



Zero Pollution & biodiversity

Zero Pollution Stakeholder Conference 2022 – Deep Dive

*Water and Marine Resources
European Commission Joint Research Centre
14/12/2022*

Zero pollution outlook 2022





The big three: Pollution – Climate Change - Biodiversity



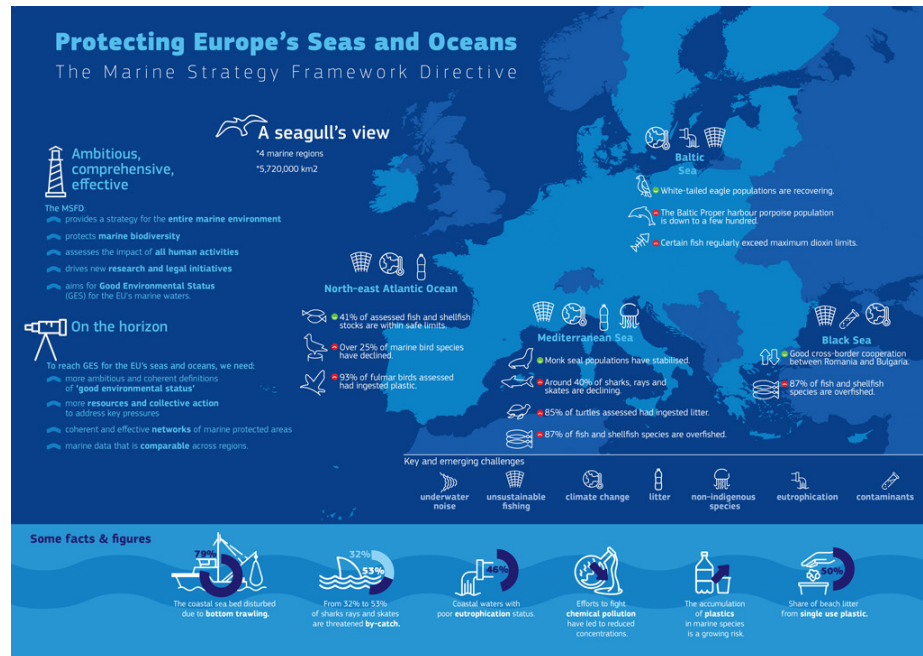
The big three: Pollution – Climate Change - Biodiversity



