Plant Species at Risk Found in Sandy Soil

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There are currently 18 plant species at risk listed on the Schedule 1 of the *Federal Species at Risk Act* that are located in Saskatchewan, and often, they do not get the same attention as some of our other wildlife species at risk.

Rare plants have disappeared or undergone population declines because of habitat fragmentation, degradation or loss. The few plant species at risk described below are found in similar habitats (sandy soil and dunes); and therefore, have common threats, which include:

- Cultivation of prairie;
- Sand dunes with active, shifting sand become stabilized by vegetation;
- Invasion by woody species, like trees or shrubs;
- Invasive species (leafy spurge, downy brome) displacing the at-risk plants;
- Sand and gravel extraction which removes topsoil and plants;
- Industrial development (oil and gas activities, coal strip mining);
- Urban expansion; and
- Changes to natural processes as certain plants have evolved with grazing, fire, and hydrology cycles.

The following plants are considered endangered or threatened because of the habitat threats listed above, but they also have small localized populations, few occurrences, and restricted distributions. Many of these species are annuals, and their seeds are built to survive in the soil for several years and only germinate when suitable moisture and temperature conditions occur. It is important to maintain native prairie and thereby the seed bank of many native species.

Endangered – Those species facing imminent extirpation or extinction

Small-flowered Sand-verbena is a low-growing annual (20 to 50 centimetres), with trailing succulent stems that point up at the tips, rounded leaves and tiny, whitish-green flowers. The fruit of Small-flowered Sand-verbena has three peach-coloured 'wings' that resemble flowers and help with dispersal.

Flowering occurs from May to July. The habitat of a Small-flowered Sand-verbena is slopes and sandy dunes in areas of active or partially-stabilized sand. Known sites of this species are along the South Saskatchewan River, but there is the potential for many other sites to exist.

Threatened – Likely to become endangered if no action is taken to reverse the decline

Tiny Cryptantha is an annual that grows up to 20 centimetres tall, covered in bristly hairs, with smaller leaves closer to the top of the plant. The white flowers are tube-shaped with yellow centers, which bears four seeds called "nutlets," with the largest of the four nutlets being smooth, while the other three are bumpy texture.

Flowering occurs from late May to early July. The habitat of Tiny Cryptantha consists of dry slopes of river valleys or associated rolling uplands, or terraces in very dry environments. Known sites are on the western extent of the South Saskatchewan River.

Up until 2017, Tiny Cryptantha was listed as endangered, but additional search efforts resulted in a larger known range and population size, which allowed the species to be downlisted to threatened.

Smooth Goosefoot is another annual that grows 10 to 50 centimetres tall and is yellowish-green in colour. The leaves are linear and smooth. Flowers occur in July and grow in dense clusters, widely spaced apart along the stem. The shiny, black seeds are assumed to fall to the ground close to the plant.

The habitat of Smooth Goosefoot is eroded sandy soils at the edges of dunes, blowouts and in stabilizing sand. There is roughly a dozen known locations along sandy river banks, active dunes and dune edges in the southwestern corner of Saskatchewan.

Western Spiderwort is a perennial that grows from five to 60 centimetres tall. It has a slender stem, grass-like leaves that are partially folded.

Flowers bloom in July and have three deep purple petals with wavy margins, which open in early morning and close by midday. Pollinated flowers produce seed capsules that resemble short pods, with one to six seeds that are ejected a few weeks after flowering.

The habitat of the Western Spiderwort is partially-stabilized sand dunes and steep south-facing slopes and blowouts. Known locations are in the Elbow Sand Hills.

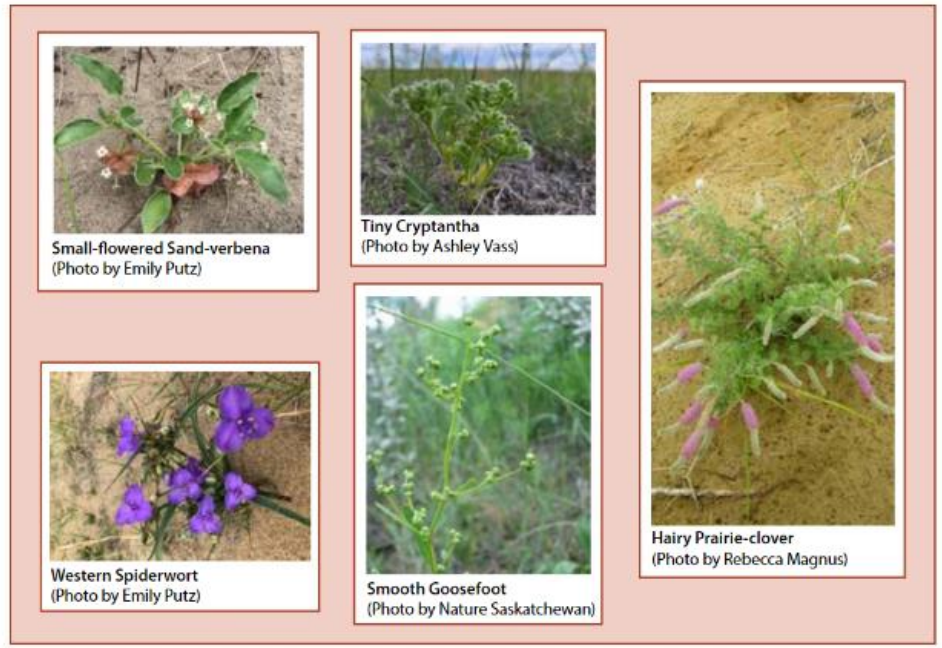
Hairy Prairie-clover is also a perennial that grows to 30 to 60 centimetres tall. The stems are somewhat woody, growing along the ground or rising at an angle. Leaves and stems are densely hairy with surfaces that are soft to the touch.

Flowers bloom in July to late August and are tiny, purple-rose coloured, that grow in dense cylindrical spikes up to 10 centimetres long. Hairy Prairie-clover's fruit develops as in single-seeded hairy pods.

The habitat of Hairy Prairie-clover is active sand blowouts, and it will tolerate partially-stabilized sandy sites, but some degree of active sand is required. Known locations include sand hills in Pelican Lake and Dundurn.

How can you help?

Many of these species occur on sand dunes with active, shifting sand. When a dune develops sufficient vegetation, it will stop the movement of the sand, leading to stabilization and loss of species plants that require active dunes.



Small-flowered Sand-verbena
(Photo by Emily Putz)

Tiny Cryptantha
(Photo by Ashley Vass)

Hairy Prairie-clover
(Photo by Rebecca Magnus)

Western Spiderwort
(Photo by Emily Putz)

Smooth Goosefoot
(Photo by Nature Saskatchewan)

Luckily, there is an easy fix as light grazing around sand dunes can prevent dune stabilization.

There are a few actions that can be taken by land owners or managers to help plant species at risk:

- Do not cultivate native prairie;
- Prevent the stabilization of sand dunes on your land;
- Continue good range management practices;
- Manage and prevent the spread of invasive species; and
- Report sightings of rare plants to organizations such as Nature Saskatchewan's Rare Plant Rescue at 1-800-667-4668 or the Native Plant Society of Saskatchewan Office Executive Director Chet Neufeld at 306-668-3940.