



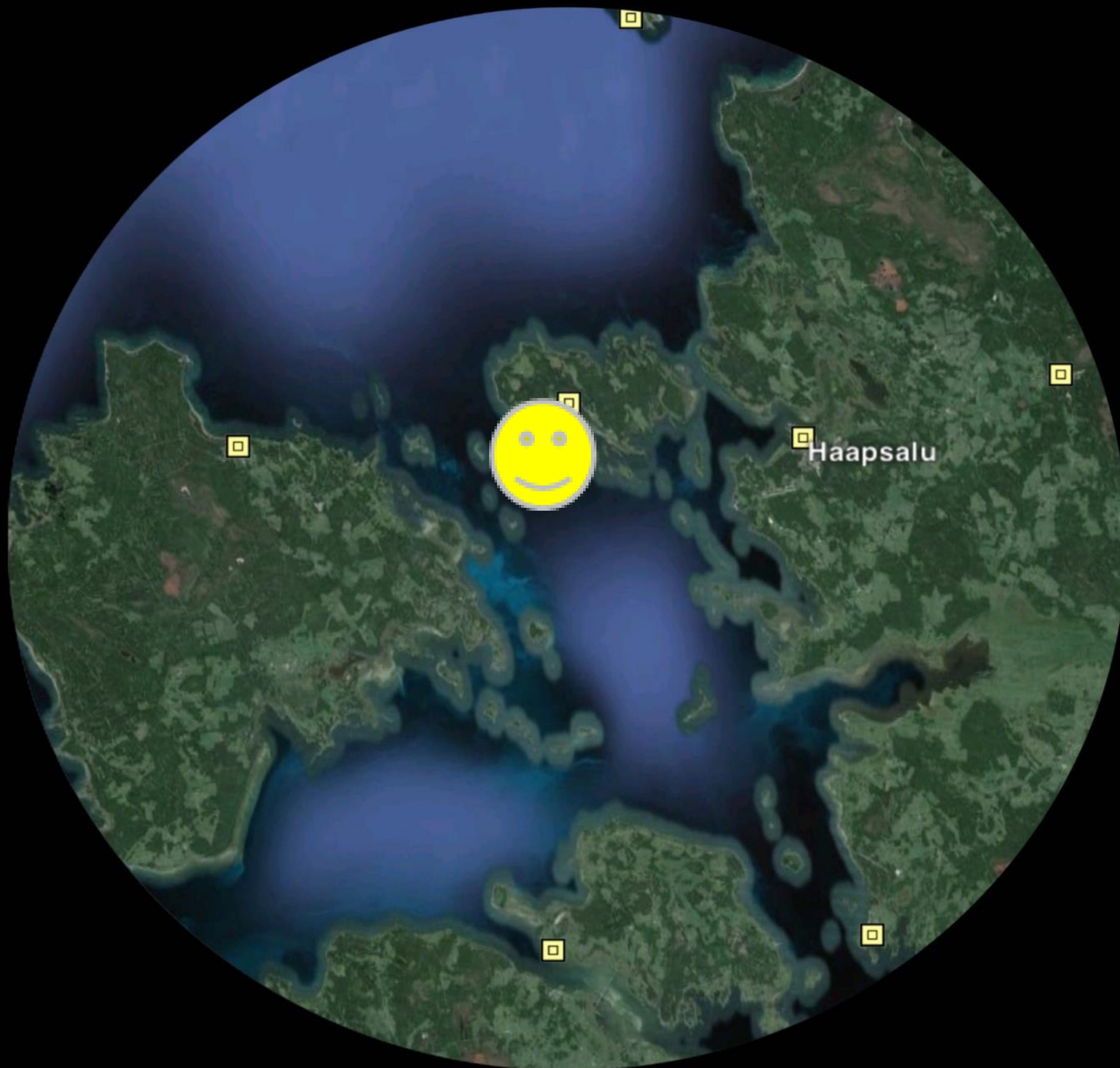
EST-AGAR

BLUE GROWTH START-UP IN ESTONIA

SEAWEED AND MUSSEL INNOVATION

2019











Vormsi Agar OÜ

2012–2016

- Idea to use **local seaweed** in production
- A plan to **build a factory** on Vormsi
- Seaweed cultivation project
- Start with **mussels**
- Pilot production development plan for **new technologies** for production furcellaran, r-phycoerythrin and fertilizers
- Idea to **buy Est-Agar AS**

