

Monitoring Update

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Contents

Background - a quick summary of the our new monitoring framework;

- key features;
- reasoning for change.

Performance standards - adoption of an approach matching other sectors;

- our principles and the strategic objectives;
- the pursuit of improvements on the Quality Spectrum;
- workshop.

Experiences with the new framework so far – pre development surveys;

- monitoring plans;
- moving from transition.

Background - What have we moved from and to?

Monitoring 101

We used to use a system based upon a single linear transect of monitoring - 4 stations plus references.

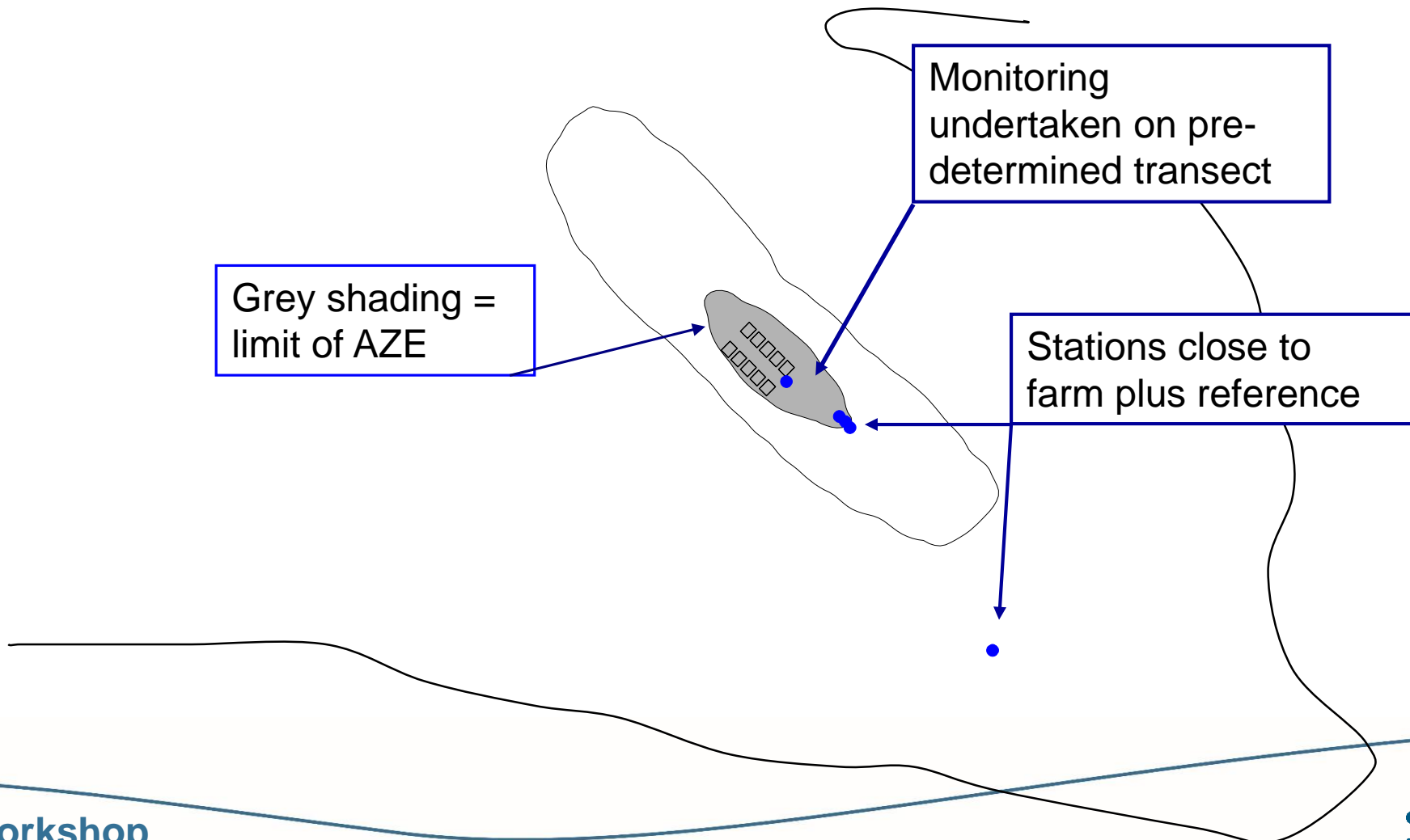
Compliance based upon seabed quality at a single point a fixed distance from the cages, used to define something known as the Allowable Zone of Effects (AZE).

