The Back End of Web 2.0

Meaning & Intelligence

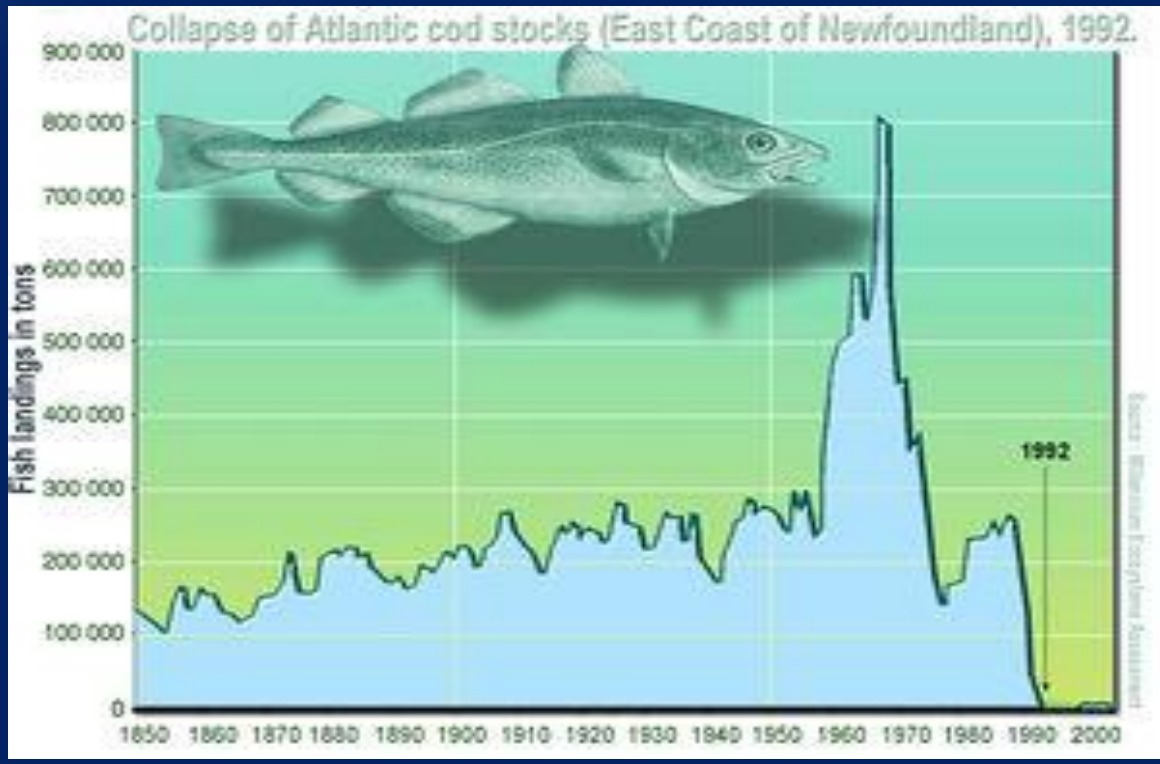
- Web 2.0 is not about front end technology ,
- it's about meaning and intelligence in the back end

from " Today's Web 3.0 Nonsense Blogstorm" October 4, 2007
by Tim O'Reilly who popularized the term Web2.0

Technology Going Wrong

The abrupt Collapse of Northwest Atlantic Fishery in 1992

Child with cod. Newfoundland, Canada 1895.



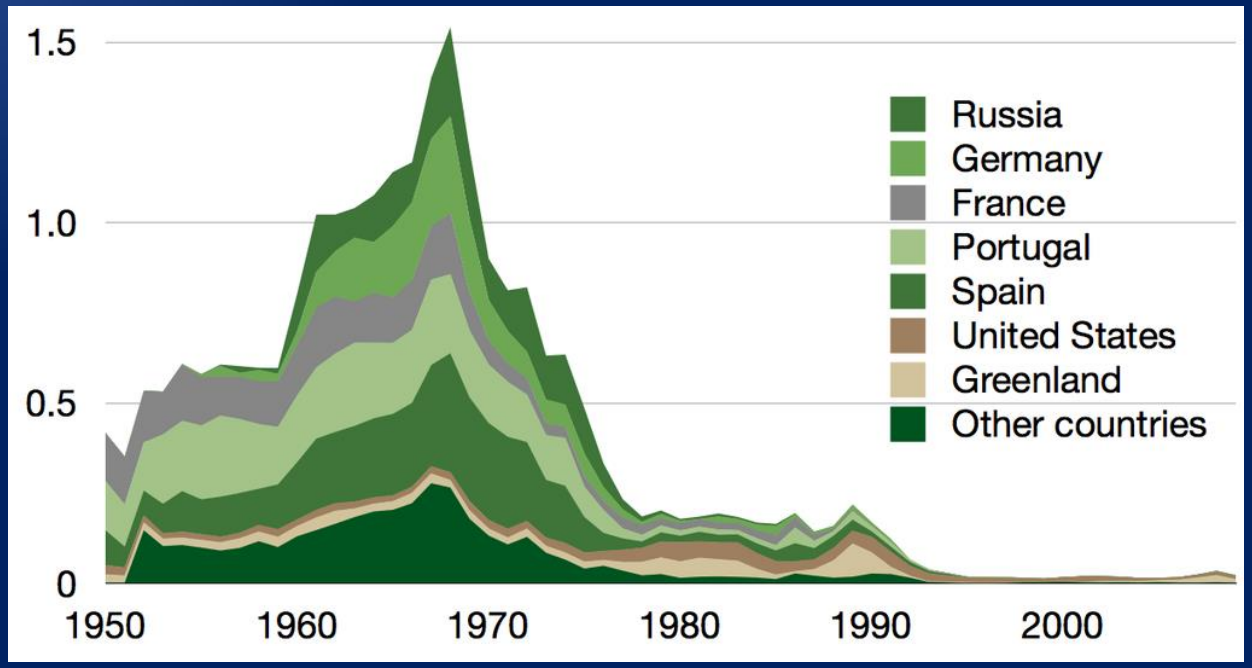
40,000 people out of work in 5 Canadian provinces, and several billion dollar relief package to be disbursed to coastal communities

Science & Indigenous Knowledge vs Short Term Thinking

- Traditional fishermen noticed their catches declining.
- Scientific warnings that cod was in crisis
- Technology Armored Factory Trawlers :As cod catches declined, factory trawlers used ever more powerful sonar and satellite navigation to target what was left
- The government and Politicians : politicaly unacceptable job losses, short-term thinking led to catastrophe.

http://www.greenpeace.org/international/en/campaigns/oceans/seafood/understanding-the-problem/overfishing-history/cod-fishery-canadian/