Est-Agar AS

1966

29 December 1966 beginning of
furcellaran production (E407) in
Saaremaa

1997

Started Est-Agar AS

2016

- Same technology with small changes
- mostly same clients
- seaweed harvest quota
- working factory



ESTAGAR



Vormsi Agar + Est-Agar



Esi-Agar

Production basis

Clients

Cash flow

People

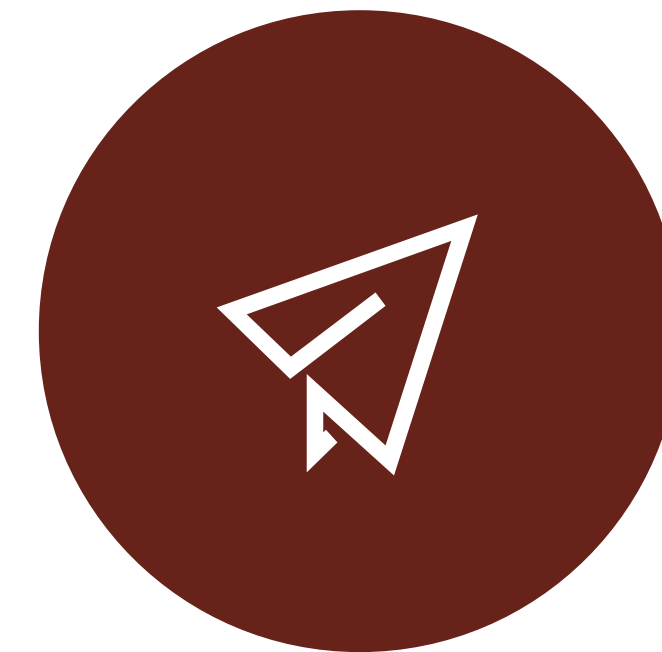


Vormsi Agar

New technology

New products

Scientific partners



Targets

Development

Growth

Active selling

Effective management

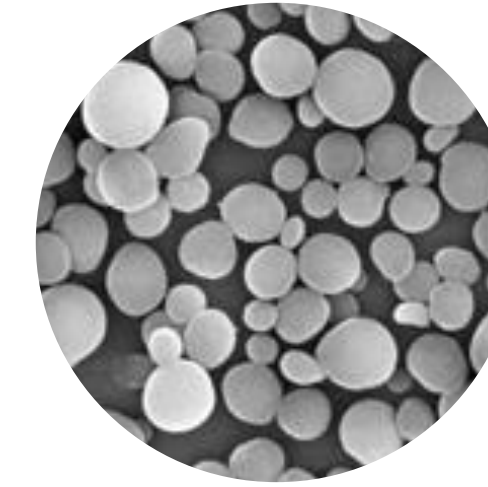
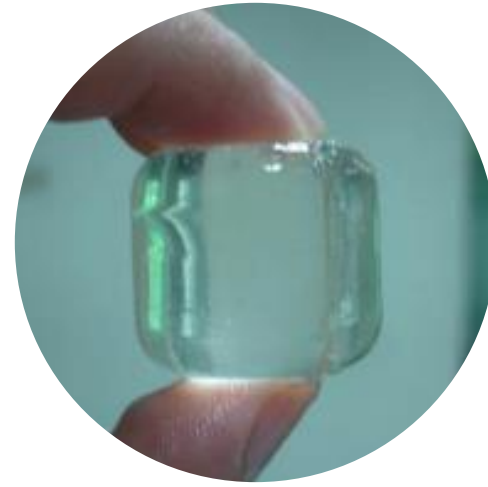
Est-Agar + Vormsi

Agar

2030

Europe's leading, research based, local raw materials using **blue biotechnology** company