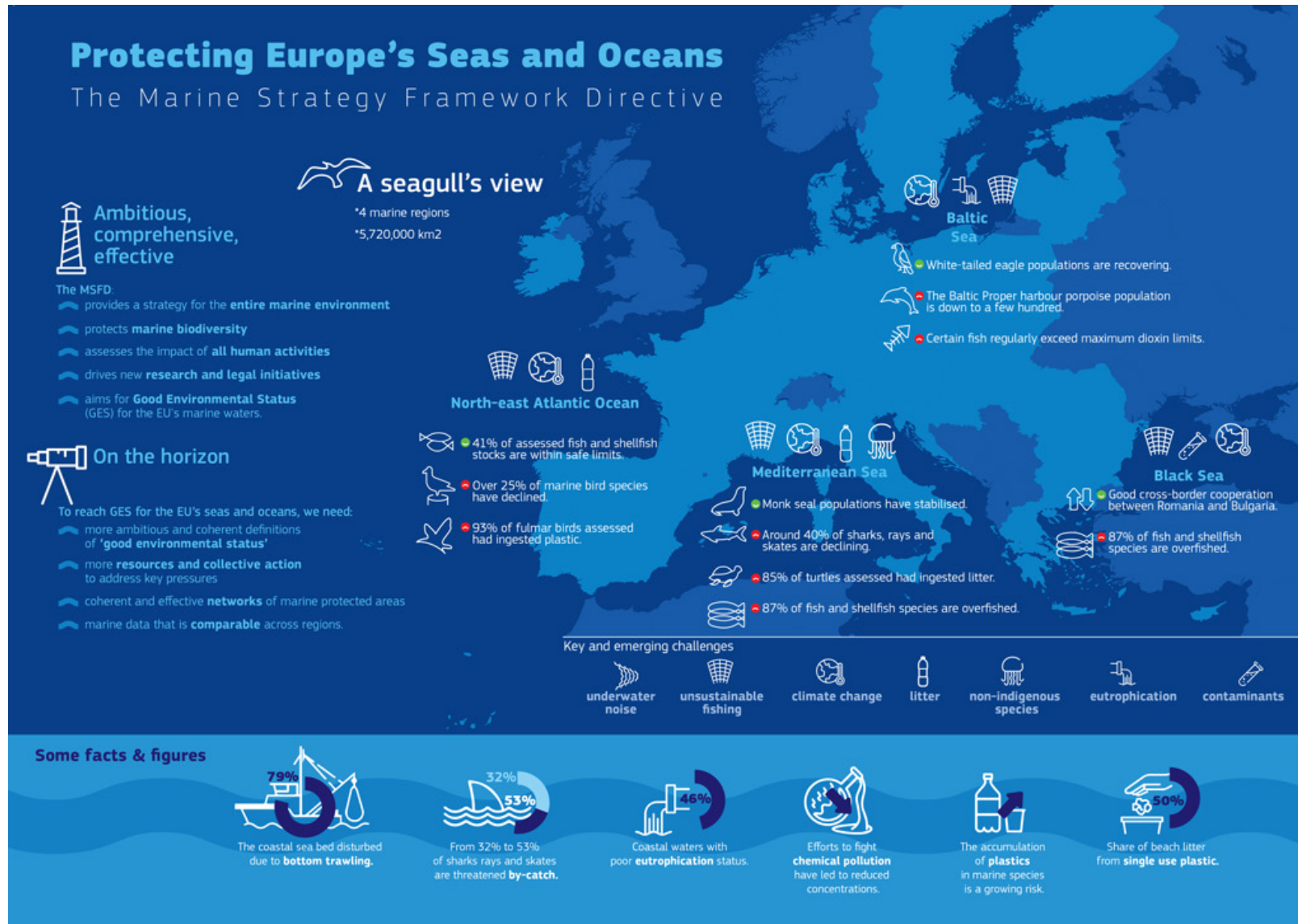
the Oder river disaster (2022)

Zero pollution targets and underpinning policies

- ❑ National Emissions reduction Commitments Directive (2016/2284/EU)
- ❑ Water Framework Directive (2000/60/EC)
- ❑ Marine Strategy Framework Directive (2008/56/EC)



Zero pollution targets and underpinning policies



Zero pollution and biodiversity: targets for 2030



3. Reduce EU ecosystem area where **air pollution threatens biodiversity** by **25%**.



4. Reduce **nutrient losses**, the use and risk of **chemical pesticides**, the use of more hazardous ones, and the sale of antimicrobials for farmed animals and in aquaculture by **50%**.



