A Vascular Flora of the Selkirk Mountains, Bonner and Boundary Counties, Idaho

A Thesis

Presented in Partial Fulfillment of the Requirements for the

Degree of Master of Science

with a

Major in Biology

in the

College of Graduate Studies

University of Idaho

by

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May 2021

Authorization to Submit Thesis

This thesis of Harpo Faust, submitted for the degree of Master of Science with a Major in Biology and titled "A Vascular Flora of the Selkirk Mountains, Bonner and Boundary Counties, Idaho," has been reviewed in final form. Permission, as indicated by the signatures and dates below, is now granted to submit final copies to the College of Graduate Studies for approval.

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Abstract

The vascular flora described here covers ~2,295 km^2 (~886 mi^2) of the Selkirk mountains that lie in the Idaho Panhandle, covering an elevational range from 540–2330 m (1,770–7,670 ft.). The majority of the mountain range is underlain by granitic rock of the Kaniksu Batholith, and is diversified by the rich glacial history of the Panhandle. The study area contains multiple pockets of alluvial and glacial deposition that serve as specialized habitat for present day floristic diversity within the range. The study area is classified as the Northern Rocky Mountains, with floristic influence from the Pacific coast, boreal north, the Columbia Basin, and the Rocky Mountains to the south and east. Despite notable collection interest over the last century in the northern Idaho Panhandle, a comprehensive checklist did not exist prior to this project, and previous collecting efforts were uneven, creating significant gaps in coverage and poor documentation of the area. A total of 108 collection days were spent in the field in 2019 and 2020, resulting in 4,153 vascular plant collections, from 633 collection sites, documenting 844 total unique taxa in 94 plant families. Taxa that were previously collected but not recovered during this study were first verified by the author using historical specimens housed at multiple Pacific Northwest herbaria, and were then included in the final checklist. Fifty-four rare taxa and six state collection records were found in the study area, as well as range extensions and county collection records. While the primary objective for this study was to document and voucher all vascular plants of the Selkirk Mountains of Idaho to create an annotated checklist of the vascular flora, additional objectives included an assessment of the vegetation of the study area, and threats to the flora of the study area, as well as increasing documentation of sensitive, rare, and non-native species occurrences within the range.

Acknowledgements

It was with boundless gratitude that I thank my advisor, David Tank, for both believing in me as a botanist and in this project. I am grateful for Dave's tireless support and wisdom, as well as for giving me a wide pasture to grow and develop, both professionally and botanically. This project would also not have been possible without the mentorship of Ben Legler, who provided invaluable feedback and direction with my project scope and content. Ben's assistance with species concepts, fieldwork design, data management, training in herbarium curation, the use of his mobile application, and his awareness and attention to aesthetics have made me a better botanist and researcher. I am eternally grateful for Dave and Ben's tag team support with this project and my future botanical pursuits.

This project was made possible by multiple avenues of financial support. Dave Tank made sure my time at the University was funded through the Stillinger Fellowship Research Assistantship and through Teaching Assistantships at the University. Fortunately, I was able to receive the Stillinger Expedition Grant, which provided the bulk of funding for the 108 days of fieldwork. Private grants were crucial in supplementing costs of fieldwork and I thank the Torrey Botanical Society, American Society of Plant Taxonomists, and the Palouse Audobon Society for their project support. With this assistance I was able to hire multiple field assistants. I am eternally grateful to both Peri Lee Pipkin and Beau Romeo for working with me in 2019 and bearing with the struggles of the first year. I am grateful for Whitney "Moose" Griswold, for both sharing her wonderful property with me and for accompanying me in the field in 2020. As well, Ben Legler, Dave Tank, Saff Killingsworth, Stella Rose Waxwing, Malia Santos, Megan Ruffley, Jamie Meyer, Jasmyn Hinton, and 2019 Idaho Foray Participants joined me in the field, for which I am very thankful for their assistance.

I am grateful for the support from Idaho Panhandle National Forest Botanist, Jennifer Costich-Thompson, for providing permits, grizzle bear exclosure access, local perspective and for accompanying me in the field. I am thankful for the local support from Tom Weitz at the Priest River Museum as well as from Kyle Nagy at the Sandpoint Organic Agriculture Center, for providing a field station for 2020. I am honored that Ana Armstrong, representative for The Kalispel Tribe of Indians, and Pamela Rentz, representative of The Kootenai of Idaho, were willing to share and educate on the indigenous history of the region.

Additional financial support was graciously provided by both the White Pine Chapter of the Idaho Native Plant Society in Moscow and the Kinnikinnik Native Plant Society in Sandpoint, to aid in my dream of adding botanical illustrations to the flora. I am indebted to the artists for their wonderful work; thank you Beau Romeo, Sharon Birzer, and Theo Lathryus. Thank you as well goes to Mary Welcome for sharing her technical prowess with the project.

I am also thankful for all who made my entry into academia, as well as my time in Moscow, all the more bearable. I am grateful to two of my favorite professors at University of Idaho, who also served as my committee members, Eva Strand and Jack Sullivan. I am grateful for Eva's assistance and direction with GIS and for Jacks foundation in phylogenetics, and his time on the basketball court. I thank Barbara Ertter for her mentorship, guidance, and taxonomic education, she is truly a force to be reckoned with and I hope she is geared up to mentor me for the rest of my life. I would also be nowhere without the tireless support of the Herbarium's undergraduate workers, staff, and volunteers. As well, multiple Idaho Botanists and members of the Stillinger Herbarium's wide net– Alma Hanson, Derek Antonelli, Karen Grey, Janice Hill, Lynn Kinter, and Michael Mancuso, all provided guidance and role modeling while on this wild ride. As well I am grateful for all who assisted with plant identification, Ben Legler, Derek Antonelli, Carl Taylor, Mary Barkworth, Mark Egger, Don Mansfield, Peter Zika and Don Farrar. Without the assistance and collaboration of so many, this project would not have come to life.

Lastly, I thank my chosen family who have supported me in pursuing my botanical passions. I must acknowledge the emotional labor of those who supported me during some of my deepest lows, thank you to Spencer Faust, Celeste Sazani, Jules Baldino, The English-Mckee's, Saff Killingsworth, Stella Rose Waxwing, Mesa Jex, Sofia Vasconi, Jess Lee, Bradley DeHerrera, Olsen Torres, Sophia Hussain, and Rae Lutch. I also want to thank my new Palouse Prairie chosen family, Iris Alatorre, June Sanders, Scout Haener, and members of the Brokeback Palouse Collective for helping me make a home here for the last few years. I appreciate all your support more than you will ever know.

Dedication

for all the freaks, femmes and queers in botany

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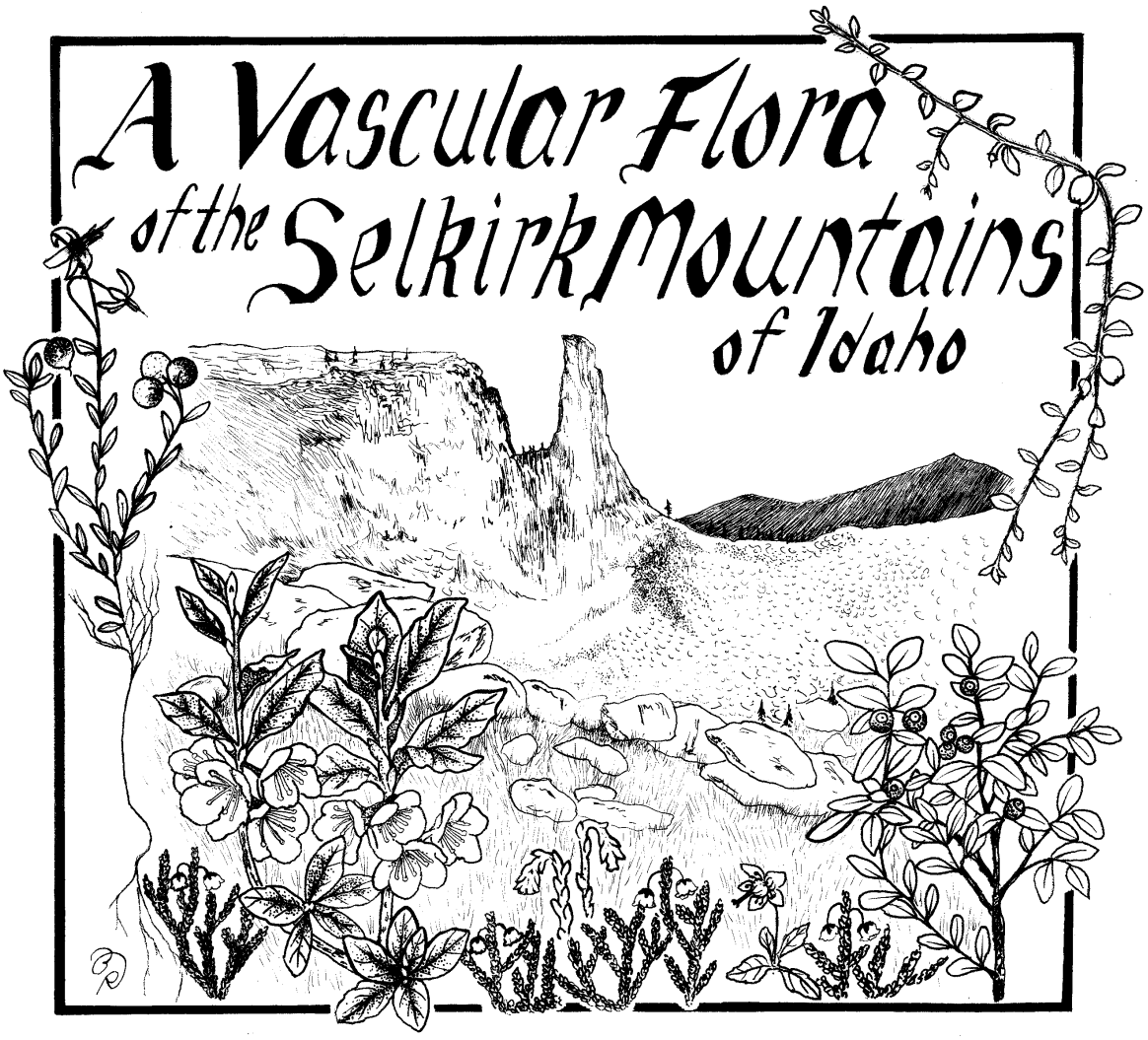

INTRODUCTION

For centuries, floristic inventories have been one of the greatest drivers of botanical discovery, and continue to provide the basis for intersectional studies in systematics, taxonomy, and evolution (Ertter 2000). However, the impact of plant collecting is often understated, as seen in its recent decline (Prather et al. 2004), despite expansion of known biodiversity, as well as increased modern applications for documented biodiversity (Heberling et al. 2019).

While botanical collections in Idaho date back to 1806, compared to surrounding states, Idaho has seen less collection coverage (CPNWH 2020). Prior to this study a "floristic hole"—a geographic region lacking adequate collection effort— remained unattended to in the Selkirk Mountains in the northwest tip of the Idaho Panhandle. The Selkirk Mountain

range lies within the Northern Rocky Mountains, and is composed of north-south trending mountains from southeast British Columbia into the northernmost portion of the Idaho Panhandle. Despite the region's rich history of botanical interest and diverse species assemblages, no comprehensive systematic botanical inventory had occurred for the Idaho portion of the range prior to this study. With no prior baseline assessment of the vascular plant diversity of the region, the Idaho Selkirks were well suited for floristic inventory, as conditions for natural areas continue to shift from anthropogenic influence (e.g. introduction of non-native taxa, climate change, anthropogenic disturbance; Heberling et al. 2019).

While this baseline study serves as the flora for the region defined herein, it also serves as a model for comprehensive floristic inventories. This study utilized satellite imagery, tablet or smartphone app-based collecting notes, and the integration of existing digitized collection records into the treatment—all tools targeted to increase accessibility of the flora. Additionally, in targeting a highly recreated area like the Idaho Selkirks, a subsequent goal was to increase usership of the flora document. Supplementing the flora with scientific illustrations of charismatic species will ideally expand usership through visual enhancement. Finally, this flora includes a comprehensive social and natural history background, with the goal of acknowledging interdisciplinary pieces of the floristic puzzle. Together, these twists on the traditional flora help to provide the most comprehensive flora of the Selkirk Mountains of Idaho to date.

Objectives—The primary objective of this floristic inventory was to catalog and voucher all vascular plants of the Selkirk Mountains of Idaho, with the goal of producing an annotated checklist. Additional objectives included assessing the vegetation of the mountain range, collecting comprehensive distribution data, and assessing current threats to the flora. Lastly, focal inventory goals included documenting sensitive, threatened, rare, and endangered species, as well as non-native species occurrences.

Physical Setting of Study—The study takes place in the Selkirk Mountains of Idaho, defined herein, using a combination of political, ecological, natural, and anthropogenic influenced boundaries (Figure 1, 2, 3). The political boundary of the United States-Canada border defines the study's northern most boundary. While the Selkirks run north to south, well into British Columbia, Canada, the floristic survey herein focuses exclusively on the portion of the Selkirks that lie in Idaho, here after referred to as the Idaho Selkirks. The boundary to the east is the Kooteney Valley Floor as it edges to West Side Road, which parallels Highway 95 as the boundary heads south, to the valley's most southernmost extent at Lake Pend Orielle. From Lake Pend Oreille and Highway 2, the southern edge follows the base of the mountain range as it edges west along the Pend Oreille River. The southwestern edge is bounded before the town of Priest River and continues north to Coolin, following the base of the mountains east of Priest River itself on East Shore Road. From the southern end of Priest Lake in Coolin, ID, the boundary continues north as it follows Priest Lake, towards Upper Priest Lake. The western edge continues north as it follows the Upper Priest River valley north to American Falls and Kaniksu Mountain, which serves as the westernmost point of the study area. Ownership of the area is split between three main entities, the Kaniksu National Forest, Idaho Department of Lands (IDL), and private ownership. The study area encompasses ~2,295 km^2 (~886 mi^2).

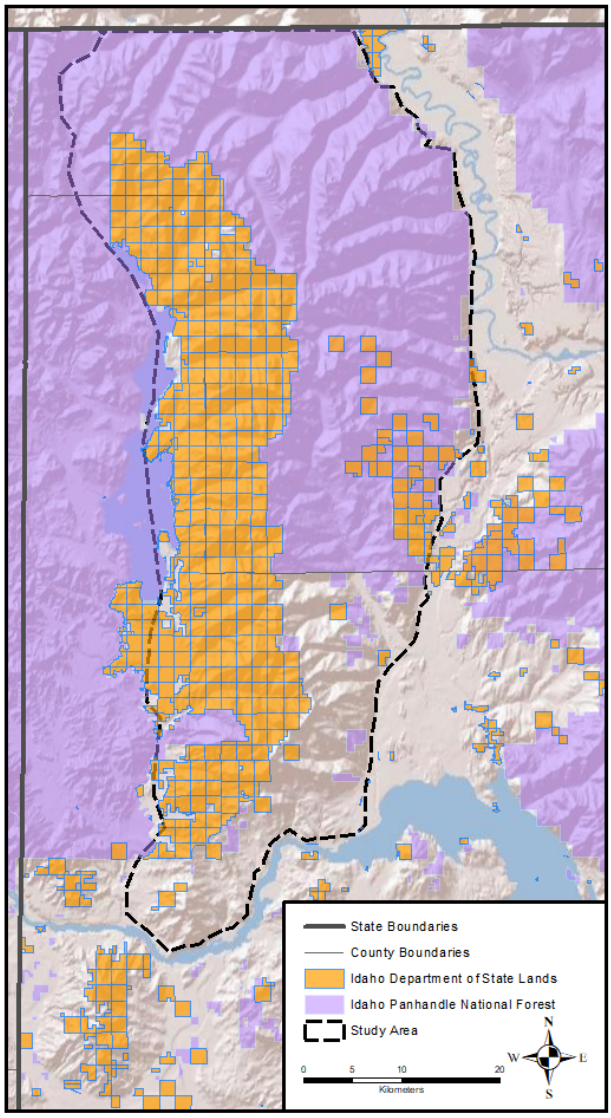

Figure 1. Predominant Land Ownership in Study Area. Purple signifies National Forest, Orange signifies Idaho Department of State Lands, and parcels not labeled are private holdings. Map Source: IDL.

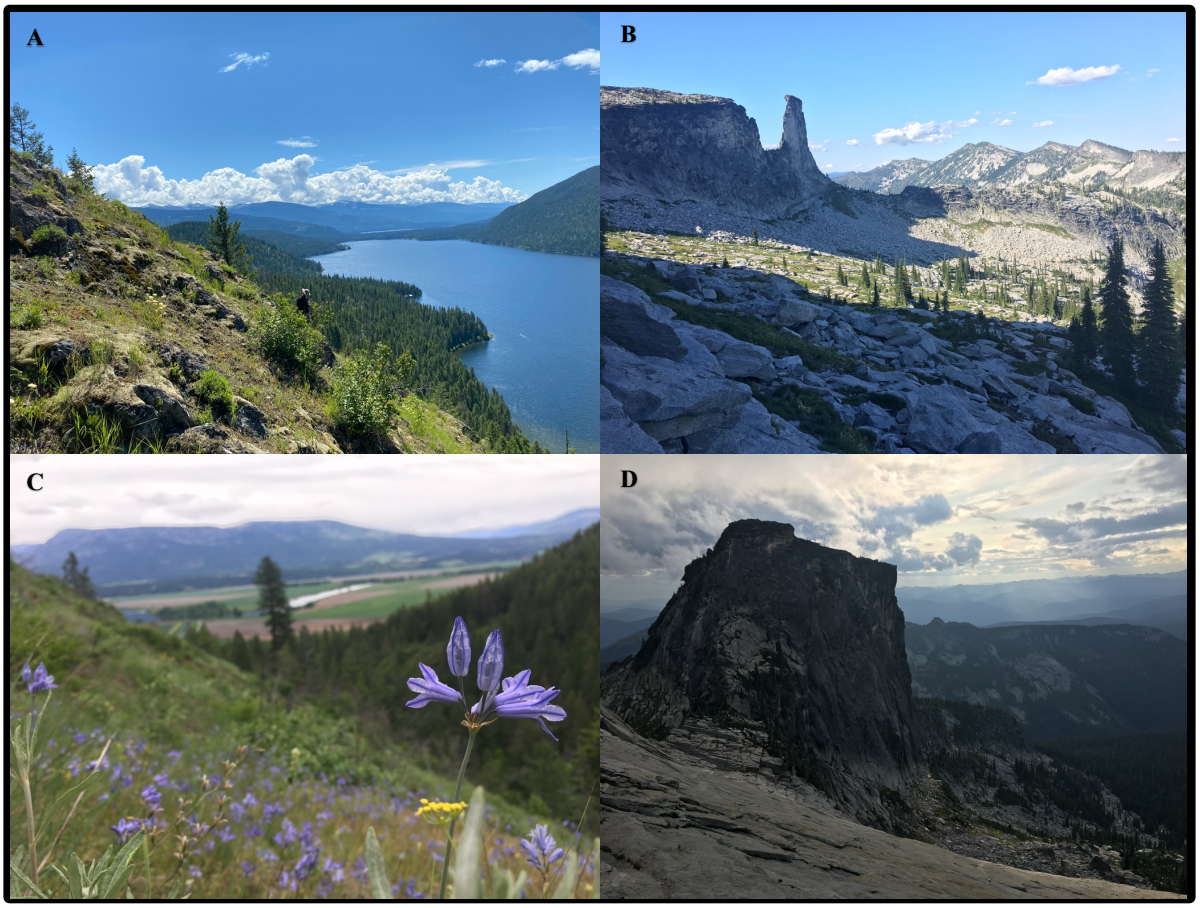

Figure 2. Selkirk Mountain Landscapes. A. Opening overlooking Upper Priest Lake. B. Chimney Rock. C. Parker Peak vicinity overlooking the Kootenay Valley Floor. D. Lions Head.

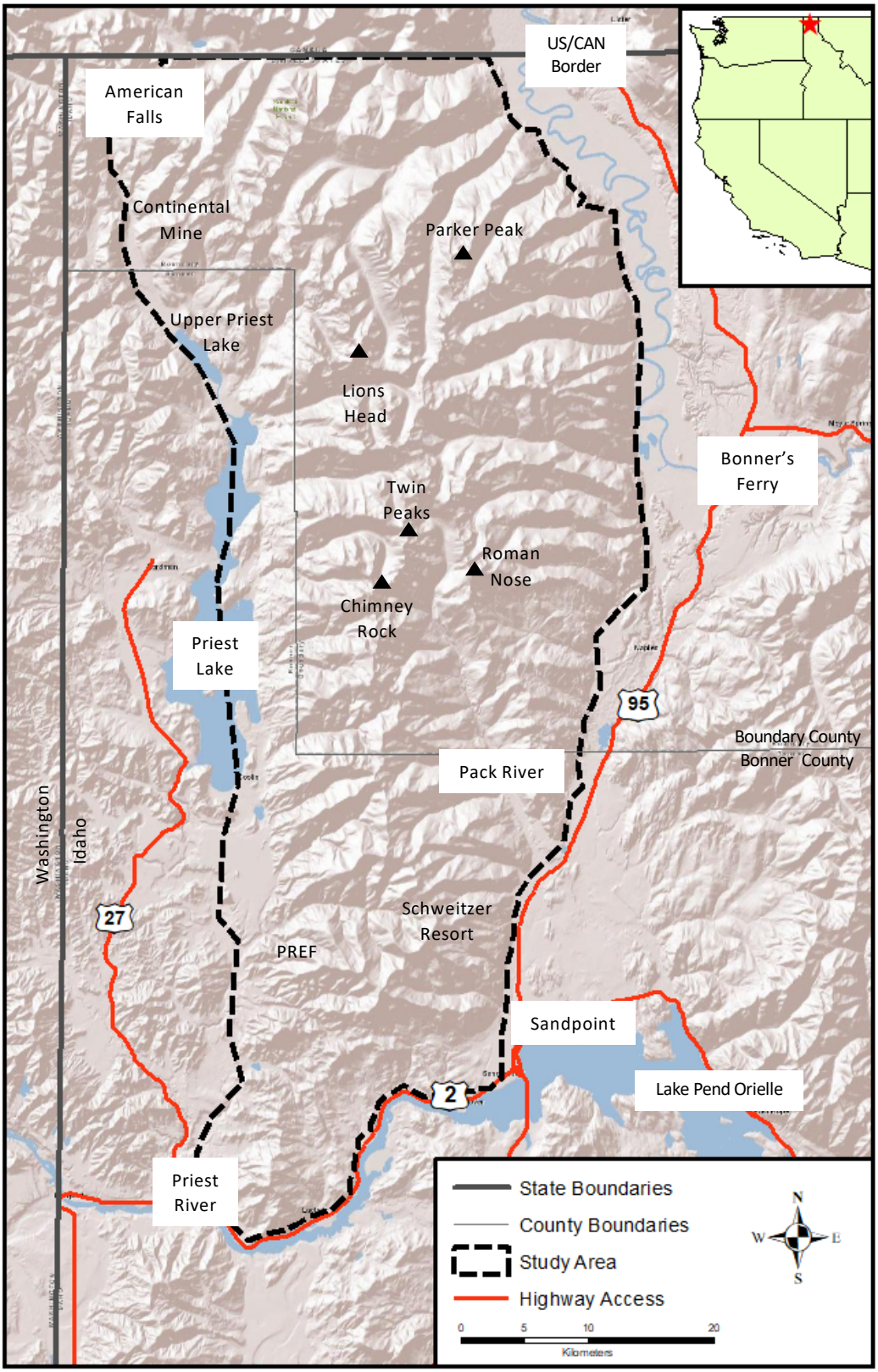

Figure 3. Overview of Study Area. Study Area boundary is outlined in black. Major landscape features are labeled as well as highway access in red. Map source: INSIDE Idaho.

NATURAL HISTORY

Physiography

The Selkirk Crest— The Selkirk Crest is the central point of the study area. The Selkirk Crest contains 18 named peaks, with Parker Peak the tallest at 7,670 ft (2,338 m) in the study area, with a dramatic drop on the eastern side where it meets the Kootenay Valley. The crest consists of granitic monoliths including Chimney Rock, Lions Head, and Mt Roothaan. Subtending the crest are glacial valley basins that descend into low gradient streams on both sides. The west and south sides of the crest are characterized by a more subtle relief, as the mountains descend towards Priest Lake and Sandpoint/Lake Pend Oreille, respectively.

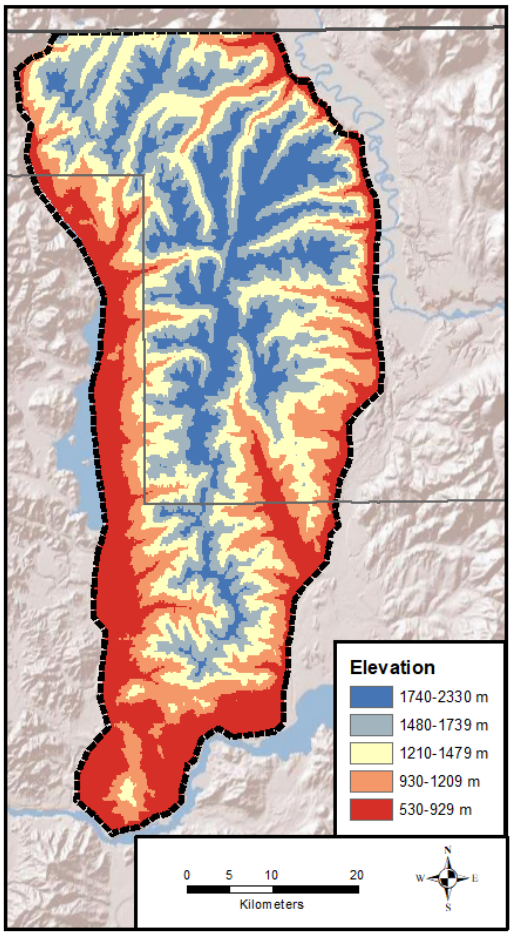

Figure 4. Elevation gradient for study area. Map source: INSIDE Idaho.

The Kootenay Valley—The Kootenay Valley at the eastern base of the Idaho Selkirks is characterized by agricultural lands and wetlands, and is a natural border for this mountain range as it meets the dramatic steep slopes on the eastern side of the Idaho Selkirks. This area is the lowest elevation of the study area, with Bonners Ferry at 1,896 ft (578 m). Additionally, the valley floor divides the nearby mountain ranges, the Purcells and the Cabinets, from the Idaho Selkirks, peaking at similar elevations. The valley floor is home to an entirely different assemblage of species, dominated by agricultural introductions and wetlands, and is considered glacial outwash bottom lands (Alden 1953).

Priest Lake—Priest Lake provides the western boundary of the Idaho Selkirks and modest relief west of the crest. This lake was formed partially by the Newport fault, which contributed to forming the basin that subsequently gave way to Priest Lake. Following the fault's movement, the basin was filled by the Cordilleran Ice sheet from Canada, resulting in a glacial moraine (Alt & Hyndman 1989). Erosion on the west side of the crest subsequently

melted and filled the depression that the ice sheet carved out. This lake is one of the low points in elevation for the Idaho Selkirks at 2,439 ft (743 m).

Lake Pend Oreille—The western edge of Lake Pend Oreille and its outlet into the Pend Oreille River that flows into Washington serve as the southernmost boundary for the Idaho Selkirks. The lake was formed by glaciation and scouring from the Missoula floods. At 1,158 feet deep, it is the deepest lake in the state, and sits at an elevation of 2,067 feet (630 m) (Alt & Hyndman 1989).

Geology

The Idaho Selkirks are visually defined by the aforementioned physiography, which are present day reminders of multiple geologic processes that began billions of years ago. However, the geologic story here begins with what geologists refer to as the Belt Supergroup Formation. The Belt Supergroup is a complex of majority meta-sedimentary rock, composed of metamorphized sediment, found in eastern Washington, northern Idaho, western Montana, and extending north into Canada, formed between 1.45–1.4 billion years ago (Maley 1987).

This Belt Supergroup Formation is often defined by the movement in and around the belt formation, referred to as the Priest River Complex (Doughty & Price 2000). The Priest River Complex is composed of the transition zones of the Purcell Trench Fault to the east and the Newport Fault to the west, with the Spokane dome to the south near Sandpoint, ID (Figure 4; Doughty & Price 2000). The Purcell Trench, composed of Precambrian Supergroup belt formations, was weakened during the Precambrian period (between 4.6 billion and 541 million years ago) by what has been hypothesized as granite magma rising into the crust of northern Idaho, which moved the upper slab of this trench east through massive uplift (Alt & Hyndman 1989).

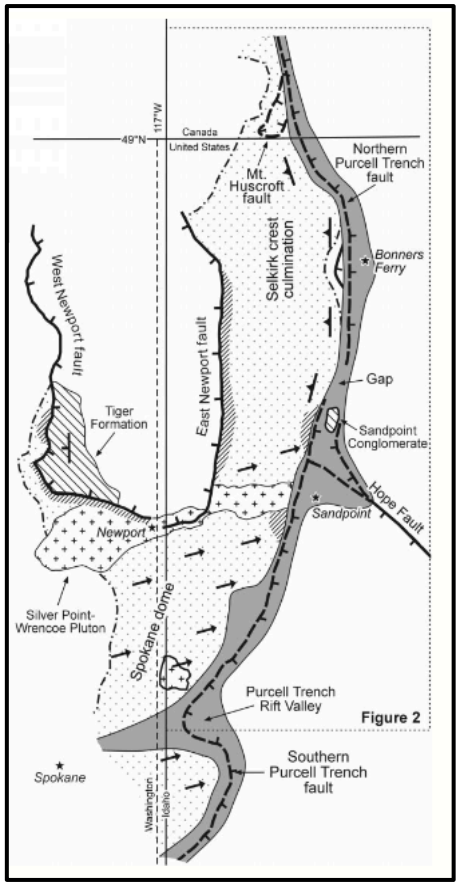

Figure 5. The Purcell Trench. (Doughty & Price, 2000).

During peak metamorphic activity the adjacent faults were compressed as a result of the uplift. This led to the thickening and uplift of the Selkirk crest, which had been weakened by prior fault activity (Alt & Hyndman 1989). This specific movement defines the different geologic make-up of the adjacent Purcell and Cabinet Mountains, which are composed of belt sedimentary rock—rock that used to lie atop the Selkirk Mountains long ago. This large fault movement left behind largely igneous, meta-sedimentary granitic rock or granodiorite—also known in this area as the Kaniksu Batholith (Figure 6). The majority of the Idaho Selkirks is composed of nearly homogenous younger granite rock formed during the cretaceous period, accompanied with young alluvial deposits, while the areas in the north and to the east of the Idaho Selkirks are composed of younger meta-sedimentary rock (Lewis et al. 2012).

What is left of the Purcell Trench today is the Kootenay Valley, where sedimentary rock slid over metamorphic rock, leaving a large trench behind. However, the Kootenay Valley, equivalently referred to as the Purcell Trench, is the result of both carving from multiple fault movements, as well as glacial activity that sculpted the charismatic valleys and lakes of northern Idaho (Alt & Hyndman 1989).

The geology of the Idaho Selkirks is a mix of both geologically recent and older events

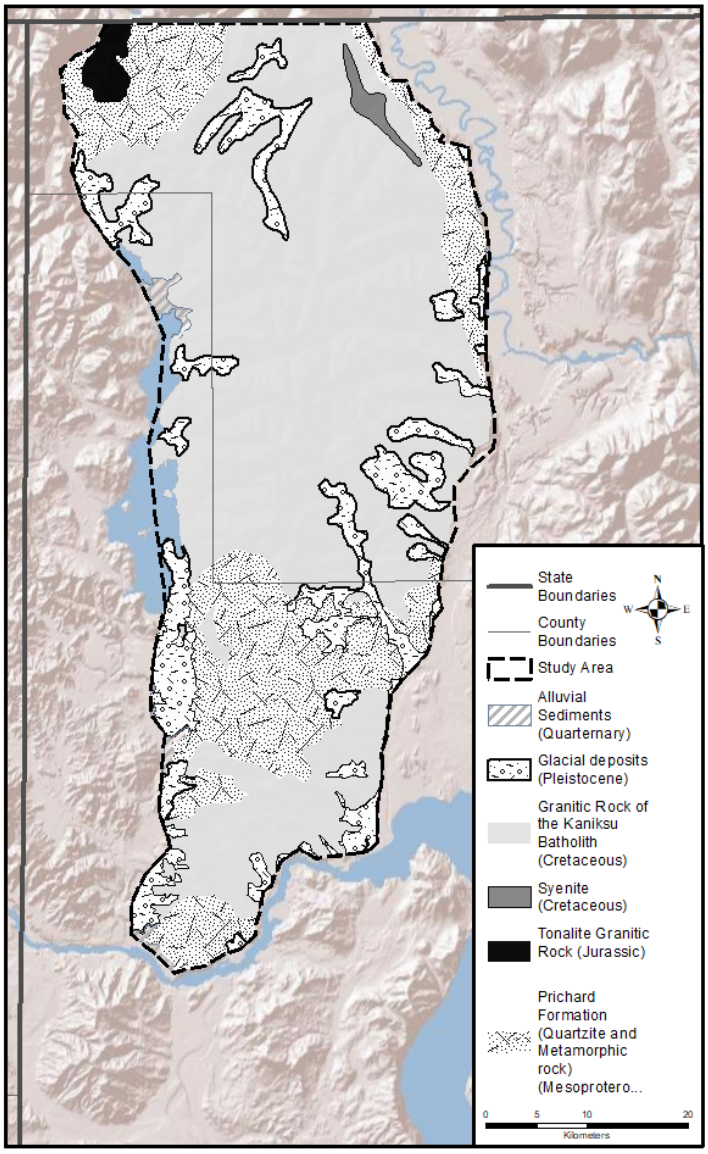

Figure 6. Geologic units for the study area. Legend is organized from oldest to youngest rock type. Mapsource: USGS Idaho Geological Survey (Lewis et al. 2012).

that shape the study area and define the floristic make-up. During the most recent ice age which occurred in the Pleistocene (2.6 million years to 11,700 years ago), ice crept down from Canada on both sides of the Idaho Selkirks, forming both Kootenay Valley and Priest Lake (Alt & Hyndman 1989). The southward movement of the Cordilleran Ice Sheet occurred during multiple episodes, with advances and retreats correlating to shifts in climate (Alt & Hyndman 1989). There is additional evidence of alpine glaciation during the Pleistocene that took place after the ice sheet retreated (Maley 1987).

Subsequently, the two main types of glacial activity that occurred in the area are deposition and erosion, products of predominantly ice sheet glaciation and sparse alpine glaciation or snow accumulation (Alden 1953). Deposition, the process of sediment settling into the landscape, was a product of the continental ice sheet creeping south. Its movement rounded many of the softer hills on the west side of the Idaho Selkirks (Alt & Hyndman 1989). The ice sheet movement left behind till and outwash, a composition of mixed sizes of sediment, including clay, sand, and gravel, containing high organic material in areas of erosion. Erosion, resulting from alpine glaciation, typically scoured the landscape and left behind dramatic rock faces or moraines (Savage 1967). What is left behind are extreme slopes and descents, as seen on the east side of the Idaho Selkirks, as well as on the charismatic crest (Alt & Hyndman 1989). Erosion occurred in areas of high sedimentation that resulted in river terraces and benches at lower elevations, as seen around Upper Priest Lake (Smith & Weitz 2015). While much of the Idaho Selkirks are uniform granite, pockets of glacial activity where deposition and sedimentation occurred consist of high organic material and diverse flora, discussed further in the Vegetation Types section below.

Soil

These large scale geologic events gave way to the soil formation of the study area. The soils in the Idaho Selkirks were initially formed from the belt series described earlier; the parent material composed of fractured rocks with many coarse fragments that lies under glacial outwash and deposition from glacial lake Missoula (Savage 1967). Accompanying the coarse fragments are remnants of volcanic ash from past volcanic activity within the vicinity, most significantly from Mt. Mazama 6,700 years ago. The volcanic ash is largely amidst stony soils where coniferous forests reside, and contributes to increased forest productivity (McGrath 2002).

The glacial history of this area has affected both what we see above and below ground in the Idaho Selkirks. The soils in the area are considered "youthful and immaturely developed" due to more recent glacial activity and alluvial deposits (Savage 1967). While most of the range consists of granitic batholith, composed of less fertile soil material, pockets of alluvial deposition also reside in the area (Savage 1967).

Alluvial soils are commonly characterized by high organic matter and high fertility, formed by moving water depositing soil, typically made up of silt, clay, sand, or gravel (Maley 1987). These areas consist of distinctive vegetation types, such as peatlands or mesic forests, pocketed within areas flooded by coarse alluvium. Overall, alluvial soils contribute to a small percent of soils within the study area. The majority of soils within the range are more stony and less fertile, supporting more homogenous and widespread forest types (Daubenmire et al. 2002).

While there is a wide diversity of infraspecific soil types within the study area, there are three main broad types of soil within northern Idaho; light podzolic soils, dark colored intrazonal soils, and miscellaneous stony and dry soils (Savage 1967). Light podzolic soils are well-drained soils, developed under mid- to high-elevation conifer forests, with low nutrients and high moisture retention. Dark colored intrazonal soils are poorly drained soils found in lower elevations, and often next to water features, with high levels of organic material. Miscellaneous stony and dry soils refer to river deposits and stony dry outcrops, and are intermixed within elevations, with low organic material and low moisture retention (Savage 1967).

Climate

The Idaho Selkirks are characterized predominantly by a maritime climatic influence (McGrath 2002). However, the climate can vary from ridge to ridge, influenced by continental and boreal weather systems, and therefore contains an array of diverse microsites within the study area (Nichols & Mellen 2014). On top of such variability, a west-east moisture regime is found throughout the study area, typically wetter on the western side of the mountains and drier on the eastern side of the range, which works alongside a typical elevation gradient in temperature and moisture (Lucid et al. 2016). The dynamic nature of the study area's climate is likely due to the wide range in elevation and topographical features characteristic of the

range. The maritime influence is a product of the prevailing westerlies, a weather pattern that moves coastal moisture inland from the Pacific Ocean (Cooper et al. 1991). This weather pattern begins in British Columbia and continues south into the Clearwater area of central Idaho (Cooper et al. 1991). The study area's climate is also attributed to its inland location, with patterns deemed intermediate between the coast and the conditions east of the Rocky Mountains (Tinkham et al. 2015).

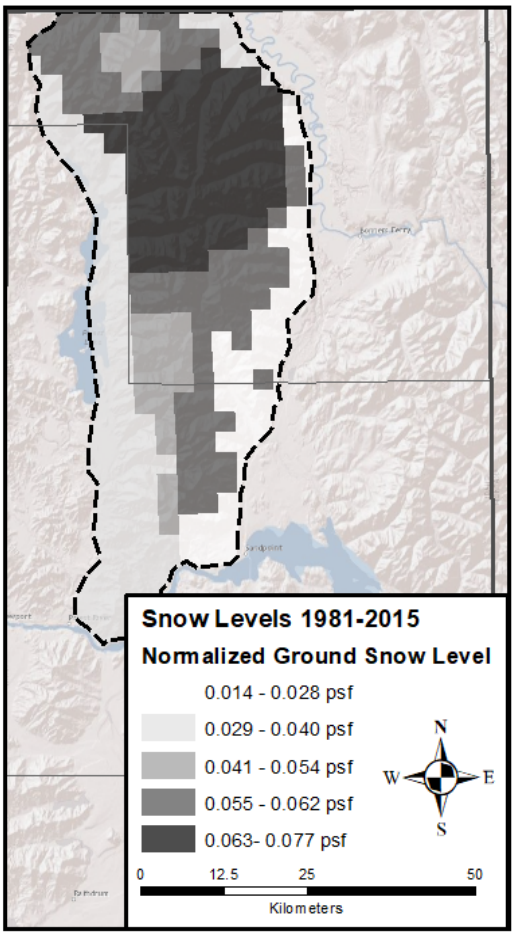

Figure 7. Snowpack. Normalized Ground Snow Level for the study area, in pounds of snow per foot (psf). Map data source: INSIDE Idaho.

However, with its inland location, topography, and elevation, the majority of the precipitation in the Idaho Selkirks comes in the form of snowfall, with snowfall possible in any month of the year (Nichols & Mellen 2014). The southern tip of the range gets the least amount of snow, with snowfall increasing steadily at higher elevations and northern localities (Figure 7). This weather pattern contributes to long winters and brief growing seasons, where winters are relatively cold and summers are generally mild. This climate is fairly temperate compared to the Rocky Mountains, and allows for a diversity of ecological habitats. The summer months of July through September are the driest months, August being the driest and warmest month, averaging 16° C, with monthly average highs of 24° C. The cold and wet months occur between October to March, while April to June generally accommodate more pleasant yet still variable weather. Precipitation can vary year to year; however, November is the wettest month with an average precipitation of 176 mm, with highs in the last decade well over 400 mm precipitation (PRISM Climate Group 2004; Tinkham et al. 2015). The winter months are characterized by harsh, cold weather and December is the coldest month, with temperatures

averaging -4° C (Figure 8). However, the area is well known for the ability to have below freezing temperatures throughout the year (Tinkham et al. 2015).

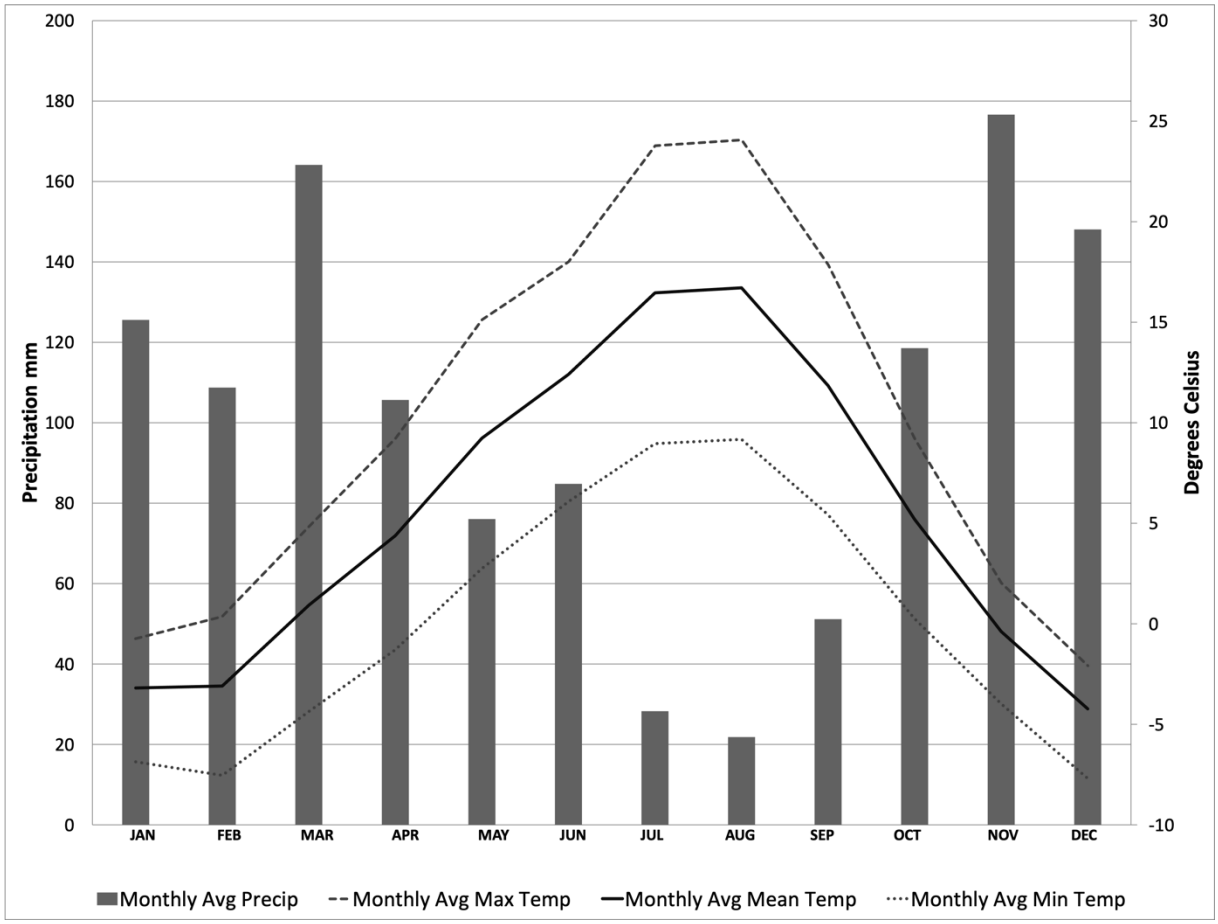

Figure 8. Average monthly temperature and precipitation from 2009-2019 for the Study Area. Monthly precipitation for the region is given by vertical bars, and monthly temperatures for the region are given with lines. Graph data source: PRISM.

Disturbance History

Following the latest ice age, natural forms of disturbance from extreme weather events were the primary forms of disturbance until anthropogenic disturbance began in the 20th century. Despite the maritime climate, the months of July, August, and September welcome lower precipitation, and lightning storms can be prevalent (Cooper et al. 1991). There is a relatively infrequent historical fire regime—the area's mean fire return interval is estimated at 71–80 years at lower elevations and 151–200 years at higher elevations (LANDFIRE 2013). The area's fire regime groups consist of low elevations and subalpine areas with historical low and mixed-severity fires with fire return intervals between 35–200 years. However, at higher elevations, historical fire regimes have been more extreme with replacement severity fires at the same 35-200 year fire return intervals. While major summer fires have occurred in

both fire regime groups, landscape change from fires has been largely temporary, with strong regeneration due to the presence of high organic matter (Daubenmire et al. 2002).

In drier forests within the Idaho Selkirks, *Pinus monticola* was historically more prevalent before the spreading of white pine blister rust, *Cronartium ribicola,* in the 1950s (Graham 2004). While *P. monticola* has been shown to regenerate, succession and regeneration from fire continues to change the vegetation makeup over large swaths of the mountain range. Besides tree mortality, the biggest effect from white pine blister rust, has been seen in hydrology. With the loss of dominant tree cover on the landscape, snow melt happens earlier and faster, which can dredge the landscape, and contribute to earlier flowering time in areas once inhabited by *P. monticola* stands (Tinkham et al. 2015).

The greatest impact on the study area has been, and continues to be, in resource extraction. The 20th century paved the way for logging as an important means of economic development both locally and state-wide. Alongside private timber and National Forest silvicultural operations, the state of Idaho secured land on the east side of Priest Lake, now known as the Priest Lake State Forest, a part of the Idaho State Endowment Lands, managed by Idaho Department of Lands. This land was secured in 1911 at the suggestion of John Leiberg during the establishment of Idaho's statehood, and land originally destined to be managed by forest service, was given to the state to manage timber operations for the purpose of supporting public education in Idaho. This portion of the study area has been harvested continuously for timber since 1917 to generate funds for public schools in Idaho (Smith & Weitz 2015). Logging and private development continue to be the main form of disturbance to the mountain range in the last century, creating heterogenous landscapes within the low to middle elevation mixed conifer forests on all sides of the range.

