

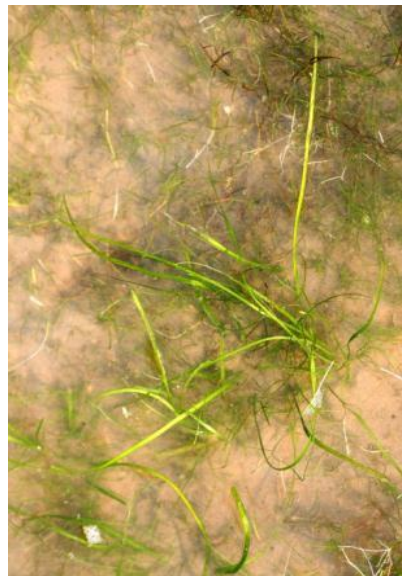
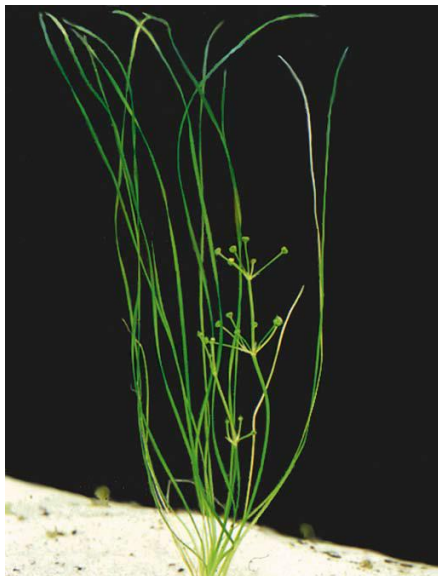
## SPECIES INFORMATION SHEET

*Alisma wahlenbergii*

English name: –	Scientific name: <i>Alisma wahlenbergii</i>	
Taxonomical group: Class: Liliopsida Order: Alismatales Family: Alismataceae	Species authority: (Holmb.) Juz.	
Subspecies, Variations, Synonyms: <i>Alisma gramineum</i> ssp. <i>wahlenbergii</i> Holmb.	Generation length: 1–10 years	
Past and current threats (Habitats Directive article 17 codes): Overgrowth of open areas (A04.03, K04.01, K01.03), Eutrophication (H01.05), Construction (D01, D03, E01, J02.02.02)	Future threats (Habitats Directive article 17 codes): Overgrowth of open areas (A04.03, K04.01, K01.03), Eutrophication (H01.05), Construction (D01, D03, E01, J02.02.02), Climate change (reduction of ice scouring, J03.03)	
IUCN Criteria: <b>B2ab(ii,iii,iv,v)</b>	<b>HELCOM Red List Category:</b>	<b>VU Vulnerable</b>
Global / European IUCN Red List Category VU / VU	Habitats Directive: Annex II and IV	
Protection and Red List status in HELCOM countries: Denmark –/–, Estonia –/–, Finland strictly protected under the Nature Conservation Decree (Annex 4), a specific protection plan /EN, Germany –/–, Latvia –/–, Lithuania –/–, Poland –/–, Russia protected and red-listed in Leningrad Region as EN, also included in Red Data Book of Russia, Sweden protected by law / EN		

### Distribution and status in the Baltic Sea region

*Alisma wahlenbergii* is an endemic species to the Baltic Sea and some adjacent lakes. It was included in the previous HELCOM list of threatened and/or declining species (HELCOM 2007). In the Baltic Sea, the extant occurrences are focused to two major areas from Rånefjärden (Sweden) to Kalajoki (Finland) in the Bothnian Bay, and in the eastern Gulf of Finland (Russia). The main population is situated on the Finnish coast of the Bothnian Bay. In Russia, the species has recently been recorded in rather abundant populations from many areas in the Berezovye Islands Archipelago (Glazkova & Tzvelev 2007), Vyborg Bay (Glazkova 2008; 2012), and in Neva Bay (Glazkova & Tzvelev 2006). The size of the population in



*Alisma wahlenbergii*. Photos by Jacob Andersen (left) and Elena Glazkova (right), Komarov Botanical Institute of Russian Academy.