5. Reduce **plastic litter at sea** by **50%**, and microplastics released into the environment by **30%**.

Zero Pollution: Air

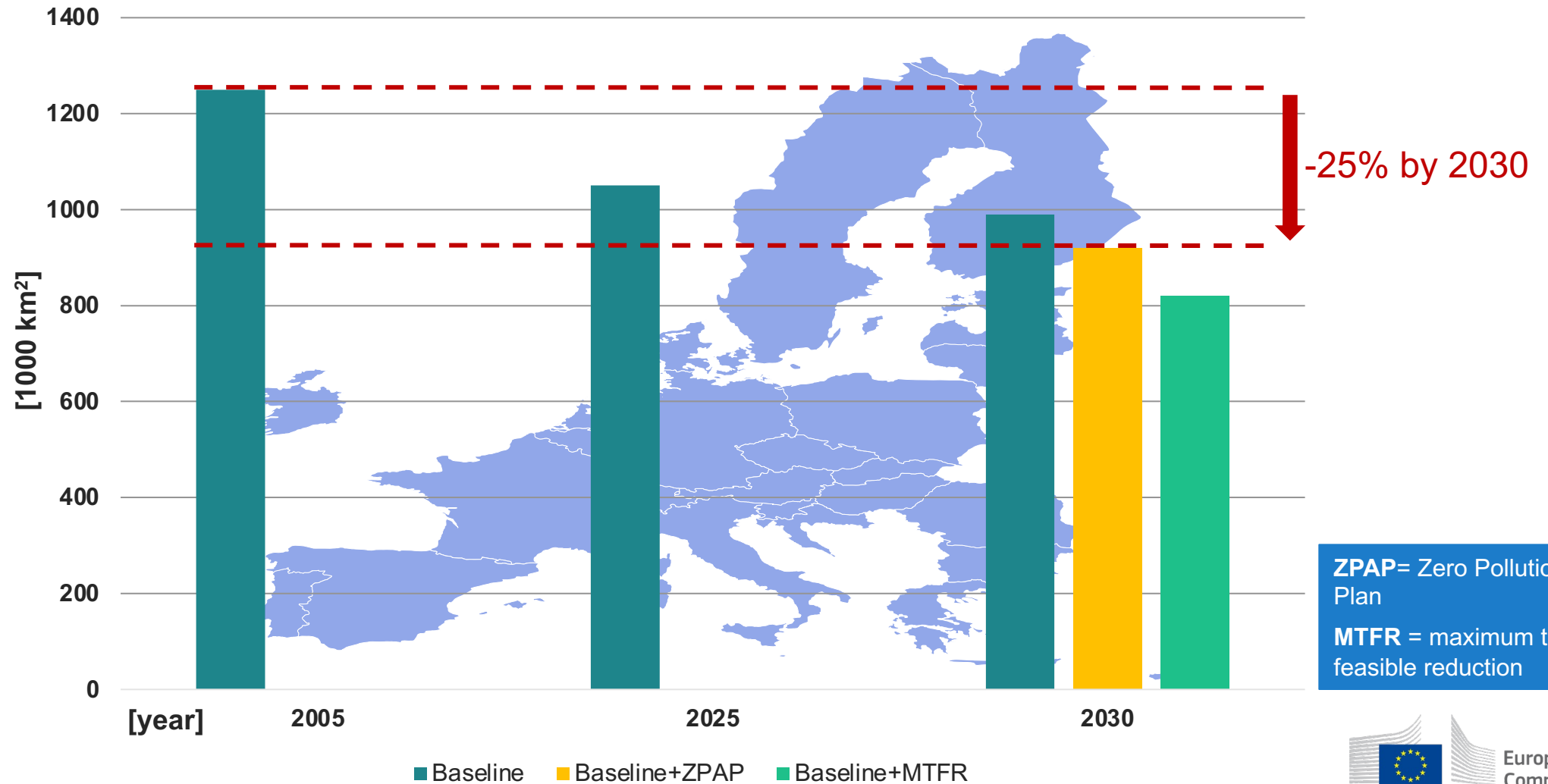


3. Reduce EU ecosystem area where **air pollution threatens biodiversity** by **25%**.

Zero Pollution: Air – Are we getting there?



