Norwegian kelp governance and management

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NIVA, Water and society

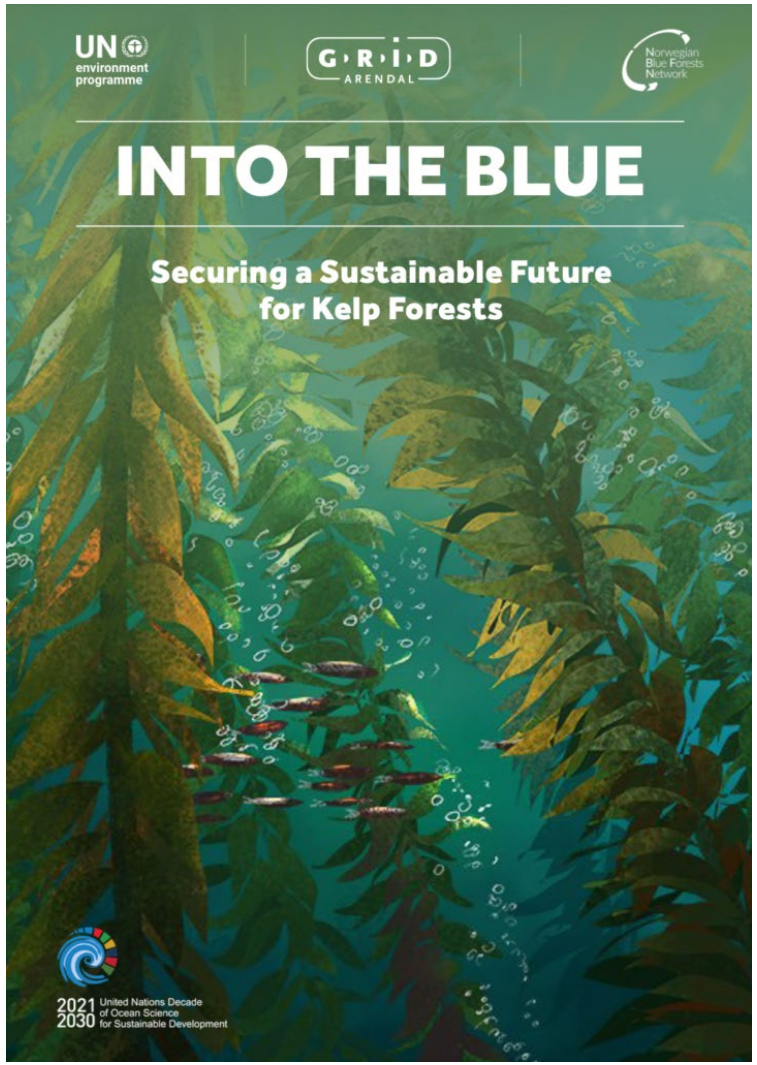
Global kelp assessment on management (2023)

Observations:

- Little attention to kelp in ocean governance
- No specific global instruments for kelp
  => Adapt general ones to address kelp!
- Many national for kelp harvesting

Main recomendations:

- Ecosystem-based management is a key approach
- MSP and MPAs can protect against local pressures, not external like nutrients, climate change, migrating stocks etc
- Assess and adapt rules for kelp harvesting regularly



