

SHELL-VOLUTION



Mussel cultivation developments

02 October 2025

**Sustainable Shellfish
Smart Science
Shared Growth**



Funded by
UK Government

OUR ISLANDS
OUR DEAL 

Planning for the future...

- Once in a lifetime (?) access to research funding for the mussel sector
- Don't want to muck it up...

**Make significant
advances if we
work TOGETHER!**

Background

Recap on
history

Work and
plans

Opportunities
to get
involved



SHELL-VOLUTION

Shellfish aquaculture - evolution to next-generation

Evolution of mussel farming into its next generation through Knowledge Exchange

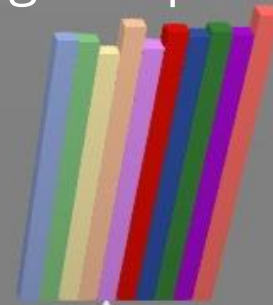
Mussel Aquaculture Sector

- An incredible protein source with amazing credentials
- Sector built from
 - micro businesses
 - a few SMEs
 - Local ownership
- Important for rural economy
 - important multiplier



Scottish mussel production

% tonnage output by region



Shetland

80% of tonnage

Western Isles



Highland



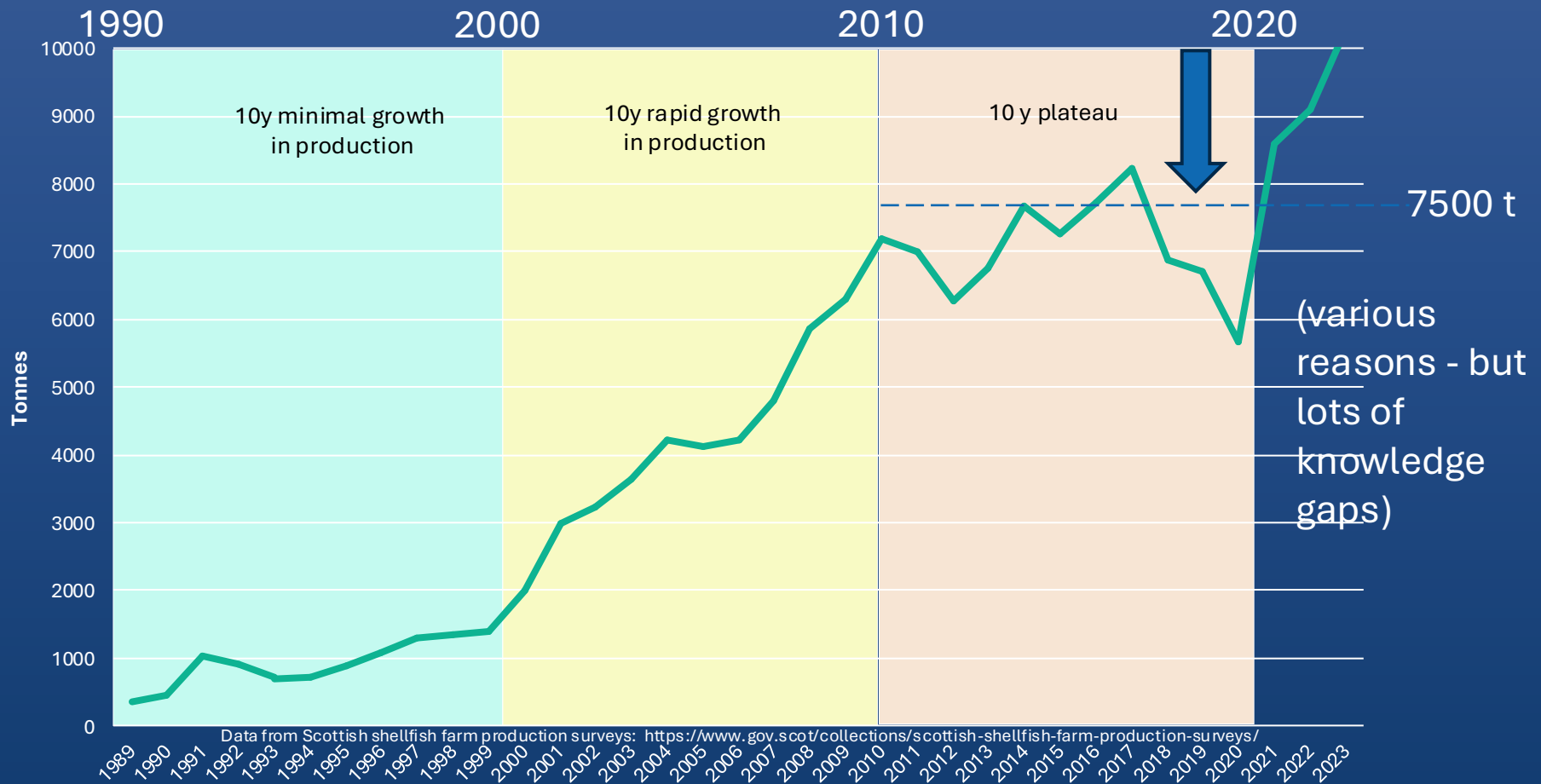
Strathclyde

Data from **Scottish shellfish farm
production surveys**

<https://www.gov.scot/collections/scottish-shellfish-farm-production-surveys/>

Why?

Scottish Mussel Production (tonnes)



What?

- Evolution in aquaculture has been rapid because of strong track record of