Biological compliance measure was Infaunal Trophic Index – a measure of diversity in seabed animal communities assessed by the feeding (Trophic) behaviour of the animals.

Put simply, a wide diversity of feeding techniques was indicative of good diversity = low levels of pollution.

Compliance in connection with residues was a measure of in-feed residues at a single point in the environment.

Single Monitoring transect



Background - What have we moved from and to?

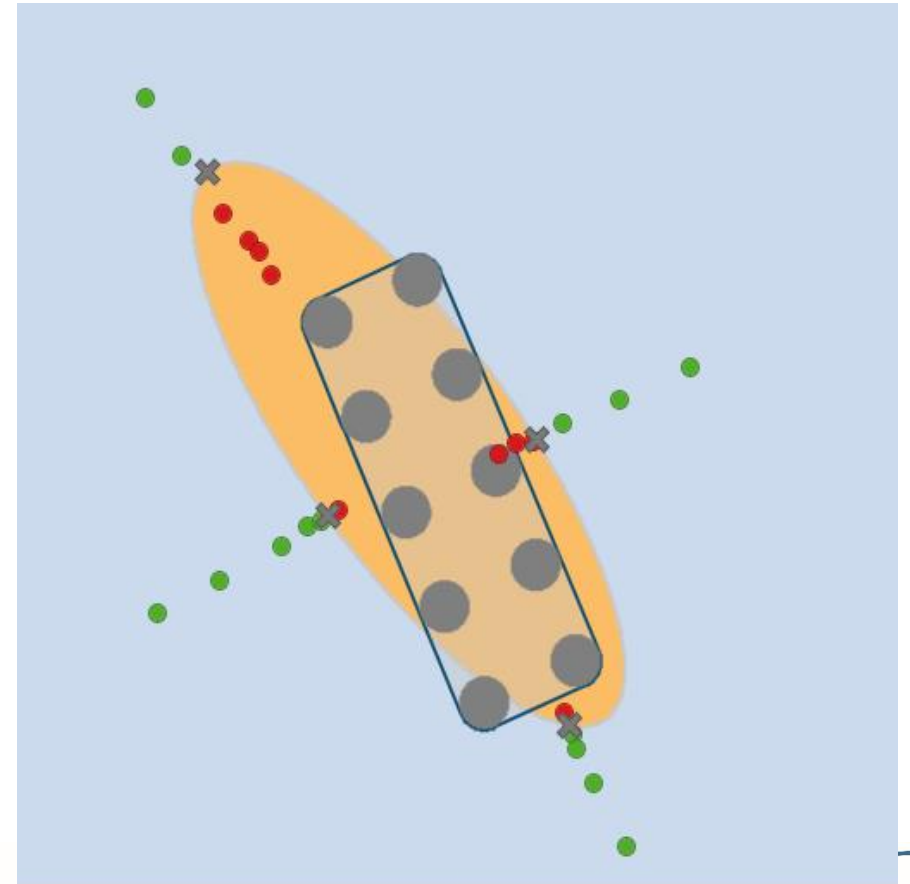
Monitoring 101

- We are moving to a system based upon 4 orthogonal transects of monitoring - 28 stations plus references.
- Compliance based upon a measurement of the area impacted by the fish farm.
- The biological compliance measure is based upon Infaunal Quality Index (IQI) – which similarly to ITI in that it's a measure of diversity but the assessment is wider than feeding habits.
- IQI Standard is 0.64 - based upon WFD “Good Status”.
- Compliance for residues will be a measure of the area of seabed impacted to a level above the environmental standard for in-feed medicine (Slice).
- Standards for IQI and Slice EQS included in CAR Permit.

Background - What have we moved from and to?

Multi Transect Approach

1. Sample sufficient transects & sampling points around the fish farm
2. Determine for each transect a distance at which IQI breaches 0.64
3. Use a spanning ellipse anchored by the above breach distances to determine the area impacted
4. **Provided: Ellipse area \leq Allowed area, site passes quality standard**
5. Allows for impact zone to be elongated, offset etc.



Background - What have we moved from and to?

Why the change?

- It's much **more robust**, gives much **more evidence** about site performance;
- It sets the sector's impacts in the context of WFD.

What else have we changed:

- Pre-development surveys also more **robust and extensive**, but survey design **less rigidly** set down by SEPA;
- Design of the monitoring and pre-development surveys now in the hands of operators and their consultants;
- **Guided** by the development of new "Performance Standards".

