Opening migration way during spawning period
Demolishing a dam

Measures analysed only in Estonian side
Improvement of an existing fish pass

Pedeli_2 / Pedele_2

Moderate	Fish (HPP-s)*

	Dams	Measure
EST	Pedeli IV, Pedeli III, Pedeli II, Pedeli I	Building of a fish pass
		Demolishing a dam

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Pärlijõgi_1 / Pērļupīte_1

Good/ Poor**

	Dams	Measure
EST	Saarlase	Demolishing a dam
	Pärlijõe	Demolishing a dam

Peetri / Melnupe_2

Measure
Find a representative monitoring location

- According to the latest monitoring data, the quality of the Melnupe_2 is rated as moderate, but this is questionable due to the fact that the monitoring station is located in a location that is unlikely to objectively represent the quality of the entire water body.
- The proposed measure is therefore linked to the choice of site for the monitoring station.

Accumulated nutrient pollution in lake sediments

Joint measures analysed
Sediment dredging
Removal of macrophytes
Biomanipulation

Measures analysed only on Estonian side
Complex methods (sediment dredging and removal of macrophytes)

Measures analysed only on Latvian side
Immobilization of phosphorus using chemical treatment
Artificial aeration and mixing
Hypolimnetic withdrawal
Artificial floating wetlands

Accumulated nutrient pollution in lake sediments (2)

	WB	Measures
LAT	Lake Burtnieki	Sediment dredging
		Removal of macrophytes
		Biomanipulation
		Sediment dredging + Macrophyte removal + Biomanipulation
EST	Lake Köstrejärv	Complex method: sediment dredging + macrophyte cutting

WB – waterbody

Measures for other WBs

The same approach for selection of measures was used for the rest of the water bodies in the project area.

In Latvia measures were selected for:

- 3 river WBs with 8 dams (not used for energy production);
- 3 river WBs with 5 dams used for energy production (HPPs);
- 2 lake WBs with accumulated nutrient pollution in sediments.

In Estonia measures were selected for:

- 2 river WBs with 5 dams (not used for energy production);
- 1 lake WB with accumulated nutrient pollution in sediments.

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Other pressures and measures on Latvian side

- 5 WBs where nutrient pollution due to forestry is significant;
- 13 WBs where nutrient pollution due to agriculture is significant;
- 4 WBs where pressure due to drainage of forest lands is significant;
- 7 WBs where pressure due to drainage of arable lands is significant.

- ✓ No one of these WBs are transboundry WB. Measures and their cost-effectiveness for these water bodies are still being analyzed.
- ✓ Under consideration are measures such as the cultivation of catch crops, the maintenance of winter green areas, the maintenance of buffer zones, the installation of phosphorus filters in drainage ditches, the establishment of sedimentation basins etc.

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Other measures on Estonian side

WB	Measure
Lake Aheru	Study to clarify the outer and inner loads of the lake and to propose relevant measures
Lake Hino	
Lake Kirikumäe	Limit all activities which may add nutrient load or hydromorphological changes to the lake

! Lake Pullijärv
! Lake Ähijärv

WB – waterbody

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Thank you!