National Park Service
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Natural Resource Stewardship and Science

Inventory of the Mosses, Liverworts, and Lichens of Kenai Fjords National Park, Alaska

2013 Progress Report

Natural Resource Data Series Report NPS/SWAN/NRDS—2014/635

ON THE COVER
Left: Cliff survey in Coleman Bay, Kenai Fjords NP. Photo: James Walton.
Right Top: *Diphyscium foliosum*, Coleman Bay. Photo: Martin Hutten.
Right Center: *Takakia lepidozioides*, near Aligo Point. Photo: Martin Hutten.
Right Bottom: *Siphula cerites*, near Aligo Point. Photo: Martin Hutten.

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James K. Walton[1], Martin Hutten[2], Stacey K. Torigoe[3]

[1]National Park Service
Southest Alaska Network Inventory and Monitoring Program
240 West 5th Avenue
Anchorage, Alaska 99501 USA

[2]National Park Service
Lassen Volcanic National Park
Mineral, California 96063 USA

[3]National Park Service
Haleakalā National Park
Makawao, Hawaii 96768

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Natural Resource Stewardship and Science
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All manuscripts in the series receive the appropriate level of peer review to ensure that the information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner.

This report received informal peer review by subject-matter experts who were not directly involved in the collection, analysis, or reporting of the data. Data in this report were collected and analyzed using methods based on established, peer-reviewed protocols and were analyzed and interpreted within the guidelines of the protocols.

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Abstract

In the summer of 2012, the Southwest Alaska Network initiated a limited bryophyte and lichen inventory in Kenai Fjords National Park that was part systematic, part opportunistic. Our focus was on low elevation Sitka spruce - mountain hemlock forest that characterizes much of the Park's coastline. We dedicated about 15 person days toward the survey of 22 sites, most of which were forested but also included select sloping peatlands, coastal cliffs, active colluvial slopes, and an alpine site. Across all sites, 297 species were documented, including 126 species of moss, 79 liverworts, and 92 lichens. Virtually all these species are new to the park as this work represents the first systematic inventory of bryophytes and lichens conducted in the Park. While our initial focus was on a forest type that is common in Alaska, we documented a high number of unusual species, including at least three species new to Alaska and several that are considered regionally rare. While currently limited in its scope, this survey work provides critical floristic baseline information to the Park. Additionally, since the area represents a floristic region that is poorly known, further work is likely to make a significant scientific contribution to our knowledge of the Alaskan flora.

Acknowledgements

NPS employees Michael Shephard and Deb Kurtz for help with fieldwork; Christina Kriedemann for maps and guidance on land status; Amy Miller and Michael Shepherd for informative discussions on site selection as well as helpful review of this manuscript; and Jamie Thomton, Melissa Knight, Luke Robert and Mark Kansteiner for providing safe passage to survey sites from the M/V Serac. We thank Lassen Volcanic NP for detailing their ecologist.

A bryophyte dominated sloping peatland near Granite Passage. Photo: James Walton/NPS.

Introduction

The nonvascular plant flora (mosses, liverworts, lichens) of Kenai Fjords National Park (KEFJ) is virtually unknown, but thought to be rich and diverse. The Park encompasses a wide range of habitat types, as well as climate gradients known to support spectacular bryophyte (mosses and liverworts) and lichen floras elsewhere in coastal Alaska (Worley 1972, Spribille et al. 2010). KEFJ contains a unique mixture of Pacific Northwest temperate rain forest and Arctic habitat types that, due to the steep terrain, are located within close proximity of each other. Nonvascular plants are a prominent and ecologically important component in many of these habitat types. Several studies in the southern coastal Alaska region have documented an extraordinary diversity in nonvascular plant species (e.g., lichens: Spribille et al. 2010 - Klondike Goldrush NHP, Talbot et al. 1992 -Tuxedni NWR; bryophytes: Worley 1972 - SE Alaska, Schofield et al. 2002 - Tuxedni NWR), and have included many taxa new to Alaska, new to North America, and several new to science.

Bryophyte and lichen communities in Kenai Fjords NP play many essential ecosystem roles within the landscape.

Bryophytes and lichens represent a significant portion of the biodiversity and comprise a considerable amount of the biomass and annual production at high latitudes (Vitt et al. 1988). They play important ecological roles in nutrient cycling (Longton 1997), and many species are known to be important indicators of change in air quality, precipitation chemistry, and climate (Nash & Gries 1995; Gough & Crock 1997). Baseline estimates of bryophyte and lichen community composition can therefore be used as an index of ecological condition across a range of sites, and can also be used for monitoring changes in condition through time.