## SPECIES INFORMATION SHEET

---

## *Alisma wahlenbergii*

Neva Bay, however, has decreased considerably after the construction of a dam across the bay (Noskov 2004).

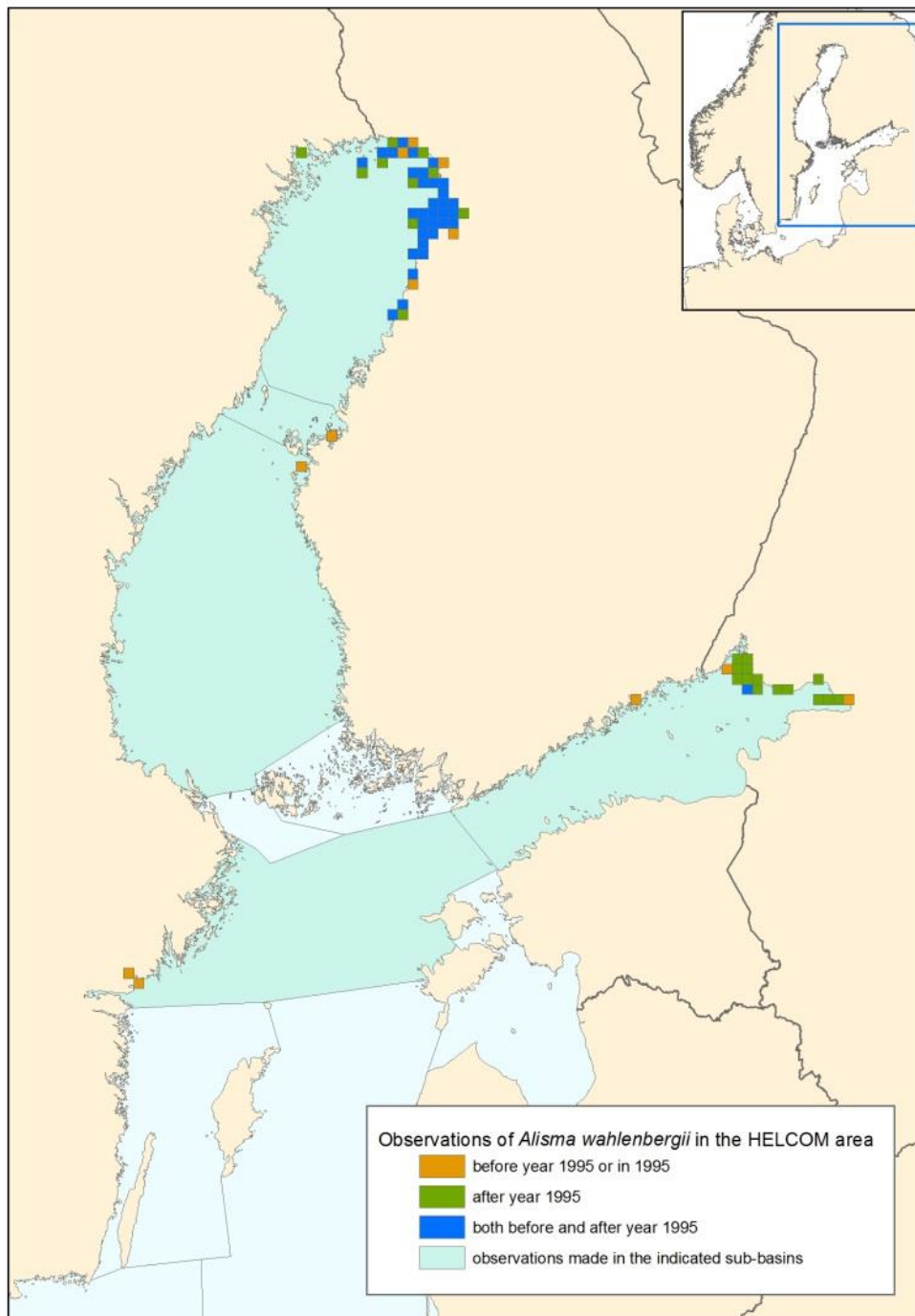
Populations in the Northern Baltic Proper (Nyköping, Sweden), the Quark (Vasa, Finland) and the Finnish part of the Gulf of Finland (Kotka) are currently regarded extinct. The species has completely disappeared from some of its former locations also in Russia, e.g. from the vicinity of Lakhta, where it was formerly abundant.