- Capture of the Atlantic northwest cod stock in million tons, apart from Canada



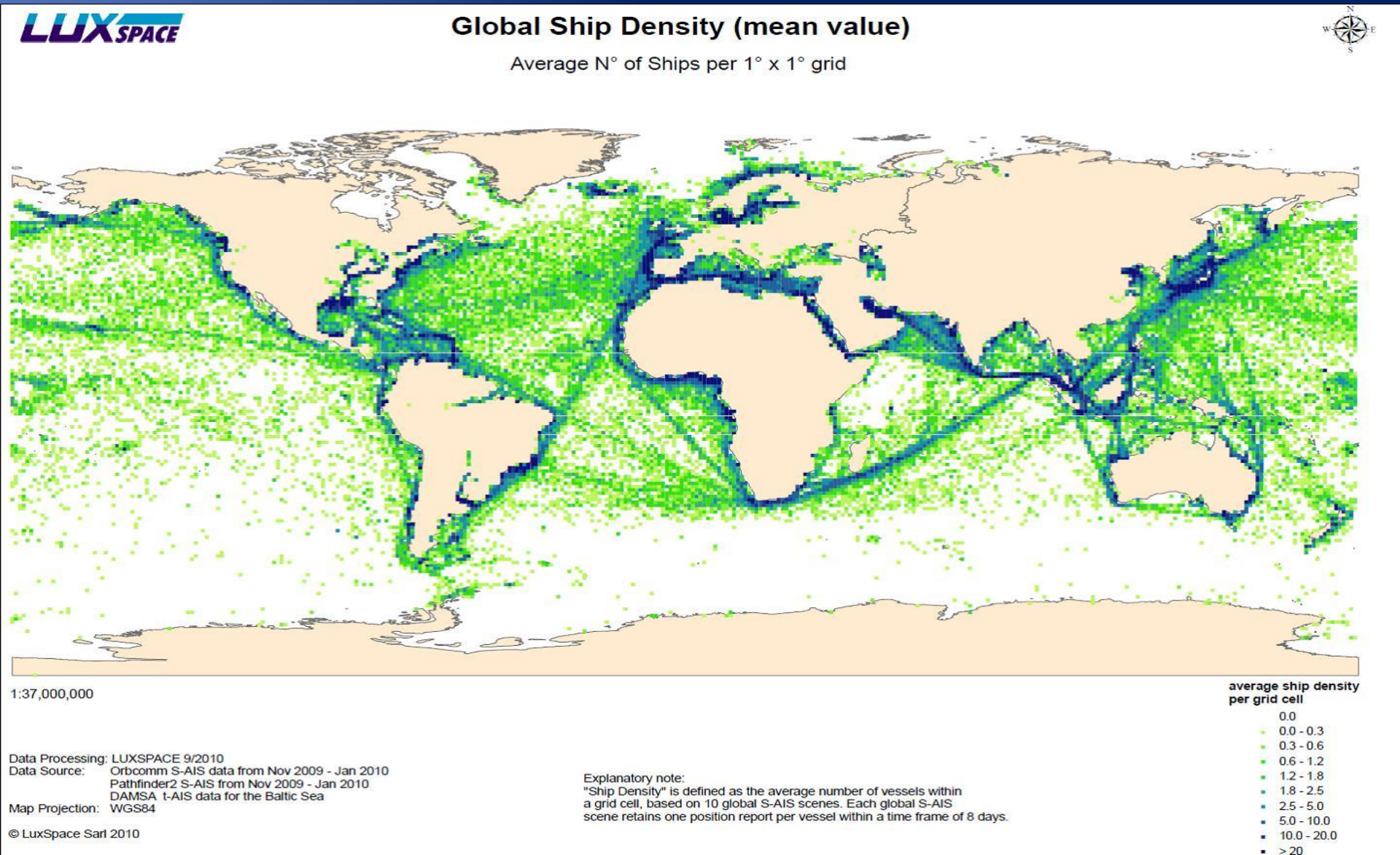
Based on data sourced from the FishStat database FAO.

16th Century Ship : 100 Tons of fish /Season

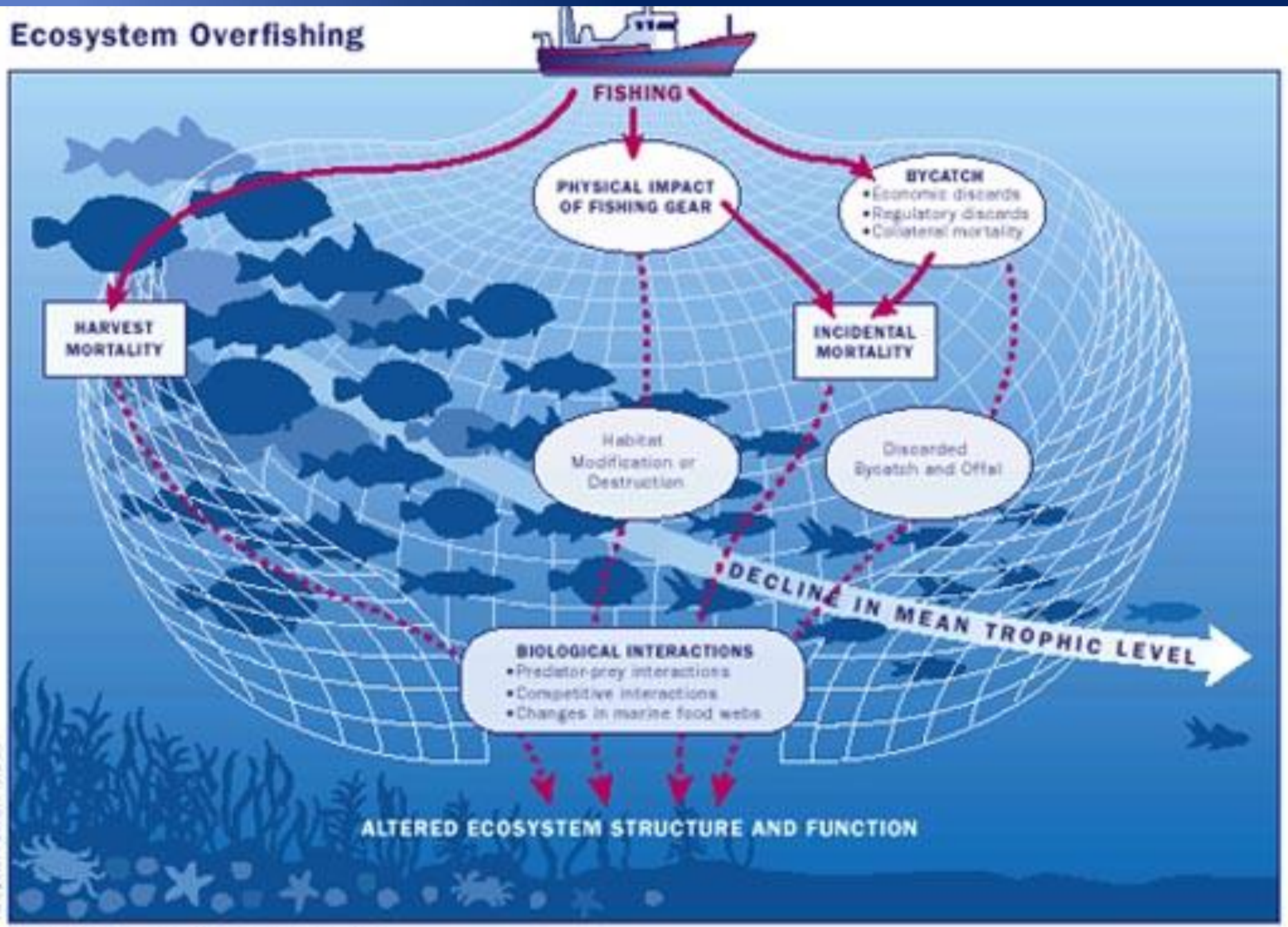
21st Century Ship : 200 Tons of fish /Hour