- **innovating** and
- **addressing knowledge gaps, head-on**
- Close Knowledge Gaps with **“Contract Research”**
- **Long term** - to match growth cycle of the stocks



Benefits of Shell-volution

Production

Increase from c7500 to c18,000 tonnes p.a.

Jobs

- c55 FTEs on farm
- help to retain existing c100 FTEs

Environment

- Ecological benefits
- Nutritional benefits
- Low carbon foodstuff

Innovations

- More innovation
- Capacity and capability for research institutes (especially in Shetland),
- KE and IP opportunities , also for transnational projects

Where?

“Impact to be most felt in Shetland”

Most fieldwork in Shetland



A scenic landscape of a coastal village. In the foreground, a small cluster of buildings is nestled on a grassy slope. Beyond them, a large body of water, possibly a bay or fjord, stretches towards the horizon. The water is a deep blue, reflecting the sky. In the background, rolling hills and mountains are visible under a sky filled with soft, white clouds. The overall atmosphere is peaceful and picturesque.

OK, ...

- I could see a willingness in
 - Industry
 - Academics
 - Public Sector
- **But, ...** needs money

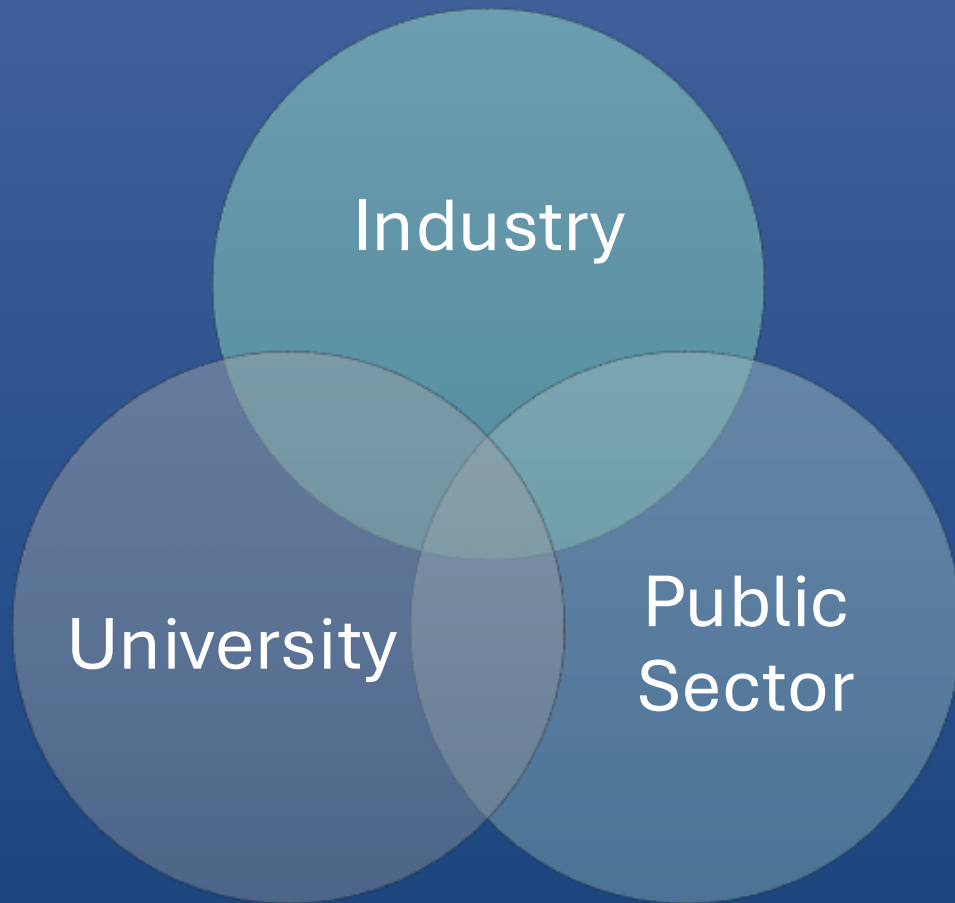
How?

