The University of Montana Herbarium

2021 Strategic Planning Document

The Herbarium at the University of Montana (MONTU) is part of the Humanities and Sciences Department’s Division of Biological Sciences (DBS). Activities in the herbarium are managed and supervised by the curator under the administration of the Assistant Dean of DBS. The Friends of the University of Montana Herbarium (FOH), an advisory group made up of professional botanists and ecologists, provides support and assistance to the curator with regard to management decisions and direction.

The University of Montana Herbarium Strategic Plan is the end result of a collaborative process between the herbarium curator and the board of directors of the FOH from 2019 to 2021. The goal of collaborators is understanding and addressing important challenges and opportunities for growth facing both herbaria in general, and specifically MONTU. The culmination of this process is a framework that describes our priorities and goals, and a set of operational initiatives that shall define and guide MONTU’s future success.

# Our History

The University of Montana (UM) was founded in 1893 and is a state university in Missoula, Montana. UM’s first Professor of Biology, Dr. Morton Elrod, began making collections for the study of Montana’s native flora and fauna upon his arrival in 1897. The collections, with descriptive notations indicating location, date and habitat, were used by Dr. Elrod’s students for classroom reference material, and eventually as historical records. They formed the beginning of what was to become the University’s herbarium and zoological museum. An extensive review of MONTU’s 100-year history was written in 1999 by UM Professor James Habeck. For access to that document please contact MONTU’s curator.

Through the decades many curators and collections managers have had the opportunity to care for and add to the vascular and non-vascular plant collections that form MONTU. Botanists from all over the world have added to MONTU’s catalog as well. The herbarium’s collections have grown from Elrod’s initial collections to a catalog that includes over 130,000 vascular plants, 4000 mosses, and 2000 lichens. Its vascular plant collection is one of the largest and most complete representations of the flora of the Northern Rocky Mountains in the world. MONTU also houses growing collections of algae and liverworts, and is the archival center for the Montana Diatom Collection, with representative diatom samples of over 5000 locations in the northwestern United States.

# Our Mission

The University of Montana Herbarium strives to provide a growing collection of reference data for state, federal and private land managers, environmental consulting companies, conservation organizations, and UM professors, researchers and students. Its collections are available for research to organizations and educational institutions outside Montana through loan and exchange programs. MONTU also works to provide access and outreach through facility tours that are customized to the interest and academic levels of visitors, and through online educational materials. It also builds collaborative relationships with other herbaria and partner organizations with an interest in preserving biodiversity, such as the Montana Native Plant Society and the Montana Natural Heritage Program.

Obstacles to upholding our mission include budgetary limitations that limit staffing hours and funding of beneficial and necessary projects. In addition, space constraints restrict the growth of MONTU’s collection and have resulted in deaccessioning a large portion of its catalog.

# Our Strategic Goals

With MONTU’s mission, challenges, and a vision for opportunities in mind, the following strategic goals have been formed. These goals have been approved by the herbarium curator, the board of directors of the Friends of the Herbarium, and the Assistant Dean of the Division of Biological Sciences.

**MONTU Goal #1: Provide accurate representation of vascular and non-vascular plant biodiversity in Montana, past and present.**

MONTU’s catalog of Montana vascular plants contains information on species identification, temporal and locational data, and habitat. Specimen images are available for most records. Our users primarily access specimen information via MONTU’s online data portal, the Consortium of Pacific Northwest Herbaria, so it is critical that our data be presented with accuracy. Though the details are presented accurately on original labels, digitized (databased) labels often contain transcription errors.

**Strategic Action #1a: Systematically improve the accuracy of the online catalog of MONTU’s vascular plant specimens.**

The Montana vascular and non-vascular collections in MONTU’s catalog contain specimens collected since the late 1800’s. Over time, periods of high and low collection activity occurred. Fewer collections have been made recently, because financial resources devoted to expanding scientific knowledge in natural history and field biology are receiving very little funding. This time coincides with a period of rapid environmental change due to alterations in our global climate, a phenomenon that will result in changes in species distribution. It is imperative that these distributional population changes be documented with herbarium specimens.

**Strategic Action #1b: Encourage archival grade collection of accurately identified vascular and non-vascular specimens for accession.**

**MONTU Goal #2: Increase access to MONTU collections through digitization of all Montana and non-Montana specimens.**

MONTU’s Montana vascular plant and moss collections have been digitized, therefore they’re accessible online. Our non-Montana vascular plants and mosses have not been digitized. MONTU’s entire lichen, liverwort and algae collections also have not been digitized. Non-digitized specimens are only accessible through physical visitation to the herbarium. While physical visitation is encouraged and preferred, we recognize the logistical difficulty for many users. Therefore, it’s crucial that MONTU’s catalog be entirely available to a global user pool through digitization of all specimens.

**Strategic Action #2a: Digitize all of MONTU’s current and incoming collections.**

In the 1994 MONTU entered into a Memorandum of Understanding (MOU) with the United States Forest Service (USFS) to house, maintain and curate the collections of the Rocky Mountain Research Station (MRC). MRC’s catalog contains vascular and non-vascular plants that are primarily from lands that fall within Region One of the USFS. Curation to date has been performed by MRC’s emeritus curator, while MONTU’s curator and staff have managed the catalog. MRC’s vascular specimens have been accessioned into MONTU, but non-vasculars have not. Roughly one third of the Montana sheets have been databased, and collections from outside Montana have not been digitized. Most of the collection has not been imaged.

