

### Environmental Guidelines for Urban and Rural Land Development in British Columbia



*Are you planning a development or logging on your property? If your property includes moist mature or maturing forest in the Lower Fraser Valley, Gulf Islands, or southeastern Vancouver Island, it may support critical features for the Phantom Orchid. This fact sheet will provide you with important information about complying with the law and protecting this species while still benefiting from the enjoyment and value of your property.*

The Phantom Orchid (or Ghost Orchid) is an unusual plant that obtains its nutrients from a fungus rather than through sunlight and photosynthesis. The Phantom Orchid has a three-way partnership with a specific family of fungi (the *Thelophoraceae*) and a (presently unidentified) tree species. Both the stem and flowers of this plant are white, giving it a ghostly appearance and its common name.

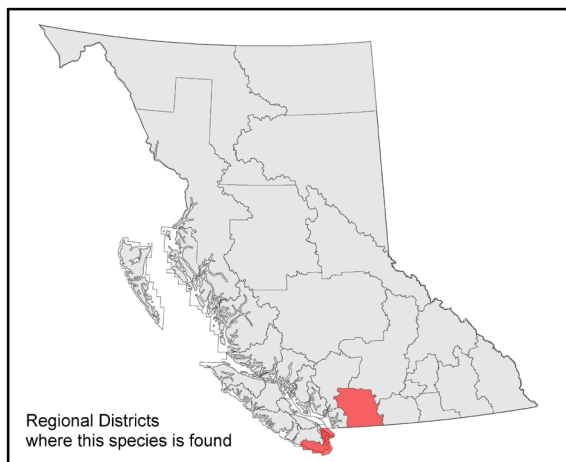
The Phantom Orchid typically forms colonies in mature or maturing coniferous or mixed forests in association with Douglas-fir, Western Red Cedar, Big-leaf Maple, and Paper Birch.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					Flowering						
					Capsule production seed dispersal						
Dormancy: plants may remain dormant for up to 17 years before flowering											

It seems to prefer south- or west-facing slopes and shaded places with sparse ground cover and it shows a preference for sites that are calcareous (high in calcium), including old limestone tailings and old shell middens.

### AT RISK

The Phantom Orchid is **Red-listed** and occurs only in southwestern B.C. Continued habitat loss through development is the greatest threat to this species. It cannot be grown under cultivation because it requires both a fungal and tree partner to survive. It is difficult to assess the extent and locations of the Phantom Orchid because it and its associated fungus are hidden below ground for much of the year. As well, the roots of mature trees extend considerably beyond their crowns, and the fungi associated with the Phantom Orchid may extend far beyond the root system of a particular tree. This makes it hard to pinpoint areas where flowering stems of the orchid will appear in the spring.



## LEGALLY PROTECTED

The Phantom Orchid is a **Threatened** species under the federal *Species at Risk Act* (SARA), and will likely be protected under B.C.'s *Wildlife Amendment Act*. It is illegal to kill, harm, or take any endangered or threatened species protected under these Acts.

Modifications to features that affect its habitat may require authorization under SARA. Activities such as logging, removal of standing, dead and downed wood, removal of understorey or overstorey vegetation, changes in site hydrology, soil composition and shade, as well as encroachment of urban development, could all potentially damage or destroy a Phantom Orchid population.

## DEVELOPMENT GUIDELINES

More detailed guidelines for protecting Environmentally Valuable Resources are provided in *Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia*.

- ☑ Contact the regional Species at Risk Biologist at the Ministry of Environment office for site-specific advice if you are working in an area where it is found.
- ☑ Conduct surveys at an appropriate time of year and recognize that it is dormant (unseen) for part of its life cycle.
- ☑ Design and locate your development to avoid disturbing essential habitat features.
- ☑ Ensure that site workers are aware of orchid habitats, and closely supervise any work.
- ☒ Avoid constructing roads, trails or stream crossings in the buffer zone, especially uphill from populations.
- ☒ Avoid activities that alter surface or groundwater hydrology, microclimate, topography, soil conditions (moisture), vegetation/cover, and habitat quality.
- ☑ Identify and set aside core and management zones. Provide large buffer zones (at least 200 m) around plant populations. This provides protection from the effects of



forest clearing and subsequent changes to microclimate.

- ☑ Maintain habitat by retaining the tree canopy to provide shade and the three-way partnership between the orchid and associated fungi and trees.
- ☒ Avoid disturbing orchid sites by digging or piling of brush or soils, or by causing soil compaction. Hiking and mountain biking trails should be built well away from orchid sites.
- ☑ If plants occur on lawns, avoid mowing them during the flowering period and during seed set. Do not mow again until after seed set has occurred (mid-May to the end of July).
- ☒ Do not use fertilizers, herbicides or pesticides within buffer and in the adjacent area to protect the orchid or its fungal partner. Never spray in the area on windy days when spray drift can travel hundreds of metres.
- ☑ Minimize invasion by alien species by implementing a buffer zone and minimizing human access.
- ☑ Report occurrences or observations of activities threatening its habitat to the regional Species at Risk Biologist at the Ministry of Environment office.

### For more information:

*Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia*  
<http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare/>

**Protocols for rare plant surveys** <http://www.geog.ubc.ca/biodiversity/eflora/>