Performance Standards for Operator Monitoring

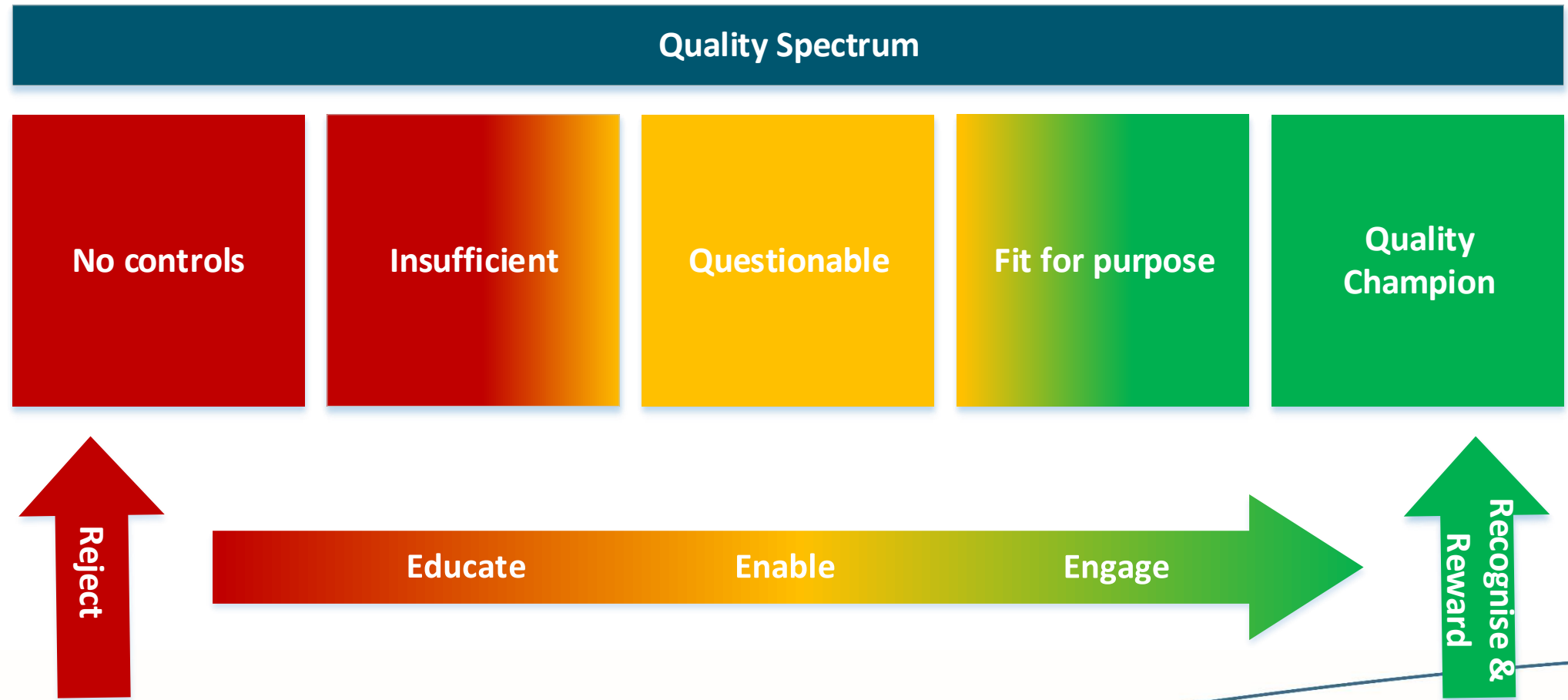
Operator monitoring - our principles

- We will **set our expectations** and lay down ground rules/boundaries **that must be observed**;
- We will check that those **expectations are met**;
- Where they aren't met, we will make an **appropriate intervention**.