**Gelling
polysaccharide**



Strach

Fertilizer

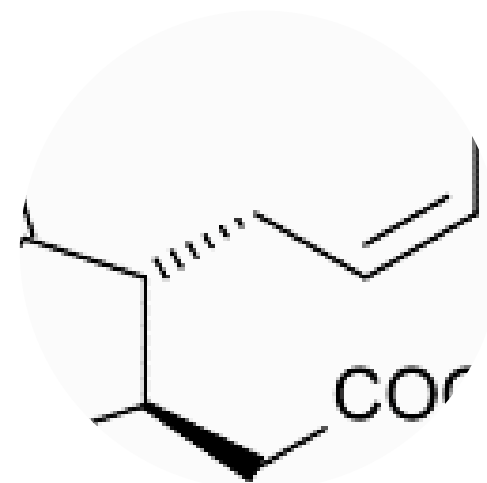


**Furcellaria
Lumbricalis**



R-phycoerythrin

Antioxidants



Nanocellulos



1 20 PELLEGRINI PULSET

44.7% wt
1.7% gesso
2% ferruginous pigment

2 20 PELLEGRINI PULSET

44.7% wt
1.7% gesso
2% ferruginous pigment

3 20 PELLEGRINI PULSET

44.7% wt
1.7% gesso
2% ferruginous pigment

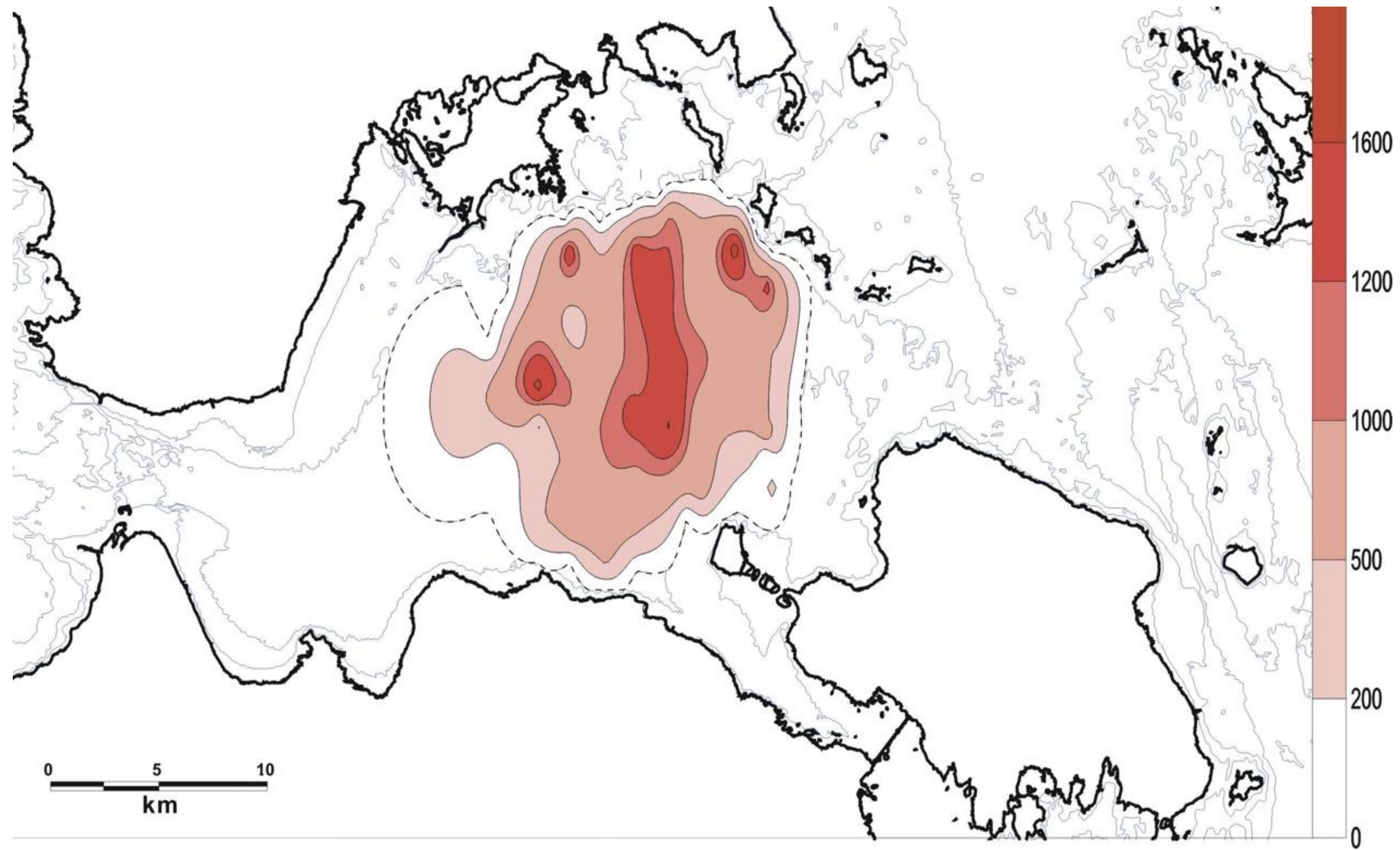
4 20 PELLEGRINI PULSET

44.7% wt
1.7% gesso
2% ferruginous pigment

5 20 PELLEGRINI PULSET

44.7% wt
1.7% gesso
2% ferruginous pigment





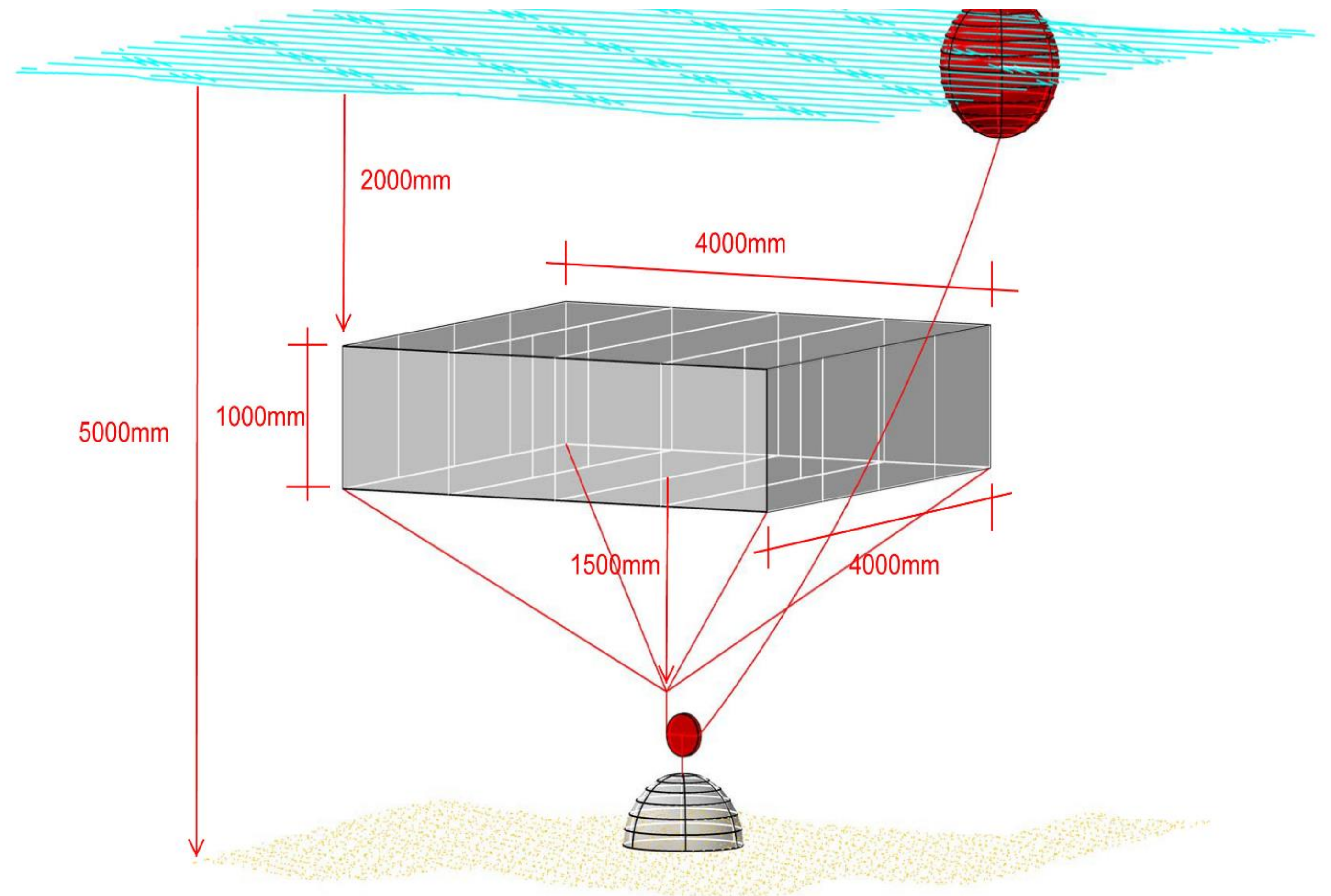
Kassari Bay – colorcode for *Furcellaria lumbricalis* biomass (g/m²)



