



Aqua Case

Mussel culture area- Chalastra Thessaloniki

Exercise

Is there an adequate availability of food for current mussel production in the culture area of Chalastra?

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The subject

- The number of farm units in Chalastra gradually increased between 1995-1999.
- The distance between the socks has always been <40 cm.
- The total wet weight of cultured mussels has decreased since 2000 in the area.
- The occurrence of underfed mussels has increased from the Chalastra area.
- The sustainability of mussel production in the area is under question.

The challenge

- To find the reason(s) for the increase in underfed mussels in Chalastra marine environment.
- To help the farmers understand why and how they should change their practices.

Questions to answer:

- How does food availability in the mussel culture area compare with a reference area?
- Does available food have the appropriate size and quality for mussel production?
- Is there a relationship between the mussels' underfeeding and mussel culture management?

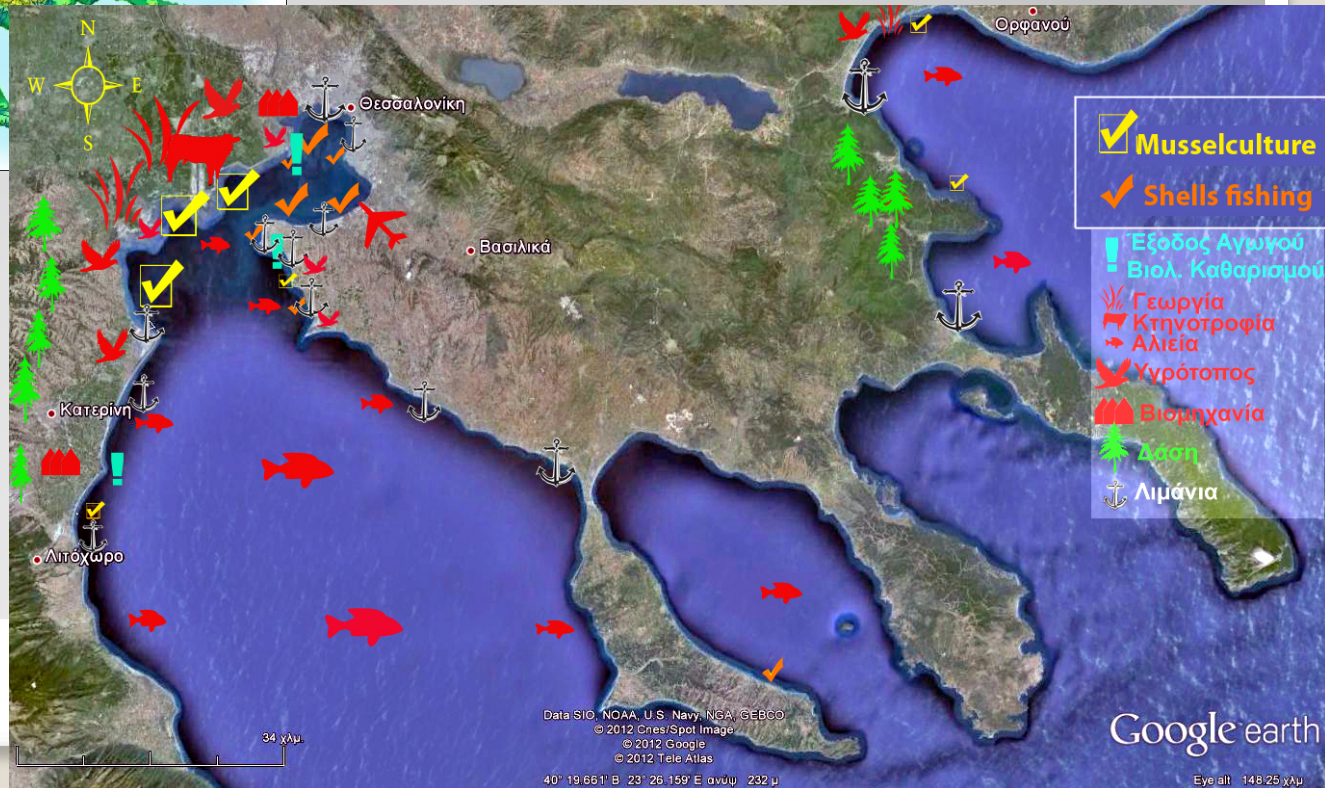
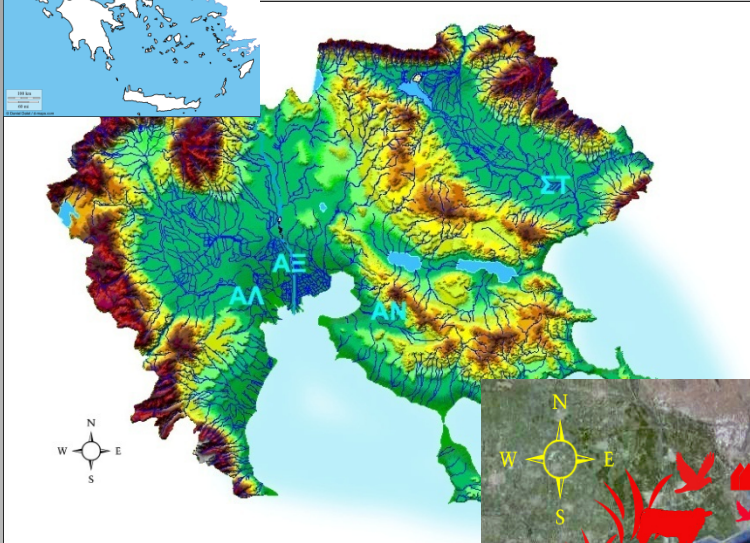
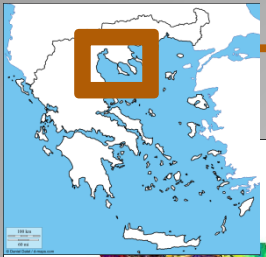
Learning goals

