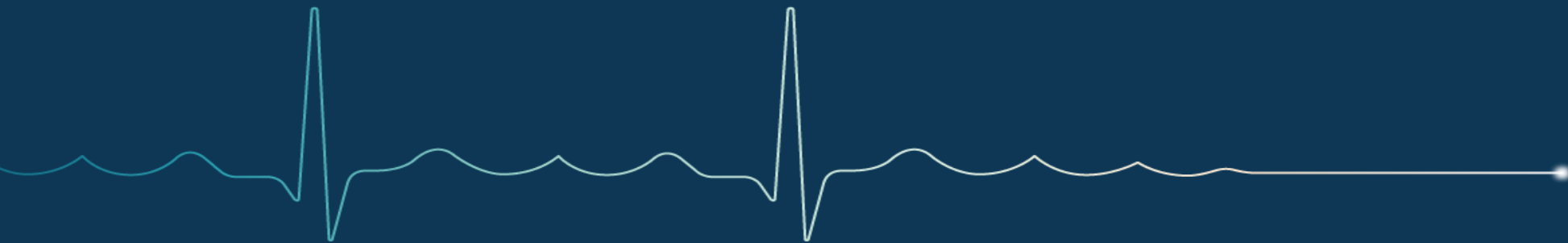


# From science to action

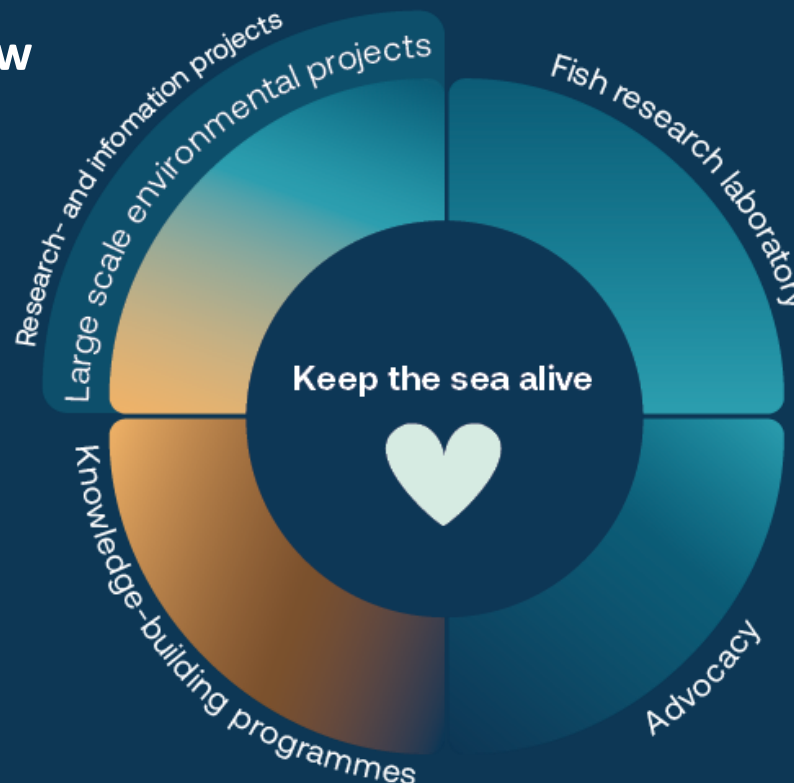


Keep the sea alive

# Overview of our work



Large-scale **projects** that show that change is possible



Fish **Laboratory**

**Knowledge building** programmes

**Advocacy** – so decisions are made, and measures are implemented

# From applied research to change

## Circular NP



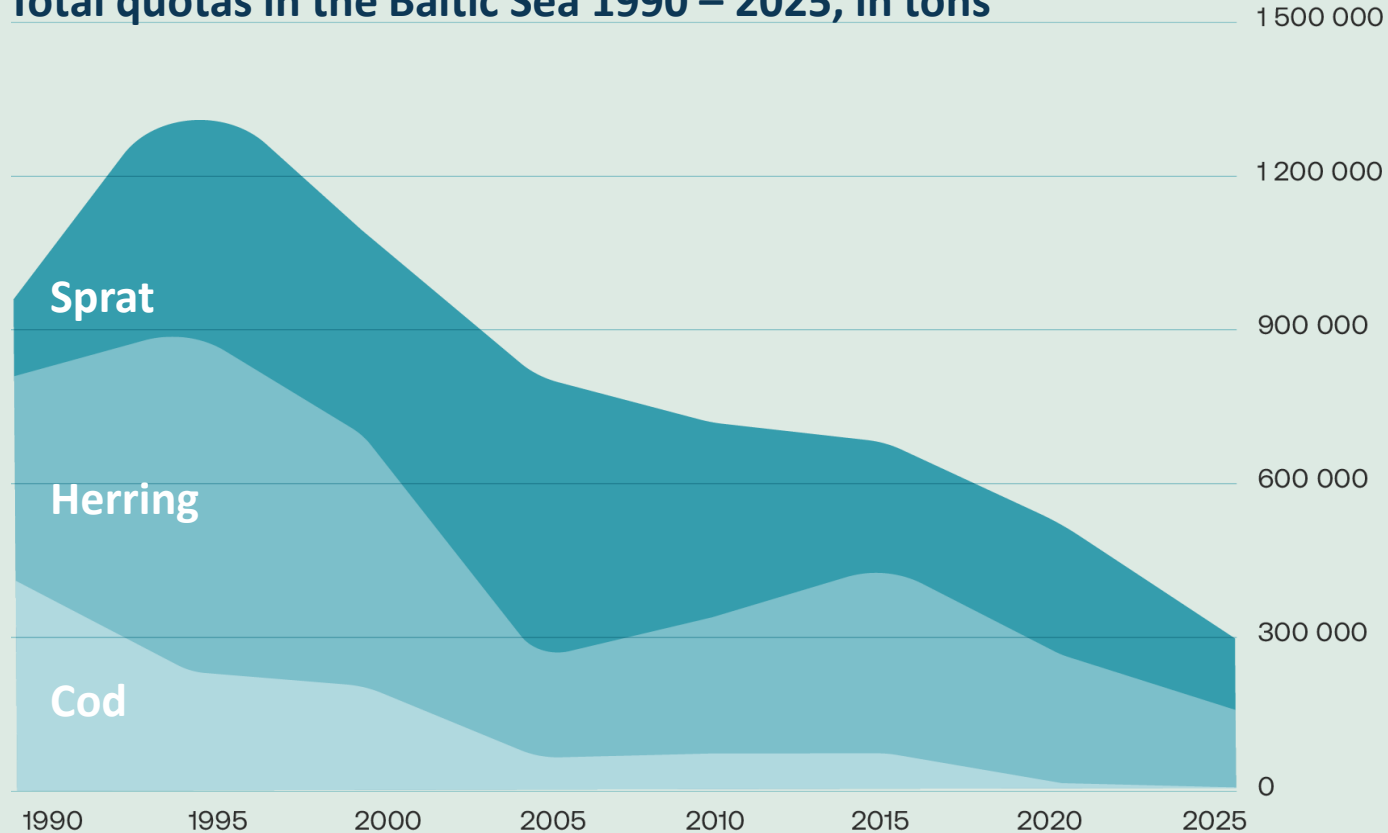
## Thriving Bays



The next step is to turn results in to **policy advice** and disseminate to managers in order for the results to be used and generate change.

# Development of the Baltic Sea Commercial Fish Stocks

Total quotas in the Baltic Sea 1990 – 2025, in tons



There are several reasons to “why”

**But most of all – overfishing and flawed management**

- Rules exist but are not enforced
- MSY must change fundamentally
- Risk management
- Cooperation with Finland
- Low hanging fruit – age and size structure

