



Narrow-leaved Milk Vetch

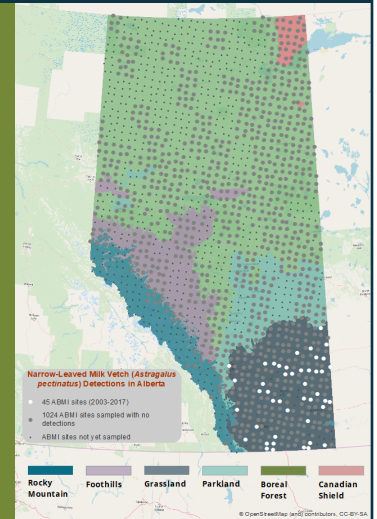
Astragalus pectinatus

Narrow-Leaved Milk Vetch is a flowering pea plant with cream-coloured flowers and long, thin leaves. It grows in dry, upland and sloped prairie in the Grassland Natural Region.

Conservation Status: AEP - Secure | SRANK - S5

Taxon data collected: 2003 - 2017

Data Summary: Prairie



Introduction

Over its decade-plus of operations, the ABMI has generated a comprehensive dataset on Alberta's species, their habitats, and the extent and type of human footprint across the province. With this information, the ABMI has developed analyses to predict species' relative abundances and examine species' responses to vegetation and soil types, as well as human footprint in Alberta. These methods have been applied to hundreds of species; this profile provides summary results for one.

There are three main results sections in this species profile. The first section summarizes what vegetation, soil, and human footprint types the species uses in Alberta. Next, the data are used to identify which land use activities have the biggest impact (positive or negative) on the species' relative abundance. Finally, a series of relative abundance maps illustrate the species' predicted distribution under current and reference conditions, and where it's expected to have increased or decreased as a result of human-caused changes to its habitat.

The target audiences for species profiles are resource managers in Alberta. Summary data can be used to support land-use planning and mitigate the risks of development on a species of interest. While developed to support resource management, these species profiles are also of wider interest to anyone wanting information on species that live in Alberta, what habitats they are found in, and how our land use affects their populations.

Please note that the results are predictions based on the best available data at the current time. All results must be considered with caution; interpretation caveats are presented with each result. As with any statistical model, our confidence in the modelled outputs will increase as we gather more data and refine our models; to that end we update the summary results annually based on new data. As an internal check, for species with additional information in the literature, we examine whether our models produce ecologically meaningful results. For data-poor species, our predictions are the first contribution towards developing an understanding of the species' ecology.

Please refer to the [ABMI Species Website Manual](#) for a complete description of methods and limitations associated with the analyses included in this species profile.

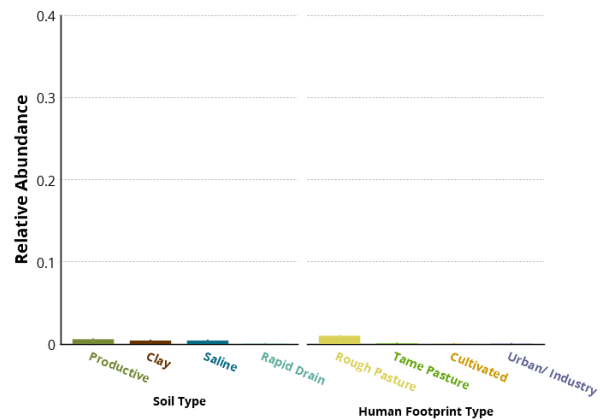
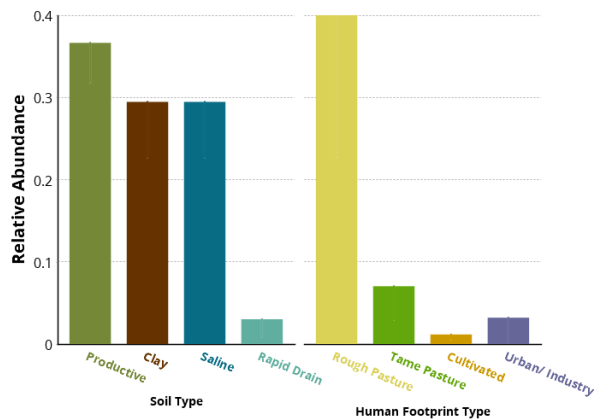
Habitat & Human Footprint Associations

Narrow-Leaved Milk Vetch is an open grassland plant that grows well on saline soils predominantly in native prairie or improved pastures. A perennial plant, it regrows from a deep taproot each spring. Its seeds have hard coats and persist well in the seedbank.