- To study **feeding conditions** for cultured mussels
- To compare food availability in the existing mussel farm area with outside areas
- To estimate **the percentage of fed and underfed/unfed** mussels
- To understand the **temporal variability of the mussel condition index** for production quality.
- To understand **the relation between mussel farm activities** and limits in the **marine environment** for mussel production.

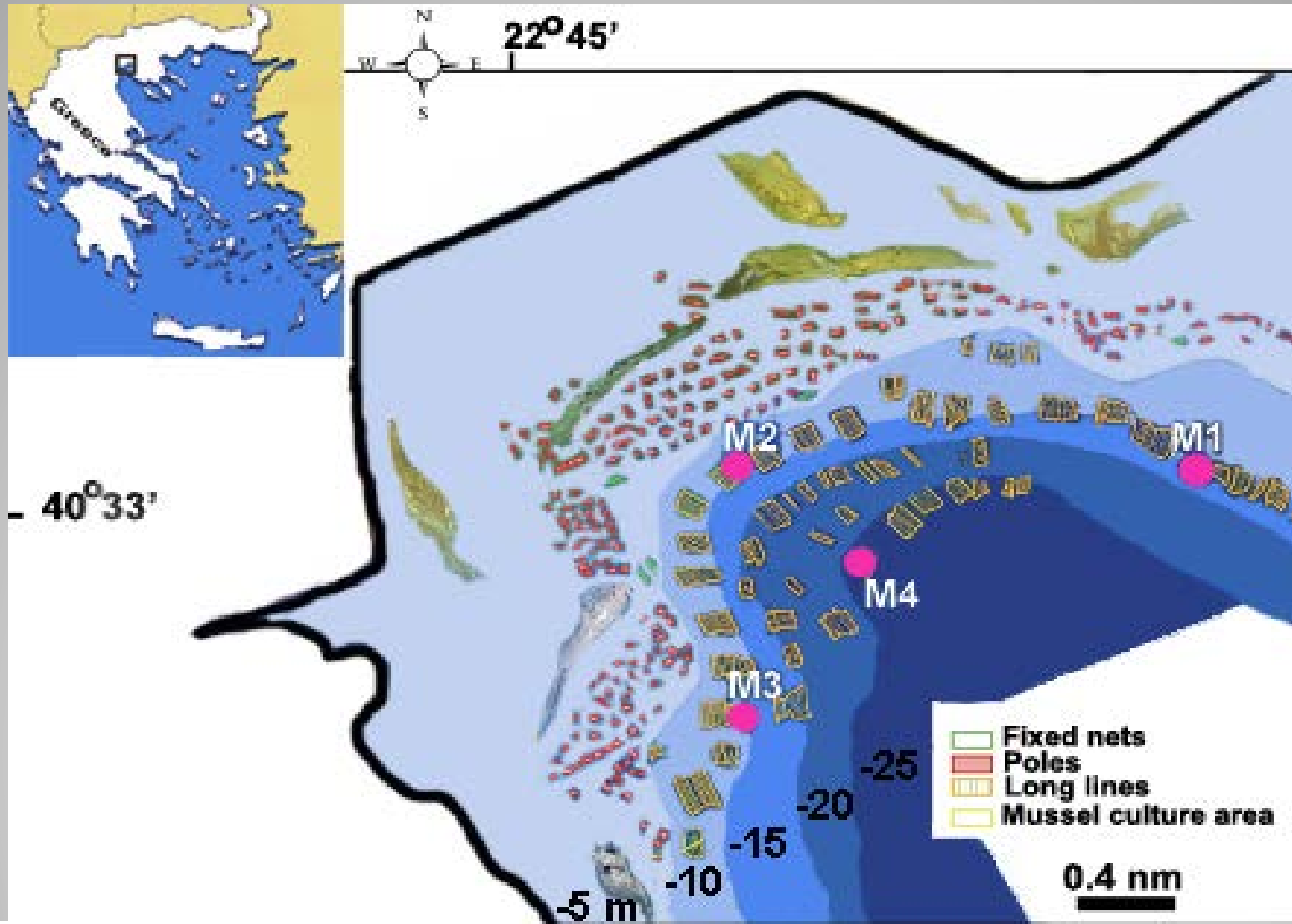
In addition to the case the following information is supplied