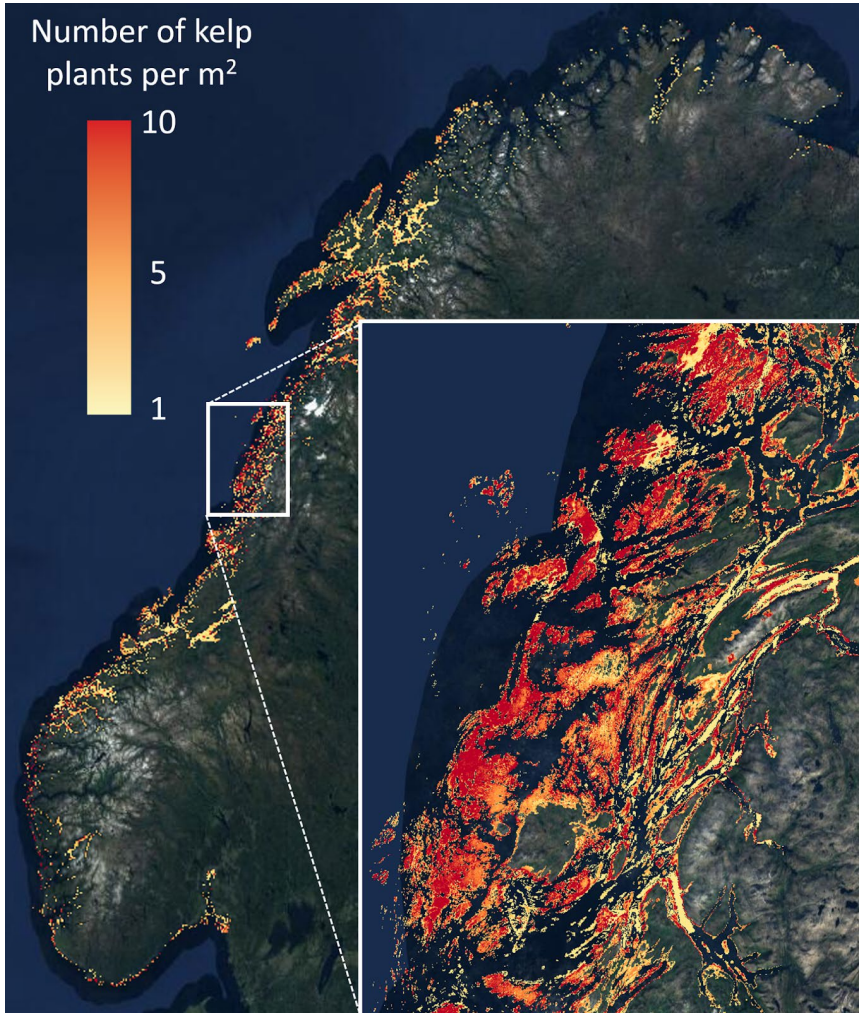
Diagnosis for Norway?

The same:

- No specific instrument for kelp, except for kelp harvesting
- A number of instruments that *could* be applied

However:

- Increasing interest for blue forests
- A surprising initiative from Parliament



EBM: Managing cumulative impacts

Aim: Sustainable use within ecosystems' tolerance levels

Need to:

- Understand cumulative impacts, including indirect ones
- Include *all* relevant sectors
- Address unacceptable pressures with measures, mobilizing sectoral management with their own instruments

See Sander 2024:
[European Approaches Support an Essential Definition of Ecosystem-Based Management]

EBM in Norway: A sharp divide ocean - coast

Ocean

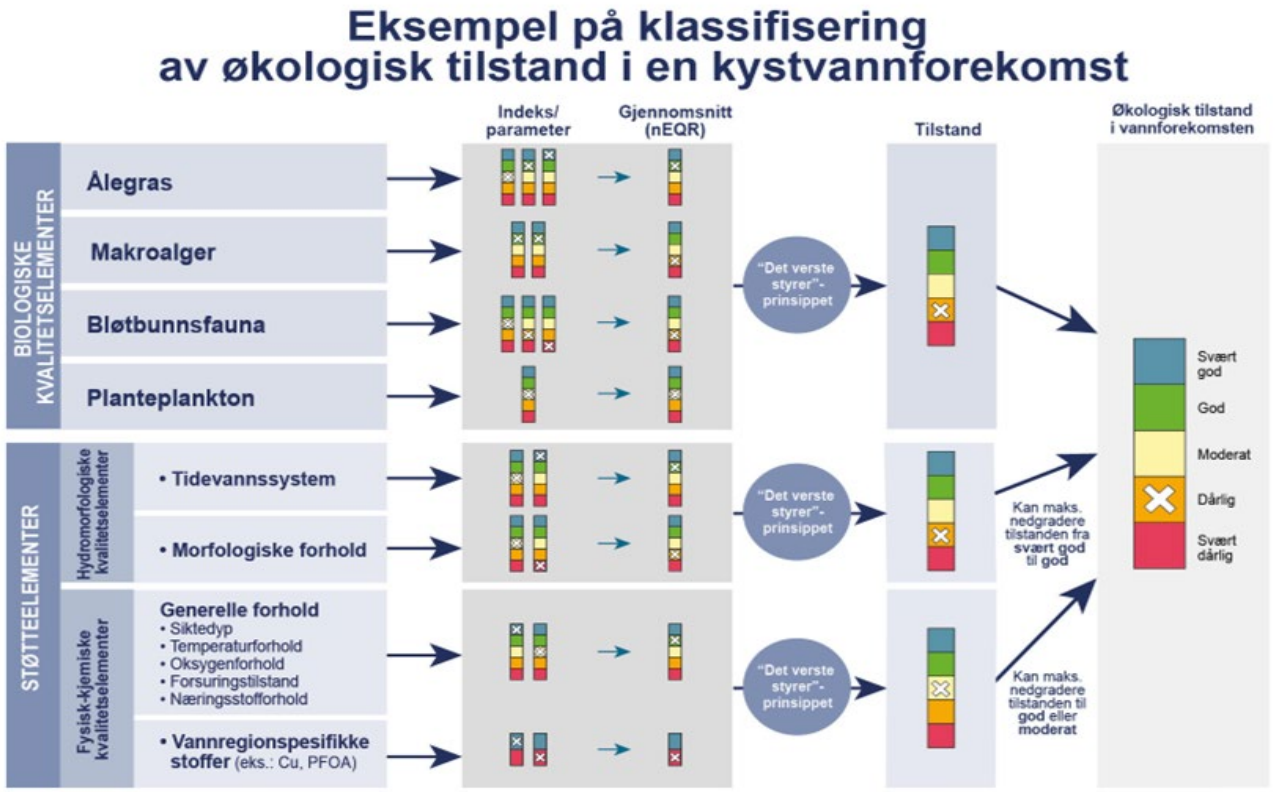
- *Ocean* management plans provde holistic EBM – where kelp does not grow
- Still signals on blue forests in the coast