Species-habitat Associations in the Prairie Region

Non-Treed Sites in the Prairie Region Treed Sites in the Prairie Region



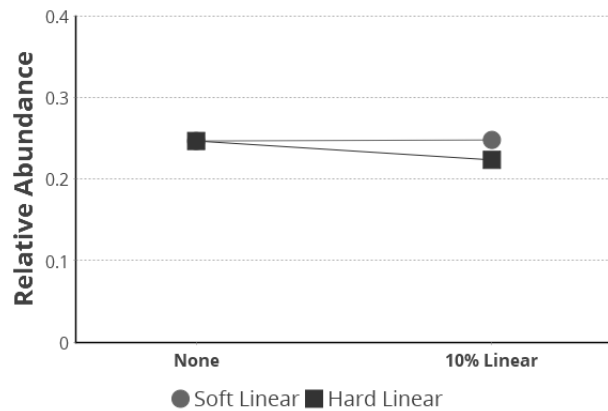
Prairie Region - Species Habitat Association Graph: Predicted species relative abundance (bars) in each soil type and human footprint type in the prairie region. Vertical lines indicate 90% confidence intervals. The presence/absence of trees greatly affects the presence and abundance of many species; therefore, separate figures are presented for treed and non-treed sites in the prairie region.

- Narrow-Leaved Milk Vetch relative abundance is greater at non-treed than at treed sites in the prairie region. It was rarely detected in treed sites.
- Narrow-Leaved Milk Vetch relative abundance is high across all soil types except rapid drain, as well as the rough pasture human footprint type.

Relationship to Linear Footprint



Relationship to Linear Footprint in the Prairie Region



Linear Footprint Graph: Species relative abundance predicted for habitat with no human footprint compared to habitat in which 10% of the area is converted to either soft or hard linear footprint.

- Narrow-Leaved Milk Vetch relative abundance is predicted to have a slight, negative relationship with hard linear footprint and no relationship with soft linear footprint in the prairie region.

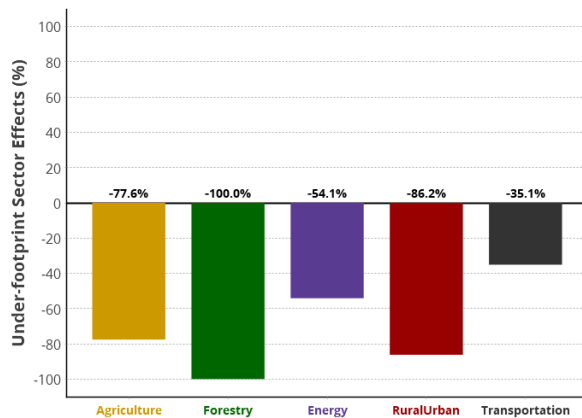
Impacts of Human Footprint

Narrow-Leaved Milk Vetch is a native grassland specialist that is moderately well adapted to disturbed sites including grazed pastures and saline soils typical of drained wetlands or prairie potholes.



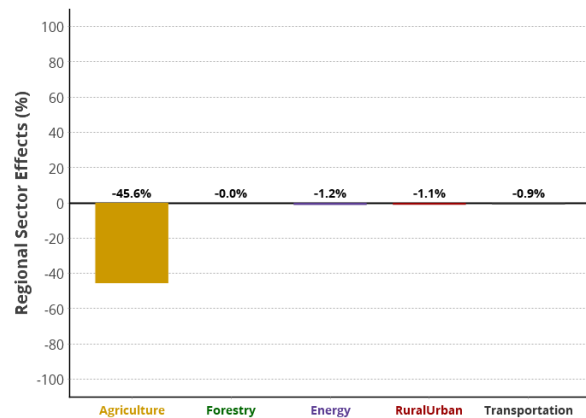
Human Footprint Effects in the Prairie Region

Under-footprint Sector Effect



- Narrow-Leaved Milk Vetch relative abundance is predicted to be lower than expected in all human footprint types compared to the habitat each footprint replaces in the prairie region.

