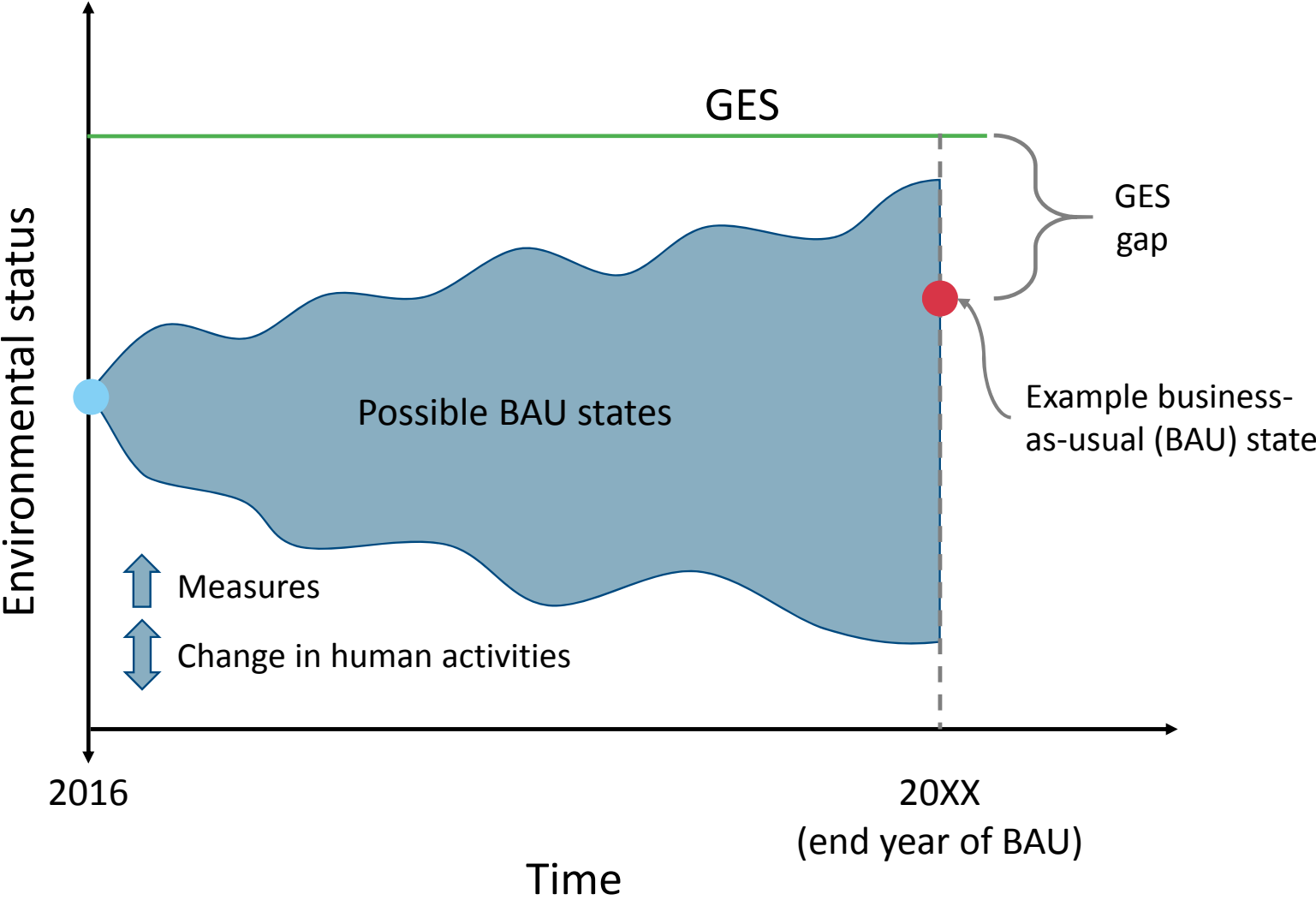


# Overview of the sufficiency of measures analysis

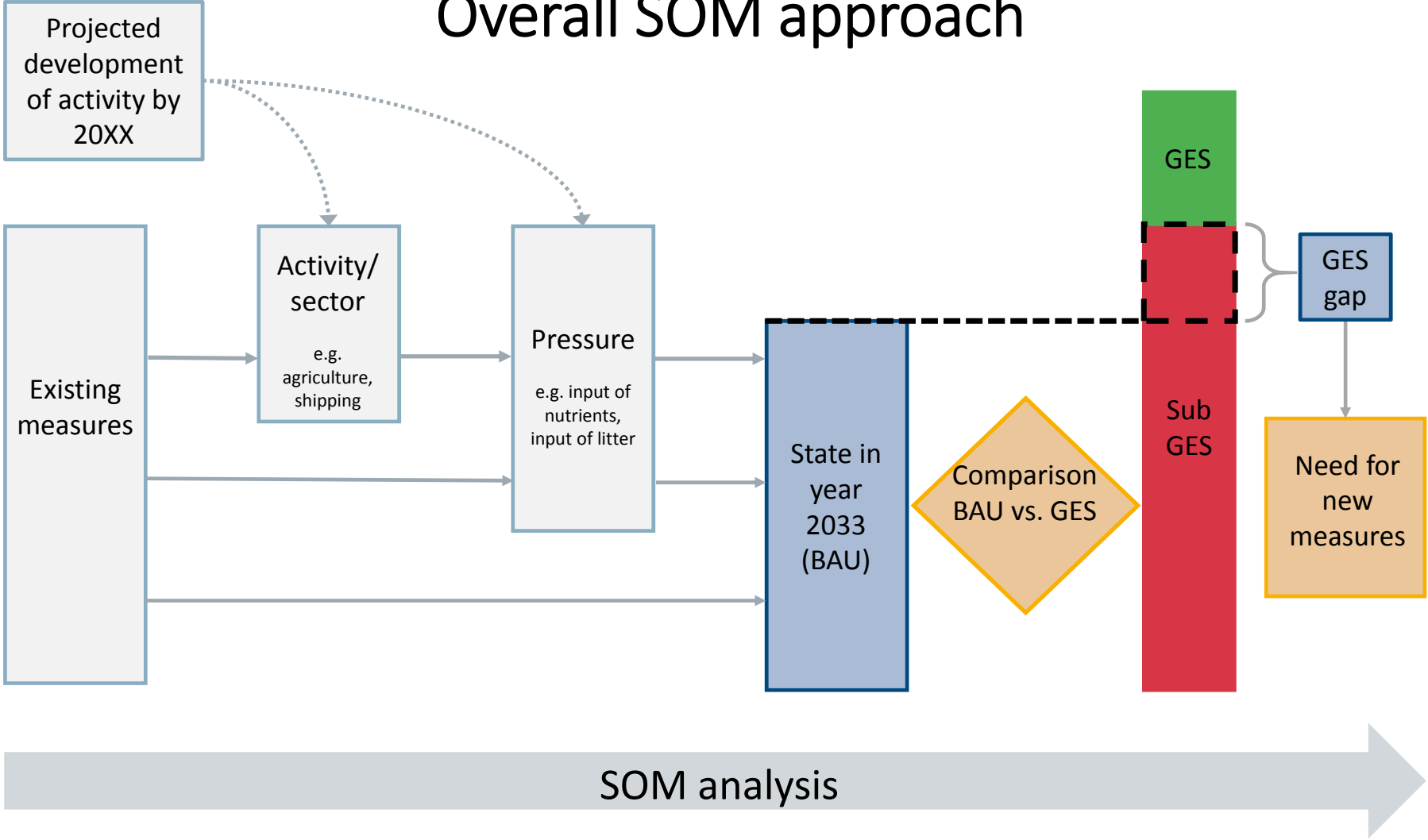


18 June 2019

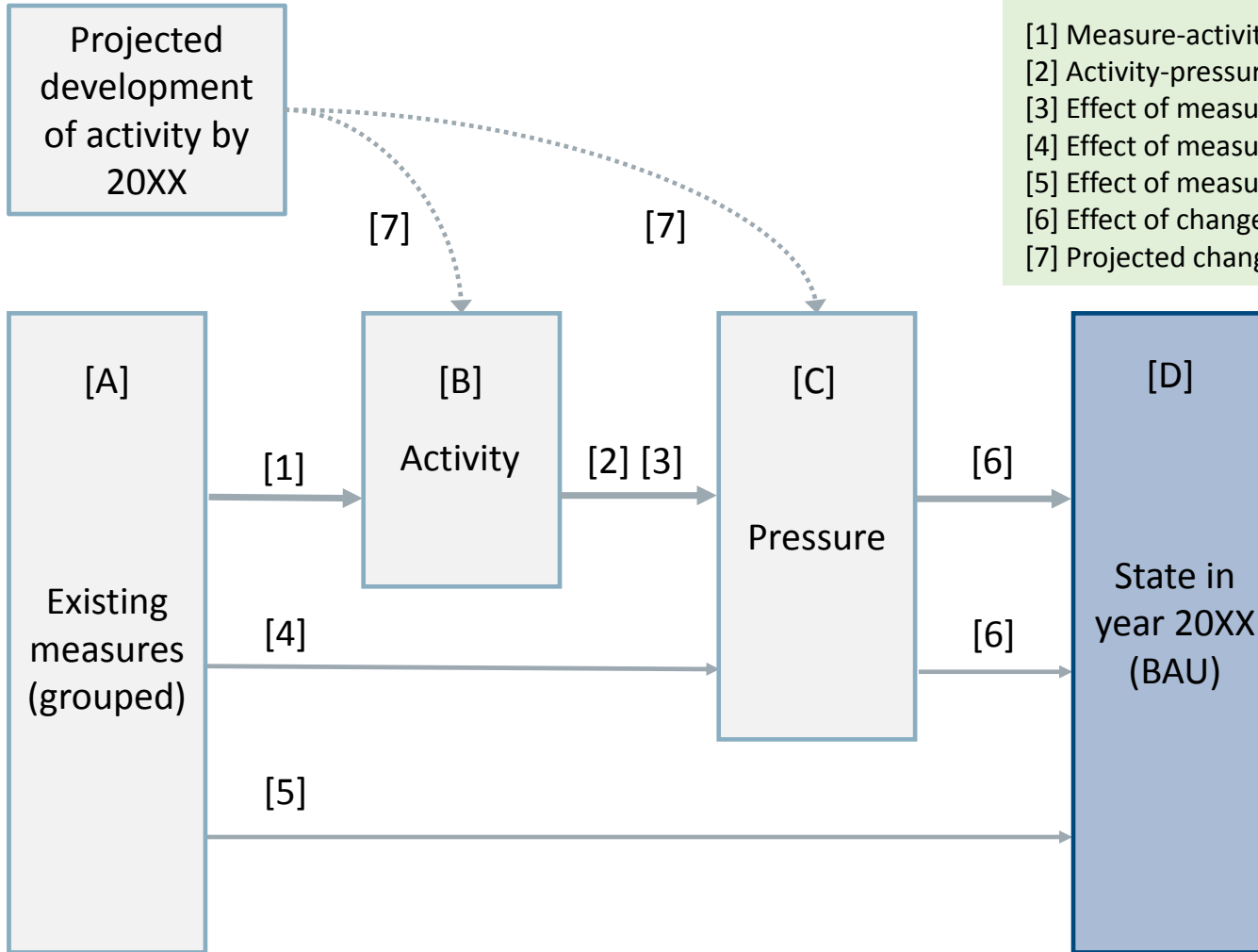
# Business-as-usual (BAU) state



# Overall SOM approach



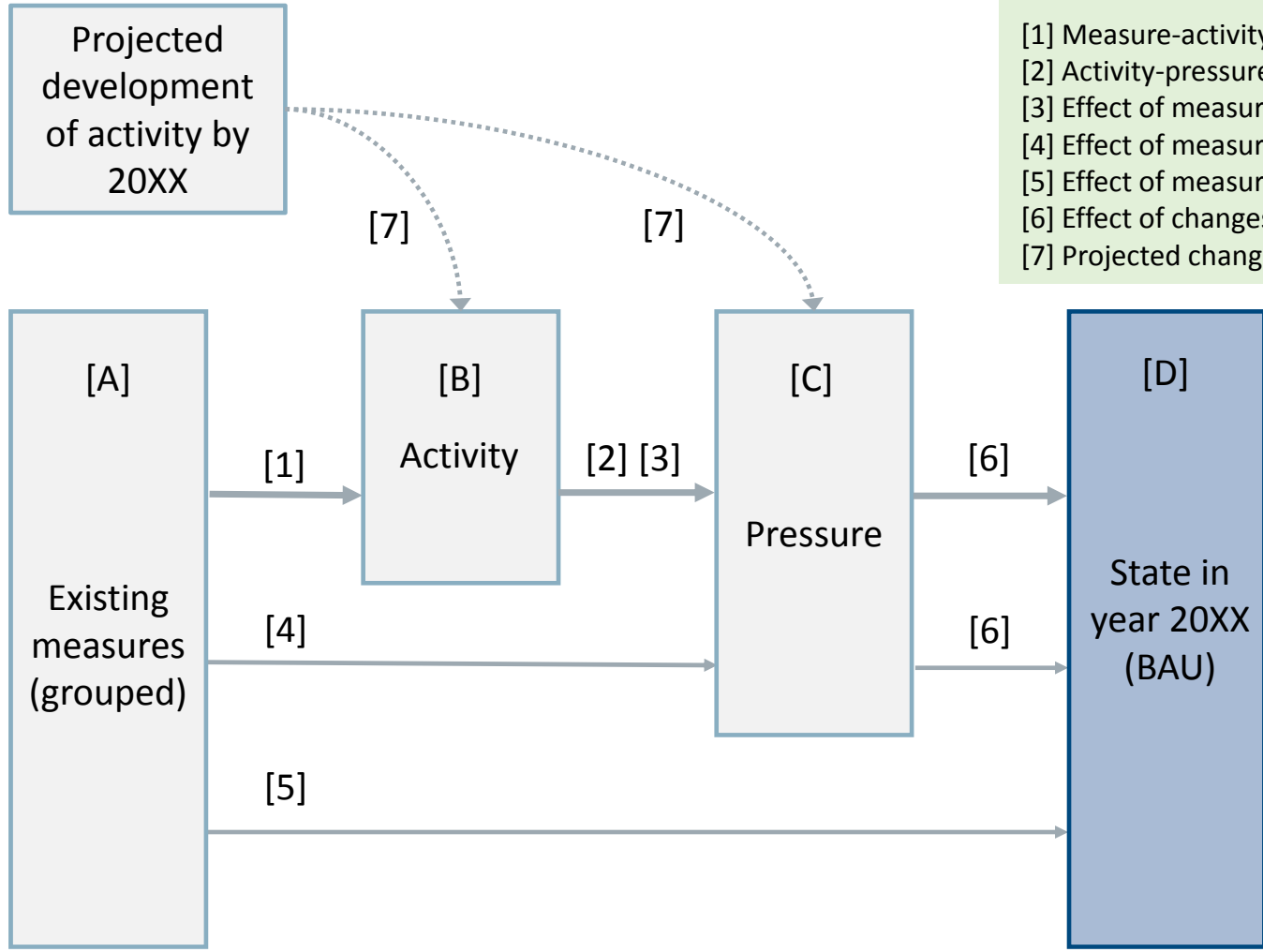