Coast

- EU's Water Framework Directive applies to a *large* coastal zone in Norway
- 'EBM light': Ecological status indicators exclude important parts of the ecosystem
- Indicators are of little relevance for kelp (fig)
- Kelp forests are not adressed in the River Basin Management Plans

General

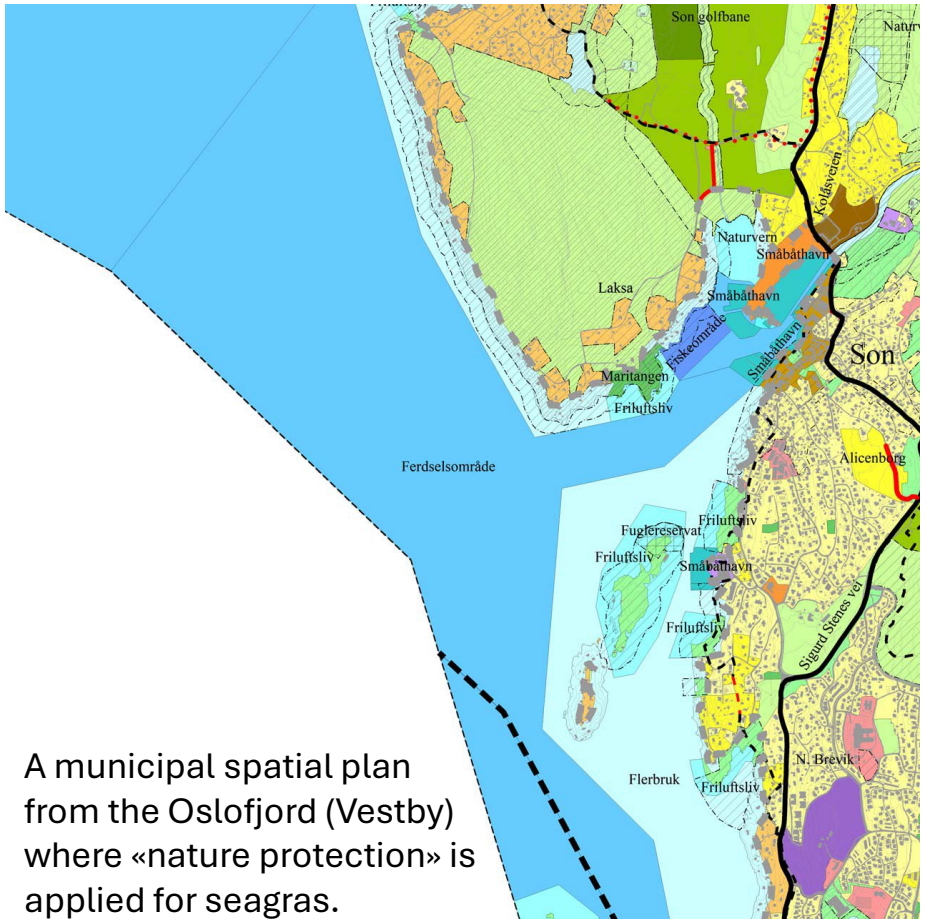
- Still individual sectors act on pressures relevant for kelp.
- May be inspired by an unclear provision in the Nature Diversity Act (§10 on ecosystem approach and cumulative impacts)



Classification of ecological status in coastal waters according to WFD. «Macroalgae» is an index based on many species, used for *eutrophication effects* in Skagerak. A simpler version elsewhere is not approved.

