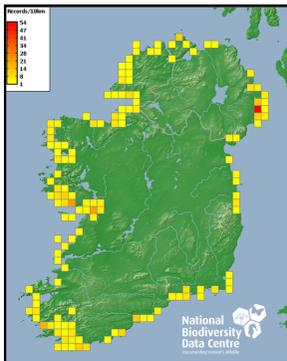


Introduction to Europe

Native to waters off Japan and Korea. The species is known to have been present at the Isle of Wight in 1973 but was first recorded in Ireland at Strangford Lough in 1995. It has since spread and been prolific from Norway to Spain. *S. muticum* is also known to have invaded North America.



National Biodiversity Data Centre, Ireland, Wireweed (*Sargassum muticum*), image, accessed 28 June 2024, <<https://maps.biodiversityireland.ie/Species/TerrestrialDistributionMapPrintSize/764>>

Reasons For Concern

- The species can occupy hard substrates on sheltered shores where it forms dense monospecific stands and covers rockpools excluding other species.
- Wind and waves can raft it in, or tear off the long annual stipes and dump them on bathing beaches during Summer.
- Dense *S. muticum* stands can reduce the available light for understory species, dampen water flow, increase sedimentation rates and reduce ambient nutrient concentrations available for native species such as Seagrass beds (*Zostera* species).

“The invasive alga significantly reduced primary production, an important component of ecosystem functioning, and increased connectance, a key property of the food webs associated with the algal resources.”

Salvaterra, T., Green, D. S., Crowe, T. P., & O’Gorman, E. J. (2013). Impacts of the invasive alga *Sargassum muticum* on ecosystem functioning and food web structure. In *Biological Invasions* (Vol. 15, Issue 11, pp. 2563–2576). Springer Science and Business Media LLC. <https://doi.org/10.1007/s10530-013-0473-4>

Invader Success

The rapid growth rate and ability to reproduce both sexually and via floating fragments make this seaweed extremely successful. If a stipe is lost, a new stipe can grow. *Sargassum* is highly tolerant and can withstand some drying, full sunlight and variation in salinity and temperature.

Law

Republic of Ireland

Sargassum muticum is designated as a non-native (invasive alien) species under the European Communities (Bird and Natural Habitats) Regulations 2011 (SI 477.2011). The regs provide for prevention of dispersal, establishment or spread.

Northern Ireland

It is listed in Schedule 9 of the Wildlife (Northern Ireland) Order 1985. It is an offence to plant or otherwise cause this species to grow in the wild.

Reporting

If you see this seaweed growing report it with location to the National Biodiversity Data Centre, <https://biodiversityireland.ie/>

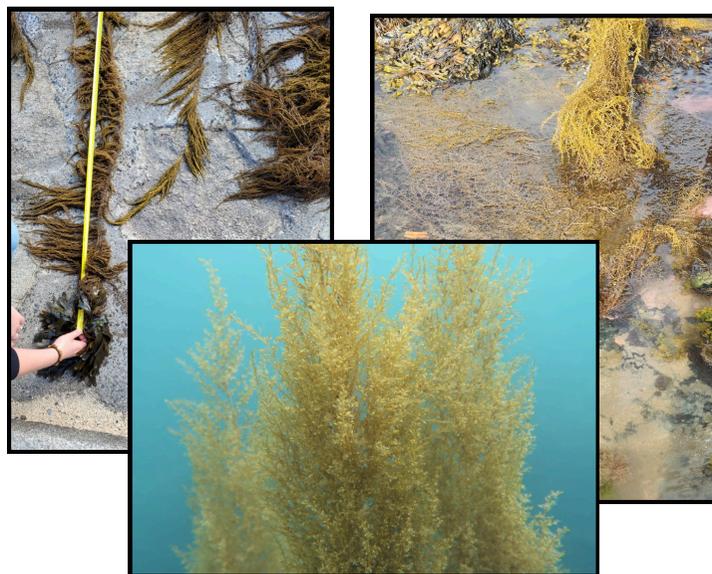


Photo: Gordon Leonard

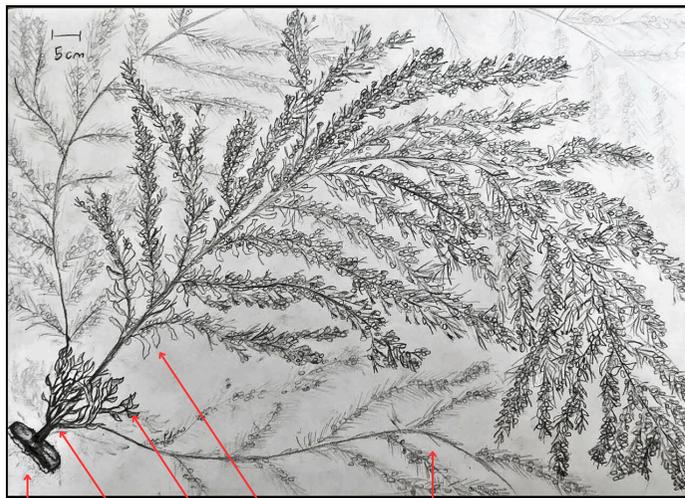
See www.coastwatch.org or email survey@coastwatch.org to volunteer for citizen science monitoring and research. Coastwatch has developed a check list and removal protocol and can provide training.