# SOM components



- [A] Measure list, implementation status, type, endpoint, time lags (Steps 1-2)
- [B] Activity list from MSFD Annex III
- [C] Pressure list from MSFD Annex III
- [D] State components/indicators list from HOLAS II

- [1] Measure-activity link (Step 1)
- [2] Activity-pressure link and relative contribution of activity to pressure (Step 3)
- [3] Effect of measure on pressure from activity (% $\Delta$ ) (Step 4)
- [4] Effect of measure on pressure (% $\Delta$ ) (Step 4)
- [5] Effect of measure on state (Step 4)
- [6] Effect of changes in pressures on state (Step 6)
- [7] Projected changes in activities or pressures (Step 5)

# SOM components

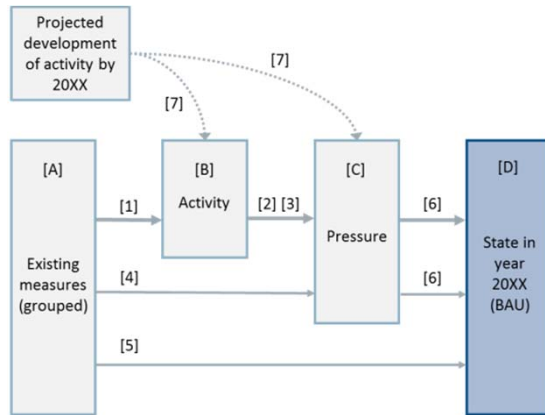


- [A] Measure list, implementation status, type, endpoint, time lags (Steps 1-2)
- [B] Activity list from MSFD Annex III
- [C] Pressure list from MSFD Annex III
- [D] State components/indicators list from HOLAS II