- MAP: Water drainage area and human activities
- MAP: The size of the mussel culture activity in Chalastra and the hydrodynamism of the area
- MAP: Levels of chl-*a* in the Chalastra mussel culture area
- Spatial fluctuation of the degree of mussel stomach completeness (graph)

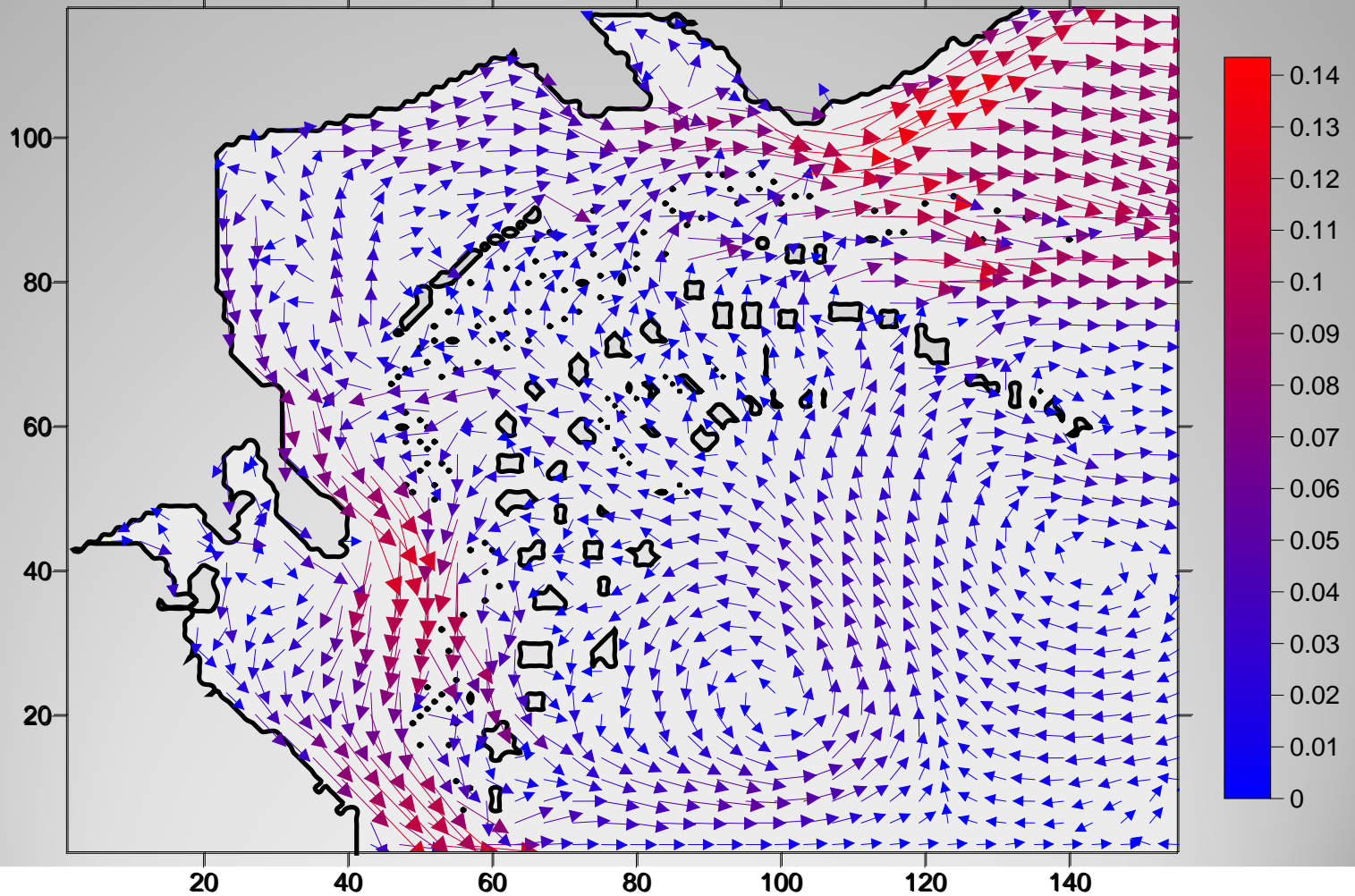
The water drainage area and the human activities



