

THE
FRENCH
CREEK
watershed



A COMMUNITY TREASURE

FACT SHEET

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Plants in the French Creek Watershed



Introduction

The French Creek Watershed contains a richness of species and a diversity of habitats, many of which are rare and unusual in the state. The French Creek drainage basin also provides habitat for a number of endangered and threatened species (including the northern madtom catfish, the eastern sand darter, and the northern riffleshell mussel), along with several dozen plant species native to the watershed which are considered “species of special concern”. In fact, the French Creek Watershed is a final refuge for a number of these plant species, some of which can only be found in a few places in Pennsylvania.

Both plants and animals can be at least partially protected from potentially harmful activities by being placed on a list at either the federal or state level. The state of Pennsylvania in 1982 established a plant classification system with the Wild Resource Conservation Act. Applicable to all naturally-occurring, wild, native plants in Pennsylvania, the system contains six classifications: extirpated, endangered, threatened, rare, vulnerable, and tentatively undetermined. Each of these categories includes a distinct group of species which are added or removed from the state and federal lists based upon scientific field studies carried out by botanists across the state.

Pennsylvania “endangered” is defined as a plant species in danger of becoming extinct throughout most or all of its natural range within the Commonwealth if critical habitat is not maintained or the species is greatly exploited by man. An endangered species has usually lost large portions of its original population, and is in dire need of protection. On private property, regulations and prohibitions prevent anyone other than the landowner, or a person with a special state permit and

landowner permission, from disturbing, picking, taking, possessing, destroying, mutilating, removing, collecting, or transplanting a species listed as PA Endangered or PA Threatened. On public lands, there is a greater potential that listed species will be protected from all of these activities.

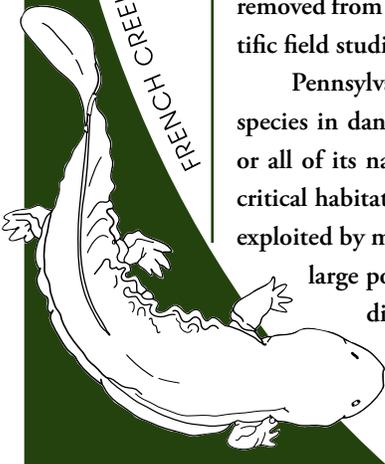
Why Protect Plants?

An ecosystem’s health depends largely on the health of its plant populations. First, plants produce the energy upon which the ecosystem is based, providing food for a wide range of organisms including birds, fish, and mammals. The root systems they put down help hold the soil in place, preventing siltation in the stream and nutrient loss due to erosion.

In addition, plants help protect water supplies by absorbing or “filtering out” some excess nutrients and pollutants. Plants provide shelter and shade for many other organisms. Finally, and perhaps most importantly, plants are facets of the landscape and should be preserved not merely for their value to humans, but for their intrinsic importance as part of the ecosystem.

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One of the most interesting plant families found in the watershed is the orchid family, which contains a relatively high number of the state-listed species. The orchid family is comprised of 769 genera and 17,500 species of terrestrial and subterranean herbs. The root of the word “orchid” is the Greek word “orchids”, meaning testicle, named due to the shape of its rounded tubers. Members of the orchid family have highly specialized flowers, many dependent upon a single species of insect for pollination. As a result, a plant’s flowers are long-lived, but usually wither as soon as pollination occurs.

All of the orchids in the French Creek Watershed are terrestrial plants, while most tropical orchids grow on the branches and trunks of trees. The flowers vary from showy (like lady’s slippers) to inconspicuous, with a small flower that only a botanist would recognize as an orchid. The showiness of the orchid flowers has resulted in extensive collection and this is making them increasingly rare. There are at least seven species of listed orchids native to the watershed. Of these, the prairie white-fringed orchid is federally listed as “threatened” under the Endangered Species Act but is considered “extirpated” in Pennsylvania, which indicates that it is no longer thought to exist in the state and has not been seen naturally-occurring for more than a century.

The small yellow lady’s slipper, not found in the French Creek Watershed for a number of years, is a particularly intensely-colored member of the orchid family. The smallest of our lady’s slippers, it is not only appealing to humans, but due to its pungent fragrance is highly attractive to slugs as well. The leafy northern green orchid has greenish and yellowish-green flowers occurring along a dense, cylindrical stem. Found in boreal (meaning northern) bogs, this orchid is typically inconspicuous to the casual observer. The hooded ladies’ tresses may be found in bogs or rich woods. Occurring across Canada and northward to the Arctic Circle, it is among the northernmost orchids, having survived glaciation relatively close to the ice sheet.

