



2023-12-07

Master thesis project in Environmental science, Biology or Earth science:

### **Effects of invasive plants on native flora and fauna in shallow coastal bays in the northern Baltic Sea**

Länsstyrelsen in Norrbotten is currently working on a project that, among other things, maps vegetation in shallow coastal bays in the northern Baltic Sea archipelago. They also carry out measures to protect endangered species, and combat invasive species, in those areas. In the northern Baltic archipelago, the invasive species Canadian pondweed (*Elodea canadensis*, Vattenpest) and Nuttall's waterweed (*Elodea nuttallii*, Smal Vattenpest) are very common, and Nuttall's waterweed seems to be increasing fast. In fact, in some places it has completely out-competed much of the native flora. There are very few studies that investigate how this shift between the native flora (e.g. stonewort, vascular plants, aquatic mosses) and Nuttall's waterweed affects other parts of the ecosystem, such as the associated fauna (i.e. crustaceans and shellfish, which ultimately can affect higher trophic levels such as birds and fish), in northern shallow bays.

This project includes an in-depth literature study as well as sampling and analyses of vegetation and fauna in shallow bays in the northern Baltic Sea (Råneå archipelago). The focus will be on the fauna associated with different types of vegetation, i.e. the difference between native vegetation and invasive vegetation (mainly Nuttall's waterweed), but sampling will also take place on bottoms with no or very little vegetation. Since the increase in Nuttall's waterweed sometimes completely out-competes the native flora, the species composition and biodiversity of the vegetation will also be investigated and analyzed. Sampling takes place from a boat and probably with the help of snorkeling.

Those who are interested should have a driver's license, a car, boating experience and water- and snorkeling-experience. The project can be divided between two people so they can help each other during the field work.

**Credits:** 30hp

**Time:** Start in autumn 2024 (field work most likely in August/September)

**Contact:** Jenny Ask, Umeå Marine Sciences Centre, [jenny.ask@umu.se](mailto:jenny.ask@umu.se)