

Although yellow-green during the summer months, Saltwort leaves change to a deep red color in the fall and winter. Photo by: Seth Gaines, U.S. Geological Survey.

Much work has been done by numerous groups to protect remaining saline wetlands in Lancaster and Saunders counties. The Saline Wetlands Conservation Partnership – a partnership between the City of Lincoln, Lancaster County, Lower Platte South Natural Resources District, the Nature Conservancy, and the Nebraska Game & Parks Commission – is viewed as a critical piece in conserving Nebraska’s saline wetlands. The Partnership provides education, land acquisition, and management for many remaining tracts of saline wetlands.

This pamphlet, “Nebraska’s Threatened & Endangered Species: Saltwort” is one of a series of pamphlets about Nebraska’s rare species. To learn more about Nebraska’s rare species, please visit rarespecies.nebraska.gov.

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Cover art by Mark Müller.

NOTE: New data of the occurrence and distribution of this species are being collected constantly and some of the information in the pamphlet may be outdated. The information in this pamphlet should be used for a general understanding of the species and not as the sole source of range location for any report, project, regional or local planning, or for environmental impact assessments. For current information on this species, please contact the Nebraska Game & Parks Commission, Wildlife Division.

CONSERVATION HELP

Care should be taken to avoid further destruction of saline wetlands. Wetland owners are encouraged to practice better management including grazing at the proper times and avoiding freshwater run-off and pollution from entering the wetlands

Developments already existing in the area should avoid allowing excessive run-off and/or pollution to enter the wetlands.

Control of invasive species in saline wetlands is also a conservation priority. Additionally, education provides people of all ages a sound background in the importance of saline wetlands and saltwort.

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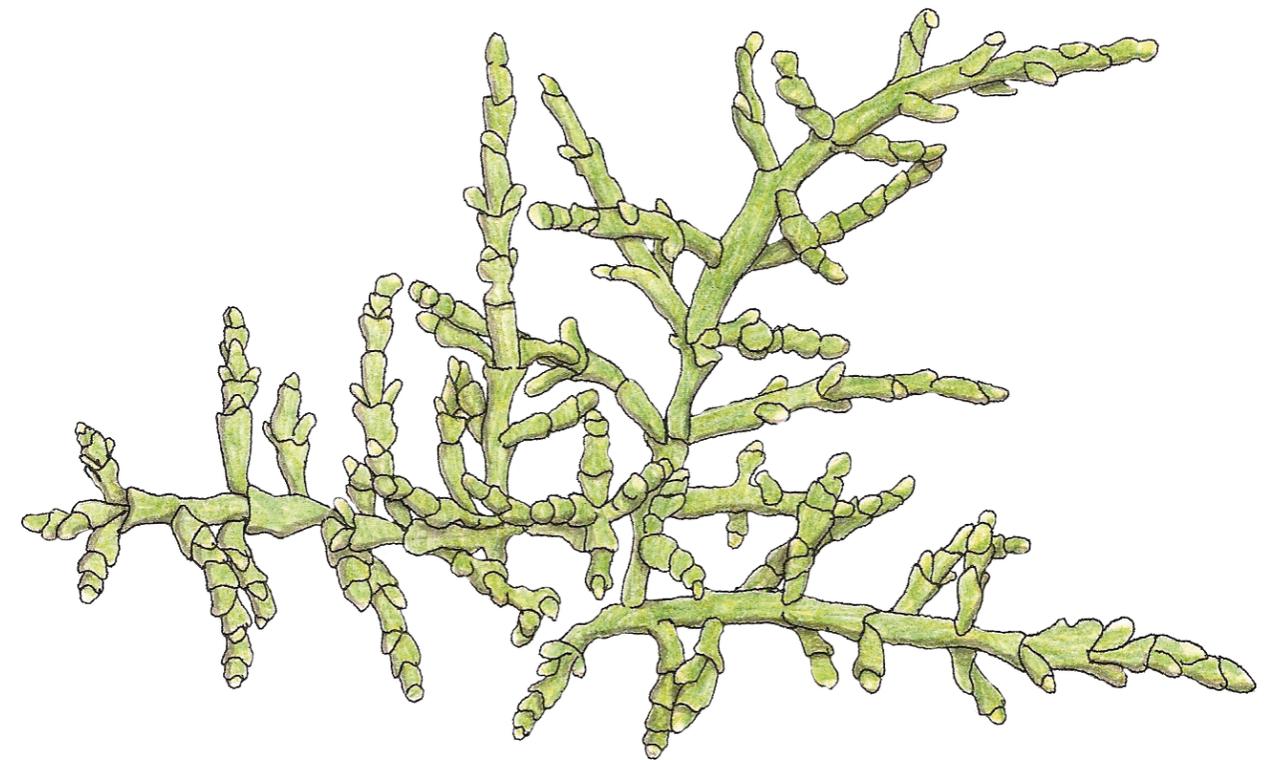
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Nebraska's Threatened & Endangered Species



