Greek Pilot

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Greek pilot

Pilot Description

- The Greek Pilot (PATROKLOS Pilot site) is situated in the 59th km of Athens-Sounio Ave., Palaia Fokaia, Attiki, Greece, in the wider area of Cape Sounio.
- **KASTELORIZO AQUACULTURE SA operates a fish-farming unit,** on floating facilities. KASTELORIZO provides the aquaculture unit that shares the same marine space with the **touristic diving activities of Planet Blue.**
- **Co-existence scenarios** are facilitated with the use of WINGS' monitoring and management platform, **AQUAWINGS**, that is deployed to ensure
    - best multi-use of aquaculture and tourist activities
    - minimization of environmental impact

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Pilot Description

Aquaculture commercial species:

- Gilt-head bream (*Sparus aurata*)
- European bass (*Dicentrarchus labrax*)
- Red sea bream (*Pagellus bogaraveo*)
- Common pandora (*Pagellus erythrinus*)

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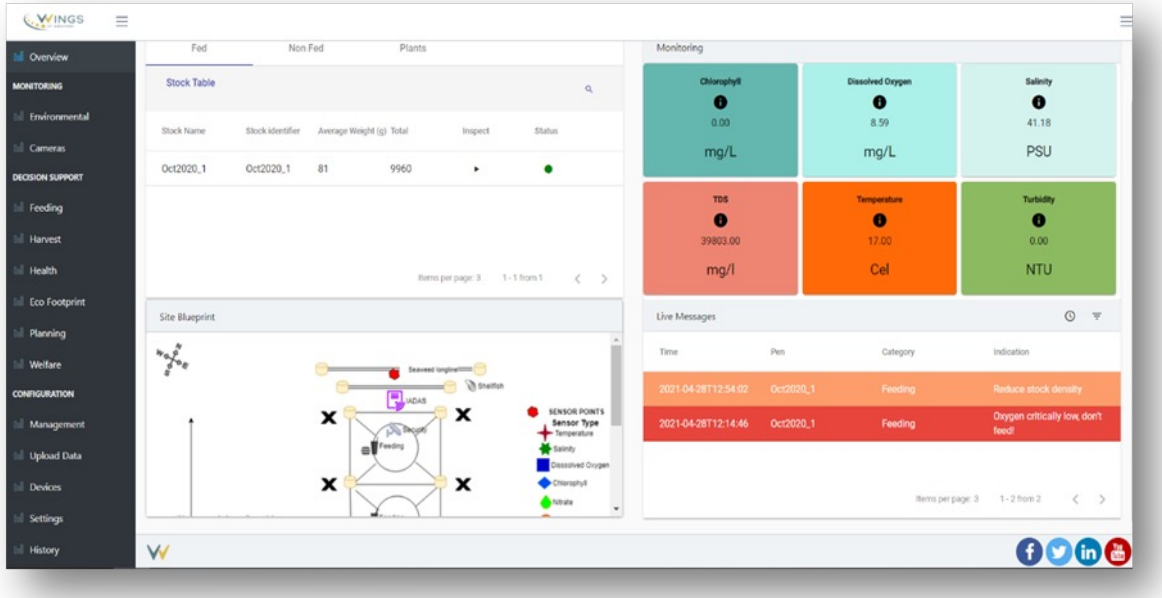
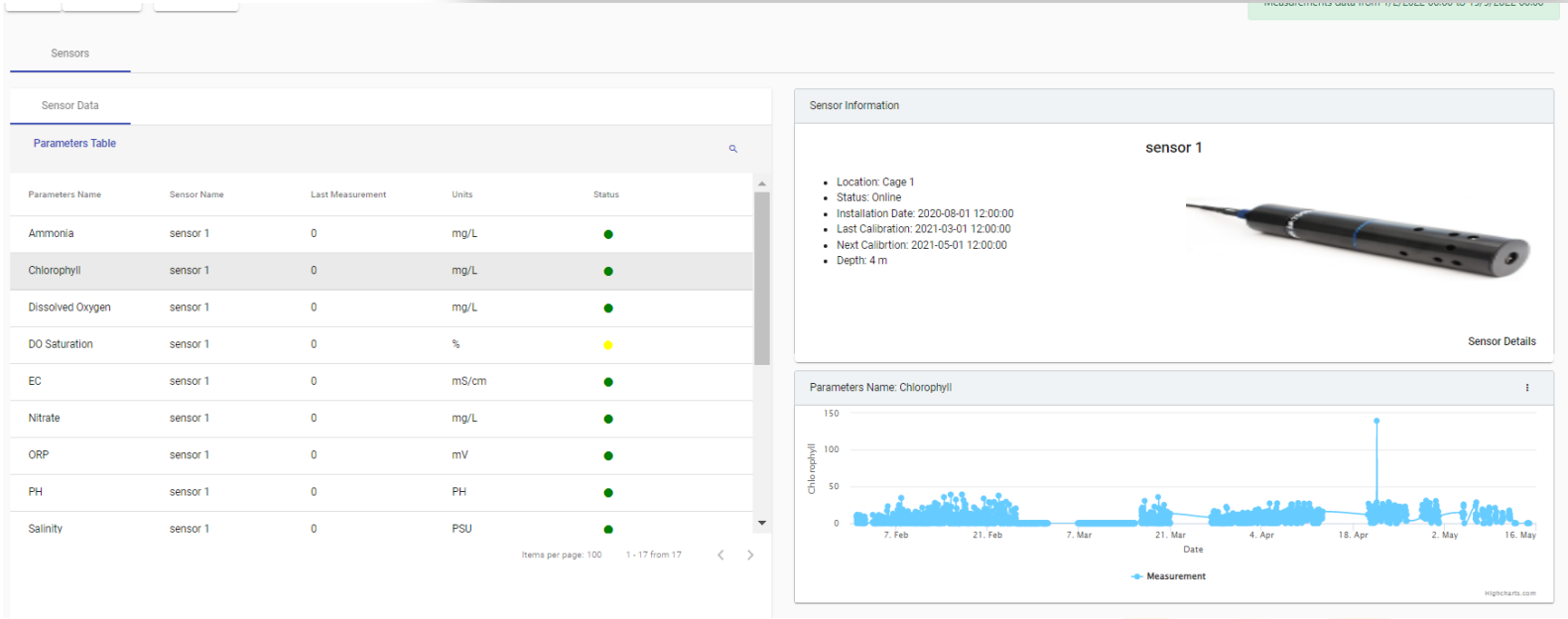
Environment

