

# Joint measure impacts in cost-effectiveness analysis

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# Case study for Turku: Cost-effective measures to reduce marine litter

- Measure Impacts were assessed by litter type and litter source.
- Example: "The impact of marine litter awareness campaign on plastic food packaging litter from recreation and tourism"
- Analogy to BSAP: measure impact on pressure from human activity
- Report available from: [blastic.eu](https://www.blastic.eu) -> project publications

<https://www.blastic.eu/wp-content/uploads/2018/10/combination-of-measures-to-reduce-the-loads-of-plastic-marine-litter.pdf>

# Data

- Focus was on method development.
- Costs and impacts are based on limited expert analysis and estimates found in literature.
- Also cost and impact transfer was conducted based on similar measures applied elsewhere.
- The probability distribution based data structure is the same as in the cost-effectiveness analysis performed previously for POM in Finland.
- Reduction impacts and goals by litter type were defined as % of the BAU marine litter amounts.

# Novelty

- Joint impact = The total impact of multiple measures on one pressure.
- Impact of a single measure on a pressure depends also on other implemented measures.
- Dependencies can be antagonistic or synergistic.
- A detailed example: a %-impact of a **buffer zone** on **nutrient runoff** depends also on %-**reduction in fertilizer use**.
- -> The contribution of one measure to the joint impact depends on the implementation of other measures.
- Bayesian methods

# Possible pitfalls and challenges

- How to link pressures to the state of Baltic Sea and to the gap between BAU and GES ?
- How to define and assess (joint) measure impacts ?
- Joint costs between the measures? The cost of a measure may depend on other implemented measures.
- Scope: whole Baltic Sea
- BAU: complicated BAU scenarios decrease the transparency of cost-effectiveness analysis.
- Computational limits due to high number of measures, activities and pressures...