Funder Identified...

OUR ISLANDS
OUR DEAL

- Investment from UK Gov + Scot Gov
- £100m (£33m to each Local Authority)

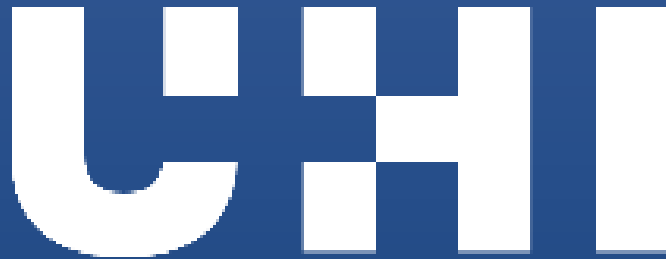




Leveraging input from three sectors
“Triple helix model of innovation”

Industry-led – *not by “Scientists in White Lab Coats”*

Project needed a 'home'



Executive Office

Regional Strategic Body for
HE and FE

Summer 2018 - “6 months”





[On My Way Slow GIF](#) -
[On My Way Slow](#)
[Doggie - Discover &](#)
[Share GIFs](#)

ARE WE THERE YET?

...

- ...6 years later
- (mentioned at ASSG 2024)

- **£4.4m**

- Incredible amount of input and support (FBC):
 - Michael Tait,
 - Elaine Jamieson,
 - Robin Shields,
 - Ruth Henderson,
 - Nick Lake,
 - Alison Wilson,
 - Shona Clyne,
 - Lynn Thrower....

A wide-angle photograph of a rugged coastal landscape. In the foreground, dark, jagged rock formations jett out into a deep blue sea. White foam from breaking waves is visible at the base of the rocks. The middle ground shows a continuation of the rocky coastline, with some patches of brownish-yellow vegetation on the cliffs. In the distance, the sea meets a horizon under a sky filled with soft, grey clouds. The overall scene is dramatic and scenic.

SHELL-VOLUTION

LIVE

- Recruitment during Winter 2024/5
 - Project Team in post: 1 April 2025
- Developing process and procedures