- **Advanced monitoring** of environmental parameters responsible for the farm's productivity and sustainability. Monitored data are processed for the development of **Predictive Analytics** for:
  - Disease prevention
  - Water quality analytics





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Environment

- **Decision Support System,** producing early warnings/alerts, and suggestions for:
  - Optimal Feeding (temperature, average weight)
  - Optimal Harvesting (weather)
  - Disease Prevention and Mitigation
  - Planning

Live Messages

Time	Pen	Category	Indication
2021-05-10T15:54:34	Oct2020_1	Feeding	Feed as planned
2021-04-28T12:54:02	Oct2020_1	Feeding	Reduce stock density
2021-04-28T12:14:46	Oct2020_1	Feeding	Oxygen critically low, don't feed!

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Environment

Minimization of environmental impact

Data extracted from the AQUAWINGS platform are used to closely monitor the water quality of the aquaculture site:

Water Quality Analytics for the identification of quality problems in the water. This feature performs:

- Water quality evaluation based on multi-parameter analysis
- High accuracy predictions of parameter values to ensure normal operation conditions
- Notification of users in case of an event
- Constant adaptation to background changes

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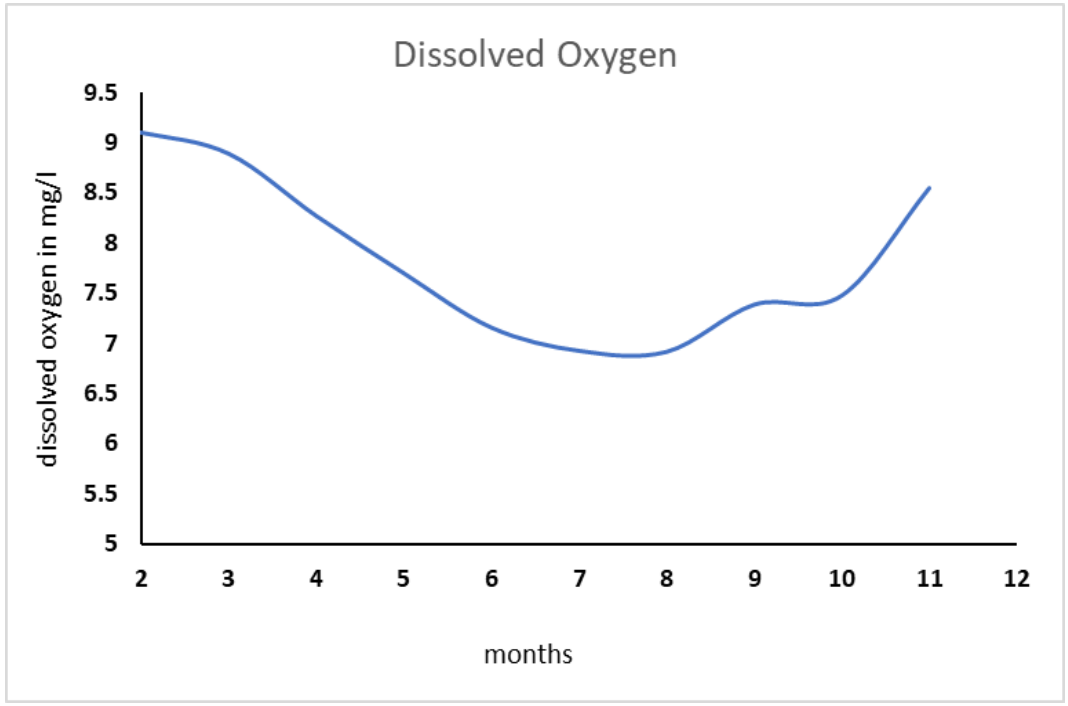