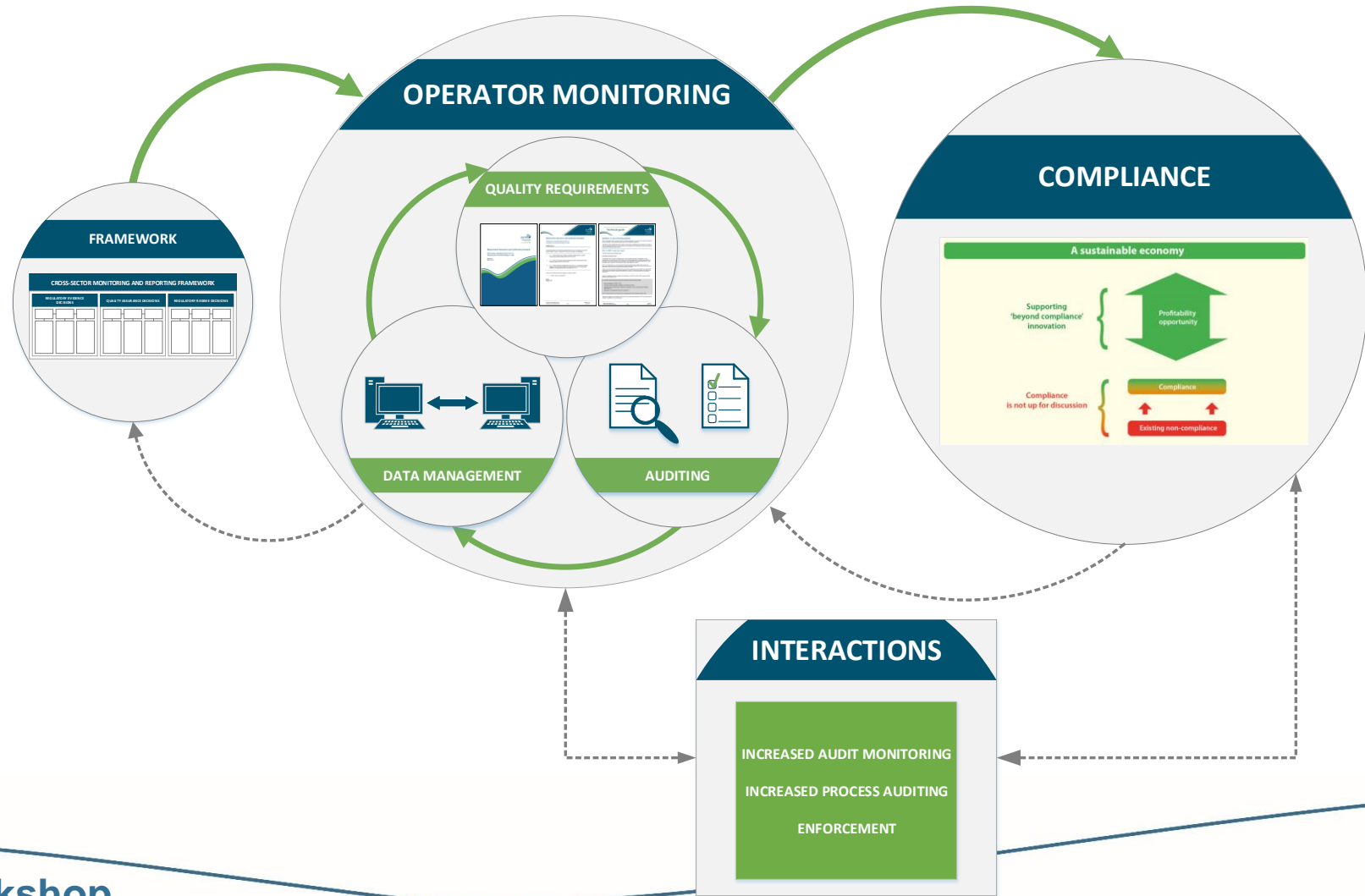
Operator Monitoring – Strategic Outcomes

- Operator generated evidence is **robust and fit for purpose**;
- We can **confidently** carry out compliance assessment using that evidence.

Performance Standards for Operator Monitoring



Performance Standards for Operator Monitoring



Performance Standards for Operator Monitoring

Two Standards Published so far:

- 1 **Baseline survey & seabed and water quality monitoring plan design;**
- 2 **Sampling of soft-substrate;**

A third, currently in draft form, deals with **sample analyses**.

Once the third standard is published, SEPA is seeking to **hold a workshop for consultants and professional scientists** involved in monitoring, the aims will be:

- To **explain** how the standards work;
- Set out our **expectations** in connection with each part of the process;
- **Seek** their feedback.

Our experiences with the new framework so far

It is early days in the new regulatory framework.

A number of applications have been handled with elements of the new monitoring requirements.

We have **worked with** operators on pre-development surveys and in refining seabed and water quality monitoring plans.

A range of different experiences across companies in terms of their degree of preparedness meaning that we've provided a range of differing levels of support.

We have a number of CAR permits in determination and at various stages of the application process supported by pre-development surveys.