EU ecosystems area: nitrogen threat to biodiversity



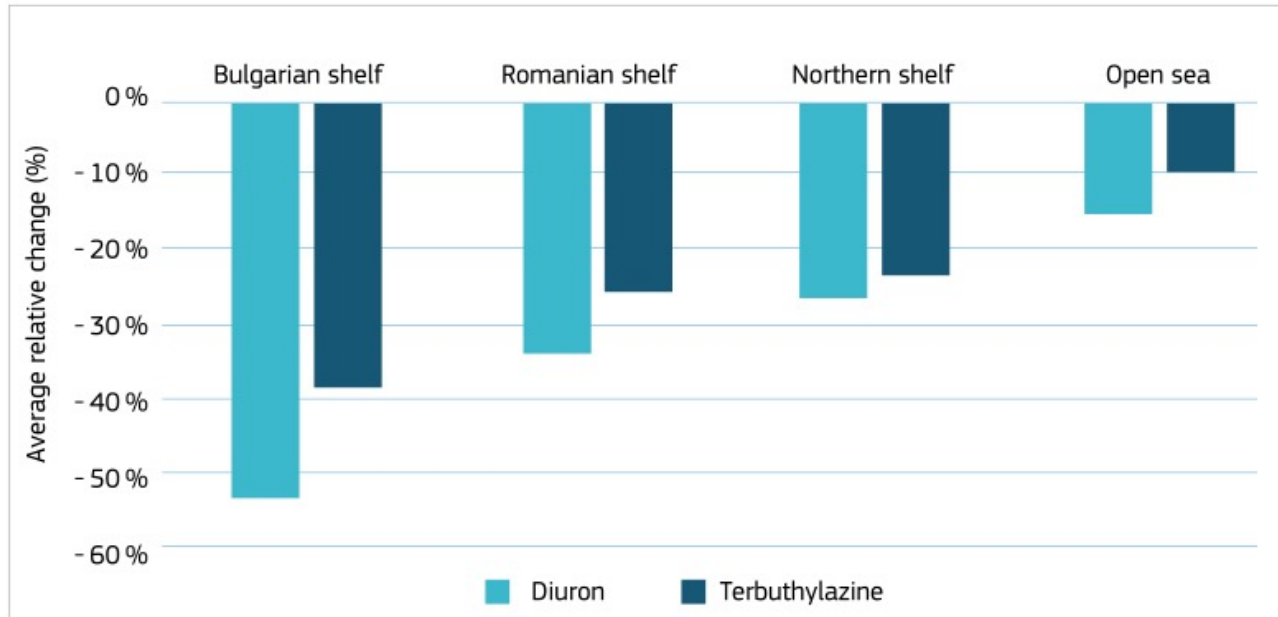
Pesticides: marine impacts



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Pesticides: marine impacts

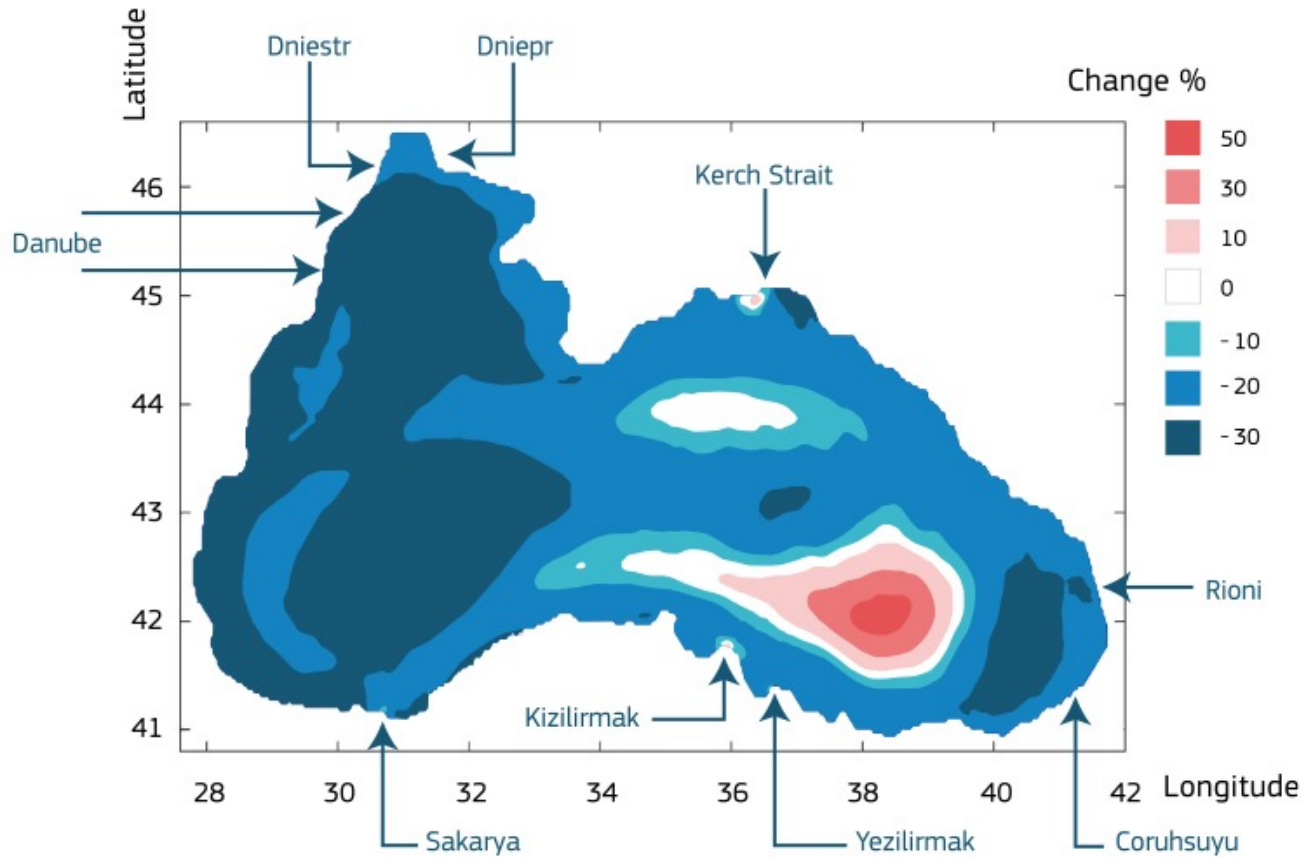


- Stopping chemical pollution improves the marine environmental situation.
- Larger improvement in coastal regions than in open sea.
- Magnitude of improvement depends on chemical's persistence.

Pesticides: marine impacts

[Difference: presence to 2030]

Terbuthylazine



- General improvement in the whole basin
- Deterioration in specific regions
 - Linked to changes in circulation due to climate change

