

Information Needs for *Rubus stipulatus*

Information need recommendations for *Rubus stipulatus* were developed in Spring 2026 and are based on the IUCN Research Needed Classification Scheme (IUCN, 2012b). The needs highlighted are those deemed the most critical to reaching the thresholds set in the recovery criteria. Priority information needs in Minnesota were determined based on a species status assessment, information from the MN DNRs *Rubus stipulatus* Rare Species Guide profile (MN DNR, 2026) and local expert opinion.

Tables

Table 1. IUCN Research Needed Classification 1 – Research. Critical information needs are related to 1.1 – Taxonomy, 1.2 – Population size, Distribution and Past Trends (specifically historic population genetic structure), 1.3 – Life History and Ecology, 1.5 – Threats, and 1.6 Conservation Actions.

Information Type	Discussion
Taxonomy	Create tools to improve in-field species identification and increase awareness of the importance of proper documentation or vouchering for species verification purposes. Even properly vouchered occurrences require a high level of expertise to identify in-field and verify from specimens.
Population Size	Most available data do not represent a comprehensive assessment of population size. More surveys are needed to fill in information gaps or update current viability assessments. Those surveys should document both the spatial extent of the population, census the number of individuals as stems and document reproductive output. Most available data are assumed to document stem (ramet) counts. Research is needed to improve the ability to estimate the effective population size (including overall number of genets) from a count of ramets. Research into methods for accurately estimating population size through the spatial extent of individuals instead of or in addition to stem counts would be beneficial.
Distribution	It is unlikely that <i>R. stipulatus</i> ' full statewide distribution has been documented. Continued surveys of potentially suitable habitat are needed and should be empirically informed by a species habitat model, as well as incorporate expert opinion.

Information Type	Discussion
Population genetics	It is known that past development in the core area of <i>R. stipulatus</i> ' statewide population has resulted in the fragmentation and destruction of populations. Population genetic research is needed to understand the impact of those activities on its current genetic diversity and gene flow. Population genetic research is needed to inform the movement of individuals in future augmentation and re-introduction efforts. Of particular importance will be information on historic patterns of gene flow, evidence of current inbreeding depression, and the potential risks or benefits of outbreeding.
Life History and Ecology	Most available data do not include an ecological assessment of the surrounding landscape. More comprehensive site information is needed to fill in information gaps or update current viability assessments. Those surveys should document the extent of currently unoccupied suitable habitat contiguous to currently occupied habitat, and the extent of the protective buffer connecting and surrounding those habitat patches. Research is needed to better understand <i>R. stipulatus</i> ' sexual and asexual reproductive success. Research is needed to determine <i>R. stipulatus</i> ' pollinator community. An assessment of habitat availability and suitability for the pollinator community should also be conducted where there is evidence of low reproductive success. Research is needed to determine whether <i>R. stipulatus</i> ' hybridizes with congeners.
Threats - Hydrology	Research is needed to understand the impacts of nearby groundwater resource extraction or alterations of surface hydrology on the viability of <i>R. stipulatus</i> .
Threats- Development	Development pressure often occurs in close proximity to <i>R. stipulatus</i> plants. Research is needed to better understand the buffer distance needed between a population and an activity to avoid negative impacts.
Conservation Actions - Augmentations and Re-Introductions	<i>R. stipulatus</i> populations impacted by development have been salvaged then translocated to a protected recipient site with appropriate habitat and management practices. Monitoring of augmentations, re-introductions and comparable control sites is needed to understand success and improve augmentation and re-introduction practices.
Conservation Actions - Propagation	Horticultural research is needed to inform best practices for propagating individuals through seed, cuttings or other methods, and proper care for out-planted individuals.

Table 2. IUCN Research Needed Classification 2 – Conservation Planning. Critical information needs are related to 2.1 Species Action or Recovery Plan.

Information Type	Discussion
Species Action or Recovery Plan	Re-evaluate <i>R. stipulatus</i> ' status and revise this recovery plan at least once every ten years. It is expected that as conservation actions are implemented and new information is available, recovery criteria will need to be modified accordingly. Track the implementation of actions recommended by this recovery plan to inform future revisions.

Table 3. IUCN Research Needed Classification 3 – Monitoring. Critical information needs are related to 3.1 – Population Trends.

Information Type	Discussion
Population Trends	Better documentation of changes in size or extent in naturally occurring populations would help to inform <i>R. stipulatus</i> ' conservation status rank (s-rank) and could allow for adaptively managing populations. Base documentation should be at least one re-survey every five years, with more regular visits needed if monitoring is being used to support management decisions. All augmentations or re-introductions should be monitored annually for at least ten years to determine survival and reproductive success of transplanted individuals, and rates of recruitment and survival of first-generation offspring.

References

- IUCN. 2012b. *Research Needed Classification Scheme* (Version 2.0). International Union for the Conservation of Nature. 2012b. <https://www.iucnredlist.org/resources/research-needed-classification-scheme>
- MN DNR. *Rubus stipulatus*. 2026. Minnesota Department of Natural Resources Rare Species Guide. <https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PDROS1K7A0>