

## common comfrey

### *Symphytum officinale* L.

Synonyms: *Symphytum officinale* ssp. *uliginosum* (Kern.) Nyman, *Symphytum uliginosum* Kern.

Other common names: asses-ears, backwort, boneset, bruisewort, consolida, consound, gum plant, knitback, knit-bone, slippery-root

Family: Boraginaceae

**Invasiveness Rank:** 48 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

#### Description

Common comfrey is a perennial herb that grows between 50 and 150 cm tall from a thick, branched taproot. The plant is covered in spreading, downward-curved, conical, bristly hairs. Stems are ascending to erect and hollow. Stem ridges, which run down the stems from the leaf bases, are present on the internodes. Basal leaves are obovate to oblong, 15 to 30 cm long, and 7 to 12 cm wide with long petioles. Stem leaves are 5 to 15 cm long, oblong-lanceolate, long-tapering, entire, and alternate. They usually have shorter petioles but are sometimes sessile. Leaves decrease in size up the stem. The inflorescences consist of several to many pairs of drooping, coiled flowers. Flowers are radially symmetrical and 12 to 18 mm long. They can be deep purple, pale purple, blue, pink, or cream colored. Flowers are comprised of five petals, fused into a bell shape. Each flower produces four ovoid nutlets. Nutlets attach to the base of the flower, and contain 1 seed each. Seeds are glossy black, 4 or 5 mm long, and 3 mm wide (DiTomaso and Healy 2007, Klinkenberg 2010, NatureGate 2010).



*Symphytum officinale* L. Photo by R. Old

*Similar species:* Common comfrey looks similar to two other non-native plants that are tracked in Alaska: prickly comfrey (*Symphytum asperum*) and common borage (*Borago officinalis*). Prickly comfrey can be differentiated from common comfrey by the absence of stem ridges on its internodes. Common borage can be differentiated from common comfrey as it is an annual and has bowl- opposed to bell-shaped flowers. Also, common borage flowers have petals that are fused at the base and have widely spread lobes. Common comfrey looks superficially similar to the native tall bluebells (*Mertensia paniculata*), however tall bluebells can be differentiated by its heart-shaped basal leaves, lack of ridges along the stem, and flowers that with five bulges at their throats. In contrast to the bristly hairs of common comfrey, tall bluebells is glabrous or has short, appressed hairs (AKEPIC 2010, Hultén 1968, DiTomaso and Healy 2007, Klinkenberg 2010).



*Symphytum officinale* L. Photo by T. Heutte.

#### Ecological Impact

*Impact on community composition, structure, and interactions:* Thick clumps of common comfrey may change the density of forb layers. Common comfrey appears to increase the plant density of mixed forb-graminoid roadside and lot habitats in Southeast Alaska (AKEPIC 2010). It has the potential to reduce the number of individuals in surrounding native species populations through a combination of increased

competition for space, nutrients, water, bees and other pollinating insects, and seed dispersal agents such as ants (DiTomaso and Healy 2007, Goulson et al. 1998, Peters et al. 2003). It contains pyrrolizidine alkaloids that can cause liver damage in herbivores, resulting in death if enough alkaloids are consumed (DiTomaso and Healy 2007, Medicinal Plants for Livestock 2008). The seeds of common comfrey are very attractive to ants in Germany (Peters et al. 2003), and they may alter ant-plant interactions in Alaska. The flowers are pollinated by insects, especially long-tongued bees (DiTomaso and Healy 2007, Goulson et al. 1998). Native plant-pollinator relationships could be impacted by the presence of common comfrey.

*Impact on ecosystem processes:* Specific ecosystem impacts caused by common comfrey are largely unknown. While this species may reduce the nutrients and moisture available for native species, it is unlikely to have any major impacts on ecosystem processes.

### Biology and Invasive Potential

*Reproductive potential:* Common comfrey reproduces by seed and vegetatively from root fragments. Each flower produces four seeds, and plants are capable of producing large numbers of flowers (DiTomaso and Healy 2007). Seeds remain viable in soil for several years although the exact amount of time is unknown (Crop Compendium 2010).

*Role of disturbance in establishment:* Common comfrey requires moist, nutrient-rich soil in a disturbed area or garden (DiTomaso and Healy 2007).

*Potential for long-distance dispersal:* Seeds are dispersed by ants (Peters et al. 2003) and water (Moggridge et al. 2009). The seeds have elaiosomes, fleshy-oily protuberances that attract ants (Pemberton and Irving 1990). Common comfrey has spread by seed in Southeast Alaska from planted populations (Rapp 2006).

*Potential to be spread by human activity:* Common comfrey is planted by people in Alaska as an ornamental and a medicinal plant. Planted populations in Glacier Bay National Park have caused several infestations in surrounding areas (Rapp 2006).

*Germination requirements:* Seeds germinate rapidly in moist soils of open sites. They germinate especially well in gardens, peat and loam. They are also able to germinate in water (DiTomaso and Healy 2007).

*Growth requirements:* Common comfrey usually grows on moist, nutrient-rich soils. In regions with cold winters, the foliage dies during the winter and regenerates from the roots with the return of warm weather. It can tolerate semi-shade (DiTomaso and Healy 2007, Plants for a Future 2010).

*Congeneric weeds:* Prickly comfrey (*Symphytum asperum*) is a tracked non-native plant in Alaska and it is considered noxious in California (AKEPIC 2010, USDA 2010).

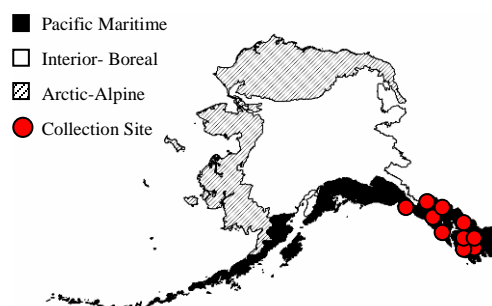
### Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states
- Federal noxious weed
- Listed noxious in Canada or other countries (QC)

### Distribution and Abundance

Common comfrey grows on moist, fertile soils in disturbed areas or gardens (DiTomaso and Healy 2007). In England, it grows especially well in riparian environments (Goulson et al. 1998, Moggridge et al. 2009). However, it is not documented as being invasive in riparian environments in the U.S., nor has it invaded any riparian environments in Alaska (AKEPIC 2010, DiTomaso and Healy 2007).

*Native and current distribution:* Common comfrey is native to Europe and was introduced to North America as an ornamental and a medicinal herb. It can now be found in Europe, North America, Japan, and Australia. Infestations are documented from Southeast Alaska (AKEPIC 2010, DiTomaso and Healy 2007, Ibaraki Nature Museum 2010, National Herbarium of South Wales 2010). It is not known from arctic or subarctic regions.



Distribution of common comfrey in Alaska

### Management

Common comfrey can be difficult to remove due to the potential for vegetative regeneration from root fragments. Digging is required to remove the plant and the large network of roots. Populations in Glacier Bay National Park persisted after multiple years of manual removal efforts. Mowing plants before they produce seeds can prevent populations from spreading (DiTomaso and Healy 2007, Rapp 2006).

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