Pre-Contact Inhabitants

The study area described here lies in unceded *Ktunaxa* (Kootenai) and *Qlispé* (Kalispel) territory. Two main Indigenous Groups, The Kootenai of Idaho and The Kalispel Tribe of Indians, overlap within their historic territories of northern Idaho, yet have separate and distinct tribal organizations, cultures, languages, and histories (A. Armstrong, The Kalispel Tribe of Indians, pers. comm.; Walker 1971; Figure 9).

The Kalispel people were migratory, and historically traveled to areas around Priest Lake and the southern end of the Selkirk range for seasonal harvest journeys of both flora and fauna (Smith 1961). The Kalispel traditionally traveled over what is now Baldy Road near the Sandpoint entry to the mountains, to get from the eastern valley floor over to the western side of the mountains where Priest Lake lies (A. Armstrong, pers. comm.). The Kalispel were subsistence gatherers and relied on the waterways for whitefish and hunted in the mountains for deer, elk and moose. Plants were gathered in the valleys and mountains for building, food, and medicine; one plant of particular importance was *Camassia quamash,* Camas (Anna Armstrong, pers. comm.; Fritz 1997). They historically maintained base camps along the Pend Oreille River, *ntx*^{w}*e*, and Lake Pend Oreille, *Qapquape*, for the winter, and regularly traveled for harvest between spring and fall throughout their historical territory (A. Armstrong, pers. comm.).

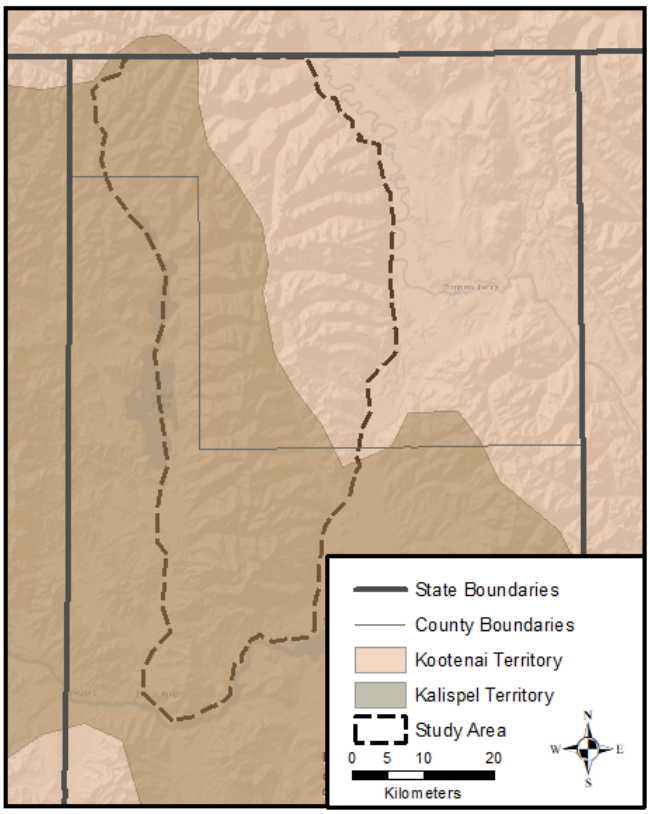

Figure 9. Indigenous territory for predominant tribes in the study area. Map data source: NativeLand.ca

While the Kalispel generally occupied the southern end of the study area, the Kootenai, sometimes referred to as the Bonner's Ferry Kootenai, were predominantly established along the Kootenai River system further north (State 1976). Plant stands were regularly tended and used for sustenance, preservation, building winter camps and canoes, fiber, medicine, and ceremony for thousands of years. Kootenai harvest techniques were low impact on the landscape, and neither tribe has a recorded history of ecological land tending (Smith & Thompson 1961). However, much of the history and culture of both tribes is not comprehensively recorded and much of it has been subsequently lost (A. Armstrong, pers. comm.)

The Kalispel recorded the first encounter with settlers in 1809 with David Thompson, a regionally famous fur trader (Smith & Thompson 1961). Missionaries arrived following Thompson and quickly began to colonize the area (Elders of the Kootenai Tribe 1990). One notable missionary was Jesuit Peter John de Smet, who utilized the Kalispel's tribal leader in 1840, Victor, to begin mapping the area around Priest Lake. Missionaries subsequently began to push the Kalispel out of their seasonal lifestyle and cultural heritage and towards the church (Smith & Weitz 2015).

Peter John de Smet's maps ultimately made their way east to other map makers, alongside Thompson's, and before long, surveyors flocked to the area. Settlers like de Smet began using anti-indigenous narratives of the Kalispel in the region, and by the end of the 1800s, settlers who felt threatened responded by forcefully and violently taking Kalispel land, which ultimately lead to Kalispel extraction from their traditional lands. On top of violence and displacement, disease brought by European settlers proved deadly as well (Smith & Thompson 1961). Kalispel tribal leaders reached out to the United States (U.S.) government for assistance in the mid 1800s. The U.S. government responded and requested the tribes end their seasonal lifestyles with a federal commission, the International Boundary Commission, that requested the Kalispel people to move to the Flathead Reservation in western Montana on a small patch of Kalispel aboriginal territory (Smith & Weitz 2015). A similar pattern occurred with the Kootenai tribe in 1855 with Hellgate Treaty in Montana. In this treaty the federal government implemented a "trade" for a tribal reservation in receipt of claim to all the Kootenai aboriginal land (Elders of the Kootenai Tribe 1990). No member of the Kootenai Nation signed this treaty, and the majority of the Kootenai and Kalispel peoples were forced to move to western Montana.

Today, the Kootenai and Kalispel both are federally recognized tribes, a part of the Salish Confederated and Kootenai Tribes of the Flathead Reservation, despite not having access to their original territories (Ruby & Brown 1986).

Post-Contact Inhabitants

The Kootenai describe the rise of white visitors to the land they had occupied for thousands of years as a successional trend (Elders of the Kootenai Nation 1990). Post indigenous settlers began to visit and colonize the area in the 1800s, with the first recorded

contact with David Thompson in 1809, followed by missionaries (Smith & Thompson 1961). Missionaries were then followed by loggers, miners and settlers. Due to the intensity of winters in the Idaho Selkirks, and densely forested lower elevations, anthropogenic land use by non-indigenous settlers was concentrated initially in the valley floor and lakeside, as opposed to the mountain range. By the mid 1800s, enough white people had come through the area that the majority population was no longer indigenous (Elders of the Kootenai Nation 1990).

Until the railroad was built in the early 1900s, the area contained low human population (Smith & Weitz 2015). At the turn of the century, with new mining occurring near Priest Lake, and the advent of more efficient logging, the area became quite popular, both with homesteaders and those seeking jobs in the extraction of minerals, timber, and water. In 1907, the National Forest system was established, and what was the Priest Lake Forest Reserve became the Kaniksu National Forest (Smith & Weitz 2015). In 1911, the Priest River Experimental Forest was established, to aide in the study and practices of silviculture in the region, and at the same time Idaho Endowment Lands were secured and excluded from the Kaniksu National Forest purview (Graham 2004). The exploration, settlement, and resource extraction by white settlers in this rugged landscape would not have been possible without the coercion and forced guidance of the indigenous peoples (Smith & Weitz 2015).

On top of a century of timber harvest, there is also over a century long history of tourism in the area, starting in the late 1800s, when white settlers advertised the area as rugged and wild, and hired Kalispel people to tour social elites from the east coast around the range (Smith & Weitz 2015). The reputation of the Idaho Selkirks as rugged and wild has persisted into recent times, and tourists come to the area to visit Priest Lake, hike in the Kaniksu National Forest, and to enjoy winter sports at Schweitzer Mountain Resort.

In recent history, this area has been inhabited by notable white supremacists and members of the Aryan Nations. In 1992, one such group became nationally recognized during a televised stand-down. The altercation occurred between the white supremacist Weaver family and the national guard at the Weaver home on Ruby Ridge, located within the bounds of the study area (Balleck 2018). The towns of Priest River, Priest Lake, Sandpoint, and Bonners Ferry are the main social meccas surrounding the study area on all sides, except where the Canadian border lies. The towns on the border of the study area belong to a

palpable social and cultural climate of modern white supremacy, while social diversity and representation of the area's indigenous history are much less prevalent. Reminiscent of the region's colonial history, the Idaho Selkirks were named after the The Fifth Earl of Selkirk, Scotland, Thomas Dougal, a wealthy European elite. The name is rumored to have been applied by fur trader, David Thompson, who originally named the range the Nelson Mountains; however, he changed the name to Selkirk Mountains to honor Dougal who at the time was an enterprising patron of a large mapping company (Boone 1988).

Historical Botanical Collecting

Botanical collecting in the northern Idaho Panhandle began at the turn of the century. John Leiberg was one of first botanists to collect on the Panhandle, holding the first collection records from the Priest River Forest Reserve in 1897 (GBIF 2021). Following Leiberg, botanical records for the study are from 1901, comprised of single collections of ubiquitous species from Priest Lake and lack comprehensive metadata, a feature of many older specimens (CPNWH 2020). Collecting of the area increased after 1911 (CPNWH 2020), with the establishment of the Priest River Experimental Forest (PREF) in the southern portion of the study area. Collections there were intended to document common forest species assemblage before large scale forestry began in the adjacent Idaho Endowment Lands. The majority of historical collections in the study area (Figure 10) are concentrated at PREF and were made before the 1980s.

Notable contributions to the area began with John H. Christ, who began collecting in the early 1920s, alongside Henry Rust, who both collected for general discovery. Rexford F. Daubenmire was the first major collector in the area in the 1940s, who surveyed with the goal of vegetation typing northern Idaho for the Forest Service. Daubenmire's collections were concentrated at PREF, as well as along the Selkirk Crest. At the same time, notable Pacific Northwest botanist C. Leo Hitchcock and his students made a handful of collections in the southern range of the Idaho Selkirks, which were used to produce the Flora of the Pacific Northwest (Hitchcock & Cronquist 1973). Following Daubenmire's interest in the area, William Baker began collecting throughout Idaho, including scattered locations within the study area (CPNWH 2020).

Notable University of Idaho botanists, Fred Johnson and Douglass Henderson, began collecting in the late 1960s. Henderson and Johnson's collecting focused on locating and researching prominent coastal disjunct and rare species in the Idaho Selkirks and surrounding mountain ranges. Peter Stickney, notable Forest Service botanist, collected throughout the range in the late 1960s though the 1970s. However, some of the most significant collections for the region were made in the 1980s by Robert Bursik, who ventured into previously unexplored habitat, on both sides of the Idaho Selkirks. Robert Bursik made significant collections of fen species assemblages, both for his master's research on the peatlands of northern Idaho, and subsequently for the Forest Service and Idaho Fish and Game. Bob Moseley, who worked alongside Bursik, also was contracted by the Idaho Conservation Data Center to collect throughout Idaho. Pamela Brunsfeld, former University of Idaho Stillinger Herbarium Collections Manager, and associated collectors were the last major botanical contributors to the knowledge of the area in the early 2000s. Brunsfeld's focus was on general floristics of northern Idaho (P. Brunsfeld, pers. comm.). In reflecting on the century of collecting, nearly every other decade there were efforts to collect in this mountain range (Table 1).

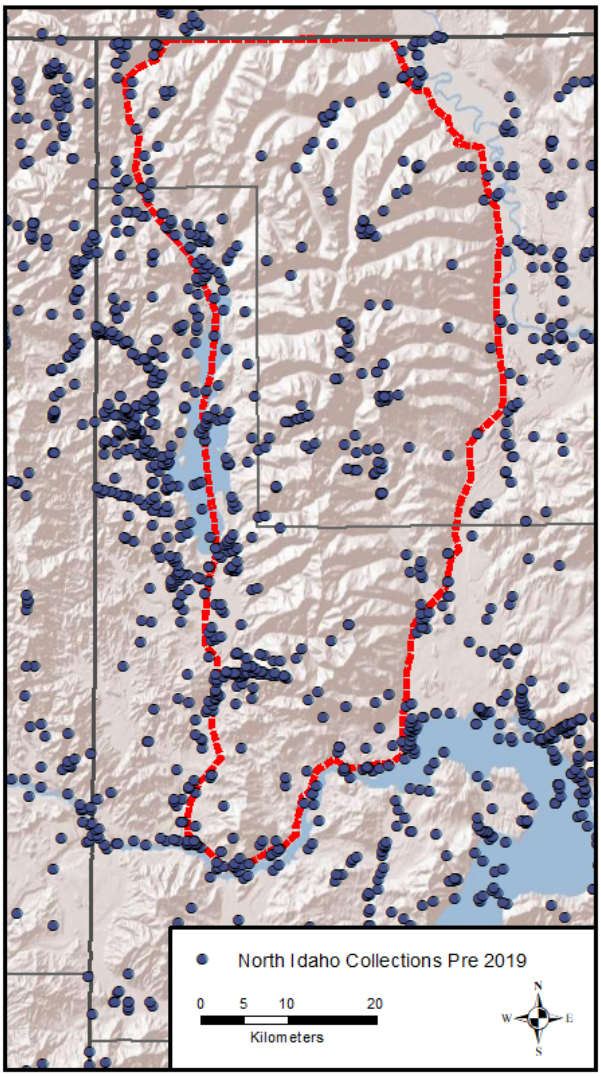

Figure 10. North Idaho Collections pre 2019. Map of known collection localities in the study area prior to the study. Map data source: CPNWH.

Despite the estimate of ~2,800 vascular plant collections that represented the area prior to 2019, previous collections were concentrated in accessible areas, and holes remained throughout the range (CPNWH, 2020). It is difficult to synthesize the known taxa prior to this

study, partially due to vague locality data, and that voucher specimens from this area are distributed across ten herbaria, including CIC, EWU, ID, MONT, RM, SRP, UBC, USFS, WS, and WTU. A considerable portion of the historical collections in the area contained misidentifications, and a large subset contained verifications holding outdated nomenclature. Further notes on annotation are included in the Checklist and Methods section below.

Table 1. Early Botanical Explorers. Significant botanical collectors in the Selkirk Mountains. The date listed is the year of each collector's initial collections in the study area.

Collector	Date	Focus	Herbaria
John Leiberg	1897	Priest River Experimental Forest	USNM, NYBG
J.H. Christ	1921	Pack River, Priest Lake	ID
Henry J. Rust	1923	Pack River, Priest Lake	ID
R.F. Daubenmire	1940	Priest River Experimental Forest, Selkirk Crest	WSU, WTU
William Baker	1955	Priest Lake	ID
F.D. Johnson	1966	General collecting, research	ID
Peter Stickney	1966	General collecting for Forest Service	ID, MONT
C.A. Wellner	1974	PREF	ID
Douglass Henderson	1978	Coastal disjuncts	ID
Christine Johnson	1986	General, montane	ID
Robert Bursik	1987	Peatlands of Northern Idaho	ID
Bob Moseley	1989	Aquatic, fens, Selkirk Crest	ID
Pam Brunsfeld & Assoc. Collectors	2002	General Collecting	ID

METHODS

Fieldwork

Fieldwork was completed over the summers of 2019 and 2020 based out of Sandpoint, ID. Collection sites were identified based on accessibility/road access, history of prior collecting, moisture gradient, aspect, elevation, disturbance history, and representative vegetation type/species assemblage. Advantageous collecting on roadsides occurred in between visitations to less accessible sites. A notable barrier in the Idaho Selkirks is restricted access to gated grizzly bear habitat, with limited entry managed by U.S. Forest Service officials. Only two visits were permitted beyond the gates during the study.

Collection sites were chosen weekly based on the aforementioned characteristics, focusing on one of the four quadrants of the mountain range each week—NE, SE, SW, NW. Sites were generally visited in elevation bands, working in the earlier field season at lower elevations, then up to high elevations by mid to late field season, following phenology. At the

end of each field season, collecting occurred again at low elevation, with a focus on aquatics and Asteraceae.

After identifying each collection site, the site was surveyed with the meander search technique (Hartman & Brown 2011). The majority of the collecting in this effort was far from trail and roads, unlike most previous collection efforts in the study area. This technique allowed for thorough yet efficient surveys while hiking and camping in the study area. Plants were collected using digging tools and put into individual plastic bags, stored in backpacks, or put into modified field presses, until returning to base camp. At camp, specimens were pressed or transferred into full standard herbarium plant presses at the end of the day. Plants were then dried in a plant drier upon return to the field station, before returning to the Stillinger Herbarium (ID) for processing, where the full set of specimens is deposited.

Plants were predominantly collected in unicate, except for species of interest and initial study area collections that were collected in duplicate or triplicate. To add to our understanding of species distribution within the range, repeat species were collected at each type of habitat in each available phenology. This method allowed capturing variable species morphology, and increased coverage of under collected infraspecies. However, as the field season extended and more ground was covered, not all species observed were collected at every site. This was partially due to lack of desired phenology being present, but additionally due to a selective sampling approach. Selective sampling was used particularly in the late summer and fall portion of each season where taxa were targeted. Depending on the focus of the survey and weather conditions, surveys

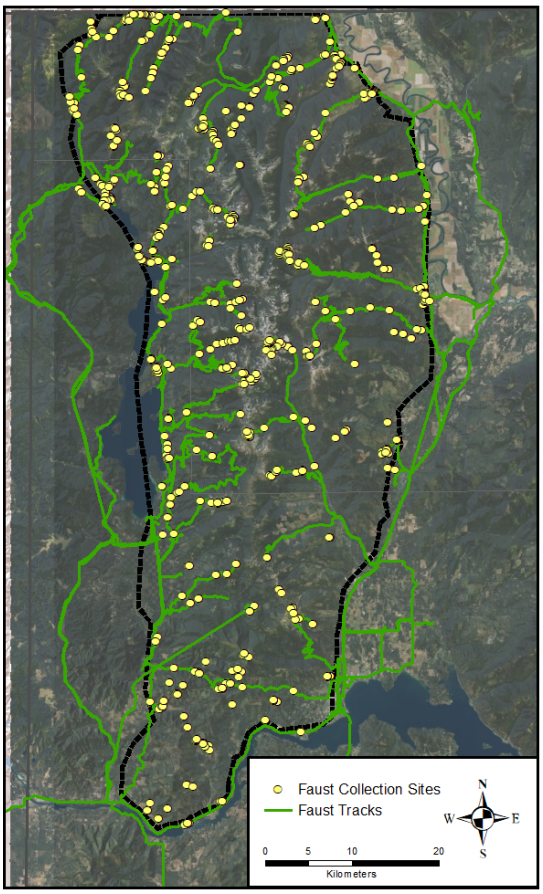

Figure 11. Fieldwork Tracks. GPS Tracks made during the 2019 and 2020 field seasons using the Columbus Data Logger, illuminating the entirety of traveled areas during the study.

ranged in size from less than an acre to 14 mile hikes with multiple collection localities throughout the route taken (Figure 11).

Data Capture

At each collecting site, a locality and site description were taken prior to collecting. Site and specimen data were recorded using a “Field Notes” mobile app, currently in beta testing. The user interface of this mobile app is directly tied to the University of Idaho Stillinger Herbarium database and the Consortium of Pacific Northwest Herbaria data portal (Figure 12; B. Legler, unpublished). In this app, the user creates numbered collecting sites that include GPS coordinates, locality description and site description, and then attaches collections to each site. Under each collection, one can record specimen notes (e.g. flower color, abundance, life form, etc.)

Upon return to internet access, the user uploads these field notes directly to the Stillinger Herbarium database . This app was downloaded onto a Samsung Galaxy Tab A Tablet for field use for the 2019 season. Legler developed iPhone compatibility for the app in

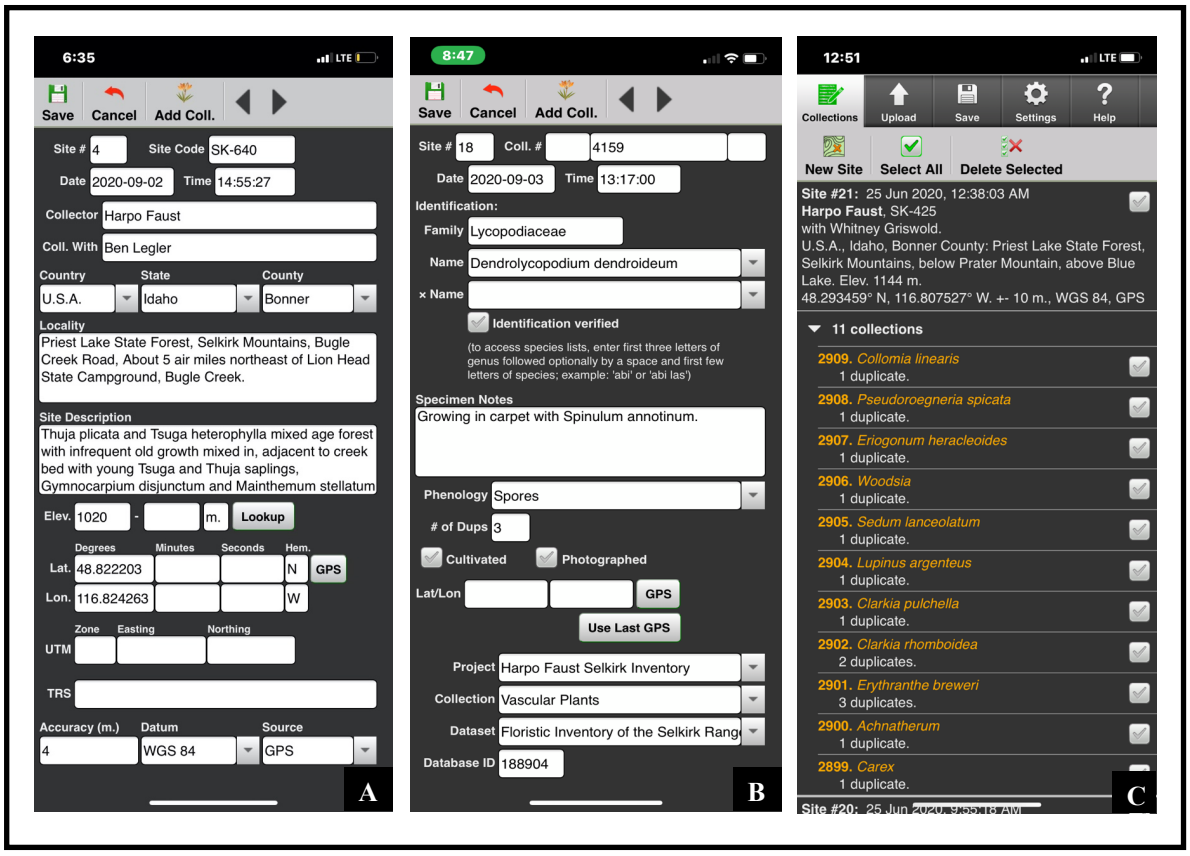

Figure 12. User interface for the "Field Notes" mobile application (B. Legler, unpublished). A. Individual site entry form. B. Individual collection entry form. C. Home screen.

2020, allowing it to be used as a browser-based mobile app with a personal iPhone for the remainder of the 2020 field season. The tablet and mobile phone were treated like a collecting book, additionally being used as a GPS/navigation device, camera, and library for all field resources. Additionally, a GPS data logger was used, with the intention of supplementing all collection GPS way points by recording routes traveled (Figure 11). Finally, tissue samples of nearly all species collected during the study were collected in the field. A small portion of every taxon collected was placed in silica gel desiccant to add to an expanding tissue collection for future genetic analyses, housed at the Stillinger Herbarium.

Herbarium Work

Identification took place both in the field and in the herbarium. At the end of each field season plants were organized into families and keyed by group using an amalgamation of sources. Specimen identifications were verified using Flora of the Pacific Northwest, 2nd Edition (FPNW; Hitchcock & Cronquist 2018), Flora of North America (FNA; Flora of North America Editorial Committee 1993+), The Jepson Manual, 2nd Edition, 2012 (Baldwin et al. 2012), Sedges of the Pacific Northwest (Wilson 2008), primary literature and reference collections currently housed at ID. All specimens collected during the study are housed at ID, and are publicly accessible through the Consortium of Pacific Northwest Herbaria data portal (www.pnwherbaria.org). The fide used is noted on every specimen. All collections made during the study were identified by the author, unless otherwise noted.

The Consortium of Pacific Northwest Herbaria data portal was used to obtain prior historical collections for the area (CPNWH 2020). A polygon was drawn for the study area, and all collections for that area were exported from the portal. The polygon export was initially examined for specimens that were incorrectly georeferenced, mislabeled, and/or misidentified, and invalid specimens were removed from the export. To supplement for incorrectly georeferenced specimens, notable collectors were individually queried for collections in the study area. After identifying taxa not collected in this study nearly 300 putatively unique taxa were identified for further validation. From this set of specimens, specimens were tagged based on the following categories: nomenclatural and taxonomic updates, vague localities, and remaining database errors. Finally, an unmounted backlog of specimens from Robert Bursik was evaluated for all species found within the noted study

area, and added to the checklist if verified. Each of these specimens was verified or annotated, resulting in 77 historical collections not collected in 2019 or 2020. Historical collections were examined from ID, UBC, WS, and WTU, and all identifications were verified by Faust.

RESULTS

Vegetation Types

Herein the broad vegetation types for the study area are outlined. The descriptions and narratives for each vegetation class and type are primarily derived from my observation of the study area over two field seasons. The main goal was to capture categories that could broadly characterize recurring vegetation within the area over a broad temporal scale, even if one or more attributes changes as disturbance or weather dynamics of the area come into play (e.g. logging, fire, recreation, increased snowpack or weather events). A secondary goal was to identify each vegetation units' occurrence, both to supplement the understanding of the study area, and to assist conservation and land management (Comer et al. 2003).

While broad vegetation types of northern Idaho exist (Daubenmire & Daubenmire 1968), these were described to guide silvicultural practices. Daubenmire's classification identifies vegetation types at their climax stage, and, therefore, does not include all of the types of the study area. For these reasons, Daubenmire's vegetation types were not used, and a Gleasonian approach to framing the units of the Idaho Selkirks was used (Matthews 1996).

Using the frameworks from US National Vegetation Class Standards (2017), alongside the USGS/GAP Project (2011) and Nature Serve (2017), I outline previously recognized larger vegetation classes and the types within, and for more diverse vegetation types, include subgroups within them (Table 2). Using this foundation, I was able to describe recurring vegetation types using label data from specimens. In scoring the annotated checklist, I was able to confirm that every species was associated with at least one vegetation type .

The six main classes used include: 1. Forest, 2. Grassland/Shrubland, 3. Wetland/Riparian, 4. Open Rocky, and 5. Anthropogenic. These classes are dominant within the Northern Rocky Mountains, Columbia Basin, and Coastal floristic assemblages described within the USGS/GAP Project (GAP 2011). Within each class, vegetation types are outlined,

based on field observations and collections, as well as historical collections and previous studies of the area.

Table 2. Vegetation Types of the Selkirk Mountains, categorized by class. Subtypes follow the numbering convention of the broader type they are found in.

Class	Types
1. Forest	1.1 Montane Foothill Forest
	1.2 Mesic Forest
	1.25 Old Growth Disjunct forest
	1.3 Mid-elevation Conifer Forest
	1.4. Subalpine Conifer Forest
2. Shrubland/Grassland	2.1 Montane Grassland/Shrubland
	2.15 Ephemeral Montane Seep
	2.2 Bear Grass Meadow
3. Wetland/Aquatic	3.1 Ombrotrophic Bog
	3.15 Paludified Forest
	3.16 Floating Mat
	3.2 Flow-through Fen
	3.25 Shrub Carr
	3.3 Sedge Wetlands
	3.4 Deciduous Riparian
	3.5 Subalpine Wet Meadow
	3.6 Aquatic
4. Open Rock	4.1 Crest
	4.15 Fellfield
	4.2 Talus
	4.3 Mid-High elevation Rocky Outcrop
5. Anthropogenic	5.1 Timber Harvest
	5.2 Roadside
	5.3 Multiple Use

Each vegetation type highlights the known diagnostic features of the area— structure, floristic assemblage, dynamics, environmental conditions, and distribution within the study area. Structure refers to how the site is composed across the landscape. The floristic assemblage refers to the species present at each vegetation type, and any variability or consistency within that species assemblage. The dynamics refers to seasonal moisture regimes, natural or unnatural disturbance, natural senescence, and patterns of colonizer

species. The environmental conditions refers to topography, elevation, physiographic features, climate, soil, substrate, and hydrologic features. The distribution covers the geography of the vegetation types within the study area, and highlights distinct or typical locations within the area. Some vegetation types are poorly delimited, e.g. Anthropogenic, but were included due to their distinctive species make-up or large amount of cover within the study area.

Forest Class

This class covers the majority of the study area, with the widest elevation range, from valley floor to just below the crest. All of the types included in this class have a dominance of tree cover on the landscape, with 15% or more tree canopy, as well as containing trees at heights of 5m or taller. All other features from structure to dynamics vary between types. The types here are not based on their climax presentation, and for that reason are dynamic within their amplitude of species assemblage, elevational range, and cover.

1.1 Montane Forest

Montane foothill forests are typical throughout the mountain range, ranging from the valley floor at ~2,000–5,500 feet (610–1680 m), on south and southeast facing slopes. This type is composed of rocky, dry soil with a dominant canopy and significant forb and shrub understory. The canopy is dominated by *Pinus ponderosa* at lower, drier sites, and *Pinus contorta* var. *latifolia* at higher elevations with colder average temperatures. At the lower end of the elevation range, these areas are often intermixed mixed with *Psuedostuga menziesii* var. *glauca* and *Abies grandis.* The tree canopy often irregularly covers the landscape with openings into a shrub and graminoid layer. Dominant shrubs include *Physocarpus malvaceus, Holodiscus discolor*, and *Rosa gymnocarpa* at lower elevations, and as elevation increases forbs, subshrubs, and graminoids replace the larger shrubs. *Pseudoroegneria spicata, Festuca rubra,* and *Poa stenantha* are the common grasses, with *Carex geyeri* and *Carex rossii* often in shady areas within this vegetation type. Although generally dry, these areas are briefly moist in the spring, with an assemblage of early blooming forbs including *Balsamorhiza sagittata*, *Lomatium multifidum,* and *Castilleja hispida* var. *hispida*.

This forest type, while prevalent, does not cover extensive areas within the range, as it is associated with disturbance from fire, logging and recreation. With this disturbance dynamic, these forests can transition into montane grassland/shrublands, if the canopy

becomes less dominant. This type is found in Columbia Basin floristic influenced areas, located on the southern and eastern side of the Idaho Selkirks, presumably due to the rainshadow effect, including southwestern slopes above Priest Lake. Notable areas within the Idaho Selkirks, are Parker Trail, Long Canyon, Caribou Creek, and Baldy Mountain Road.

1.2 Mesic Forest

Northern Idaho is famous for its old growth western red cedar (*Thuja plicata*) stands, disjunct from their predominantly coastal distribution (Brunsfeld et al. 2000). This forest type generally occurs on flat to gently sloping terrain of valley floors and lakesides at elevations of 2,000–3,500 ft (610–1,070 m).

The Mesic Forest type is dominated by a canopy of *Thuja plicata* and *Tsuga heterophylla*. Depending on topography and disturbance regimes, different forest floor vegetation is present. In areas with underground seeps, flow-through creeks or river terraces, as seen in Upper Priest Lake vicinity, the forest floor is often covered in an assemblage of ferns. The most common ferns present are *Athryium filix-femina* and *Dryopteris expansa;* however,r *Polystichum munitum*, *Polystichum andersonii*, *Dryopteris filix-mas, Equisetum sylvaticum*, and *Botrypus virginianus* are also prevalent. Within creekside or seep sites amidst the woods, *Oplopanax horridus* and *Asarum caudatum* can also occur (Brunsfeld et al. 2000). However, this forest type is dynamic, and can also be loosely vegetated, with the forest floor carpeted exclusively in duff, often with *Corallorhiza mertensiana* or *Pterospora andromedea* earlier in the season, and by mid-July often contain several *Botrychium* Sw. species. Early flowering forest floor forbs include *Viola glabella* and *Tiarella trifoliata* var. *unifoliata*, along with scattered *Vaccinium ovalifolium* and *Gaultheria ovatifolia*. This vegetation type is variable based on logging and disturbance, and is most diverse in its old growth forms. This type is common adjacent to Priest Lake, in the vicinity of Upper Priest Lake, and along the Priest River corridor from Upper Priest Lake as far north as American Falls.

Subtype 1.25 Old Growth Mesic Disjunct Forest

The Idaho Selkirks are well known for having the longest continuous old growth stands of *Thuja plicata* (McGrath et al. 2020). These areas contain all the other characteristics of the lower mesic disjunct forest type; however, they lie in basin, valley, or terrace type plateaus. This topography can trap and isolate regional weather patterns, allowing for weather to settle longer, resulting in a slightly warmer microclimate. Additionally, this subtype occurs

in areas with low natural and anthropogenic disturbance, and therefore old growth stands are scarce, often found amidst larger stands of Mesic Forest. Rare Idaho species such as *Polystichum braunii, Streptopus streptopoides*, *Sanicula marilandica*, and *Tellima grandiflora* are present in these warmer northern sites within the study area, often accompanied by *Taxus brevifolia*. Notable sites are the Upper Priest Lake RNA, Smith Creek, West Fork Cabin, and American Falls. This subtype often contains around 5% or less cover of the study area; however, it contains species found nowhere else within the state.

1.3 Mid-elevation Conifer Forest

One of the most widespread and homogenous vegetation types in the Idaho Selkirks is that of the Mid-elevation Conifer Forest, dominated by canopy of *Picea engelmannii*. At lower elevations, *Picea engelmannii* is joined by *Larix occidentalis, Abies grandis*, and *Pinus monticola*, and as elevation increases, by *Abies lasiocarpa,* which becomes dominant at higher elevations. The canopy, while usually thick, often contains openings, both natural and from anthropogenic disturbance. These openings are dominated by a thick shrub layer of *Rhododendron menziesii*, *Rhododendron albiflorum*, and *Vaccinium membranaceum*. Within moist seeps there can be orchids such as *Neottia banksiana* and *Corallorhiza maculata*, as well as common forbs such as *Maianthemum stellatum, Clintonia uniflora,* and *Trillium ovatum* var. *ovatum*. Openings into drier and rockier areas within the forest are often comprised of common forbs such as *Pedicularis bracteosa, Antennaria microphylla*, *Sedum lanceolatum*, and *Montia parviflora.*

The Mid-elevation Conifer forest type ranges from ~3,700–5,500 feet (1070-1740 m), mostly on northern aspects, but exists throughout its elevational band in various aspects and topographies, although it is often found on dramatically steep slopes and ridges. It converges with various vegetation types including talus slopes, rocky summits, and moist meadows within the study area. This type is ubiquitous within the Idaho Selkirks on all sides of the range, and is easily seen in nearly any approach of the crest. Notable areas are Smith Ridge, Russel Ridge, Trout Creek, and Mollies Lake.

1.4 Subalpine Conifer Forest

Throughout the mountain range the *Picea engelmannii* dominated middle elevation conifer forest, transitions into both rocky openings and Subalpine Conifer Forest. This type occurs between ~5,500–7,000 feet (1670–2130 m), usually with a short flowering season.

This area can either be exclusively dominated by *Abies lasiocarpa* or *Pinus albicaulis*, or intermixed, often with *Pinus contorta* var. *latifolia* on the lower end of the elevation spectrum. These areas are often sparsely vegetated, rocky, and dry.

When this type is dominated by *Abies lasiocarpa*, the common associated species are *Luzula hitchcockii* and *Hieracium triste.* When open and rocky, the dominant tree is *Pinus albicaulis*, associated with *Arnica ovata, Penstemon ellipticus*, and *Danthonia intermedia*. These areas can also be associated with dominant heath ground covers, such as *Cassiope mertensiana* and *Phyllodoce empetriformis* on northern aspects and on summits. This area is broadly distributed on all sides of the Selkirk crest.

Grassland/Shrubland Class

This class is one of the least common in the Idaho Selkirks with surprising levels of diversity, and produced multiple species range extensions. The types organized here are all characterized by 10% or less tree canopy. The following vegetation types are often associated with intermediate stages of ecological succession, often referred to as a seral stage following disturbance (Barbour 2000). Disturbance from fire or anthropogenic causes can lead to such openings, not dominated by tree canopy, and subsequent natural disturbances from wind events to rain and snow can maintain these vegetation types. This class would be formally recognized as a seral stage of the forest class if subscribing to the climax community concept; however, without data to directly support the timeline of such climax vegetation, the shrubland/grassland communities are described individually here.

2.1 Montane Grassland/Shrubland

The Columbia Basin influenced Montane Grassland/Shrubland type exists abundantly throughout northern Idaho; however, in the moist and boreally influenced Idaho Selkirks, this type persists predominantly on the eastern side of the range. Beginning on the edge of the valley floor at low elevations of ~2,500 feet (760 m), and continuing through lower-mid elevations of ~4,500 feet (1370 m), this type is restricted to south and southeast facing aspects, on both softer and dramatic slopes. The slope and aspect promote heavy and early drainage of snow melt and rain, which likely contributes to this type's early phenology, with peak flowering times as early as mid-April. While these areas tend to be mostly open, they often lie within the Montane Forest vegetation type.

The majority of montane grasslands in the Idaho Selkirks are dominated by an assemblage of grass species with significant, yet often scattered, shrub cover. Shrubs often consist of an assemblage of *Physocarpus malvaceus, Holodiscus discolor, Prunus emarginata, Amelanchier alnifolia, Ribes viscosissimum,* and *Juniperus communis.* Often sporadic individuals of *Pseudostuga menziesii* var. *glauca*, *Juniperus scopulorum*, and *Pinus ponderosa* persist on the landscape. Dominant grasses include *Pseudoroegnaria spicata, Danthonia spicata, Festuca rubra, Festuca viridula, Poa stenantha*, and *Poa secunda*, and may also include an assemblage of annual weedy grasses including *Bromus tectorum* and *Poa bulbosa*. Depending on time of year and moisture levels, forb species in this vegetation type include *Fritillaria pudica, Ranunculus glaberrimus, Montia dichotoma, Idahoa scapigera, Triteleia grandiflora* var. *grandiflora,* and *Allium cernuum*. Widespread species of forbs that are also common throughout this vegetation type include *Delphinium sutherlandii, Lomatium ambiguum, Sedum lanceolatum, Eriogonum umbellatum* var. *majus,* and *Erythranthe breweri.* Rock loving ferns are common here, such as *Woodsia oregana*, *Cryptogramma acrostichoides*, and *Aspidotis densa.* Notable patches of this vegetation type are in the Parker Trail area, Long Canyon area, Smith Creek Road, Dodge Creek, Ball Creek, Goat Trail Loop, and Riley Creek; all such sites with historical disturbance regimes.

Subtype 2.15 Ephemeral Montane Seep

The Ephemeral Montane Seep subtype was not well represented in historical collections prior to this study. This type exists from valley floor elevations of ~ 2,500–5,000 feet (760–1520 m), on south and east facing aspects. *Selaginella wallacei* is often dominant, forming carpets on open rocky balds that are often also covered in various mosses. With the aspect, open exposure, and distribution in the eastern and southern range of the study area, this area has early and brief spring phenology, before it is quickly dried up. The typical assemblage within the seeps includes *Hemieva ranunculifolia, Aphyllon purpureum*, and *Erythranthe microphylla*, often joined with a mix of other early flowering montane forb species.

2.2 Bear Grass Meadow

In the Selkirk range of northern Idaho, *Xerophyllum tenax* carpets expansive openings, creating its own meadow, often following natural or anthropogenic disturbance. These meadows are exclusively at middle to high elevations, between ~5,000–6,500 feet (1524–

1980 m), typically on dry, south facing slopes or ridgelines, and often bordered by Mid-elevation and Subalpine Conifer Forest types. Often, rocky outcrops and/or *Abies lasiocarpa* or *Abies grandis* groves are interspersed, but the majority of the meadow is dominated by *Xerophyllum tenax*, with significant bare ground. Common forbs within the area include *Hieracium scouleri, Erythronium grandiflorum*, and *Eremogone capillaris* var. *americana*, along with the graminoids *Festuca occidentalis* and *Carex geyeri.* Within the study area, *Ionactis stenomeres* is only found in or adjacent to Bear Grass Meadows. This vegetation type is found on both sides of the mountain range from the Priest Lake area south. Notable sites include Camels Prairie and Mount Baldy.

Wetland/Riparian Class

Some of the most notable habitats found in the Selkirk Mountains of Idaho lie within its wetland systems, despite their relatively small cover of the study area. Special attention is spent on these vegetation types, as they contain more than 10% of the state's rare flora (Lichtardt, 2004). The following vegetation types are based off the studys' observations and are different than the vegetation types noted in the Conservation Strategy for Panhandle Peatlands (Bursik & Moseley 1998), as they are not all present fully in the Idaho Selkirks. While all of the wetland types listed are variable, two things remain constant between them all, including the presence of moisture year round, and that they lie in generally flat topography, regardless of elevation.

3.1 Ombrotrophic Bog

Ombrotrophic is used here to refer to an area that gets the majority of its moisture and nutrients directly from precipitation and snow, rather than from water features such as streams, springs, or groundwater (Chadde 2011). This delineation separates it as a "true" bog, versus a fen, and is the only type of true bog in Idaho. The water table in these areas changes drastically throughout the season, and with these sites often being waterlogged, flowering time is often early to late summer (Lichtardt 2004). These areas are characterized by a raised layer of moss, predominantly *Sphagnum* L. spp., that typically covers past organic matter, such as downed logs, which together thickly carpet the area, and assist in moisture retention for these areas.

This type is rare throughout the study area, occupying only a few square acres, and transitioning into other wetland systems. The Ombrotrophic Bog vegetation type is distinctive in both its notable assemblage of rare plants, as well as its distinctive site features. These sites are found at lower elevations of ~2,000–3,000 feet (610–910 m), and are all either adjacent to, or north of Priest Lake, which is hypothesized here as a product of the glacial activity and high mineral and sediment deposition in these areas (Lichthardt 2004). Additionally, many of these areas are hidden within the larger landscape, often in pockets or basins.

In this vegetation type, two inconspicuous matting species, *Vaccinium oxycoccos* and *Gaultheria hispidula* both occur, and are known nowhere else in the state. Additionally, *Scheuchzeria palustris, Lysimachia europaea, Carex chordorrhiza, Utricularia ochroleuca,* and *Andromeda polifolia* occur in this system. Other species found here are *Drosera rotundifolia, Eriophorum chamissonis*, *Carex magellanica* ssp. *irrigua*, and *Dryopteris cristata*. These sites are often comprised of a sparse canopy of trees and/or a weak shrub system, as well as no trees or shrubs at all. Just as likely in this type is an abundance of downed and dead trees from past changes in the water table. Notable areas with some type of ombrotrophic bog in the Idaho Selkirks are in Bear Creek Basin, the Priest Lake Thoroughfare, Chase Lake, and Mosquito Bay, all located on the western and northern reaches of the Idaho Idaho Selkirks.

Subtype 3.15 Paludified Forest

The Paludified Forest is often composed of a concentration of downed logs with a thick canopy of trees, resulting from erosion and water table changes. This type is often a mix of *Pinus contorta*, *Pinus monticola*, *Abies lasiocarpa*, *Abies grandis*, *Picea engelmannii*, *Thuja plicata*, and *Tsuga heterophylla*, with an assemblage of mesic forest and deciduous riparian forbs underneath. The Paludified Forest is not common, but one such example of this type, Bear Creek Basin, where the only documented population of *Maianthemum dilatatum* in the state of Idaho occurs.

Subtype 3.16 Floating Mat

Floating Mats are microsites within ombrotrophic bogs and flow-through fens. They consist of dense mats of *Sphagnum* spp. that lie on top of water or mud adjacent to a bog or water feature, and physically are unattached to what lies underneath. Like the Paludified Forest, floating mats only exist in lower elevations; however, they are composed completely

of *Sphagnum* spp. and host notable species such as *Vaccinium oxycoccos.* Floating mats have been observed at Chase Lake, Lee Lake, and Bear Creek Basin.

3.2 Flow-through Fen

Flow-through Fens, also referred to as peatlands, are wetlands that have some amount of *Sphagnum* spp. cover, from patchy to dominant; however, vascular plants cover the majority of the landscape, even if there is a *Sphagnum* spp. layer underneath. Peatlands exist between low valley floor or lakeside elevations at ~2,400 feet (731 m) to middle elevations at ~4,500 feet (137 0m), and are characterized as distinct from bogs in receiving nutrients through groundwater, as well as precipitation (Lichtardt 2004). Often they occur in old river oxbows, river terraces, old lakebeds, creekside, or adjacent to drainages, and are flat or with only a slight slope. Lower elevation sites are often lakeside, and tend to be more open; examples of this are Chase Lake, Lee Lake, and Bog Creek. Higher elevation sites are often creekside, and tend to occupy valley floors. Examples of this type are Cow Creek, Westfork/Smith Creek, Grass Creek, and Trapper Peak wetlands, all bordered by mixed conifer forest.

In fens with higher sphagnum cover, diverse assemblages of species are present, many of which are listed sensitive species. Notable sedges and forbs include *Carex magellanica* ssp. *irrigua, Trichophorum alpinum, Carex comosa, Carex leptalea, Dulichium arundinaceum, Lysimachia europea*, *and Comarum palustre*. In both higher and lower elevation Peatlands, individual *Carex* L. spp. can carpet large areas, along with *Calamagrostis canadensis* and *Muhlenbergia filiformis* in less sphagnum dominated areas. Showy stands of *Eriophorum angustifolium* ssp. *angustifolium* can occur with *Pedicularis groenlandica*, *Platanthera dilatata*, and/or *Potentilla drummondii*. Paludified Forests and Floating Mat subtypes can also occur here.

Subtype 3.25 Shrub Carr

Shrub Carr is an additional subtype that can occur within flow-through fens, and describes when they are dominated by shrubs (Lichthardt, 2004). The main shrubs that can occur as sole dominants, or as a mix, are *Spiraea douglasii, Betula glandulosa, Alnus viridis* ssp. *sinuata, Alnus incana, Cornus stolonifera*, and as a mix of willows, including *Salix drummondiana*, *Salix sitchensis*, and *Salix bebbiana.* Herb and graminoid cover can loosely

persist beneath the shrub cover, however, the shrub cover can be dense and difficult to physically move through.