- [1] Measure-activity link (Step 1)
- [2] Activity-pressure link and relative contribution of activity to pressure (Step 3)
- [3] Effect of measure on pressure from activity (%Δ) (Step 4)
- [4] Effect of measure on pressure (%Δ) (Step 4)
- [5] Effect of measure on state (Step 4)
- [6] Effect of changes in pressures on state (Step 6)
- [7] Projected changes in activities or pressures (Step 5)

[5]  
Effect of measure on state  
(Step 4)

# Sufficiency of the current BSAP: Our approach



1st main outcome:

Total reduction of each pressure (%)

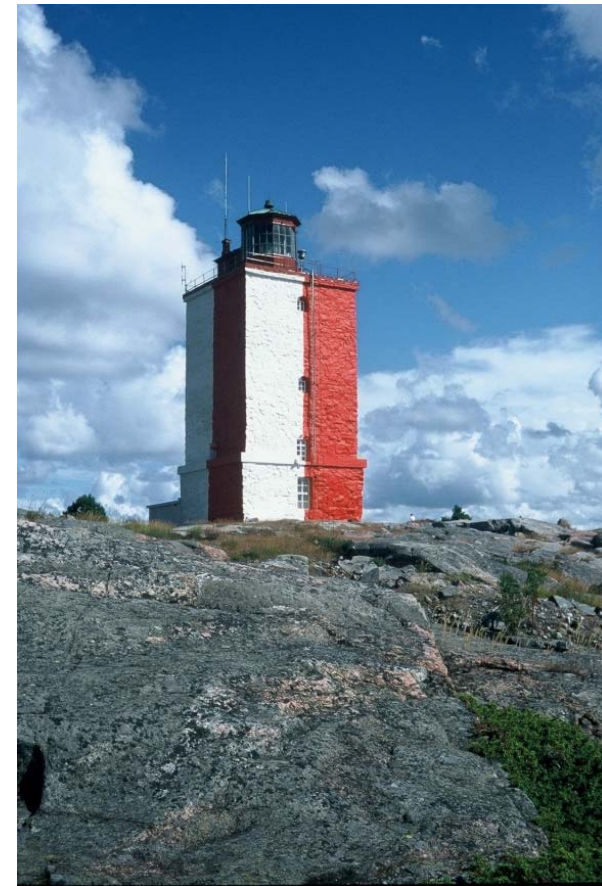
2nd main outcome:

Improvement of state components (%)



# MEASURES

- all types, except research, monitoring, coordination, indicators, targets, information systems/tools etc.)
- measures presented as groups to be considered jointly
- 'old measures with time lags' + 'ongoing measures'
  - we assume full implementation taking place
  - we assume full effect taking place
- list 'relevant' measures for each pressure and state components (conservation and restoration measures)



