Croatian coralligenous monitoring protocol and MPA network: value local actions to build-up global conservation assessment

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**Context: coralligenous habitat**

**Highly heterogeneous:** at geographic and micro scale

**Low dynamic systems:** dominated by long-lived, slow-growing species

- Habitat needing rigorous protection by the Protocol for special protected areas (SPA/BIO) of the Barcelona convention
- Included in priority habitat type “1170 Reefs“ by the EU Habitat Directive (92/43/EEC)
Context: monitoring protocol

- the framework of the MedMPAnet project
- National level: primarily to fulfill reporting and monitoring requirements of the EU Habitat Directive (92/43/EEC)
- First report is expected in 2019 (6 years period)
- Lack of data on coralligenous – no fixed definition of the monitoring methods and metrics

OUR AIM

To propose the basic methodological approach that will:

- enable gathering the information needed
- serve as a basis for reformulation of the adopted methods
Results: Monitoring protocol

Depth range 30 – 40 m

Photo sampling

Visual census

Data on:

✓ **habitat structure and function** (species composition, habitat complexity, bioconcretion and bioerosion)

✓ **degree of impact of the main disturbances** (mass mortalities, invasive species, sedimentation, mucilaginous algal aggregates, fishing gear)
Monitoring: where, by whom and how often?

Min of 36 sites along Croatian coast:
- Geographic Sector (3)
- Protection level (3)
  - MPA
  - Natura 2000
  - Unprotected

Time: every 3 years (12 sites per year), late summer

Field team: 4 divers (marine biologists, MPA staff, trained recreational divers) + good quality underwater photo equipment
  ➡️ complete assessment of 1 site per dive

Different environmental conditions

Different degree of human pressure

Min 3 sites in each MPA
Challenges / Perspectives

National level
- Coordination – an authority ensuring that national guidelines are followed (Croatian Agency for Environment and Nature)
- Funding – monitoring is a responsibility of each member state...
- Logistics & finance for monitoring of deeper waters (> 40 m depth) - more demanding
- Implementation - has not started yet – follow up planned (financed from Structure Funds in the period 2017-2022)

Mediterranean level
- Standardization – not easily achieved but valuable effort in the long-term (enabling comparability, enhanced understanding...)

How to report the data gathered and how to provide global views from these data in an efficient way? 
Conclusion / Recommendation

The application of a standardized protocol within the network of MPAs offers a platform for managers:

- to establish common standards for evaluation of the coralligenous status and trends,
- to assess the efficiency of conservation measures and
- to ensure adaptive management in a most cost-efficient manner
Thank you - Merci

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