

Japanese kelp

Undaria pinnatifida

Invasive: High impact

Species profile

- Habitat:** Marine. Sheltered locations at greatest threat.
- Distribution in Ireland:** Only recorded from one site, a marina pontoon in Northern Ireland (as of December 2013).
- Status:** Established.
- Family name:** Alariaceae.
- Reproduction:** Can be spread by vegetative propagation by fragmentation of gametophytes, zygotes or zoospores from the sporophyte.

Identifying features

- Colour:** Golden brown with the stem being somewhat lighter in colour.
- Stipe:** Very wavy margins giving the appearance that it is ridged. Branched holdfast.
- Bladeshape:** Broad and flattened blade with a distinct midrib and wavy margins.



Japanese kelp showing corrugated stipe and distinctive midrib - D. Minchin



Wavy appearance of Japanese kelp underwater showing distinctive midrib - Kathryn Birch CCW GBNNS



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Threats

Due to its rapid annual growth, it can colonise areas disturbed by humans where native seaweeds would generally not compete.

It may alter the structure of native marine communities, particularly at sheltered locations.

It can form a dense kelp forest which blocks out light and outcompetes native seaweeds, particularly at sheltered areas.

Can be spread easily by human activity, either when visible or at microscopic gametophytic stage of its life history.

Infestations can foul shellfish beds and cages, resulting in higher costs and slower growth of the shellfish by restricting the flow of water through the cages. However, the extent of this impact is unknown.

Additional concerns

The climatic conditions in Ireland may suit this species and there are suitable habitats available. Will most likely impact upon sheltered locations, harbours, pontoons and may become a major harbour pest.

Control on a large scale is impossible. At a local level the species has been eradicated in places outside of Ireland but at great expense.

In Europe (NE Atlantic and western Mediterranean) it is found sub-tidally, often growing on man-made structures such as marina pontoons. This may allow for further human-aided dispersal of the species.

Similar species

May be confused with the native species *Saccharina latissima* and *Alaria esculenta*. In particular, large plants of *Alaria* on pontoons are frequently mistaken for *Undaria*. The sporophylls contained on the stipe of *Undaria* is very distinctive.



Dark translucent golden brown colour of Japanese kelp - Kathryn Birch CCW GBNNSS



The distinctive flattened midrib of Japanese kelp - D. Minchin



Alaria esculenta also has a large midrib but lacks the distinctive sporophylls on the stipe of Japanese kelp - National History Museum