Regional Sector Effect

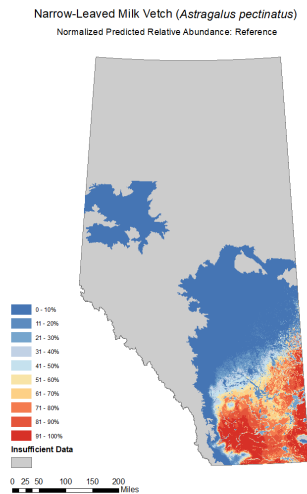


- Agriculture footprint has the strongest, negative population effect because it has the largest area in the prairie region; therefore, relative abundance of Narrow-Leaved Milk Vetch is predicted to be lower than expected at the regional scale.
- The remaining industrial sectors have much smaller population effects on the Narrow-Leaved Milk Vetch at the regional scale.

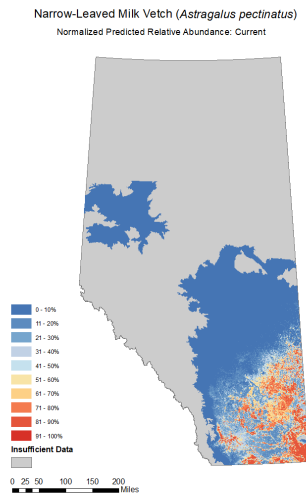
Predicted Relative Abundance

Narrow-Leaved Milk Vetch is found throughout the prairie region of Alberta but is most common in the Grassland Natural Region.

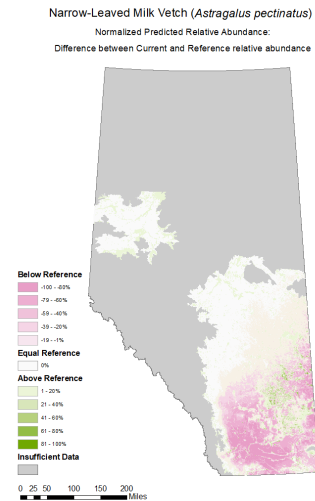
Reference Conditions



Current Conditions



Difference Conditions



- The reference condition shows the predicted relative abundance of the Narrow-leaved Milk Vetch after all human footprint had been backfilled based on native vegetation in the surrounding area.
- The current condition is the predicted relative abundance of the Narrow-leaved Milk Vetch taking current human footprint (circa 2012) into account.
- Narrow-Leaved Milk Vetch relative abundance is predicted to be lower under current conditions than reference conditions throughout much of its range in Alberta, especially in the Grassland Natural Region.
- Narrow-Leaved Milk Vetch relative abundance is predicted to be higher under current conditions compared to reference conditions mainly in the central Grassland Natural Region.

References & Credits

References

Budd, A.C. 1987. Budd's Flora of the Canadian Prairie Provinces. Second Edition. Agriculture Canada, Hull, QC.
Moss, E.H. 1994. Flora of Alberta. Second Edition. University of Toronto Press, Toronto, ON.

Data Sources

Data collected by ABMI.

Recommended Citation

Alberta Biodiversity Monitoring Institute. 2019. Narrow-leaved Milk Vetch (*Astragalus pectinatus*). ABMI Website: abmi.ca/home/data-analytics/biobrowser-home/species-profile?tsn=99003735.

Additional ABMI Resources

Alberta Biodiversity Monitoring Institute. 2016. ABMI Species Website Manual, Version: 2016-12-02. Alberta Biodiversity Monitoring Institute, Alberta, Canada. Report available at: abmi.ca.

Alberta Biodiversity Monitoring Institute. 2014. Manual for Species Modeling and Intactness, Version 2014-09-25. Alberta Biodiversity Monitoring Institute, Alberta, Canada. Report available at: abmi.ca.

Alberta Biodiversity Monitoring Institute. 2014. Terrestrial field data collection protocols (abridged version) 2016-05-18. Alberta Biodiversity Monitoring Institute, Alberta, Canada. Report available at: abmi.ca.

Download [ABMI Species and Habitat Data](#).

View [ABMI Collaborations](#).