

# Giant Helleborine

*Epipactis gigantea*

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*Disclaimer: The following document was compiled based on a review of information currently available for this species as of November 25, 2005. This document can be used to assist with the identification of this species and to support the development of management recommendations as they relate to forestry activities. For more information on this species, please refer to the reference section or consult with a Species at Risk specialist.*

## Description

The Giant Helleborine is a tall perennial orchid that grows from creeping rhizomes. The one or more stems are 30 to 100cm tall with usually ten or more green leaves per plant, that alternate up the stem. Each leaf is 5-11 cm wide and up to 25 cm long. The lower leaves are ovate and sessile while the upper leaves are linear-lanceolate. The foliage dies back in the fall. After the foliage turns brown, the new shoots begin to spread away from the rhizome. The plant has 3 to 15 brownish-purple flowers and the capsule measures 2 to 3.5 cm in length. It flowers from April through early August<sup>1,3</sup>.

Diagnostic Characteristics: The tall stems with reddish flowers in the leaf axils make this species one of our most distinctive orchids. It is not easily confused with any other species<sup>3,5</sup>.



*Photo courtesy of Frank Skelton*



Photos courtesy of UT-Austin and the Plant Resources Center<sup>2</sup>

## Distribution

*Epipactis gigantea* grows from southern British Columbia in Canada to Baja California and through most of the western United States to the Rocky Mountains and South Dakota to northern Mexico<sup>1,3</sup>.

### Forest Districts<sup>3</sup>

- Arrow Boundary Forest District (DAB)
- Chilliwack Forest District (DCK)
- **Kamloops Forest District (DKA)**
- Kootenay Lake Forest District (DKL)
- Okanagan Shuswap Forest District (DOS)
- Rocky Mountain Forest District (DRM)