- satellite-based navigation systems ships

Global Ship Density

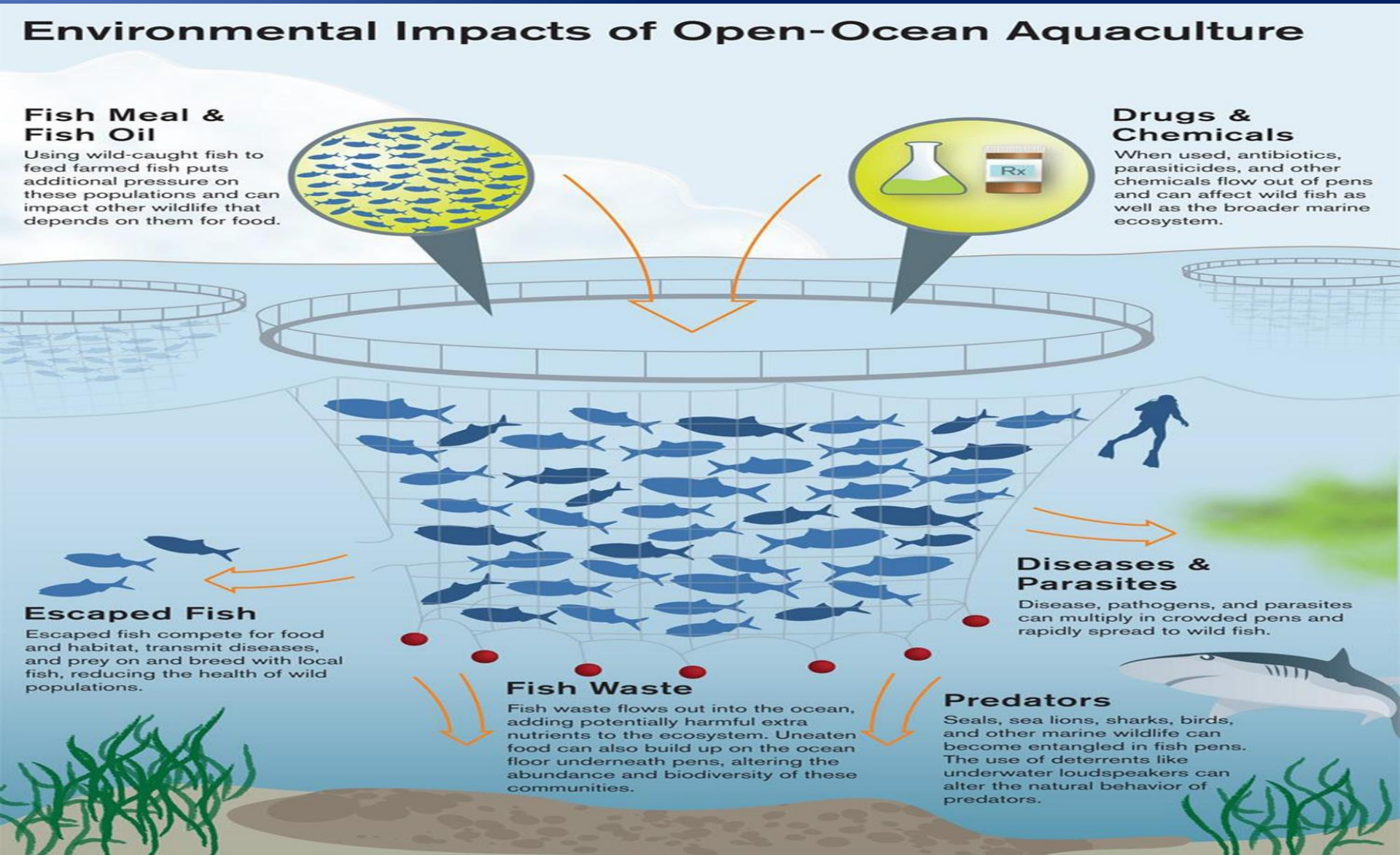


Ecosystem Overfishing

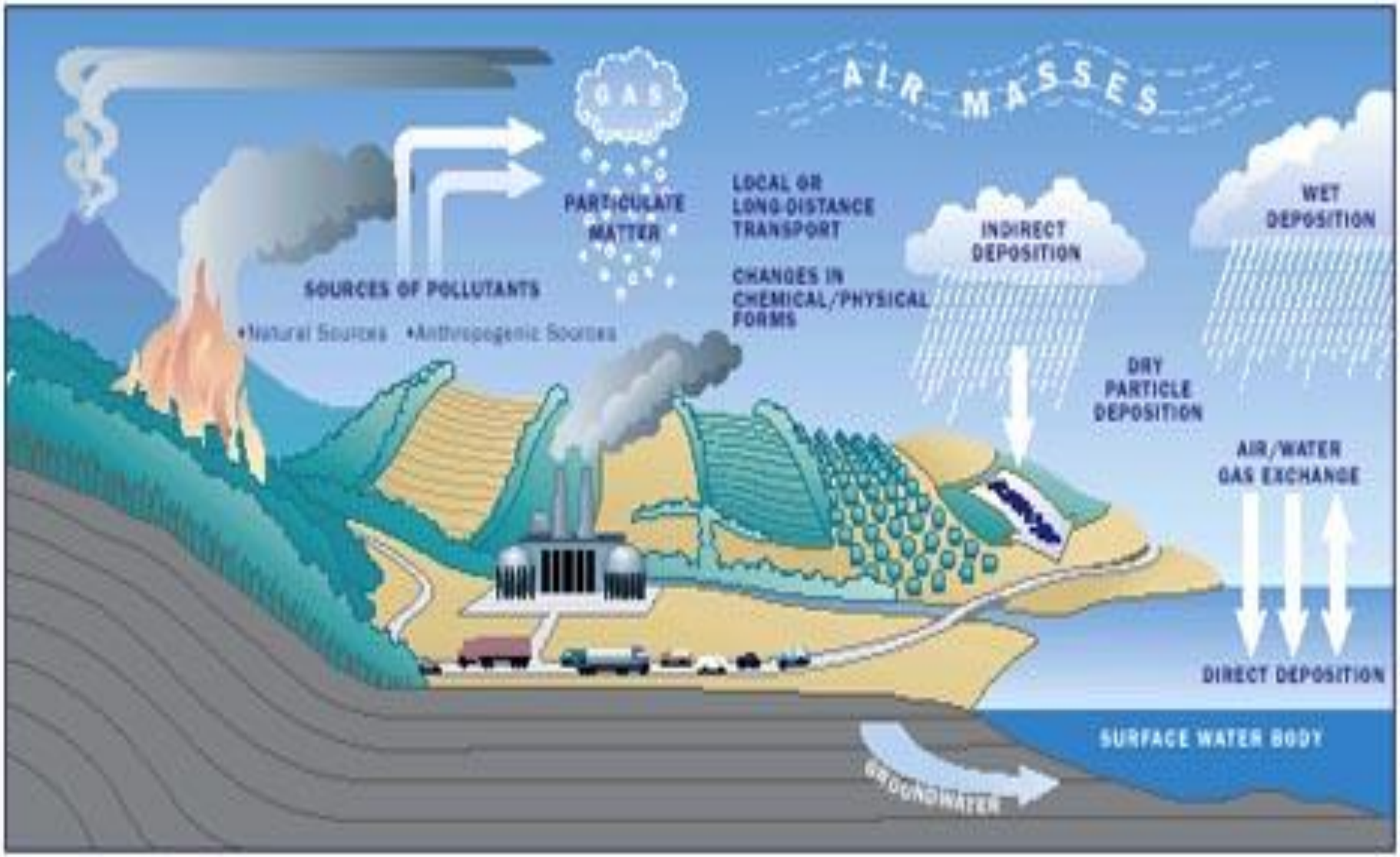


Source: Adapted from Pauly et al., 1998; Gotshall, 2000.

