

Eastern Flowering Dogwood: *Cornus florida*



Bark



Twig & Buds



Flower & Bracts



Fruit

The Eastern Flowering Dogwood is a small forest-edge or understory tree. It is a popular ornamental tree and many cultivars have been developed by the horticulture industry. It has been estimated by the Government of Canada there's less than 2000 trees across southern Ontario with natural populations ranging from individual trees, to a few dozen to one site with over 100 trees (2011). This is mainly due to Dogwood Anthracnose which is a leaf disease causing mortality since its presence was confirmed in Canada in the mid 1990s. These threats have warranted the Eastern Flowering Dogwood to fall under the protection of the federal species at risk act and the provincial endangered species act.

BIOLOGY

- Slow growing woody perennial that reaches 3-10m in height
- The bark is light grey and smooth when the tree is young
- With age the bark becomes grayish-brown and develops into distinctive quadrangular plates
- Its branches are in whorls from the main trunk
- Leaves are simple, opposite, deciduous and measure 5-15cm long and 2.5-8cm wide
- The leaves are important for nutrient cycling because they retain large amounts of calcium during the growing season which falls to the forest floor and decomposes rapidly
- The floral buds are stalked, large, and have a flattened dome shape
- Has many crowded, small, yellowish, perfect flowers borne in terminal clusters
- Flowers appear in the spring before the leaves flush and are surrounded by four snow-white petal-like bracts that are 5-10cm across and provide a spectacular spring display
- Fruit occurs in tight clusters; scarlet, shiny, one-seeded, ovoid and fleshy, averaging about 13 mm long and 6mm in diameter, ripening in the fall
- The fruit is a valuable food source for wildlife which is the primary mode of seed dispersal
- Cross pollination which occurs by insects produces a better seed set
- Usually produces a good seed crop every other year, unless the trees are isolated
- Germination and seedling establishment occurs in forest shade but intermediate light levels promote growth
- Seeds that are carried further distances from the parent tree are less likely to fall in suitable habitat
- Overall seedling survival is low

HABITAT

- In Canada Eastern Flowering Dogwood is limited to the Carolinian Zone of southern Ontario
- It's an understory or edge tree of open dry to slightly moist, deciduous or mixed forests
- Preferable soils are sandy loam or occasionally clay loam soils with a pH of 6 to 7
- Prefers dry to slightly moist soils, and is virtually absent in poorly drained clay soils
- Grows well on flats and on lower or middle slopes, but not on upper slopes and ridges.
- Has an inability to grow on extremely dry sites because of its shallow root system which makes it sensitive to changes in soil moisture
- Less tolerant of more major openings or forest clearings because excessive light would promote shade intolerant species that would out-compete the Eastern Flowering Dogwood

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THREATS

- The primary threat to Eastern Flowering Dogwood is Dogwood Anthracnose
- Dogwood Anthracnose is a foliar disease caused by the *Discula destructiva* fungus
- Other threats to the Eastern Flowering Dogwood include habitat fragmentation and habitat loss due to land clearing for agriculture and other industries
 - This endangers them from removal during logging activities as well as restricting gene flow which could reduce the opportunity for plants to adapt a natural resistance to the anthracnose fungus

DOGWOOD ANTHRACNOSE: SIGNS & SYMPTOMS

- It kills trees of all sizes with severe effects on seedlings and small understory trees
- Infection is most likely to occur during cool, wet weather in the spring and fall but it is possible any time during the growing season
- Drought and winter injury have also been noted to increase susceptibility
- First signs of the anthracnose are tan coloured leaf spot on leaves in shaded or damp areas
- Leaf spot develops a purple border between the dead and healthy leaf tissue
- The spots may fall out leaving shot holes, which is commonly seen on the lower portion of the crown first
- Heavily infected leaves may drop early or cling onto the twigs long after normal leaf fall
- From the leaves, the infection spreads to the twigs, buds, fruit, and larger branches where it forms elliptically shaped cankers that girdle and kill the branches, and eventually the tree

HOW CAN I HELP THE EASTERN FLOWERING DOGWOOD ?

- Get to know your woodlot and see if you have any Eastern Flowering Dogwood trees or other species at risk on your property
- Use good forestry practices during logging operations to create a habitat that will facilitate regeneration
- Control invasive species that could out compete the Eastern Flowering Dogwood
- Report illegal activity related to EFD trees to 1-877-TIPS-MNR (847-7667)
- Report your sightings of Eastern Flowering Dogwood to the Natural Heritage Information Centre at nhic.mnr.gov.on.ca

Signs & Symptoms of *Discula destructiva* Fungus



Anthracnose



Fungal damage to a floral bract



Canker on main stem

Photos courtesy of:
(Gov't of Canada, 2011)

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