The size of the mussel culture activity in Chalastra

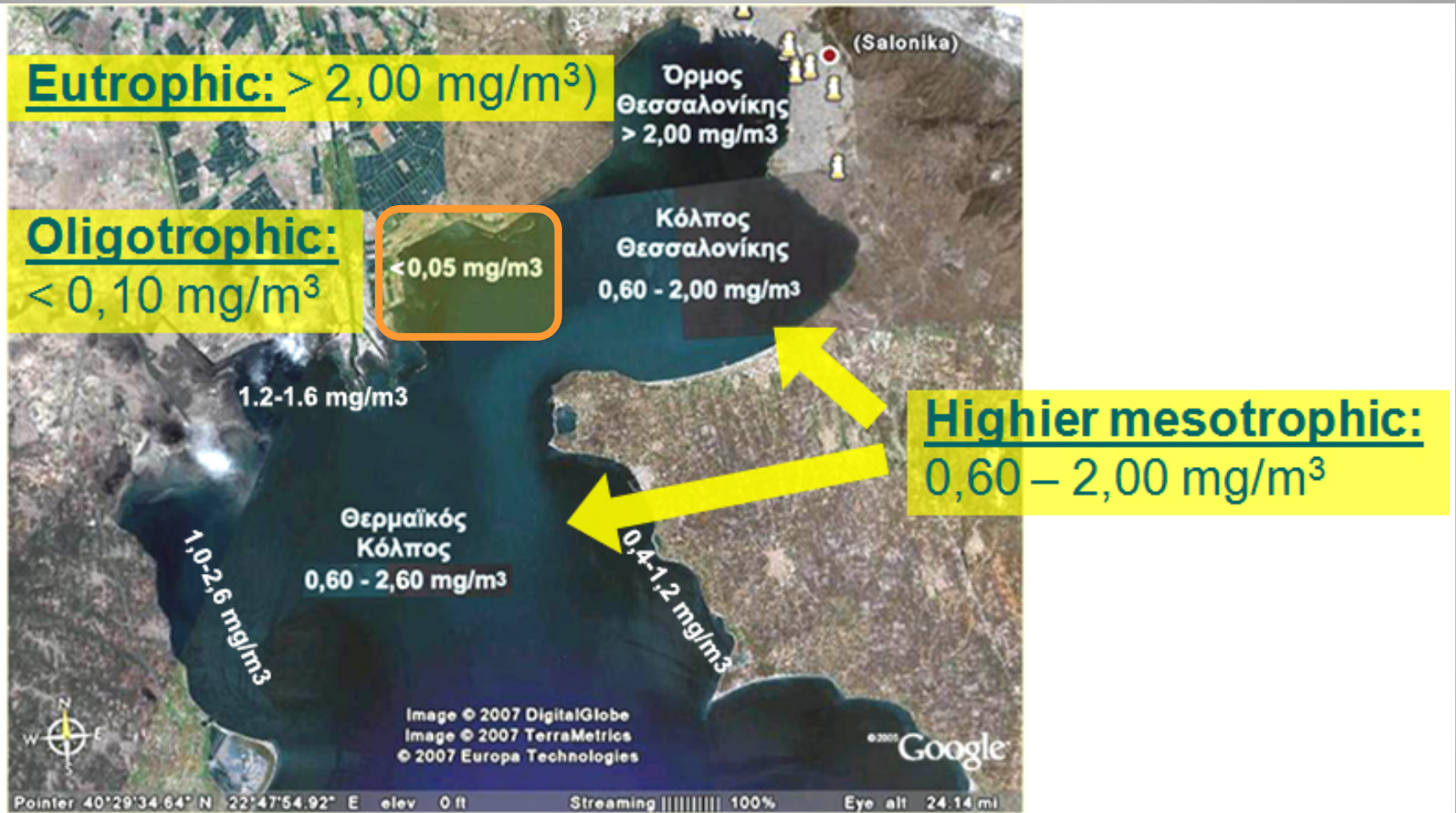


The currents in mussel culture area of Chalasta for NW prevailing winds

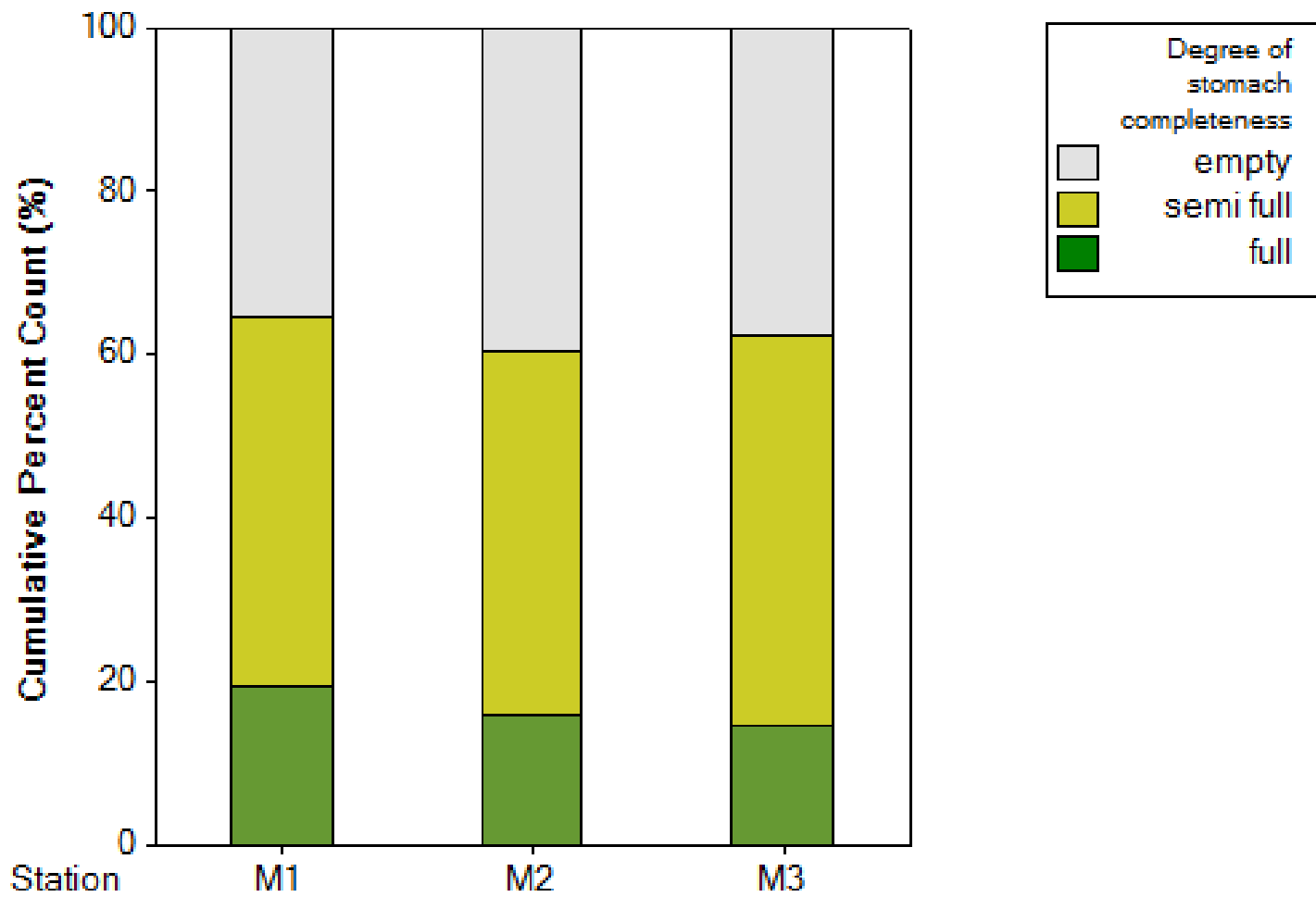


ATEITH, 2007

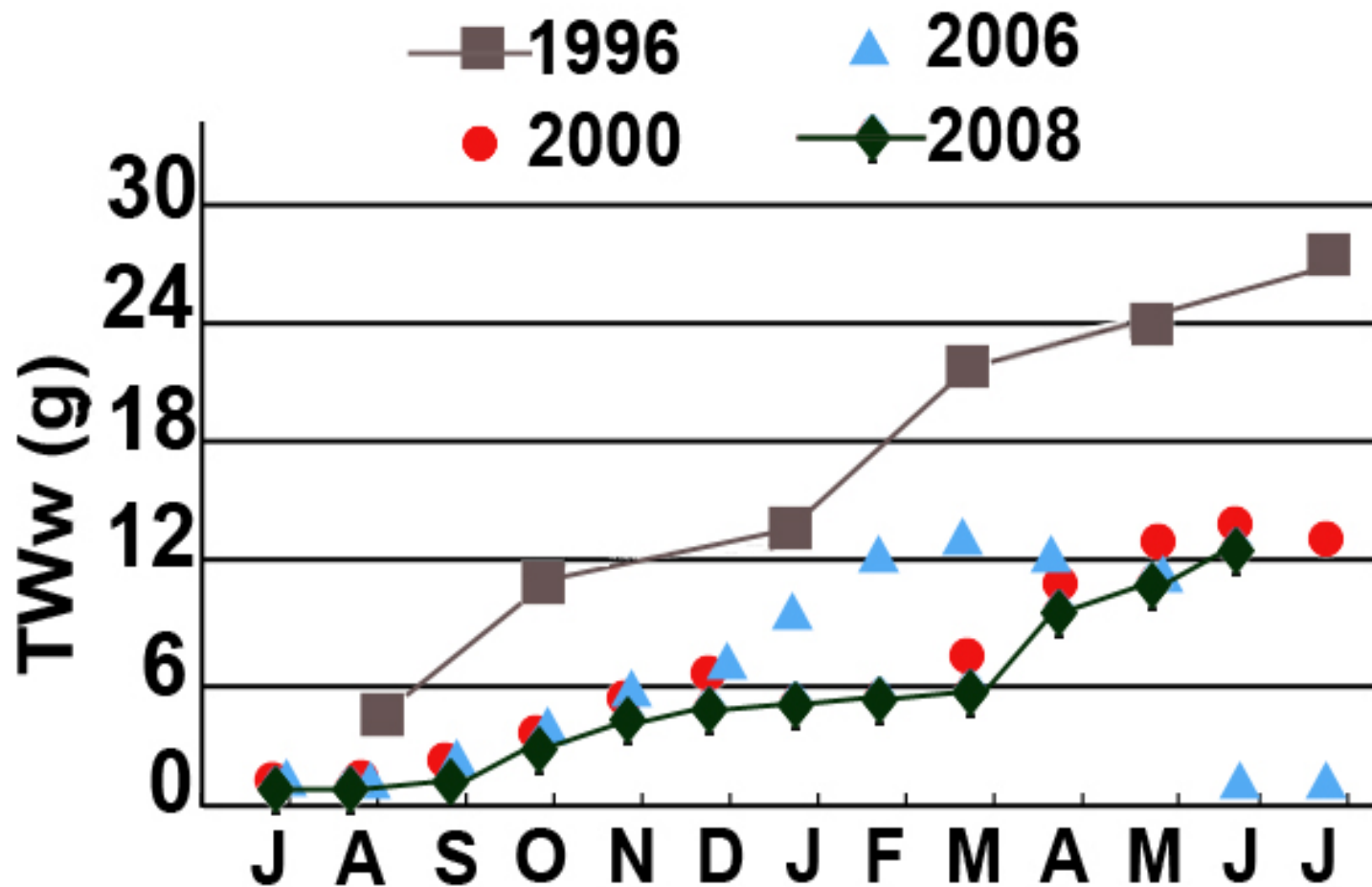
Levels of chl-a in the musselculture area of Chalastra



SoHelMe, 2005 with modification



The mean total wet weight of the mussels from the Chalastra units



Notes for teachers

- The hydrodynamic status of the mussel culture activity
- The phytoplankton species/size/biomass
- The seston quantity/quality (TOC/POC)
- The mussels biological cycle & condition index
- The temporal & spatial changes all above
- The mussels selectivity of food size
- Additional Sources/References