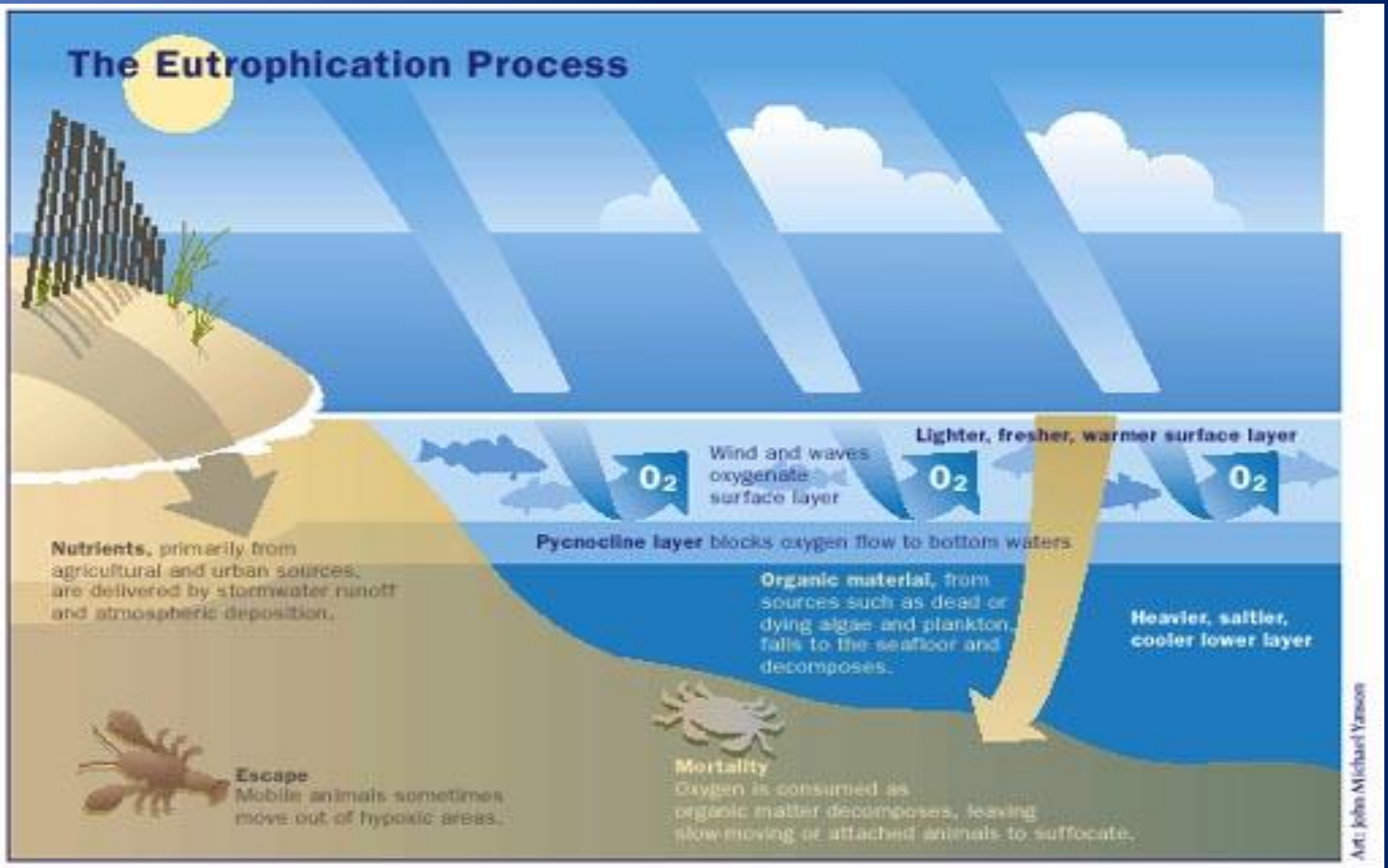
When the solution becomes the problem



All Pollution Roads Lead to the Sea



The Day The Fish Drowned in The Sea



State of Fisheries

- 52% of fish stocks are fully exploited
- 20% are moderately exploited
- 17% are overexploited
- 7% are depleted
- 1% is recovering from depletion
- 80% of the world's fisheries are fully- to over-exploited, depleted, or in a state of collapse
- *Sofia FAO*

When the last fish is caught

- Native Indian Proverb :

"When the last tree has been cut down,

The last river poisoned

The last fish caught,

Only then we will realize , that one cannot eat money.

- "The Oxford Dictionary of Proverbs" Fifth edition.

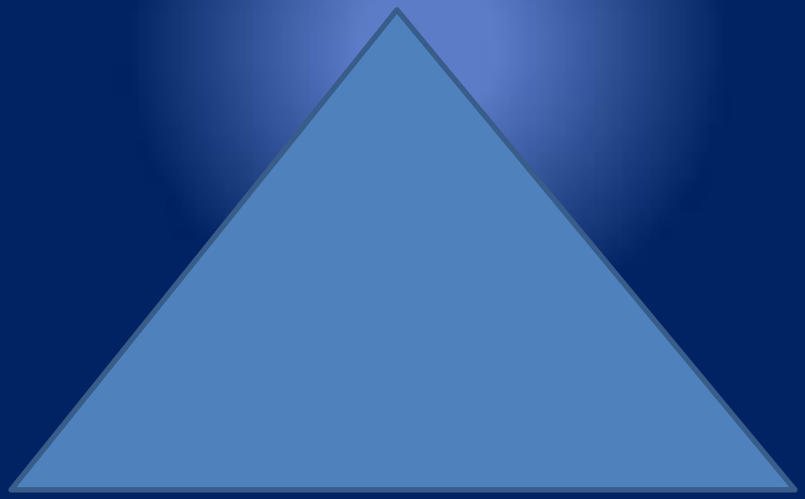
Program Bio-BLEU

Communicating Science & Information
For a Knowledge -Based Sustainable Marine Life

