

Summary for a generic audience
GOOD ENVIRONMENTAL STATUS (GES) IN
EUROHAB WATERS

Deliverable T 1.4



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We all aim to have clean, healthy, safe, productive and biologically diverse oceans, seas, coasts and estuaries; protecting the marine environment, preventing its deterioration and restoring it where practical. There are a number of measures and targets which together can inform us on the state of health of our seas, known as “Good Environmental Status” (or “GES” for short).

We have made an assessment of GES in the Channel waters covered by the S-3 EUROHAB project. This assessment followed the spirit of the EU Marine Strategy Directive (MSFD) descriptors and UK Marine Strategy tools, but adapted the assessment to the S-3 EUROHAB project objectives and area. Consequently we focused on the descriptors relevant to phytoplankton:

- D1. Biodiversity Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.
 - 1.6 Habitat Condition
 - 1.7 Ecosystem Structure
- D4. Food Webs All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.
 - 4.3 Abundance/distribution of key trophic groups/species - Abundance trends of functionally important selected groups/species.
- D5. Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms and oxygen deficiency in bottom waters.

We have made our assessment based on the changes over time of phytoplankton lifeforms and the changing physical (e.g. sea surface temperature) and chemical (e.g. nutrients) pressures. A lifeform reflects a grouping of phytoplankton taxa based on traits such as size, feeding habits, motility, silica use, and other key biological features that reflect its importance in the food web, ecosystem or biogeochemical cycling.

This assessment uses a wide range of data sources from a number of organisations. However those data sources with the longest time series will tend to dominate the assessment. We have used or reviewed data from:

- Environment Agency (and predecessors)
- Continuous Plankton Recorder and ferry box routes
- Western Channel Observatory and PML smart buoys
- OSPAR Riverine Inputs (Loads) to Estuary and Coast (England)
- Food standards Agency (FSA, England)

- Bathing Waters (England)
- Ferry box data (cross channel)
- Satellite Chlorophyll and primary productivity data

If, and when, new data sets of sufficient length become available they shall be reviewed to update and increase the robustness of the assessment.

The current assessment has shown that there is a distinction between nearshore coastal waters and those further offshore.