Project Team



Su
Bryan

UHI

Dean of Faculty of
Science, Health and
Environment

SRO



Gregg
Arthur

Project Director



Michele
Kerry

Project Manager

UHI | SHETLAND

Seconded from 1 April 2025

Voting x7

Observers x4

Project Team



Executive
Office



Producers x3



Seafood
Shetland



ASSG



Scottish
Shellfish



The Crown
Estate Scotland



Sustainable
Aquaculture
Innovation
Centre



Shetland Islands
Council



Highlands and
Islands
Enterprise



UHI
Project Team

Project Board

SHELL-VOLUTION



Shell-volution Challenge Fund

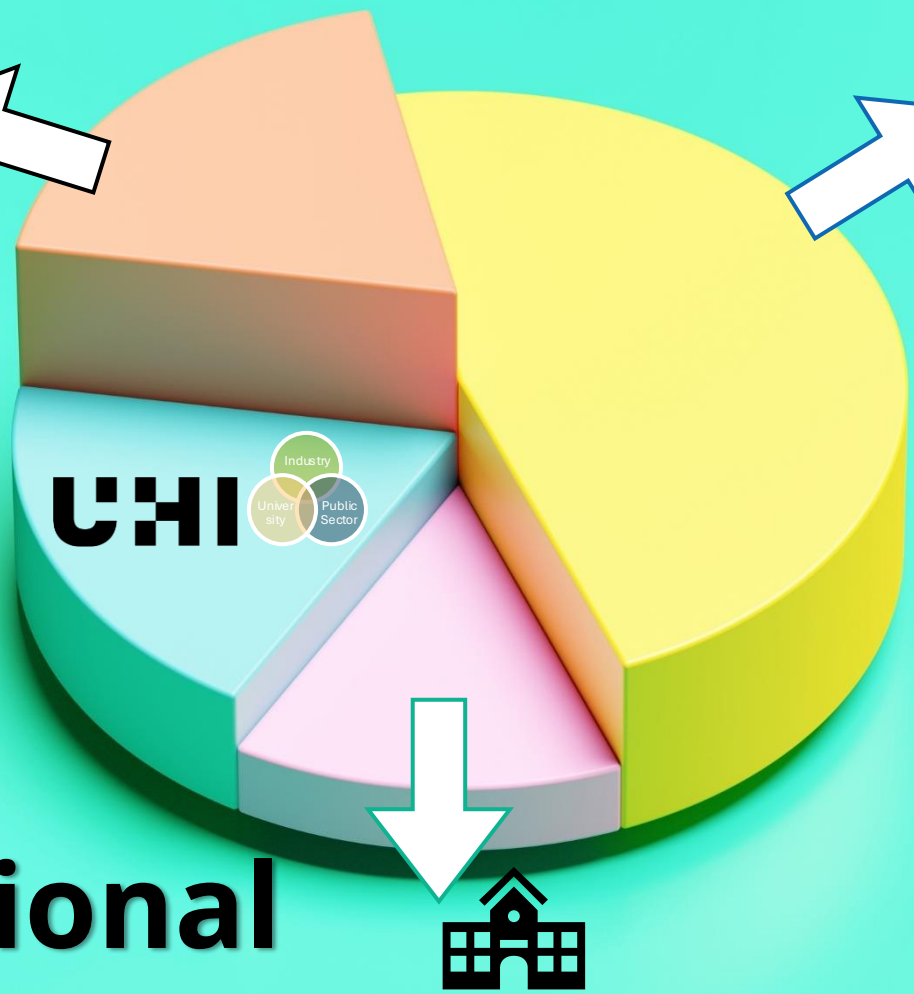
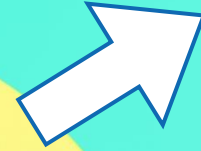
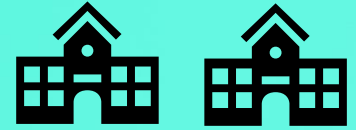
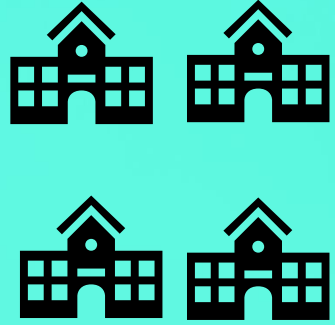
= the mechanism to distribute money to researchers

Why a “Challenge Fund”?

= a “competition to deliver on a challenge”

- Has **innovation** at the core
- Working **together** on agreed goals

Competitive Tenders



This is NOT
about
plugging
gaps in
university
funding....

Money is
excellent,
but not vast

£4.4m
9 years
+£additional

Shell-volution Challenge Fund

Research Agenda?

Projects topics will evolve during the project

- Several:
 - Smallish projects
 - Multi-work-package / Multi-year projects
- Potential for some studentships
(if research questions requires)

- **International collaborations** are possible / desirable
- Applicants might be required to demonstrate some **co-funding**

(intervention level not yet agreed – e.g. 80% FEC model for RCs, innovation funding is typically lower %)