## SPECIES INFORMATION SHEET

## *Alisma wahlenbergii*

### Distribution map

The records of the species are compiled from the Finnish database of threatened species (Hertta), Swedish Species Gateway ([www.artportalen.se](http://www.artportalen.se)), Martinsson (1994) and Russian monitoring data and literature. The occurrences in the Quark, the Finnish part of the Gulf of Finland and on the coast of central Sweden are all regarded extinct. The species occurs also in lakes of central Sweden (occurrences not shown on the map).



## SPECIES INFORMATION SHEET

## *Alisma wahlenbergii*

### Habitat and ecology

*Alisma wahlenbergii* is a short-lived perennial aquatic plant that grows on soft bottoms (silt, clay, sand) in shallow waters (in depth of 5–45 cm, up to 1.5 m), mainly on sheltered shores. Usually *A. wahlenbergii* grows in waters with a salinity >3 psu. The species demands clear water and is sensitive to overgrowth by filamentous algae and competition from larger plants such as reeds and water lilies. Due to the land-upheaval in the Bothnian Bay, the spatial distribution of the species is in constant change in the area. Current occurrence sites become unsuitable in less than a decade, but new potential ones are arising continuously.

The plants reproduction by seeds is efficient and the plant seems to have a permanent seed bank. Fruits ripen in August–September and are spread by water currents and drifting ice. Populations fluctuate in size from a few to thousands of individuals.

### Description of major threats

The plant has been favored by cattle-grazing which keeps the shallow growing sites open. In recent decades, the practice of grazing seashore meadows has declined, and former growing sites have become overgrown. Eutrophication has further enhanced overgrowth as it favors strong competitors such as reeds. As *A. wahlenbergii* demands clean and clear water, it quickly dies out under conditions of high water turbidity and pollution. Local disappearances can also occur due to various construction activities on the coast as well as dredging of waterways.

### Assessment justification

The geographic range of the species is restricted in the form of area of occupancy. The AOO estimates range from c. 400 to 650 km<sup>2</sup> depending on how the old records are included in the calculation. The population is considered to be continually declining and fragmented. In Finland the population has been regarded to experience extreme fluctuations in number of mature individuals, which may fluctuate from a few individuals to thousands. However, the fluctuations may not be synchronous over the whole distribution area. The extent of occurrences (EOO), the number of locations and also most probably the number of mature individuals exceed the thresholds in the Red List criteria. The continuing decline of the population is assumed to concern at least AOO, the quality of the habitat, number of locations and number of mature individuals. The species meets the criteria for Vulnerable (B2ab(ii,iii,iv,v)).

### Recommendations for actions to conserve the species

Restoration of coastal meadows by cattle grazing is likely to benefit the species, as well as improving the water quality in the Baltic Sea, especially in the Leningrad region. The growing sites of *A. wahlenbergii* should also be protected from urbanization, construction activities and other human disturbance.

### Common names

Denmark: liden skeblad, Estonia: –, Finland: upossarpio, Germany: –, Latvia: –, Lithuania: –, Poland: (żabieniec), Russia: Частуха Валенберга, Sweden: småsvalting.

