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PRAIRIE BUSH CLOVER

A THREATENED MIDWESTERN PRAIRIE PLANT



Photo by Welby Smith

What is prairie bush clover and where does it occur?

Prairie bush clover (*Lespedeza leptostachya*) is a federally threatened prairie legume found only in the tallgrass prairie region of four Midwestern states. Prairie bush clover is found today at fewer than 100 sites in Iowa, Illinois, Minnesota and Wisconsin. The majority of large populations occur in and near the Des Moines River Valley of southwestern Minnesota and the nearby Iowa lakes region of northwestern Iowa.

Because it is known only from the tall-grass prairie region of the upper Mississippi River Valley, the prairie bush clover is considered a Midwestern "endemic" – i.e., a plant restricted to only a small area.

What does prairie bush clover look like?

Prairie bush clover is a member of the pea family.

Also known as slender-leaved bush clover, it has a clover-like leaf comprised of three leaflets about an inch long and a quarter inch wide. Flowering plants are generally between nine and eighteen inches tall with the flowers loosely arranged on an open spike.

The pale pink or cream colored flowers bloom in mid-July. The entire plant has a grayish-silver sheen, making it easy to distinguish from its more round-leaved cultivated relative, the sweet clover (*Melilotus* species). The only closely related bush clover species that is widespread

throughout the range of prairie bush clover is the round headed bush clover (*Lespedeza capitata*). This plant is similar in color but more robust, with leaflets about 1-1/2 inches long and 3/8 inches wide and a tight round flowering head.

The more southern Virginia bush clover (*Lespedeza virginica*) overlaps the range of prairie bush clover in Illinois. Although it has slender leaves like the prairie bush clover. Virginia bush clover can be distinguished by the fact that its leaves are closer together on the stem and its flowers are brighter pink than prairie bush clover.



A. Prairie bush clover (*Lespedeza leptostachya*) has open, branching flower heads and widely spaced slender leaves. **(Photo by Welby Smith).**



B. Round headed bush clover (*Lespedeza capitata*) has tight flower heads and larger, wider leaves than prairie bush clover. **(Photo by Tom Sanders).**

B.



C. Virginia bush clover (*Lespedeza virginica*) has a more densely packed flower head and more closely spaced leaves than prairie bush clover. (Photo by Don Kurz).

C.

Why be concerned about prairie bush clover?

Like all native species, prairie bush clover has its own specific niche in the ecosystem and its own unique relationships to other plants and animals with which it lives. The loss of prairie bush clover could result in the disappearance of as yet unknown dependent species such as tiny predatory insects specialized to live on its seeds.

Prairie bush clover possesses a unique genetic and chemical makeup, different from that of any other species. This genetic information has an unknown potential value. For example, cultivated crops such as wheat and corn have been developed and improved by using wild relatives as breeding stock. Native and imported bush clovers are important fodder in the southern states. Prairie bush clover and round headed bush clover provide the only potential native genetic stock for breeding of cold tolerant bush clovers suitable for the Midwest.

Alkaloids from wild plants are used as the active agents in anesthetics, insecticides, anticancer drugs and muscle relaxants. Loss of prairie bush clover would eliminate forever the opportunity for future biological research and the potential for such medical and agricultural benefits.

What laws protect prairie bush clover?

Prairie bush clover was listed as federally threatened in February 1987. It is protected by the 1988 reauthorization of the 1973 Endangered Species Act (PL 100-478). Under the provisions of this act it is against federal statutes to remove or destroy prairie bush clover by any federal action or on any area under federal jurisdiction, or to knowingly violate any state law protecting this species.

As a general guideline, citizens should contact either the U.S. Fish and Wildlife Service or the Minnesota Department of Natural Resources before engaging in any activity that could alter a population of Prairie Bush Clover. Transplanting of plants is not only illegal but likely to be unsuccessful. A state permit is required for manipulation, removal or propagation of plants for research purposes. This includes removal of seeds. This restriction applies to populations on both public and private lands. Applications for permits can be obtained from the Department of

Natural Resources at the address on the bottom of this web page.

In addition to its federal status, prairie bush clover is listed as endangered or threatened in each of the four states where it occurs. Specific provisions of state law vary from state to state and can be obtained from the appropriate state contact listed on the back of this brochure.