# ACTIVITIES

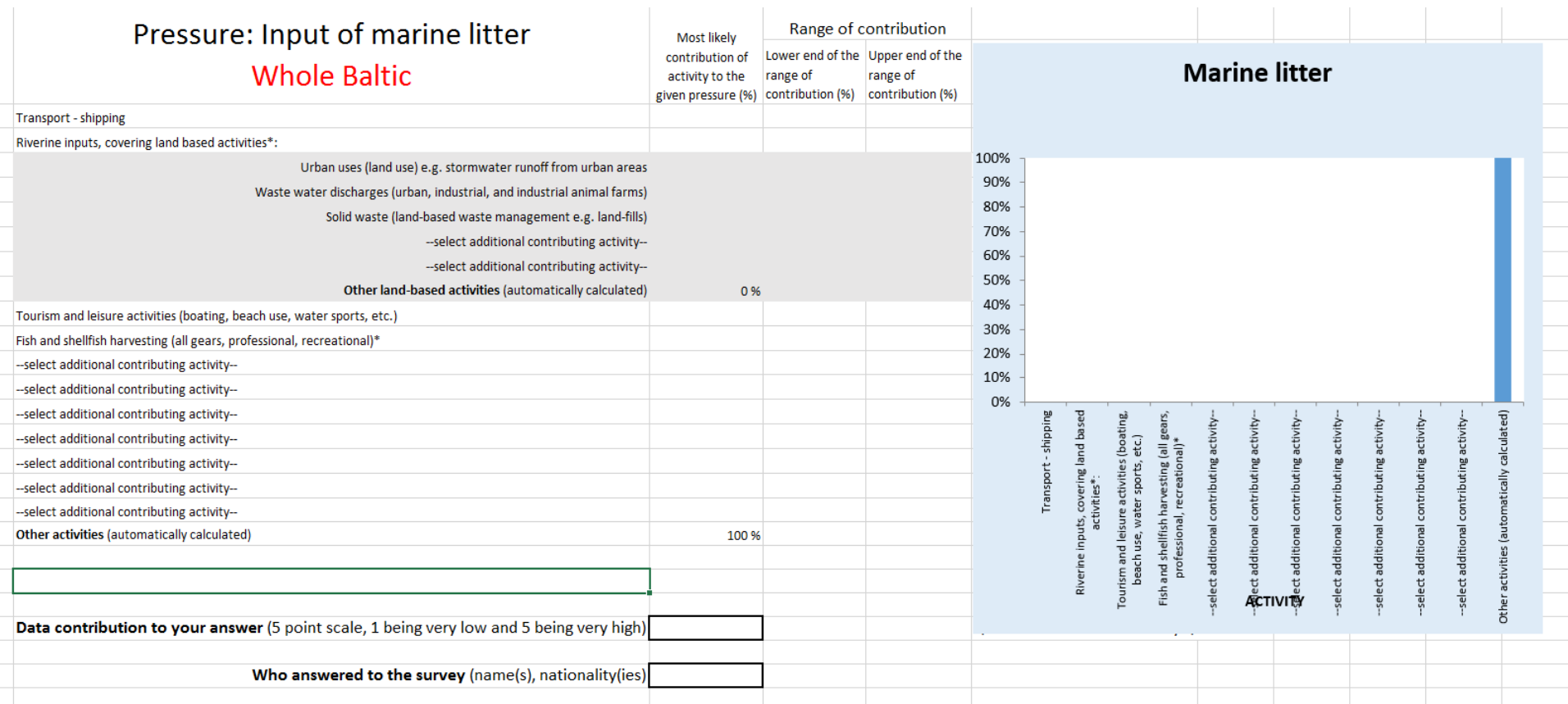
Aquaculture – land  
Agriculture  
Forestry  
Non-renewable energy generation (fossil fuel and nuclear powerplants)  
Land claim  
Transport – air, including infrastructure  
Transport – land (cars and trucks, trains), including infrastructure  
Urban uses (land use)  
Industrial uses (oil, gas, industrial plants)  
Waste waters (urban, industrial, and industrial animal farms; includes all waste streams entering waste water systems e.g. microplastics, pharmaceuticals, etc.)  
Solid waste (e.g. land-based disposal of dredged material, land-fill, solid waste streams)  
Canalisation and other watercourse modifications (coastal dams, culverting, trenching, weirs, large-scale water deviation)  
Coastal defence and flood protection (seawalls, flood protection)  
Aquaculture – marine, including infrastructure  
Renewable energy generation (wind, wave and tidal power), including infrastructure  
Transmission of electricity and communications (cables)  
Fish and shellfish harvesting (bottom-touching towed gears, professional, recreational)  
Fish and shellfish harvesting (pelagic towed gears, stationary gears, professional, recreational)  
Fish and shellfish processing  
Marine plant harvesting  
Hunting and population control  
Extraction of minerals (rock, metal ores, gravel, sand, shell)  
Extraction of oil and gas, including infrastructure (e.g. pipelines)  
Offshore structures (other than for oil/gas/renewables)  
Restructuring of seabed morphology (dredging, beach replenishment, sea-based deposit of dredged material)  
Tourism and leisure infrastructure (piers, marinas)  
Tourism and leisure activities (boating, beach use, water sports, etc.)  
Transport infrastructure (harbours, ports, ship-building)  
Transport – shipping (incl. anchoring, mooring)  
Military operations (infrastructure, munitions disposal)  
Research, survey and educational activities (seismic surveys, fish surveys)  
Activities and sources outside the Baltic Sea Region  
Marine and coastal construction