Program Bio-BLEU

Integrating biophysical monitoring with social, economic and environmental data

The Environment

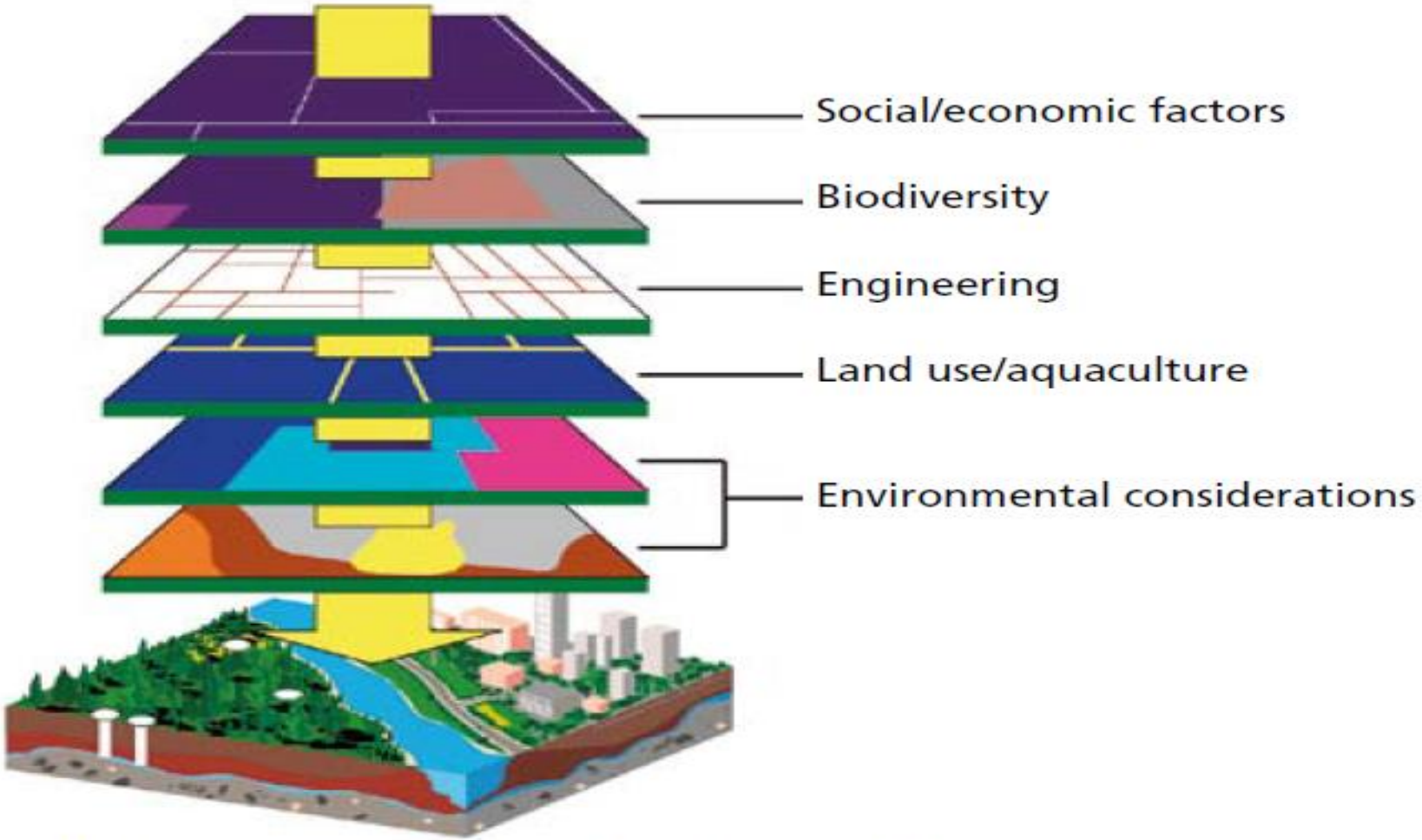


The Society

The Economy

A Science & Technology Perspective Based on Systems Thinking

Ecosystem Approach



Source: Modified from Environmental Systems Research Institute, 2001.

Program Bio-BLEU Initiators

PEIE

المؤسسة العامة للمناطق الصناعية

Public Establishment For Industrial Estates

LES COMPAGNONS DU DEVOIR et du Tour de France

Università di Corsica Pasquale Paoli

Newcastle University

European Consular and Commercial Office (UK)

MARINE & COASTAL RESEARCH

Research Topics

STELLA MARE

Sustainable Technologies for LittoraL Aquaculture and Marine REsearch

WILD POPULATION MONITORING

Stock assessment
Population dynamics
Behavioral modeling

PRESERVING MARINE BIODIVERSITY

Corsican populations
Environmental impacting factors
Larval dispersion and recruitment modeling

SUSTAINABLE AQUACULTURE

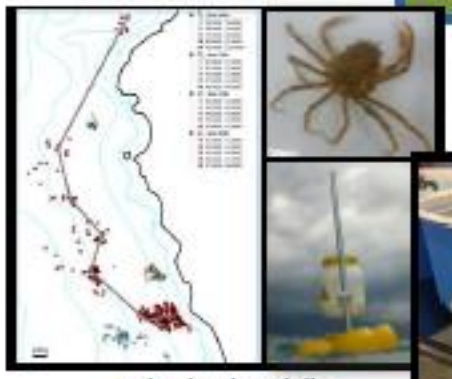
Controlled reproduction
Improved rearing techniques

MANAGEMENT OF FISHERIES RESOURCES

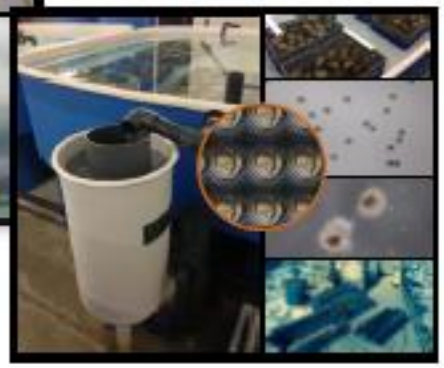
Habitats enhancement
Reinforcement of depleted zones

Post-larval fish biodiversity

Fisheries



Behavioral modeling



Aquaculture

AQUACULTURE
&
SPECIES
DIVERSIFICATION

Knowledge
Transfer

Stella Mare

STELLA MARE

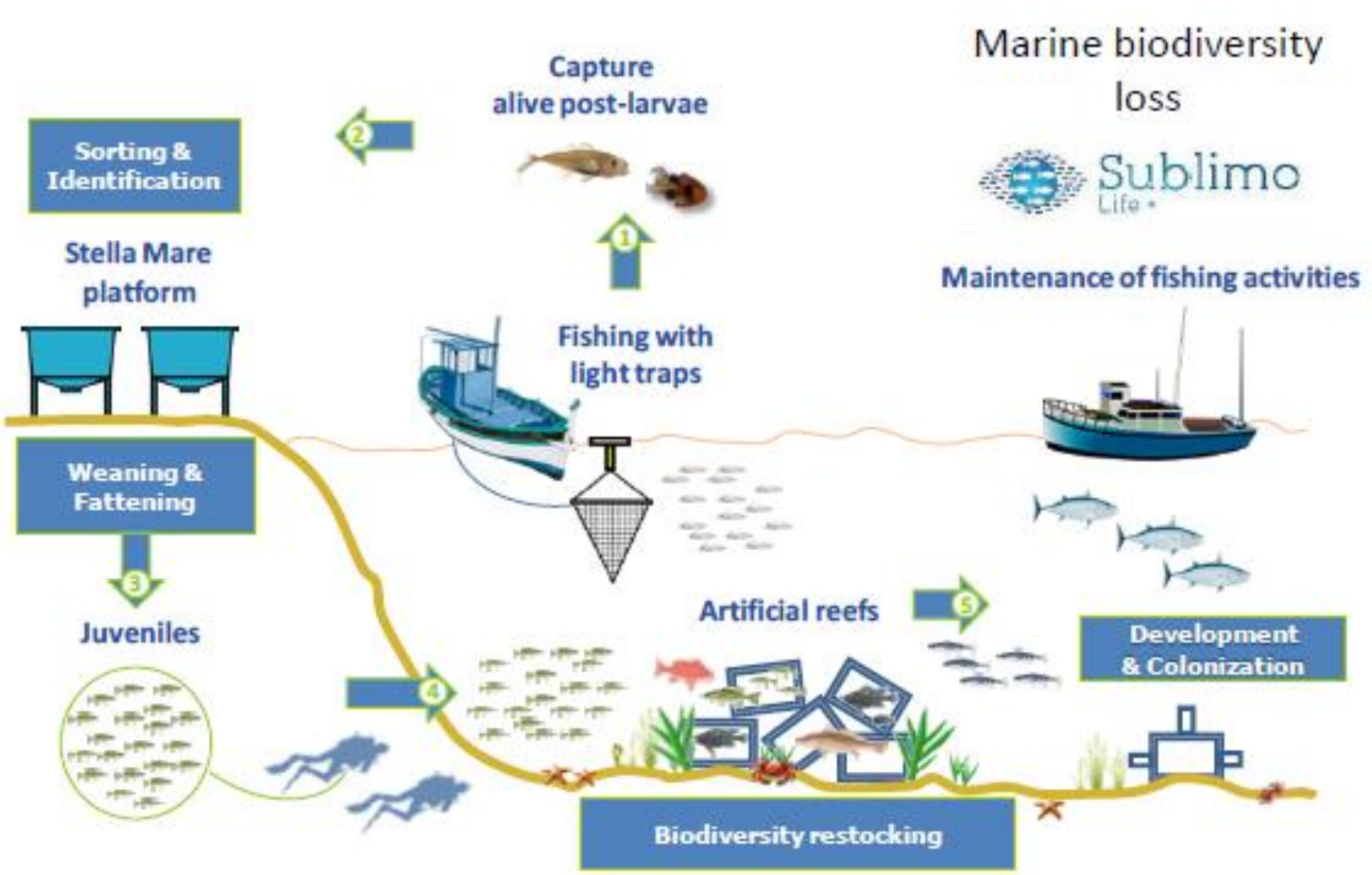
Sustainable Technologies for
Littoral Aquaculture
and Marine REsearch