It is not a violation of law for private land owners to continue agricultural activities on their own lands where prairie bush clover occurs. Although repeated season-long grazing year after year appears to have an adverse effect on prairie bush clover, populations exposed to light grazing appear to be less affected. A more important concern is the weed infestations that sometimes result in over grazed pastures. Caution should be exerted to assure that herbicides do not affect bush clover populations. Users of herbicides should always be sure to follow label directions and restrictions.

The effect of mowing remains unknown but annual mowing results in continuous removal of seeds from populations, with the expected result of reduced population size.

Why is prairie bush clover rare?

Prairie bush clover's rarity is probably best explained by the loss of its tallgrass prairie habitat. At the time of white settlement, native prairie covered almost all of Illinois and Iowa, a third of Minnesota and six percent of Wisconsin. Mesic moderately damp to dry prairie favored by prairie bush clover was also prime cropland, and today only scattered remnants of prairie can be found in the four states. Many of today's prairie bush clover populations occur in sites that escaped the plow because they were too steep or rocky.

How is prairie bush clover threatened?

Prairie bush clover is listed as a federally threatened species because it is jeopardized with the possibility of extinction. Some of today's populations are threatened by conversion of pasture to cropland, overgrazing, agricultural expansion, herbicide application, urban expansion, rock quarrying and right-of-way maintenance and rerouting.

Who knows the location of prairie bush clover populations & how is this information used?

Up-to-date information on the status and location of Prairie Bush Clover populations is maintained in computerized databases of state Natural Heritage Program in each state in which the species occurs. These data are used for environmental review and conservation planning. Information from these databases is available to consulting firms and state agencies preparing environmental assessments of proposed projects. Specific information on locations of Prairie Bush Clover in Minnesota is available to consultants and researchers by filling out a state **data request form** (available in Minnesota by contacting the Minnesota Department of Natural Resources Natural Heritage and Nongame Research Program at (651) 297-2276, or by downloading from http://www.dnr.state.mn.us/ecological_services/nhnrp/nhis.html#inforequest)

A federally appointed recovery team uses these data to make recommendations for the recovery of the species and to assess progress toward this goal. The U.S. Fish and Wildlife Service uses these locations to determine which federal projects might have a negative impact on the species. Location information is also used by the EPA and state departments of agriculture to determine areas where pesticide use restrictions are necessary for the protection of the species.

Where is prairie bush clover protected?

Approximately 40 percent of the known prairie bush clover sites are protected as dedicated state nature preserves, scientific and natural areas and preserves managed by private conservation organizations such as The Nature Conservancy.

A large number of prairie bush clover sites occur on private lands where farmers or other landowners have maintained the species through conservation-minded agricultural practices. Many landowners are proud to have such a rare species on their land and keep the plant in mind when planning agricultural activities. Prairie bush clover persists on lightly grazed prairie pastures, haylands, and prairie remnants that families have maintained for their own enjoyment.

How are prairie bush clover preserves managed?

Prairie bush clover is one of many native prairie species that occur in prairie preserves. Before white settlement, frequent fires helped maintain the species composition and treeless structure of the tall-grass prairie. Today's remnants are often invaded by non-native grasses which create a buildup of mulch and by woody species which can shade out bush clover populations. For these reasons, natural area managers have reintroduced prescribed fires as a way of maintaining the natural balance of species in the prairie ecosystem.

Such fires are carefully planned and controlled by teams of trained managers. Research suggests that although summer fires can be detrimental to emerging prairie bush clover plants, early spring fires are not harmful.

At times when fire cannot be used to control shrubby invasion, hand cutting or haying may be used to maintain the open prairie condition required by prairie bush clover for flowering.

Is there a federal recovery plan for this species?

A federal recovery plan for Prairie Bush Clover was released in 1988. It is available for purchase from:

Fish and Wildlife Service Reference Service
5430 Grosvenor Lane, Suite 110
Bethesda, Maryland 20814

WHOM DO I CONTACT?

IN ILLINOIS CONTACT:

Illinois Natural Areas Inventory
Illinois Department of Conservation
524 S. 2nd Street
Springfield, Illinois 62706

IN IOWA CONTACT:

Bureau of Preserves and Ecological Services
Department of Natural Resources
Wallace State Office Building
Des Moines, Iowa 50319

IN MINNESOTA CONTACT:

Minnesota Natural Heritage Program
Department of Natural Resources
Box 7
500 Lafayette Road
St. Paul, Minnesota 55155
(651) 259-5100

IN WISCONSIN CONTACT:

Bureau of Endangered Resources
Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707

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