



Carpet Sea Squirt

BINOMIAL *Didemnum vexillum*



Carpet sea squirt (*Didemnum vexillum*) growing on kelp and maerl substrate.



Where does the Carpet Sea Squirt come from?

The Carpet Sea Squirt (*Didemnum vexillum*) originates from Japanese waters and is thought to have spread via the aquaculture trade - in particular, by attaching itself to exported Pacific oysters.

Where can you find the Carpet Sea Squirt?

On a global scale, *D. vexillum* can now be found in the northeastern and western coasts of the United States, Canada (British Columbia), Ireland, Wales, Scotland, England, northern France, the Netherlands, Japan, and New Zealand. It frequently attaches to boat hulls, marinas, and oyster trestles.

What are the impacts of *D. vexillum* invasions on native species & ecosystems?

Because *D. vexillum* grows rapidly and has few known predators, it can have a large impact on native plant, invertebrate, and fish communities. It may outcompete native species for space and food, or prevent the settlement of fish eggs or larvae due to its acidic outer surface. It is often reported to be smothering commercially important cultured species, like oysters, mussels, scallops, and seaweeds. Mussel and oyster farms in particular have been negatively affected by *D. vexillum*, resulting in increased mortality and poor overall condition. The presence of *D. vexillum* also increases the time and cost to clean oysters before sale.

Implementing biosecurity and eradication programs adds additional economic costs. An attempted eradication program in Wales cost upwards of 800,000 GBP and was ultimately unsuccessful.

What are the objectives of ECOSTRUCTURE research on *D. vexillum*?

- ① Develop tools to detect and prevent new invasions of the Carpet Sea Squirt, *D. vexillum*.
- ② To understand what factors may be contributing to an increased spread of the Carpet Sea Squirt in some locations compared to others.
- ③ To investigate the genetic diversity of *D. vexillum* within the Irish Sea to identify potential genetic adaptations that may help it to spread more rapidly.

1ST RECORDED PRESENCE

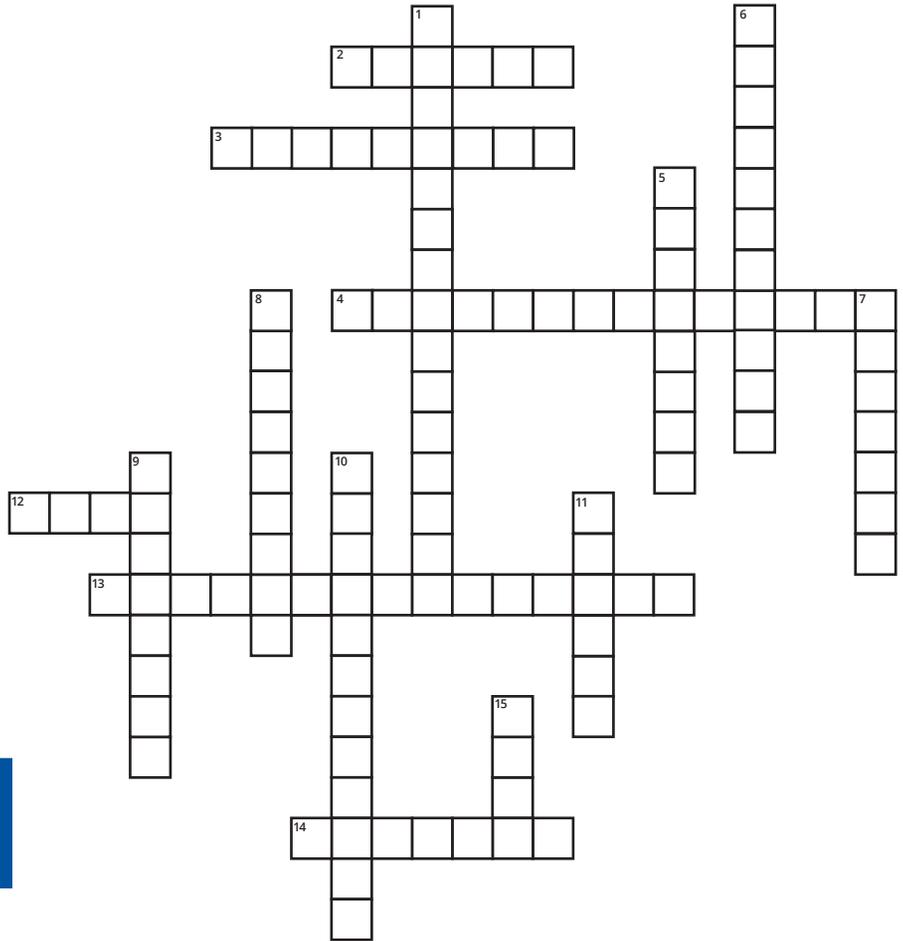
Ireland : Malahide, 2005
Wales : Holyhead, 2008



Ecostructure researcher Joe Ironside samples for sea squirts in Ireland.

CROSSWORD

Test your knowledge on the invasive *Didemnum vexillum*.



ACROSS

- 2 A man-made coastal structure where *D. vexillum* can be found
- 3 *D. vexillum* has few known _____.
- 4 *D. vexillum* hitched a ride on this farmed species to colonize new continents
- 11 *D. vexillum* originated in the waters around this country
- 12 *D. vexillum* is commonly known as the _____.
- 13 Presence of *D. vexillum* can increase mortality in these well-known molluscs

DOWN

- 1 Canadian province *D. vexillum* has spread to
- 5 First recorded location of *D. vexillum* in Wales
- 6 *D. vexillum* likely spread to other continents via this industry
- 7 Type of saltwater clam affected by *D. vexillum*
- 8 Fast-spreading species that outcompete native ones
- 9 First recorded location of *D. vexillum* in Ireland
- 10 Research Project looking at invasive species like *D. vexillum*
- 11 *D. vexillum* has an _____ outer surface
- 15 This part of a boat can unknowingly transport *D. vexillum*

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