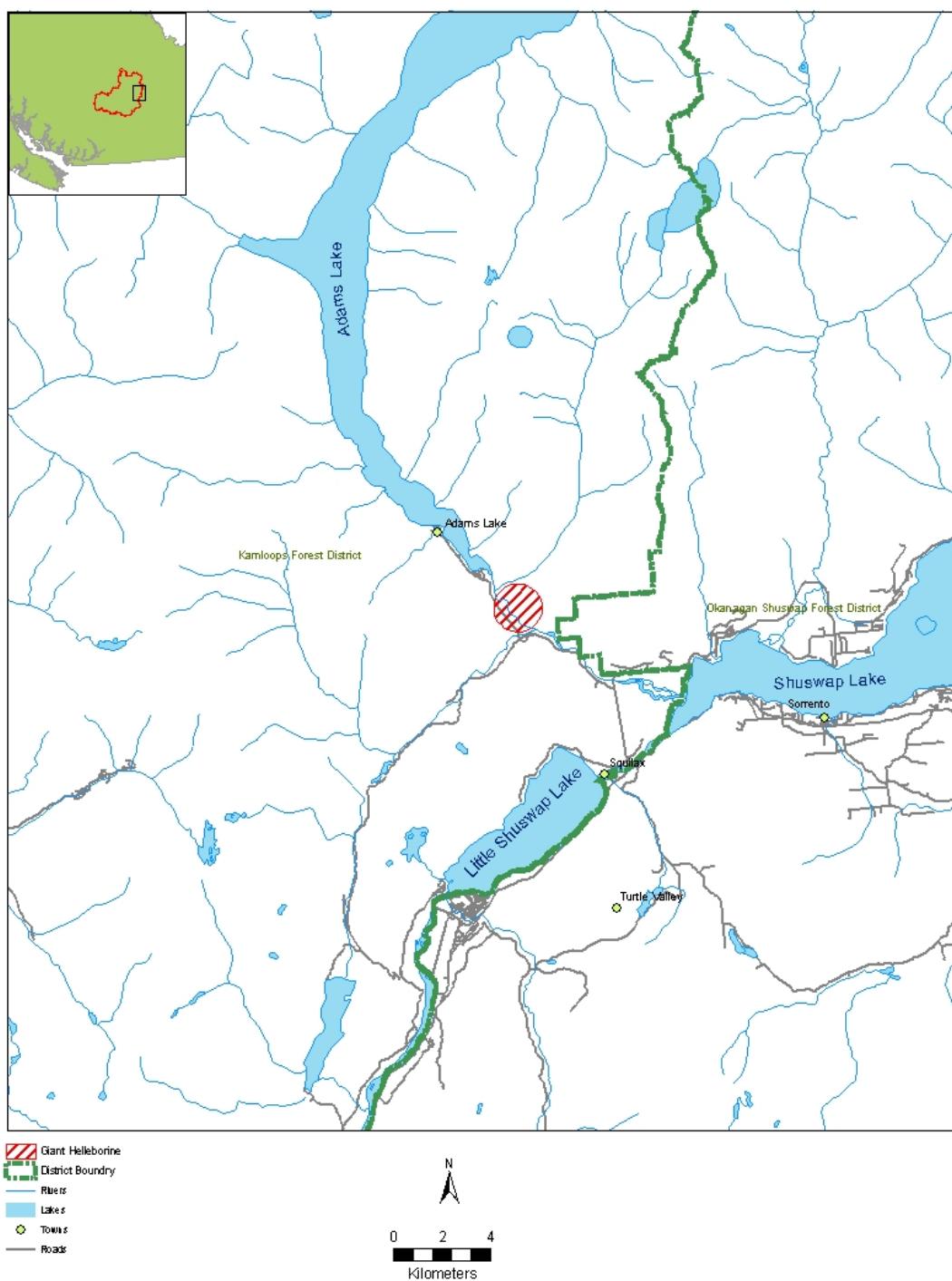
### Biogeoclimatic Units<sup>4</sup>

- BGxh1
- CWHdm
- ICHdw
- ICHmw2
- ICHxw
- IDFdm2
- IDFmw2
- IDFxh1
- IDFxh1a
- PPxh1

### Elevation<sup>3</sup>

From sea level to 2600 m.

### Map of Known Locations



Known locations Giant Helleborine (*Epipactis gigantean*) in the Kamloops Forest District as of September 2005 (data source: Conservation Data Centre).

## Biology

The Giant Helleborine reproduces both by the growth of rhizomes and by seeds. Insects are the principal pollinators; seeds are dispersed mainly by the wind. Populations of Giant Helleborines seem to maintain themselves, as long as mineral spring or other base-rich water is present<sup>5</sup>.

## Habitat

The Giant Helleborine requires a moist, calcareous habitat. It is found in wet areas around hot mineral springs, on lakeshores, and at the base of slopes, where there is an ample supply of base-rich water. The orchid can also occur in open wetland areas, or in broken shade at the forest edge. It usually grows in dense stands or in small groups<sup>5</sup>.

### ***Important Habitats and Habitat Features***

*Epipactis gigantea* must have a permanent and constant source of water at the roots. It occurs in moist areas along streambanks, lake margins, seeps and springs, especially near thermal waters<sup>1,3</sup>.

## Conservation and Management

### **Status**

Prov. Rank: S2S3 (Special Concern)

BC List: Blue (Special Concern)

COSEWIC Status: SC (Special Concern) (May 1998)

SARA Schedule: 3

National General Status: 3 - Sensitive

### **Habitat Threats**

The species has narrow ecological requirements which limit its distribution in Canada. The loss or modification of riparian areas, seeps, and springs is the primary cause of local decline or extirpation of many Giant Helleborine populations. This type of habitat tends to be threatened by a multitude of land use and recreational activities. For example, in Idaho and Wyoming populations have been extirpated or reduced in size due to impacts from the recreational use of hot springs. Livestock grazing has detrimentally impacted some populations. This species may also be detrimentally affected by competition from invasive plant species<sup>1,5</sup>.

Forest management practices including road building and maintenance can potentially threaten habitat of the Giant Helleborine. Logging near rivers, streams and wetlands may damage individuals, alter the area's hydrology or disturb suitable habitat.

## Management Recommendations

Management information for this species is very limited. Therefore the recommendations outlined below are generalized. In order to ensure best management practices are followed, these management recommendations should be supplemented with a follow up call to the Species at Risk recovery team. This will ensure that any new information pertaining to the management of this species is also included in your forest development operations.

### **General Recommendations**

- Identify locations where Giant Helleborine occur: obtain occurrence data from the Conservation Data Centre (<http://srmwww.gov.bc.ca/cdc/>) and if necessary, conduct ground surveys to confirm presence or absence of this species.

In areas where this species is identified:

- Maintain microclimatic conditions (i.e., light conditions, hydrology, soil pH).
- Where this species is found to occur within the riparian management area (RMA) of a classified lake, wetland or stream, maintain the prescribed riparian reserve zone or management zone buffer widths (i.e., as per FRPA regs.).
- Maintain important habitat features such as riparian areas, seeps, and springs. Do not divert or alter the natural flow of these features.
- Do not use pesticides/herbicides.
- Where this species is found to occur in a wet site (but is not included within the RMA of a classified stream or wetland), establish a 10m buffer zone around the plant(s). Do not conduct logging activities or use heavy equipment within this zone.

## References

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- <sup>1</sup> Natureserve Explorer website:  
<http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Epipactis+gigantea>
- <sup>2</sup> UT-Austin and the Plant Resources Center. Website:  
[http://www.sbs.utexas.edu/mbierner/bio406d/images/pics/orc/epipactis\\_gigantea.htm](http://www.sbs.utexas.edu/mbierner/bio406d/images/pics/orc/epipactis_gigantea.htm)
- <sup>3</sup> BC Conservation Data Centre: Website: <http://srmapps.gov.bc.ca/apps/eswp/>
- <sup>4</sup> *Epipactis gigantea* in Rare Native Vascular Plants of British Columbia, B.C. Minist. Environ., Lands and Parks, 2002. Website:  
<http://wlapwww.gov.bc.ca/wld/documents/spsum/PMORC11010.pdf>
- <sup>5</sup> Environment Canada Species at Risk Website:  
[http://www.speciesatrisk.gc.ca/search/speciesDetails\\_e.cfm?SpeciesID=216](http://www.speciesatrisk.gc.ca/search/speciesDetails_e.cfm?SpeciesID=216)