- List of 33 activities adapted from MSFD Annex III





# Linking Activities to Pressure



# Linking Measures to Pressure

Policy framework			Measures			Measure structure				
Name	Scale	Country	Name	Description	Type	Addressed Activity	NOTES	Addressed Pressure	KTM	Measu Pressure ti
Proposal for EU Directive on port reception facilities for the delivery of waste from ships - 2018/0012 (COD)	EU		Port reception facility requirement	(Article 4) Member States shall ensure the availability of port reception facilities adequate to meet the need of the ships normally using the port without causing undue delay to ships. ... (c) The port reception facilities allow for the management of the ship's waste in an environmentally appropriate way [and] provide for separate collection of waste from ships in ports...		Transport – shipping (incl. anchoring, mooring)		Input of litter		
Proposal for EU Directive on port reception facilities for the delivery of waste from ships - 2018/0012 (COD)	EU		Waste management plans	(Article 5) An appropriate waste reception and handling plan shall be in place and implemented for each port...  Member States shall evaluate and approve the waste reception and handling plan, monitor its implementation and ensure its re-approval at least every three years after it has been approved or re-approved, and after significant changes in the operation of the port have taken place.		Transport – shipping (incl. anchoring, mooring), Transport infrastructure (harbours, ports, ship-building)		Input of litter		
Proposal for EU Directive on port reception facilities for the delivery of waste from ships - 2018/0012 (COD)	EU		Cost recovery systems	(Article 6) 1. Member States shall ensure that the costs of operating port reception facilities for the reception and treatment of waste from ships, other than cargo residues, shall be covered through the collection of a fee from ships.		Transport – shipping (incl. anchoring, mooring)		Input of litter		
Proposal for EU Directive on port reception facilities for the delivery of waste from ships - 2018/0012 (COD)	EU		Inspections	(Article 10) Member States shall ensure that any ship may be subject to an inspection in order to verify that it complies with the requirements of this Directive.		Transport – shipping (incl. anchoring, mooring)		Input of litter		
Proposal for EU Directive on port reception facilities for the delivery of waste from ships - 2018/0012 (COD)	EU		Penalties	(Article 16) Member States shall lay down of the rules on penalties applicable to infringements of national provisions adopted pursuant to this Directive and shall take all the measures necessary to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive.		Transport – shipping (incl. anchoring, mooring)		Input of litter		
Annex V to MARPOL 73/78	Global		General prohibition on discharge of garbage into the sea	(Regulation 3) Discharge of all garbage into the sea is prohibited, except as provided otherwise Discharge of all plastics...is prohibited Discharge of cooking oil...is prohibited		Transport – shipping (incl. anchoring, mooring)		Input of litter		
Annex V to MARPOL 73/79	Global		Discharge of garbage within special areas	(Regulation 6) Discharge of the following garbage into the sea within special areas shall only be permitted while the ship is en route and as follows: 1 Discharge into the sea of food wastes as far as practicable from the nearest land, but not less than 12 nautical miles from the nearest land or the nearest ice shelf. Food wastes shall be comminuted or ground and shall be capable of passing through a screen with openings no greater than 25 mm. Food wastes shall not be contaminated by any other garbage type. 2 Discharge of cargo residues that cannot be recovered using commonly available methods for unloading, where all the following conditions are satisfied: 2.1 Cargo residues, cleaning agents or additives, contained in hold washing water do not		Transport – shipping (incl. anchoring, mooring)		Input of litter		

# PRESSURE REDUCTION

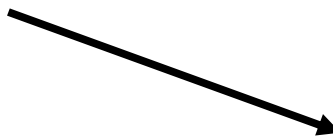
MEASURE GROUP



TOTAL PRESSURE REDUCTION

CONTRIBUTION	%
ACTIVITY 1	50
ACTIVITY 2	25
ACTIVITY 3	10
ACTIVITY 4	10
ACTIVITY 5	5
ACTIVITY 6	0

REDUCTION%	p
0	0
0-5	0.2
5-10	0.7
10-20	0.1
20-30	0
...	0



# PROJECTED DEVELOPMENT OF PRESSURES