3.3. Sedge Wetlands

Occurring from ~2,000–3,500 feet (610–1070 m), are sedge-dominated wetlands that are groundwater or spring dependent. Sedge Wetlands are often on the edge of disturbed water features, and are often covered in *Sphagnum* spp., but are never dominated by it. The most common cover here is a mix of sedges and rushes, but often a dominant sedge such as *Dulichium arundinaceum* or *Carex cusickii* may persist throughout the whole wetland complex with pockets of other sedge species intermixed. *Typha latifolia* is also common in these areas and can create large stands. Common forbs include *Lycopus uniflorus, Erythranthe moschata, Cardamine pensylvanica*, and multiple *Sparganium* spp., found emergently and/or aquatically. This type occurs in the mid to southern portion of the mountains where less glacial activity and higher disturbance from logging and development has occurred. Notable areas of this type are Riley Creek, Thornby Lake, and Blue Lake.

Subtype 3.35 Shrub Carr

The Shrub Carr subtype is most dominant in this vegetation type, where *Spirea douglasii* can commonly be the dominant species, often seen with a *Carex utriculata* understory. This subtype exists within the sedge wetlands, but can essentially create a homogenous cover of pure *Spiraea douglasii*.

3.4 Deciduous Riparian

The Deciduous Riparian type resides most typically as a marginal corridor above and beside creeks and streams or in the transition zones between roads and lower elevation forest types where drainage occurs, or even between sedge wetlands and water bodies such as lakes, at around 2,000–4,500 feet (610–1370 m) within the study area. The overstory feature most dominant is an assemblage of variable riparian trees, most typically *Alnus viridis* ssp. *sinuata*, *Populus tremuloides* or *Populus trichocarpa.* Under the tree/shrub canopy is a highly variable, thick herbaceous layer often composed of *Athryium filix-femina*, *Epilobium* L. spp., *Veratrum* viride var. *eschscholzianum, Mertensia paniculata, Heracleum maximum* and *Valeriana sitchensis*. While all the other riparian vegetation types occur predominantly on flat topography, the deciduous riparian is likely found on slopes as well. This type is observed throughout the range, but was most common on State Land both east and south of Priest Lake.

3.5. Subalpine Wet Meadow

While other wetland/aquatic vegetation types within the study area occur generally at lower elevations, the most distinguishing feature for the Subalpine Wet Meadow is its higher elevation, ~5,500–7,000 feet (1680–2130 m). The subalpine wet meadow can be highly variable, but is distinguished by flat topography, flow-through riparian systems, and location adjacent to slopes or lakes. This type often serves as a drainage area, and therefore contains high organic material. While these areas are distinct, they do not contain the same levels of floristic rarity as the lower elevation wetland systems. They are almost always open, carpeted in varying types of peat moss, and often have stunted *Picea engelmannii* or *Abies lasiocarpa*. Heath dominance is a characteristic of this vegetation type, frequently composed of a mix of C*assiope mertensiana, Kalmia microphylla*, and *Phyllodoce empetriformis*, though *Kalmia microphylla* is often dominant. *Leptarrhena pyrolifolia* and *Eriophorum angustifolium* ssp. *angustifolium* are almost always present in this type, with a mix of forbs and graminoids, including *Viola palustris*, *Pedicularis groenlandica*, *Potentilla drummondii*, and *Carex kelloggii*. Two clubmosses also occur in this environment, *Diphasiastrum sitchense*, locally common in the Idaho Selkirks but listed as rare in the state, as well as the newly listed, sensitive and locally rare *Diphasiastrum alpinum*, which are easily overlooked as they hide within mats of *Cassiope mertensiana*. Subalpine Wet Meadows are found throughout the range in their elevation band; notable sites are found adjacent to Beehive Lakes, Hunt Lake, Lions Head, and Pyramid Peak.

3.6 Aquatic

Aquatic, while a general term, here refers to open bodies of waters. These areas contain water that is present all year long, and in the study area consist of lakes and ponds. Submerged and emergent aquatic species that are prevalent consist of *Nuphar polysepala*, *Elodea nuttallii*, *Utricularia vulgaris*, and multiple species of *Potamogeton* L.. The edges of low elevation aquatic zones are often home to uncommon species, such as *Cicuta bulbifera* and *Artemisia ludoviciana*. *Isoetes bolanderi* and *Callitriche heterophylla* frequent higher elevation lakes throughout the mountain range, and the edges of these higher elevation lakes often grade into small mesic meadow sites, predominantly bordered by sedge species. Notable aquatic sites are the Priest Lake Thoroughfare, Chase Lake, Blue Lake, and Hornby Lake all of which are at lower elevations.

Open Rock Class

While there are many types of rocky outcroppings, they are predominantly microsites within other sites and too variable to define at the same degree as the other vegetation classes. However, the types described here are included within this class for their shared characteristic of sparse vegetation. The National Vegetation Classification System refers to rocky areas as an extreme form of a shrubland, defined by a lack of tree canopy, as well as non-vascular species dominance (NVSC 2017). The sparse vegetation is attributed to the lack of soil in these habitats, as large stable areas are often not present in rocky areas. The dominance of mosses and lichens is common in open rocky areas, and due to the emphasis of this study on vascular plant species, these were not focused on, but are noted as a contributing factor of this class.

4.1 Granite Crest

The Idaho Selkirks are well known for the dramatic and rugged granite crest that divides the mountain range into its eastern and western portions. On the rock faces themselves, there are often few to no species growing, but within the crevices are either wet areas or dry weathered areas. The crest itself begins at ~7,200 feet (2190 m) and goes to ~7,600 feet (2310 m). These peaks are under snow for the majority of the year, and depending on aspect, elevation, and rock formation, contain sporadic patches of soil with vascular plants amidst rock faces and outcropings. In wetter areas it is typical to find *Rhodiola integrifolia* ssp. *integrifolia*, *Saxifraga hyperborea*, and *Solidago multiradiata* in the cracks of otherwise bare rock. In drier areas *Boechera lyallii*, *Piptatheropsis exigua*, and dwarf forms of *Juniperus communis* var. *kelleyi* occur. Some notable forbs found within sparse patches of soil amidst rocky outcrops on the crest are *Dryas hookeriana, Llyodia serotina, Tonestus lyalli*, and *Luetkea pectinata*. There has been some disagreement in the past if the Idaho Selkirks contains a true alpine assemblage. While pockets of granitic crest can host alpine species that persist through major weathering, this study treats this area as the highest elevation portion of subalpine in the study area, and therefore not true alpine. Notable crest areas with both dry and wet crest zones are Twin Peaks, Mt. Roothaan, and Lions Head.

Subtype 4.15 Fell Field

Lying just below large dramatic granite faces are thin strips of vegetation often referred to as a subalpine Fell Fields. These areas often have poorly developed rocky soils and

can have snow persisting until August. It is quite typical to find *Ranunculus eschscholtzii, Gaultheria humifusa, Juncus parryi*, and *Carex phaeocephala* within these fields. However, northeast faces below the crest where weather settles often boast verdant displays of common and uncommon forbs, found flowering briefly in late July through mid-August. One notable species found here is *Ivesia tweedyi*, found on the northeast face of Chimney Rock, a notable fell field found in the study area. Other notable fell fields found within the crest system are below Myrtle Peak, Lions Head, Twin Peaks, and Smith Peak.

4.2 Talus

Lying within steep slopes at middle, ~4,000 feet (1220 m), to higher, ~7,000 feet (2130 m), elevations are granite talus slopes, sometimes referred to as scree, consisting of granite rubble and covering a notable amount of the range. Some talus slopes are prior avalanche chutes, characteristic features of the defined Selkirk ecoregion (McGrath 2002). While they are sparsely vegetated, they have a distinct pattern of species amidst their thin soil patches, pocketed within the large granite boulders. Often mid elevation conifers can make islands within the large swaths of talus. Throughout the Idaho Selkirks, talus slopes occur on all sides of the crest, but do not appear in low elevations. *Rubus idaeus* ssp. *strigosus*, *Arnica ovata*, and *Luzula parviflora* are three common species found within talus areas. This is mostly a transitional type between Subalpine Conifer Forests, Subalpine Wet Meadows and The Selkirk Crest.

4.3 Mid-High Elevation Rocky Outcrop

Similar to the other rocky types in the area, sparse to low vegetation characterizes the Mid-High Elevation Rocky Outcrop, sitting between ~5,500–7,500 feet (1680– 2290m). This type can be found within other types at similar elevations, appearing as a rocky outcrop that is often south or southeast facing, often with downhill slopes. The rocky outcrop, also referred to as a bald, can also consist of a coarse rocky summit, typical for lower peaks or peaks on the eastern side of the range. This type is often dry, with small patches of soil development, and variable aspect, especially in its summit form. Common species on the lower end of the elevational range are *Lomatium sandbergii, Heuchera cylindrica,* and *Hypericum scouleri*. At higher elevations common species are, *Saxifraga austromontana*, *Antennaria media*, *Phyllodoce glanduliflora*, and *Festuca saximontana* var. *purpusiana.* These areas typically have low to no shrub to tree cover, except for occasional *Juniperus communis* var. *kelleyi*,

often windswept and heavily weathered. On the other end of this type's spectrum, are moist rocky outcrops, occupied by a high elevation seep. Wet high elevation rocky outcrops often exhibit an assemblage of fern species, such as *Athryium distentifolium* and *Polystichum lonchitis*, often accompanied by *Arnica gracilis.* Both dry and seepy outcrops are typically marginal habitats, but ubiquitous as one leaves the Mid-elevation Conifer Forest and heads higher in elevation. Notable areas with this vegetation type are peaks like Parker Peak, Horton Peak and Myrtle Peak.

Anthropogenic Class

Anthropogenic influenced areas cover a large portion of the study area. It is difficult to cleanly identify structure and patterns for these disturbed landscapes. Growth forms and dominant canopy can vary; however, abundant weedy annual forbs or graminoids are indicative of this class. Uncommon spacing and shapes are often left behind from disturbance, making it difficult to delineate distinct reoccurring patterns on the landscape, both physically and temporally. This class is considered by many to be a seral type of a former stage; however, based on the uncertainty of former stage regeneration, they are included here as anthropogenic types.

5.1. Harvested Forests

This vegetation type is one of the most dominant vegetation types in the study area, specifically in the Idaho State Endowment Lands, but also present within Forest Service and private industry land holdings. This type has been referred to as "bulky" in the NVCS standards for its high variability, and for lacking reproducible units of description (NVSC 2017). Harvested forests were observed between elevations of ~2,000–5,500 feet (610–1680 m), on nearly all type of land ownership, from state, to public, to private industry. While there is a history of multiple types of logging, two main types of harvested forest were observed.

The first type of timber harvest observed is ground mechanized harvest, which directly impacts the soil. The ground mechanized harvest was often observed on harsher, drier sites where *Ceanothus velutinus* readily colonizes following timber harvest. The second type of timber harvest observed has a lower soil impact that instead harvests timber from the skyline. Skyline type harvest was observed generally in sites with milder, moister conditions, and

post-harvest colonizer species were generally *Holodiscus discolor, Ceanothus sanguineus*, and *Acer glabrum* var. *douglasii.* However, it was common to see more recently harvested forests with sparse to no vegetation, with either well-spaced trees left behind, stumps, or large piles of slash.

5.2 Roadsides

While many botanists are known for roadside collector bias (Daru et al. 2012), the Selkirk roadsides are quite distinct. Located throughout the range, the highest roads end at middle to high elevations at around 6,500 feet (1980 m). Many of the roads are often overgrown and unattended to after establishment decades ago. The majority of roads are maintained to due to active logging or high recreation.

This vegetation type is often a strip of disturbed ground either next to a large area of disturbance, such as a clear cut or a gravel pit, and is found adjacent to every vegetation type within the study area except for all Open Rocky types and the Ombrotrophic Bog. There are two main types of roadsides observed within the study area—dry and rocky gravel roadsides and moss carpeted roadsides. The gravel roadside is the most prevalent of the two and the highest density of weeds and introduced species are found in this type, typically including *Centaurea diffusa*, *Tanacetum vulgare*, as well as invasive grasses such as *Ventenata dubia, Dactylis glomerata,* and *Agrostis capillaris.*

The moss carpeted roadbed is often found adjacent to disturbed mixed conifer forests, often dominated by *Thuja plicata*, and is carpeted in moss with a wide spectrum of forbs; one noteworthy association is *Antennaria* Gaertn. spp. and *Fragaria* L. spp., both indicators for the presence of *Botrychium* Sw. spp. (Farrar 2011). This type of specific roadside only exists in the northern section of the mountain range, from low to middle elevations, and are always flat or with a slight slope. This type of roadside was targeted in this study specifically for *Botrychium* species. Notable roadsides like this exists on Lions Creek Road, Bog Creek Road, and Smith Creek Road.

All roadsides visited were observed from the lowest elevation, ~1,530 feet (740 m) to generally mid elevations at ~5,500 (1680 m). However, there are a handful of roads on the west side of the range that end at the top of ridges or peaks lower than ~6,500 feet (1980 m). Despite a handful of roadless areas within the range, roads exist, whether maintained or not, throughout the entirety of the study area, except for the vicinity of the crest.

5.3 Multiple Use

This mountain range is quite diverse in its anthropogenic impact over the last century. The study area and its immediate surroundings include agricultural fields, wildlife refuges, historical mines, an experimental silvicultural forest, private property, and even a ski resort. While all of these multiple use regions are distinct from one another, they all showcase large scale disturbance on the landscape, patchworked into the mountain range. All areas lack an organic structure and exist from low to high elevations throughout the entirety of the Idaho Selkirks, except for the crest. While they lack reproducible units to delineate them, multiple use areas are prevalent enough within the study area to identify here, and include notable areas such as Priest River Experimental Forest, Priest Lake State Park Campgrounds, Schweitzer Mountain Resort, and Continental Mine.

Fieldwork Summary

Fieldwork in 2019 was focused on covering large portions of the study area that had never been collected, while fieldwork in 2020 focused on filling the prior year's holes, with special attention to taxon-specific collecting. Focused efforts in 2020 were spent on targeting coastal disjuncts, rare species, and taxa not previously collected in Idaho, but expected based on ecology and nearby existing collections (e.g., adjacent Washington state). During the 2019 field season, 49 days were spent in the field and 2,090 specimens were collected, and during the 2020 field season, 59 days were spent in the field and 2,063 specimens were collected, totaling 108 field days and 4,153 specimens. This represents 4.6 collections per square mile. These were collected over 663 collection sites, covering all major physiographic features, elevations, and vegetation types; between one and 55 collections were made at each site (Table 3, Figure 13).

Table 3. Numerical Summary of Fieldwork

Number of Collection Sites	663
Number of Collections	4153
Total Number of Duplicates	5886
Number of Days Collecting	108
Collections Per Square Mile	4.6

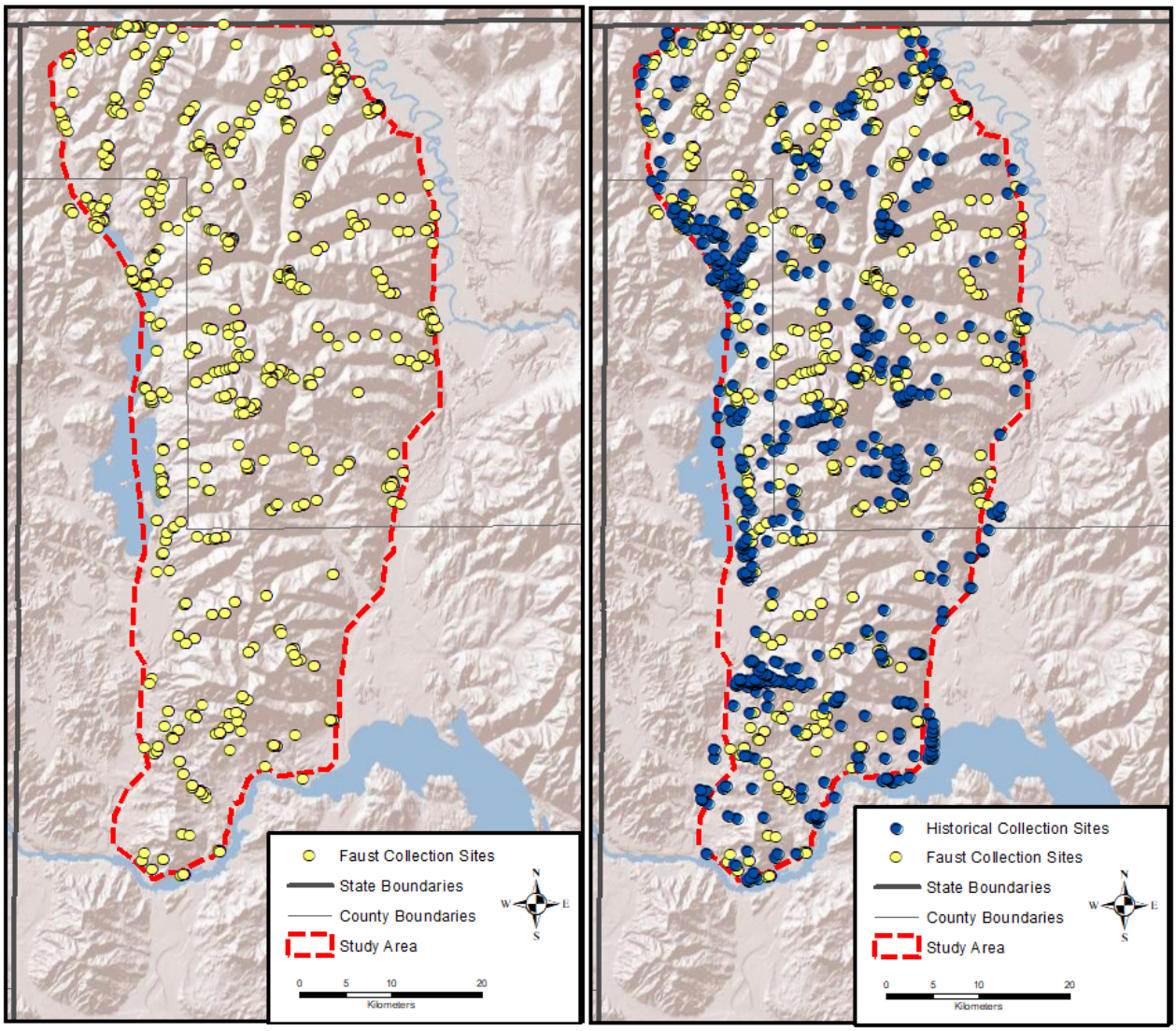

Figure 13. Collection Coverage of Study Area. A. Collection sites during the 2019-2020 field seasons. Data accessed from the Stillinger Database. B. All collection sites from the study area, prior to study and with study. Data accessed from CPNWH.

Taxa of Conservation Concern

Fifty-four taxa of conservation concern are known from the study site, 44 were found during the study and 10 are based on historical specimen records (Table 4). These taxa have been listed through the North Idaho Rare Plant Working Group, one of two working groups based out of the Idaho Native Plant Society that evaluates and lists species of conservation concern in the state of Idaho. The rare plant working groups in Idaho use an established system through NatureServe that ranks species based on a multitude of factors including known occurrences, habitat quality/size, and habitat/population threats (NatureServe Explorer 2020).

Each NatureServe rank is made up of two elements, the state rank (S) and global (G) rank. The values of each state and global rank range from 1 to 5, where 1) Critically Imperiled, 2) Imperiled, 3) Vulnerable, 4) Apparently Secure, and 5) Secure (NatureServe Explorer 2020).

Table 4. All sensitive taxa found in the study region. Faust versus Historical collections (Hx) aims to display what species were not relocated during the study, and some of the taxa collected by Faust during the study had been collected prior. Data from Idaho Native Plant Society (INPS 2020).

Family	**Scientific Name**	**Conservation Status**	**Hx v. Study**
Apiaceae	*Cicuta bulbifera*	G5 S2	Faust
Apiaceae	*Sanicula marilandica*	G5 S3	Faust
Asparagaceae	*Maianthemum dilatatum*	G5 S1	Faust
Aspleniaceae	*Asplenium trichomanes*	G5 S1	Historical
Aspleniaceae	*Asplenium viride*	G4 S1	Historical
Asteraceae	*Euthamia graminifolia*	G5 S1	Historical
Asteraceae	*Petasites sagittatus*	G5 S3	Historical
Asteraceae	*Symphyotrichum boreale*	G5 S2	Faust
Blechnaceae	*Struthiopteris spicant*	G5 S3	Faust
Brassicaceae	*Draba incerta*	G5 S2	Historical
Cyperaceae	*Carex chordorrhiza*	G5 S2	Faust
Cyperaceae	*Carex comosa*	G5 S2	Faust
Cyperaceae	*Carex cordillerana*	G3G4 S2	Historical
Cyperaceae	*Carex flava*	G5 S3	Faust
Cyperaceae	*Carex leptalea*	G5 S3	Faust
Cyperaceae	*Carex livida*	G5 S3	Historical
Cyperaceae	*Carex magellanica ssp. irrigua*	G5T5 S2	Faust
Cyperaceae	*Eriophorum angustifolium ssp. angustifolium*	G5 SNR	Faust
Cyperaceae	*Eriophorum viridicarinatum*	G5 S2	Historical
Cyperaceae	*Rhynchospora alba*	G5 S3	Faust
Cyperaceae	*Trichophorum alpinum*	G5 S1	Faust
Dryopteridaceae	*Dryopteris cristata*	G5 S2S3	Faust
Dryopteridaceae	*Polystichum braunii*	G5 S2	Faust
Ericaceae	*Andromeda polifolia var. polifolia*	G5T5 S1	Faust
Ericaceae	*Cassiope mertensiana var. mertensiana*	G5T5 S2	Faust
Ericaceae	*Gaultheria hispidula*	G5 S2	Faust
Ericaceae	*Vaccinium oxycoccos*	G5 S3	Faust
Hypericaceae	*Hypericum majus*	G5 S3	Faust
Iridaceae	*Iris versicolor*	G5 S2	Faust
Lentibulariaceae	*Utricularia ochroleuca*	G4G5 S1	Faust
Liliaceae	*Streptopus streptopoides*	G5 S2	Faust
Lycopodiaceae	*Diphasiastrum alpinum*	G5 S1	Faust

Lycopodiaceae	*Diphasiastrum sitchense*	G5 S2	Faust
Onagraceae	*Epilobium palustre*	G5 S3	Historical
Ophioglossaceae	*Botrychium minganense*	G5 S3	Faust
Ophioglossaceae	*Botrychium montanum*	G3 S2	Faust
Ophioglossaceae	*Botrychium pedunculosum*	G3G4 S1	Faust
Ophioglossaceae	*Botrychium pinnatum*	G4? S2	Faust
Ophioglossaceae	*Botrychium simplex var. compositum*	G5 S2	Faust
Ophioglossaceae	*Botrychium simplex var. simplex*	G5 S2	Faust
Orobanchaceae	*Aphyllon pinorum*	G4 S2	Faust
Oxalidaceae	*Oxalis trilliifolia*	G5 S1	Faust
Phrymaceae	*Diplacus clivicola*	G4 S3	Faust
Phrymaceae	*Erythranthe patula*	G4 S3	Faust
Pinaceae	*Pinus albicaulis*	G3G4 S3	Faust
Poaceae	*Poa paucispicula*	G5T5 S1	Historical
Primulaceae	*Lysimachia europaea*	G5T5 S3	Faust
Rosaceae	*Ivesia tweedyi*	G4 S2	Faust
Rosaceae	*Potentilla drummondii*	GNR S2	Faust
Salicaceae	*Salix pedicellaris*	G5 S2	Historical
Saxifragaceae	*Tellima grandiflora*	G5 S3	Faust
Scheuchzeriaceae	*Scheuchzeria palustris*	G5 S3	Faust
Thelypteridaceae	*Phegopteris connectilis*	G5 S2	Faust
Violaceae	*Viola selkirkii*	G5? S1	Historical

Of the 54 listed species found in the study area, 11 are listed as Critically Imperiled, five of which are only found in Idaho in the study area (Table 5). However, 22 species are listed as Imperiled, which speaks to the high concentration of rare and threatened species in the study area. Despite this abundance of sensitive species in the area, this list is not a complete representation of all the species worth listing. During the process of the study three species were ranked (*Diphasiastrum alpinum, Utricularia ochroleuca*, and *Potentilla drummondii*), and four more species are currently under review (*Botrychium hesperium*, *Elymus hirsutus, Cryptogramma stelleri,* and *Eleocharis mamillata*).

Of the listed species, the majority are concentrated into the peatland communities. The nutrient content, glacial history, and climate create specialized substrate and topography for these species to inhabit. Despite the high number of rare species, there are still active risks and threats to the populations. Rare species are ranked as such due to restricted ranges, small numbers, and their high susceptibility to environmental changes. While ongoing monitoring

of previously listed state species occurs on forest service land, further monitoring will be necessary to incorporate the additional populations discovered during this project. For the rare species found on state lands, where ongoing population monitoring is not commonplace, management recommendations are included in the discussion.

Table 5. Idaho Taxa of Conservation Concern with S1 Status in Study Area. Faust versus Historical collections (Hx) aims to display what species where not relocated during the study; some of the taxa collected by Faust during the study had been collected prior. Data from Idaho Native Plant Society (INPS 2020).

Taxa	# Collections in State/ In Study Area	Ranking	Hx v. Study
*Asplenium trichomanes (*Aspleniaceae)	4 State, 1 in Study Area	G5 S1	Historical
*Asplenium viride (*Aspleniaceae)	5 State, 1 in Study Area	G4 S1	Historical
*Euthamia graminifolia (*Asteraceae)	4 State, 1 in Study Area	G5 S1	Historical
Poa paucispicula (Poaceae)	5 State, 1 in Study Area	G5T5 S1	Historical
Diphasiastrum alpinum (Lycopodiaceae)	3 State, 2 in Study Area	G5 S1	Faust
Botrychium pedunculosum (Ophioglossaceae)	8 State, 6 in Study Area	G3G4 S1	Faust
*Utricularia ochroleuca (*Lentibulariaceae)	5 State, 2 in Study Area	G4G5 S1	Faust
Trichophorum alpinum (Cyperaceae)	5 State, All in Study Area	G5 S1	Faust
Andromeda polifolia var. polifolia (Ericaceae)	7 State, All in Study Area	G5T5 S1	Faust
Oxalis trilliifolia (Oxalidaceae)	7 State, All in Study Area	G5 S1	Faust
Viola selkirkii (Violaceae)	2 State, All in Study Area	G5? S1	Historical

Non-native & Noxious Species

Introduced taxa serve as an additional threat to taxa of conservation concern, and with a rise in recreation in the area, there is increased potential threat of greater introduction. Noxious and many aggressive introduced taxa can be fierce competitors on the landscape, often displacing native taxa through advantageous characteristics such as drought resistance, germination timing, seed dispersal, and environmental plasticity (ISPS 2020). In this study 110 introduced taxa were identified, ten of which are state listed noxious species (Table 7). The two most prevalent families are Asteraceae Bercht. & J. Presl, which represents 16 of the introduced taxa, and Poaceae Barnhart, which represents 28 of the introduced taxa. The ten noxious taxa were prevalent throughout the range; however, they were generally concentrated to roadsides, multiple use areas, and timber harvested forests. While Montane Forests and Montane Grasslands also contain concentrations of introduced taxa, these non-native species were overwhelmingly found in the anthropogenic vegetation class within the study area. With the majority of the introduced taxa being under-documented, this could be partially attributed to

the lack of inventory in the area, or the result of relatively recent introductions to the area. Continued monitoring and management of noxious taxa is encouraged.

Table 6. Idaho Noxious Taxa in Study Area. Idaho categorizes its noxious species into three main categories, Early Detection Rapid Response (EDRR), Control, and Containment. (ISPI 2020)

Taxa	County	Faust Collections	State Category
*Centaurea stoebe ssp. australis (*Asteraceae)	BO, BR	4	Containment
Cirsium arvense (Asteraceae)	BO	2	Containment
Hieracium aurantiacum (Asteraceae)	BO, BR	6	Control
Hieracium glomeratum (Asteraceae)	BO, BR	15	Control
Leucanthemum vulgare (Asteraceae)	BO, BR	6	Containment
Cynoglossum officinale (Boraginaceae)	BR	1	Containment
Berteroa incana (Brassicaceae)	BO	1	Containment
Myriophyllum spicatum (Halogoraceae)	BO	1	Control
Linaria dalmatica ssp. *dalmatica* (Plantaginaceae)	BO	1	Containment
Linaria vulgaris (Plantaginaceae)	BO	1	Containment

State Records

Five state collection records were made during the study, represented by four native taxa and one introduced taxon. All species were suspect to occur in northern Idaho, but had never been verified before this study. These collections verify their establishment in the study area, fill a known gap in these species distributions and further suggest that more populations should be located within the area.

Botrychium hesperium (Ophioglossaceae) known from the Rocky Mountains from Alaska south to northern Arizona (Farrar 2011) and New Mexico (Legler 2011), and west to the Cascade Mountains of Washington (CPNWH 2020). The closest known population to Idaho, with a vague locality description, is found on the Kaniksu National Forest in the vicinity of Priest Lake, potentially either in Washington or Idaho (pers. comm., Don Farrar, Iowa State University). It is found in mesic, montane to subalpine meadows, forest openings, and roadsides, often in gravelly soil (Farrar 2011; Hitchcock & Cronquist 2018). The site identified in this study, the first collection verifiably occurring in the state of Idaho, was located on an old roadbed covered in moss. The species is currently under review by the North Idaho Rare Plant Working Group for state listing. The site where this collection was found is currently proposed to be bladed for reconstructing a new road in the next year by the U.S. Border Control. Prior survey work of the old roadbed had not detected this population

and efforts are underway to promote continued surveys of this site as well as modified construction of the road where the population resides.

Elymus hirsutus (Poaceae) grows in moist to dry thickets, woodlands and grasslands, and prior to this study was known from coastal mountains in Alaska, British Columbia, and Washington with scattered occurrences inland to eastern British Columbia and (Barkworth et al. 2007). Four collections were obtained during this study. The 2019 collection was found in a moist trailside drainage near a tributary to Smith Creek. During follow-up surveys in 2020, three additional collections were obtained from locations along Smith Creek. These collections represent the first collections for the state of Idaho, and the species is currently under review for state listing. These collections also extend the known distribution south by about 100 km from the nearest populations in southeastern British Columbia (CPNWH 2020). *Elymus hirsutus* is similar in habit to *Elymus glaucus*, but has pendant spikes instead of erect spikes, and 0.5–1 mm long hairs on the lemma margins (Hitchcock & Cronquist 2018). Presumably there are more populations of *Elymus hirsutus* in the Idaho Panhandle, and given the morphological similarities of these species*, Elymus glaucus* collections found in mid elevation moist forests warrant review to verify identifications.

In western North America, *Euphrasia nemorosa* (Orobanchaceae) is generally regarded as introduced (Douglas et al. 1999, Jaster et al. 2017, Hitchcock & Cronquist 2018) and occurs from Alaska south to northwest Oregon, mostly west of the Cascade and Coastal mountains, with additional populations established in eastern British Columbia, northeast Washington, and northwest Montana (CPNWH 2020). Plants usually occur in moist to dry, often gravelly, ditches, fields, and roadsides (Hitchcock & Cronquist 2018). Earlier treatments placed North American populations of this species broadly under the ambiguous name *E. officinalis* L. (Gleason & Cronquist 1991, Hitchcock & Cronquist 1973) or as multiple, narrowly defined species, both native and introduced (Fernald & Weigand 1915). Disagreement remains over whether North American populations of *E. nemorosa* are native (Kartesz 2015, MNFI 2020), introduced (Gussarova 2019), or both (NatureServe 2020). This species was collected twice in opposite ends of the range, and is presumably more widespread than collections represent.

Diphasiastrum alpinum (Lycopodiaceae) is a circumboreally distributed club moss (Wagner & Beitel 1993) extending south through western Canada to Washington and

northwest Montana (CPNWH 2020). While it was previously reported from northern Idaho by Lellinger (1985) and Wagner and Beitel (1993), neither cited voucher specimens or other verifiable records, and searches of online specimen data portals turned up no prior specimens from Idaho to verify their reports. Subsequently, contact was made with staff at MICH and NY, where Wagner and Beitel were based, respectively. Staff at MICH familiar with their work were able to locate a specimen in their backlog (*Shaw 1044*, MICH 1571109) that is presumably the sole basis for Wagner and Beitel's (1993) report of *D. alpinum* from Idaho (Richard Rabeler, University of Michigan, pers. comm.). Affixed to this specimen is a typed copy of the collector's original label that interprets the locality as "Idaho (?), Fremont County (?), alpine meadow in the Big Bend district." The attribution of the specimen to Fremont County, Idaho, is incorrect. The specimen is part of the Charles Shaw Selkirk Flora collection from the early 1900s, all of which were collected in the British Columbia, Canada portion of the Selkirk Range (PCC 2020). Four duplicate specimens of *Shaw 1044* were then located at NY; all four are correctly attributed to British Columbia. The specimens cited here verify the presence of *D. alpinum* in Idaho. The 2019 collections are all under eighty kilometers from the closest known collections in Montana and British Columbia. The collections in the study area were found in open, subalpine meadows, growing inconspicuously amidst *Cassiope mertensiana* and *Phyllodoce glanduliflora. Diphasiastrum alpinum* is sometimes confused with *D. sitchense,* which is a fairly common club moss in comparison, but *D. alpinum* is differentiated by its dimorphic, 4-ranked leaves (Wagner & Beitel 1993). Hybrids show intermediate morphological characters and are occasionally found where the two parental species co-occur. *Diphasiastrum alpinum* × *D. sitchense* was located during the study. As a result of this study *D. alpinum* was reviewed and is now listed as S1.

Utricularia ochroleuca (Lentibulariaceae) is known from scattered wetland locations in western North America extending from the Yukon south to Montana, Washington, Oregon, and California (Baldwin et al. 2012, CPNWH 2020). It is likely more abundant than currently reported, as it is easily confused with both *U. intermedia* and *U. minor,* and may be of hybrid origin between those two species (Ceska & Bell 1971). Following discovery of the 2019 collection, all prior Idaho collections of *U. intermedia* and *U. minor* at ID were reviewed and four earlier collections were located and annotated as *U. ochroleuca*. As a result of this study, during the 2020 Idaho Rare Plant Conference this species was ranked, and is now listed as S1.

Eleocharis mamillata ssp. *mamillata* (Cyperaceae) is a circumboreally distributed sedge, known from northern North America, extending throughout Alaska, Canada, and into Washington, Minnesota, and Wisconsin (Smith et al. 2002). It grows along lakeshores, and in shallow ponds, streams and fen systems. While this specimen was not relocated during the study, a formerly misidentified historical specimen originally annotated as *Eleocharis ovata*, *Bursik 1588* (ID), was verified as *Eleocharis mamillata* ssp. *mamillata* by Peter Zika (WTU) in 2021. This specimen was collected in 1988 at Chase Lake in a peatland complex with floating sphagnum mats; the specimen itself was found growing in saturated muck (CPNWH 2020). This specimen is the first confirmed report for Idaho.

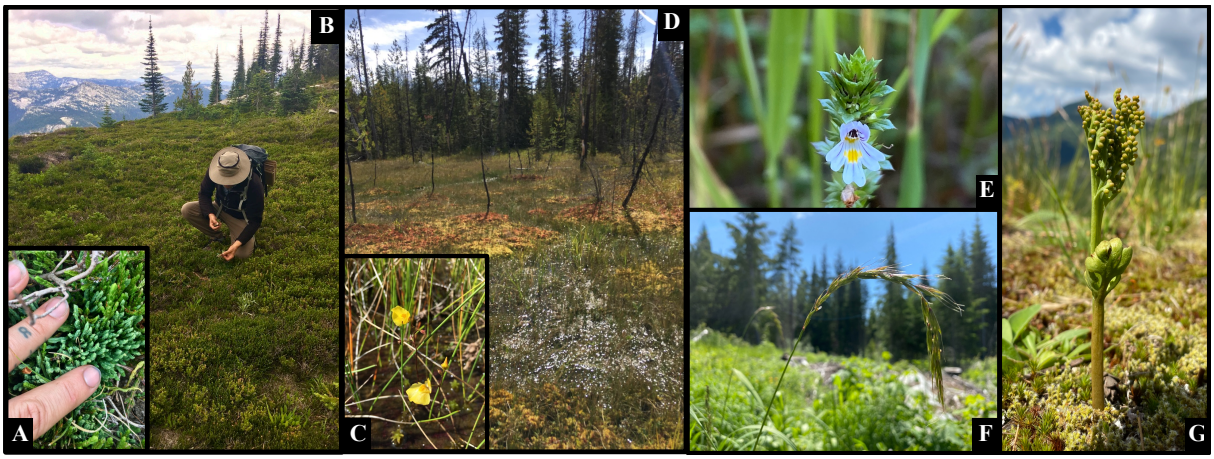

Figure 14. State Records Color Plate. A. Close up of *Diphasiastrum alpinum*. B. Habitat for *Diphasiastrum alpinum.* C. Close up for *Utricularia ochroleuca.* D. Habitat for *Utricularia ochroleuca*. E. *Euphrasia nemorosa.* F. *Elymus hirsutus.* G. *Botrychium hesperium.*

Annotated Checklist of the Vascular Flora

The following is a checklist of the vascular flora from the Selkirk Mountains of Idaho. This list is a synthesis of fieldwork from 2019 and 2020 by Faust, as well as an integration of historical collections in the area from the past century. Included historical collections date back to 1901, and are housed at the Stillinger Herbarium (ID), University of British Columbia Herbarium (UBC), the University of Washington Herbarium (WTU), and the Marion Ownbey Herbarium (WS). Approximately 2,800 collections existed for the area prior to this study, a subset of which were analyzed at ID, along with collections from UBC, WTU, and WS that could not be verified from specimen images. Historical collections were only included if verified by the author, and were clearly collected within the bounds of the study area (Figure 2). There are 77 collections included in the checklist that were not collected during this study, 767 collected by the study, for a total of 844 taxa (Table 7).

Table 7. Numerical Summary of Flora

Taxonomic Categories	
Families	94
Genera	377
Species	819
Infraspecies	198
Hybrids	4
Unique Taxa	844
Five Largest Families by Taxon	
Poacaeae	94
Asteraceae	92
Cyperaceae	74
Rosaceae	43
Ericaceae	32
Five Largest Genera by Taxon	
Carex	57
Juncus	11
Epilobium	10
Bromus	9
R*anunculus*	9
Taxa by Major Plant Groups	
Pteridophytes	58
Gymnosperms	16
Angiosperms	773

Special Categories	
Native Taxa	744
Non-Native Taxa	108
Noxious Taxa	10
Taxa of Conservation Concern	54
State Collection Records	5
County Collection Records	228

All collections made during the study were identified by the author, unless otherwise noted. Specimen identifications were verified using the Flora of the Pacific Northwest, 2nd Edition (FPNW), the Flora of North America (FNA), The Jepson Manual (TJM), Sedges of the Pacific Northwest, associated primary literature, and reference collections currently housed at ID. Taxonomy follows the Angiosperm Phylogeny Group (APG) IV classification system (Chase et al. 2016) and the FPNW (Hitchcock & Cronquist 2018). Higher level groups follow Cantino et al. (2007). Additional assistance with verifications were made by Ben Legler and Derek Antonelli and taxon specific determinations were made by Barbra Ertter (*Potentilla* spp. *& Rosa* spp.) Mary Barkworth (*Elymus hirsutus*), Don Farrar (*Botrychium hesperium*), Mark Egger (*Castilleja miniata*), Peter Zika (*Eleocharis mamillatta*), and Carl Taylor (*Isoetes tenella*).

For each taxon entry, one reference specimen is cited; individual collection numbers for all collections are not noted but may be obtained online through the Consortium of Pacific Northwest Herbaria (www.pnwherbaria.org). Collections during 2019 followed the numbering convention of 2019-#, and 2020 collections continue the numbering convention without a prefix. A complete set of the specimens collected during the 2019 and 2020 field seasons are housed at ID, and locations of historical collections are noted.

Synonyms are only included if in widespread use in recent floras or literature. Misapplied names are discussed in taxonomic notes for each entry. Common names were based off the original Flora of the Pacific Northwest (Hitchcock & Cronquist 1973) and USDA common names (USDA 2020). Collection and taxonomic notes are provided in square brackets in circumstances of confusion or importance, as well as conservation status, if listed.

Distribution and abundance of each vascular plant species within the study area is denoted with either common, locally common, occasional, uncommon, or rare. Defined as follows: *rare* = one to three collection sites, not observed outside the study area and vicinity, state listed; *uncommon* = narrowly distributed, seldom observed; *occasional* = variably

distributed, infrequently observed; *locally common* = narrowly distributed, commonly observed within its range; *common* = broadly distributed, commonly observed in the study area. Vegetation types follow the outlined types for the area discussed earlier.

Plant status is denoted with symbols for rare, non-native and collection significance. Rare is denoted as (■), and included is the state NatureServe ranking explained earlier, non-native species are denoted with (+) following designation by FPNW, state listed noxious species are denoted with (▲) following designation by ISPS, and native species are not noted. Native v. non-native status is defined at the state level, using the USDA Plants Database (USDA 2020). Additionally, state (!) and county (*) collection records are denoted. County presence within study area is denoted as (BO) for Bonner and (BR) for Boundary and limited to entries with voucher specimens.

Entries based on historical collections will not contain distribution and abundance codifiers, vegetation types, or elevational bands. Historical specimens with vague locality data or just beyond the edge of the study area are included in the Appendix under, "Excluded Taxa". The checklist is arranged into larger groups in the following order: Lycopodiophyta (Fern Allies), Monilophyta (Ferns), Coniferae (gymnosperms), and Angiospermae, first with Nymphaeales (Cabombaceae and Nymphaceae) and Piperales (Aristilochiaceae) then followed by with Eudicotyledonae and Monocotyledonae. Included within the list are original scientific illustrations of select species, illustrated by Beau Romeo, Sharon Birzer, and Theo Lathryus.

Example Entry:

Plant Status Symbol***, Taxon***, Authority, {*Synonym*} COMMON NAME—County Code (*). Abundance, Vegetation types. *Reference Collection housed at ID*. (# of collections in study area by Faust). Elevation range in meters. *[NatureServe Ranking] [Collection Notes or Taxonomic Notes]*

LYCOPODIOPHYTA

ISOETACEAE

Isoetes bolanderi Engelm., BOLANDER'S QUILLWORT—BR. Occassional in high-elevation lakes. *Faust 2019-2082 (3).* 1719–1872 m.

Isoetes occidentalis L.F. Hend. {*Isoetes lacustris*}, WESTERN QUILLWORT—BO. Priest Lake, *Charles Vancouver Piper 3748*, 1901 (WS)

Isoetes tenella Léman {*Isoetes echinospora*}, SPINY-SPORE QUILLWORT—BO**.** Occassional in low-elevation lakes. *Faust 4150 (2).* 734–747 m.

LYCOPODIACEAE

Dendrolycopodium dendroideum (Michx.) A. Haines {*Lycopodium obscurum*}, TREE CLUBMOSS—BO**.** Uncommon in mesic forests and roadsides north and adjacent to Priest Lake. *Faust 4169 (3).* 745–794 m. [*Plants called Lycopodium obscurum are referrable here.*]

!■ ***Diphasiastrum alpinum*** (L.) Holub {*Lycopodium alpinum*}, ALPINE CLUBMOSS—BR*. Rare in subalpine health meadows adjacent to the crest. *Faust 2019-1888 (2).* 1968–2044 m. [*See State Records.*] [*G5 S1*]

Diphasiastrum alpinum (L.) Holub × ***Diphasiastrum sitchense*** (Rupr.) Holub—BR**.** Rare from raised hummock in flow-through fen. *Faust 4020 (1).* 1344 m. [*One specimen with intermediate characteristics; known hybrid in region.*]

Figure 15. *Diphasiastrum alpinum.*

Diphasiastrum complanatum (L.) Holub {*Lycopodium complanatum*}, GROUNDCEDAR—BO, BR. Locally common on roadsides and mesic forests. *Faust 2019-1928 (9).* 698–1347 m.

■ ***Diphasiastrum sitchense*** (Rupr.) Holub {*Lycopodium sitchense*}, SITKA CLUBMOSS—BR. Locally common on roadsides, flow-through fens and subalpine meadows. *Faust 3759 (14).* 1189–2104 m. [*G5 S2*]

Huperzia miyoshiana (Makino) Ching, MIYOSHI'S CLUBMOSS—BO, BR**.** Locally common in mesic forests and roadsides. *Faust 2612 (7).* 744–1814 m. [*Plants called Lycopodium selago are partly referred to here.*]

Huperzia occidentalis (Clute) Kartesz & Gandhi, WESTERN CLUBMOSS—BO, BR*. Locally common in mesic forests and roadsides. *Faust 3257 (8).* 719–1274 m. [*Plants called Lycopodium selago are partly referred to here.*]

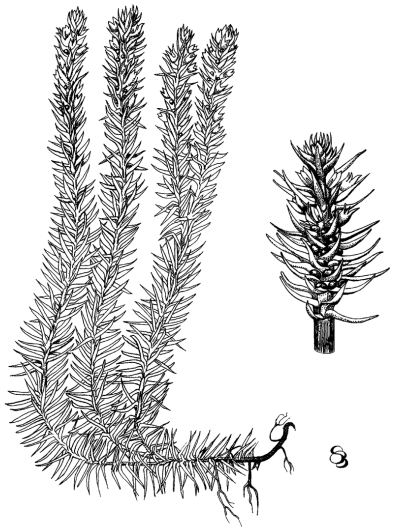

Figure 16. *Huperzia miyoshiana.*

Lycopodium clavatum L., RUNNING CLUBMOSS—BO, BR**.** Locally common in mesic forests and roadsides. *Faust 2019-1376 (13).* 736–1826 m.

Lycopodiella inundata (L.) Holub {*Lycopodium inundatum var. inundatum*}, INUNDATED CLUBMOSS—BO. Mosquito Bay, *R. Bursik 109*, 1987 (ID)

Spinulum annotinum (L.) A. Haines {*Lycopodium annotinum*}, STIFF CLUBMOSS—BO, BR**.** Locally common in mesic forests and roadsides. *Faust 2019-2008 (11).* 746–1914 m.

SELAGINELLACEAE

Selaginella scopulorum Maxon {*Selaginella densa var. scopulorum*}, ROCKY MOUNTAIN SPIKEMOSS—BO, BR**.** Common in montane grasslands/shrublands and mid-high-elevation rocky outcrops. *Faust 2649 (13).* 684–2262 m.

Selaginella wallacei Hieron., WALLACE'S SPIKEMOSS—BO, BR***.*** Common in montane grasslands/shrublands. *Faust 2019-635 (4).* 640–1083 m.

MONOLIPHYTA

ASPLENIACEAE

■ ***Asplenium trichomanes*** L., MAIDENHAIR SPLEENWORT—BR. Italian Peak, *Doug Nishek s.n.*, 1997 (ID) [G5 S1]

■ ***Asplenium viride*** Huds. {*Asplenium trichomanes-ramosum*}, GREEN SPLEENWORT—BR. American Falls, *T. Spribille 11178*, 2001 (ID) [G4 S1]

ATHYRIACEAE

Athyrium distentifolium Tausch ex Opiz **ssp. *americanum*** (Butters) Hultén, ALPINE LADY-FERN—BR**.** Common, from deciduous riparian, talus slopes, and fellfields. *Faust 2019-1673 (5).* 1097–2065 m.

