



## Aquatic Invasive Species Quick Guide

### Brittle Naiad (*Najas minor* All.)

**Description:** Brittle naiad is a small, highly branched, submersed annual in the Najadaceae family. It has opposite leaves with tiny teeth on the edges, and are usually curved (especially later in the year). Brittle naiad gets its name from its weak, brittle stems, which fragment easily and serve to disperse fruits that are located in the leaf axils. Under magnification, these fruits have many rows of tiny, rectangular pits in a ladder-like arrangement.

Brittle naiad has been observed growing as deep as 5 meters, and prefers calm, alkaline environments.

**North American Distribution:** Ontario and the eastern and southeastern United States. One population has been reported from California.



Brittle naiad is highly branched, and leaves are often curved.



Long, elliptical fruits form in the leaf axils.

**Dispersal Vectors:** Brittle naiad is native to Europe and Asia, and was intentionally introduced to many lakes to increase food for waterfowl, which readily consume its seeds. It may have also been introduced by aquarium dumping into local waterways. Waterfowl can excrete the viable seeds in new areas. Fragments of brittle naiad can cling to boat trailers or equipment such as waders, duck hunting decoys, or even dogs.

**Ecological Impacts:** Brittle naiad can grow in very dense patches, and can outcompete native vegetation. This species is so aggressive that it has even been known to outcompete two very invasive aquatic plants—Eurasian watermilfoil and Hydrilla. Brittle naiad fruits are a food source for waterfowl.

**Control Options:** Brittle naiad is difficult to control once it is established. Manual removal of this plant can be difficult, because it easily fragments. Any leftover fragments could potentially produce new plants, especially if they contain fruits.

Mechanical harvesters have been used to remove brittle naiad biomass, but will likely spread the plant further via fragmentation.

Successful chemical control has been achieved with diquat, endothall, and fluridone herbicides. These herbicides can have negative impacts on many native aquatic plant species, so proper timing and dosage is crucial. Most states require chemical use permits for any herbicide treatments in standing water or wetland situations.

A successful biological control agent is not known at this time.

#### Additional Information:

Global Invasive Species Database. *Najas minor*. <http://www.issg.org/database/species/ecology.asp?si=1560&fr=1&sts=tss&lang=EN>

**Photo Credit:** Paul Skawinski



Brittle naiad readily breaks into small pieces, which help disperse its seeds.

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