Saltwort
Salicornia rubra



A Publication of the Nebraska Game & Parks Commission

Saltwort

Salicornia rubra

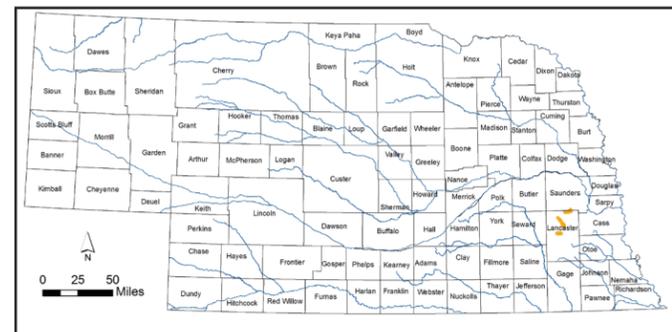


Saltwort is a small, low-growing succulent plant found in Eastern Saline Wetlands. Photo by: NEBRASKAland Magazine/NGPC.

DESCRIPTION

Saltwort, also known as glasswort or red glasswort, is a tap-rooted annual with a low-growing fleshy, succulent stem that reaches only 3-4 inches in height. In summer, the round stems are green, but fade to red as the plant dries and withers in the fall. Although saltwort appears leafless, closer inspection reveals small, scaly, opposite leaves that lay flat against the stems. It also has small, green, and inconspicuous flowers.

Saltwort is one of the few plants that can grow in the middle of salt flats. The succulent leaves on this



Saltwort Range Map. Courtesy Nebraska Game & Parks Commission Natural Heritage Program. 2013.

plant help it retain, or hold water, even in the very alkaline soils of the saline wetlands. Saltwort also has a taproot, which is a large straight root that grows straight down into the ground. This enables the plant to reach water and nutrients far below the soil's surface.

As an annual plant, saltwort lives only a single year. It relies on seed replanting to repeat its annual life cycle. Saltwort's adaptation to highly alkaline soils, where few plants grow, allows it to avoid competing with perennial plants.

Under optimum growing conditions saltwort forms dense colonies. However, when growing conditions are poor such as during a prolonged drought, saltwort assumes a small size and plants are more widely spaced.

Saltwort may also be found growing with seablite (*Suaeda calceoliformis*) and salt grass (*Distichlis spicata*) but often, saltwort is the only species growing on the highly saline salt flats.



As a succulent plant, Saltwort is able to hold vast quantities of water in its fleshy leaves. This adaptation helps in times of drought. Photo by: Robert Sivinski, 2009.



Saltwort is a Nebraska state endangered species. It is found in the saline wetlands of Lancaster and Saunders Counties. Photo by Chris Helzer, The Nature Conservancy.

RANGE

Saltwort is found over much of the western United States and Canada from British Columbia east to Manitoba. It ranges south to California and Nebraska. Saltwort has occasionally been found growing at one location in central Kansas, but Lancaster County, Nebraska is considered the southernmost permanent extant of the species' range. In Nebraska it is known to exist only in Saunders and Lancaster counties within in the Rock Creek and Salt Creek watersheds.

HABITAT

Having very specific habitat requirements, saltwort is found within a narrow range of the saline wetlands. This plant generally grows in heavy, clay soils with a salinity levels of 2.5-4.7 percent. The water table is generally within 3 feet of the surface, and standing water may be present but generally only in spring. The high salinity of the soil and the poor drainage inhibit other plants from growing in this habitat.

REPRODUCTION

Saltwort blooms in mid-summer and has miniature green flowers. The plant produces thousands of seeds which replant themselves annually. The plant will not immediately reseed itself if a prolonged drought occurs. Seeds can lie dormant for years in the soil, until suitable water conditions return and the seeds can once again germinate.

At maturity, saltwort's stem will turn a ruby red color. Fruiting spikes occur in the upper joints and form slender cylinders that turn red at maturity. There are three flowers in a triangular shape at each joint of the fruity spike. Flowers are inconspicuous and enclosed within the hollow of the fleshy stem.

POPULATION STATUS

Habitat destruction and degradation are the major threats to saltwort. Since settlement, more than 90 percent of Nebraska's saline wetlands have been destroyed or highly degraded through drainage or filling for agricultural, commercial, and residential development. Increased freshwater run-off into the wetlands from the developments decreases salinity levels in these habitats, allowing non-salt-tolerant plants to invade. Saltwort requires highly saline soils and cannot survive in freshwater wetlands or with competition with freshwater plants.

Although saltwort is not listed as a federally threatened or endangered species, it is listed as a Nebraska endangered species.

MANAGEMENT & OUTLOOK

Eastern Saline Wetlands are considered critically imperiled in Nebraska. Wetland inventories have proved to be extremely valuable in knowing the extent of the saline wetlands in Nebraska and where the species can be found within them. Continued inventories add to our knowledge and help provide for proper management.



Saltwort is found on open salt flats associated with Saline Wetlands. Habitat destruction due to agriculture and human activities have imperiled these wetlands. Photo by: Chris Helzer, The Nature Conservancy.