Sargassum muticum

Japanese seaweed

an invasive non-native species spreading around our coast





Holdfast: Flat dark woody attachment to hard surface.

Fronde: Small, leaflike, on 'tree' structure or stipe. A perennial, strong, woody tree-like structure which can have several long annual stipes growing out of the branches.

Stipes: Lighter brown stipes with long main stem and many branches form the main plant body in summer.



Aerocysts look like tiny balloons and grow all over the stipes.

Receptacles swollen tips with reproductive organs. Sargassum can also spread from broken off fertile branches.



Sargassum VS. Pod weed



Oscar Castle
Citizen Scientist

Removal Action depends on many factors. Timing is crucial.

As a general rule, quick early removal of invasive alien biota is the best approach. However, that is not always possible. If you know your area well and see a few stipes appear, nip it off right at the holdfast and take it with you onto land so it can't float away with the tide.

Once you see Sargassum - children are good at spotting it too - research viability of removal and permits needed. It is crucial that this is done before it sheds its germlings. After germlings spread it is too late for removal that year. Coastwatch has developed a check list and removal protocol available to the public.

Caution: Before removing plants to prevent spread, make sure you identified Sargassum correctly, and not a native seaweed. There are 4 similar native species: Pod weed (*Halidrys siliquosa*, see photo B) looks similar from a distance, but has long pods. Two others have bluish iridescence in the water. Sargassum hasn't. The least common but most similar look-alike is the Bushy Berry Wrack *Gongolaria baccata* (= *Cystoseira baccata*). Check the Irish seaweed site <https://www.seaweed.ie> for more information. You can also send Coastwatch a photo of plant with hold fast and location for assistance.

Sargassum uses

While this seaweed may be bad news for seagrass and some other marine biota, it isn't all bad. Some molluscs will sit on or lay eggs here. So, check before removing. Harvested Sargassum is a great seaweed fertiliser, and, it can be composted, used in Pharma industry, or eaten in a variety of ways.

Description

Detail based on Coastwatch surveyor feedback

Growing- Sargassum attaches to rock or stone (sometimes to another seaweed) from midshore down to about 4m sublittoral. Also in rock pools. Plants look like thick brown hair in water, or like a orange-brown mat on water at low tide. Apart from the sturdy perennial tree-like base held firmly by its small round holdfast, the annual stipes look delicate, with branches hanging off like hankies on a washing line when held up - see photo left. Fronds are reduced to a few little leaves. Lots of tiny balloon-like aerocysts keep the plant afloat until the 'receptacles' on the tips of stipe branches have ripened, then fall off. The stipes sink to the seafloor, leaving the small tree-like structure attached, and ready to produce new stipes next year.

Floating pieces with receptacles and fertile branches are trouble as they can invade new areas.

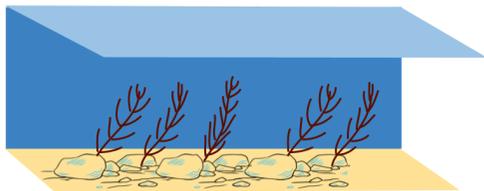
Sargassum Swept up on the shore dries, turns black, and shrivels. If it was still growing, the little 'balloons' stay on as light brown beads.

Size - Sargassum can grow from a seedling to 0.5m in a few days. Sargassum will grow differently based on location. For example, in rock pools it may remain shorter, or in deeper water it can grow to over 5 m.

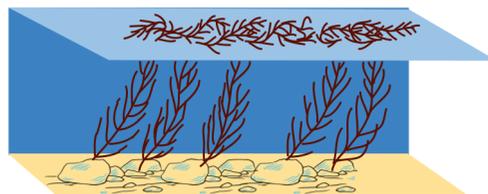


Side Branches hang down like clothes on a washing line

1. Young Sargassum stipes start to grow (starting in February in some sites).



2. Fully grown in summer. A dense floating mat visible on water at low tide.



3. Dying/dead: summer/early autumn after losing it's buoyancy aerocysts and receptacles.



4. Detached free floating, or swept up. Once dried, shrivels and turns black.

