



Interreg
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Evaluation of new measures with multi-criteria assessment of alternative options – results for Estonia



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WBs failing GES due to these uses and pressures

Water uses and pressures causing failure of GES	WBs failing GES due to these uses and pressures
Dams used by small HPPs creating hydromorphological pressures	1 WB Vaidva_2 (Vastse-Roosa HPP)
Obstacles/impoundments with other/no use creating hydromorphological pressures	Pärlijõgi_1 (Saarlase and Pärlijõe dams), Pedeli_2 (Pedeli IV, Pedeli III, Pedeli II and Pedeli I); Pärlijõgi_2 (Sänna Alaveski, Sänna Mäeveski, Ala-Raudsepa dams), Öhne_2 (Holdre Vanaveski and Taagepera dams).
Lakes with accumulated past nutrient pollution in sediments	1 WB Kõstrejärvi 2133700_1

Categories of the costs

- ▶ Direct financial costs of a measure (investment costs, yearly operation and maintenance costs, other direct costs). Fish passes are built with the funding from the Environmental Investment Centre (EIC) and all the costs of feasibility studies, expert judgements, building projects etc are in this document summed up to investment costs.
- ▶ “Opportunity costs” (foregone/lost revenues) for an actor who implements a measure.
- ▶ “Induced costs” – costs due to implementing a measure to other actors than the one who implements the measure.

Assessment of the costs of measure

- ▶ identifying and describing relevant types of the costs,
 - ▶ developing quantitative estimates, as much as possible, for each type of the costs,
 - ▶ calculating total costs (annualised costs per year),
 - ▶ estimating financing need for the planning period 6 years (2021–2027),
 - ▶ estimating costs as a share of revenues / budget (%),
 - ▶ performing sensitivity analysis of the calculated costs to incorporate variation and uncertainty in the costs' estimate,
 - ▶ assigning the qualitative assessment category (high, moderate, low costs) based on the share of the costs in revenues / budget.
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Interpretation qualitative costs measures for HPPs

Costs' category	Interpretation of the category	Costs as share (%) of yearly HPP revenues
Low (3)	The costs are affordable, an actor could cover the costs with own funding.	< 1 % of revenues
Moderate (2)	The costs are hardly affordable, some public financial support would be recommended to facilitate implementation of a measure.	1–1.5 % of revenues
High (1)	The costs are not affordable, public funding would be needed for financing implementation of a measure.	> 1.5 % of revenues

Interpretation of the qualitative costs' categories (and scores) for lakes and other obstacles measures.

Costs' category	Interpretation of the category	Costs as share (%) of EIC budget of water programme
Low (3)	The costs are affordable	< 0.5 % of a budget
Moderate (2)	The costs are hardly affordable	0.5–1 % of a budget
High (1)	The costs are not affordable, additional public funding is needed	> 1 % of a budget

Results of analysed additional measures for HPPs

Analysed additional measures	Annualised costs per year	Assessment categories and scores
M1 Building a fish pass	8000 – 15 700 €/year	High (1)
M2 Demolishing a dam	5 500 – 7 100 €/year	High (1)
M3 Environmentally friendly turbine	8500 – 13 650 €/year	High (1)
M4 Improvement of an existing fish pass	1400 – 2100 €/year	High (1)

Results of analysed additional measures for obstacles/impoundments creating hydromorphological pressures

The analysed additional measures	Annualised costs per year	Assessment categories and scores
M1 Building of a fish pass	8 000 – 12 000 €/year	High (1)
M2 Opening migration way during spawning period	2 000 – 3800 €/year	Low (3)
M3 Demolishing a dam	5 000 – 7 000 €/year	High (1)
M4 Improvement of an existing fish pass	1 500 – 2 300 €/year	Low (3)

Assessments for the costs of the analysed additional measures for lakes with accumulated nutrient pollution.

The analysed additional measures	Annualised costs per year*	Assessment categories and scores
M1 Sediment dredging	128300 – 378300 € per year	High–Moderate (1.5)
M2 Removal of macrophytes	13 000 € per year	Low (3)
M3 Biomanipulation	2250 € per year	Low (3)
M4 Complex methods	135 300 – 385 300 EUR per year	High–Moderate (1.5)