Athyrium filix-femina (L.) Roth ex Mertens **ssp. *cyclosorum*** (Rupr.) C. Chr. {*Athyrium alpestre var. cyclosorum*}, NORTHWESTERN LADY-FERN—BO, BR**.** Common, found in mesic forests and deciduous riparian. *Faust 2709 (6).* 676–1583 m.

BLECHNACEAE

■ ***Struthiopteris spicant*** (L.) Weiss {*Blechnum spicant*}, DEER FERN—BR***.*** Rare in mesic disjunct forest. *Faust 2509 (1).* 588 m. [*Only found in single locality in study area; however, Bursik's backlog illuminated localities adjacent to study area.*] [*G5 S3*]

CYSTOPTERIDACEAE

Cystopteris fragilis (L.) Bernh., FRAGILE FERN—BO, BR**.** Common in montane

grasslands/shrublands and deciduous riparian margins. *Faust 2019-125 (25).* 749–2072 m.

Gymnocarpium disjunctum (Rupr.) Ching, PACIFIC OAKFERN—BO, BR***.** Common in mesic forests. *Faust 2019-267 (16).* 581–2104 m. [*Prior specimens of Gymnocarpium dryopteris from the study area are referable here.*]

DENNSTAEDTIACEAE

Pteridium aquilinum (L.) Kuhn **var. *pubescens*** Underw., HAIRY BRACKENFERN—BR**.** Common weedy species on roadsides, montane forests and timber harvested forests. *Faust 4114 (1).* 1408 m. [*Also found abundantly in Bonner County within study area.*]

DRYOPTERIDACEAE

Dryopteris carthusiana (Vill.) H.P. Fuchs, SPINULOSE WOODFERN—BO, BR**.** Common, from shrub carr, mesic forests and subalpine meadow. *Faust 4158 (4).* 738–1840 m.

■ ***Dryopteris cristata*** (L.) A. Gray, CRESTED WOODFERN—BO**.** Uncommon in sphagnum dominated peatlands and sedge wetlands. *Faust 2019-2037 (2).* 744–752 m. [*G5 S2S3*]

Dryopteris expansa (C. Presl) Fraser-Jenk. & Jermy, SPREADING WOODFERN—BO, BR**.** Common, mesic forest and deciduous riparian. *Faust 2019-1897 (5).* 755–1613 m. [*Dryopteris austriaca missapplied.*]

Dryopteris filix-mas (L.) Schott, MALE FERN—BO, BR**.** Common, from mesic forests, deciduous riparian, high-elevation rocky outcrops. *Faust 2833 (10).* 749–2087 m.

Polystichum andersonii M. Hopkins, ANDERSON'S SWORDFERN—BO, BR**.** Ocassional, from mesic forests. *Faust 3555 (9).* 841–2010 m.

Figure 17. *Polystichum braunii.*

■ ***Polystichum braunii*** (Spenner) Fée, BRAUN'S HOLLYFERN—BO**.** Rare in mesic disjunct forest. *Faust 2703 (2).* 706–755 m. [*Re-located historical populations in Upper Priest Scenic Area.*] [*G5 S2*]

Polystichum lonchitis (L.) Roth, NORTHERN HOLLYFERN—BO, BR**.** Common, from mesic forests, deciduous riparian, high-elevation rocky outcrops. *Faust 2019-1388 (13).* 771–2104 m.

Polystichum munitum (Kaulf.) C. Presl, COMMON SWORDFERN—BO, BR**.** Occassional, mesic forest and deciduous riparian. *Faust 2770 (8).* 771–1358 m.

EQUISETACEAE

Equisetum arvense L., COMMON HORSETAIL—BO, BR**.** Common, from mesic forests, deciduous riparian, subalpine mesic meadows, aquatic zones and roadsides. *Faust 2019-156 (7).* 746–1814 m.

Equisetum fluviatile L., WATER HORSETAIL—BO, BR**.** Common, from sedge wetlands, flow-through fens and subalpine meadows. *Faust 2019-2054 (7).* 737–1769 m.

Equisetum hyemale L. **ssp.** ***affine*** (Engelm.) Calder & Roy L. Taylor, SCOURINGRUSH HORSETAIL—BO**.** Occasional, from deciduous riparian margins. *Faust 3812 (1).* 742 m.

Equisetum palustre L., MARSH HORSETAIL—BO, BR**.** Common, from deciduous riparian, sedge wetlands, shrub carr, and mesic forests. *Faust 2019-940 (5).* 730–1301 m.

Equisetum sylvaticum L., WOODLAND HORSETAIL—BO, BR**.** Common, mesic forest and deciduous riparian. *Faust 2370 (8).* 755–1305 m.

Equisetum variegatum Schleich. ex F. Weber & D. Mohr **ssp.** ***variegatum***, VARIEGATED SCOURING RUSH—BR*****.** Rare, roadside seep. *Faust 2754 (1).* 803 m. [*Previously overlooked in the Panhandle.*]

OPHIOGLOSSACEAE

! ***Botrychium hesperium*** (Maxon & R.T. Clausen) W.H. Wagner & Lellinger, WESTERN MOONWORT—BR*****.** Rare, from individual site composed of moss carpeted old road bed amidst mid- to high rocky outcrop. *Faust 3552 (1).* 1291 m. [*In review for state listing. See Discussion under State Records.*]

■ ***Botrychium minganense*** Vict., MINGAN MOONWORT—BO, BR**.** Occassional in mesic forests. *Faust 3158 (3).* 756–1201 m. [*Plants called Botrychium lunaria var. onondagense are referred here.]* [*G5 S3*]

Figure 18. *Botrychium hesperium*

■ ***Botrychium montanum*** W.H. Wagner, WESTERN GOBLIN'S MOONWORT—BO*, BR**.** Occassional in mesic forests and roadsides. *Faust 2019-1917 (5).* 756–1408 m. [*G3 S2*]

■ ***Botrychium pedunculosum*** W.H. Wagner, STALKED MOONWORT—BO*, BR**.** Uncommon in mesic forests and roadsides. *Faust 2735 (6).* 728–1291 m. [*G3G4 S1*]

■ ***Botrychium pinnatum*** H. St. John, PINNATE MOONWORT—BO*, BR*****.** Uncommon in mesic forests and roadsides. *Faust 2019-1936 (9).* 1119–1359 m. [*Plants called Botrychium boreale are referred here.]* [*G4? S2*]

■ ***Botrychium simplex*** E. Hitchc. **var.** ***compositum*** (Lasch) Milde, LEAST MOONWORT—BR*****.** Rare, on roadsides. *Faust 3227 (1).* 1251 m. [*G5 S2*]

■ ***Botrychium simplex*** E. Hitchc. **var. *simplex*** LEAST MOONWORT—BR*. Rare, on roadsides. *Faust 3562 (1).* 1317 m. [*G5 S2*]

Botrychium "viride" unpublished name, GREEN MOONWORT—BO*, BR*. Locally common, mesic forests and roadsides. *Faust 2736 (19).* 728–1408 m. [*Corresponds to the green genotype of B. lanceolatum.*]

Figure 19. *Botrychium "viride".*

Botrypus virginianus (L.) Michx. {*Botrychium virginianum*}, RATTLESNAKE FERN—BO, BR. Common in mesic forests and sedge wetlands. *Faust 2019-924 (14).* 602–1314 m.

Sceptridium multifidum (Gmel.) Tagawa {*Botrychium multifidum*}, LEATHERY GRAPEFERN—BO, BR. Common in sedge wetlands and roadsides. *Faust 3959 (10).* 733–1321 m.

POLYPODIACEAE

Polypodium hesperium Maxon, WESTERN POLYPODY—BR. Uncommon in montane schrublands and mid-elevation rocky outcrops. *Faust 4054 (2).* 701–836 m.

PTERIDACEAE

Adiantum aleuticum (Rupr.) Paris **var. *aleuticum*** {*Adiantum pedatum var. aleuticum*}, MAIDENHAIR FERN—BO*, BR. Uncommon in mesic forests and on the crest. *Faust 2019-1548 (3).* 770–2028 m.

Aspidotis densa (Brack.) Lellinger, CLIFFBRAKE FERN—BO, BR. Common in montane grasslands/shrublands. *Faust 2019-320 (11).* 694–1251 m.

Cryptogramma acrostichoides R. Br. {*Cryptogramma crispa var. acrostichoides*}, AMERICAN ROCKBRAKE—BO, BR. Common in montane grasslands/shrublands. *Faust 2019-438 (32).* 679–2014 m.

Cryptogramma cascadensis E.R. Alverson, CASCADE ROCKBRAKE—BR. Occasional in montane grasslands/shrublands. *Faust 2019-2100 (3).* 1920–2152 m.

Cryptogramma stelleri (S.G. Gmel.) Prantl, FRAGILE ROCKBRAKE—BR. Rare, from one waterfall. *Faust 3618 (1).* 1007 m. [*Relocated historical specimen, only found in one locality in state, in review for state listing.*]

Myriopteris gracillima (D. C. Eaton) J. Sm. {*Cheilanthes gracillima*}, LACE LIPFERN—BO, BR. Common in montane grasslands/shrublands. *Faust 2019-612 (9).* 930–1936 m.

THELYPTERIDACEAE

■ ***Phegopteris connectilis*** (Michx.) Watt {*Thelypteris phegopteris*}, BEECH FERN—BO, BR. Uncommon in mesic

forests and on the crest. *Faust 3262 (6).* 746–1870 m. [*G5 S2*]

WOODSIACEAE

Woodsia oregana D.C. Eaton, OREGON CLIFF FERN—BO, BR**.** Occassional in montane grasslands/shrublands and montane forest. *Faust 2019-494 (3).* 679–930 m.

Woodsia scopulina D.C. Eaton, ROCKY MOUNTAIN WOODSIA—BO, BR**.** Common in montane grasslands and shrublands and montane forest. *Faust 2019-1122 (12).* 679–1874 m.

CONIFERAE

CUPRESSACEAE

Juniperus communis L. **var. *depressa*** Pursh, DWARF JUNIPER—BO**.** Occassional in mid-high elevation rocky outcrop. *Faust 2019-1090 (1).* 1814 m. [*Uncommon variety in area, leaves 10–20+ mm and straight, with narrow stomatal band.*]

Juniperus communis L. **var. *kelleyi*** R.P. Adams, MOUNTAIN JUNIPER—BO, BR**.** Common in montane shrublands, mid-high elevation rocky outcrops, crest, and talus. *Faust 2019-31 (21).* 867–2317 m. [*Common variety in area, leaves 5–10 mm and curved, with wide stomatal band. Juniperus communis vars. saxatilis & montana misapplied.]*

Juniperus scopulorum Sarg., ROCKY MOUNTAIN JUNIPER—BO, BR**.** Common in montane shrublands and grasslands. *Faust 2019-641 (5).* 803–1055 m.

Thuja plicata Donn ex D. Don, WESTERN RED CEDAR—BO, BR**.** Common dominant cover in mesic and old growth forests. *Faust 2019-1216 (9).* 786–1408 m.

Figure 20. *Thuja plicata.*

PINACEAE

Abies grandis (Douglas ex D. Don) Lindl., GRAND FIR—BR**.** Common in montane to mid-elevation conifer forests. *Faust 2019-1384 (1).* 1624 m.

Abies lasiocarpa (Hook.) Nutt. **ssp. *bifolia*** (A. Murray bis) Silba, SUBALPINE FIR—BO, BR**.** Common dominant cover in mid-elevation and subalpine conifer forests. *Faust 2019-1060 (12).* 1583–2144 m.

Larix lyallii Parl., SUBALPINE LARCH—BR**.** Rare, from subalpine rocky slopes and meadows. *Faust 2019-1783 (1).* 1793 m. [*Known range within study area restriced to vicinity of Roman Nose Lakes.*]

Larix occidentalis Nutt., WESTERN LARCH—BO, BR**.** Common, from montane, mid-elevation conifer, and timber harvested forests. *Faust 2019-487 (6).* 786–1606 m.

Picea engelmannii Engelm. **var. *engelmannii,*** ENGELMANN SPRUCE—BO, BR**.** Common dominant cover in mid-elevation conifer forests. *Faust 2019-1151 (13).* 1248–2080 m.

■ ***Pinus albicaulis*** Engelm., WHITEBARK PINE—BO, BR**.** Locally common in subalpine conifer forests, occasional on granitic crest. *Faust 2019-284 (15).* 1638–2144 m. [*G3G4 S3*]

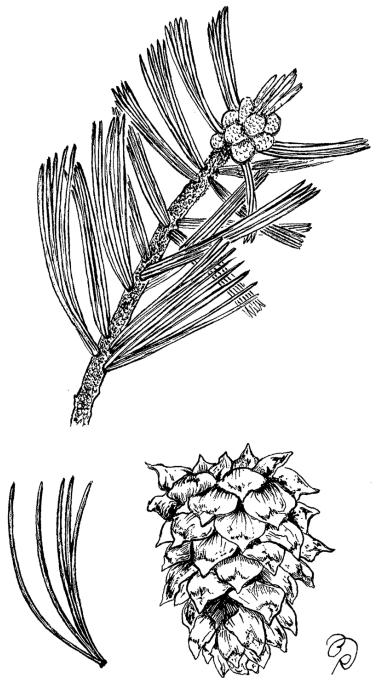

Figure 21. *Pinus albicaulis.*

Pinus contorta Douglas ex Loudon **var. *latifolia*** Engelm., LODGEPOLE PINE—BO, BR**.** Common, from montane to mid-elevation conifer forests. *Faust 2019-405 (11).* 1228–2080 m.

Pinus monticola Douglas ex D. Don, WESTERN WHITE PINE—BO, BR**.** Locally common in montane and mid-elevation conifer forests. *Faust 2019-1246 (6).* 659–1671 m.

Pinus ponderosa Douglas ex P. Lawson & C. Lawson **var. *ponderosa,*** PONDEROSA PINE—BO**.** Common in montane forests and montane grasslands/shrublands. *Faust 2656 (3).* 684–930 m.

Pseudotsuga menziesii (Mirb.) Franco **var. *glauca*** (Mayr) Franco, ROCKY MOUNTAIN DOUGLAS-FIR—BR**.** Common in montane forests and montane grasslands/shrublands. *Faust 2019-142 (3).* 1007–1811 m.

Tsuga heterophylla (Raf.) Sarg., WESTERN HEMLOCK—BO, BR**.** Common cover in mesic forests. *Faust 2019-1206 (8).* 723–1907 m.

TAXACEAE

Taxus brevifolia Nutt., PACIFIC YEW—BO, BR**.** Occassional from mesic old-growth forests. *Faust 2019-1904 (12).* 581–1452 m.

ANGIOSPERMAE

ARISTOLOCHIACEAE

Asarum caudatum Lindl., WILD GINGER—BO, BR**.** Common in the mesic forest and deciduous riparian zones. *Faust 2019-167 (12).* 710–1396 m.

CABOMBACEAE

Brasenia schreberi J.F. Gmel., WATERSHIELD—BO**.** Locally common in low elevation aquatic zones. *Faust 2019-2080 (1).* 659 m.

NYMPHAEACEAE

Nuphar polysepala Engelm., YELLOW POND LILY—BO, BR**.** Common floating aquatic in lakes and ponds. *Faust 4005 (4).* 662–1769 m.

+ ***Nymphaea odorata*** Aiton **ssp. *odorata***, AMERICAN WHITE WATERLILY—BO**.** Uncommon in aquatic zones. *Faust 2019-2091 (1).* 759 m.

EUDICOTYLEDONEAE

ADOXACEAE

Sambucus cerulea Raf., BLUE ELDERBERRY—BO, BR**.** Uncommon on roadsides. *Faust 3152 (2).* 761–1080 m.

Sambucus racemosa L. **var. *melanocarpa*** (A. Gray) McMinn, ROCKY MOUNTAIN ELDER—BO, BR**.** Common, from roadsides, mid to high elevation rocky outcrops and mid-elevation conifer forest. *Faust 2019-1906 (12).* 742–2086 m.

Viburnum edule (Michx.) Raf., SQUASHBERRY—BO**.** Locally common in old growth, mesic forest and peatlands. *Faust 2757 (3).* 745–783 m.

AMARANTHACEAE

+ ***Atriplex patula*** L. {*Atriplex patula var. patula*}, SPEAR SALTBUSH—BO. Priest River Experimental Forest, *R. F. Daubenmire 44474*, 1944 (WTU)

+ ***Chenopodium album*** L., LAMBSQUARTERS—BO. Priest River Experimental Forest, *R. F. Daubenmire 44472*, 1944 (WTU)

APIACEAE

Angelica arguta Nutt., LYALL'S ANGELICA—BO, BR**.** Common, from sedge wetlands, peatlands and aquatic zones. *Faust 2019-1753 (3).* 783–1289 m.

■ ***Cicuta bulbifera*** L., BULBLET-BEARING WATER HEMLOCK—BO**.** Rare on edges of aquatic zones. *Faust 2019-2065 (1).* 665 m. [*Only found in one locality in study area.]* [*G5 S2*]

+ ***Cicuta douglasii*** (DC.) J.M. Coult. & Rose, WESTERN WATER HEMLOCK—BO**.** Occassional on edge of aquatic zones. *Faust 4109 (1).* 698 m.

Daucus carota L., QUEEN ANNE'S LACE—BO**.** Occasional on roadsides. *Faust 4098 (1).* 679 m.

Heracleum maximum Bartr. {*Heracleum lanatum*}, COW PARSNIP—BO, BR**.** Common in deciduous riparian margins. *Faust 2019-1810 (6).* 756–1629 m.

Ligusticum canbyi (J.M. Coult. & Rose) J.M. Coult. & Rose, CANBY'S LOVAGE—BO, BR**.** Common in mid-elevation conifer forest, sedge wetlands, subalpine meadows. *Faust 2019-1704 (12).* 783–1934 m.

Lomatium ambiguum (Nutt.) J.M. Coult. & Rose, WYETH BISCUITROOT—BO, BR***.** Locally common in montane grassland/shrublands and ephemeral montane seep. *Faust 2019-18 (12).* 658–1301 m.

Lomatium geyeri (S. Watson) J.M. Coult. & Rose, GEYER'S BISCUITROOT—BO, BR***.** Locally common in montane grassland/shrublands. *Faust 2019-54 (7).* 582–956 m.

Lomatium multifidum (Nutt.) R.P. McNeill & Darrach {*Lomatium dissectum var. multifidum*}, FERNLEAF BISCUITROOT—BO, BR***.** Locally common in montane forests and montane grassland/shrublands. *Faust 2176 (8).* 823–1586 m. [*Purple flowered form of species. Prior reports of L. dissectum most likely L.*

multifidum; determinations weight pedicel length over flower color. Lomatium dissectum not definitively in area.]

Lomatium sandbergii (J.M. Coult. & Rose) J.M. Coult. & Rose, SANDBERG'S BISCUITROOT—BO, BR**.** Locally common in mid-high elevation rocky outcrops. *Faust 2019-1742 (10).* 1394–2099 m.

Lomatium simplex (Nutt.) J.F. Macbr. {*Lomatium triternatum ssp. platycarpum*}, GREAT BASIN DESERTPARSLEY—BO, BR***.*** Locally common, from montane forest and montane grassland/shrubland. *Faust 3059 (8).* 582–840 m. [*Previous reports of L. triternatum were annotated here.]*

Osmorhiza berteroi DC. {*Osmorhiza chilensis*}, MOUNTAIN SWEET CICELY—BO, BR**.** Common in mesic forest and deciduous riparian. *Faust 2019-779 (12).* 756–1546 m.

Osmorhiza occidentalis (Nutt. ex Torr. & A. Gray) Torr., WESTERN SWEET CICELY—BO, BR***.*** Occasional in montane grassland/shrubland and mesic forest. *Faust 3384 (3).* 1162–1664 m.

Osmorhiza purpurea (J.M. Coult. & Rose) Suksd., PURPLE SWEET CICELY—BR**.** Occassional in disjunct forests. *Faust 2603 (1).* 1282 m.

Perideridia montana (Blank.) Dorn MOUNTAIN YAMPAH—BR***.*** Uncommon in montane grassland/shrublands. *Faust 3829 (1).* 827 m. [*First collection for Panhandle, undercollected in region, presumably more populations present. Perideridia gairdneri misapplied.*]

■ ***Sanicula marilandica*** L., MARYLAND SANICLE—BO**.** Rare in oldgrowth disjunct forest. *Faust 2728 (2).* 738–805 m. [*Relocated historical specimen.*] [*G5 S3*]

APOCYNACEAE

Apocynum androsaemifolium L., DOGBANE—BO, BR**.** Common, from montane forests, montane grassland/shrublands and roadsides. *Faust 4075 (8).* 571–1621 m.

ARALIACEAE

Aralia nudicaulis L., WILD SARSAPARILLA—BO, BR**.** Common in mesic forest and deciduous riparian zones. *Faust 2019-89 (9).* 602–956 m.

Oplopanax horridus (Sm.) Miq. {*Oplopanax horridum*}, DEVIL'S CLUB—BO, BR**.** Common in mesic forest and deciduous riparian zones. *Faust 2019-220 (20).* 602–1452 m.

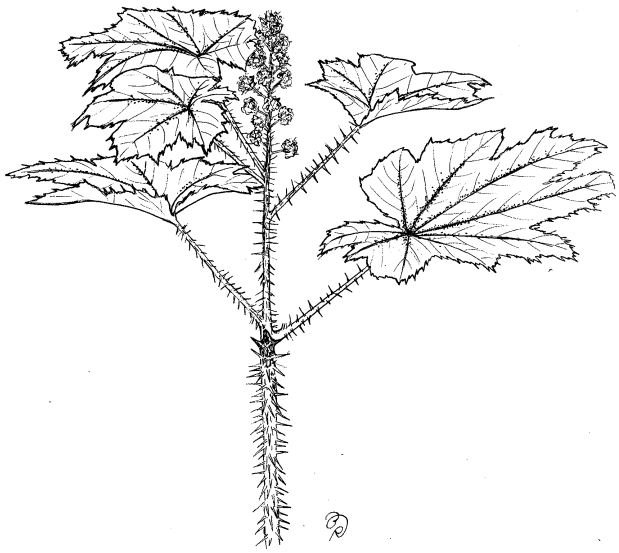

Figure 22. *Oplopanax horridus.*

ASTERACEAE

Achillea millefolium L., YARROW—BO, BR**.** Common in montane forest, montane grassland/shrubland and roadsides. *Faust 2019-1265 (10).* 658–2144 m.

Adenocaulon bicolor Hook., TRAILPLANT—BO, BR**.** Common in montane forest, montane grassland/shrubland and roadsides. *Faust 2019-1113 (5).* 694–786 m.

Agoseris aurantiaca (Hook.) Greene **var. *aurantiaca,*** ORANGE AGOSERIS—BO*, BR***.** Common on roadsides. *Faust 3368 (3).* 1315–2025 m.

Agoseris glauca (Pursh) Raf. **var. *dasycephala*** (Torr. & A. Gray) Jeps., SHAGGYHEAD AGOSERIS—BO**.** Locally common in bear grass meadows. *Faust 2019-975 (2).* 1780 m.

Agoseris heterophylla (Nutt.) Greene **var. *heterophylla,*** ANNUAL AGOSERIS—BO*, BR***.** Common in montane forests and montane grassland/shrublands. *Faust 2019-364 (9).* 658–955 m.

Anaphalis margaritacea (L.) Benth. & Hook. f., PEARLY EVERLASTING—BO, BR**.** Common on roadsides. *Faust 2019-543 (10).* 757–1625 m.

Antennaria howellii Greene **ssp. *howellii*** {*Antennaria neglecta var. howellii*}, HOWELL'S PUSSYTOES—BO, BR***.** Occassional in montane forest and montane grassland/shrubland. *Faust 2691 (6).* 607–1301 m. [*Upper surface of rosette leaves generally glabrous.*]

Antennaria howellii Greene **ssp. *neodioica*** (Greene) R.J. Bayer {*Antennaria neglecta var. attenuata*}, FIELD PUSSYTOES—BR**.** Occassional in montane forest and montane grassland/shrubland. *Faust 2295 (1).* 658 m. [*Upper surface of rosette leaves slightly tomentose.*]

Antennaria lanata (Hook.) Greene, WOOLLY PUSSYTOES—BR**.** Occasional on mid-high elevation rocky outcrops. *Faust 2019-1874 (8).* 1783–2139 m.

Antennaria luzuloides Torr. & A. Gray **ssp. *luzuloides,*** WOODRUSH PUSSYTOES—BO, BR***.** Occasional on roadsides. *Faust 3056 (5).* 693–1054 m.

Antennaria media Greene, ROCKY MOUNTAIN PUSSYTOES—BO*, BR**.** Occasional in fellfields and on the crest. *Faust 2019-1683 (13).* 1576–2163 m. [*Multiple prior reports of A. alpina and A. umbrinella from the study area are misidentifications of A. media.*]

Antennaria microphylla Rydb., LITTLELEAF PUSSYTOES—BO, BR**.** Occasional in fellfields and in subalpine conifer forest. *Faust 3371 (15).* 582–1920 m. [*Multiple prior reports of A. umbrinella from the study area are misidentifications of A. microphylla.*]

Antennaria racemosa Hook., RACEME PUSSYTOES—BO, BR**.** Common in the montane forest. *Faust 2019-136 (12).* 873–1798 m.

Arnica cordifolia Hook., HEARTLEAF ARNICA—BO, BR**.** Common in the montane forest. *Faust 2019-91 (7).* 622–1874 m.

Arnica gracilis Rydb. {*Arnica latifolia var. gracilis*}, SMALLHEAD ARNICA—BR**.** Occasional in the subalpine conifer forest & in fellfields. *Faust 2019-1631 (3).* 1920–2163 m.

Arnica lanceolata Nutt. **ssp. *prima*** (Maguire) Strother & S.J. Wolf {*Arnica amplexicaulis*}, STREAMBANK

ARNICA—BO, BR**.** Occasional in deciduous riparian and sedge wetlands. *Faust 2019-1697 (4).* 783–1726 m.

Arnica latifolia Bong., MOUNTAIN ARNICA—BO, BR**.** Occassional in montane forest and montane grassland/shrubland. *Faust 2019-1031 (8).* 582–1604 m.

Arnica mollis Hook., HAIRY ARNICA—BO, BR**.** Occasional in subalpine meadow and deciduous riparian zones. *Faust 2019-1550 (4).* 1762–2028 m. [*See Taxonomic Discussion.*]

Arnica ovata Greene {*Arnica diversifolia*}, STICKY LEAF ARNICA—BR**.** Common in the subalpine conifer forest, talus slopes & fellfield. *Faust 2019-1740 (14).* 1291–2099 m. [*See Taxonomic Discussion.*]

Artemisia ludoviciana Nutt. **ssp. *candicans*** (Rydb.) D.D. Keck {*Artemisia ludoviciana var. latiloba*}, WHITE SAGEBRUSH—BO**.** Occasional on edge of aquatic zones and ephemeral montane seep. *Faust 3885 (2).* 1635–1698 m. [*Principle leaves deeply lobed at least 1/3 way to midvein.*]

Artemisia ludoviciana Nutt. **ssp. *ludoviciana,*** LOUISIANA SAGEBRUSH—BO**.** Occasional on edge of aquatic zones. *Faust 3816 (2).* 742–745 m. [*Principle leaves entire or shallowly lobed.*]

Artemisia michauxiana Besser, MICHAUX'S MUGWORT—BR***.** Rare on crest. *Faust 3341 (1).* 1786 m. [*Only found in one locality in study area.]*

Balsamorhiza sagittata (Pursh) Nutt., ARROWLEAF BALSAMROOT—BO, BR***.** Locally common on montane grassland/shrublands. *Faust 2019-15 (6).* 653–911 m.

Bidens cernua L., NODDING BEGGARTICK—BO**.** Common in sedge wetlands. *Faust 4099 (2).* 698–739 m.

Canadanthus modestus (Lindl.) G.L. Nesom {*Aster modestus*}, GIANT MOUNTAIN ASTER—BO, BR**.** Locally common in peatlands and deciduous riparian margins. *Faust 3913 (3).* 742–1324 m.

+▲ ***Centaurea stoebe*** L. **ssp. *australis*** (A. Kern) Greuter {*Centaurea maculosa*}, SPOTTED KNAPWEED—BO, BR***.** Common, from roadsides, timber harvest and multiple use areas. *Faust 3823 (4).* 855–1408 m.

+▲ ***Cirsium arvense*** (L.) Scop., CANADA THISTLE—BO**.** Occassional, from roadsides, timber harvest and multiple use areas. *Faust 4127 (2).* 742–1043 m.

Cirsium brevistylum Cronquist, SHORT STYLED THISTLE—BO**.** Occassional from roadsides, timber harvested and montane forests. *Faust 2019-1937 (1).* 781 m. [*Also found in Boundary County within the study area.*]

+ ***Cirsium vulgare*** (Savi) Ten., BULL THISTLE—BR***.** Occassional, from roadsides, timber harvest and multiple use areas. *Faust 2019-1932 (3).* 1214–1458 m.

Conyza canadensis (L.) Cronquist, CANADIAN HORSEWEED—BR**.** Occassional from roadsides, timber harvested and montane forests. *Faust 2019-2029 (3).* 762–855 m.

Crepis atribarba A. Heller, SLENDER HAWKSBEARD—BR***.** Uncommon in montane grasslands/shrublands. *Faust 2019-538 (2).* 582–942 m.

+ ***Crepis capillaris*** (L.) Wallr., SMOOTH HAWKSBEARD—BO. Wrenco Loop Road, *Sandra Robins s.n.*, 2003 (ID)

Crepis intermedia A. Gray, INTERMEDIATE HAWKSBEARD—BO*, BR*. Uncommon in montane grasslands/shrublands. *Faust 2911 (2).* 942–1144 m.

Crepis occidentalis Nutt., WESTERN HAWKSBEARD—BR*. Uncommon in montane grasslands/shrublands. *Faust 2019-662 (1).* 772 m. [*First collection for North Idaho Panhandle.*]

Erigeron acris L. **var. *kamtschaticus*** (DC.) Herder {*Erigeron acris var. asteroides*}, BITTER FLEABANE—BO. Chase Lake?, *J. H. Christ 1660*, 1932 (ID)

Erigeron divergens Torr. & A. Gray, SPREADING FLEABANE—BR*. Uncommon in montane grasslands/shrublands. *Faust 2563 (3).* 761–1083 m. [*Also found in Bonner County within study area.*]

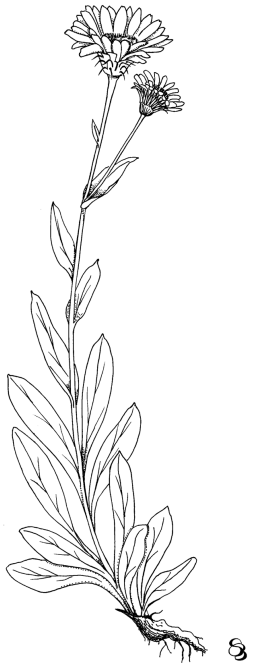

Figure 23. *Erigeron glacialis* var. *glacialis.*

Erigeron glacialis (Nutt.) A. Nelson **var. *glacialis*** {*Erigeron peregrinus ssp. callianthemus*}, SUBALPINE FLEABANE—BO, BR. Common, from mid-elevation conifer forests, subalpine meadows and roadsides. *Faust 2019-1332 (27).* 1155–2152 m.

Erigeron nivalis Nutt. {*Erigeron acris var. debilis*}, NORTHERN DAISY—BR. Common on mid to high rocky outcrops. *Faust 2019-1273 (5).* 1291–2163 m.

Erigeron philadelphicus L. **var. *philadelphicus,*** PHILADELPHIA FLEABANE—BR. Occasional on roadsides & deciduous riparian margins. *Faust 2019-552 (2).* 543–820 m.

Erigeron speciosus (Lindl.) DC., SHOWY FLEABANE—BR*. Uncommon in montane shrublands. *Faust 2019-530 (1).* 989 m.

Erigeron strigosus Muhl. ex Willd., PRAIRIE FLEABANE—BO. Priest River Experimental Forest, *F. D. Johnson s.n.*, 1974 (ID)

Eucephalus engelmannii (D.C. Eaton) Greene {*Aster engelmannii*}, ENGELMANN'S ASTER—BR. Common, from montane forests, deciduous riparian margins and roadsides. *Faust 2019-1994 (6).* 1452–1974 m. [*Also found in Bonner County within study area.*]

Eurybia conspicua (Lindl.) G. L. Nesom {*Aster conspicuus*}, SHOWY ASTER—BO. Priest River Experimental Forest, *R. F. Daubenmire 43298*, 1943 (WTU)

■ ***Euthamia graminifolia*** (L.) Nutt. {*Solidago graminifolia var. major*}, GRASS LEAVED GOLDENROD—BR. Homestead Creek Watershed, *Peter F. Stickney 3902*, 1979 (ID) [G5 S1]

\+ ***Filago arvensis*** L., FIELD COTTONROSE—BR. Common, from montane shrubland and dry roadsides. *Faust 2019-522 (5).* 693–1083 m.

Gnaphalium palustre Nutt., WESTERN MARSH CUDWEED—BO**.** Occassional weed found on roadsides and multiple use zones. *Faust 3886 (1).* 1698 m. [*Also found in Bonner County within study area.*]

+ ***Gnaphalium uliginosum*** L., MARSH CUDWEED—BO**.** Uncommon on roadsides. *Faust 3124 (1).* 794 m.

Hemizonella minima (A. Gray) A. Gray {*Madia minima*}, SMALLHEAD TARWEED—BO, BR***.*** Common from montane grasslands/shrublands. *Faust 2019-374 (8).* 803–1720 m.

Heterotheca villosa (Pursh) Shinners **var. *minor*** (Hook.) Semple {*Chrysopsis villosa var. hispida*}, HAIRY FALSE GOLDENASTER—BO***.*** Uncommon roadside weed. *Faust 2019-2078 (1).* 672 m.

Hieracium albiflorum Hook., WHITE HAWKWEED—BO, BR**.** Common, from montane forest, mid elevation conifer forest and mesic forests. *Faust 2019-1114 (12).* 694–1628 m.

+▲ ***Hieracium aurantiacum*** L., ORANGE HAWKWEED—BO, BR**.** Common, from roadsides, timber harvest and multiple use areas. *Faust 2019-1213 (6).* 548–1385 m.

+▲ ***Hieracium glomeratum*** Froel., QUEEN-DEVIL HAWKWEED—BO, BR***.*** Common, from roadsides, timber harvest and multiple use areas. *Faust 2019-473 (15).* 617–1523 m. [*This species was intitally reported from northern Idaho in a 2006 paper (Canadian Journal of Botany 84: 133-142) but the earliest herbarium specimen from Idaho is from 2016.*]

Hieracium scouleri Hook. {*Hieracium albertinum*}, SCOULER'S WOOLLYWEED—BO, BR**.** Common, from montane grassland/shrublands and mid to high elevation rocky outcrops. *Faust 2019-1612 (12).* 693–2014 m. [*Plants from study area match Hieracium scouleri sensu strictu and Hieracium albertinum.*]

Hieracium triste Willd. ex Spreng. {*Hieracium gracile*}, WOOLLY HAWKWEED—BO, BR**.** Common, from mid to high elevation rocky outcrops, subalpine conifer forests and crest. *Faust 2019-1444 (12).* 1733–2201 m.

Hieracium umbellatum L. {*Hieracium canadense*}, NARROWLEAF HAWKWEED—BO, BR**.** Common, from roadsides, timber harvested forests and deciduous riparian margins. *Faust 4164 (3).* 745–1408 m.

Ionactis stenomeres (A. Gray) Greene {*Aster stenomeres*}, ROCKY MOUNTAIN ASTER—BO, BR***.*** Locally common in bear grass meadows. *Faust 2019-1982 (4).* 1620–2025 m.

+ ***Lactuca biennis*** (Moench) Fernald, TALL BLUE LETTUCE—BR**.** Locally common in mesic timber harvest areas. *Faust 4061 (1).* 1097 m.

+ ***Lactuca serriola*** L., PRICKLY LETTUCE—BR**.** Occassional on dry roadsides and disturbed montane shrublands. *Faust 2019-2031 (2).* 762–855 m.

Lactuca tatacaria (L.) C.A. Mey **ssp. *pulchella*** (Pursh) Stebbins {*Lactuca pulchella, Mulgedium pulchellum*}, PRICKLY LETTUCE—BO. Priest Lake Airport, *William H. Baker 13759*, 1955 (ID)

+▲ ***Leucanthemum vulgare*** Lam. {*Chrysanthemum leucanthemum*}, OXEYE DAISY—BO, BR**.** Common, from roadsides, timber harvest and

multiple use areas. *Faust 2019-699 (6).* 548–1271 m.

Madia exigua (Sm.) A. Gray, SMALL TARWEED—BO, BR*. Common in montane grassland/shrublands. *Faust 2019-636 (4).* 803–1083 m.

Madia glomerata Hook., MOUNTAIN TARWEED—BR. Occasional roadside weed. *Faust 3822 (1).* 855 m. [*Also found in Bonner County within study area.*]

Madia gracilis (Sm.) D.D. Keck, GRASSY TARWEED—BO. Occasional in montane grassland/shrubland. *Faust 3087 (2).* 660–768 m.

Matricaria discoidea DC. {*Matricaria matricarioides*}, PINEAPPLE WEED—BO, BR*. Occasional roadside weed. *Faust 2019-1144 (2).* 548–659 m.

Microseris nutans (Hook.) Sch. Bip., NODDING MICROSERIS—BO, BR. Common from montane grasslands/shrublands, mid to high elevation rocky outcrops and bear grass meadows. *Faust 2019-380 (11).* 578–1811 m.

\+ ***Mycelis muralis*** (L.) Dumort. {*Lactuca muralis*}, WALL-LETTUCE—BO, BR*. Common on mesic roadsides, timber harvested and mesic forests. *Faust 2019-698 (6).* 548–1005 m. [*Previously overlooked in the Idaho Panhandle, common weed.*]

Packera indecora (Greene) Á. Löve & D. Löve {*Senecio indecorus*}, ELEGANT GROUNDSEL—BO, BR*. Common in low elevation sedge wetlands and flow-through fens. *Faust 3706 (2).* 1017–1344 m.

Packera pseudaurea (Rydb.) W.A. Weber & Á. Löve **var. *pseudaurea*** {*Senecio pseudaureus var. pseudaureus*}, FALSEGOLD GROUNDSEL—BR. Occasional in flow-through fens. *Faust 3596 (1).* 1322 m.

■ ***Petasites frigidus*** (L.) Fr. **var. *sagittatus*** (Pursh) Chemiawsky & R.J. Bayer {*Petasites sagittatus*}, ARROWLEAF SWEET COLTSFOOT—BO. Mosquito Bay, *Robert Bursik 2615*, 1993 (ID) [G5 S3]

Pseudognaphalium macounii (Greene) Kartesz {*Gnaphalium viscosum*}, MACOUN'S CUDWEED—BO, BR. Common, from roadside and timber harvested forests. *Faust 2019-1621 (4).* 1001–1502 m.

Pseudognaphalium thermale (E.E. Nelson) G.L. Nesom {*Gnaphalium microcephalum*}, SLENDER CUDWEED—BO, BR*. Common roadside weed. *Faust 2019-2060 (2).* 762–1001 m.

\+ ? ***Rudbeckia hirta*** L., BLACKEYED SUSAN—BO. Wrenco Loop Road, *Sandra Robins s.n.*, 2003 (ID)

Senecio hydrophiloides Rydb. {*Senecio foetidus*}, TALL GROUNDSEL—BO. Uncommon, found in ephemeral montane seep. *Faust 2931 (1).* 661 m.

Senecio hydrophilus Nutt., WATER RAGWORT—BO. Priest River Experimental Forest, *R. F. Daubenmire 43232*, 1943 (WTU)

Senecio integerrimus Nutt. **var. *exaltatus*** (Nutt.) Cronquist, COLUMBIA RAGWORT—BO, BR. Common, from montane grassland/shrublands and mid to high elevation rocky outcrops. *Faust 2019-36 (15).* 696–1872 m. [*Basal leaves generally tapered to petiole and rays yellow.*]

Senecio integerrimus Nutt. **var. *ochroleucus*** (A. Gray) Cronquist, PALEYELLOW RAGWORT—BO. Occasional, in montane

grasslands/shrublands. *Faust 2175 (2).* 902–1060 m. [*Basal leaves generally ovate and rays generally white.*]

Senecio triangularis Hook., ARROWLEAF RAGWORT—BO, BR**.** Common, from mid elevation conifer forests, wet subalpine meadows, peatlands and fellfields. *Faust 2019-1311 (21).* 757–2062 m.

\+ ***Senecio vulgaris*** L., OLD MAN IN THE SPRING—BR. Jeru Peak Vicinity, *Peter F. Stickney 1702*, 1968 (ID)

Solidago lepida DC. **var. *lepida*** {*Solidago canadensis var. subserrata*}, WESTERN CANADA GOLDENROD—BO***.** Occasional roadside, timber harvested forests and deciduous riparian weed. *Faust 2019-2047 (1).* 733 m. [*Less common variety in area; infloresence thrysiform.]*

Solidago lepida DC. **var. *salebrosa*** (Piper) Semple {*Solidago canadensis var. salebrosa*}, ROCKY MOUNTAIN GOLDENROD—BO, BR**.** Common roadside, timber harvested forests and deciduous riparian weed. *Faust 2019-1619 (10).* 659–1502 m. [*Dominant variety in area; infloresence pyramidal-paniculiform.*]

Solidago multiradiata Aiton, ROCKY MOUNTAIN GOLDENROD—BR**.** Common on the crest and high elevation rocky outcrops. *Faust 2019-2000 (6).* 1523–2084 m.

■ ***Symphyotrichum boreale*** (Torr. & A. Gray) Á. Löve & D. Löve {*Aster junciformis*}, NORTHERN BOG ASTER—BO**.** Rare in peatland fens. *Faust 2019-2034 (1).* 752 m. [*G5 S2*]

Symphyotrichum cusickii (A. Gray) G.L. Nesom {*Aster foliaceus var. cusickii*}, CUSICK'S ASTER—BO***.** Occassional in flow-through fens. *Faust 3697 (1).* 995 m. [*FPNW 2nd edition treats this species as synonymous with S. foliaceous. This specimen was significantly morphologically variant from other S. foliaceus specimens. See Taxonomic Discussion.]*

Symphyotrichum foliaceum (Lindl. ex DC.) G.L. Nesom **var. *foliaceum*** {*Aster foliaceus var. foliaceus*}, ALPINE LEAFYBRACT ASTER—BR***.** Common in flow-through fens. *Faust 3949 (3).* 1289–1445 m. [*Plants 20-60 cm, phyllaries wider and foliaceous. Prior reports of S. spathulatum (Aster occidentalis) are not verified and likely fit here; extremely variable species. See Taxonomic Discussion.*]

Symphyotrichum foliaceum (Lindl. ex DC.) G.L. Nesom **var. *parryi*** (D.C. Eaton) G.L. Nesom {*Aster foliaceus var. parryi*}, PARRY'S ASTER—BR**.** Common in flow-through fens. *Faust 2019-1712 (1).* 1523 m. [*Plants 5-30 cm, phyllaries narrowly lanceolate, grows in generally higher elevations. See Taxonomic Discussion.]*

Symphyotrichum laeve (L.) Á. Löve & D. Löve {*Aster laevis*}, SMOOTH BLUE ASTER—BO. Priest River Experimental Forest, *Peter F. Stickney 3785*, 1978 (ID) [*See Taxonomic Discussion.]*

Symphyotrichum lanceolatum (Willd.) G.L. Nesom **var. *hesperium*** (A. Gray) G.L. Nesom {*Aster hesperius*}, WHITE PANICLE ASTER—BO. Priest River Experimental Forest, *Peter F. Stickney 3653*, 1977 (ID) [*See Taxonomic Discussion.]*

Symphyotrichum subspicatum (Nees) G.L. Nesom {*Aster subspicatus*}, DOUGLAS' ASTER—BO, BR**.** Common weedy species in montane grasslands/shrublands and sedge

wetlands. *Faust 2019-2030 (2).* 698–762 m. [*Highly variable species.*]

+ ***Tanacetum vulgare*** L., COMMON TANSY—BO, BR**.** Common, from roadsides, timber harvest and multiple use areas. *Faust 2019-1011 (2).* 855–895 m.

+ ***Taraxacum officinale*** F.H. Wigg., COMMON DANDELION—BR**.** Locally common in timber harvest zones. *Faust 2108 (1).* 745 m. [*Abundant in Bonner County.*]

Tonestus lyallii (A. Gray) A. Nelson {*Haplopappus lyallii*}, LYALL'S GOLDENWEED—BR**.** Rare on granitic crest outcrops. *Faust 3837 (1).* 2262 m.

+ ***Tragopogon dubius*** Scop., YELLOW SALSIFY—BO, BR***.*** Occasional in disturbed montane shrublands/grasslands, roadsides, timber harvest zones. *Faust 2019-379 (5).* 543–1271 m.

BALSAMINACEAE

Impatiens aurella Rydb., VARIED JEWELWEED—BO**.** Occassional in aquatic margins. *Faust 3064 (2).* 658–759 m.

Impatiens ecornuta Gerry Moore, Zika, & Rushworth {*Impatiens ecalcarata*}, SPURLESS JEWELWEED—BO**.** Occassional in aquatic margins. *Faust 3809 (1).* 742 m.

BERBERIDACEAE

Berberis nervosa Pursh {*Mahonia nervosa*}, CASCADE OREGON GRAPE—BO**.** Rare in mesic disjunct forest. *Faust 2369 (1).* 827 m.

Berberis repens Lindl. {*Mahonia repens*}, CREEPING OREGON GRAPE—BO*, BR***.*** Common in montane shrublands and forest. *Faust 2289 (9).* 651–1500 m. [*Some historical specimens were identified as Berberis aquifolium and annotated here; see Appendix.*]

BETULACEAE

Alnus incana (L.) Moench **ssp. *tenuifolia*** (Nutt.) Breitung {*Alnus incana var. occidentalis*}, MOUNTAIN ALDER—BO, BR**.** Common, from deciduous riparian margins, flow-through fens and sedge wetlands. *Faust 3070 (5).* 710–831 m.

Alnus rubra Bong., RED ALDER—BO**.** Occasional from low to mid elevation deciduous riparian margins and mesic forests. *Faust 2403 (5).* 659–870 m.