Developing the Shell-volution Research Agenda

- Grouping and Prioritising

Themes



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graph TD; Themes[Themes] --> Topics[Topics]; Topics --> Projects[Projects];
```

Topics

Projects

Project will fund research across three themes

Themes

1. Spat
2. Farming and the environment
3. Sharing Best Practice

Themes

Stakeholder Engagement – Producers

- Research Topics and Projects?



Project Team visited
Seafood Shetland members

Spring-Summer 2025

List of prioritised **Topics** are on our webpages

Themes

Topics

Projects

Project ideas

- from Industry
- And prioritised by them

**Projects are still
under discussion**

Themes

Topics

Projects

Mapping

Modelling

Population
genetics

Tech. for measuring
and monitoring
growth

Forecasting
production

Handling spat and
juvenile mussels

Retubing
strategies

eDNA, eRNA
spat and biofouling
organisms

Dropper
deployment
timing

Rope choice and
influences on
success
(e.g. microbiome)

materials or surface
treatments to
improve spat
collection

Big data

Choosing which projects go to tender?

- Project lists will be reviewed regularly
- Achieve consensus with industry
 - (by representatives on the Board and with stakeholder engagement)
- Project Board **votes** for which projects will go forward to tender
- 1-2 Challenge Funds rounds per year
- Possibly Early 2026

2x ITQs – now awarded
- Baselineing -

Baseline Assessment and Interactive Mapping of Shetland Mussel Spat Recruitment	Shetland's Data Landscape – Mapping and Mobilising for Shell-volution
UHI Shetland	Aquaterra

Stakeholder Engagement - Academics

- If you have interest relevant to mussel aquaculture and it fits into the Shell-volution Themes – **we want to hear from you!**
- May not have recognised project topics aligned to your research, but you may have ideas that industry or project team hasn't yet considered.

>>> Contribute to **Research Agenda 'map'**

Could use funding from non-Shell-volution sources

Stakeholder Engagement - Non-producers

- Could you get involved?
- Could Shell-volution help you achieve your goals?
- Explore avenues for Co-Funding

Informal - Virtual Coffee Break (Teams)

Get in touch to
find out more and discuss your ideas





Shell-volution Expressions of Interest

Launched at ASSG 2025

Expressions of Interest

- Ideation

**Widen our stakeholder
engagement**

Stimulate interest

Guage interest

Helpful

**Potential for
'match making'**

for management

**to shape
Projects for Tender**

Scientists / Farmers

Eols

- submit multiple - large or small -

Concise summary of research idea or project

Estimated cost and time

Preliminary work required?

Collaboration

Shell-volution | Expressions of Interest



www.uhi.ac.uk/shell-volution

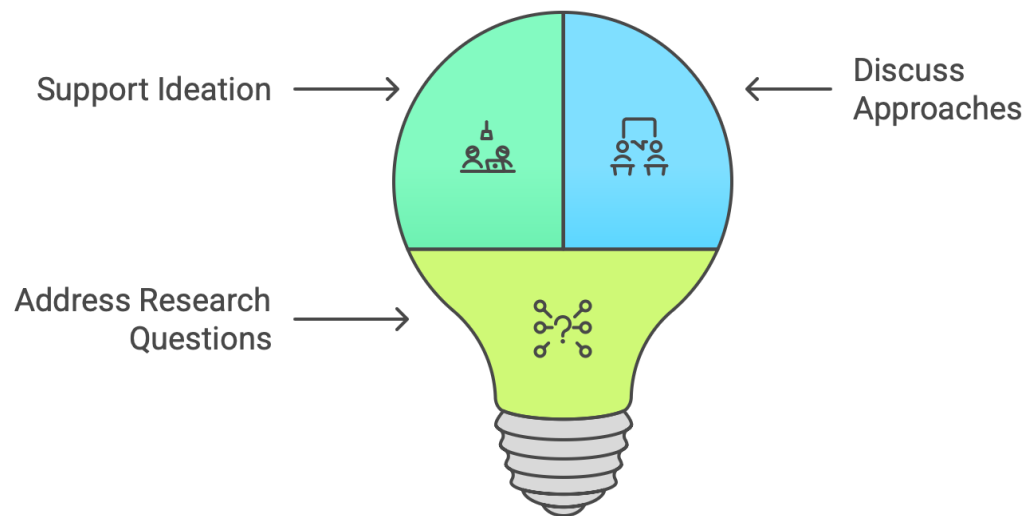
Scientific Community - Hackathons

Opportunity to get together and tackle industry research question(s)

Most likely in-person (central belt – TBC)

E.g. Big data / Data mining

E.g. Innovative ways to monitor and measure growth on farms



Join our Mailing List



Email us for

Occasional news
Hackathon details
Challenge Fund
rounds



shell-volution@uhi.ac.uk

Planning for the Future = Shell-volution's main aim

- Research that is industry-led, coordinated, meaningful, applied
- **close Knowledge Gaps**
- Learning will be shared
 - Not to swamp
 - Not to benefit specific business(es)
 - To non-Shetland producers
- 9y gives opportunity for innovation learning cycles within the project term



Thanks to everyone that has helped and for sticking with this!!!!!!



Funded by
UK Government

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Get Connected:

E | shell-volution@uhi.ac.uk

W | uhi.ac.uk/shell-volution