NEW MEDITERRANEAN SPECIES
= DIVERSIFICATION
Fishes (*Dentex dentex*…)
Crustacean (*Maja squinado*…)
Mollusks (*Ostrea edulis*…)
Echinoderms (*Paracentrotus lividus*…)

PATRIMONIAL SPECIES
Protected species (*Patella ferruginea*…)
Rare, endangered or threatened species

BLUES BIOTECHNOLOGIES
Interesting macroalgal species for
Pharmaceutical & Cosmetic
Interesting microalgal species for
Biofuel & Seaweed farming (aquaculture)


AQUACULTURE
&
BIODIVERSITY
Ecological
Engineering
Stella Mare
STELLA MARE
Sustainable Technologies for
LittoraL Aquaculture
and Marine REsearch


Capture
alive post-larvae
Sorting &
Identification
Stella Mare
platform
Fishing with
light traps
Marine biodiversity
loss
Sublimo
Life
Maintenance of fishing activities
Weaning &
Fattening
Juveniles
Artificial reefs
Development
& Colonization
Biodiversity restocking


Dentex dentex
Sparus aurata
Conger conger
Trachurus mediterraneus
Pagrus pagrus

Ecological Engineering

Stella Mare

STELLA MARE

Sustainable Technologies for
LittoraL Aquaculture
and Marine REsearch

Larval rearing

Stella Mare Platform

Fishing breeders (berried females)

Overfished resource
Red Lobster

Maintenance of fishing activities

Production

Juveniles

Fishing

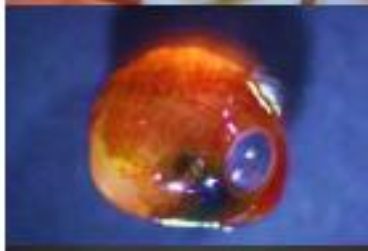
Rest

Artificial reefs

Development & Colonization

Natural renewal of red lobster stocks

Artificial reefs



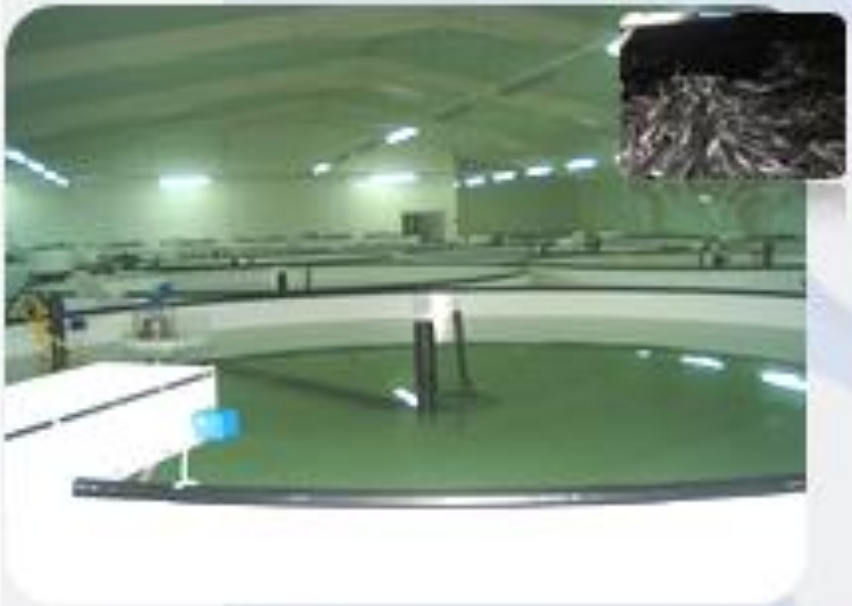
Closed Recirculating Aquaculture

Sur Industrial Estate

PEIE

المؤسسة العامة للمناطق الصناعية

Public Establishment For Industrial Estates



SUR CLOSED RECIRCULATING AQUACULURE SYSTEM 0% DISCHARGE

Worldwide the environment restrictions and climate change needs solutions.
R.A.S. has high production of quality fish on a relatively small area, since high density and a high growth in the controlled environment.
Reduced risk of diseases ,monitoring control and low mortality rates
The water quality is treated to achieve the desired quality.
The effluent can be reduced to a minimum, and therefore be controlled.

R.A.S is the solution.

Legislation

Over-fishing of waters, catch regulations or catch declining.
for R.A.S the regualtions are very clear.

Water consumption

In several countries water is a major problem while there is a short of rain plus evaporation of water in ponds and lakes,
In R.A.S the consumption of water is limited. Average 5% per day of total water volume

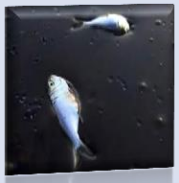
Quality

It might not always be possible to get all year round wild catch quality fish.
The consumer however demands all year round "quality fish".
R.A.S you can deliver 365 days per year quality fish. Free of antibiotics with clear "tracking label"

Climate

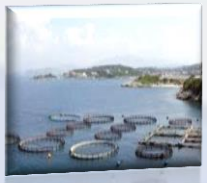
In several countries the climate is too cold or too warm.
In R.A.S all parameters are controlled and fish is growing in optimum conditions.