Alnus viridis (Chaix) DC. **ssp. *fruticosa*** (Rupr.) Nyman {*Alnus fruticosa*}, SIBERIAN ALDER—BO***.*** Occasional, from deciduous riparian margins and roadsides. *Faust 2895 (1).* 1271 m. [*Margins of fertile stem leaves singly serrate and unlobed. Several collections appear intermediate between ssp. fruticosa and ssp. sinuata.*]

Alnus viridis (Chaix) DC. **ssp. *sinuata*** (Regel) A. Löve & D. Löve {*Alnus sinuata*}, SITKA ALDER—BO, BR**.** Common, from deciduous riparian margins and roadsides. *Faust 2019-1901 (18).* 1057–1974 m. [*Margins of fertile stem leaves doubly serrate or lobed and serrate.]*

Betula glandulosa Michx., BOG BIRCH—BO, BR**.** Locally common in flow-through fens. *Faust 2019-1467 (5).* 733–1445 m. [*See Taxonomic Discussion.*]

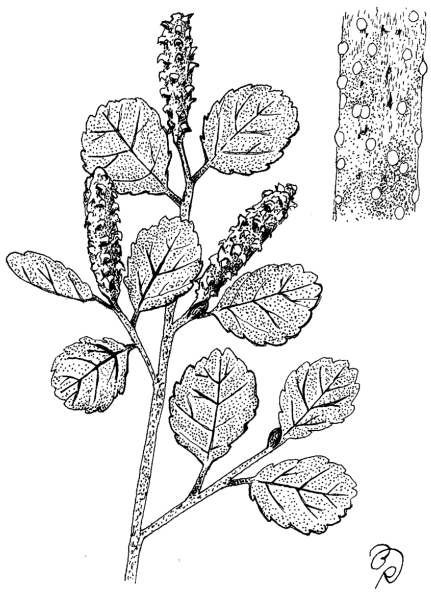

Figure 24. Betula glandulosa.

Betula papyrifera Marshall, PAPER BIRCH—BR**.** Occasional in deciduous riparian margins and montane forests. *Faust 2019-98 (2).* 569–722 m.

Corylus cornuta Marshall **ssp. *cornuta,*** BEAKED HAZELNUT—BR**.** Rare, mesic forests. *Faust 2505 (1).* 581 m. [*Only found in mesic forest sites in the northeast corner of the study area.*]

BORAGINACEAE

Amsinckia intermedia Fisch. & C.A. Mey., COMMON FIDDLENECK—BR***.** Uncommon on roadsides and multiple use. *Faust 2493 (1).* 1800 m.

Cryptantha affinis (A. Gray) Greene, QUILL CRYPTANTHA—BO, BR**.** Common in montane grassland/shrublands. *Faust 2635 (5).* 768–1271 m.

Cryptantha ambigua (A. Gray) Greene, BASIN CRYPTANTHA—BO**.** Uncommon, montane grasslands/shrublands. *Faust 2919 (1).* 1054 m.

Cryptantha torreyana (A. Gray) Grenne, TORREY'S CRYPTANTHA—BO. Priest River Experimental Forest, *R. F. Daubenmire 43186*, 1943 (WS)

+▲ ***Cynoglossum officinale*** L., COMMON HOUND'S TONGUE—BR**.** Uncommon in disturbed montane forest. *Faust 2451 (1).* 647 m.

Mertensia longiflora Greene, LONG FLOWERED BLUEBELL—BO, BR***.** Common, early-flowering species in montane grasslands/shrublands. *Faust 2195 (5).* 745–1071 m.

Mertensia paniculata (Aiton) G. Don **var. *borealis*** (J.F. Macbr.) L.O. Williams, NORTHERN BLUEBELLS—BO**.** Common, from deciduous riparian margins, often adjacent to creeks and streams. *Faust 2019-266 (3).* 775–1513 m. [*Stems and infloresence branches glabrous.*]

Mertensia paniculata (Aiton) G. Don **var. *paniculata,*** TALL BLUEBELLS—BO*, BR**.** Common, from deciduous riparian margins, often adjacent to creeks and streams. *Faust 3165 (5).* 742–1729 m. [*Stems and infloresence branches with strigose or spreading hairs.*]

Myosotis laxa Lehm., SMALL FLOWERED FORGET ME NOT—BO**.** Uncommon, sedge wetland. *Faust 3691 (1).* 995 m.

+ ***Myosotis micrantha*** Pall. ex Lehm., STRICT FORGET-ME-NOT—BO, BR***.** Common in montane grassland/shrublands. *Faust 2019-390 (11).* 657–1060 m.

+ ***Myosotis scorpioides*** L., TRUE FORGET-ME-NOT—BO**.** Uncommon in sedge meadows. *Faust 4138 (2).* 744–995 m.

Plagiobothrys cognatus (Greene) I.M. Johnst., SLEEPING POPCORNFLOWER—BO**.** Uncommon on roadsides and multiple use. *Faust 3867 (1).* 1429 m.

BRASSICACEAE

Arabidopsis thaliana (L.) Heynh., MOUSEEAR CRESS—BO, BR*. Common in montane grassland/shrublands. *Faust 2019-06 (7).* 617–1060 m. [*First collections for north Idaho Panhandle.*]

Arabis eschscholtziana Andrz. {*Arabis hirsuta var. eschscholtziana*}, ESCHSCHOLTZ'S HAIRY ROCKCRESS—BR*. Occassional in mesic forest margins and mid-elevation rocky outcrops. *Faust 3471 (2).* 1162–1586 m.

Athysanus pusillus (Hook.) Greene, COMMON SANDWEED—BO, BR*. Common in montane grassland/shrublands. *Faust 2115 (6).* 684–1071 m. [*First collections for north Idaho Panhandle.*]

Barbarea orthoceras Ledeb., AMERICAN YELLOWROCKET—BO. Occasional weedy species in ephemeral montane seep and mid-elevation rocky outcrop. *Faust 2241 (2).* 652–1762 m.

+▲ ***Berteroa incana*** (L.) DC., HOARY ALYSSUM—BO. Uncommon on roadsides. *Faust 3061 (1).* 689 m.

Boechera divaricarpa (A. Nelson) Á. Löve & D. Löve {*Arabis divaricarpa*}, SPREADINGPOD ROCKCRESS—BO. Uncommon, from mid-elevation rocky outcrops. *Faust 2854 (1).* 1635 m.

Boechera grahamii (Lehm.) Windham & Al-Shehbaz, BOIVIN'S ROCKCRESS—BR*. Uncommon, from mid-elevation rocky outcrops. *Faust 3369 (1).* 1811 m.

Boechera lyallii (S. Watson) Dorn {*Arabis lyallii*}, LYALL'S ROCKCRESS—BR. Common on the crest and high elevation rocky outcrops. *Faust 2019-1546 (5).* 2003–2262 m.

Boechera retrofracta (Graham) Á. Löve & D. Löve {*Arabis holboellii var. retrofracta*}, SECUND ROCKCRESS—BO, BR. Common in montane grassland/shrublands and mid to high elevation rocky outcrops. *Faust 2019-965 (9).* 653–1780 m.

+ ***Capsella bursa-pastoris*** (L.) Medik., SHEPHERD'S PURSE—BO, BR. Occasional on roadsides. *Faust 3151 (2).* 761–1800 m.

Cardamine hirsuta L., HAIRY BITTERCRESS—BO*. Occasional in harvested forests and roadsides. *Faust 2140 (1).* 887 m.

Cardamine oligosperma Nutt., LITTLE WESTERN BITTERCRESS—BO. Occasional, from sedge wetland and aquatic margins. *Faust 2019-2045 (1).* 736 m.

Cardamine pensylvanica Muhl. ex Willd., PENNSYLVANIA BITTERCRESS—BO, BR. Common, from sedge wetland and aquatic margins. *Faust 2436 (6).* 689–1162 m.

■ ***Draba incerta*** Payson, YELLOWSTONE DRABA—BR. Fisher Peak Vicinity, *Mike Hays 180*, 1985 (ID) [*Known from single locality in study area.]* [G5 S2]

+ ***Draba verna*** L., SPRING DRABA—BR*. Common in montane grasslands/shrublands. *Faust 2019-02 (3).* 684–1071 m.

Idahoa scapigera (Hook.) A. Nelson & J.F. Macbr., OLDSTEM IDAHOA—BR*. Occasional in ephemeral montane seep. *Faust 2110 (2).* 658–684 m. [*First collections for North Idaho Panhandle.*]

Rorippa curvisiliqua (Hook.) Bessey ex Britton, CURVEPOD YELLOWCRESS—BO**.** Occasional from aquatic margins. *Faust 3865 (1).* 1429 m.

+ ***Rorippa palustris*** (L.) Besser **ssp. *palustris*** {*Rorippa islandica var. glabrata*}, BOG YELLOWCRESS—BO, BR***.*** Occasional in disturbed sedge meadows, mesic roadsides. *Faust 3968 (2).* 995–1270 m.

+ ***Sisymbrium altissimum*** L., TUMBLE MUSTARD—BR***.*** Uncommon on roadsides. *Faust 2521 (1).* 543 m.

Subularia aquatica L. **ssp. *americana*** G.A. Mulligan & Calder, AWLWORT—BO**.** Rare, fully submerged aquatic in Priest Lake. *Faust 4142 (1).* 747 m. [*Last collected from Priest Lake in 1901.*]

+ ***Thlaspi arvense*** L., FIELD PENNYCRESS—BR***.*** Uncommon in multiple use areas. *Faust 2488 (1).* 1800 m.

Turritis glabra L. {*Arabis glabra*}, TOWER ROCKCRESS—BO, BR**.** Common roadside weed, also found in montane shrublands. *Faust 2019-916 (8).* 684–1566 m.

CAMPANULACEAE

Campanula rotundifolia L., BLUEBELL BELLFLOWER—BO, BR**.** Common on roadsides and mid-high elevation rocky outcrops. *Faust 2019-923 (9).* 855–2175 m.

Heterocodon rariflorus Nutt. {*Heterocodon rariflorum*}, HETEROCODON—BO, BR***.*** Common weedy species in montane grasslands/shrublands. *Faust 2019-507 (9).* 662–1251 m.

CAPRIFOLIACEAE

Lonicera ciliosa (Pursh) Poir. ex DC., ORANGE HONEYSUCKLE—BO, BR**.** Common vine in montane forests. *Faust 2019-330 (5).* 578–1119 m.

Lonicera involucrata (Richardson) Banks ex Spreng. **var. *involucrata,*** TWINBERRY HONEYSUCKLE—BO*, BR**.** Common shrub in mid elevation conifer forests and flow-through fens. *Faust 2019-1820 (8).* 795–1769 m.

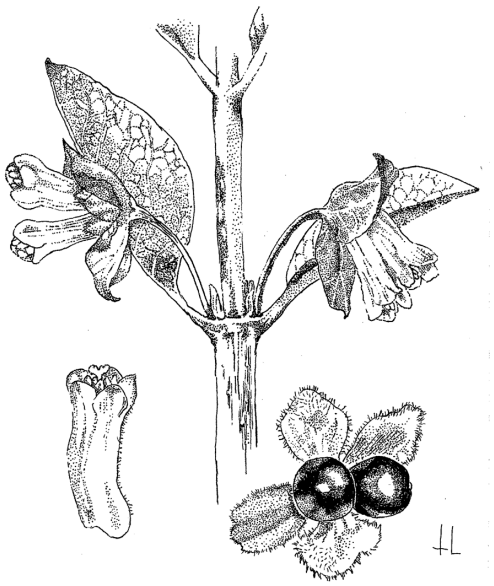

Figure 25. *Lonicera involucrata* var. *involucrata.*

Lonicera utahensis S. Watson, UTAH HONEYSUCKLE—BO, BR**.** Common, from montane forest and roadsides. *Faust 2019-280 (12).* 734–1625 m.

Symphoricarpos albus (L.) S.F. Blake **var. *laevigatus*** (Fernald) S.F. Blake, COMMON SNOWBERRY—BO, BR***.*** Common, from montane forest and roadsides. *Faust 2019-1116 (5).* 659–1320 m.

CARYOPHYLLACEAE

+ ***Arenaria serpyllifolia*** L. **var. *serpyllifolia,*** THYME LEAF SANDWORT—BO*, BR***.*** Common

weedy species in montane grasslands/shrublands. *Faust 2278 (6).* 658–1071 m.

+ ***Cerastium arvense*** L. **ssp. *strictum*** Gaudin, FIELD CHICKWEED—BO***.** Uncommon in montane shrublands. *Faust 2019-369 (1).* 803 m.

+ ***Cerastium fontanum*** Baumg. **ssp. *vulgare*** (Hartm.) Greuter & Burdet {*Cerastium vulgatum*}, BIG CHICKWEED—BO, BR**.** Common, from roadsides, disturbed montane and mid-elevation forests. *Faust 2019-997 (6).* 786–1513 m.

+ ***Cerastium glomeratum*** Thuill. {*Cerastium viscosum*}, STICKY CHICKWEED—BO**.** Uncommon in disturbed montane grasslands. *Faust 2252 (1).* 685 m.

Cherleria obtusiloba (Rydb.) A. J. Moore & Dillenb. {*Arenaria obtusiloba, Minuartia obtusiloba*}, ALPINE SANDWORT—BR**.** Rare, found on the crest. *Faust 3843 (1).* 2258 m.

+ ***Dianthus armeria*** L. **ssp. *armeria,*** DEPTFORD PINK—BO*, BR***.** Occasional on roadsides and weedy trailsides. *Faust 2019-1250 (3).* 768–1019 m.

Eremogone capillaris (Poir.) Fenzl **var. *americana*** (Maguire) R.L. Hartm. & Rabeler {*Arenaria capillaris var. americana*}, MOUNTAIN SANDWORT—BO, BR**.** Common in mid to high elevation rocky outcrops. *Faust 3211 (20).* 930–2175 m.

Moehringia lateriflora (L.) Fenzl {*Arenaria lateriflora*}, BLUNT LEAVED MOERHINGIA—BO**.** Occasional, from montane forest. *Faust 2019-235 (1).* 755 m.

Moehringia macrophylla (Hook.) Fenzl {*Arenaria macrophylla*}, LARGELEAF SANDWORT—BO**.** Occasional, from montane forest. *Faust 2019-44 (2).* 745–1432 m.

Sagina decumbens (Elliott) Torr. & A. Gray **ssp. *occidentalis*** (S. Watson) G.E. Crow {*Sagina occidentalis*}, WESTERN PEARLWORT—BR***.** Common on roadsides. *Faust 2019-474 (1).* 981 m.

+ ***Sagina procumbens*** L., BIRDEYE PEARLWORT—BO, BR**.** Common on roadsides. *Faust 2019-623 (4).* 922–1637 m.

Sagina saginoides (L.) H. Karsten, ARCTIC PEARLWORT—BR**.** Occasional on crest and mid to high elevation rocky outcrops. *Faust 2019-1997 (5).* 1313–2084 m.

+ ***Scleranthus annuus*** L. **ssp. *annuus,*** ANNUAL KNAWEL—BO**.** Uncommon on roadsides. *Faust 3125 (1).* 794 m.

Silene acaulis (L.) Jacq. {*Silene acaulis vars. exscapa & subacaulescens*}, MOSS PINK—BR. Twin Peaks, *Bob Moseley 1664*, 1989 (ID) [*Known from single locality in study area.]*

Silene antirrhina L., SLEEPY SILENE—BO, BR***.** Common weedy species in montane grasslands/shrublands. *Faust 2653 (3).* 662–930 m.

Silene douglasii Hook. **var. *douglasii***, DOUGLAS'S CATCHFLY—BO. Priest River Experimental Forest, *R. F. Daubenmire 6826*, 1968 (WS)

+ ***Silene latifolia*** Poir. {*Lychnis alba*}, BLADDER CAMPION—BO**.** Occasional on roadsides & deciduous riparian. *Faust 3156 (1).* 761 m.

Silene menziesii Hook., MENZIES' CAMPION—BO, BR**.** Occasional weed from roadsides and montane shrublands. *Faust 2800 (3).* 772–917 m.

Silene parryi (S. Watson) C.L. Hitchc. & Maguire, PARRY'S SILENE—BO*, BR**.** Common, from mid to high elevation rocky outcrops and fellfields. *Faust 3848 (8).* 1780–2175 m.

+ ***Silene vulgaris*** (Moench) Garcke {*Silene cucubalus*}, MAIDENSTEAR'S—BO**.** Uncommon in disturbed mesic forest. *Faust 3802 (1).* 816 m.

+ ***Spergularia rubra*** (L.) J. Presl & C. Presl, RED SANDSPURRY—BO, BR***.*** Common on dry roadsides. *Faust 2019-618 (4).* 1267–1780 m.

Stellaria borealis Bigelow **ssp. *sitchana*** (Steud.) Piper & Beattie {*Stellaria calycantha var. bongardiana*}, SITKA STARWORT—BO**.** Common in deciduous riparian marginal habitat. *Faust 2019-2079 (3).* 736–832 m.

Stellaria calycantha (Ledeb.) Bong., NORTHERN STARWORT—BR**.** Common, from deciduous riparian margins. *Faust 2019-1832 (3).* 1666–1977 m.

Stellaria crispa Cham. & Schltdl., CURLED STARWORT—BR**.** Common in deciduous riparian margins and sedge wetlands. *Faust 2438 (5).* 581–1467 m.

+ ***Stellaria graminea*** L., LESSER STARWORT—BO**.** Uncommon, found in disturbed deciduous riparian. *Faust 2019-1130 (1).* 659 m.

Stellaria longifolia Muhl. ex Willd., LONGLEAF STARWORT—BO**.** Common in deciduous riparian margins and sedge wetlands. *Faust 2842 (2).* 736–1025 m.

Stellaria nitens Nutt., SHINY CHICKWEED—BO, BR***.*** Common weedy species in montane grasslands/shrublands. *Faust 2019-34 (8).* 622–1071 m.

Stellaria obtusa Engelm., ROCKY MOUNTAIN CHICKWEED—BR**.** Occasional in subalpine meadows and sedge wetlands. *Faust 2019-1986 (2).* 1317–1934 m.

CELASTRACEAE

Parnassia fimbriata K.D. Koenig {*Parnassia fimbriata var. fimbriata*}, FRINGED GRASS OF PARNASSUS—BO, BR**.** Common in subalpine meadows. *Faust 2019-1831 (8).* 783–1977 m.

Paxistima myrsinites (Pursh) Raf., OREGON BOXLEAF—BO, BR**.** Common shrub in montane grasslands/shrublands, montane forests. *Faust 2019-244 (10).* 710–2086 m.

CORNACEAE

Cornus canadensis L., BUNCHBERRY DOGWOOD—BO**.** Uncommon, from timber harvested and mesic forests. *Faust 2019-226 (1).* 755 m. [*Species uncommon but present in region. One specimen in study closely resembled C. canadensi; however, intermediates between C. canadensis & C. unalaschkensis are also present in the region. See C. unalaschkensis.*]

Cornus occidentalis (Torr. & A. Gray) Coville {*Cornus stolonifera var. occidentalis*}, WESTERN DOGWOOD—BO, BR**.** Common, from roadsides and marginal deciduous riparian habitat. *Faust 2765 (2).* 617–823 m.

Cornus stolonifera Michx. {*Cornus stolonifera var. stolonifera*}, REDOSIER DOGWOOD—BO, BR**.** Common, from roadsides and marginal deciduous riparian habitat. *Faust 2019-357 (2).* 779–1200 m

Cornus unalaschkensis Ledeb., BUNCHBERRY—BO, BR**.** Common in mesic forests and timber harvested forests. *Faust 2726 (7).* 728–1148 m. [*Most historical specimens of C. canadensis are identified here, while true C. canadensis is present in study area, it is uncommon. See Murrell (1994).]*

CRASSULACEAE

Rhodiola integrifolia Raf. **ssp. *integrifolia*** {*Sedum roseum ssp. integrifolium*}, LEDGE STONECROP—BO*, BR**.** Common on the crest. *Faust 2019-1882 (8).* 1762–2262 m.

Figure 26. *Rhodiola integrifolia* ssp. *integrifolia.*

Sedum lanceolatum Torr., SPEARLEAF STONECROP—BO, BR**.** Common in montane grassland/shrublands and mid to high elevation rocky outcrops. *Faust 2019-784 (11).* 1394–2080 m.

Sedum stenopetalum Pursh **ssp. *stenopetalum,*** WORMLEAF STONECROP—BO, BR**.** Common in montane grassland/shrublands and mid to high elevation rocky outcrops. *Faust 2019-378 (10).* 693–1291 m.

DROSERACEAE

Drosera anglica Huds., ENGLISH SUNDEW—BR**.** Occasional in ombrotrophic bogs. *Faust 2019-402 (3).* 1287–1445 m.

Drosera rotundifolia L., ROUNDLEAF SUNDEW—BO**.** Occasional in ombrotrophic bogs. *Faust 2019-2056 (3).* 728–750 m.

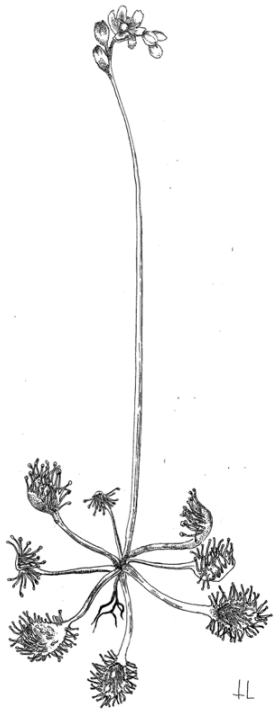

Figure 27. *Drosera rotundifolia.*

ELAEAGNACEAE

Shepherdia canadensis (L.) Nutt., RUSSET BUFFALOBERRY—BR**.** Common roadside shrub. *Faust 2511 (5).* 617–1050 m.

ERICACEAE

■ ***Andromeda polifolia*** L. **var. *polifolia,*** BOG ROSEMARY—BO**.** Rare in ombrotrophic bogs. *Faust 4139 (1).* 744 m. [*Only known from single locality within state.*] [*G5T5 S1*]

Arctostaphylos uva-ursi (L.) Spreng., KINNIKINNICK—BO, BR**.** Occasional on roadsides, montane forest and montane grasslands/shrublands. *Faust 2019-1624 (8).* 684–1183 m.

Cassiope mertensiana (Bong.) G. Don **var. *gracilis*** (Piper) C.L. Hitchc., WESTERN MOSS HEATHER—BO*, BR***.** Common, from subalpine meadows and high-elevation rocky outcrops. *Faust 2019-569 (15).* 1757–2163 m. [*Common variety. Plants glabrous.]*

■ ***Cassiope mertensiana*** (Bong.) G. Don **var. *mertensiana,*** WESTERN MOSS HEATHER—BR***.** Rare in subalpine meadows and high-elevation rocky outcrops. *Faust 2019-1522 (1).* 2062 m. [*Rare variety. Pubesence on stems and pedicels.*] [*G5T5 S2*]

Chimaphila menziesii (R. Br.) Spreng., LITTLE PRINCE'S PINE—BO, BR**.** Occasional in mesic and mid-elevation conifer forests. *Faust 2019-434 (2).* 756–956 m.

Chimaphila umbellata (L.) W.P.C. Barton **ssp. *umbellata*** {*Chimaphila umbellata var. occidentalis*}, PIPSISSEWA—BO, BR***.*** Occasional in mesic and mid-elevation conifer forests. *Faust 2019-693 (4).* 664–1583 m.

■ ***Gaultheria hispidula*** (L.) Muhl. ex Bigelow, CREEPING SNOWBERRY—BO**.** Rare in ombrotrophic bogs and paludified forest in Priest Lake vicinity. *Faust 4172 (3).* 750–752 m. [*G5 S2*]

Gaultheria humifusa (Graham) Rydb., ALPINE SPICYWINTERGREEN—BR**.** Common in fellfields and subalpine meadows. *Faust 3835 (5).* 1275–2157 m.

Gaultheria ovatifolia A. Gray, WESTERN TEABERRY—BO, BR**.** Common in mesic, montane and timber harvested forests. *Faust 2713 (10).* 746–1604 m.

Kalmia microphylla (Hook.) A. Heller **var. *microphylla,*** WESTERN BOG-LAUREL—BR**.** Common, from sub alpine mesic meadows and flow-through fens. *Faust 2019-1671 (8).* 1824–2014 m. [*Common variety for study area, See Taxonomic Discussion.]*

Kalmia microphylla (Hook.) A. Heller **var. *occidentalis*** (Small) Ebinger {*Kalmia occidentalis*}, WESTERN BOG-LAUREL—BO. Upper Priest Lake, *R. Bursik 001*, 1987 (ID) [*See Taxonomic Discussion. 2 Faust specimens approaching var. occidentalis.*]

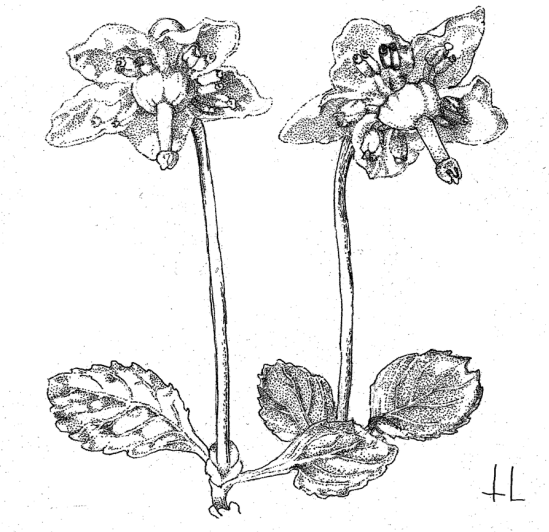

Figure 28. Moneses uniflora.

Moneses uniflora (L.) A. Gray {*Pyrola uniflora*}, SINGLE DELIGHT—BR**.** Common, in mesic forests and deciduous riparian margins. *Faust 3444 (7).* 1128–1502 m.

Monotropa hypopitys L. {*Hypopitys monotropa*}, PINESAP—BR**.** Occasional in mid-elevation conifer forests. *Faust 2019-899 (1).* 1525 m.

Monotropa uniflora L., GHOSTPIPE—BO, BR**.** Occasional in mesic and mid-elevation conifer forests. *Faust 4170 (4).* 602–786 m.

Orthilia secunda (L.) House {*Pyrola secunda*}, SIDEBELLS WINTERGREEN—BR**.** Common in mesic and mid-elevation conifer forests. *Faust 2019-2009 (4).* 786–1914 m.

Phyllodoce empetriformis (Sm.) D. Don, PINK MOUNTAINHEATH—BR**.** Uncommon in mid-elevation and subalpine conifer forests. *Faust 2019-1427 (2).* 1817–2018 m.

Phyllodoce glanduliflora (Hook.) Coville, YELLOW MOUNTAINHEATH—BR**.** Common in sub-alpine meadows and high elevation rocky outcrops. *Faust 2019-1285 (8).* 1829–2163 m.

Pterospora andromedea Nutt., WOODLAND PINEDROPS—BO, BR**.** Common in mesic and mid-elevation conifer forests. *Faust 2019-931 (6).* 659–1274 m.

Pyrola aphylla Sm., WHITEVEINED WINTERGREEN—BO*, BR*. Uncommon in mesic forests. *Faust 2019-695 (2).* 664–676 m.

Pyrola chlorantha Sw., GREENFLOWERED WINTERGREEN—BO. Priest River Experimental Forest, *F. D. Johnson s.n.*, 1974 (ID)

Pyrola asarifolia Michx. **ssp. *asarifolia,*** LIVERLEAF WINTERGREEN—BO, BR**.** Common in mesic forests, timber harvested forests and roadsides. *Faust 2019-1755 (4).* 757–1148 m.

Pyrola elliptica Nutt., WAXFLOWER SHINLEAF—BO**.** Uncommon in deciduous riparian forests. *Faust 3815 (1).* 746 m.

Pyrola minor L., SNOWLINE WINTERGREEN—BO, BR**.** Occasional in mid-elevation conifer forests and on edges of subalpine meadows. *Faust 3556 (3).* 842–1315 m.

Pyrola picta Sm., WHITEVEINED WINTERGREEN—BR**.** Uncommon in mesic and montane forests. *Faust 2019-694 (1).* 664 m.

Rhododendron albiflorum Hook., CASCADE AZALEA—BO, BR**.** Common in mid-elevation conifer forests. *Faust 2019-961 (20).* 1110–2144 m.

Rhododendron menziesii Craven {*Menziesia ferruginea*}, FOOL'S HUCKLEBERRY—BO, BR**.** Common in mid-elevation conifer forests and mesic forests. *Faust 2019-1183 (13).* 710–1897 m.

Vaccinium cespitosum Michx., DWARF HUCKLEBERRY—BO, BR**.** Occassional, from flow-through fens and mid-elevation conifer forests. *Faust 3897 (8).* 736–1880 m.

Vaccinium membranaceum Douglas ex Torr. {*Vaccinium globulare*}, THINLEAF HUCKLEBERRY—BO, BR**.** Common, from mid-elevation conifer forests, roadsides, montane forests & shrublands and deciduous riparian zones. *Faust 2019-1710 (34).* 710–2144 m.

Vaccinium myrtillus L., DWARF WHORTLEBERRY—BR**.** Occassional on high elevation rocky outcrops and fellfields. *Faust 3028 (4).* 1607–2157 m.

Vaccinium ovalifolium Sm., OVAL-LEAF BLUEBERRY—BO, BR**.** Common in mesic forests. *Faust 2721 (7).* 746–1305 m.

■ ***Vaccinium oxycoccos*** L., SMALL CRANBERRY—BO**.** Uncommon in ombrotrophic bogs and floating mats.

Faust 2019-2093 (3). 739–752 m. [*G5 S3*]

Vaccinium scoparium Leiberg ex Coville, GROUSE WHORTLEBERRY—BR**.** Occasional in mid to high elevation rocky outcrops and mid-elevation conifer forests. *Faust 2019-1738 (2).* 1309–2053 m.

FABACEAE

Acmispon americanus (Nutt.) Rydb. **var. *americanus,*** AMERICAN BIRD'S-FOOT TREFOIL—BO**.** Occasional roadside and multiple use weed. *Faust 3866 (1).* 1429 m.

Astragalus canadensis L. **var. *mortoniii*** {*Astragalus mortonii*}, MORTON'S CANADIAN MILKVETCH—BO**.** Occasional, from montane shrubland and montane forest. *Faust 3114 (1).* 757 m.

\+ ***Lotus corniculatus*** L., BIRD'S-FOOT TREFOIL—BR***.*** Occasional on roadsides. *Faust 3828 (2).* 841–1050 m.

Lupinus argenteus Pursh **var. *argenteus,*** SILVERY LUPINE—BO*, BR***.** Occasional, from montane grasslands, shrublands and forest. *Faust 2019-464 (3).* 685–1353 m. [*Multiple specimens had weakly developed spurs, glabrous wing petals and were approaching Lupinus sulphureus.]*

Lupinus lepidus Douglas ex Lindl. **var. *utahensis*** (S. Watson) C.L. Hitchc., PRAIRIE LUPINE—BO***.*** Rare, from one montane rocky opening. *Faust 2380 (1).* 823 m. [*Specimen identification is based on the following characteristics: plants nearly acaulescent with racemes < leaves, peduncles less than 1cm, pedicels less than 1mm. The L. lepidus group needs further work before conclusively proclaiming this collection as a species range extension.*]

Lupinus leucophyllus Douglas ex Lindl. **var. *leucophyllus,*** VELVET LUPINE—BR***.*** Occasional, from montane shrublands. *Faust 2019-492 (2).* 772–886 m.

Lupinus polyphyllus Lindl. **var. *burkei*** (S. Watson) C.L. Hitchc., LARGE-LEAVED LUPINE—BO, BR***.*** Common, from roadsides & montane and mesic forests. *Faust 2019-255 (5).* 755–1328 m. [*Stems 3-6 dm; leaflets 5-11.*]

Lupinus polyphyllus Lindl. **var. *polyphyllus,*** BIGLEAF LUPINE—BO, BR***.*** Common, from roadsides & montane and mesic forests. *Faust 4036 (2).* 795–1342 m. [*Stems 10-15 dm; leaflets 9-17.*]

Lupinus sericeus Pursh **var. *sericeus,*** SILKY LUPINE—BO, BR***.*** Common, from montane forests and shrublands. *Faust 2904 (4).* 607–1144 m.

Lupinus sulphureus Douglas ex Hook. **var. *subsaccatus*** (Suksd.) C.L. Hitchc., SULPHUR LUPINE—BO*, BR***.** Common, from subalpine conifer and montane forests, beargrass meadows, montane shrublands and roadsides. *Faust 2019-117 (19).* 757–2080 m. [*Most prevalent Lupine in study area.]*

\+ ***Medicago lupulina*** L., HOP CLOVER—BR***.*** Occasional on dry montane grasslands, roadsides. *Faust 2518 (3).* 571–895 m.

\+ ***Melilotus albus*** Medik. {*Melilotus alba*}, WHITE SWEETCLOVER—BR***.*** Occasional on roadsides. *Faust 2019-505 (3).* 693–895 m.

\+ ***Securigera varia*** (L.) Lassen {*Coronilla varia*}, CROWN VETCH—BO. Highway 2, *Ben Legler 14801*, 2019 (ID)

+ ***Trifolium arvense*** L., RABBITFOOT CLOVER—BO, BR*. Occasional in montane forest. *Faust 2019-657 (3).* 661–842 m.

+ ***Trifolium aureum*** Pollich {*Trifolium agrarium*}, GOLDEN CLOVER—BO, BR. Common in disturbed deciduous riparian and montane shrublands. *Faust 2019-471 (7).* 571–1314 m.

+ ***Trifolium dubium*** Sibth., SUCKLING CLOVER—BR*. Occasional in montane grasslands and roadsides. *Faust 2019-697 (2).* 548–657 m.

Trifolium hybridum L., ALSIKE CLOVER—BR. Occasional roadside weed. *Faust 3010 (2).* 571–981 m.

+ ***Trifolium pratense*** L., RED CLOVER—BO, BR*. Common roadside and timber harvest weed. *Faust 2788 (3).* 548–805 m.

Trifolium repens L., WHITE CLOVER—BO, BR*. Common roadside and multiple use weed. *Faust 2019-472 (6).* 659–1340 m.

Vicia americana Muhl. ex Willd. **var. *americana*** {*Vicia americana var. truncata*}, AMERICAN VETCH—BO, BR*. Occasional on roadsides and in montane forest. *Faust 2401 (2).* 582–647 m.

Vicia villosa Roth **ssp. *villosa,*** WINTER VETCH—BR. Occasional on roadsides. *Faust 2492 (1).* 1800 m.

GENTIANACEAE

+ ***Centaurium erythraea*** Rafn {*Centaurium umbellatum*}, EUROPEAN CENTAURY—BO, BR*. Occasional roadside weed. *Faust 3826 (2).* 659–841 m.

Gentianella amarella (L.) Börner **ssp. *acuta*** (Michx.) J.M. Gillett {*Gentiana amarella*}, AUTUMN DWARF GENTIAN—BR. Occasional in flow-through fens and ephemeral montane seep. *Faust 3960 (2).* 1232–1321 m.

GERANIACEAE

+ ***Erodium cicutarium*** (L.) L'Hér. ex Aiton **ssp. *cicutarium,*** REDSTEM STORK'S BILL—BO*, BR*. Occasional roadside weed. *Faust 2173 (2).* 651–1800 m.

Geranium bicknellii Britton, BICKNELL'S CRANESBILL—BO. Priest River Experimental Forest, *R. F. Daubenmire 44250*, 1944 (WTU)

+ ***Geranium carolinianum*** L., CAROLINA GERANIUM—BO*. Occasional roadside weed. *Faust 2934 (1).* 661 m. [*First collection for Idaho Panhandle.*]

GROSSULARIACEAE

Ribes acerifolium Howell {*Ribes howellii*}, MAPLELEAF CURRANT—BR. Uncommon, in mid-elevation conifer forests. *Faust 2019-1294 (2).* 1883–1913 m.

Ribes lacustre (Pers.) Poir., PRICKLY CURRANT—BO, BR. Common, in mesic and mid-elevation conifer forests, deciduous riparian margins and mid-high elevation rocky outcrops. *Faust 2019-729 (17).* 742–1914 m.

Ribes laxiflorum Pursh, TRAILING BLACK CURRANT—BR*. Occasional in deciduous riparian margins and roadsides. *Faust 2019-1404 (2).* 1523–1666 m.

Ribes viscosissimum Pursh, STICKY CURRANT—BO, BR. Occasional in montane forests, timber harvested forests and roadsides. *Faust 2205 (4).* 870–2086 m.

HALORAGACEAE

+▲ ***Myriophyllum spicatum*** L., EURASIAN WATERMILFOIL—BO**.** Occasional from low elevation aquatic zones. *Faust 2019-2069 (1).* 658 m.

HYDRANGEACEAE

Philadelphus lewisii Pursh, SYRINGIA—BO, BR**.** Occasional in montane grasslands and shrublands. *Faust 2987 (5).* 661–1083 m.

HYDROPHYLLACEAE

Hesperochiron pumilus (Douglas ex Griseb.) Porter, DWARF HESPEROCHIRON—BO***.*** Uncommon in ephemeral montane seep. *Faust 2193 (2).* 884–1060 m.

Hydrophyllum capitatum Douglas ex Benth. **var. *capitatum,*** BALLHEAD WATERLEAF—BO*, BR***.*** Common, early flowering species in montane grasslands/shrublands. *Faust 2848 (5).* 679–1635 m.

Phacelia hastata Douglas ex Lehm. **var. *hastata,*** SILVERLEAF PHACELIA—BO, BR**.** Common in montane forests and shrublands and on roadsides. *Faust 3053 (10).* 693–1535 m.

Phacelia linearis (Pursh) Holz., THREADLEAF PHACELIA—BO, BR**.** Occasional in montane shrublands. *Faust 2376 (4).* 653–930 m.

HYPERICACEAE

Hypericum anagalloides Cham. & Schltdl., BOG ST. JOHN'S WORT—BR***.*** Uncommon in flow-through fens. *Faust 3592 (2).* 1289–1322 m. [*Past reports in study area were misidentifications of Hypericum scouleri.*]

■ ***Hypericum majus*** (A. Gray) Britton, LARGE ST. JOHNSWORT—BO**.** Rare in ombrotrophic bogs. *Faust 2019-2097 (1).* 745 m. [*G5 S3*]

+ ***Hypericum perforatum*** L. **ssp. *perforatum,*** COMMON ST. JOHNSWORT—BO, BR**.** Common roadside, multiple use and timber harvest weed. *Faust 2019-1014 (7).* 548–948 m.

Hypericum scouleri Hook. {*Hypericum formosum* ssp. *formosum*}, SCOULER'S ST. JOHNSWORT—BO, BR**.** Common on high elevation rocky outcrops, subalpine meadows and fellfields. *Faust 2019-1225 (16).* 1291–2062 m.

LAMIACEAE

Clinopodium douglasii (Benth.) Kuntze {*Satureja douglasii*}, YERBA BUENA—BO**.** Uncommon on montane roadsides and timber harvested forests. *Faust 4132 (2).* 922–1156 m.

+ ***Galeopsis bifida*** Boenn., SPLITLIP HEMPNETTLE—BO**.** Uncommon in mesic roadsides, sedge wetlands. *Faust 3686 (1).* 995 m.

+ ***Lamium purpureum*** L., PURPLE DEADNETTLE—BO**.** Uncommon in mesic roadsides, sedge wetlands. *Faust 2216 (1).* 696 m.

Lycopus uniflorus Michx., NORTHERN BUGLEWEED—BO**.** Common, from sedge wetlands, flow-through fens, shrub carr and aquatic margins. *Faust 2019-2089 (5).* 658–923 m.

Mentha canadensis L. {*Mentha arvensis var. glabrata*}, WILD MINT—BO**.** Common, from sedge wetlands, shrub carr and aquatic margins. *Faust 4101 (4).* 698–1017 m. [*Plants called Mentha arvensis in the area fit here.*]

Prunella vulgaris L. **var. *lanceolata*** (W.P.C. Barton) Fernald, LANCELEAF SELFHEAL—BO, BR**.** Common, roadsides. *Faust 2019-700 (7).* 548–1385 m.

Scutellaria angustifolia Pursh **ssp. *angustifolia,*** NARROWLEAF SKULLCAP—BO**.** Occasional in montane grasslands. *Faust 2395 (1).* 663 m.

Scutellaria galericulata L., MARSH SKULLCAP—BO**.** Common, from sedge wetlands, flow-through fens, shrub carr and aquatic margins. *Faust 2019-1022 (5).* 657–831 m.

Scutellaria lateriflora L., BLUE SKULLCAP—BO**.** Uncommon in sedge wetlands and shrub carr. *Faust 3808 (1).* 742 m.

LENTIBULARIACEAE

Utricularia intermedia Hayne, FLATLEAF BLADDERWORT—BO**.** Uncommon in aquatic margins and ombrotophic bogs. *Faust 2019-2098 (1).* 745 m.

Utricularia minor L., LESSER BLADDERWORT—BO**.** Uncommon in aquatic margins and ombrotrophic bogs. *Faust 4152 (1).* 736 m.

!■ ***Utricularia ochroleuca*** R.W. Hartm., DWARF BLADDERWORT—BO**.** Rare in ombrotrophic bogs around Priest Lake vicinity. *Faust 2019-2057 (1).* 725 m. [*See Discussion under State Records.*] [*G4G5 S1*]

Utricularia vulgaris L. **ssp. *macrorhiza*** (Leconte) R.T. Clausen {*Utricularia macrorhiza*}, COMMON BLADDERWORT—BO**.** Common submerged aquatic in low-elevation lakes. *Faust 3069 (3).* 659–759 m.

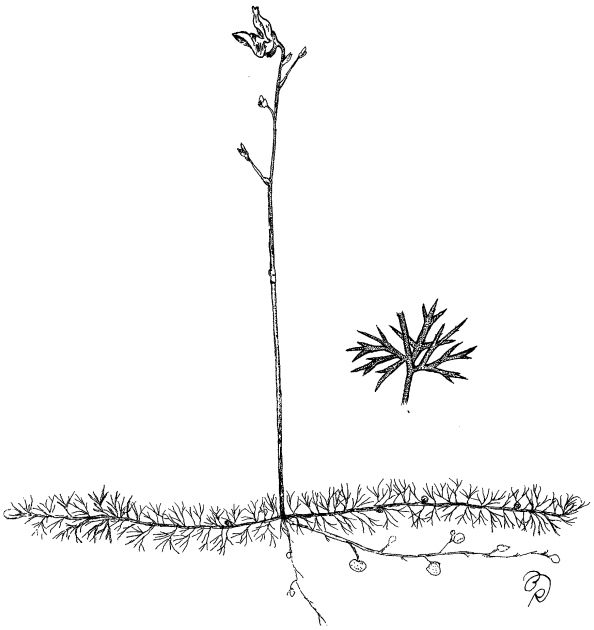

Figure 29. *Utricularia ochroleuca.*

LIMNANTHACEAE

Floerkea proserpinacoides Willd., FALSE MERMAIDWEED—BO*****.** Uncommon in montane grasslands and ephemeral montane seep. *Faust 2132 (1).* 684 m. [*First collection for north Idaho Panhandle, from single locality in study.*]

LINACEAE

\+ ***Linum lewisii*** Pursh **var. *lewisii*** {*Linum perenne var. lewisii*}, WILD BLUE FLAX—BO*****.** Locally common roadside weed in southern extent of range. *Faust 3062 (1).* 640 m.

LINNAEACEAE

Linnaea borealis L. **ssp. *longiflora*** (Torr.) Hultén, TWINFLOWER—BO, BR**.** Common in montane, mesic, mid-elevation conifer forests as well as timber harvested forests. *Faust 3122 (8).* 676–1324 m.

MALVACEAE

Iliamna rivularis (Douglas) Greene, STREAMBANK WILD HOLLYHOCK—BO, BR**.** Occasional roadside weed. *Faust 3004 (3).* 571–1334 m.

MENYANTHACEAE

Menyanthes trifoliata L., BOGBEAN, BUCKBEAN—BO, BR**.** Ocassional, from aquatic margins and ombrotrophic bogs. *Faust 3328 (2).* 737–1782 m.

MONTIACEAE

Claytonia cordifolia S. Watson {*Montia cordifolia*}, HEARTLEAF SPRINGBEAUTY—BO, BR**.** Common in mesic forest and deciduous riparian corridors. *Faust 2019-809 (11).* 742–1589 m.

Claytonia lanceolata Pursh, LANCELEAF SPRINGBEAUTY—BO, BR**.** Common, montane shrublands, forest and bear grass meadows. *Faust 2019-290 (8).* 684–2072 m.

Claytonia rubra (Howell) Tidestr., REDSTEM SPRINGBEAUTY—BO, BR***.** Common, from montane grasslands, shrublands, forest and timber harvested forests. *Faust 2019-362 (10).* 661–1060 m.

Claytonia sibirica L. {*Montia sibirica*}, SIBERIAN SPRINGBEAUTY—BO, BR**.** Common in mesic forest and deciduous riparian corridors. *Faust 2019-986 (6).* 689–1583 m.

Lewisia triphylla (S. Watson) B.L. Rob., THREELEAF LEWISIA—BO. Mt. Roothaan, *R. F. Daubenmire 44330*, 1944 (WS) [*Known from single locality in study area.]*

Montia dichotoma (Nutt.) Howell, DWARF MINERSLETTUCE—BO**.** Ocassional, from montane grasslands, shrublands, forest and timber harvested forests. *Faust 2323 (3).* 684–1060 m.

Montia linearis (Douglas ex Hook.) Greene, NARROWLEAF MINERSLETTUCE—BO, BR***.** Common, from montane grasslands, shrublands, forest and timber harvested forests. *Faust 2105 (5).* 684–890 m.

Montia parvifolia (Moc. ex DC.) Greene, LITTLELEAF MINERSLETTUCE—BO, BR**.** Common, montane shrublands, mid-high elevation rocky outcrops, and on the crest. *Faust 2019-603 (18).* 791–2262 m.

ONAGRACEAE

Chamaenerion angustifolium (L.) Scop. {*Epilobium angustifolium*}, FIREWEED—BO, BR**.** Common, from montane and mid-elevation forests, mid-high elevation rocky outcrops and roadsides. *Faust 2019-478 (10).* 571–2014 m.

Circaea alpina L. **ssp. *alpina,*** SMALL ENCHANTER'S NIGHTSHADE—BO**.** Occasional in deciduous riparian corridors. *Faust 2818 (1).* 799 m. [*Stems with short incurved-falcate hairs below the inflorescence; less common subspecies.*]

Circaea alpina L. **ssp. *pacifica*** (Asch. & Magnus) P.H. Raven, SMALL ENCHANTER'S NIGHTSHADE—BO, BR**.** Common, in mesic forests and decdiuous riparian corridors. *Faust 3445 (5).* 723–1513 m. [*Stems glabrous below inflorescene; common subspecies.*]

Clarkia pulchella Pursh, PINKFAIRIES—BO, BR**.** Common in montane

grasslands/shrublands. *Faust 2903 (7).* 761–1144 m.

