

## **Rarity Among Plants of Garry Oak Meadows: Demographic Bottlenecks and Phenological Constraints**

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COSEWIC has listed a number of rare plants of Garry Oak meadows as threatened or endangered in Canada, including Golden paintbrush (*Castilleja levisecta*), Snake-root (*Sanicula arctopoides*), Purple sanicle (*Sanicula bipinnatifida*), Scouler's catchfly (*Silene scouleri* ssp. *grandis*), White-top aster (*Aster curtus*) and Seaside bird's-foot lotus (*Lotus formosissimus*). Demographic and phenological studies initiated in 2002 have revealed striking differences in demographic bottlenecks among these species, as well as phenological constraints that underlie these differences. Some of the plants provide little seed or disperse poorly, others have low rates of germination and establishment and still others suffer from high mortality rates before they reach a reproductive stage. Implications of contrasting demographic and phenological patterns for multi-species recovery planning will be addressed.