



Baikal Sedge

Photo: © Ryan Batten



Scientific name

Carex sabulosa

Taxon

Vascular Plants

COSEWIC Status

Special Concern

Canadian range

Yukon

Reason for Designation

In Canada, this species is restricted to 16 sites in 10 dune fields in the southwest Yukon. Since the last assessment, 11 new subpopulations have been found and two serious threats have been negated, which reduces the known risk to the Canadian population. However, natural succession is leading to habitat loss; this is exacerbated by fire suppression. Other threats driving recent declines include off-road recreational vehicle use and habitat loss through housing development. Exotic, invasive plants are a serious potential threat resulting in dune stabilization and competitive exclusion.

Wildlife Species Description and Significance

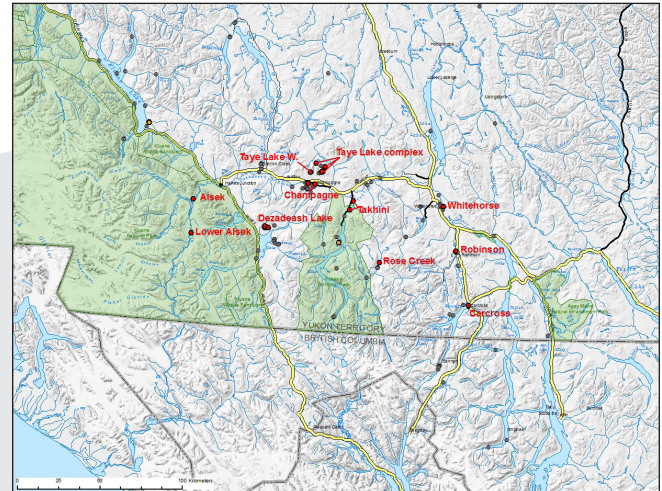
The Baikal Sedge, *Carex sabulosa*, is a tufted perennial plant with long rhizomes. As the flowers mature, the slim stems arch and droop, and the heavy fruiting heads sometimes touch the ground.

Baikal Sedge occurs in a dune ecosystem that was once widespread but is no longer common in Canada; the potential sites for the plant are restricted. In addition, the subpopulations are of

probable genetic interest because they are disjunct from, and at the eastern periphery of, a fragmented range that extends from central Asia to southwestern Yukon. Baikal Sedge is an important species in the stabilization of dunes.

Distribution

Baikal Sedge is found in the sands of central Asia, from Kazakhstan through southern Siberia and western China to Mongolia. Over 3000 km away in North America, it occurs in one dune field in west-central Alaska and in 10 dune fields (16 subpopulations) in a small region of the southwestern Yukon. Two additional occurrences have not been relocated, despite searches, and are considered extirpated.



Distribution map for Baikal Sedge (*Carex sabulosa*) showing known and historical occurrences in southwestern Yukon, Canada. Historical occurrences, orange dots, are presumed extirpated. Grey dots indicate sites that were searched, but no Baikal Sedge was found.

Habitat

Baikal Sedge occurs on the accumulating surfaces of active and semi-stabilized dunes, where it is often the only prominent vascular plant species. In the Yukon, these dunes are remnants of much larger dune fields that were present at the end of the Pleistocene. Most of the ancient dunes are now stabilized and covered in forest or grassland. Many of the extant Baikal Sedge sites are limited to small blowouts in dunes without large supplies of open sand.

Biology

The biology of Baikal Sedge has not been studied. It is evident, however, that this species can withstand cold, desiccating winds and accumulating sand. Reproduction is primarily vegetative through rhizomes; seed production is often limited. In the Yukon, a smut fungus, *Planetella lironis*, attacks developing fruits (seed-like achenes); the smut's effect on reproductive success remains unknown.



Photo: © Ryan Batten

Baikal Sedge fruiting head

Population Sizes and Trends

The largest subpopulation is found near the confluence of the Kaskawulsh and Dezadeash rivers in Kluane National Park and Reserve. There are an estimated 2.5 to 3 million ramets (tufts) at this site. The remaining 15 subpopulations have an estimated total of 1,053,000 ramets, giving an estimated Canadian population of roughly 3.5 to 4 million ramets.

Population trends at all but the Carcross dune systems have probably remained roughly stable in recent years, although there has probably been a small decline because of natural succession and dune stabilization. Baikal Sedge has probably declined more substantially at the Carcross dunes; a decline based both on an apparent reduction in active dunes and on an apparent decrease in sedge extent on active dunes.

Threats and Limiting Factors

Natural vegetation succession is a limiting factor to Baikal Sedge persistence, through dune stabilization. This process is of concern at the largest (Alsek) subpopulation at the confluence of the Kaskawulsh and Dezadeash rivers. Fire suppression allows for more rapid vegetation succession and this threatens several of the subpopulations. There is an apparent

loss of dune habitat as a result of stabilization at Carcross as well. Invasive plants that accelerate dune stabilization pose a significant future threat.

The threat of disturbance from off-road recreational vehicles is of most concern at the Carcross dunes, but also to a lesser extent at the Takhini River (south) dune system. Excessive off-road vehicle use not only damages the plants at the surface, but also compacts the sand and eliminates the clones.

Development of dunes for residential lots or tourism operations is of concern behind the Bennett Lake beach at Carcross.

Protection, Status and Ranks

Baikal Sedge is listed as Threatened under the federal *Species at Risk Act* in Canada. Critical Habitat has only been identified within Kluane National Park and Reserve, where it also receives some measure of protection under the Canada *National Parks Act*. The Takhini River dune system is protected from development in the as-yet-undesignated Kusawa Territorial Park; a draft management plan has recently been developed for this park. The subpopulations northeast of the Klondike Highway at Carcross occur within a territorial park reserve; however, off-road vehicles use this site regularly, and this activity continues to reduce the area of occupancy of the sedge. Recovery at this site is not possible given the current level of use. Elsewhere, Baikal Sedge occurs on Crown (Commissioner's) land where only a special federal order can protect the species under the *Species at Risk Act*. In the NatureServe ranking system, it is ranked G5 (Secure) globally, N2 (Imperilled) nationally and S2 in Yukon.

Source: COSEWIC. 2016. COSEWIC assessment and status report on the Baikal Sedge *Carex sabulosa* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 43 pp.

For more information, please visit www.sararegistry.gc.ca.

Cat. No.: CW69-14/429-2016-1E-PDF
ISBN: 978-0-660-07298-2

For information regarding reproduction rights, please contact Environment and Climate Change Canada's Public Inquiries Centre at 1-800-668-6767 (in Canada only) or 819-997-2800 or email to ec.enviroinfo.ec@canada.ca.