Clarkia rhomboidea Douglas ex Hook., DIAMOND CLARKIA—BO**.** Occasional in montane grasslands/shrublands. *Faust 2902 (1).* 1144 m.

Epilobium anagallidifolium Lam. {*Epilobium alpinum var. alpinum*}, ALPINE WILLOWHERB—BO, BR**.** Common, from ephemeral montane seep, flow-through fens, subalpine meadows and moist mid-high elevation rocky outcrops. *Faust 2019-1571 (9).* 803–2152 m.

Epilobium brachycarpum C. Presl {*Epilobium paniculatum*}, TALL ANNUAL WILLOWHERB—BR***.*** Ocassional, from montane shrublands and deciduous riparian. *Faust 2019-640 (2).* 844–1671 m.

Epilobium ciliatum Raf. {*Epilobium watsonii*}, FRINGED WILLOWHERB—BO, BR**.** Common, from deciduous riparian, mesic forests and sedge wetlands. *Faust 3806 (5).* 698–1458 m.

Epilobium glandulosum Lehm., CILIATE WILLOWHERB—BO, BR**.** Common, from deciduous riparian, mesic forests and sedge wetlands. *Faust 2019-787 (5).* 1223–1385 m.

Epilobium hallianum Hausskn. {*Epilobium glandulosum var. tenue*}, GLANDULAR WILLOWHERB—BO, BR**.** Common, from mid-elevation conifer forests, deciduous riparian and sedge wetlands. *Faust 4063 (4).* 1097–1639 m.

Epilobium hornemannii Rchb. **ssp. *hornemannii*** {*Epilobium alpinum var. nutans*}, HORNEMANN'S WILLOWHERB—BR**.** Common, from mid-elevation conifer and montane forests, flow-through fens, and subalpine meadows. *Faust 2019-1379 (11).* 1267–1934 m.

Epilobium lactiflorum Hausskn. {*Epilobium alpinum var. lactiflorum*}, MILKFLOWER WILLOWHERB—BO, BR**.** Common, from mid-elevation conifer and montane forests, subalpine meadows and moist rocky outcrops. *Faust 2019-415 (13).* 1155–2010 m.

Epilobium palustre L., SWAMP WILLOWHERB—BO. Chase Lake, *R. Bursik 159*, 1987 (ID)

Epilobium minutum Lindl., CHAPARRAL WILLOWHERB—BO, BR**.** Common, from montane shrublands and roadsides. *Faust 2019-2027 (9).* 761–1720 m.

Epilobium saximontanum Hausskn., ROCKY MOUNTAIN WILLOWHERB—BO**.** Occasional in disturbed sedge wetlands. *Faust 3693 (1).* 995 m.

Gayophytum diffusum Torr. & A. Gray, SPREADING GROUNDSMOKE—BO, BR***.*** Common in montane shrublands and beargrass meadows. *Faust 2019-1076 (6).* 1054–1871 m.

\+ ***Oenothera biennis*** L., COMMON EVENING PRIMROSE—BR. Smith Creek Road, *Ben Legler 15021*, 2019 (ID)

OROBANCHACEAE

■ ***Aphyllon pinorum*** (Geyer ex Hook.) A. Gray {*Orobanche pinorum*}, CONIFER BROOMRAPE—BR*. Uncommon in montane forest. *Faust 3709 (1).* 743 m. [*Presumably more occurences within study range and warrants revisits to montane forest in late summer.*] [*G4S2*]

Aphyllon purpureum (A. Heller) Holub {*Orobanche uniflora vars. minuta & purpurea*}, PURPLE BROOMRAPE—BO, BR**.** Common, from ephemeral

montane seep, montane grasslands and shrublands. *Faust 2019-28 (15).* 684–1720 m.

Figure 30. *Aphyllon pupureum.*

Castilleja hispida Benth. **var. *acuta*** (Pennell) Ownbey, ACUTE TIPPED PAINTBRUSH—BR**.** Common, from mid-elevation conifer forests, mid elevation rocky outcrops, up to fell-fields and abundant on roadsides. *Faust 2019-488 (5).* 886–2074 m. [*Leaves with 1-2 pairs of lateral lobes; calyx lobes acute and generally narrow.*]

Castilleja hispida Benth. **var. *hispida,*** HARSH PAINTBRUSH—BO, BR***.** Common, from montane grasslands/shrublands, montane forests, mid-high-elevation rocky outcrops, and roadsides. *Faust 2019-79 (9).* 582–1071 m. [*Leaves with 2-4 pairs of lateral lobes; calyx lobes obtuse to rounded.*]

Castilleja miniata Douglas ex Hook. **var. *miniata,*** SCARLET PAINTBRUSH—BO, BR**.** Common, from mid-high elevation rocky outcrops, time harvested forests, fell-fields, deciduous riparian margins and roadsides. *Faust 2019-772 (15).* 1025–2028 m.

!+ ***Euphrasia nemorosa*** (Pers.) Wallr. {*Euphrasia officinalis*}, COMMON EYEBRIGHT—BO*, BR*. Locally common, from roadsides and disturbed mesic forest. *Faust 3825 (2).* 816–841 m. [*See Discussion under State Records.*]

Melampyrum lineare Desr., NARROW-LEAF COWWHEAT—BO**.** Occasional in montane and mesic forests. *Faust 2019-1623 (1).* 749 m.

Pedicularis bracteosa Benth. **var. *bracteosa,*** BRACTED LOUSEWORT—BO, BR**.** Common, from deciduous riparian margins, mid-elevation conifer forests, moist mid-elevation rocky outcrops, mesic forests and roadsides. *Faust 2019-1496 (15).* 1058–2144 m.

Pedicularis contorta Benth. **var. *contorta,*** COILED LOUSEWORT—BO, BR**.** Common, from mid-elevation and subalpine conifer forests, mid-high elevation rocky outcrops and fellfields. *Faust 2019-1957 (12).* 1583–2144 m.

Pedicularis groenlandica Retz., ELEPHANT'S HEAD—BR**.** Common, from flow-through fens, subalpine meadows and high-elevation aquatic margins. *Faust 3574 (13).* 1242–1966 m.

Pedicularis racemosa Douglas ex Benth. **var. *alba*** (Pennell) Cronquist, SICKLETOP LOUSEWORT—BO*, BR**.** Common, on edge of sedge wetlands in forest margins, mid-elevation conifer forests and mid-high-elevation rocky outcrops. *Faust 1461 (6).* 1223–1802 m.

Rhinanthus minor L. **ssp. *groenlandicus*** (Chabert) Neum.*,* ARCTIC RATTLEBOX—BO. Upper Priest Lake RNA, *Curtis R. Bjork 6656*, 2001 (ID) [*Plants called Rhinanthus crista-galli referred to here.]*

OXALIDACEAE

■ ***Oxalis trilliifolia*** Hook., THREELEAF WOODSORREL—BO. Uncommon in mesic disjunct forest. *Faust 2367 (1).* 773 m. [*Relocated historical specimen, known from single drainage in Idaho.*] [*G5 S1*]

PHRYMACEAE

■ ***Diplacus clivicola*** (Greenm.) G.L. Nesom {*Mimulus clivicola*}, NORTH IDAHO MONKEYFLOWER—BO*. Rare in montane grassland. *Faust 2922 (1).* 1054 m. [*Range extension for species, around 90 miles north of prior northernmost collections.*] [*G4 S3*]

Erythranthe breweri (Greene) G.L. Nesom & N.S. Fraga {*Mimulus breweri*}, BREWER'S MONKEYFLOWER—BO, BR*. Common, from montane grasslands/shrublands and mid-high elevation rocky outcrops. *Faust 2901 (16).* 768–1883 m.

Erythranthe guttata (Fisch. ex DC.) G.L. Nesom {*Mimulus guttatus var. guttatus*}, SEEP MONKEYFLOWER—BO, BR. Common, on aquatic and deciduous riparian margins, often disturbed. *Faust 2019-2033 (4).* 571–1071 m.

Erythranthe lewisii (Pursh) G.L. Nesom & N.S. Fraga {*Mimulus lewisii*}, LEWIS' MONKEYFLOWER—BR. Ocassional, in mesic forests, aquatic zones and subalpine meadows. *Faust 2019-1974 (4).* 1162–1934 m.

Erythranthe microphylla (Benth.) G.L. Nesom {*Mimulus guttatus var. depauperatus*}, WIDECALYX MONKEYFLOWER—BO*, BR*. Common, from ephemeral montane seep. *Faust 3047 (12).* 684–1320 m. [*First collections for Idaho Panhandle due in part to former treatment under Mimulus guttatus.*]

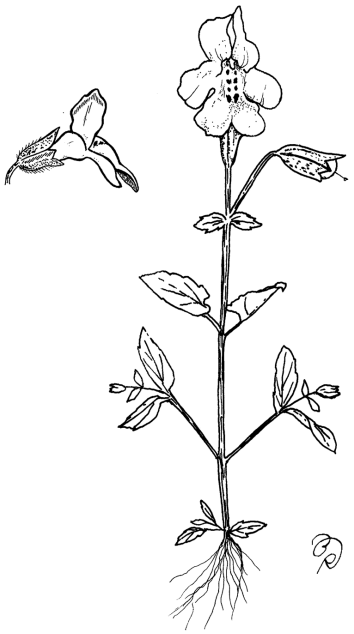

Figure 31. *Erythranthe microphylla.*

Erythranthe moschata (Douglas ex Lindl.) G.L. Nesom {*Mimulus moschatus*}, MUSK MONKEYFLOWER—BO, BR. Common, from sedge wetlands, shrub carr and aquatic margins. *Faust 2019-1199 (12).* 723–1543 m.

Erythranthe nasuta (Greene) G.L. Nesom {*Mimulus nasutus*}, PARISH'S MONKEYFLOWER—BR*. Uncommon, from mid-elevation rocky outcrop and montane shrublands. *Faust 2019-527 (1).* 1083 m. [*Cleistogamous form of species found in study area. First collection for northern Idaho Panhandle; Previously overlooked in the Idaho Panhandle due in part to former treatment under Mimulus guttatus*]

■ ***Erythranthe patula*** (Pennell) G.L. Nesom {*Mimulus patulus*}, STALK LEAVED MONKEYFLOWER—BR*. Rare in ephemeral montane seep. *Faust 2019-557 (1).* 662 m. [*Previously*

overlooked in Idaho Panhandle, collection increases range extent in Idaho.] [*G4 S3*]

PLANTAGINACEAE

Callitriche heterophylla Pursh **var. *bolanderi*** (Hegelm.) Fassett, BOLANDER'S WATER STARWORT—BO*****. Occasional in lakes. *Faust 4147 (1).* 734 m. [*Fruits 0.7–0.8 mm long.*]

Callitriche heterophylla Pursh **var. *heterophylla*** {*Callitriche anceps*}, DIFFERENT LEAVED WATER STARWORT—BR*****. Occasional in lakes. *Faust 2019-1988 (1).* 1934 m. [*Fruits 0.–1.1 mm long.*]

Collinsia parviflora Lindl., SMALL FLOWERED BLUE EYED MARY—BO, BR**.** Common, from montane grass/shrublands and forest. *Faust 2019-198 (15).* 661–1605 m.

Gratiola neglecta Torr., CLAMMY HEDGEHYSSOP—BO. Priest River Experimental Forest, *R. F. Daubenmire 44484*, 1944 (WTU)

Hippuris vulgaris L., COMMON MARE'S TAIL—BO. Upper Priest Lake RNA, *C. A. Wellner 3665*, 1986 (ID)

+▲ ***Linaria dalmatica*** (L.) Mill. **ssp. *dalmatica,*** DALMATIAN TOADFLAX—BO**.** Common, from roadsides in the southern extent of the range. *Faust 2242 (1).* 652 m.

+▲ ***Linaria vulgaris*** Mill., BUTTER AND EGGS—BO**.** Common, from roadsides. *Faust 2019-1104 (1).* 817 m.

Penstemon albertinus Greene, ALBERTA BEARDTONGUE—BO, BR**.** Common, from mid-high elevation rocky outcrops, talus, and roadsides. *Faust 3505 (8).* 1036–1815 m. [*Commonly confused with blue form of Penstemon attenuatus.*]

Penstemon attenuatus Douglas ex Lindl. **var. *attenuatus,*** TAPER LEAVED PENSTEMON—BO, BR**.** Uncommon, from montane forested roadside. *Faust 3154 (1).* 761 m. [*Yellow form of species, potentially escaped as single plant in close proximity to homestead.]*

Penstemon confertus Douglas ex Lindl., YELLOW PENSTEMON—BO, BR**.** Occasional from roadsides, timber harvested and montane forests. *Faust 2925 (3).* 1110–1535 m.

Penstemon deustus Douglas ex Lindl., SCABLAND PENSTEMON—BO**.** Occasional from rocky montane shrublands. *Faust 2374 (1).* 823 m.

Penstemon ellipticus J.M. Coult. & Fisher, ROCKY LEDGE PENSTEMON—BO, BR**.** Common, from mid-high elevation rocky outcrops, talus, crest and fellfields. *Faust 3293 (25).* 1353–2163 m. [*Previously collected specimens in area identified as P. montanus go here.]*

Penstemon fruticosus (Pursh) Greene **var. *scouleri*** (Lindl.) Cronquist, LITTLELEAF BUSH PENSTEMON—BO**.** Common, from mid-high elevation rocky outcrops and montane shrublands. *Faust 2019-237 (7).* 696–1394 m. [*Frequently confused with P.ellipticus.*]

Penstemon wilcoxii Rydb., WILCOX'S PENSTEMON—BO. Highway 2, *Ben W. Chichester 33*, 1949 (ID)

+ ***Plantago lanceolata*** L., ENGLISH PLANTAIN—BR*****. Uncommon on roadsides. *Faust 2019-490 (1).* 886 m.

+ ***Plantago major*** L., COMMON PLANTAIN—BO, BR**.** Common

roadside weed. *Faust 2019-1140 (5).* 548–820 m.

Veronica americana Schwein. ex Benth., AMERICAN SPEEDWELL—BO, BR**.** Common, from sedge wetlands, shrub carr and deciduous riparian margins. *Faust 2019-786 (9).* 548–1458 m.

\+ ***Veronica arvensis*** L., CORN SPEEDWELL—BO, BR**.** Occasional in disturbed deciduous riparian, mesic and montane forests. *Faust 2019-82 (3).* 657–1583 m.

Veronica officinalis L., COMMON SPEEDWELL—BO, BR**.** Common in montane, mesic and timber harvested forests and roadsides. *Faust 2019-2049 (8).* 617–1271 m.

Veronica peregrina L. **var. *xalapensis*** (Kunth) Pennell, HAIRY PURSLANE SPEEDWELL—BO**.** Uncommon, from multiple use zones and roadsides. *Faust 3218 (1).* 1342 m.

\+ ***Veronica serpyllifolia*** L. **var. *humifusa*** (Dicks.) Vahl, BRIGHTBLUE SPEEDWELL—BR***.*** Ocassional, from deciduous riparian margins. *Faust 3248 (1).* 1405 m. [*Pedicels with spreading, viscid-glandular hairs.]*

Veronica serpyllifolia L. **var. *serpyllifolia,*** THYMELEAF SPEEDWELL—BO, BR**.** Common, from deciduous riparian, mesic forest and roadside. *Faust 2019-396 (3).* 1242–1513 m. [*Pedicels with generally eglandular, crisp-puberulent hairs.*]

\+ ***Veronica verna*** L., SPRING SPEEDWELL—BO, BR***.*** Common roadside weed, found in montane forest and shrublands, often in ephemeral seeps. *Faust 2491 (11).* 617–1800 m. [*Previously overlooked in the Idaho Panhandle, common weed.*]

Veronica wormskjoldii Roem. & Schult., AMERICAN ALPINE SPEEDWELL—BR**.** Common, from subalpine meadows, flow-through fens and aquatic margins. *Faust 2019-1431 (13).* 1192–2002 m.

POLEMONIACEAE

Collomia linearis Nutt., NARROWLEAF COLLOMIA—BO, BR***.*** Common, from montane grasslands/shrublands, and roadsides. *Faust 2627 (7).* 543–1546 m.

Leptosiphon harknessii (Curran) J.M. Porter & L.A. Johnson {*Linanthus harknessii*}, HARKNESS' FLAXFLOWER—BR***.*** Occasional from rocky montane shrublands. *Faust 3385 (2).* 1320–1720 m.

Microsteris gracilis (Hook.) Greene, SLENDER PHLOX—BO, BR**.** Common, from montane forests, shrublands, and grasslands. *Faust 2019-1003 (11).* 651–1546 m.

Navarretia divaricata (Torr. ex A. Gray) Greene **ssp. *divaricata,*** DIVARICATE NAVARRETIA—BR***.*** Uncommon from roadsides. *Faust 2019-632 (1).* 1546 m.

Phlox caespitosa Nutt., TUFTED PHLOX—BO, BR**.** Common, from montane forests, shrublands, and grasslands. *Faust 2019-12 (7).* 684–2072 m.

Polemonium californicum Eastw. {*Polemonium pulcherrimum var. calycinum*}, MOVING POLEMONIUM—BR***.*** Uncommon, from roadside in mid-elevation conifer forest. *Faust 2576 (1).* 1394 m. [*Also found in Bonner County within study area.*]

Polemonium micranthum Benth., ANNUAL POLEMONIUM—BO**.** Uncommon from montane grasslands/shrublands. *Faust 2862 (1).* 1635 m.

Polemonium pulcherrimum Hook. **var. *pulcherrimum,*** JACOB'S LADDER—BO**.** Uncommon from rocky outcrops. *Faust 2615 (1).* 930 m.

POLYGONACEAE

Bistorta bistortoides (Pursh) Small {*Polygonum bistortoides*}, AMERICAN BISTORT—BO, BR**.** Common from subalpine meadows and fellfields. *Faust 2019-1065 (7).* 1824–2152 m.

Eriogonum heracleoides Nutt., PARSNIPFLOWER BUCKWHEAT—BO, BR***.** Occasional in montane grasslands/shrublands. *Faust 2019-518 (3).* 844–1144 m.

Eriogonum umbellatum Torr. **var. *majus*** Hook. {*Eriogonum umbellatum var. subalpinum*}, SULPHUR-FLOWER BUCKWHEAT—BO, BR**.** Common, from montane grasslands/shrublands, mid-high-elevation rocky outcrops, bear grass meadows and fellfields. *Faust 2019-773 (18).* 902–2113 m.

Oxyria digyna (L.) Hill, ALPINE MOUNTAINSORREL—BR**.** Common, from high-elevation rocky outcrops, crest and fell fields. *Faust 2019-1597 (8).* 1882–2163 m.

Persicaria amphibia (L.) Gray {*Polygonum amphibium*}, WATER KNOTWEED—BO**.** Occasional in low-elevation lakes/ponds. *Faust 3067 (1).* 759 m.

\+ ***Persicaria maculosa*** Gray {*Polygonum persicaria*}, SPOTTED LADYSTHUMB—BO**.** Uncommon in low-elevation lakes/ponds. *Faust 2019-2073 (1).* 657 m.

\+ ***Polygonum aviculare*** L. **ssp. *buxiforme*** (Small) Costea & Tardif, BOX KNOTWEED—BO. Priest River Experimental Forest, *R. F. Daubenmire 44463*, 1944 (WTU)

Polygonum douglasii Greene, DOUGLAS' KNOTWEED—BO, BR**.** Common from montane grasslands/shrublands and forests. *Faust 2019-1123 (10).* 694–1762 m.

Polygonum majus (Meisn.) Piper, LARGE KNOTWEED—BR***.** Occasional from montane shrublands/grasslands. *Faust 2019-520 (1).* 1083 m. [*Intermediate forms between P. majus and P.douglasii also present in range.*]

Polygonum minimum S. Watson, BROADLEAF KNOTWEED—BO, BR**.** Common from montane grasslands/shrublands and mid-high-elevation rocky outcrops. *Faust 2019-765 (10).* 1320–2014 m.

Polygonum sawatchense Small **ssp. *oblivium*** Costea & Tardif, SAWATCH KNOTWEED—BO***.** Uncommon from timber harvested forests. *Faust 2888 (1).* 1271 m. [*First collection for North Idaho Panhandle, only found in single locality in study.*]

\+ ***Rumex acetosella*** L., COMMON SHEEP SORREL—BO, BR**.** Common roadside weed, often in disturbed montane grasslands and forest. *Faust 2019-71 (9).* 659–1513 m.

\+ ***Rumex crispus*** L., CURLY DOCK—BO**.** Occasionalweed on mesic roadsides. *Faust 3698 (1).* 995 m.

Rumex salicifolius Weinm. **var. *triangulivalvis*** (Danser) J.C. Hickman, WILLOW DOCK—BR***.** Uncommon from aquatic margins. *Faust 3966 (1).* 1270 m.

PRIMULACEAE

Dodecatheon pulchellum (Raf.) Merr. **var. *cusickii*** (Greene) Reveal {*Dodecatheon cusickii, Primula pauciflora var. cusickii*}, CUSICK'S SHOOTINGSTAR—BO, BR**.** Common, from ephemeral montane seep. *Faust 2019-25 (6).* 684–1071 m. [*Plants glandular-pubescent.*]

Dodecatheon pulchellum (Raf.) Merr. **var. *pulchellum*** {*Dodecatheon pulchellum var. monanthum, Primula pauciflora var. pauciflora*}, DARKTHROAT SHOOTINGSTAR—BO**.** Common from ephemeral montane seeps. *Faust 2019-114 (3).* 887–1060 m. [*Plants glabrous.*]

■ ***Lysimachia europaea*** (L.) U. Manns & Anderb. {*Trientalis arctica*}, ARCTIC STARFLOWER—BO, BR**.** Uncommon in flow-through fen. *Faust 4017 (8).* 736–1567 m. [*G5T5 S3*]

Lysimachia thyrsiflora L., TUFTED LOOSESTRIFE—BO. Blue Lake, *R. Bursik 1718A*, 1991 (ID)

RANUNCULACEAE

Aconitum columbianum Nutt. **ssp. *columbianum,*** MONKSHOOD—BO, BR**.** Common, from deciduous riparian margins, sedge wetlands, and shrub carr. *Faust 2019-1407 (9).* 756–1729 m.

Actaea rubra (Aiton) Willd., RED BANEBERRY—BO, BR**.** Common from mesic and mid-elevation conifer forests and deciduous riparian margins. *Faust 2019-801 (12).* 745–1782 m.

Aquilegia flavescens S. Watson, YELLOW COLUMBINE—BR**.** Common, from mid-elevation conifer forests, talus fields, and mid to high-elevation rocky outcrops. *Faust 2019-1689 (10).* 1666–2086 m.

Clematis occidentalis (Hornem.) DC. **var. *grosseserrata*** (Rydb.) J.S. Pringle {*Clematis columbiana var. columbiana*}, WESTERN CLEMATIS—BO, BR**.** Common, from montane forests and shrublands. *Faust 2314 (7).* 640–1370 m.

Coptis occidentalis (Nutt.) Torr. & A. Gray, IDAHO GOLDTHREAD—BO, BR**.** Common in mesic forests. *Faust 2019-45 (4).* 745–1060 m.

Delphinium distichum Geyer ex A. Gray, TWOSPIKE LARKSPUR—BO***.** Uncommon in mesic montane grassland. *Faust 2926 (1).* 661 m. [*First collection for North Idaho Panhandle, only found in single locality in study.*]

Delphinium sutherlandii M.J. Warnock, SUTHERLAND'S LARKSPUR—BO, BR**.** Common, from montane forests, shrublands, grasslands, and mid-elevation rocky outcrops. *Faust 2422 (17).* 749–1811 m.

Ranunculus acris L., SHOWY BUTTERCUP—BO, BR**.** Common from deciduous riparian margins and roadsides. *Faust 2019-922 (3).* 659–1052 m.

Ranunculus aquatilis L. **var. *diffusus*** With. {*Ranunculus aquatilis var. capillaceus*}, WATER BUTTERCUP—BO**.** Uncommon in low-elevation lakes and ponds. *Faust 4145 (1).* 734 m.

Ranunculus eschscholtzii Schltdl. **var. *eschscholtzii,*** SUBALPINE BUTTERCUP—BR**.** Common from subalpine fellfields. *Faust 3851 (7).* 1267–2193 m. [*Basal leaf segments and sinuses rounded to obtuse with*

middle segment of basal leaves entire to shallowly lobed.]

Ranunculus eschscholtzii Schltdl. **var. *suksdorfii*** (A. Gray) L.D. Benson, TIMBERLINE BUTTERCUP—BR**.** Occasional from subalpine fellfields. *Faust 3762 (2).* 1782–2010 m. [*Basal leaf segments and sinuses generally acute with middle segment of basal leaves lobed.]*

Ranunculus flammula L. **var. *ovalis*** (J.M. Bigelow) L.D. Benson, CREEPING SPEARWORT—BO, BR***.*** Occasional from aquatic margins and sedge wetlands. *Faust 3940 (2).* 740–1290 m.

Ranunculus glaberrimus Hook. **var. *glaberrimus,*** SAGEBRUSH BUTTERCUP—BO*, BR***.*** Common from montane grasslands/shrublands. *Faust 2106 (4).* 684–1071 m. [*First collections for Idaho Panhandle.*]

Ranunculus orthorhynchus Hook. **var. *platyphyllus*** A. Gray, SWAMP BUTTERCUP—BO**.** Occasional from disturbed sedge wetlands. *Faust 2019-209 (1).* 795 m.

Ranunculus pensylvanicus L. f., PENNSYLVANIA BUTTERCUP—BO**.** Occasional from disturbed deciduous riparian. *Faust 3687 (1).* 995 m.

Ranunculus uncinatus D. Don, WOODLAND BUTTERCUP—BO, BR**.** Common from mesic forests, sedge wetlands and deciduous riparian. *Faust 2019-432 (12).* 746–1513 m.

Thalictrum occidentale A. Gray, WESTERN MEADOWRUE—BO, BR**.** Common from montane to mid-elevation conifer forests and deciduous riparian. *Faust 2019-598 (10).* 748–2086 m.

Trautvetteria caroliniensis (Walter) Vail, CAROLINA BUGBANE—BO, BR**.** Common from mesic forests and deciduous riparian. *Faust 2019-412 (10).* 756–1629 m.

Trollius albiflorus (A. Gray) Rydb. {*Trollius laxus var. albiflorus*}, AMERICAN GLOBEFLOWER—BR**.** Uncommon from flow-through fens, sedge wetlands and subalpine meadows. *Faust 3786 (1).* 1726 m.

RHAMNACEAE

Ceanothus sanguineus Pursh, REDSTEM CEANOTHUS—BO, BR**.** Common in montane forests and montane grasslands/shrublands. *Faust 2019-356 (7).* 582–1007 m.

Ceanothus velutinus Douglas **var. *velutinus,*** SNOWBRUSH CEANOTHUS—BO, BR**.** Common in montane forests, montane grasslands/shrublands and timber harvested forests. *Faust 2019-224 (6).* 755–1814 m.

Frangula purshiana (de Candolle) A. Gray **ssp. *purshiana*** {*Rhamnus purshiana*}, CASCARA BUCKTHORN—BO***.*** Occasional in montane and mesic forests. *Faust 2670 (3).* 761–915 m.

Rhamnus alnifolia L'Hér., ALDERLEAF BUCKTHORN—BO**.** Uncommon in mesic forest. *Faust 2019-353 (1).* 746 m.

ROSACEAE

Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem., SASKATOON SERVICEBERRY—BO, BR**.** Common in montane forests and montane grassland/shrublands. *Faust 2019-14 (12).* 651–1607 m.

Comarum palustre L. {*Potentilla palustris*}, MARSH CINQUEFOIL—BO,

BR**.** Common, from sedge wetlands, flow-through fens, shrub carr and aquatic margins. *Faust 2019-939 (4).* 730–1324 m.

Crataegus douglasii Lindl. {*Crataegus douglasii var. douglasii*}, BLACK HAWTHORN—BO**.** Occasional from sedge wetlands and aquatic margins. *Faust 3807 (2).* 742–742 m.

Crataegus gaylussacia A. Heller {*Crataegus douglasii var. suksdorfii*}, ALBANY HAWTHORN—BR. West Side Road, *Christine L. Johnson 1692*, 1986 (ID)

Dasiphora fruticosa (L.) Rydb. {*Potentilla fruticosa*}, SHRUBBY CINQUEFOIL—BO*, BR**.** Ocassional, from flow-through fens and high-elevation rocky outcrops. *Faust 3340 (5).* 1322–2014 m.

Dryas hookeriana Juz. {*Dryas octopetala var. hookeriana*}, MOUNTAIN AVENS—BR**.** Rare, from the crest. *Faust 3847 (1).* 2258 m. [*Only found in single locality in study area.]*

Drymocallis convallaria (Rydb.) Rydb. {*Drymocallis arguta ssp. convallaria, Potentilla arguta var. convallaria* }, CORDILLERAN WOODBEAUTY—BR***.*** Common, from montane grasslands/shrublands and montane forests. *Faust 2467 (4).* 578–1007 m.

Drymocallis glandulosa (Lindl.) Rydb. **var. *glandulosa*** {*Potentilla glandulosa var. glandulosa*}, COMMON WOODBEAUTY—BO, BR***.*** Common, from montane grasslands/shrublands, ephemeral montane seeps and montane forests. *Faust 2019-387 (6).* 685–1320 m.

Drymocallis pseudorupestris (Rydb.) Rydb. **var. *saxicola*** Ertter {*Drymocallis glandulosa ssp. pseudorupestris, Potentilla glandulosa var. pseudorupestris* }, CLIFF WOODBEAUTY—BR***.*** Rare, from high-elevation granitic rocky outcrop. *Faust 3347 (1).* 1786 m. [*First collection for North Idaho Panhandle, only found in single locality in study.*]

Fragaria vesca L. **ssp. *californica*** (Cham. & Schltdl.) Staudt {*Fragaria vesca var. bracteata*}, CALIFORNIA STRAWBERRY—BO, BR**.** Common in montane forests and montane grassland/shrublands. *Faust 2019-316 (11).* 578–1664 m.

Fragaria virginiana Duchesne **ssp. *glauca*** (S. Watson) Staudt, VIRGINIA STRAWBERRY—BO, BR**.** Common in montane forests and montane grassland/shrublands. *Faust 3123 (6).* 702–1275 m.

Geum macrophyllum Willd., LARGELEAF AVENS—BO, BR**.** Common in mesic forests and deciduous riparian. *Faust 3131 (10).* 659–1583 m.

Geum triflorum Pursh, PRAIRE SMOKE—BO, BR***.*** Occasional in montane shrublands/grasslands. *Faust 2560 (3).* 684–893 m.

Holodiscus discolor (Pursh) Maxim. **var. *discolor,*** OCEAN SPRAY—BO, BR**.** Common in montane forests and montane grassland/shrublands. *Faust 2019-634 (5).* 694–895 m.

Figure 32. *Ivesia tweedyi.*

■ ***Ivesia tweedyi*** Rydb., TWEEDY'S IVESIA—BR**.** Rare on crest and subalpine fell field. *Faust 2019-1544 (1).* 2028 m. [*One historical collection in close proximity to population discovered, seemingly restricted to Chimney Rock and Mt. Roothaan vicinity.]* [*G4 S2*]

Luetkea pectinata (Pursh) Kuntze, PARTRIDGEFOOT—BO. Mt. Roothaan, *R. F. Daubenmire 44366*, 1944 (WTU) [*Known from single locality in study area.]*

\+ ***Malus pumila*** Mill. {*Pyrus malus*}, PARADISE APPLE—BO***.** Uncommon on roadside. *Faust 2243 (1).* 705 m. [*Escaped cultivar.*]

Physocarpus malvaceus (Greene) Kuntze, MALLOW NINEBARK—BO, BR***.** Common in montane forests and montane grassland/shrublands. *Faust 2019-55 (8).* 647–1605 m.

Potentilla argentea L., SILVERY CINQUEFOIL—BR**.** Uncommon roadside weed. *Faust 2019-715 (2).* 548–1637 m.

■ ***Potentilla drummondii*** Lehm., DRUMMOND'S CINQUEFOIL—BR**.** Locally common in subalpine meadows and flow-through fens. *Faust 3583 (9).* 1242–2087 m. [*GNR S2*]

Figure 33. *Potentilla drummondii.*

Potentilla drummondii Lehm. × ***Potentilla glaucophylla*** Lehm.—BR***.** Uncommon in subalpine meadows and flow-through fens. *Faust 2019-1349 (1).* 1295 m. [*One specimen found with intermediate characteristics, both parents in vicinity.]*

Potentilla glaucophylla Lehm., VARILEAF CINQUEFOIL—BR**.** Occasional in subalpine meadows and flow-through fens. *Faust 3856 (1).* 2059 m. [*Plants called Potentilla diversifolia referred to here.]*

Potentilla norvegica L., NORWEGIAN CINQUEFOIL—BO, BR**.** Common roadside weed. *Faust 2019-1148 (4).* 548–1192 m.

\+ ***Potentilla recta*** L., SULPHUR CINQUEFOIL—BR**.** Uncommon roadside weed. *Faust 2019-654 (2).* 662–772 m.

Prunus emarginata (Douglas) Eaton, BITTER CHERRY—BO, BR**.** Common, from montane grasslands/shrublands, mid-elevation rocky outcrops and bear grass meadows. *Faust 2019-287 (8).* 773–1720 m.

Prunus virginiana L., CHOKECHERRY—BO, BR**.** Common, from montane grasslands/shrublands. *Faust 2019-64 (4).* 647–1580 m.

Rosa gymnocarpa Nutt., BALDHIP ROSE—BO, BR**.** Common, from montane forest and montane grasslands/shrublands. *Faust 2019-509 (7).* 647–1301 m. [*Multiple specimens were intermediate between ssp. gymnocarpa and ssp. helleri forms of species.]*

Rosa gymnocarpa Nutt. **ssp. *helleri*,** INTERIOR BALDHIP ROSE—BO, BR**.** Common, from montane forest and montane grasslands/shrublands. *Faust*

2019-829 (4). 948–1506 m. [*Recently recognized inland subspecies of R. gymnocarpa, see Ertter & Lewis 2016.*]

Rosa nutkana C. Presl **ssp. *macdougalii*** (Holz.) Piper {*Rosa nutkana var. hispida*}, SPALDING ROSE—BO, BR***.** Common, from montane forest, montane grasslands/shrublands, and roadsides. *Faust 2684 (7).* 617–1110 m.

Rubus idaeus L. **ssp. *strigosus*** (Michx.) Focke {*Rubus idaeus vars. gracilipes & peramoenus*}, RASPBERRY—BO, BR**.** Common, from sedge wetlands, shrub carr, talus slopes, deciduous riparian and roadsides. *Faust 2019-874 (13).* 823–1820 m.

Rubus leucodermis Douglas ex Torr. & A. Gray **var. *leucodermis,*** BLACKCAP RASPBERRY—BR***.** Uncommon on roadsides. *Faust 2019-1929 (1).* 1214 m.

Rubus nutkanus Moc. ex Ser. {*Rubus parviflorus*}, THIMBLEBERRY—BO, BR**.** Common, from mesic forests, deciduous riparian, and timber harvested forests. *Faust 2019-1754 (16).* 647–1625 m.

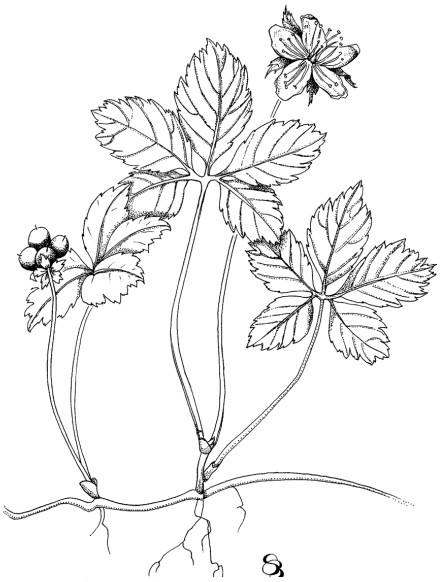

Figure 34. *Rubus pedatus.*

Rubus pedatus Sm., STRAWBERRYLEAF RASPBERRY—BO, BR**.** Common, from mesic and mid-elevation conifer forests, and flow-through fens. *Faust 2019-802 (9).* 746–1437 m.

Rubus ursinus Cham. & Schltdl., CALIFORNIA BLACKBERRY—BO, BR***.** Common, from roadsides and multiple-use. *Faust 2400 (3).* 647–820 m.

Sanguisorba stipulata Raf. {*Sanguisorba sitchensis*}, SITKA BURNET—BR**.** Occasional from subalpine meadows and mid-elevation conifer forests. *Faust 2019-1249 (2).* 1358–1820 m.

Sibbaldia procumbens L., CREEPING SIBBALDIA—BR**.** Common, from subalpine meadows and fellfields. *Faust 2019-1679 (5).* 1242–2065 m.

Sorbus scopulina Greene, CASCADE MOUNTAIN ASH—BO, BR**.** Common, from montane shrublands, deciduous riparian margins and mid-elevation conifer forests. *Faust 2019-314 (5).* 834–1452 m.

Sorbus sitchensis M. Roem. **var. *sitchensis,*** SITKA MOUNTAIN ASH—BO, BR**.** Common, from talus slopes and mid-elevation conifer forests. *Faust 2019-1048 (14).* 1215–2018 m.

Spiraea douglasii Hook. **var. *menziesii*** (Hook.) C. Presl, MENZIES' SPIRAEA—BO, BR**.** Common, from sedge wetlands, flow-through fens and shrub carr. *Faust 3537 (6).* 730–1097 m.

Spiraea lucida Douglas ex Greene {*Spiraea betulifolia var. lucida*}, SHINYLEAF SPIRAEA—BO, BR**.** Common from montane grasslands/shrublands, montane forests and mid-high-elevation rocky outcrops. *Faust 3981 (9).* 571–2014 m.

Spiraea ×pyramidata Greene, SPIREA—BO. East River Road, *J. H. Christ s.n.*, 1948 (ID)

RUBIACEAE

Cruciata pedemontana (Bellardi) Ehrend., PIEDMONT BEDSTRAW—BR*. Uncommon, from weedy montane grasslands. *Faust 2019-561 (1).* 923 m. [*First collection for North Idaho Panhandle.*]

Galium aparine L., CLEAVERS—BO, BR*. Common from montane grassland/shrubland. *Faust 2019-65 (6).* 658–930 m.

Galium boreale L., NORTHERN BEDSTRAW—BO. Priest River Experimental Forest, *R. F. Daubenmire 6839*, 1968 (WS)

Galium bifolium S. Watson, TWINLEAF BEDSTRAW—BO. Uncommon from ephemeral montane seep. *Faust 2861 (1).* 1635 m.

Galium trifidum L., THREEPETAL BEDSTRAW—BO, BR. Common, from sedge wetlands, aquatic margins and flow-through fens. *Faust 3576 (7).* 730–1340 m.

Galium triflorum Michx., FRAGRANT BEDSTRAW—BO, BR. Common in mesic forests and deciduous riparian. *Faust 2019-1024 (11).* 756–1506 m.

SALICACEAE

Populus tremuloides Michx., QUAKING ASPEN—BO, BR. Common in deciduous riparian, montane forests and mid-high elevation rocky outcrops. *Faust 2019-1256 (5).* 1580–1789 m.

Populus trichocarpa Torr. & A. Gray, BLACK COTTONWOOD—BO, BR. Common in deciduous riparian. *Faust 2019-302 (3).* 1050–1432 m.

Salix barclayi Andersson, BARCLAY'S WILLOW—BR. Uncommon from aquatic margins. *Faust 4001 (1).* 1769 m.

Salix bebbiana Sarg., BEBB'S WILLOW—BO, BR. Common, from roadsides, deciduous riparian, shrub carr and aquatic margins. *Faust 2404 (3).* 779–1583 m.

Salix commutata Bebb, VARIABLE WILLOW—BR. Common, from sedge wetlands, subalpine meadows and flow-through fens. *Faust 3595 (8).* 1283–1934 m. [*One specimen with atypical mophology.*]

Salix drummondiana Barratt ex Hook. DRUMMOND'S WILLOW—BO. Mosquito Bay, *M. Stevens 29*, 1986 (ID)

Salix geyeriana Andersson {*Salix geyeriana vars. geyeriana & meleiana*}, GEYER'S WILLOW—BO. Mosquito Bay, *M. Stevens 17*, 1986 (ID)

■ ***Salix pedicellaris*** Pursh, BOG WILLOW—BO. Mosquito Bay, *M. Stevens 18*, 1986 (ID) [G5 S2]

Salix planifolia Pursh **var. *planifolia*** {*Salix phylicifolia var. planifolia*}, PLANE-LEAF WILLOW—BR*. Uncommon from deciduous margins in montane forests. *Faust 3463 (1).* 1192 m.

Salix scouleriana Barratt ex Hook, SCOULER'S WILLOW—BR. Upper Pack River, *Peter F. Stickney 3968*, 1980 (D)

Salix sitchensis Sanson ex Bong. **var. *sitchensis,*** SITKA WILLOW—BO*, BR*. Common from deciduous and aquatic margins in mesic forests, often

disturbed. *Faust 2019-790 (9).* 779–1635 m.

SANTALACEAE

Arceuthobium americanum Nutt. ex Engelm., LODGEPOLE PINE DWARF MISTLETOE—BR*. Uncommon on Pinus contorta in flow-through fens. *Faust 2019-1364 (1).* 1281 m.

Arceuthobium laricis (Piper) H. St. John {*Arceuthobium campylopodum f. laricis*}, LARCH DWARF MISTLETOE—BO. Priest River Experimental Forest, *R. F. Daubenmire 44269*, 1944 (WTU)

Comandra umbellata (L.) Nutt. **ssp. *pallida*** (A. DC.) Piehl, PALE BASTARD TOADFLAX—BR. Uncommon in montane grasslands/shrublands. *Faust 2279 (1).* 658 m.

Geocaulon lividum (Richardson) Fernald {*Comandra livida*}, FALSE TOADFLAX—BO. Mosquito Bay, *Robert Bursik 2692*, 1993 (ID)

SAPINDACEAE

Acer glabrum Torr. **var. *douglasii*** (Hook.) Dippel, DOUGLAS MAPLE—BO, BR. Common in montane forests, montane grassland/shrublands and deciduous riparian. *Faust 2019-839 (10).* 617–1506 m.

SAXIFRAGACEAE

Hemieva ranunculifolia (Hook.) Raf. {*Suksdorfia ranunculifolia*}, BUTTERCUP LEAVED SUKSDORFIA—BO, BR. Common in ephemeral montane seep. *Faust 2019-74 (13).* 684–1786 m.

Heuchera cylindrica Douglas, ROUNDLEAF ALUMROOT—BO, BR. Common, from montane shrublands and mid-high rocky outcrops. *Faust 2019-442 (19).* 578–2028 m.

Leptarrhena pyrolifolia (D. Don) R. Br. ex Ser., LEATHER LEAVED SAXIFRAGE—BR. Common in peatlands, seepy fellfields and subalpine meadows. *Faust 2019-1434 (12).* 1267–1977 m.

Figure 35. *Leptarrhena pyrolifolia.*

Lithophragma glabrum Nutt. {*Lithophragma bulbifera*}, BULBOUS WOODLAND-STAR—BO*. Uncommon, from ephemeral montane seep. *Faust 2860 (1).* 1635 m.

Lithophragma parviflorum (Hook.) Nutt. {*Lithophragma parviflora*}, SMALLFLOWER WOODLAND-STAR—BO, BR. Common in montane grasslands/shrublands and montane forests. *Faust 2019-01 (9).* 658–1071 m.

Micranthes ferruginea (Graham) Brouillet & Gornall {*Saxifraga ferruginea*}, RUSTY SAXIFRAGE—BO, BR. Common in mesic forests and

mid-high elevation rocky outcrops. *Faust 2019-1300 (17).* 1281–2163 m.

Micranthes idahoensis (Piper) Brouillet & Gornall {*Saxifraga occidentalis var. idahoensis*}, IDAHO SAXIFRAGE—BO**.** Uncommon in mesic mid-elevation rocky outcrop. *Faust 2019-241 (1).* 834 m.

Micranthes nidifica (Greene) Small {*Saxifraga integrifolia var. columbiana*}, PEAK SAXIFRAGE—BO, BR***.*** Occasional in ephemeral montane seep. *Faust 2114 (4).* 640–1055 m.

Micranthes occidentalis (S. Watson) Small {*Saxifraga occidentalis*}, WESTERN MOUNTAIN SAXIFRAGE—BO, BR**.** Occasional in ephemeral montane seep. *Faust 2342 (3).* 968–1007 m.

Micranthes oregana (Howell) Small {*Saxifraga oregana var. oregana*}, OREGON SAXIFRAGE—BO**.** Uncommon in sedge wetlands. *Faust 2019-2032 (1).* 752–857 m.

Mitellastra caulescens (Nutt.) Howell {*Mitella caulescens*}, SLIGHTSTEMMED MITERWORT—BO**.** Common in mesic forests and deciduous riparian margins. *Faust 2019-258 (5).* 755–781 m.

Ozomelis stauropetala (Piper) Rydb. {*Mitella stauropetala*}, SMALLFLOWER MITERWORT—BR***.*** Uncommon in montane forest. *Faust 2589 (1).* 1353 m.

Ozomelis trifida (Graham) Rydb. {*Mitella trifida*}, THREEPARTED MITERWORT—BO*, BR**.** Common in mesic and mid-elevation conifer forests and mid-elevation rocky outcrops. *Faust 2019-157 (6).* 803–2086 m.

Pectiantia breweri (A. Gray) Rydb. {*Mitella breweri*}, BREWER'S MITERWORT—BR**.** Common in mesic and mid-elevation conifer forests. *Faust 2605 (3).* 1282–2018 m.

Pectiantia pentandra (Hook.) Rydb. {*Mitella pentandra*}, FIVE STAMEN MITREWORT—BR**.** Common in mesic and mid-elevation conifer forests and aquatic margins. *Faust 2019-448 (15).* 926–1826 m.

Saxifraga austromontana Wiegand {*Saxifraga bronchialis var. austromontana*}, MATTED SAXIFRAGE—BO, BR**.** Common, from high-elevation rocky outcrops, crest and talus slopes. *Faust 2019-1046 (8).* 1007–2317 m.

Figure 36. *Saxifraga austromontana.*

Saxifraga hyperborea R. Br., PYGMY SAXIFRAGE—BR**.** Occasional in seepy crevices on the crest. *Faust 2019-1731 (3).* 2001–2089 m. [*Specimens of S. debilis are referred here.*]

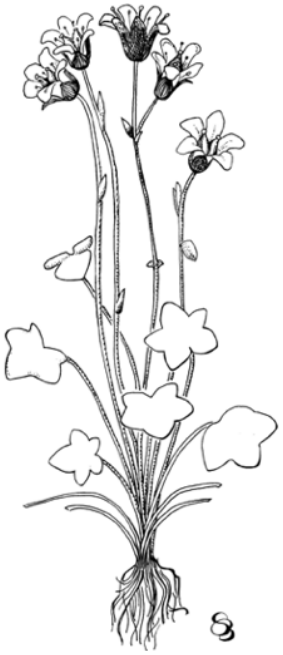

Figure 37. Saxifraga hyperborea.