The swamp pink may be the most unusual member of the orchid family in the state. Greek mythology accounts for its name, Arethusa bulbosa. Myth maintains that the nymph Arethusa

was bathing in a river when the river god began to chase her. In order to save her, the goddess Artemis changed her into an underground stream, making her the nymph of fountains. The flower grows only in rare wetlands and was named after her due to its beauty. The swamp pink is one of two members of Arethusa in the world, the other being found in Japan.

The leafy white orchid was considered a charm plant by the Thompson Indians of British Columbia. Men used it as a wash to make them lucky, good-looking and sweet-smelling. They also believed the leafy white orchid to have mystical powers. While digging up the plant the Thompsons would chant “Friend, I want wealth and much property.” Regardless of its powers, the leafy white orchid, like all plants of special concern, remains an important organism found in the French Creek Watershed.



Plants of Special Concern

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| 1. <i>Alisma plantago-aquatica</i> var <i>americana</i> | broad-leaved water-plantain |
| 2. <i>Aster borealis</i> | rush aster |
| 3. <i>Cardamine pratensis</i> var <i>palustris</i> | cuckoo flower |
| 4. <i>Carex aurea</i> | golden-fruited sedge |
| 5. <i>Carex bebbii</i> | Bebb’s sedge |
| 6. <i>Carex pseudocyperus</i> | cyperus-like sedge |
| 7. <i>Carex retrorsa</i> | backward sedge |
| 8. <i>Cladium mariscoides</i> | twig rush |
| 9. <i>Eleocharis elliptica</i> | slender spike-rush |
| 10. <i>Epilobium elliptica</i> | downey willow herb |
| 11. <i>Equisetum variegatum</i> | variegated horsetail |
| 12. <i>Eriophorum gracile</i> | slender cotton-grass |
| 13. <i>Galium labradoricum</i> | Labrador marsh bedstraw |
| 14. <i>Hierochloa odorata</i> | vanilla sweet-grass |
| 15. <i>Lithospermum carolinense</i> | hispid gomwell |
| 16. <i>Lonicera oblongifolia</i> | swamp fly honeysuckle |
| 17. <i>Megalodonta beckii</i> | Beck’s water marigold |
| 18. <i>Myriophyllum exalbescens</i> | northern water-milfoil |
| 19. <i>Myriophyllum verticillatum</i> | whorled water-milfoil |
| 20. <i>Polygonum setaceum</i> var <i>interjectum</i> | swamp smartweed |
| 21. <i>Potamogeton friesii</i> | Fries’ pondweed |
| 22. <i>Potamogeton gramineus</i> | grassy pondweed |
| 23. <i>Potamogeton hillii</i> | Hill’s pondweed |
| 24. <i>Potamogeton vaseyi</i> | Vasey’s pondweed |
| 25. <i>Scheuchzeria palustris</i> | pod-grass |
| 26. <i>Scirpus acutus</i> | hard-stemmed bulrush |
| 27. <i>Shepherdia canadensis</i> | Canada buffalo-berry |
| 28. <i>Sorbus decora</i> | showy mountain-ash |
| 29. <i>Trollius laxus</i> ssp <i>laxus</i> | spreading globe flower |

Species of Special Concern

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| 30. <i>Arethusa bulbosa</i> | swamp-pink |
| 31. <i>Cypripedium parviflorum</i> | small yellow lady’s slippers |
| 32. <i>Cypripedium reginae</i> | showy lady’s slippers |
| 33. <i>Platanthera dilatata</i> | leafy white orchid |
| 34. <i>Platanthera huronensis</i> | leafy northern green orchid |
| 35. <i>Platanthera leucophaea</i> | prairie white-fringed orchid |
| 36. <i>Spiranthes romanzoffiana</i> | hooded lady’s tresses |

References used:

Bier, C. and S. Grund. (Personal Communication). Western PA Conservancy, Pittsburgh, PA. 1997.
 Coffey, T. *The History and Folklore of North American Wildflower*. R.R. Donnelly and Sons, N.Y. 1993.
 Cunningham, J.S. (Personal Communication). Waterford, PA. 1997.
 Grimm, W.C. *The Illustrated Book of Wildflowers and Shrubs*. Stackpole Books. Harrisburg, PA 1992.
 Marsh, K. (Personal Communication). Meadville, PA 1997.
 McDermot, R. (Personal Communication). Allegheny College, Meadville, PA 1997.
 Western PA Conservancy. *Species of Special Concern and Natural Communities. French Creek Watershed, Northwestern PA*. 1996.
 Wild Resource Conservation Fund. *Endangered and Threatened Species of PA*. 1995