**Strategic Action 2b: Accession all Montana MRC collections in MONTU, digitize remaining MRC Montana collections, and image all MRC digitized vascular specimens.**

**MONTU Goal #3: Provide opportunities for UM students, state and federal agency staff, and interested members of the community to learn about the vascular and non-vascular plants of Montana.**

The University of Montana trains students in natural sciences through its programs in Ecology, Forestry and Environmental Studies. Most of these students learn floristics through classes in Botany and/or Rocky Mountain Flora. Students, state and federal agency personnel, and other community members have opportunities to tour UM’s herbarium through presentations that are tailored to individual interests. Qualified students and others may work, volunteer and intern in the herbarium to the extent that resources for supervision and guidance allow.

**Strategic Action #3: Continue to provide experiential learning opportunities for UM students and others through work-study, internships, volunteer engagement, and educational workshops such as Montana Native Plant Society Herbarium Nights.**

**MONTU Goal #4: Form collaborative and supportive relationships with partner herbaria, state and federal agencies, and Montana conservation organizations whose Missions and Goals align with MONTU’s.**

Collaborative partnerships with other herbaria in the Pacific and Inland Northwest have resulted in the funding of the Consortium of Pacific Northwest Herbaria data portal. This online resource allows global access to over 3.6 million data records across five states, British Columbia and Yukon Territory. Collaboration with the Montana Natural Heritage Program and the Montana Native Plant Society have enabled MONTU to digitize its Montana moss collection and take initial steps toward digitization of its Montana lichen collection.

**Strategic Action #4: Investigate new avenues of collaboration with partner herbaria and conservation groups that enable both parties to achieve mutual goals.**

**MONTU Goal #5: Increase departmental support for the curator position by bringing its FTE to 0.5 (20 hours/week) and reinstating UM work-study student funding.**

Over the past 100 years MONTU has received varying levels of University support through the Division of Biological Sciences. Support was highest when UM had an active Botany Department, and curatorial duties were typically assigned to a Biology, Botany or Plant Systematics professor. In the 1980’s a temporary collections manager was hired to assist the curator. Funding for MONTU staff has also varied with fluctuating DBS funding. In the 1990’s and early 2000’s support for multiple work-study students in the herbarium was available. During this time period curation of both the UM Herbarium and Phillip Wright Zoological Museum were assigned to a single, full-time curator. At present, due to limited University funding, the MONTU curator position receives 14 hours (0.35 FTE) of institutional support, and work-study student funding fluctuates yearly, between zero to 5 hours/week.

**Strategic Action #5: As the University of Montana increases enrollment and its budget becomes fiscally sound, gradually return institutional support for the Herbarium Curator to 0.5 FTE and work-study student funding to 10 hours/week for the entire school year.**

**MONTU Goal #6: Increase the Friends of the University of Montana Herbarium community to 100 members.**

Membership in FOH has varied over the course of its 25-year history. Seventy-five members initiated the group in 1996, in response to a need to protect and enhance the herbarium facilities. The group currently (late 2019) has just under 60 paying supporters. Most members have a direct connection with MONTU in one of three ways: they are a specimen contributor, they use the collection in their professional or recreational activities, and/or they recognize the importance of the existence of a physical, archival collection. Opportunities exist to explore relationships with others who fall into these categories.

**Strategic Action #6: Identify pools of potential FOH members and work with MONTU’s current FOH membership to find ways to connect with these potential members.**

# Summary

The eight Strategic Actions presented above represent tangible opportunities for MONTU staff and supporters to move toward MONTU’s six Goals. It is recognized that activities in one area, for example on Strategic Opportunity #1a, may be a higher priority one year, while #2a might be prioritized the following year. Funding is also a factor in the progress made on all Strategic Opportunities, and it will be difficult to move forward in years where no institutional work-study funding is available, or other reductions in staff occur.

Many tasks within the herbarium do not fall into the goal categories defined above, such as normal curatorial duties of mounting and accessioning incoming specimens, or adding material to and revising MONTU’s website. Such vital activities remain an important part of our organization and will be performed as part of everyday operational activities.

Long range goals have been verbalized at times but have never been formally discussed or documented. They are not part of the present Strategic Plan Document but may be discussed and incorporated into document revisions. These goals include:

1. Obtaining more physical space for MONTU’s collections through increasing herbarium square footage or the purchase of cabinet compactors.
2. The incorporation of MONT with MONTU, creating a single State Herbarium of Montana.
3. Funding MONTU’s Curator position at the 1.0 FTE level through institutional, grant or private contributions.

MONTU’s activities are submitted annually to the Assistant Dean of the Division of Biological Sciences as the UM Herbarium Annual Report. Activities are also presented and discussed with MONTU’s advisory board, the Friends of the UM Herbarium.

This strategic planning document will be reviewed and updated at the 5- and 10-year marks, in 2026 and 2031.

# Conclusion

The formal adoption of MONTU’s Strategic Planning Document will provide structure and guidance to the curator when making decisions regarding allocation of time and monetary resources, and is an important road map for our future achievements. Questions or suggestions about the document’s goals and strategic opportunities can be addressed to the curator or members of the Friends of the Herbarium Board of Directors, who will keep the document relevant to the needs of MONTU’s user audience as it is reviewed and updated at its 5- and 10-year intervals.