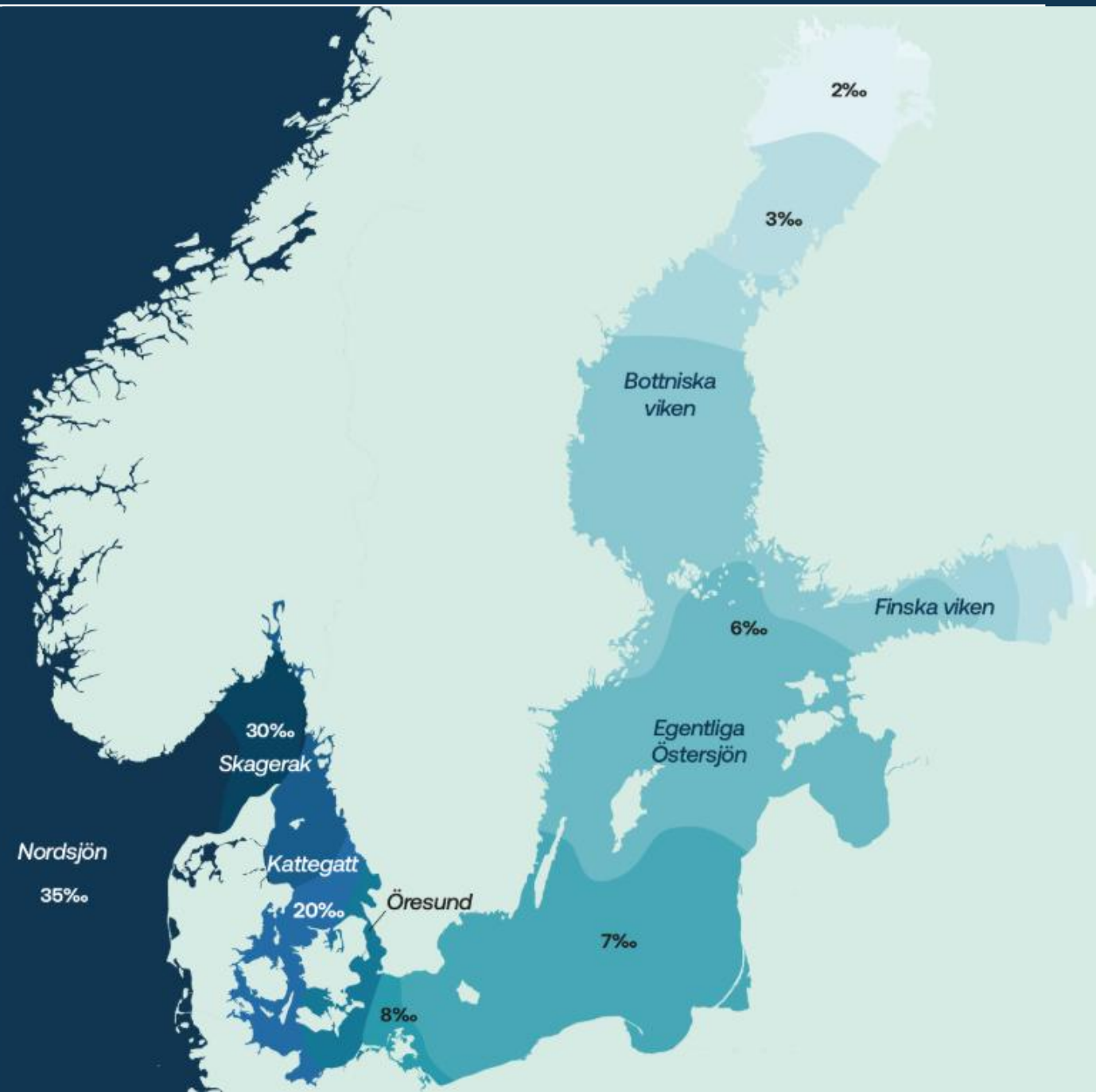
# Why is this important?

## Unique genetic adaptations

- More than 15 herring populations
- A unique cod population

**Warming waters, changes in salinity** and **intense fishery** near spawning grounds impacts reproduction and growth.

If we lose the Baltic cod or herring, they can't be replaced





# Can cod thrive in the Baltic Sea again?

**Project: ReCod - release of small cod in the Baltic Sea**



# Is it possible to help the Baltic cod come back?

- Let wild cod spawn in captivity, release the offspring back to the sea
- What is the most feasible release size?
- A cost-efficient template for larger restocking measures in the future?



# ReCod Step 1

**Millions of eggs were hatched to larvae**, enabling scientific experiments on:

- Salinity tolerance
- Oxygen stress
- Growth experiments
- Genetical mapping

**Approximately 3 million larvae** released in areas where cod used to be abundant

**Result so far:** Mortality in the lab is really low. No confirmation yet from DNA-tests that the 4–6-day old larvae survive the release into the sea





# What we have learned so far

1. **The cod can still grow big** – there is no “fishery induced” genetic impact reducing growth or growth speed
2. **The food quality in the Baltic Sea is sufficient**– growth is impacted by loss of food quantity, not the quality of the food
3. **The cod is a survivor** – Cod eggs can hatch on the sea floor – they do not need to float
4. **Warming oceans is a challenge** – high temperatures is much more stressful than low salinity
5. **The cod can adapt** – cod has a plasticity and ability to adapt (a possible breeding program)