Polution

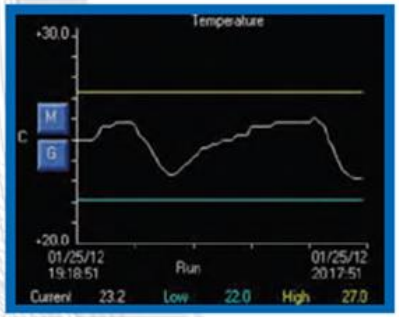


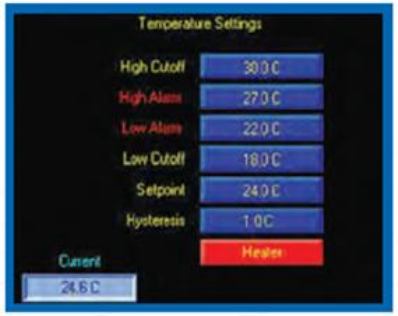
In some areas the optical water is wasted because of continues pollution.
R.A.S is enviromental friendly, and water quality is under control

Land

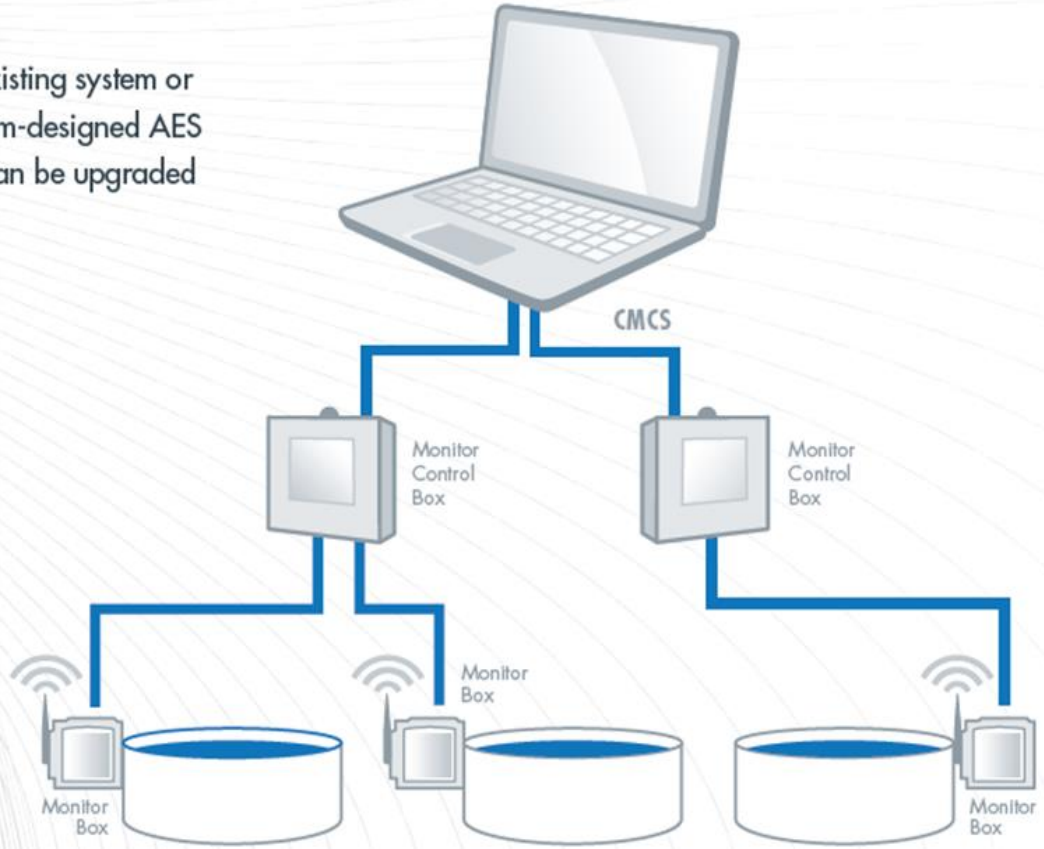


In relation to open culture: in R.A.S fish grows fast in a relatively small area. Species can be grown outside the natural habitat.





These PLCs can be configured to integrate with your existing system or can be tailored to work as a key element of your custom-designed AES system. In addition, each EcoLink is expandable and can be upgraded in the field with minimal effort and disturbance.

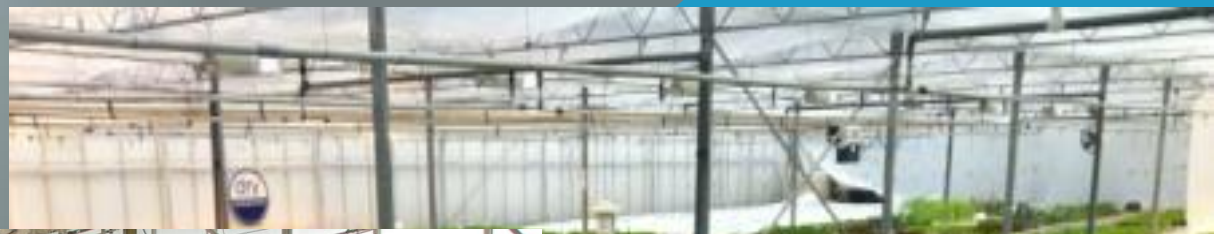


PEIE

المؤسسة العامة للمناطق الصناعية

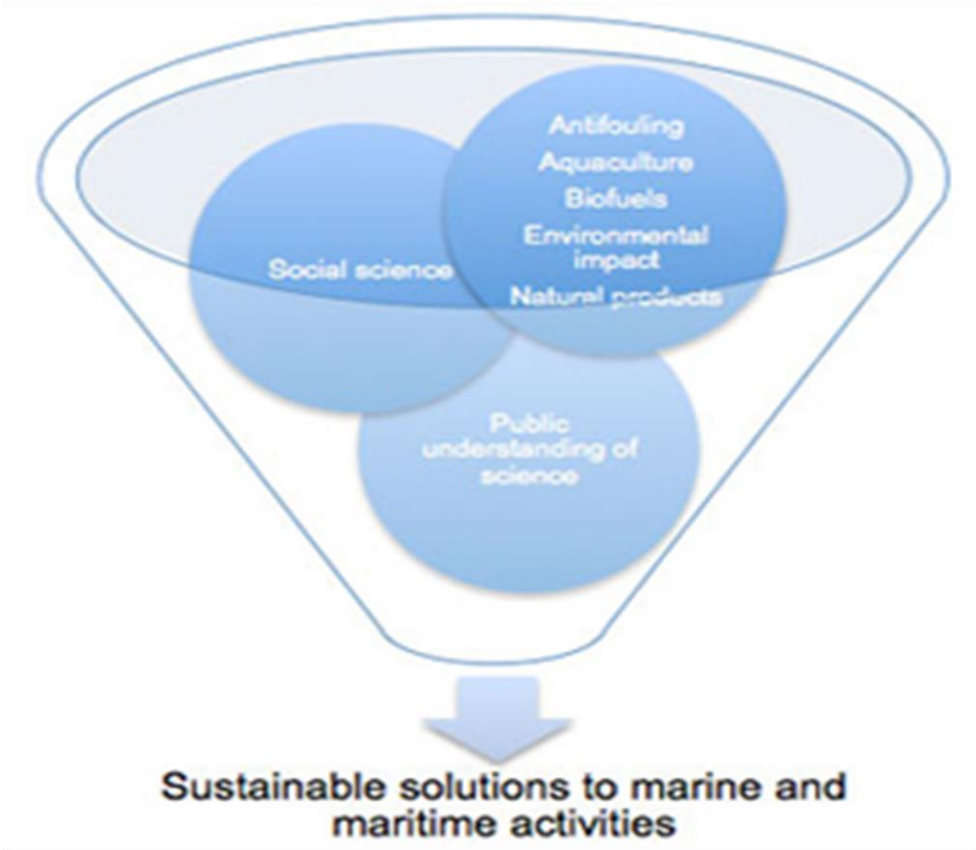
Public Establishment For Industrial Estates