A number close to the point of issue that will include seabed and water quality monitoring plans **as part of their permit documentation.**

Our experiences with the new framework so far

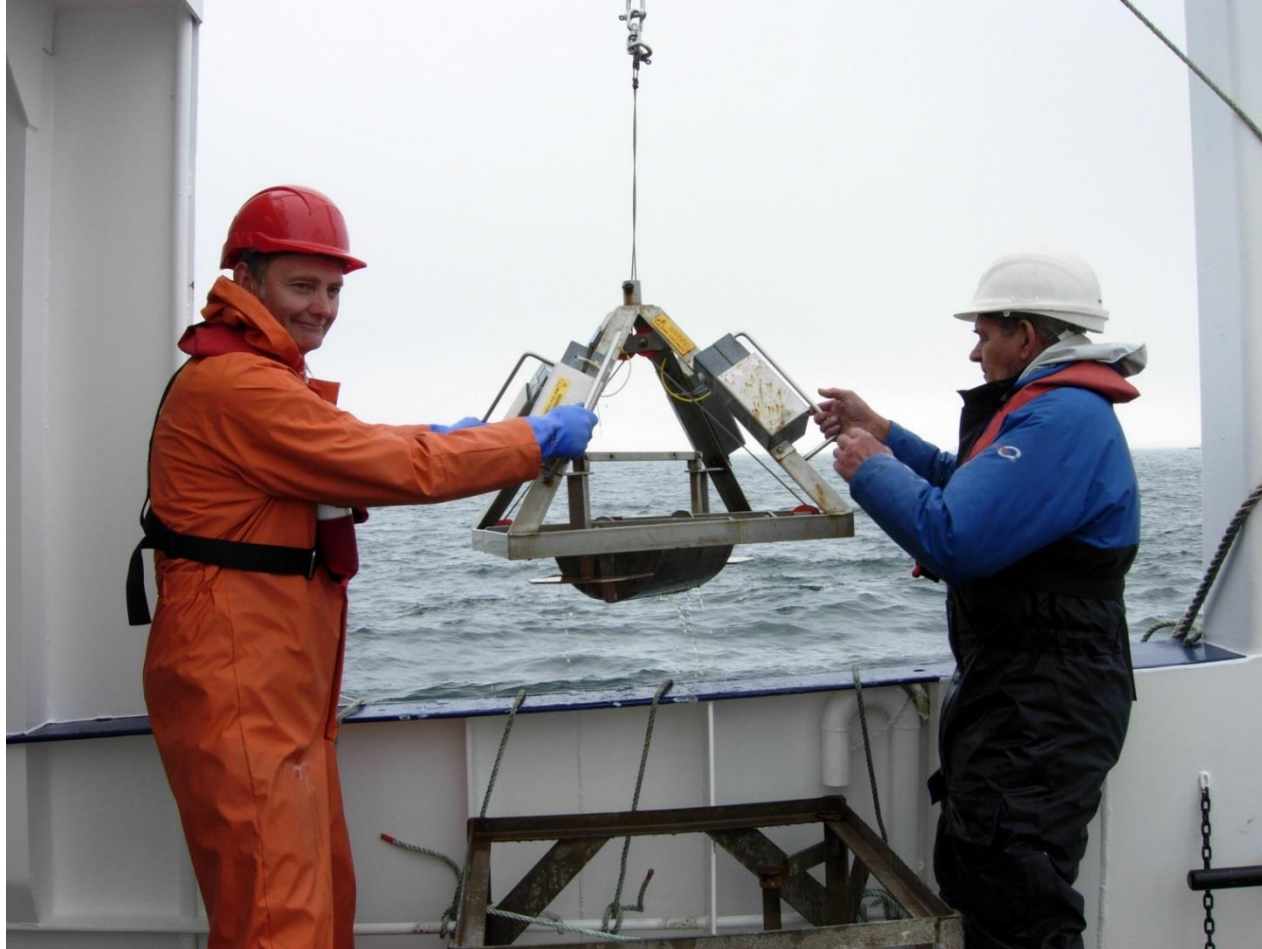
During this transition period, **working together with operators** has helped to achieve good outcomes.

Following finalisation of the performance standards and the workshop event to support consultants and scientists, we will have provided:

- Greater **clarity** on our requirements;
- Detailed **guidance** on how the MACS system works.

We think its likely that we should be able reduce our need to provide guidance in every case – although of course we will be **happy to provide advice** as required.

Thank you.



Aquaculture workshop
23 September 2019