

NOTES ON THE PLANTS OF THE DOUGLAS PROVINCIAL PARK SEEPAGE AREAS

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EDITOR'S NOTE: Douglas Provincial Park is located on the east shore of Lake Diefenbaker, about 13 Km south of Elbow, Saskatchewan on number 19 highway.

One of the several purposes served by Douglas Provincial Park is to preserve an area of unique vegetation associations. To a nature lover it is the wildlife, and unique features of land and vegetation that are attractions within this park. The author found the lakeshore seepage areas to be of special interest. An attempt is therefore made to describe this feature of Douglas Provincial Park so that others may be lured into exploring them and share the beauty of these small areas. The fascination of the springs was due to the presence of showy wildflowers, plants outside what is considered their normal range, and plants rare in Saskatchewan.

Originally the seepage areas were found at the top of the bank of the South Saskatchewan River, and no doubt their courses down the slope were marked by species of plants that are not found at their source. However the building of Gardiner Dam and the resulting reservoir have flooded all but the origin of the streams. Trees such as Manitoba maple *Acer negundo*, green ash *Fraxinus pennsylvanica*, American elm *Ulmus americana*, and perhaps eastern cottonwood *Populus deltoides* may have grown on the slopes, but are not found within the park area, with the exception of maple. There may be areas along the South Saskatchewan and Qu'Appelle river valleys supporting vegetation similar to that

which was found in the now flooded ravines that drained the seepage from these sites into the South Saskatchewan River. That will never be known to those of us who were not lucky enough to have seen the area before.

The ground in the seepage areas is generally either gently sloped or hummocky. Hummocky terrain is usually associated with the wetter areas, with standing water in the hollows. Seepage varies from fresh water to saline. The vegetation changes with the salinity as well as with the amount of water present. Some of the seepage areas are situated high enough that the water table drops below the ground surface before the end of the summer. This allows the soil to dry somewhat. In these areas grasses and rushes dominate, whereas in areas that remain wet sedges tend to be more abundant.

Scattered throughout much of the wetter areas are clumps of hoar willow *Salix candida*, and swamp birch *Betula glandulifera*. Both are species found most commonly in swamps and bogs of the northern forest. Around the margins of the wetter areas water birch *B. occidentalis* grows and there are various other willows such as the common beaked willow *S. bebbiana* and sandbar willow *S. interior*, and the less frequent autumn willow *S. serissima*.

In the continuously wet, springy areas there are a variety of sedges that are found only in this type of habitat. These include golden sedge *Carex*



Seepage area at Douglas Provincial Park

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aurea, Crawe's sedge *C. crawei*, soft-leaved sedge *C. disperma*, inland sedge *C. interior*, blunt sedge *C. obtusata*, graceful sedge *C. praegracilis* and mimic sedge *C. simulata*, the latter being rare in Saskatchewan.¹ Some of the others mentioned are more commonly found in more northern parts of the province. Water sedge *C. aquitilis*, woolly sedge *C. lanuginosa*, and beaked sedge *C. rostrata* are all common species that are found in areas of continuously wet soil.

Another member of the sedge family that is rare south of the forest in Saskatchewan is tall cotton-grass *Eriophorum angustifolium*. Although it doesn't have the same impact here as in the breath-taking expanses that occur on the large fens of the north, the seed heads with their long, white "hair" are an exciting find.

In spring the northern bog violet *Viola nephrophylla* blooms amongst the hummocks. Loesel's or bog twayblade *Liparis loeselii*, a small,

green-flowered orchid of eastern bogs, found in some of the seepage areas is a rare plant in Saskatchewan. The green-flowered orchid or northern bog orchid *Habenaria hyperborea*, usually associated with bogs of the forested areas, is quite common throughout the springs. Other "northern" wildflowers growing in the wetter areas include northern grass-of-Parnassus *Parnassia palustris*, with its white, star-shaped flowers, fringed gentian *Gentiana crinata* with flowers of deep blue color, and Kalm's or bog lobelia *Lobelia kalmii* with small blue and white faces.

The drier areas in the zones of seepage, including the hummocks surrounded by water, are dominated by grasses. The most abundant are marsh muhly *Muhlenbergia racemosa* and mat muhly *M. richardsonis*. Tufted hair grass *Deschampsia caespitosa* may also be common. Among the rushes present are Baltic rush *Juncus balticus*, Richardson's rush *J. alpinus* and long-styled rush *J. longistylis*. Wildflowers



Saline shooting-star S. M. Lamont

include many familiar to prairie and parkland dwellers — early blue violet *Viola adunca*, common tall sunflower *Helianthus nuttallii*, small-leaved everlasting *Antennaria parvifolia*, numerous asters *Aster* spp. and goldenrods *Solidago* spp. Some of the seepage areas have a few pink-flowered wintergreen *Pyrola asarifolia* blooming on the hummocks.

In more saline areas northern reed grass *Calamagrostis inexpansa* and alkali bluegrass *Poa juncifolia* are frequently found. Where the surface does not remain wet and salinity is high, little bluestem *Andropogon scoparius* is a grass that can be recognized from a distance in autumn and spring because of the distinctive rusty orange of the dry stems and leaves. Scirpus-like sedge *Carex scirpoidea* var. *scirpiformis* and greenish sedge *C. viridula* = *C. oederi* also indicate saline conditions.

Saline shooting-star *Dodecatheon pauciflora* is a familiar prairie flower of saline areas. So is mealy primrose *Primula incana* with its clusters of small lilac flowers with yellow centers

on a stem above a rosette of leaves distinguished by their white, mealy underside. As summer advances white or smooth camas *Zygadenus elegans* blooms. The common name is slightly misleading as the star-shaped flowers are really a greenish color. Blue-eyed grass *Sisyrinchium montanum* blooms most abundantly in the more saline areas.

Near what is now the lakeshore the seepage water is quite fresh in the lower parts, and some flow may be detected. Larger seepage areas may have cattails *Typha latifolia*, common great bulrush *Scirpus validus*, three-square *S. americanus* and small-fruited bulrush *S. microcarpus*. Early summer flowers include narrow-leaved waterplantain *Alisma gramineum* with its three pink-tinged petals and tufted loosestrife *Lysimachia thyrsiflora*, bearing clusters of tiny, bright yellow flowers at its leaf bases.

Although the grasses, sedges and shrubs of the Douglas Provincial Park seepage areas are of interest to the botanist, for most people it is the plants with showy or unusual flowers that attract attention. These seepage areas support a variety of wildflowers to be sought out during different seasons and are an added attraction to all the other features that Douglas Provincial Park has to offer.

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¹HUDSON, J. H. 1978. *Carex* of Saskatchewan. Buffalo Press, Saskatoon.