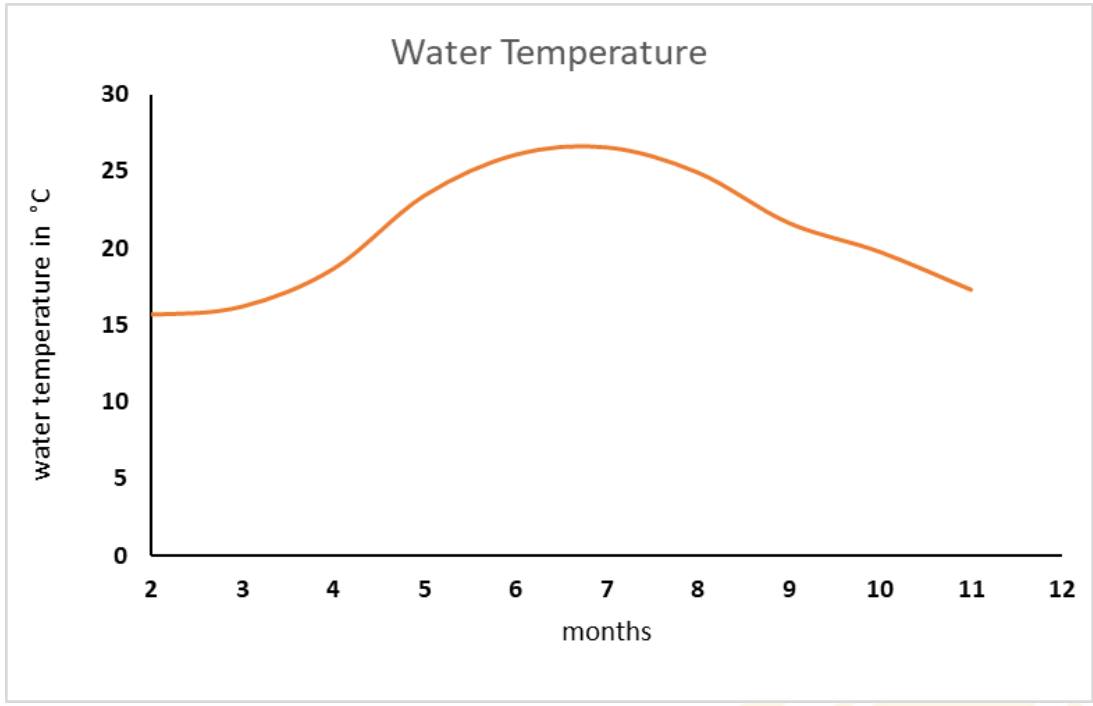

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Environment

Diving & Tourist co activity:

- Recreational and touristic activities in the area of the aquaculture site, namely underwater activities.
- Infrastructure monitoring using commercial diving equipment, namely an ROV
- mapping of underwater landscape of the aquaculture site with the use of ROV (owned by Planet Blue) in order to create various optimal diving paths: one for Open Water divers (up to -18 meters) and one for Advanced Open Water Divers (up to -30 meters).Diving expeditions for cleaning aquaculture area from waste

Benefits

- Prevention of altering the indigenous fish species
- Tourists become more aware of the environmental protection of the area
- Tourists get acquainted with the fish farming activities in an effort to become educated about the damage done by overfishing, as well as dissolve the myth of the harm done by fishing farms
- Enjoy diving in fauna rich area