Marine Spatial Plans (*kystsoneplaner*)

- MSP is an extension of land-based spatial planning
- Municipalities a key role
- Expanding aquaculture industry a driver
- Plans may set off areas with different degrees of restrictions on uses.
- Several examples of blue forest areas incorporated in plans (fig).



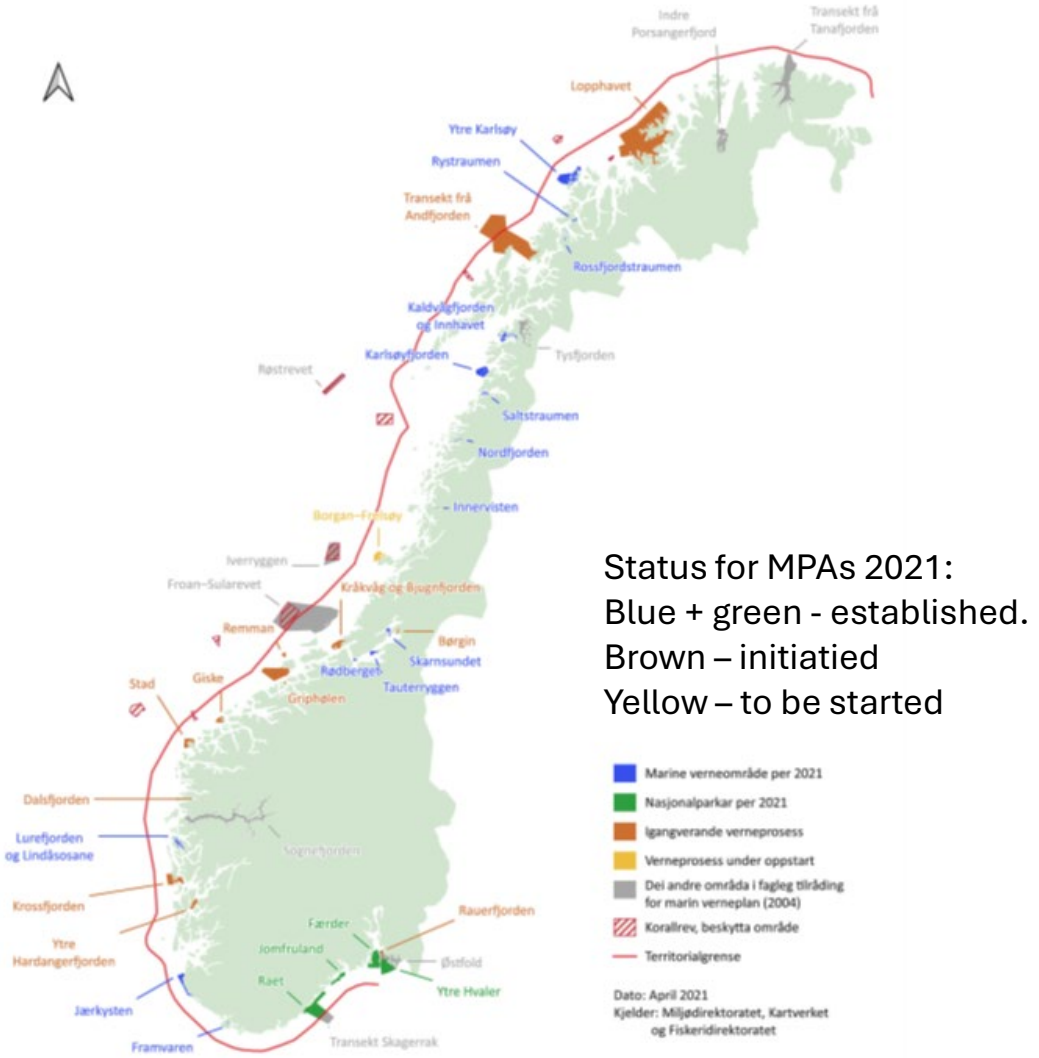
A municipal spatial plan from the Oslofjord (Vestby) where «nature protection» is applied for seagras.