### References

- Aronsson, M., Edqvist, M., Andersson, U.-B., Bertilsson, A., Ericsson, S., Mattiasson, G. & Ståhl, P. (2010). Kärleväxter – Vascular Plants. Tracheophyta. In Gärdenfors, U. (ed.) Rödlistade arter i Sverige 2010 – The 2010 Red List of Swedish Species. ArtDatabanken, SLU, Uppsala. P. 201–221. Red List categories available also at <http://www.artfakta.se/GetSpecies.aspx?SearchType=Advanced>
- Glazkova E., Tzvelev N., 2006. O nekotoryh redkih i kriticheskikh vidah rasteniy s ostrova Kotlin (Finskij zaliv) // Novosti systematiki vysshih rasteniy. Vol. 38. P. 252–271. (On some rare and critical plant species from Kotlin Island (the Gulf of Finland). (In Russian).
- Glazkova E. A., Tzvelev N. N., 2007. Vascular plants. P. 140–190. In Volkova E., Glazkova E., Isachenko G., Khramzov V. (eds.). Environment and Biological Diversity of Berezovye Islands Archipelago (the Gulf

## SPECIES INFORMATION SHEET

## *Alisma wahlenbergii*

- of Finland). St.-Petersburg. 368 p., 9 maps. (In Russian).
- Glazkova E., 2008. Floristic Investigations on the islands in Vyborg Bay (Leningrad Region) // 22nd Expedition of the Baltic Botanists, Daugavpils, Latvia, July 14–17, 2008, Abstracts and excursion guides. P. 15–17.
- Glazkova E., 2012. O nekotoryh redkih vidah sosudistyh rastenii s ostrovov Vyborgskogo zaliva (Leningradskaya oblast') // Botanicheskiy zhurnal, Vol. 97, № 4. P. 512–524. (On some rare vascular plant species from the islands of Vyborg Bay (Leningrad Region).
- Environment and biological diversity of Berezovye Islands archipelago (The Gulf of Finland). 2007. Volkova E., Glazkova E., Isachenko G., Khramzov V. (eds.). St.-Petersburg. 368 p., 9 maps. (in Russian, with English summary).
- Hertta, the database of threatened species in Finland. Finnish Environment Institute.
- Jacobson, A., 2005. Åtgärdsprogram för bevarande av småsvalting (*Alisma wahlenbergii*). Naturvårdsverket.
- Kalliovirta, M., Rytteri, T., Hæggström, C.-A., Hakalisto, S., Kanerva, T., Koistinen, M., Lammi, A., Lehtelä, M., Rautiainen, V.-P., Rintanen, T., Salonen, V. & Uusitalo, A. (2010). Putkilokasvit, Vascular Plants. Tracheophyta. In Rassi, P., Hyvärinen, E., Juslén, A. & Mannerkoski, I. (eds.). Suomen lajien uhanalaisuus – Punainen kirja 2010. Ministry of the Environment & Finnish Environment Institute, Helsinki. P. 183–203.
- Martinsson, K., 1994. rev. Jacobson, A., Edqvist, M. (2006) *Alisma wahlenbergii* småsvalting. Artfaktablad. Artdatabanken. Available at: [http://www.artfakta.se/Artfaktablad/Alisma\\_Wahlenbergii\\_30.pdf](http://www.artfakta.se/Artfaktablad/Alisma_Wahlenbergii_30.pdf)
- Noskov, G.A. (ed.), 2004. Red Data Book of Nature of Saint-Petersburg. St.-Petersburg. 416 pp. (in Russian. Красная книга природы Санкт-Петербурга. СПб, 2004. Отв. ред. Г.А. Носков. 416 с.
- Rytteri, T., 2009. *Alisma wahlenbergii* (Holmb. Juz.) (Alismataceae). HELCOM Fact Sheets on threatened and/or declining species and biotopes/habitats.
- Swedish Species Gateway. Swedish Species Information Centre and Swedish Environmental Protection Agency. Available at [www.artportalen.se](http://www.artportalen.se).
- Tzvelev, N.N. (ed.), 2000. Red data Book of Nature of the Leningrad Region. Vol. 2 – Plants and Fungi. St. Petersburg. 672 p.
- Ulvinen T. & Tzvelev N., 1998. *Alisma wahlenbergii* (Alismataceae). In Kotiranta, H., Uotila, P., Sulkava, S. & Peltonen, S.-L. (eds.) Red Data Book of East Fennoscandia. Ministry of the Environment, Finnish Environment Institute & Botanical Museum, Finnish Museum of Natural History. Helsinki. 351 pp.