Measures to reduce nutrient pollution

Scenarios construction



Reducing atmospheric emissions, according to the Fit for 55 package

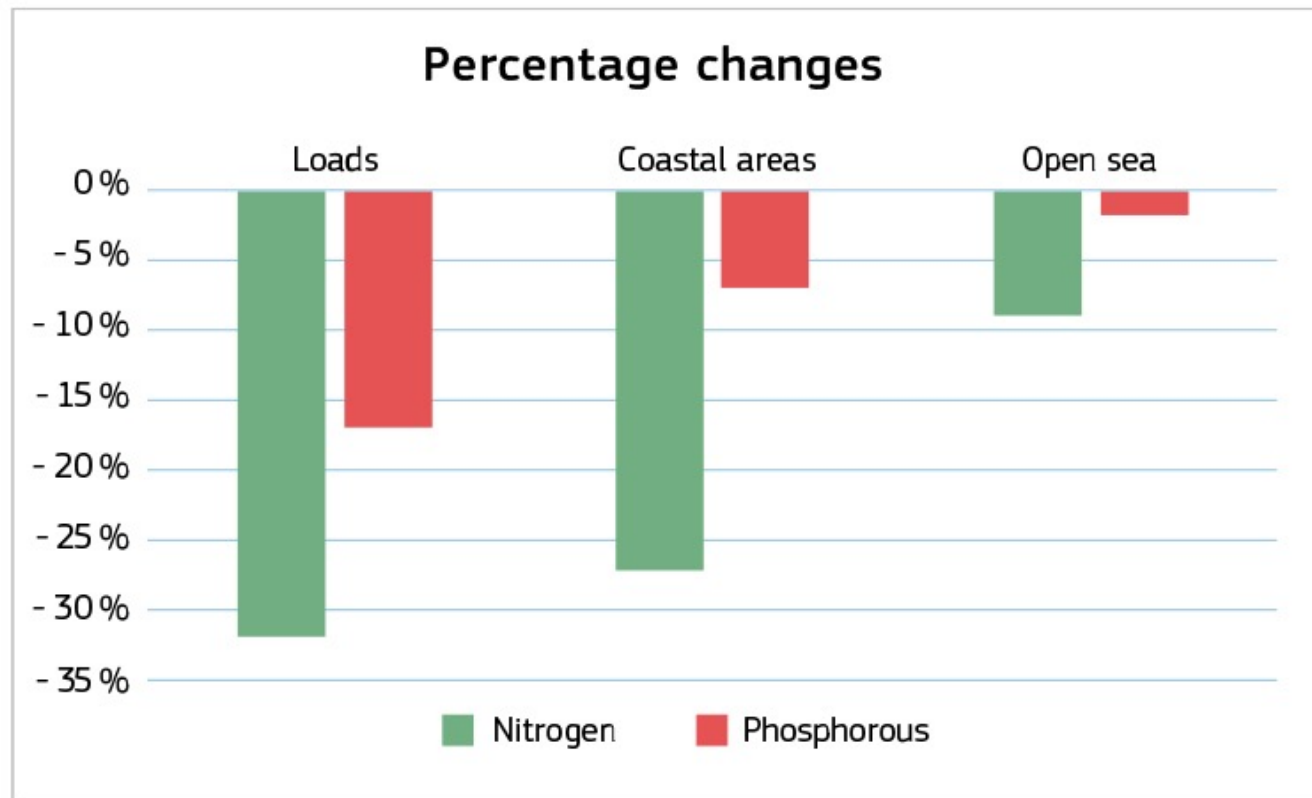


Agricultural fertiliser input, considering the new CAP and Farm to Fork objectives (i.e. 25% organic farming)