Same law:

National guidelines require protection of kelp for climate reasons

Marine Protected Areas in Norway

- Candidate areas from 2004 severely delayed (map) due to controversies
- 2021 white paper =>
  new initiatives, new designations
- Kelp forests are registered in many MPA processes
- 30% protection a challenge
- Common critique:
  Too much activities allowed inside MPAs and consessions to industries when boundaries are set.



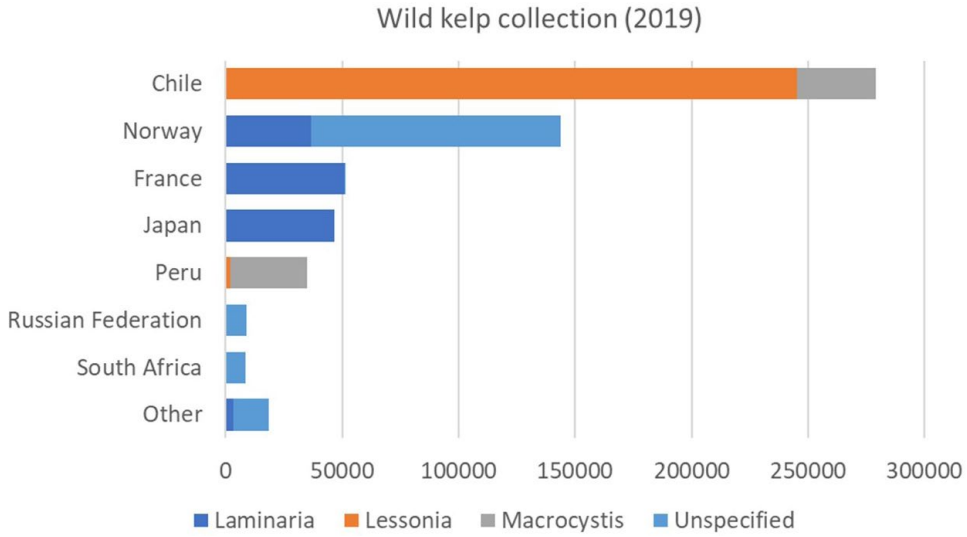
Kelp trawling: Rules and controversies

- Norway 2nd largest harvester (fig.)
- Kelp is harvested at 5-year intervals in SW part of the coast
- Regional regulations on a 5-year basis; Regional advisory groups, Directorate of Fisheries adopt.
  => Adaptive management

Controversies:

- Kelp recovers after 3-5 y, kelp ecosystem requires at least 6-7y.
- Sectoral and legal strides
- EBM without birds included?
- Local opposition

(Greenhill et al 2021; Dehnhard et al 2024)



The Nature Diversity Act beyond MPAs

Priority species

- Criteria for designation: Status, international responsibilities.
  One species of seagras is designated
- Implications:
  Prohibit removal and damage, EIA, may protect areas, restoration

Selected habitat types (chapter VI)

- Criteria similar + importance for priority species. Listed birds.
- Designation -> Action plan
- Restricts projects that affect the habitat, but does not prohibit

Initiatives for restoration

Kelp:
June 2024: All political parties in Parliament requested the Government to

«*present a plan and suggest measures to systematically restore Norwegian kelp forest along the coast*»

A surprise, resulting from lobbying by an environmental NGO

General:

Kunming – Montreal and 30% restoration:
Several initiatives, including evaluation of existing legislation and identification of candidate areas

The Tromsø advisory conference on the plan

13 Nov 2024, ap. 80 participants discussed input to the national plan, for Northern Norway where sea-urchin grazing is the problem

Advice on the content of a plan:

- Vision: Kelp forests back as self-regulating ecosystems.
  Objectives: 30% by 2030, 100% later. Measurable objectives, evaluated.
- Measures, priorities:
  Fisheries management, MPAs, EBM, harvesting & destructive removal of sea-urchins
- How to organize a programme:
  Top-down government vs bottom-up with counties, municipalities & private sector
- Scientific advice: Needed on many issues. Scientific with contribution from others
- Funding – needs, where from?
  Businesses see opportunities in sea-urchin removal and utilization. Reduces costs.
  New: Norwegian Research Council, climate and biodiversity offsets.
- Legal barriers for restoration:
  Several exist. A specific authorization for kelp restoration should be developed
- Adaptive management:
  Pilot areas, testing different combinations and methods in different conditions.
  Evaluate costs & benefits systematically. Learn what works and up-scale