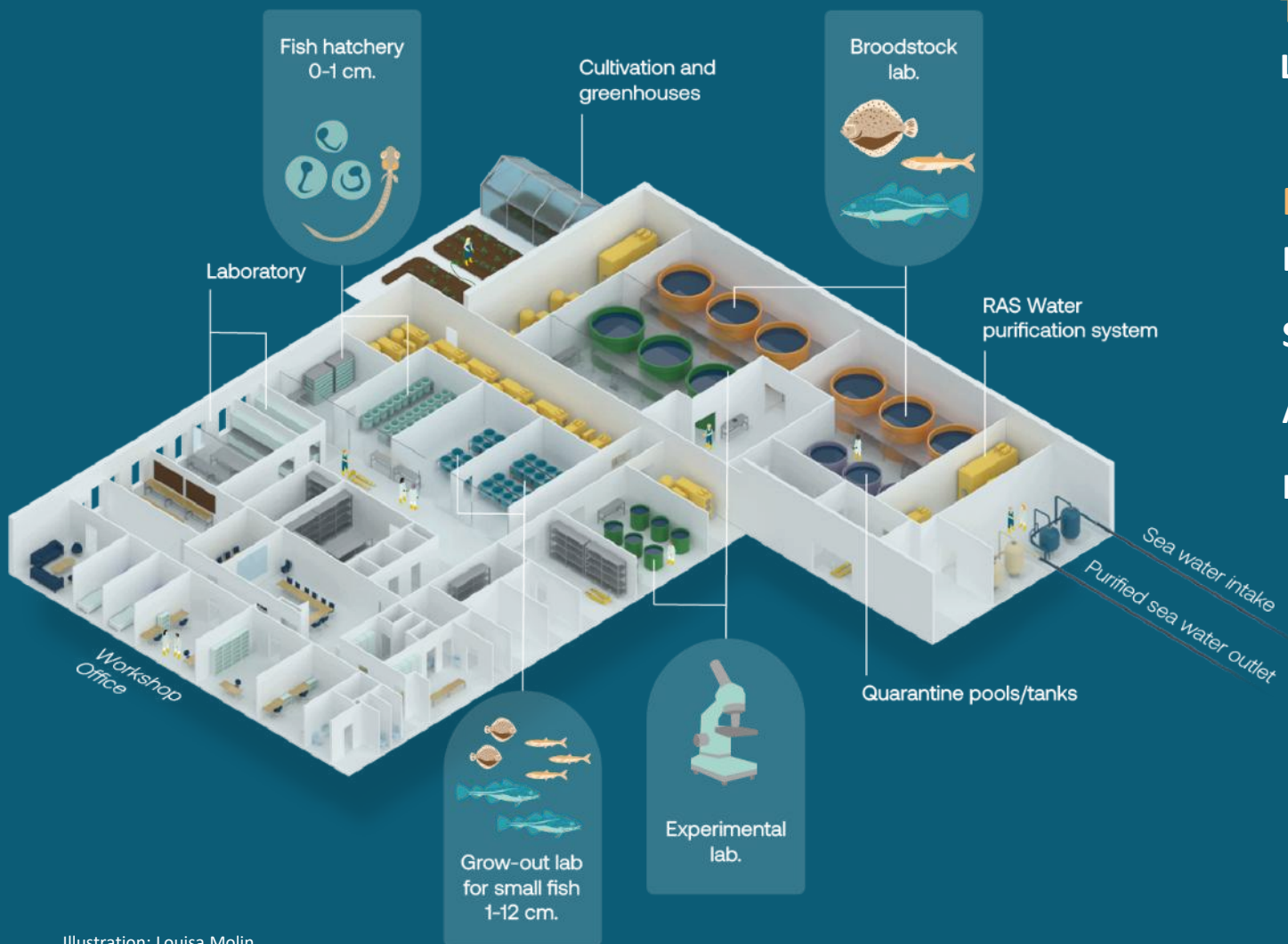


## ReCod Step 2

- Feed larvae up to 2 cm size fry before release
- Track adult cod in Tvären to evaluate habitat suitability
- Evaluate effect of adult cod on three-spined stickleback abundance
- Calculate a cost per cod for future restocking



# ReCod at BalticWaters Fish Laboratory



## Technology

Land based Recirculating Aquatic Systems (RAS)

## Potential

Develop existing and new methods

Scientific research

Aquaculture industry

Hatchery



## Cod today, and maybe tomorrow!



On arrival:  
150 -300 grams



After 2 years:  
4-6 kg



Åland cod (2023):  
up to 20 kg

# Thank you!

[WWW.BALTICWATERS.ORG](http://WWW.BALTICWATERS.ORG)

Email: [info@balticwaters.org](mailto:info@balticwaters.org)

Adress: Österlånggatan 18, 111 31 Stockholm, Sweden