Saxifraga mertensiana Bong., MERTENS' SAXIFRAGE—BR**.** Occasional in moist high-elevation rocky outcrops. *Faust 2019-1403 (7).* 1576–1913 m.

Suksdorfia violacea A. Gray, VIOLET SUKSDORFIA—BO, BR**.** Occasional in montane shrublands and montane forests. *Faust 2272 (6).* 622–1055 m.

■ ***Tellima grandiflora*** (Pursh) Douglas ex Lindl., BIGFLOWER TELLIMA—BO, BR**.** Uncommon from mesic and old-growth forests in northern extent of range. *Faust 3184 (3).* 1276–1347 m. [*G5 S3*]

Tiarella trifoliata L. **var. *unifoliata*** (Hook.) Kurtz, ONELEAF FOAMFLOWER—BO, BR**.** Common from mesic and mid-elevation conifer forests and deciduous riparian. *Faust 2019-339 (16).* 602–1609 m.

SCROPHULARIACEAE

Scrophularia lanceolata Pursh, LANCELEAF FIGWORT—BO, BR***.*** Occasionalmontane roadside weed. *Faust 2019-1007 (3).* 1071–1566 m.

\+ ***Verbascum thapsus*** L. **ssp. *thapsus,*** COMMON MULLEIN—BO, BR***.*** Common roadside, multiple use and timber harvest weed. *Faust 4053 (2).* 1183–1352 m.

SOLANACEAE

\+ ***Solanum dulcamara*** L., CLIMBING NIGHTSHADE—BO**.** Uncommon in aquatic zones. *Faust 2019-2072 (1).* 657 m.

URTICACEAE

Urtica dioica L. **ssp. *gracilis*** (Aiton) Selander, STINGING NETTLE—BO**.** Occasional in deciduous riparian. *Faust 3801 (4).* 742–795 m.

VALERIANACEAE

Plectritis macrocera Torr. & A. Gray, LONGHORN PLECTRITIS—BR***.*** Occasional in montane grasslands/shrublands and montane forests. *Faust 2019-08 (2).* 658–840 m.

Valeriana sitchensis Bong., SITKA VALERIAN—BO, BR**.** Common in mid-elevation conifer forests, and aquatic and deciduous riparian margins. *Faust 2019-1780 (15).* 1396–2086 m.

VIOLACEAE

Viola adunca Sm., HOOKEDSPUR VIOLET—BO, BR**.** Common in montane, mesic and timber harvested forests, as well as aquatic margins and

fellfields. *Faust 2019-1316 (8).* 569–1882 m.

+ ***Viola arvensis*** Murray, EUROPEAN FIELD PANSY—BR*. Uncommon weed found in multiple use areas & roadsides. *Faust 2486 (1).* 1800 m.

Viola glabella Nutt., STREAM VIOLET—BO, BR. Common in mesic forests, deciduous riparian and aquatic margins. *Faust 2019-296 (17).* 668–2086 m.

Viola macloskeyi F.E. Lloyd, SMALL WHITE VIOLET—BR. Common from aquatic and deciduous riparian margins. *Faust 2019-172 (5).* 1045–1819 m.

Viola orbiculata Geyer ex Holz., ROUND LEAVED VIOLET—BO, BR. Common from montane, mesic and mid-elevation conifer forests. *Faust 2019-297 (7).* 776–1784 m.

Viola palustris L., MARSH VIOLET—BO, BR. Common in mesic forests, deciduous riparian and aquatic margins, as well as flow-through fens. *Faust 2019-259 (13).* 742–1782 m.

Viola renifolia A. Gray, KIDNEY-LEAF WHITE VIOLET—BR*. Occasional in mesic forest. *Faust 2225 (1).* 722 m.

■ ***Viola selkirkii*** Pursh ex Goldie, IDAHO SELKIRKS VIOLET—BO. Upper Priest Lake bog, *Karen L. Gray 4383*, 2003 (ID) [*Despite extensive searches, species was not relocated. This species needs further surveys in the area.]* [G5? S1]

Viola sempervirens Grenne, EVERGREEN VIOLET—BO. Upper Priest Lake bog, *Curtis R. Bjork 14796*, 2006 (UBC)

MONOCOTYLEDONEAE

ALISMATACEAE

Alisma triviale Pursh {*Alisma plantago-aquatica var. americanum*}, NORTHERN WATER PLANTAIN—BO. Mosquito Bay, *Robert Bursik 2638*, 1993 (ID)

Sagittaria latifolia Willd., BROADLEAF ARROWHEAD—BO. Uncommon, from lakes and ponds. *Faust 4163 (1).* 742 m.

AMARYLLIDACEAE

Allium cernuum Roth, NODDING ONION—BR*. Occasional in montane grassland/shrubland. *Faust 2019-504 (3).* 693–942 m.

Allium geyeri S. Watson **var. *tenerum*** M.E. Jones, BULBIL ONION—BR*. Uncommon, from flow-through fen. *Faust 3591 (1).* 1322 m. [*Only found in one locality in study area.]*

ARACEAE

Lemna minor L., COMMON DUCKWEED—BO. Lee Lake, *R. Bursik 1046*, 1988 (ID)

Lysichiton americanus Hulten & H. St. John {*Lysichitum americanum*}, SKUNK CABBAGE—BO, BR. Common in mesic forests and deciduous riparian. *Faust 2019-255 (8).* 581–1128 m.

ASPARAGACEAE

+ ***Asparagus officinalis*** L., GARDEN ASPARAGUS—BR*. Uncommon in weedy montane grassland/shrubland. *Faust 2298 (1).* 658 m.

Camassia quamash (Pursh) Greene **ssp. *quamash,*** CAMAS—BO*. Uncommon in montane grassland/shrubland. *Faust 2170 (2).* 640–652 m.

■ ***Maianthemum dilatatum*** (Alph. Wood) A. Nelson & J.F. Macbr., FALSE LILY OF THE VALLEY—BO. Rare in paludified forest. *Faust 2019-333 (1).* 746 m. [*Relocated historical specimen, only found in one locality in study area. See Management Recommendations.*] [*G5 S1*]

Maianthemum racemosum (L.) Link **ssp. *amplexicaule*** (Nutt.) LaFrankie {*Smilacina racemosa*}, LARGE FALSE SOLOMON'S SEAL—BO, BR. Common, from mesic forests, deciduous riparian and aquatic margins, and timber-harvested forests. *Faust 2019-189 (6).* 630–1058 m.

Maianthemum stellatum (L.) Link {*Smilacina stellata*}, STARRY FALSE SOLOMON'S SEAL—BO, BR. Common, from montane and mesic forests as well as deciduous riparian. *Faust 2019-229 (12).* 630–1506 m.

Triteleia grandiflora Lindl. **var. *grandiflora*** {*Brodiaea douglasii*}, LARGEFLOWER TRITELEIA—BO*, BR. Common in montane grasslands. *Faust 2019-56 (4).* 578–696 m.

CYPERACEAE

Carex amplifolia Boott, BIG-LEAF SEDGE—BO. Occasional in aquatic margins. *Faust 3075 (1).* 759 m.

Carex aquatilis Wahlenb. **var. *aquatilis,*** WATER SEDGE—BR. Common in aquatic margins and sedge wetlands. *Faust 3586 (2).* 1290–1318 m.

Carex arcta Boott, NORTHERN CLUSTER SEDGE—BO, BR. Common in aquatic margins, flow-through fens and sedge wetlands. *Faust 2019-1360 (5).* 723–1325 m.

Carex athrostachya Olney, SLENDERBEAK SEDGE—BO. Occasional in sedge wetlands and shrub carr. *Faust 3703 (1).* 1017 m.

Carex aurea Nutt., GOLDEN SEDGE—BR. Uncommon in peatland fens. *Faust 3557 (1).* 1315 m. [*Only found in one locality in study area.]*

Carex bolanderi Olney {*Carex deweyana var. bolanderi* }, BOLANDER'S SEDGE—BO*. Occasional in sedge wetlands and deciduous riparian. *Faust 3187 (1).* 1281 m.

Carex buxbaumii Wahlenb., BUXBAUM'S SEDGE—BR. Occasional in flow-through fens and shrub carr. *Faust 3950 (3).* 1289–1300 m.

Carex canescens L. **ssp. *canescens,*** SILVERY SEDGE—BO, BR. Common in flow-through fens and shrub carr. *Faust 2019-430A (3).* 831–1283 m.

■ ***Carex chordorrhiza*** Ehrh. ex L. f., ROPE-ROOT SEDGE—BO. Rare, from ombrotophic bog. *Faust 2019-2055 (1).* 737 m. [*G5 S2*]

■ ***Carex comosa*** Boott, BRISTLY SEDGE—BO. Rare in sedge wetlands and peatlands. *Faust 2019-2064 (1).* 665 m. [*Only found in one locality in study area.]* [*G5 S2*]

Carex concinnoides Mack., NORTHWESTERN SEDGE—BO. Priest River Experimental Forest, *R. F. Daubenmire 44296*, 1944 (WS)

■ ***Carex cordillerana*** Saarela & B.A. Ford, CORDILLERAN SEDGE—BO. Benton Creek Watershed, *Peter F. Stickney 3242*, 1975 (ID) [GSG4 S2]

Carex crawfordii Fernald, CRAWFORD'S SEDGE—BR**.** Occasional in deciduous riparian. *Faust 3431 (1).* 1192 m.

Carex cusickii Mack. ex Piper & Beattie, CUSICK'S SEDGE—BO**.** Occasional in sedge wetlands. *Faust 3531 (1).* 831 m.

Carex deflexa Hornem. **var. *boottii*** L.H. Bailey {*Carex rossii var. brevipes* }, MOUNTAIN MAT SEDGE—BR**.** Common in montane and mid-elevation conifer forests. *Faust 2019-180 (7).* 965–2018 m.

Carex deweyana Schwein., DEWEY SEDGE—BO. Floss Creek, *S. Goodell s.n.*, 1979 (ID)

Carex diandra Schrank, LESSER PANICLED SEDGE—BO. Lee Lake, *R. Bursik 134*, 1987 (ID)

Carex disperma Dewey, SOFTLEAF SEDGE—BO, BR**.** Occasional in mesic forests. *Faust 3440 (2).* 746–1305 m.

Carex echinata Murray **ssp. *echinata,*** STAR SEDGE—BO, BR**.** Common in sedge wetlands, flow-through fens and lakeshores. *Faust 2834 (6).* 759–1405 m. [*Specimens of Carex muricata are referred here.*]

■ ***Carex flava*** L., YELLOW SEDGE—BR**.** Occasional in sedge wetlands and peatlands. *Faust 3612 (2).* 1315–1318 m. [*G5 S3*]

Carex geyeri Boott, ELK SEDGE—BO, BR**.** Common in montane and mid-elevation conifer forests and bear grass meadows. *Faust 2019-959 (8).* 796–1919 m.

Carex hoodii Boott, HOOD'S SEDGE—BO, BR***.** Common in timber-harvested forest, roadsides and montane shrublands. *Faust 2019-620 (4).* 873–1546 m.

Carex illota L.H. Bailey, SHEEP SEDGE—BR**.** Common in flow-through fens and subalpine meadows. *Faust 2019-1968 (5).* 1318–1934 m.

Carex interior L.H. Bailey, INLAND SEDGE—BR**.** Occasional in aquatic and deciduous margins. *Faust 4034 (2).* 1317–1536 m.

Carex kelloggii W. Boott **var. *kelloggii*** {*Carex lenticularis*}, LAKESHORE SEDGE—BO, BR**.** Common in sedge wetlands, subalpine meadows and aquatic margins. *Faust 2019-1686 (19).* 759–1958 m.

Carex laeviculmis Meinsh., SMOOTHSTEM SEDGE—BO, BR**.** Common in sedge wetlands, flow-through fens, deciduous riparian corridors and roadsides. *Faust 2019-794 (14).* 843–1629 m.

Carex lasiocarpa Ehrh., WOOLLYFRUIT SEDGE—BR**.** Occassional in sedge wetlands. *Faust 3597 (1).* 1324 m. [*Also found in Bonner County within study area.*]

Carex leporinella Mack., SIERRA HARE SEDGE—BR**.** Ocassioned in mid-elevation conifer forests and mid-elevation rocky outcrops. *Faust 4008 (1).* 1671 m.

■ ***Carex leptalea*** Wahlenb., BRISTLYSTALKED SEDGE—BO, BR**.** Uncommon in sedge wetlands, peatlands and marginal wetland habitat. *Faust 3948 (3).* 736–1289 m. [*G5 S3*]

Carex leptopoda Mack. {*Carex deweyana var. leptopoda*}, TAPERFRUIT SHORTSCALE SEDGE—BO, BR***.** Common, from mesic forest, sedge wetlands and timber harvested forests. *Faust 2019-945 (5).* 548–1315 m.

Carex limosa L., MUD SEDGE—BO. Chase Lake, *R. Bursik 1000*, 1988 (ID)

■ ***Carex livida*** (Wahlenb.) Willd., PALE SEDGE—BO. Mosquito Bay, *R. Bursik 99*, 1987 (ID) [G5 S3]

■ ***Carex magellanica*** Lam. **ssp. *irrigua*** (Wahlenburg) Hiitonen {*Carex paupercula*}, BOREAL BOG SEDGE—BR**.** Locally common in flow-through fens and ombrotrophic bogs. *Faust 3579 (5).* 1287–1567 m. [*G5T5 S2*]

Figure 38. *Carex magellanica* ssp. *irrigua.*

Carex mertensii J.D. Prescott ex Bong., MERTENS' SEDGE—BR***.*** Uncommon on roadsides. *Faust 4035 (1).* 1342 m.

Carex micropoda C.A. Mey., TIMBERLINE SEDGE—BR**.** Locally common in high-elevation rocky outcrops. *Faust 2019-1721 (4).* 2001–2139 m. [*Carex pyrenaica misapplied.*]

Carex microptera Mack. {*Carex limnophila*}, SMALLWING SEDGE—BO, BR**.** Occasional in mid-elvevation conifer forests, and subalpine meadows. *Faust 2019-1331 (5).* 1291–1757 m. [*2 specimens approach C. macloviana with shiny metallic luster to perigynia surface.*]

Carex nigricans C.A. Mey., BLACK ALPINE SEDGE—BR**.** Common in fellfields, flow-through fens and subalpine meadows. *Faust 2019-1835 (7).* 1747–1995 m.

Carex pachystachya Cham. ex Steud., CHAMISSO SEDGE—BR**.** Common from mid-elevation conifer forests and mid-elevation rocky outcrops. *Faust 3451 (6).* 1502–2062 m.

Carex paysonis Clokey, PAYSON'S SEDGE—BR**.** Common from fellfields and high-elevation rocky outcrops. *Faust 2019-1824 (7).* 1995–2152 m.

Carex pellita Muhl. ex Willd., WOOLLY SEDGE—BO**.** Occasional from sedge wetlands. *Faust 3530 (1).* 831 m. [*Carex lanuginosa misapplied synonym.*]

Carex phaeocephala Piper, DUNHEAD SEDGE—BR**.** Common on mid-high elevation rocky outcrops and talus. *Faust 2019-1564 (4).* 2144–2163 m.

Carex praeceptorum Mack., EARLY SEDGE—BO*, BR**.** Common in subalpine meadows and subalpine lakeshores. *Faust 2019-1891 (5).* 1639–1934 m.

Carex praticola Rydb., MEADOW SEDGE—BR**.** Common in mid-high-elevation rocky outcrops and mesic roadsides. *Faust 2019-1595 (3).* 1192–2115 m.

Carex preslii Steud., PRESL SEDGE—BR**.** Ocassional, from fellfield and mesic high-elevation rocky outcrop. *Faust 2019-1841 (2).* 1741–1995 m.

Carex raynoldsii Dewey, RAYNOLD'S SEDGE—BR**.** Uncommon, from openings in mesic forest. *Faust 3455 (1).* 1192 m.

Carex retrorsa Schwein., RETRORSE SEDGE—BO**.** Uncommon from sedge

wetlands and shrub carr. *Faust 3813 (1).* 746 m.

Carex rossii Boott, ROSS' SEDGE—BO, BR**.** Common from montane shrublands and forest and mid-elevation rocky outcrops. *Faust 2019-580 (16).* 607–2010 m.

Carex scoparia Schkuhr ex Willd., BROOM SEDGE—BO**.** Occasional from aquatic margins. *Faust 3115 (1).* 749 m.

Carex scopulorum T. Holm **var. *bracteosa*** (L.H. Bailey) F.J. Herm., MOUNTAIN SEDGE—BR**.** Common from subalpine lakes and high-elevation rocky outcrops. *Faust 2019-1638 (7).* 1769–2152 m. [*Older leaf sheaths not ladder-fibrillose.*]

Carex scopulorum T. Holm **var. *prionophylla*** (Holm) L.A. Standl. {*Carex prionophylla*}, FIRETHREAD SEDGE—BR**.** Common from subalpine meadows and mid-high-elevation aquatic margins. *Faust 2019-1440 (9).* 1128–1934 m. [*Older leaf sheaths ladder-fibrillose.*]

Carex spectabilis Dewey, SHOWY SEDGE—BO*, BR**.** Occasional from high-elevation rocky outcrops and subalpine conifer forests. *Faust 3733 (2).* 2005–2139 m.

Carex stipata Muhl. ex Willd. **var. *stipata,*** OWLFRUIT SEDGE—BO**.** Occasional from sedge wetlands and aquatic margins. *Faust 3704 (2).* 759–1017 m.

Carex subfusca W. Boott, BROWN SEDGE—BR**.** Uncommon from montane roadside. *Faust 2019-709 (1).* 548 m.

Carex utriculata Boott, NORTHWEST TERRITORY SEDGE—BO, BR**.** Common from sedge wetlands, flow-through fens and shrub carr. *Faust 2019-938 (8).* 730–1567 m. [*Often confused with C. rostrata, all past reports of C. rostrata from area are referrable to C. utriculata.]*

Carex vesicaria L., BLISTER SEDGE—BO, BR**.** Common from sedge wetlands, flow-through fens and shrub carr. *Faust 2019-1350 (6).* 799–1325 m.

Carex viridula Michx. **ssp. *viridula*** {*Carex oederi*}, LITTLE GREEN SEDGE—BO**.** Uncommon from Priest Lake lakeshore. *Faust 4180 (1).* 742 m.

Carex vulpinoidea Michx., FOX SEDGE—BR*. Uncommon from timber harvested forests. *Faust 2019-708 (1).* 548 m.

Dulichium arundinaceum (L.) Britton, THREE-WAY SEDGE—BO**.** Common from sedge wetlands, shrub carr and aquatic margins. *Faust 2019-2087 (3).* 665–923 m.

Eleocharis mamillata (H. Lind.) H. Lind **var. *mamillata*** SOFT STEM SPIKERUSH—BO**.** Chase Lake, *Bursik 1588,* 1988 (ID). [*See State Records, Under review for listing.*]

Eleocharis ovata (Roth) Roem. & Schult., OVATE SPIKERUSH—BO. McCormack Meadows, *Robert Bursik 3477*, 1994 (ID)

Eleocharis palustris (L.) Roem. & Schult., COMMON SPIKERUSH—BO**.** Common from sedge wetlands, shrub carr and aquatic margins. *Faust 3080 (3).* 698–831 m.

Eleocharis suksdorfiana Beauverd {*Eleocharis pauciflora var. suksdorfiana*}, SUKSDORF'S SPIKERUSH—BO*, BR**.** Common from flow-through fens and ombrotrophic bogs. *Faust 2019-1978 (6).* 737–1934 m.

■ ***Eriophorum angustifolium*** Honck. **ssp. *angustifolium*** {*Eriophorum polystachion*}, TALL COTTONGRASS—BR**.** Common from subalpine meadows, flow-through fens and ombrotrophic bogs. *Faust 2019-403 (13).* 1242–1934 m. [*G5 SNR*]

Eriophorum chamissonis C.A. Mey. {*Eriophorum brachyantherum*}, CHAMISSO'S COTTONGRASS—BO**.** Rare, from obrotrophic bogs. *Faust 4176 (1).* 750 m.

Eriophorum gracile W.D.J. Koch ex Roth, SLENDER COTTONGRASS—BO. Chase Lake, *R. Bursik 155*, 1987 (ID)

■ ***Eriophorum viridicarinatum*** (Engelm.) Fernald, THINLEAF COTTONSEDGE—BO. Mosquito Bay, *Robert Bursik s.n.*, 1993 (ID) [G5 S2]

■ ***Rhynchospora alba*** (L.) Vahl, WHITE BEAKSEDGE—BR**.** Uncommon in peatlands and marginal wetland habitat. *Faust 3898 (1).* 1300 m. [*Also found in Bonner County within study area.*] [*G5 S3*]

Schoenoplectus acutus (Muhl. ex Bigelow) Á. Löve & D. Löve {*Scirpus acutus*}, HARDSTEM BULRUSH—BO**.** Occasional on lakeshore. *Faust 3898 (1).* 662 m.

Schoenoplectus subterminalis (Torr.) Soják {*Scirpus subterminalis*}, SWAYING BULRUSH—BO. Chase Lake, *Robert Bursik 1581*, 1988 (ID)

Scirpus atrocinctus Fernald, BLACK-GIRDLE BULRUSH—BR***.** Occasional in subalpine meadow. *Faust 4058 (1).* 1097 m.

Scirpus cyperinus (L.) Kunth, COTTONGRASS BULRUSH—BO**.** Occasional in sedge wetland. *Faust 3694 (1).* 995 m.

Scirpus microcarpus J. Presl & C. Presl, PANICLED BULRUSH—BO, BR**.** Common in sedge wetlands and deciduous riparian. *Faust 2019-1761 (4).* 571–1145 m.

■ ***Trichophorum alpinum*** (L.) Pers. {*Scirpus hudsonianus*}, ALPINE BULRUSH—BR**.** Rare in peatlands and ombrotrophic bogs. *Faust 2019-1369 (2).* 1287–1300 m. [*G5 S1*]

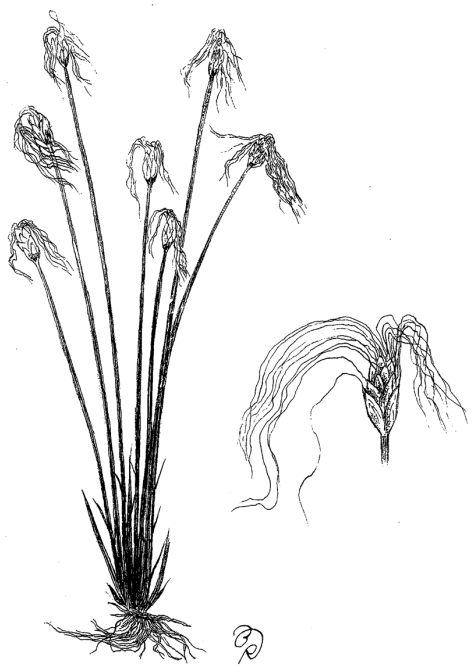

Figure 39. *Trichophorum alpinum.*

HYDROCHARITACEAE

Elodea canadensis Michx., CANADIAN WATERWEED—BO**.** Occasional in lakes and ponds. *Faust 4161 (1).* 742 m.

Elodea nuttallii (Planch.) H. St. John, WESTERN WATERWEED—BO**.** Occasional in lakes and ponds. *Faust 2019-2075 (1).* 657 m.

Najas flexilis (Willd.) Rostk. & W.L.E. Schmidt, NODDING WATERNYMPH—BO**.** Occasional in lakes and ponds. *Faust 4162 (1).* 742 m.

IRIDACEAE

+ ***Iris germanica*** L., GERMAN IRIS—BR*. Rare on roadside. *Faust 2529 (1).* 550 m. [*Yellow flowered form of species formerly recognized as I. flavescens. Not collected in Idaho previously; however, needs further study. Potential escaped hybrid cultivar.*]

+ ?■ ***Iris versicolor*** L., HARLEQUIN BLUEFLAG—BO. Occasional along shores of the thoroughfare. *Faust 4137 (3).* 736–744 m. [*Uncertain whether native or introduced; plausibly could have been introduced via human settlements around Mosquito Bay and along north end of Priest Lake. Re-located historical populations and found species to be established throughout Priest Lake Thoroughfare.*] [*G5 S2*]

JUNCACEAE

Juncus alpinoarticulatus Chaix {*Juncus alpinus*}, NORTHERN GREEN RUSH—BO. Mosquito Bay, *Robert Bursik 2635B*, 1993 (ID) [*Known from single locality in study area.]*

Juncus bufonius L. **var. *bufonius,*** TOAD RUSH—BR. Occasional on montane roadside. *Faust 2019-558 (1).* 662 m.

Juncus confusus Coville, COLORADO RUSH—BR*. Occasional in montane shrubland. *Faust 2019-542 (1).* 895 m.

Juncus drummondii E. Mey., DRUMMOND'S RUSH—BR. Occasional in mesic high-elevation rocky outcrops and subalpine meadows. *Faust 2019-1830 (5).* 1629–1977 m. [*Also found in Bonner County within study area.*]

+ ***Juncus effusus*** L. **ssp. *effusus*** {*Juncus effusus var. compactus*}, SOFT RUSH—BO, BR. Occasional in sedge wetlands, flow-through fen complex and margins of aquatic zones. *Faust 3081 (2).* 759–1344 m.

Juncus ensifolius Wikstr., SWORDLEAF RUSH—BO, BR. Common from deciduous riparian, roadsides, timber harvested forest and multiple use. *Faust 3430 (11).* 548–1536 m.

Juncus filiformis L., THREAD RUSH—BO, BR*. Common from sedge wetlands, deciduous riparian and aquatic zones. *Faust 4076 (7).* 799–1621 m.

Juncus mertensianus Bong., MERTENS' RUSH—BR. Common from flow-through fens, subalpine meadows and fellfields. *Faust 2019-1660 (7).* 1793–2062 m.

Juncus parryi Engelm., PARRY'S RUSH—BO, BR. Common on high-elevation rocky outcrops, subalpine conifer forest, and talus. *Faust 2019-1267 (21).* 1394–2152 m.

Juncus saximontanus A. Nelson {*Juncus ensifolius var. montanus*}, ROCKY MOUNTAIN RUSH—BR*. Uncommon from mid-elevation conifer forest. *Faust 2019-1201 (1).* 1385 m. [*Also found in Bonner County within study area.*]

Juncus tenuis Willd., POVERTY RUSH—BO, BR. Common from moist roadside ditches and low-elevation lakeshores. *Faust 2019-707 (7).* 548–1583 m.

Luzula comosa E. Mey. **var. *laxa*** Buchenau, PACIFIC WOODRUSH—BO, BR*. Common in montane mid-elevation conifer forests. *Faust 2350 (11).* 607–1328 m.

Luzula hitchcockii Hämet-Ahti, HITCHCOCK'S WOODRUSH—BO, BR. Common, from subalpine conifer forests and high-elevation rocky outcrops. *Faust 2019-859 (12).* 1583–2144 m.

Luzula multiflora (Ehrh.) Lej. {*Luzula campestris var. frigida*}, COMMON WOODRUSH—BR**.** Occasional from mid-elevation rocky outcrop and mid-elevation conifer forest. *Faust 3647 (1).* 1766 m.

Luzula parviflora (Ehrh.) Desv., SMALLFLOWERED WOODRUSH—BO, BR**.** Common in mid-elevation conifer forest, mid-elevation rocky outcrop and deciduous riparian margins in between. *Faust 2019-1224 (9).* 832–2086 m.

Luzula piperi (Coville) M.E. Jones, PIPER'S WOODRUSH—BR**.** Locally common on high-elevation rocky outcrops and fellfields. *Faust 2019-1725 (4).* 2001–2163 m.

Luzula spicata (L.) DC. **ssp. *spicata,*** SPIKED WOODRUSH—BR**.** Locally common on high-elevation rocky outcrops and fellfields. *Faust 3723 (3).* 1291–2258 m.

LILIACEAE

Calochortus apiculatus Baker, POINTEDTIP MARIPOSA LILY—BO, BR**.** Common in montane shrublands, montane forests and mid-high-elevation rocky outcrops. *Faust 2019-575 (11).* 582–1872 m.

Clintonia uniflora (Menzies ex Schult.) Kunth, BEADLILY—BO, BR**.** Common in mesic forests, deciduous riparian and aquatic margins. *Faust 2019-218 (20).* 602–1741 m.

Erythronium grandiflorum Pursh **var. *chrysandrum*** (Applegate) Scoggan, GLACIER LILY—BR***.** Common in montane shrublands, montane forests, deciduous riparian and fellfields. *Faust 2019-1543 (5).* 1061–2062 m. [*Anthers golden yellow, mixed populations present.]*

Erythronium grandiflorum Pursh **var. *grandiflorum*** GLACIER LILY—BO, BR**.** Common in montane shrublands and mid-elevation rocky outcrops. *Faust 2019-567 (3).* 884–2072 m. [*Anthers red-purple, mixed populations present.]*

Erythronium grandiflorum Pursh **var. *pallidum*** H. St. John, GLACIER LILY—BO*, BR***.** Common in montane shrublands, montane forests, and bear grass meadows. *Faust 2946 (5).* 684–1907 m. [*Anthers white/cream, mixed populations present.]*

Fritillaria pudica (Pursh) Spreng., YELLOW BELLS—BO, BR***.** Occasional in montane grasslands. *Faust 2117 (3).* 679–684 m.

Lilium columbianum Leichtlin, COLUMBIA LILY—BO, BR**.** Common in montane and mid-elevation conifer forests, montane shrublands and roadsides. *Faust 2019-631 (13).* 582–1766 m.

Lloydia serotina (L.) Salisb. ex Rchb., COMMON ALPLILY—BR. Twin Peaks, *Bob Moseley 1673*, 1989 (ID)

Prosartes hookeri Torr. {*Disporum hookeri*}, HOOKER'S FAIRYBELLS—BO, BR**.** Common in montane and mid-elevation conifer forests. *Faust 2019-48 (9).* 622–1500 m.

Prosartes trachycarpa S. Watson {*Disporum trachycarpum*}, ROUGHFRUIT FAIRYBELLS—BO, BR**.** Common in montane and mid-elevation conifer forests. *Faust 2019-1112 (4).* 694–989 m.

Streptopus amplexifolius (L.) DC., CLASPINGLEAF TWISTEDSTALK—BO, BR**.** Common in mesic and mid-elevation conifer forests. *Faust 2019-772 (14).* 710–1741 m.

■ ***Streptopus streptopoides*** (Ledeb.) Frye & Rigg, SMALL TWISTEDSTALK—**BR.** Locally common in old growth disjunct forests. *Faust 3935 (3).* 804–1369 m. [*G5 S2*]

MELANTHIACEAE

Anticlea occidentalis (A. Gray) Zomlefer & Judd {*Stenanthium occidentale*}, BRONZE BELLS—**BR.** Common in montane and mesic forests, mid-elevation rocky outcrops and deciduous riparian. *Faust 2019-96 (9).* 602–1998 m.

Toxicoscordion venenosum (S. Watson) Rydb. **var. *gramineum*** (Rydb.) Brasher {*Zigadenus venenosus var. gramineus*}, GRASSY DEATHCAMAS—BO, **BR.** Common in montane grasslands/shrublands *Faust 2019-35 (13).* 578–1780 m.

Trillium ovatum Pursh **var. *ovatum,*** WESTERN WAKEROBIN—BO, **BR.** Common in mesic forest and deciduous riparian. *Faust 2019-301 (18).* 602–1589 m.

Veratrum viride Aiton **var. *eschscholzianum*** (Roem. & Schult.) Breitung, GREEN FALSE HELLEBORE—**BR.** Common in mid-elevation conifer forests, and aquatic and deciduous riparian margins. *Faust 3601 (5).* 1315–1814 m.

Xerophyllum tenax (Pursh) Nutt., BEARGRASS—BO, **BR.** Common in bear grass meadows and mid-elevation conifer forests. *Faust 2019-1084 (22).* 1135–2144 m.

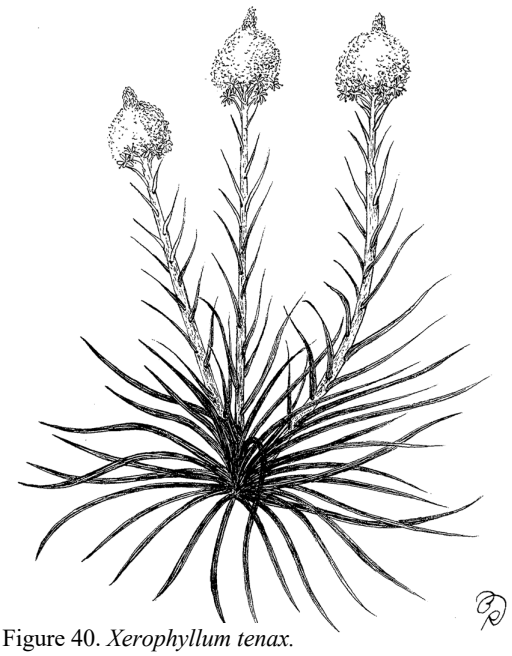

Figure 40. *Xerophyllum tenax.*

ORCHIDACEAE

Calypso bulbosa (L.) Oakes **var. *americana*** (R. Br.) Luer, FAIRY SLIPPER—BO. Uncommon in timber harvested forests. *Faust 2311 (1).* 898 m. [*Lip appendage with many yellow hairs.]*

Calypso bulbosa (L.) Oakes **var. *occidentalis*** (Holz.) B. Boivin, FAIRY SLIPPER—BR***.** Occasional in montane and mesic forests. *Faust 2019-190 (3).* 978–1500 m. [*Lip appendage with sparse white or clear hairs.]*

Corallorhiza maculata (Raf.) Raf. **var. *maculata,*** SUMMER CORALROOT—BR***.** Occasional in montane, mesic and mid-elevation forest. *Faust 3020 (3).* 602–1604 m. [*Middle lobe of lip not or scarcely expanded towards tip; generally found in wetter forests.]*

Corallorhiza maculata (Raf.) Raf. **var. *occidentalis*** (Lindl.) Ames, SUMMER CORALROOT—BO, BR***.** Occasional in montane, mesic and mid-elevation forest. *Faust 2019-236 (2).* 607–694 m. [*Middle lobe of lip conspicuously*

expanded towards tip; generally found in drier forests, high tolerance for disturbance.]

Corallorhiza mertensiana Bong., PACIFIC CORALROOT—BO, BR**.** Common in montane, mesic and mid-elevation conifer forest. *Faust 2019-985 (9).* 578–1780 m.

Corallorhiza striata Lindl. **var. *striata,*** STRIPED CORALROOT—BR***.** Occasional in montane forest. *Faust 2019-97 (2).* 569–578 m.

Corallorhiza trifida Châtel., YELLOW CORALROOT—BO, BR***.** Occasional in mesic forest. *Faust 2019-193 (3).* 781–1074 m.

Cypripedium montanum Douglas ex Lindl., MOUNTAIN LADY SLIPPER—BR**.** Occasional on montane roadside. *Faust 2526 (2).* 541–545 m.

Goodyera oblongifolia Raf., WESTERN RATTLESNAKE PLANTAIN—BR**.** Common in montane and mesic forest. *Faust 4093 (6).* 743–1408 m.

Neottia banksiana (Lind.) Rchb. f. {*Listera caurina*}, NORTHWESTERN TWAYBLADE—BO, BR**.** Common in mesic and mid-elevation conifer forest. *Faust 2019-147 (7).* 760–1604 m.

Neottia convallarioides (Sw.) Richardson {*Listera convallarioides*}, NORTHERN ROCKCRESS—BR. Jeru Peak Vicinity, *Peter F. Stickney 4250*, 1984 (ID)

Neottia cordata (L.) Richardson {*Listera cordata*}, HEARTLEAF TWAYBLADE—BO, BR**.** Common in mesic and mid-elevation conifer forest. *Faust 2019-345 (12).* 746–1816 m.

Platanthera dilatata (Pursh) Lindl. ex L.C. Beck **var. *dilatata*** {*Habenaria dilatata var. dilatata*}, WHITE BOG ORCHID—BO, BR**.** Common in flow-through fen, sedge wetlands and subalpine meadows. *Faust 3575 (7).* 831–1934 m.

Platanthera elongata (Rydb.) R.M. Bateman {*Habenaria elegans*}, DENSEFLOWER REIN ORCHID—BR***.** Occasional in montane forest. *Faust 3710 (2).* 743–886 m. [*Prior reports of Habenaria elegans belong here.*]

Platanthera orbiculata (Pursh) Lindl. {*Habenaria orbiculata*}, LARGE ROUND-LEAF ORCHID—BO, BR**.** Occasional in mesic and mid-elevation conifer forest. *Faust 3528 (2).* 842–1148 m.

Platanthera stricta Lindl. {*Habenaria saccata*}, SLENDER BOG ORCHID—BO, BR**.** Common in mesic and mid-elevation conifer forest, deciduous riparian, aquatic margins and roadsides. *Faust 2019-154 (27).* 746–1934 m.

Platanthera unalascensis (Spreng.) Kurtz {*Habenaria unalascensis*}, ALASKA REIN ORCHID—BO, BR**.** Common in montane forest. *Faust 3253 (7).* 805–1811 m.

Spiranthes romanzoffiana Cham., HOODED LADIES TRESSES—BR**.** Common in subalpine meadows and flow-through fens. *Faust 2019-1471 (9).* 1275–1934 m.

POACEAE

Achnatherum lemmonii (Vasey) Barkworth **ssp. *lemmonii*** {*Stipa lemmonii var. lemmonii*}, LEMMON'S NEEDLEGRASS—BO*, BR***.** Occasional in montane shrublands. *Faust 2019-75 (2).* 684–930 m.

Achnatherum occidentale (Thurb. ex S. Watson) Barkworth **ssp. *californicum*** (Merr. & Burtt Davy) Barkworth {*Stipa occidentalis var. californica*},

CALIFORNIA NEEDLEGRASS—BO*, BR*. Occasional in montane forests and montane grasslands. *Faust 2019-721 (4).* 581–772 m.

+ ***Agrostis capillaris*** L. {*Agrostis tenuis*}, COLONIAL BENTGRASS—BO, BR*. Occasional on mesic roadsides. *Faust 2019-1129 (4).* 659–1340 m.

Agrostis exarata Trin., SPIKE BENTGRASS—BO, BR. Common in deciduous riparian and aquatic margins. *Faust 2019-1925 (5).* 1097–1639 m.

+ ***Agrostis gigantea*** Roth {*Agrostis alba var. alba*}, REDTOP—BO, BR*. Occasional on mesic roadsides and disturbed sedge wetlands. *Faust 4184 (3).* 770–1340 m.

Agrostis idahoensis Nash, IDAHO BENTGRASS—BR*. Occasional in high-elevation rocky outcrops. *Faust 3713 (4).* 1007–2163 m.

Agrostis scabra Willd., ROUGH BENTGRASS—BO, BR. Common, from montane grasslands/shrublands, mid-elevation rocky outcrops, flow-through wetlands, and roadsides. *Faust 2019-979 (14).* 820–1780 m.

Agrostis stolonifera L. {*Agrostis alba vars. palustris & stolonifera*}, CREEPING BENTGRASS—BO, BR. Common in timber harvested forests and roadsides. *Faust 2019-836 (4).* 548–1814 m

Agrostis variabilis Rydb., MOUNTAIN BENTGRASS—BO, BR. Locally common on mid-high elevation rocky outcrops. *Faust 2019-1304 (8).* 1583–2317 m.

+ ***Alopecurus pratensis*** L., MEADOW FOXTAIL—BR. Common on roadsides. *Faust 2019-613 (6).* 543–1762 m.

+ ***Anthoxanthum odoratum*** L., SWEET VERNALGRASS—BO*, BR*. Uncommon roadside weed. *Faust 2229 (4).* 722–1439 m.

+ ***Apera interrupta*** (L.) P. Beauv. {*Agrostis interrupta*}, DENSE SILKYBENT—BO*. Uncommon roadside weed. *Faust 2900 (2).* 757–1144 m.

Bromus ciliatus L., FRINGED BROME—BO, BR. Occasional in disturbed montane forest. *Faust 2019-689 (2).* 748–1506 m.

+ ***Bromus commutatus*** Schrad., MEADOW BROME—BO, BR*. Occasional in dry montane grasslands, roadsides. *Faust 2019-523 (6).* 661–1800 m.

+ ***Bromus hordeaceus*** L. {*Bromus mollis*}, SOFT BROME—BR*. Occasional in dry montane grasslands, roadsides. *Faust 2019-73 (1).* 684 m.

+ ***Bromus inermis*** Leyss. {*Bromus inermis ssp. inermis*}, SMOOTH BROME—BO, BR*. Occasional in dry montane grasslands, roadsides. *Faust 2019-233 (6).* 571–1200 m.

Bromus pumpellianus Scribn. **ssp. *pumpellianus*** {*Bromus inermis ssp. pumpellianus*}, PUMPELLY'S BROME—BR*. Uncommon in flow-through fen. *Faust 3944 (1).* 1289 m.

Bromus sitchensis Trin. **var. *marginatus*** (Nees ex Steud.) B. Boivin {*Bromus carinatus var. linearis*}, LARGE MOUNTAIN BROME—BO, BR*. Ocassional, from mid-elevation conifer and mesic forested roadsides. *Faust 3456 (4).* 930–1439 m.

+ ***Bromus squarrosus*** L., CORN BROME—BO*, BR. Occasional in dry montane grasslands and roadsides. *Faust 2019-480 (4).* 543–886 m.

+ ***Bromus tectorum*** L., CHEATGRASS—BO, BR***.*** Occasional in dry montane grasslands and roadsides. *Faust 2019-63 (11).* 581–951 m.

Bromus vulgaris (Hook.) Shear, COLUMBIA BROME—BR***.*** Uncommon in timber harvested forest. *Faust 3439 (1).* 1315 m.

Calamagrostis canadensis (Michx.) P. Beauv. **var. *canadensis,*** BLUEJOINT REEDGRASS—BO, BR***.*** Common in subalpine meadows, flow-through fens and mid-high elevation rocky outcrops. *Faust 2019-1503 (11).* 1290–2163 m. [*Spikelets 2-4 mm, glume tips acute.*]

Calamagrostis canadensis (Michx.) P. Beauv. **var. *langsdorffii*** (Link) Inman {*Calamagrostis canadensis vars. lactea & scabra*}, BLUEJOINT REEDGRASS—BR***.*** Occasional in flow-through fen. *Faust 4012 (2).* 1324–1567 m. [*Spikelets 4-4.5 mm, glume tips acuminate.]*

Calamagrostis rubescens Buckley, PINEGRASS—BO, BR***.*** Common in montane forest. *Faust 2019-761 (4).* 694–1602 m.

Calamagrostis stricta (Timm) Koeler **ssp. *inexpansa*** (A. Gray) C.W. Greene {*Calamagrostis inexpansa*}, NARROW-SPIKED REEDGRASS—BO, BR***.*** Common, from subalpine meadows, fellfields, roadsides and mid-elevation conifer forests. *Faust 2019-1233 (5).* 757–1995 m.

Cinna latifolia (Trevir. ex Göpp.) Griseb., DROOPING WOODREED—BO, BR***.*** Common, from mesic and mid-elevation conifer forests, and deciduous riparian. *Faust 2019-991 (6).* 783–1543 m.

+ ***Dactylis glomerata*** L., ORCHARD GRASS—BO, BR***.*** Common roadside weed. *Faust 2893 (7).* 549–1271 m.

Danthonia intermedia Vasey, TIMBER OATGRASS—BO, BR***.*** Common, from mid-high elevation rocky outcrops, fellfields and subalpine meadows. *Faust 2019-1302 (18).* 852–2018 m.

Danthonia spicata (L.) P. Beauv. ex Roem. & Schult., POVERTY OATGRASS—BO, BR***.*** Common, from montane grasslands/shrublands and roadsides. *Faust 2997 (6).* 661–1394 m.

Danthonia unispicata (Thurb.) Munro ex Macoun, ONESPIKE DANTHONIA—BO*, BR***.*** Common, from montane grasslands/shrublands and roadsides. *Faust 2019-1649 (6).* 661–1456 m.

Deschampsia cespitosa (L.) P. Beauv., TUFTED HAIRGRASS—BO, BR***.*** Ocassional, from flow-through fens and fell fields. *Faust 3584 (7).* 730–2152 m.

Deschampsia danthonioides (Trin.) Munro, ANNUAL HAIRGRASS—BR***.*** Ocassional, from montane shrublands. *Faust 2019-645 (1).* 844 m.

Deschampsia elongata (Hook.) Munro, SLENDER HAIRGRASS—BO, BR***.*** Occasional from montane and mesic forests and deciduous riparian. *Faust 2019-1013 (5).* 805–1506 m.

Dicanthelium acuminatum (Sw.) Gould & C.A. Clark {*Panicum occidentale*}, TAPERED ROSETTE GRASS—BO. Priest Lake, *William H. Baker 15002*, 1957 (ID)

+ ***Elymus canadensis*** L. **var. *canadensis,*** CANADA WILDRYE—BO***.*** Uncommon roadside weed. *Faust 4183 (1).* 770 m.

Elymus glaucus Buckley **ssp. *glaucus,*** BLUE WILDRYE—BO, BR***.*** Common,

from mesic, montane and mid-elevation conifer forests and roadsides. *Faust 2019-554 (14).* 694–1998 m.

Elymus glaucus Buckley × ***Elymus hirsutus*** J. Presl—BR***.** Uncommon, from disturbed mesic forest opening at base of avanlanche chute. *Faust 3457 (1).* 1192 m. [*Approaching E. hirsutus in habit and inflorescence; Lemma margins glabrous.*]

! ***Elymus hirsutus*** J. Presl, BOREAL WILDRYE—BR***.** Locally common in Smith Creek vicinity in mesic timber harvest zones and mesic forests and adjacent openings. *Faust 2019-1490 (4).* 1161–1502 m. [*In review for state listing. See Discussion under State Records.*]

Figure 41. *Elymus hirsutus.*

Elymus lanceolatus (Scribn. & J.G. Sm.) Gould **ssp. *riparius*** (Scribn. & J.G. Sm.) Barkworth, STREAM BANK WHEATGRASS—BR***.** Rare on roadsides. *Faust 3014 (1).* 571 m.

\+ ***Elymus repens*** (L.) Gould {*Agropyron repens*}, QUACKGRASS—BR**.** Occasional roadside weed. *Faust 2019-1749 (2).* 1145–1200 m.