Wastewater discharges, considering the review of the UWWT Directive

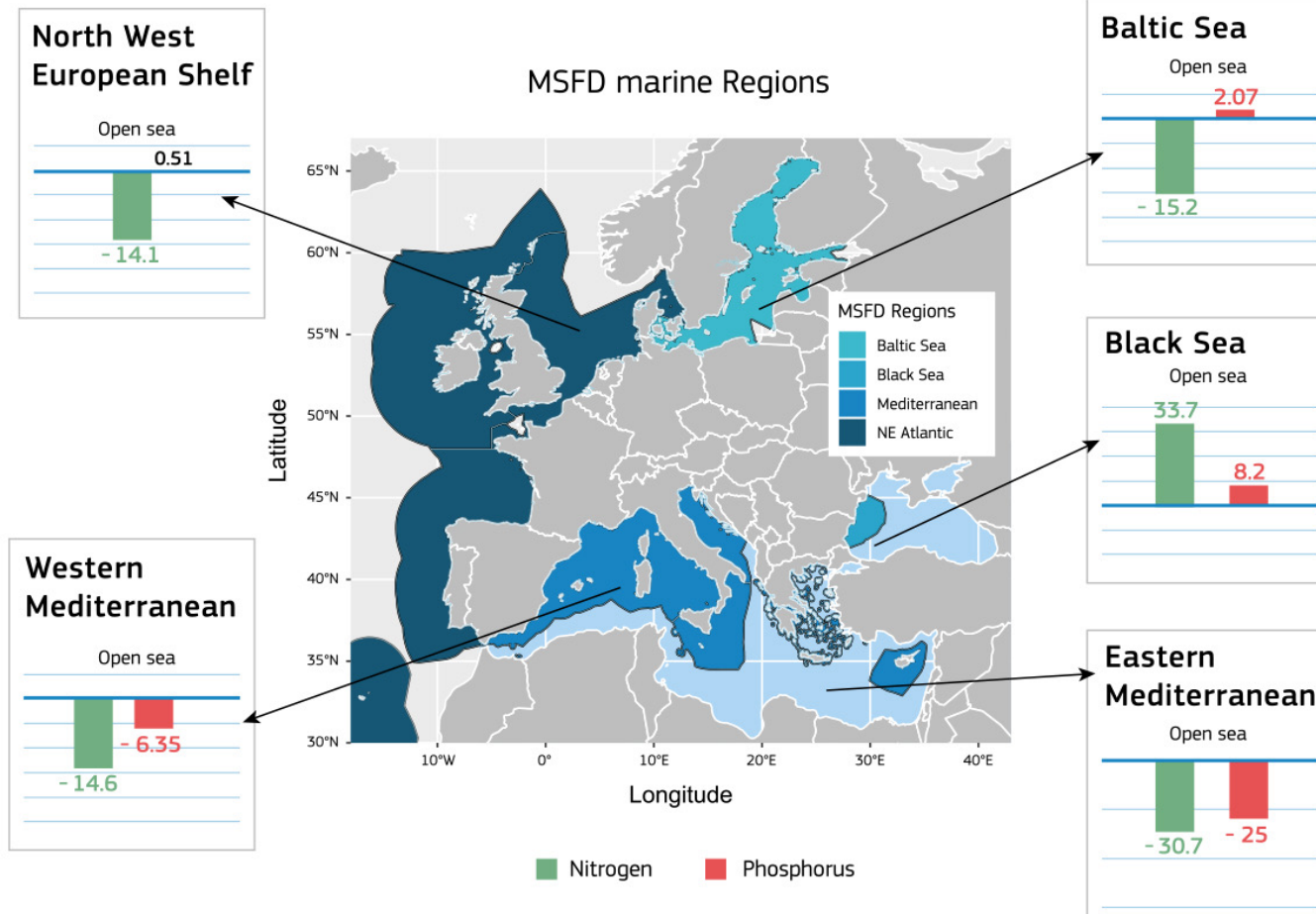
Nutrients: marine impacts - summary



- Overall nutrient loads are reduced (as a result of the scenario presented before)
- N is reduced more than P
- Nutrients concentration reduced
 - More in coastal areas than in open sea