- Catch quota 2000T
- Plan for 2019 a ~300T
- Coast collection 100 – 1800T
- Plan for 2019 a ~1200T

Seaweed trawling
and coast
collection

Seaweed farming



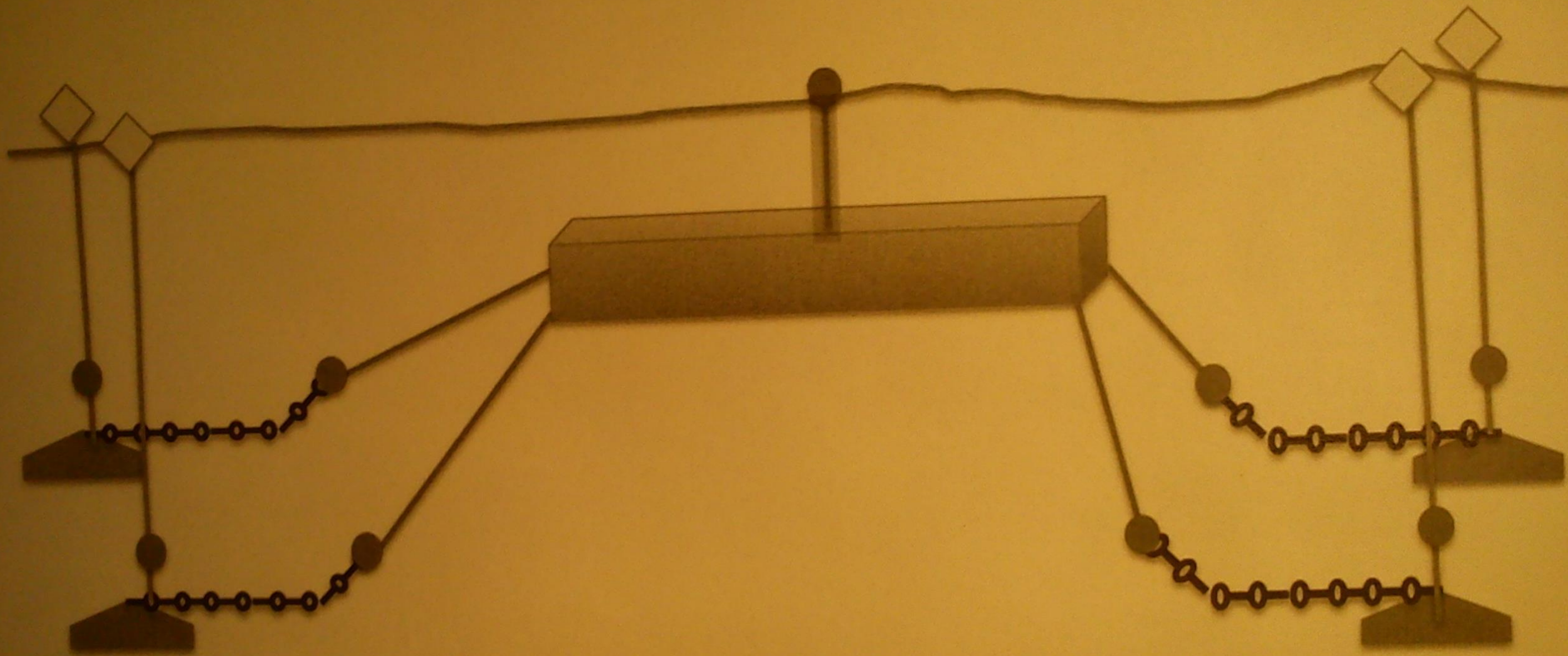








Mooring design seaweed cages



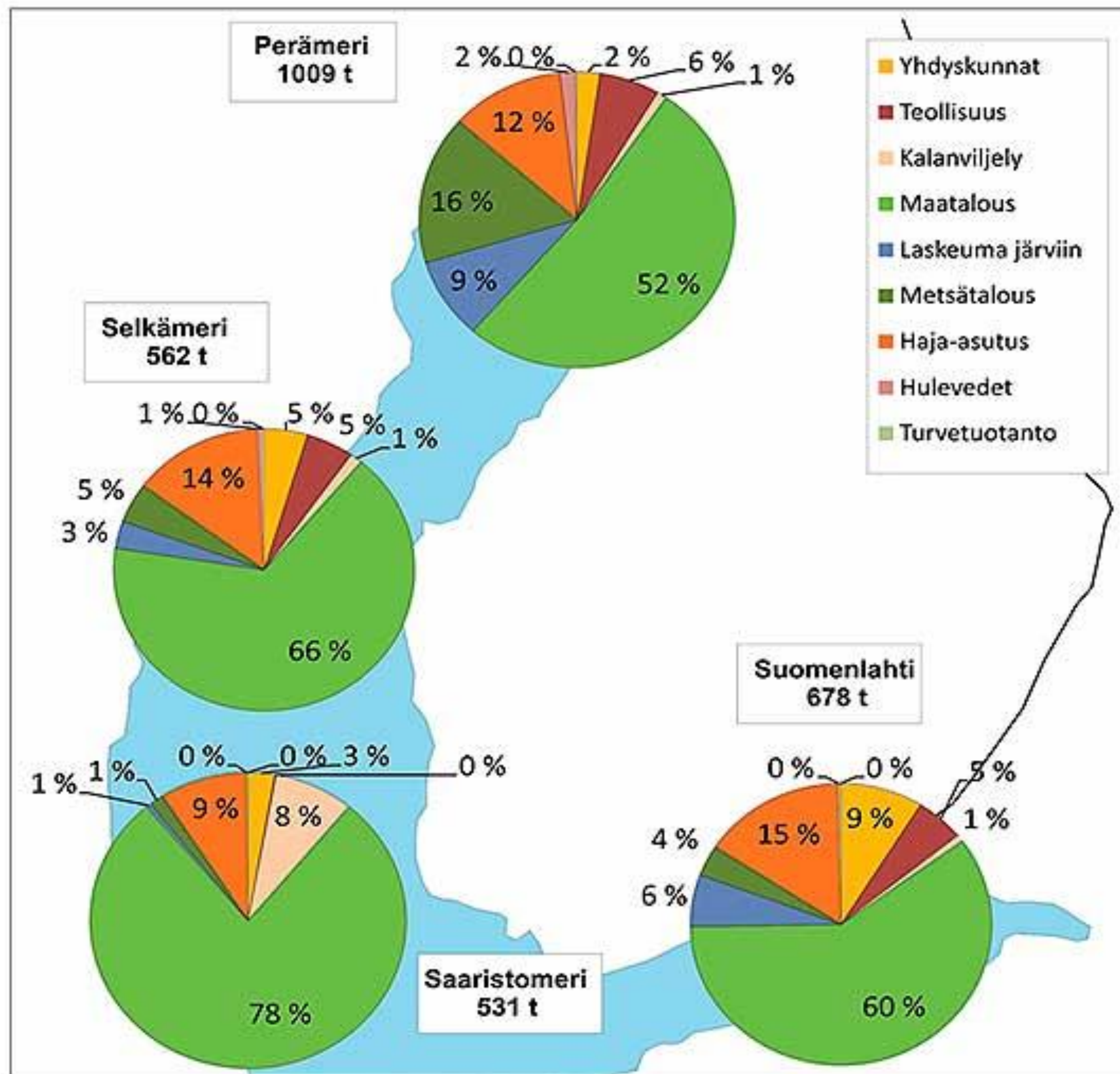










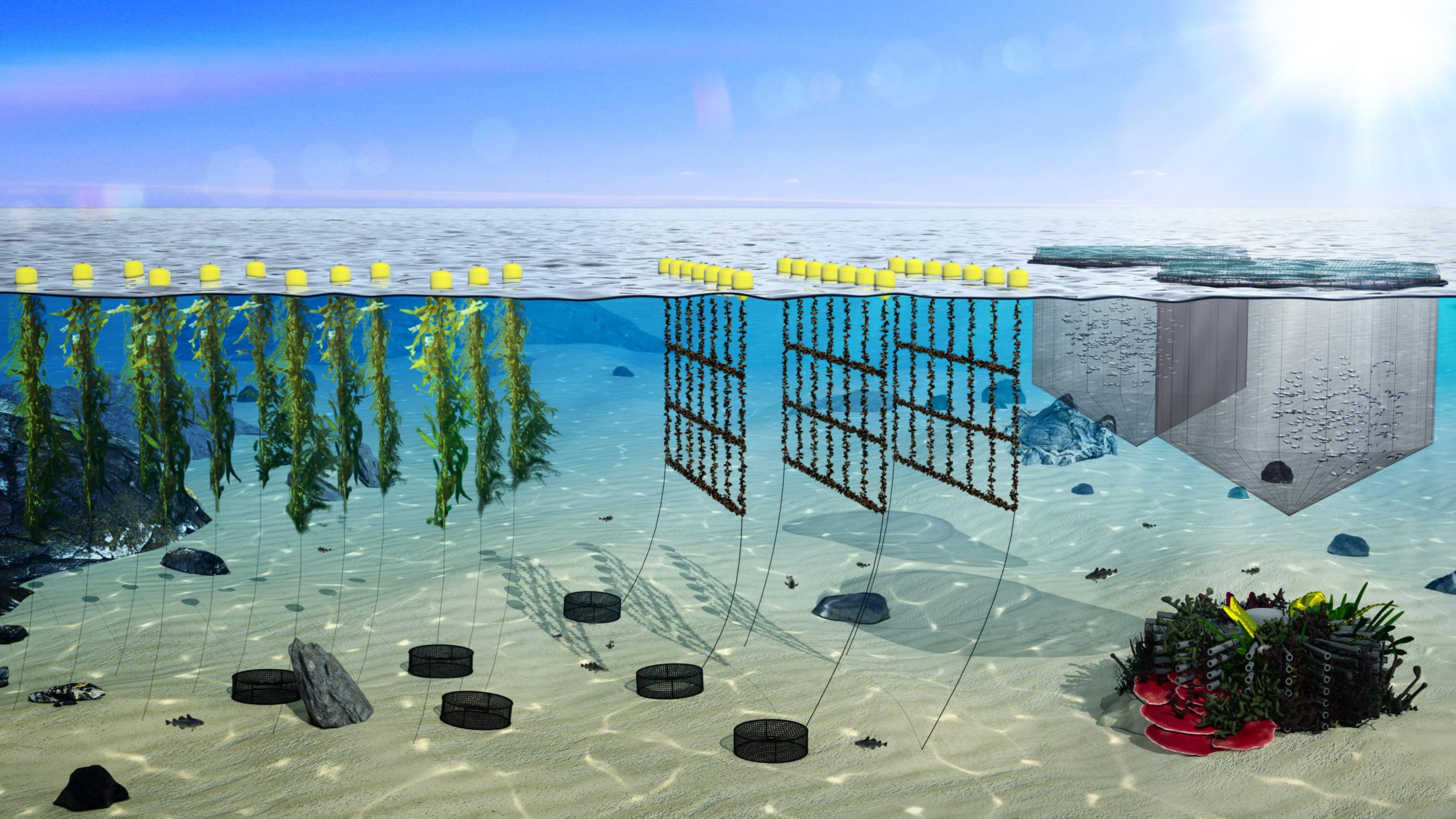


Lähde: Antti Räike SYKE

Nutrient
pollution

- Fish farmers
- Fishmeal factory
- Local fishermen's
- Farmers

Cooperation







Thank You!

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