Aqua ponics,
utilizing fish waste for growing plants

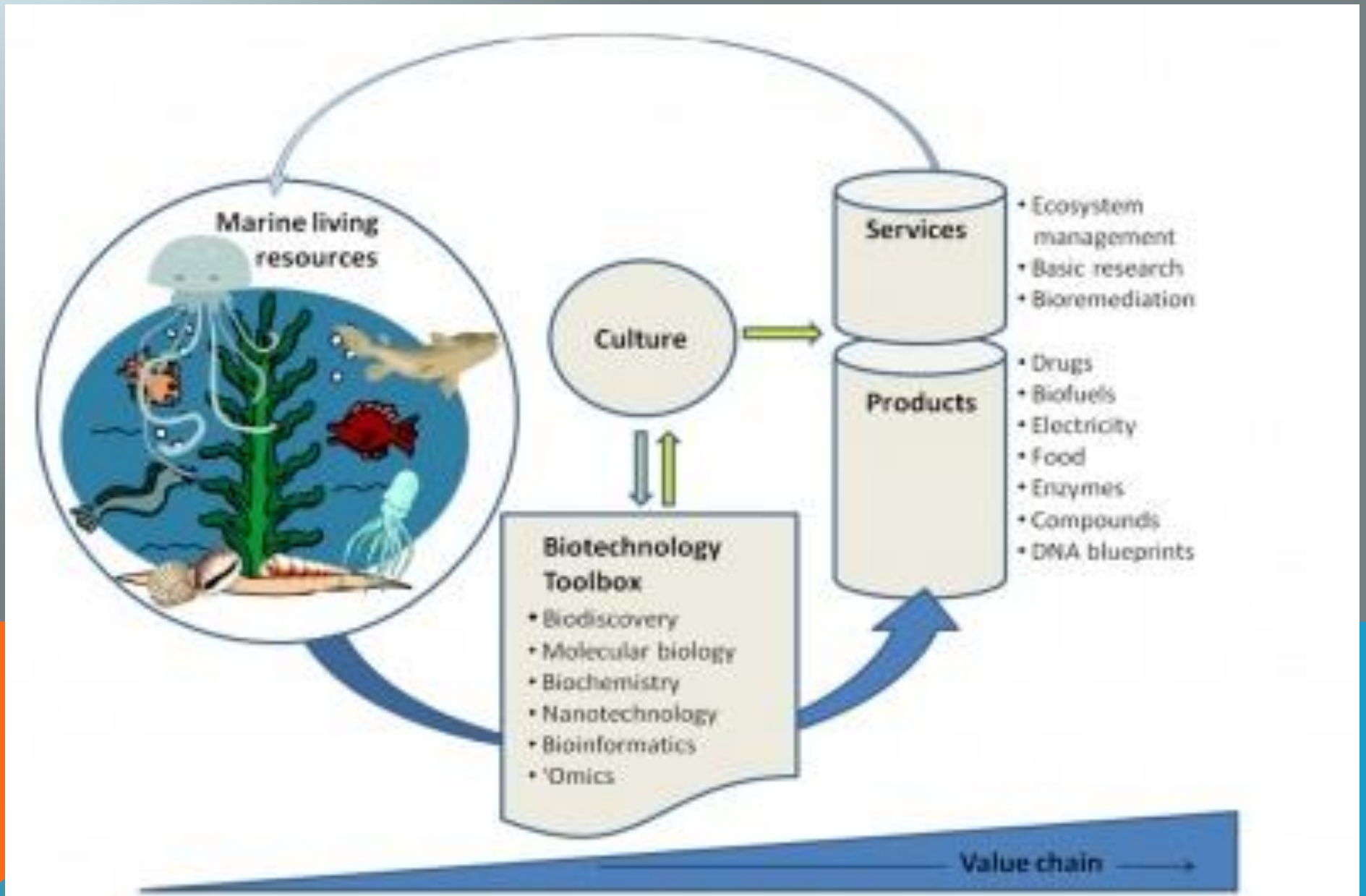


School of Marine Science&Technology

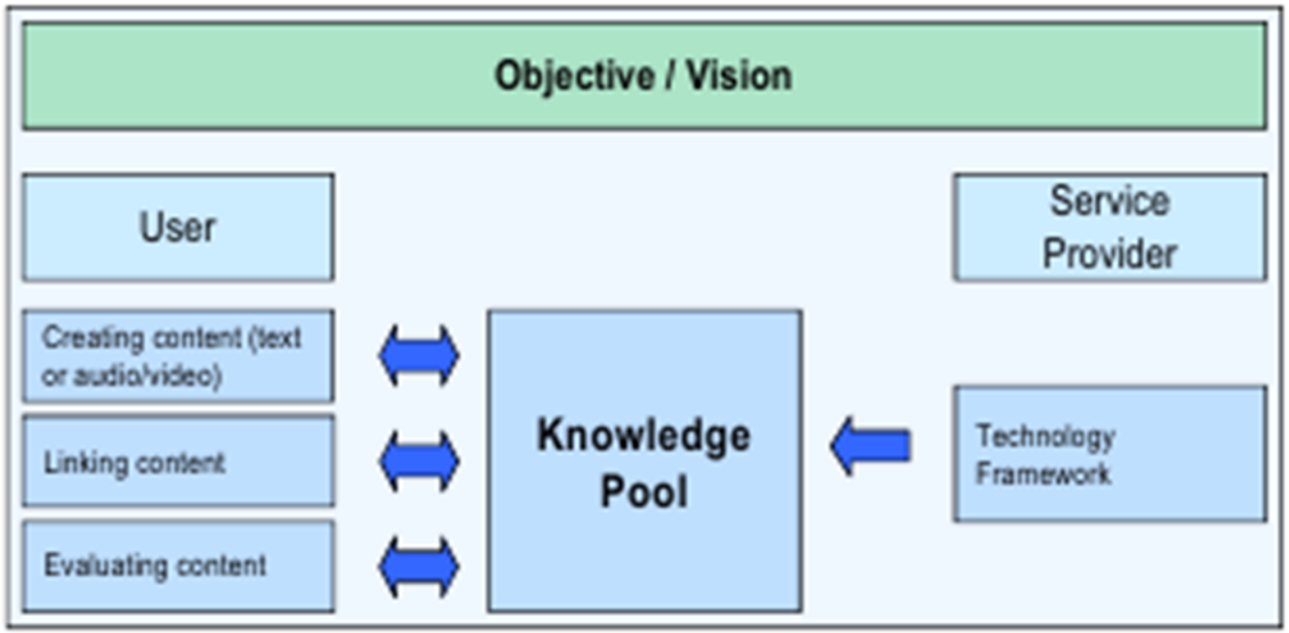
Newcastle University



THE VALUE CHAIN



Online Information Systems for Sustainability



- ***Network members and the public access to data***

Program BioBLEU

Communicating Science & Information

For a Knowledge -Based Sustainable Marine Life