Elymus trachycaulus (Link) Gould ex Shinners **ssp. *subsecundus*** (Link) Á. Löve & D. Löve {*Agropyron caninum var. unilaterale*}, SLENDER WHEATGRASS—BO. Benton Creek Watershed, *J. A. Larsen s.n.*, 1919 (ID)

Festuca occidentalis Hook., WESTERN FESCUE—BO, BR**.** Common, from mesic, montane and mid-elevation conifer forests, montane grasslands and roadsides. *Faust 2019-360 (12).* 661–1604 m.

Festuca rubra L., RED FESCUE—BO, BR**.** Common, from montane and mid-elevation conifer forests, montane shrublands, fellfields, mid-high elevation rocky outcrops and roadsides. *Faust 2019-880 (21).* 571–2144 m. [*Highly variable species, both morphology and habitat. Some historical collections of F. idahoensis are referred here.*]

Festuca saximontana Rydb. **var. *purpusiana*** (St.-Yves) Fred. & Pavlick {*Festuca ovina var. purpusiana*}, ROCKY MOUNTAIN FESCUE—BR**.** Locally common on high-elevation dry rocky outcrops. *Faust 3846 (6).* 1920–2258 m. [*Multiple historical collections of Festuca idahoensis were misidentified and annotated here.]*

Festuca subulata Trin., BEARDED FESCUE—BO, BR***.** Common in mesic and mid-elevation conifer forests. *Faust 2019-936 (5).* 745–1998 m.

\+ ***Festuca trachyphylla*** (Hack.) Krajina, HARD FESCUE—BO*, BR***.** Occasional in dry montane shrublands/grasslands & roadsides. *Faust 3870 (4).* 799–1639 m.

+ ***Festuca valesiaca*** Schleich. ex Gaudin, VOLGA FESCUE—BO***.** Occasional in dry montane shrublands/grasslands & roadsides. *Faust 2019-231 (2).* 755–1054 m.

Festuca viridula Vasey, GREENLEAF FESCUE—BO, BR**.** Common, from mid-elevation conifer forests, mid-high elevation rocky outcrops and bear grass meadows. *Faust 2019-1301 (18).* 1394–2072 m.

Glyceria borealis (Nash) Batch., SMALL FLOATING MANNAGRASS—BO**.** Common in sedge wetlands and lakeshores. *Faust 3539 (4).* 736–928 m.

Glyceria elata (Nash) M.E. Jones, TALL MANNAGRASS—BO, BR**.** Common in deciduous riparian corridors. *Faust 4059 (4).* 571–1097 m.

Glyceria grandis S. Watson **var. *grandis*** {*Glyceria maxima ssp. grandis* }, AMERICAN MANNAGRASS—BO, BR***.** Common in sedge wetlands and lakeshores. *Faust 2019-2005 (3).* 759–1925 m.

Glyceria striata (Lam.) Hitchc., FOWL MANNAGRASS—BR**.** Occasional in sedge wetlands and deciduous riparian. *Faust 3912 (2).* 1324–1385 m.

+ ***Holcus lanatus*** L., COMMON VELVETGRASS—BO. Chase Lake?, *J. H. Christ 1311*, 1931 (ID)

+ ***Hordeum jubatum*** L. **ssp. *jubatum***, COMMON BARLEY—BO. Priest River Experimental Forest, *R. F. Daubenmire 43286*, 1943 (WTU)

Koeleria macrantha (Ledeb.) Schult. {*Koeleria cristata*}, PRAIRIE JUNEGRASS—BR***.** Rare in montane shrublands. *Faust 2019-690 (1).* 748 m.

+ ***Lolium perenne*** L., PERENNIAL RYEGRASS—BO**.** Occasional on roadsides, timber harvest areas. *Faust 2820 (2).* 762–811 m.

Melica spectabilis Scribn., SHOWY ONIONGRASS—BO, BR**.** Ocassional, from bear grass meadows, montane grasslands and mid-elevation conifer forests. *Faust 2019-971 (4).* 902–1780 m.

Figure 42. *Melica spectabilis.*

Melica subulata (Griseb.) Scribn., ALASKA ONIONGRASS—BO, BR**.** Common, from mesic, montane and mid-elevation conifer forests. *Faust 3438 (11).* 772–1664 m.

Muhlenbergia filiformis (Thurb. ex S. Watson) Rydb., SLENDER MUHLY—BR***.** Occasional in flow-through fens. *Faust 3916 (2).* 1289–1324 m.

Oryzopsis asperifolia Michx., WHITE-GRAIN MOUNTAIN-RICE GRASS—BO, BR**.** Occasional in mesic forests. *Faust 2510 (2).* 599–760 m.

Panicum capillare L. **ssp. *capillare***, WITCHGRASS—BO. East side of Priest Lake, *Ben Legler 16394*, 2020 (ID)

\+ ***Phalaris arundinacea*** L., REED CANARYGRASS—BO, BR**.** Common dominant weed in low elevation wetland systems and aquatic zones. *Faust 3516 (5).* 543–1401 m.

Phleum alpinum L., MOUNTAIN TIMOTHY—BR**.** Common, from flow-through fens, subalpine meadows and fellfields. *Faust 3832 (7).* 1276–1995 m.

\+ ***Phleum pratense*** L., TIMOTHY—BO, BR**.** Common roadside weed. *Faust 2019-1752 (10).* 548–1385 m.

Piptatheropsis exigua (Thurb.) Romasch., P.M. Peterson & Soreng {*Oryzopsis exigua*}, LITTLE MOUNTAIN-RICEGRASS—BO*, BR***.** Common, from mid-high elevation rocky outcrops. *Faust 2019-1098 (4).* 1394–1920 m.

\+ ***Poa annua*** L., ANNUAL BLUEGRASS—BO*, BR***.** Occasional roadside weed. *Faust 2019-917 (3).* 659–1128 m.

\+ ***Poa bulbosa*** L. **ssp. *vivipara*** (Koeler) Arcang., BULBOUS BLUEGRASS—BO*, BR***.** Occasional in dry montane grasslands, roadsides. *Faust 2019-76 (4).* 651–1007 m.

Poa compressa L., CANADA BLUEGRASS—BO, BR**.** Common, from montane grasslands and shrublands. *Faust 2019-514 (8).* 581–1251 m.

Poa cusickii Vasey **ssp. *epilis*** (Scribn.) W.A. Weber, CUSICK'S BLUEGRASS—BR**.** Uncommon, from fellfields. *Faust 2019-1538 (2).* 2087–2152 m.

Poa leptocoma Trin. {*Poa leptocoma var. leptocoma*}, MARSH BLUEGRASS—BR. Roman Nose Lakes, *T. Spribille 14410*, 2004 (ID)

■ ***Poa paucispicula*** Scribn. & Merr. {*Poa leptocoma var. paucispicula*}, ALASKA BLUEGRASS—BR. Twin Peaks, *Bob Moseley 1670*, 1989 (ID) [G5T5 S1]

\+ ***Poa palustris*** L., FOWL BLUEGRASS—BO. Benton Creek Watershed, *Peter F. Stickney 3152*, 1974 (ID)

Poa pratensis L. **ssp. *pratensis,*** KENTUCKY BLUEGRASS—BO*, BR***.** Common, from sedge wetlands and roadsides. *Faust 2525 (6).* 543–1300 m.

Poa secunda J. Presl **ssp. *secunda*** {*Poa gracillima*}, ONE SIDED BLUEGRASS—BO, BR**.** Common, from montane grasslands, montane forests and mid-high elevation rocky outcrops. *Faust 2019-977 (19).* 679–2317 m.

Poa stenantha Trin. **var. *stenantha,*** NARROW-FLOWER BLUEGRASS—BO*, BR***.** Common, from montane grasslands, montane forests and mid-high elevation rocky outcrops. *Faust 2019-325 (15).* 582–2099 m.

Poa wheeleri Vasey {*Poa nervosa var. wheeleri*}, WHEELER'S BLUEGRASS—BR***.** Uncommon in montane forest. *Faust 2019-137 (1).* 1007 m.

Podagrostis humilis (Vasey) Björkman {*Agrostis humilis*}, ALPINE BENTGRASS—BR**.** Uncommon, from subalpine meadow. *Faust 3486 (1).* 1757 m.

Podagrostis thurberiana (Hitchc.) Hultén {*Agrostis thurberiana*}, THURBER'S BENTGRASS—BR**.** Common, from subalpine meadows and fellfields. *Faust 2019-1396 (13).* 1052–2002 m.

Pseudoroegneria spicata (Pursh) Á. Löve {*Agropyron spicatum*}, BLUEBUNCH WHEATGRASS—BO, BR**.** Common, from montane forest and montane

grasslands/shrublands. *Faust 2019-140 (12).* 761–1974 m.

+ ***Schedonorus arundinaceus*** (Schreb.) Dumort. {*Festuca arundinacea*}, TALL FESCUE—BR**.** Occasional in dry montane grasslands and roadsides. *Faust 2411 (1).* 804 m.

+ ***Schedonorus pratensis*** (Huds.) P. Beauv. {*Festuca pratensis*}, MEADOW FESCUE—BR**.** Occasional in dry montane grasslands and roadsides. *Faust 2490 (1).* 1800 m.

+ ***Setaria viridis*** (L.) P. Beauv. **var. *viridis*** {*Setaria viridis*}, GREEN BRISTLEGRASS—BO. East side of Priest Lake, *Ben Legler 16395*, 2020 (ID)

+ ***Thinopyrum intermedium*** (Host) Barkworth & D.R. Dewey **ssp. *barbulatum*** (Schur) Barkworth & D.R. Dewey, HAIRY INTERMEDIATE WHEATGRASS—BR***.** Occasional in dry montane grasslands and roadsides. *Faust 2019-491 (1).* 886 m. [*Strigose lemmas, plants of drier sites.*]

+ ***Thinopyrum intermedium*** (Host) Barkworth & D.R. Dewey **ssp. *intermedium,*** INTERMEDIATE WHEATGRASS—BO***.** Occasional in dry montane grasslands and roadsides. *Faust 4185 (1).* 770 m. [*Glabrous lemmas, plants of wetter sites.*]

Torreyochloa pallida (Torr.) G.L. Church **var. *pauciflora*** (J. Presl) J.I. Davis {*Puccinellia pauciflora*}, PALE FALSE MANNAGRASS—BR**.** Occasional in sedge wetlands. *Faust 3931 (1).* 1325 m.

Trisetum canescens Buckley, TALL TRISETUM—BO, BR**.** Common, from montane forests and montane grasslands/shrublands. *Faust 2019-528 (4).* 772–989 m.

Trisetum cernuum Trin., NODDING TRISETUM—BR**.** Uncommon, from mid-elevation conifer forest. *Faust 2019-1338 (1).* 1299 m.

Trisetum spicatum (L.) K. Richt., SPIKE TRISETUM—BO, BR**.** Common, from montane shrublands, mid-high elevation rocky outcrops, fellfields and roadsides. *Faust 2019-1278 (20).* 1189–2317 m.

Vahlodea atropurpurea (Wahlenb.) Fr. ex Hartm. {*Deschampsia atropurpurea*}, MOUNTAIN HAIRGRASS—BR**.** Common, from mid-high elevation rocky outcrops, fellfields and subalpine meadows. *Faust 2019-1728 (7).* 1666–2139 m.

+ ***Ventenata dubia*** (Leers) Coss., VENTENATA—BO, BR***.** Uncommon roadside weed. *Faust 2019-483 (2).* 661–886 m.

+ ***Vulpia bromoides*** (L.) Gray {*Festuca bromoides*}, BROME FESCUE—BO, BR***.** Occasional in dry montane grasslands, roadsides. *Faust 2019-555 (2).* 820–913 m.

Vulpia microstachys (Nutt.) Munro {*Festuca microstachys*}, SMALL FESCUE—BO, BR***.** Occasional in dry montane grasslands, roadsides. *Faust 2394 (2).* 664–831 m.

Vulpia octoflora (Walter) Rydb. **var. *hirtella*** (Piper) Henrard {*Festuca octoflora var. hirtella*}, SIXWEEKS FESCUE—BO*, BR***.** Occasional in montane forest and grasslands. *Faust 2478 (3).* 582–794 m.

+ ***Zizania palustris*** L., NORTHERN WILDRICE—BO. Chase Lake?, *J. H. Christ 941*, 1930 (ID)

POTAMOGETONACEAE

Potamogeton alpinus Balbis, ALPINE PONDWEED—BO**.** Occasional in lakes and ponds. *Faust 4140 (2).* 743–824 m.

Potamogeton amplifolius Tuck., LARGELEAF PONDWEED—BO**.** Occasional in lakes and ponds. *Faust 4182 (3).* 662–744 m.

Potamogeton berchtoldii Fieber, PONDWEED—BO. Mosquito Bay, *Robert Bursik 3128*, 1993 (ID)

Potamogeton epihydrus Raf., RIBBONLEAF PONDWEED—BO. Chase Lake, *R. Bursik 1583*, 1988 (ID)

Potamogeton foliosus Raf., LEAFY PONDWEED—BR***.** Occasional in lakes and ponds. *Faust 3939 (1).* 1290 m.

Potamogeton gramineus L., VARIABLELEAF PONDWEED—BO**.** Occasional in lakes and ponds. *Faust 4166 (1).* 746 m.

Potamogeton natans L., FLOATING PONDWEED—BO. Chase Lake, *R. Bursik 952*, 1987 (ID)

Potamogeton praelongus Wulfen, WHITESTEM PONDWEED—BO. Chase Lake, *R. Bursik 1584*, 1988 (ID)

Potamogeton richardsonii (A. Benn.) Rydb., RICHARDSON'S PONDWEED—BO**.** Occasional in lakes and ponds. *Faust 4149 (1).* 734 m.

Potamogeton robbinsii Oakes, ROBBINS' PONDWEED—BO**.** Occasional in lakes and ponds. *Faust 4143 (1).* 743 m.

SCHEUCHZERIACEAE

■ ***Scheuchzeria palustris*** L., RANNOCH-RUSH—BO**.** Rare in peatlands and ombrotrophic bogs. *Faust 2019-2059 (2).* 738–750 m. [*G5 S3*]

TYPHACEAE

Sparganium angustifolium Michx., NARROWLEAF BUR-REED—BR**.** Common submerged and emergent aquatic, found in lakes from low to high elevations. *Faust 3066 (2).* 1769–1934 m.

Sparganium emersum Rehmann, EUROPEAN BUR-REED—BO**.** Common submerged and emergent aquatic, found in lakes from low to high elevations. *Faust 4121 (4).* 698–824 m.

Sparganium natans L. {*Sparganium minimum*}, SMALL BUR-REED—BO, BR**.** Common, from sedge wetlands and peatlands. *Faust 2019-2084 (4).* 698–1567 m.

Typha latifolia L., BROADLEAF CATTAIL—BO**.** Common on margins of aquatic zones and sedge wetlands. *Faust 3078 (3).* 665–759 m. [*One specimen atypical with pistillate and staminate spikes seperated by a gap, pistillate bracteoles absent.*]

DISCUSSION

Value of Survey

Floristic inventories serve as one of the most critical foundations of our understanding of plant diversity, and herbarium specimens are the physical foundation for the study of such diversity (e.g. a species' range, distribution, and systematic treatment; Wolgemuth 1998). These data are instrumental in assessing shifts in community composition and/or species phenology in an era of massive global change (Willis 2008). It is therefore fundamental for every defined floristic region to have an organized and communicable understanding of its diversity, especially in the face of global change (Ertter & Moseley 1992). This checklist targets government land managers, researchers, and lay botanists interested in exploring the area, and serves as the baseline dataset of the vascular plant diversity for the study area, which will assist in assessment of change over time. Much was unknown of the study area prior to 2019, so this study also serves to fill a gap in our knowledge, not just for the Selkirk range, but for the Idaho Panhandle, as well as the whole state of Idaho and the Pacific Northwest. On top of these impacts, the plant collections, and the silica gel-dried tissue collections associated with them, are an incredible dataset. For example, spatial phylogenetics, a scientific field exploring diversity and landscape change, can take this dataset further to analyze the phylogenetic relationships among the present species (Mishler et al. 2020), and address longstanding evolutionary and ecological hypotheses (e.g. Darwin's Naturalization Conundrum; Marx et al. 2016, Park et al. 2020). Lastly, this inventory serves as a model for studies that integrate historical herbarium specimens into updated floristic inventories.

Thoroughness of Survey

The number of state and county collection records and range extensions documented in the study area illuminate the under-collected nature of the Idaho Panhandle prior to this study. Although these results suggest a thorough collection effort, a flora is never *fully* collected (Rozensweig 2003). Before the study, ~2,800 specimens represented the 886 square mile study area, which represents a coverage of ~3.16 collections per square mile. During 2019 and 2020, 4,153 collections were made, which accounts for an additional 4.6 collections per square mile. Now the region boasts ~7.8 collections per square mile, coverage that was doubled during the study. However, the coverage of the study area and the density of such

collections is not the whole picture. There are multiple factors that contribute to incomplete documentation of a flora, including collector bias, presence of relictual species, climate change, increase in anthropogenic influences, and conditions during the study timeline.

Accounting for collector bias is not quantified in the case of this study area, however, it is important to note. There is a well-known bias for botanical collecting in close proximity to roads (Daru et al., 2018). This was identified in the initial stages of the study as a known limitation, and efforts to collect remote and difficult to access areas were made by multiple backpacking, bushwacking, peak scrambles, and canoe approaches. However, in looking at the map of collection localities (Figure 12), there are still many areas that could be accessed with further effort, as well as those that would be too difficult to reasonably access. Another known sampling bias is that of the collector's unconscious preference of site selection and which species to collect. This is demonstrated by the difference in collections between sample years, where many species that were presumably present in 2019, were not collected until 2020. The role of chance is another factor, as about a third of the species represented in the checklist were only collected once. For example, one could happen upon a rock crevice where the only population for a given species in the region resides. This intersects with the role of specific habitat requirements of particular species and weather conditions observed in a two year study. This study's two year window could not capture climate change effects on presence/absence of species in the study area; however this is a possible contributing factor to species observed, and an area for further study. On top of these factors, this mountain range is constantly changing through the steady addition of introduced species and associated loss of habitat due to anthropogenic activity, both of which occur on a temporal scale for any floristic region, and so updated surveys are vital to the understanding of any region.

Despite these caveats, this survey serves as the most comprehensive snapshot of the vascular plant diversity of the Selkirk range in Idaho, and includes historical specimen data that combines the efforts of botanists collecting in the region for the past century with collections made as a part of this study. Some specific habitats, such as montane grasslands, were gravely overlooked before this study, as exemplified by range extensions and county records of species otherwise common to this habitat outside of the study area. Multiple widespread montane grassland species had never before been collected in the study area (e.g. *Idahoa scapigera, Athysanus pusillus, Ranunculus glaberrimus*) and several boreal species

new to the Idaho Panhandle were also located (e.g. *Diphasiastrum alpinum, Elymus hirsutus*). Nevertheless, there is a need for continued surveys of the Selkirk crest, areas of proposed development, and heavily trafficked areas, as these areas pose the greatest threat for the loss of species diversity, and the introduction of non-native taxa.

Taxonomic Discussion

When summarizing a regional flora, not all individuals fit neatly into a species circumscription. The study area lies at the intersection of multiple floristic regions, where the opportunity for species to overlap in distribution and intergrade is high. For example, there are multiple instances where overlapping populations of typically disjunct coastal and inland taxa result in plants with intermediate morphologies. It is unclear if this repeated pattern is the result of hybridization between truly distinct coastal and inland taxa, or the result of phenotypic plasticity - another avenue for further study.

Below, species circumscriptions are treated as hypotheses, and the evidence from this study is provided to encourage further investigation into several taxonomic grey areas identified in the following groups (Ertter 1997).

Arnica L. subgenus *Chamissonis* Maguire

Arnica (Asteraceae) is known for its taxonomic complexity (Gruezo 1994). Of the six *Arnica* species in the study area, *A. ovata* and *A. mollis* were treated as part of subgenus *Chamissonis* by Gruezo (1994). Both species are found commonly in the study area, and just as common were intermediate forms between the two. Treatments in FNA, FPNW and the Illustrated Flora of British Columbia were inconsistent, specifically with respect to weighting variability in pappus color and structure between these two species (Douglas1998). Two studies were used to supplement the current treatments, Gruezo (1994) on *Arnica* subgenus *Chamissonis*, and Straley (1980) on subgenus *Austromontana*. Both authors provide a systematic revision for the groups, in which they cite specimens with duplicates housed at ID. The cited specimens were used as the basis for a morphological analysis of all specimens from this study that appeared to be *A. ovata* or *A. mollis* from subgenus *Chamissonis,* as well as *A. latifolia* from subgenus *Austromontana* Maguire, which is easily confused with the preceding two species. It is also likely that *A. mollis* and *A .ovata* lacked clarity in treatments due to their former treatment as synonyms (Gruezo 1994).

Using Gruezo's (1994) treatment, the specific characteristics of *A. ovata* and *A. mollis* became clearer, based on head shape, pappus color, cauline leaf attachment, cauline leaf shape, and basal leaf shape. After specimens with clear morphologies were verified, the remaining intermediate specimens held a distinct pattern. Intermediate specimens matched the majority of the delimiting factors for *A .ovata*, yet were morphologically similar to *A. latifolia* in habit and appearance. These intermediate specimens were annotated to *Arnica ovata* ?, predominantly due to intermediate pappus color and cauline leaf attachment. Based on this pattern, this study hypothesizes that there are two different forms of *A. ovata* found in the study area: the distinctly sticky-leaved *A. ovata* and the potential hybrid *A. ovata* x *A. latifolia*, which is likely due to the probable hybrid origin of *A. ovata* (Ekenäs et al. 2007). This hypothesis needs further investigation, reflected in the lack of clear agreement between treatments on these species circumscriptions.

Rosa gymnocarpa Nutt.

Rosa gymnocarpa (Rosaceae) presents another case of potential intergradation in the study range, highlighting the area's noteworthy overlap of coastal and interior distributions. The most recent treatment for *Rosa gymnocarpa* (Ertter & Lewis 2016), which was published after the FNA treatment (Lewis et al. 2015), recognizes two subspecies, loosely ascribed to coastal and inland distributions. *Rosa gymnocarpa* ssp. *helleri,* recognized recently as the inland subspecies, is more robust with open stem architecture, sparse prickles, and large leaflets, as compared to the coastal subspecies, *Rosa gymnocarpa* ssp. *gymnocarpa* (Ertter & Lewis 2016). While there are clear specimens from the study area of *R. gymnocarpa* spp. *helleri*, there were also intermediate forms that displayed characteristics of both ssp. *helleri* and ssp. *gymnocarpa*. These intermediate specimens either did not show the extreme forms of open stem architecture, or had varying size leaflets, or had sparse to dense prickles and were identified simply as *R. gymnocarpa*. The checklist accordingly includes both *R. gymnocarpa* and *R. gymnocarpa* ssp. *helleri,* to accurately capture the diversity in the area. *Rosa gymnocarpa* ssp. *gymnocarpa* is theoretically present in the study area, but typical forms were not represented among the collected specimens. Further targeted collection efforts in the region will be necessary to better understand variability across these subspecies, and the potential of phenotypic plasticity with respect to these defining intraspecific characteristics, especially where taxon ranges potentially overlap.

Other Putative Hybrids

In addition to the intermediate forms observed in both *Arnica* and *Rosa*, there were also multiple putative hybrids observed in the area. *Diphasiastrum alpinum* × *D. sitchense (*Lycopodiaceae*)* was first documented in the area in 1989 (*Bob Moseley 1677* ID, CPNWH 2020). Additional putative hybrids found in the study area, include *Potentilla drummondii* × *P. glaucophylla* (Rosaceae) and *Elymus glaucus* × *E. hirsutus (*Poaceae), both with clear morphological evidence of intermediacy and proximity to populations of the putative parental species. Upon reviewing the majority of *Betula pumila* and *B. glandulosa* (Betulaceae) specimens for the state at ID, it seems likely that hybridization between the two species is occurring, based on intermediate characteristics and lack of typical forms of *B. pumila*. However, further work is needed here before definitively characterizing the probable hybrid nature of these *Betula* L. populations in the Idaho Selkirks.

Symphyotrichum (Nees) A.G. Jones

The *Symphyotrichum* (Asteraceae) specimens collected in this project exhibit weak species boundaries, specifically, *S. foliaceum, S. subspicatum, S. cusickii, S. bracetolatum,* and *S. spathulatum*. Many of the species are hypothesized allopolyploids or autopolyploids, with origins determined by phylogenetic and morphological analyses (Bruouillet et al. 2002, Hitchcock & Cronquist 2018). With no clear agreement on species boundaries, FNA and FPNW present conflicting treatments, pointing to the need for focused studies investigating species boundaries in this clade.

Kalmia microphylla (Hook.) A. Heller

As with *Rosa gymnocarpa, Kalmia microphylla* (Ericaceae) is divided into coastal and inland varieties (Hitchcock & Cronquist 2018). Historical collections in the study area indicate the presence of both *K. microphylla* var. *microphylla* (generally at high elevation) and *K. microphylla* var. *occidentalis* (generally at low elevation). The specimens collected during this study represent both clear populations of the inland *K. microphylla var. microphylla* and intermediate populations that display characteristics of both var. *occidentalis* (e.g., robust specimens up to 1 m tall) and var. *microphylla* (e.g., broad, ovate leaves < 2 cm long, and small calyces and corollas). However, none of the historical collections or those specimens collected during this study could be unambiguously identified as the coastal *K. microphylla* var. *occidentalis*. In the five set volume of the FPNW (Hitchcock et al. 1959), it

is noted that the type specimen for *K. microphylla* var. *occidentalis* was described from a known zone of integradation for the two varieties. Therefore, proper application of the varieties needs further work. A recent treatment by Meyer et al. (2020) dismisses the varieties on the grounds that their minor morphological differences do not merit taxonomic recognition. Despite uncertainty over the taxonomic status of the varieties of *K. microphylla*, both varieties are included in the checklist to fully capture the morphological diversity present in the study area.

Threats to the Flora

Landscapes change with time, and here I document several specific threats that could contribute to loss or changes in species diversity in the study area, including climate change, recreation, and timber harvest. This is not a complete account of potential threats to the present biodiversity, which also include development, mining, grazing, and road building, but represent the primary threats.

Climate Change

Climate change is a potential threat, even to such a moist and temperate region. The Priest River Experimental Forest recently culminated a 100-year climate study of the forest that found a steady rise in average temperature, an increase in snowmelt rates, and an increase in stream runoff, and projected a continuation of this trajectory (Tinkham et al. 2015). The Idaho Selkirks receive the majority of their water from snowmelt, and the timing of snowmelt directly influences the phenology of vascular plants, especially at high elevations within the study area (Winkler et al. 2018).

While species that currently occupy lower elevations can potentially move to higher elevations towards suitable growing conditions, species that are restricted already to the highest elevations bear the greatest risk (Corlett & Wescott 2013). Several species previously collected from subalpine areas on or adjacent to the crest were not rediscovered during this study, including *Lewisia triphylla, Luetkea pectinata, Lloydia serotina, Draba incerta, Silene acaulis,* and *Poa paucispicula.* These species could very well still be present and stable in the study area and were potentially overlooked by the study. These species also could have reduced populations or been extirpated from the area due to climate change. Nonetheless, the habitat requirements for these species to reside in abundance may no longer be present in the

Idaho Selkirks. That said, several other species also restricted to higher elevations were found during the study, including *Dryas hookeriana, Artemsia michauxiana, Cherleria obtusiloba,* and *Ivesia tweedyi.* Further study will be necessary to determine if these species indeed have specialized habitat requirements that are now limited in the Idaho Selkirks. Recent dispersal and dispersal limitations are two additional factors that may explain the limited distribution of localized high-elevation species in the study area. Targeted monitoring on the Selkirk crest is necessary to continue to document the direct impacts of climate change on the species assemblage of the area.

Recreation

Priest Lake and the mountains surrounding the lake are well known for their summer and winter recreation. This study took place during the onset of a global pandemic (COVID-19) and, as a result, a notable increase in outdoor recreational activity during the 2020 field season was observed. During the 2020 Labor Day weekend alone, 35,000 visitors were counted just at Priest Lake, and in talking with land managers about this increase, recreation was deemed the biggest immediate threat to the area (D. Brown, Idaho Department of Lands, pers. comm.). Known consequences from increased recreation include increased foot traffic, compacted trails, new trails being made, increased disturbance, introduction of weeds, increased spread of weeds, and disturbance of wildlife habitat (D. Brown, pers. comm.). While an increase in recreation could be interpreted as a positive, for this area, the rate of recreation observed during the 2020 field season is unsustainable, and if it were to continue, would impact the health of the landscapes that hold the floristic diversity described here. Efforts are in place to encourage less impactful types of recreation; however, social facilitation of such practices are difficult to interface with culturally. The public often attributes northern Idaho to a wild, rugged place, and adhere to the ideal of "no rules," which has been noted by land managers as one of the main drivers that works against their attempts to educate and reform the types and levels of recreation in the area (D. Brown, pers. comm.). Recreation has also expanded into physical development on the landscape, which continues to rise, specifically in the Priest Lake area. Survey records from the 1800s had identified cranberry bogs from around the total circumference of Priest Lake, the majority of which no longer remain (D. Brown, pers. comm., Bursik 1995). While it is costly to ditch, fill, and

develop in these areas, the economic gain of increased tourism is of priority for the local population in the region (D. Brown, pers. comm.).

Timber Harvest

The history of logging in the area covers a broad span of approaches, ecologies, and stakeholders that has manifested in the continued investment and dedication to using Idaho State Endowment Lands managed by the Idaho Department of Lands (IDL) for economic gain, the very mission of IDL. Logging is a noted threat to the health of many plant populations in the study area. Any habitat-altering activity poses a threat to populations, and depending on population size, these activities could potentially eliminate small, fragile populations. Fire, drought, and even beaver activity can bring notable change; however, irreversible damage to the hydrology of these landscapes serves as the biggest threat (Bursik 1995). Plant populations in peatland and wetland complexes have shown sensitivity to water table fluctuations caused by logging in and around these sensitive plant populations (Bursik 1995). Recommendations on mitigation of this impact through relocation of harvest sites and thinning, as well as an educational approach, are discussed in detail in the Management Recommendations section.

Management Recommendations

While this comprehensive vascular plant inventory will help to inform best conservation and land management practices, certain species and areas located within the study area deserve elevated designation for protection. The Botanist for the Kaniksu National Forest has been supportive of this project, and has an established monitoring program for state listed species. All rare species encounters were reported to the Idaho Panhandle National Forests, who is mandated to monitor effects of forest activities on rare plants, as well as buffer populations when possible (Jennifer Costich-Thompson, Idaho Panhandle National Forest, pers. comm.). In addition, the Forest Service has already identified multiple Research Natural Areas (RNA) within the Selkirk range, in an effort to recognize and preserve distinct species assemblages and fragile habitats. However, despite covering nearly half of the study area, the Forest Service is only one current landowner in the study area, with private industry and IDL as the other two major landowners (Figure 1). This study did not enter onto private industry

lands; however, the IDL encouraged collecting on their parcels, which covers the majority of non-Forest Service lands in the study area.

This study has identified many populations of listed species on state-owned land. Unfortunately, state lands are not legally obliged to monitor and conserve state listed rare species, and therefore, there is little-to-no protection for the majority of the rare taxa in the study area (L. Kinter, Idaho Fish & Game, pers. comm.). The one exception to this is with respect to federally listed threatened species. *Pinus albicaulis* is currently ranked as a candidate for federal listing, and is the only species currently managed by the state, in collaboration with the Forest Service.

Here I make management recommendations for three localities within the study area that merit elevated status to ensure their preservation. Two of these areas, Bear Creek Basin and the Priest Lake Thoroughfare, fall into the Peatland/Flow-through Fen vegetation type (Table 2), which already has a conservation management strategy in place for these community types on Forest Service lands. Even though a model previously exists on adjacent lands, without a direct advocate for these areas on state lands, these areas have been largely overlooked by land managers at the IDL. This section is meant to educate and inform, as well as to encourage local environmental advocacy groups to maintain presence in public comment forums, in order to preserve the flora of the region.

Bear Creek Basin

Bear Creek Basin is a waterfront basin that lies on the eastern shore of Priest Lake, and is managed by both private ownership and IDL. The basin is composed of sedge wetland, peatland, ombrotrophic bog, mesic forest, and paludified forest vegetation types. In the areas in and surrounding the basin, there are current and past timber harvest activities (Figure 43). IDL's harvest protocols require a five foot buffer from wetlands and seventy-five foot buffer from Class 1 streams with fish (Barkley et al. 2015). While Priest Lake is considered Class 1, that applies only to the waterfront land here, and the wetland system in the basin only requires a five-foot buffer. The private ownership, Riley Creek Lumber, covers the majority of the larger wetland system; however state listed plant populations fall within both state owned and privately owned portions of the basin. The only known population of *Maianthemum dilatatum* found within the state of Idaho occurs within a paludified forest found within a timber sale zone near the south end of the basin (Figure 43). While the population is robust and healthy, it

resides solely in this locality. The population was re-located during the study based on vague locality information from a historical collection from 1967 housed at ID (*F.D. Johnson 6708*), and there are no other verified localities in Idaho. While one other *M. dilatatum* specimen from Priest Lake was collected in 1901, the locality is vague and not verifiable (*Charles Vancouver Piper 2685*, WS). In addition to *M. dilatatum*, there are eight other sensitive species found in this area (Figure 43): C*arex chordorrhiza* (S2), *Dryopteris cristata* (S2S3), *Gaultheria hispidula* (S2), *Lysimachia europaea* (S3), *Scheuchzeria palustris* (S3), *Symphyotrichum boreale* (S2), *Utricularia ochroleuca* (S1), and *Vaccinium oxycoccos* (S3). Continued floristic surveys at this site are warranted to determine if there are other sensitive species present in the area and to monitor known populations.

Timber harvest in the Special Interest Area shown in Figure 43 could eliminate the only known population of *M. dilatatum* in the state, as well as the other sensitive species. There is possibility that this population could regenerate after disturbance, especially as logging historically occurred here. However, regeneration is more dependent on water table fluctuation, which is altered by the rutting and digging from timber harvest. Since the proposed timber sale is reasonably small, 9.8 hectares, this study advises IDL to abstain from logging in the outlined Special Interest Area due to the small size of the timber sale and the threat to the unique habitat and single known population of *M. dilatatum*. Conservation advocacy groups, such as Selkirk Conservation Alliance and the Idaho Conservation League, have also

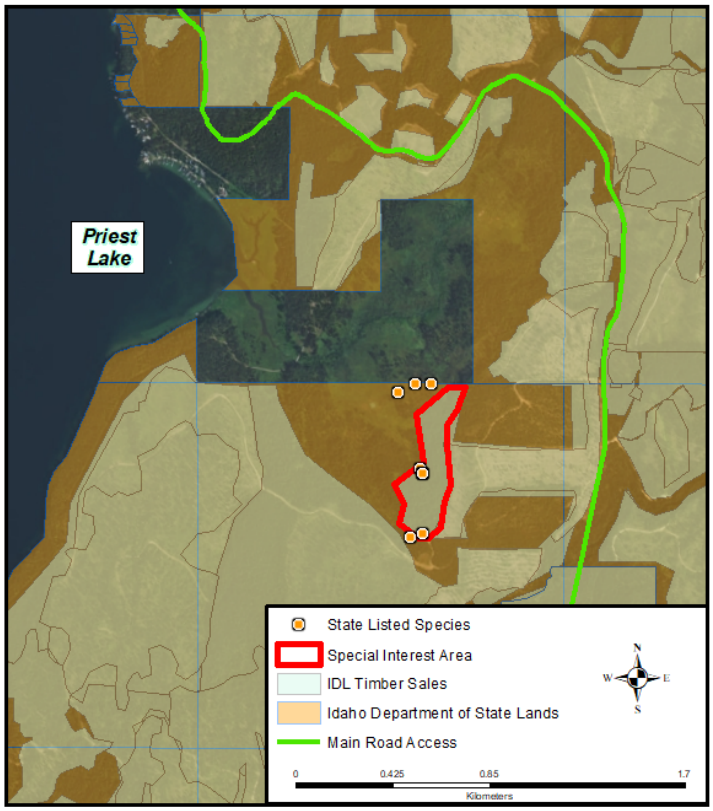

Figure 43. Bear Creek Basin: Pale orange hue denotes IDL ownership and pale blue hue denotes IDL timber sales, past and future. Parcels not labeled denotes private ownership. The lake itself is managed by the Kaniksu National Forest. The bottom orange dot that lies within the bounds of the timber sale represents the collection location for *Maianthemum dilatatum* population. The red polygon represents the area of special interest, requested to be excluded from future timber harvest. Map data source: IDL.

been contacted to follow up on the future management of this area. IDL has also been contacted and asked to mitigate the outlined area completely. Riley Creek Lumber owns the wetland area in the middle of the basin, and they have shared that they have no intention to harvest or develop in the area.

Priest Lake Thoroughfare

The waterway that connects Priest Lake and Upper Priest Lake is known as the Priest Lake Thoroughfare (Figure 44). The western shore of the thoroughfare is managed by the Forest Service and the eastern shore is predominantly owned by IDL, with private allotments closer to the northern shore of Priest Lake near the Lions Den Campground. The seventy-five foot buffer that lines the shore on state lands is considered scenic area, and no harvest is permitted. Diamond Match historically owned the state land east of the thoroughfare, and in the 1950s the state purchased the land. The areas marked as timber sale were logged twice by Diamond Match (Figure 44), then replanted by the state, and are planned for future harvest (D. Brown, pers. comm.). The eastern subdivision above the most northern tip of Priest Lake alongside Mosquito Bay that lies adjacent to state lands has no possible future development, as no more possible division units are allowed to be built in the wetlands and thoroughfare. Considering the current state of affairs, the greatest threat to the rare plant species in this region is from timber harvest and recreation. Access to this area is limited, and was only approached once via canoe during the study.

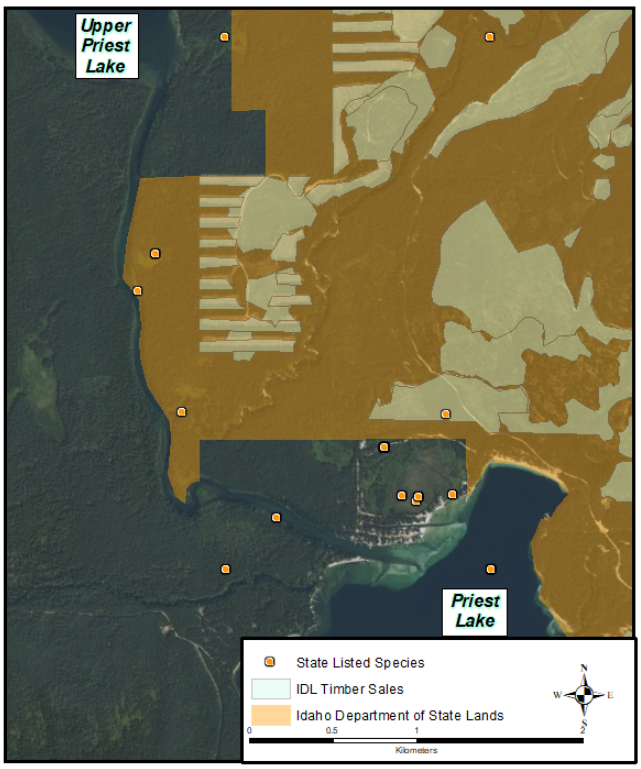

Figure 44. The Thoroughfare Vicinity. Pale orange hue denotes IDL ownership and pale blue hue denotes IDL timber sales, past and future. Where no hue is present denotes private ownership. The lake and eastern side of the thoroughfare are managed by the Kaniksu National Forest. Map data source: IDL.

Amidst the state owned portion of the thoroughfare are sedge wetlands, ombrotrophic bogs, mesic forest, deciduous riparian, and old growth mesic forest vegetation types. Evaluation of these habitats needs further review before

proposed timber harvests occur. While the majority of sensitive species are concentrated in the Mosquito Bay vicinity, the following sensitive species are found both within and beyond the seventy five foot designated scenic area: *Eriophorum angustifolium* ssp. *angustifolium* (SNR), *Carex leptalea* (S3), *Gaultheria hispidula* (S2), *Iris versicolor* (S2), *Phegopteris connectilis* (S2), *Vaccinium oxycoccos* (S3), and *Scheuchzeria palustris* (S3).

This study requests that IDL exclude known listed sensitive species sites from their proposed harvest plans completely; however, further surveys are needed to adequately characterize the distribution of sensitive species in the area. To lessen the impact of water table fluctuations, in areas adjacent to sensitive species populations with adequate canopy and ground cover, thinning is encouraged over clear-cut harvests.

The Selkirk Crest

The Selkirk Crest refers to the highest areas in the range that divide the east and west portions of the mountains. The crest is composed of granite rock outcrops, sheer cliff faces, dramatic relief, and the highest elevations for the study area. This crest has split ownership, between the IDL and the Kaniksu National Forest. Timber harvest on the crest is seen as not financially feasible for the IDL, and the only management that occurs in those areas is for fire and White Bark Pine (*Pinus albicaulis*) population monitoring (D. Brown, pers. comm.). The Forest Service has acknowledged the geology, landscapes, and species assemblages on the crest by establishing the "Selkirk Crest Management Area." Because both agencies' management is not concentrated at the highest elevations, the Selkirk Crest is still in need of monitoring due to threats from unsustainable recreation and climate change.

While there is limited funding for current management agencies to begin new monitoring protocols, there is an active botanical community in north Idaho, with multiple conservation advocacy groups, including the Kinnikinnick Native Plant Society, Selkirk Conservation Alliance, and the Sandpoint Chapter of the Idaho Conservation League. Projects such as Rare Care in Washington (Rare Care 2021) and the international GLORIA monitoring project (GLORIA 2021) are models for future strategies to monitor individual rare species and species assemblages. Due to both the sensitive nature and low anthropogenic impact of high elevation areas, long-term data monitoring along the Selkirk Crest would allow for quantifiable insight into the effects of climate change on these areas (Grabher et al. 2000). As the crest is increasing in popularity for recreation, it is imperative to begin monitoring sooner

rather than later. The GLORIA model was developed for alpine ecosystems, but can be easily modified for the subalpine ecosystems seen along the crest (GLORIA 2021). This study encourages local environmental advocacy groups to partner and collaborate towards establishing their own protocols based on these recommendations.

APPENDIX

The purpose of this appendix is to describe historical species that did not qualify for inclusion in the checklist but may be present in the study area. This list primarily accounts for specimens with unclear label data, such as vaguely defined collection locations, as well as the possibility of future invasion of species on the edge of the study area. While the following species are not definitively in the area, they are acknowledged briefly here.

Additionally, the following locations fall adjacent to but just outside the study bounds, and have specific site characteristics and species assemblages that warrant further study: McArthur Lake Wildlife Refuge, Kootenai Wildlife Refuge, Boundary and Smith Creek Wildlife Management Area, the west side of Priest Lake, Hager Lake, and Snowy Top. Collections from these locations are not included in this study, despite their proximity.

The following 23 species are excluded from the checklist. Species are organized alphabetically by scientific name and each entry gives the taxon name, family, a brief reason for exclusion, and a reference specimen, which includes collector, collection number, and herbarium acronym.

Excluded Species

Ambrosia artemisiaefolia L. (Asteraceae)—Vague locality data. [*J.B. Leiberg 2844*, USNM]

Aconogonon phytolaccifolium (Meisn. ex Small) Rydb. (Poaceae)—Potential mix-up with label data, adjacent collections from Freezeout Ridge, St. Joe National Forest, Shoshone County. [*Pamela Brunsfeld 6489*, ID]

Alopecurus aequalis Sobol. (Poaceae)—Vague locality data. [*J. H. Christ 951*, ID]

Arnica fulgens Pursh (Asteraceae)—Vague locality data. [*J. H. Christ 114,* ID]

Convallaria majalis L. (Asparagaceae)—Naturalized horticultural species found in former homestead on east shore of the Priest Lake Thoroughfare. [*Curtis R. Bjork 1139*, ID]

Coreopsis tinctoria Nutt. (Asteraceae)—Vague locality data. [*Ben Chichester 504*, ID]

Daphne mezereum L. (Thymelaeaceae)—Vague locality data. [*Tom Duebendorfer s.n., collec. 2016*, WTU]

Dodecatheon conjugens Greene (Primulaeae)—Vague locality data. [*J.H. Christ 963*, ID]

Eleocharis acicularis (L.) Roem. & Schult. (Cyperaceae)—Population from the west-side of Priest Lake; presumably also occurring in the study area. [*Robert Bursik 3192,* ID]

Erucastrum gallicum (Willd.) O.E. Schulz (Brassicaceae)—Vague locality data. [*Peter F. Stickney 1706*, USFS/ID]

Gaillardia aristata Pursh (Asteraceae)—Vague locality data. [*Lawton Fox 631*, ID]

Helenium autumnale L. (Asteraceae)—Vague locality data. [*Ben Chichester 505*, ID]

Ipomopsis aggregata (Pursh) V.E. Grant **ssp. *aggregata*** (Polemoniaceae)—Vague locality data. [*Ben W. Chichester 34*, ID]

Limosella aquatica L. (Scrophulariaceae)— Population from the west-side of Priest Lake, presumably also occurring in study area. [*R. F. Daubenmire 44437*, WTU]

Lysimachia ciliata L. (Primulaceae)—Known populations lie on western edge of Priest Lake or contain vague locality data [*Carl Clawson Epling 9752*, ID]

Mahonia aquifolium (Pursh) Nutt. (Berberidaceae)— Collection verified; however, needs further investigation, as species distribution lies just south of study area. [*Fred D. Johnson 87017,*ID]

Physostegia parviflora Nutt. ex A. Gray (Lamiaceae)—Vague locality data. [*J. H. Christ 563*, ID]

Potentilla gracilis Douglas ex Hook **var. *flabelliformis*** (Lehm.) Nutt. ex Torr. & A. Gray (Rosaceae)—Vague locality data. [*Ben W. Chichester 32*, ID]

Rubus spectabilis Pursh (Rosaceae)—Bursik's populations were relocated and verified in 2020. This species exclusively persists on the west side of Priest Lake just outside the study's boundaries. [*R. Bursik 1761*, ID]

Sonchus arvensis L. **ssp. *arvensis*** (Asteraceae)—Vague locality data. [*William H. Baker 13851*, ID]

Symphyotrichum bracteolatum (Nutt.) G.L. Nesom (Asteraceae)—Needs further study, unclear Specimen identification. [*R. F. Daubenmire 43114,* WTU]

Symphyotrichum spathulatum (Lindl.) G.L. Nesom (Asteraceae)—Needs further study, unclear specimen identification. [*R. F. Daubenmire 43115*, WTU]

Trifolium latifolium (Hook.) Greene (Fabaceae)—Vague locality data. [*J. H. Christ 1414,* ID]

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