



H2020

## TOOL FACTSHEET



### **Tool name**

Web-based tool for forecasting mussel yield

### **Tool type**

Mussel production model

### **Short description of the tool**

A web-based tool for forecasting mussel yield for the Pelorus Sound Greenshell™ mussel industry. The tool is implemented on a password-protected web application for farmers. The forecasts were created from the NIWA research, made in conjunction with the mussel industry. Based on climate-mussel relationships, the tool forecasts whether upcoming growing conditions are likely to be average, or better or worse than average mussel yield. Combined with knowledge of conditions in the recent past, these may help farmers plan stocking and harvest rates and improve business projections over coming months.

### **Source (where/ link)**

link not available

### **Licence cost or other type of costs (e.g. maintenance)**

Currently it is restricted to mussel growers who contribute to the project, but may be free to public in the future.

### **General requirements (technical and input data)**

No computational requirements are needed

No input data required from the users

### **Management dimension for which the tool could be used**

- Policy / Management
- Environmental
- Economic / Market
- Other sectors



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### **Main functionality**

- Site identification
- Modelling
- Mapping
- Stakeholder engagement
- Economic analysis
- Ecosystem services assessment
- Scenario analysis
- Other: (Please specify)

### **Fields of application (i.e. issue to be solved)**

A web-based tool can be used to forecast whether mussel yield will be above or below or on average yield.

### **Circumstances in which it can be implemented (strength and opportunities)**

This forecasting would help farmers plan stocking and harvest rates and improve business projections

### **Limitations**

The tool can forecast three levels of historical mussel yields (above, mean and below). It relies on climate forecasting and restricts users to enter different values for scenario simulations.

### **Technical skills needed to operate the tool**

No specific skills are required

### **Background knowledge needed to implement the tool**

General knowledge of mussel growth



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### How can the tool contribute to the EAA

Please select the EAA steps that the tool can contribute:

1.  Scoping
2.  The identification of issues and opportunities
3.  Prioritisation of issues
4.  Objectives
5.  Management actions
6.  Monitoring

### How can the tool contribute to the MSP

Please select the MSP steps that the tool can contribute:

1.  Define goals and objectives
2.  Gather data and define current conditions
3.  Identify issues, constraints, and future conditions
4.  Develop alternative management actions
5.  Evaluate alternative management actions
6.  Monitor and evaluate management actions
7.  Refine goals, objectives and management actions

### AquaSpace case studies in which it has been implemented

**Case study name:**

Pelorus Sound, New Zealand

**Reference and link to case studies report:**

AquaSpace D4.2 at [www.aquaspace-h2020.eu](http://www.aquaspace-h2020.eu) Library/Reports page

### Other bibliographic references

Zeldis, J. R., M. G. Hadfield & D. J. Booker<sup>1</sup> (2013). Influence of climate on Pelorus Sound mussel aquaculture yields: predictive models and underlying mechanisms. *Aquaculture Environment Interactions* 4(1): 1-15. doi: 10.3354/aei00066



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