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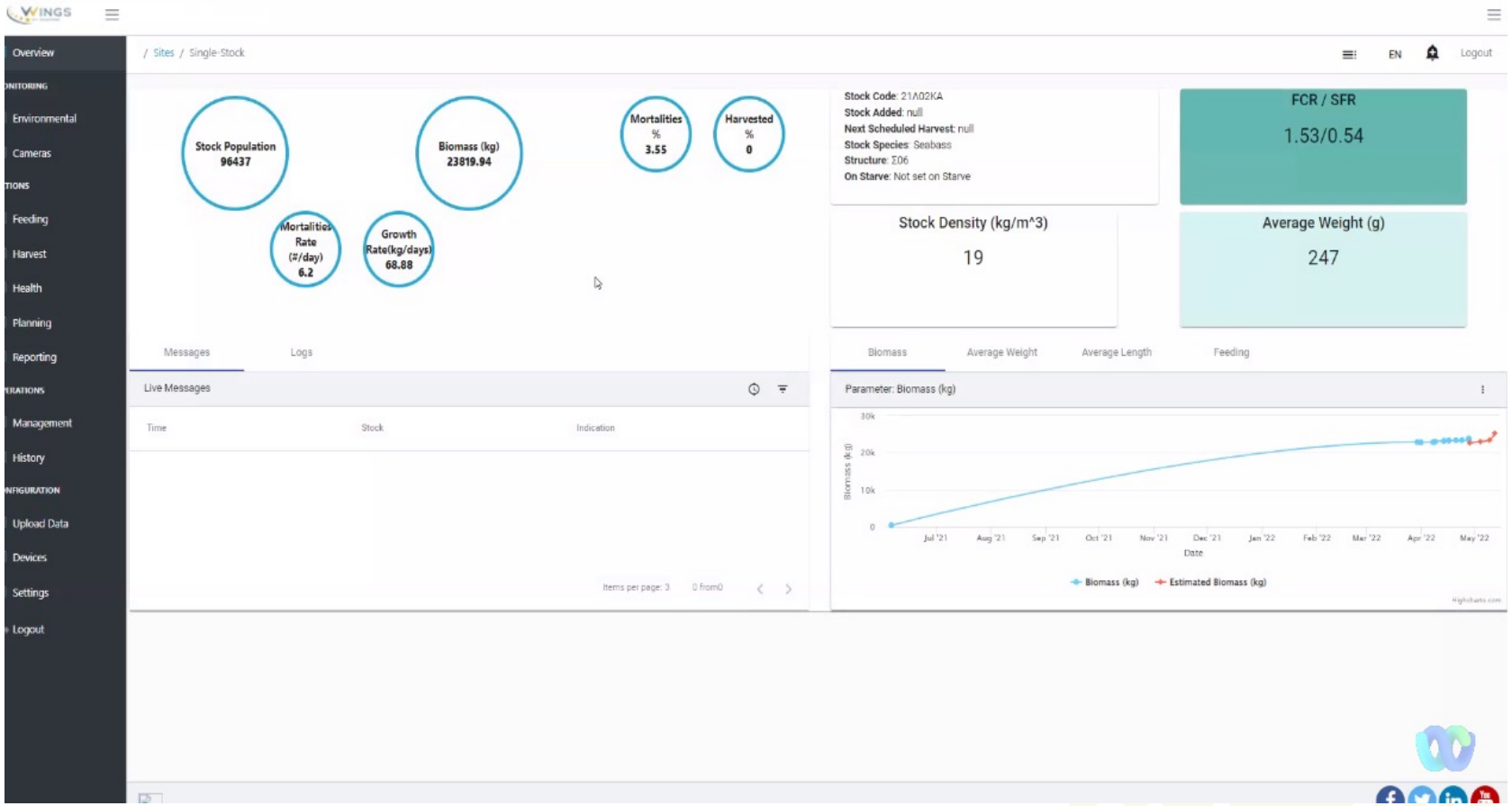
Biology

- **Farm Performance and Assessment** provides records of farm performance by keeping farm and stock information such as:
  - Average weight estimation-biomass
  - Feed Conversion Ratio (FCR)
  - Fish population
  - Stocking density
  - Mortalities



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Biology

- Less stress because of the use of camera. Calculation of average weight instead of manual sampling that can cause physical damage.
- Early detection of disease → quick prevention of outbreak
- Attraction of other species → more ecological niches
- Optimal feeding time depending on the fish behavior

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Conclusion

- Multiuse activities can benefit the local population and environment
- Environmental parameters are constantly monitored minimizing impacts
- Tourist diving activities offer awareness and new experiences

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