Nutrients: marine impacts – seabeds

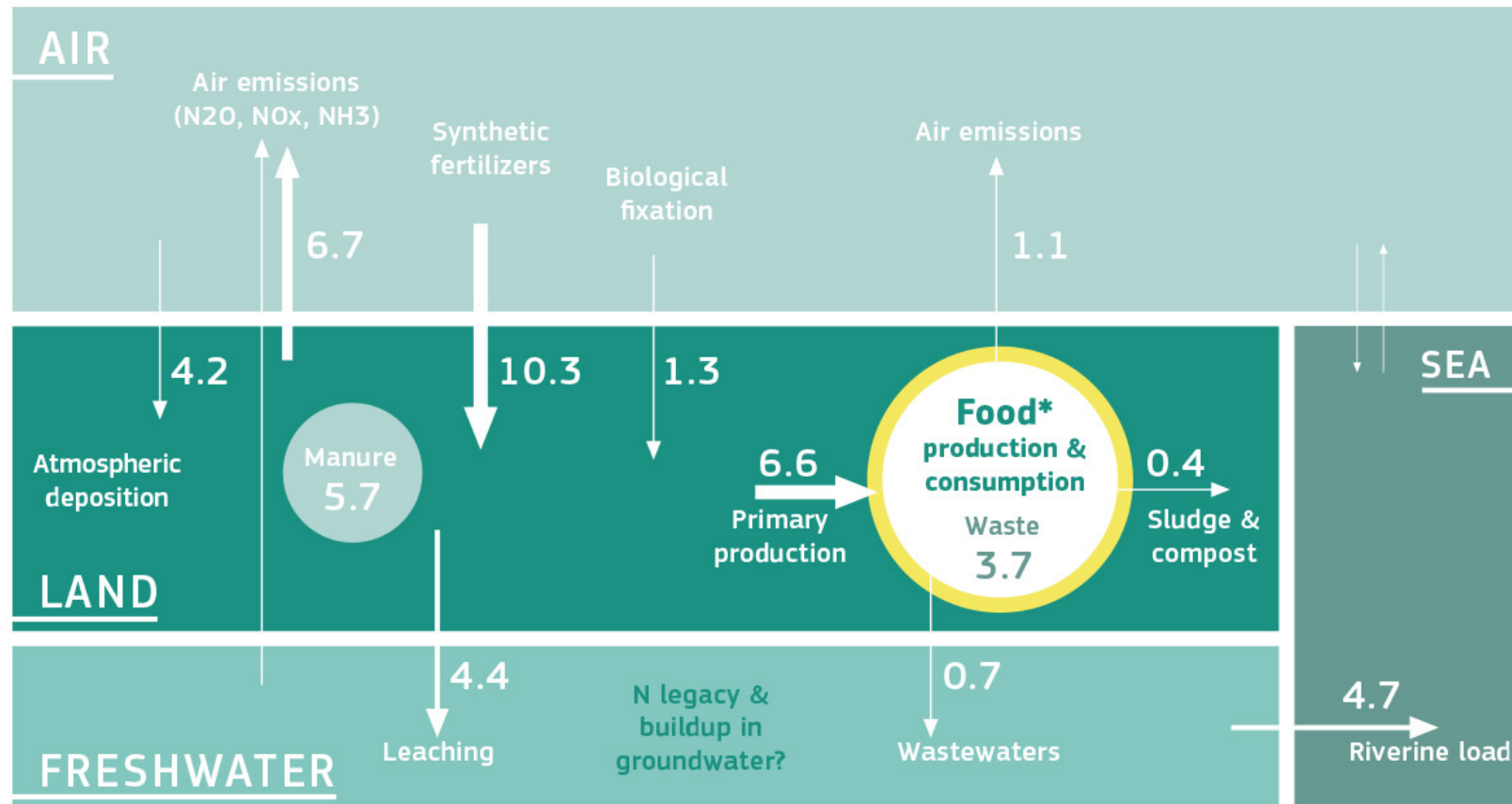
- high ambitious scenario -



- Regional differences
- General improvement in environmental conditions
- Some potential deterioration:
 - N:P changes
 - Climate change

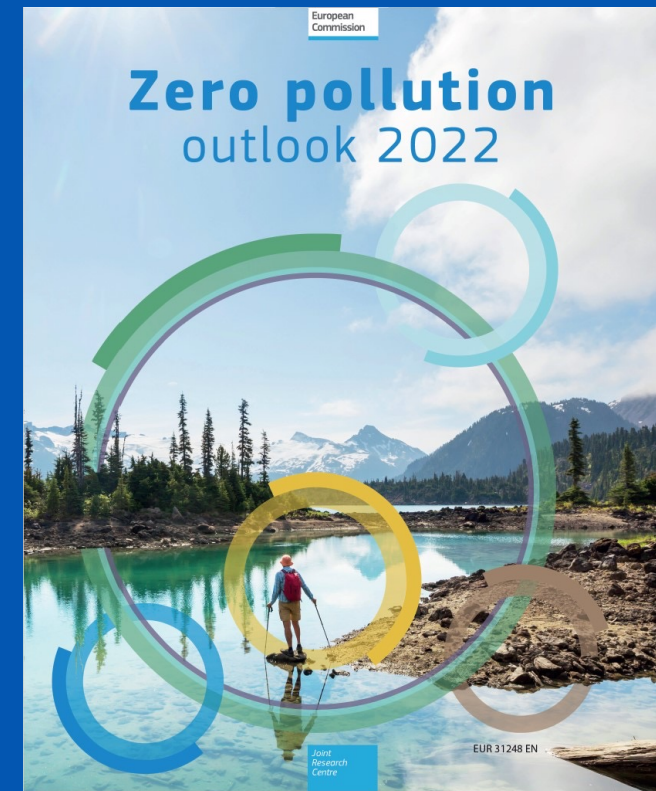
Integrated Nutrient Management Action Plan (upcoming)

Major nitrogen fluxes in EU27 (TgN/y) around year 2015



In conclusion

- Aim: from taking a stroll to walking along a path.
- For air (nitrogen) the zero pollution target 2030 in reach.
- For the marine realm:
 - stopping chemical pollution alleviates burden.
 - larger improvement in coastal regions than in open sea.
 - regional differences.
 - the world is complex ...
- Christmas wish of modelers: data, data, data !
- Walking together towards 2024.



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Thank you



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