Given the remote nature of KEFJ parkland, explorations of its bryophyte and lichen flora have largely been focused near Exit Glacier, the only part of the Park accessible by road. Species documented near the glacier have been mostly small in number and primarily represent common lichen taxa within the region (e.g., Coghill 1984, Lowthian 1987, Schindler 1990, Bryden 2001, Bryden 2002). More recently, Miller et al. 2006 made a small opportunistic survey of bryophytes and lichens on nunataks within the Park. No KEFJ bryophyte and lichen species are currently listed in NPSpecies (IRMA 2014).

The purpose of this document is to present preliminary results of 2012-2013 bryophyte and lichen surveys that were conducted primarily in the low elevation Sitka spruce - mountain hemlock forest zone that characterizes much of the KEFJ coastline. The objective of the surveys was to provide a preliminary estimate of nonvascular species richness in forested sites. Additionally, these data will be used to inform and refine preparations for a future Park-wide inventory of these two plant groups. Future inventories will help enable KEFJ to protect populations of rare and sensitive species, will improve the Park's herbarium collection, and will contribute significant baseline data not only for the Park but also for Alaska as a whole.

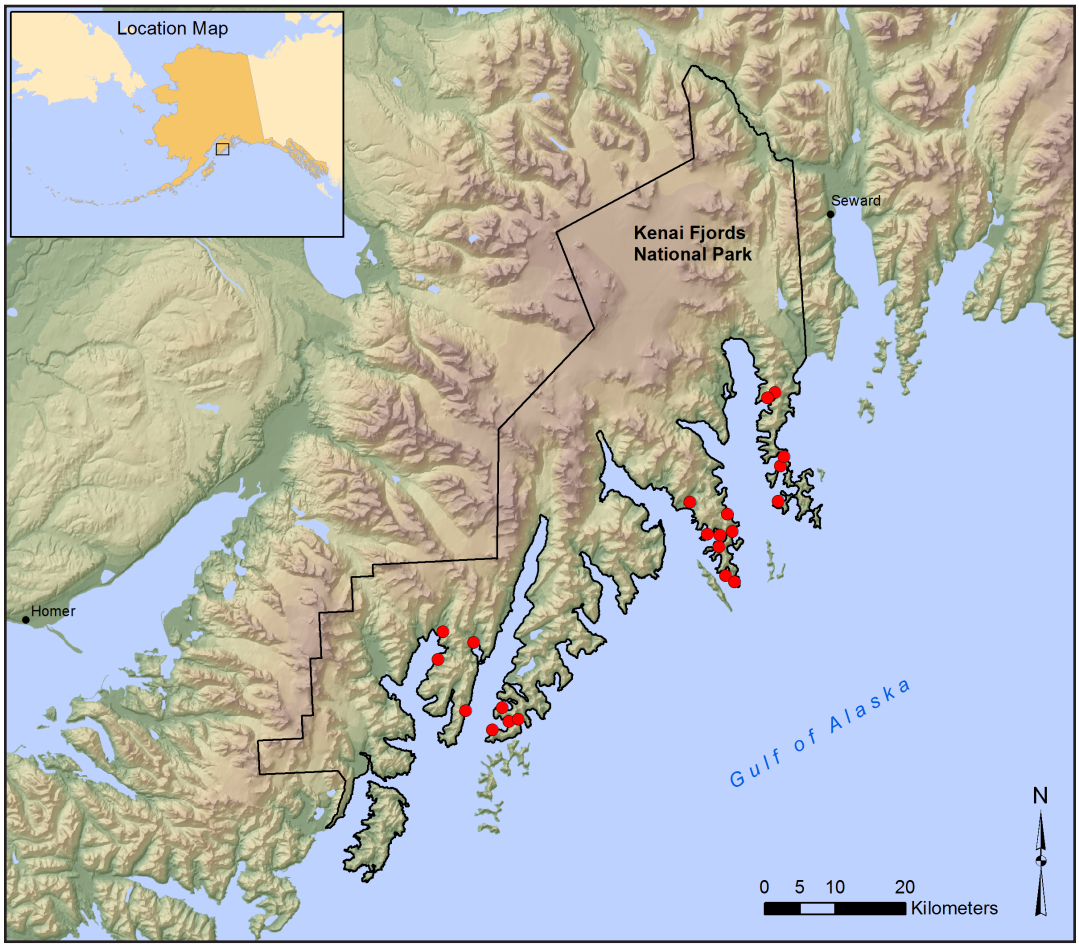
Study Area

KEFJ is situated on the southeastern side of the Kenai Peninsula in southcentral Alaska. The Park is a narrow geographic area, roughly 50 km wide by 120 km long and encompassing 271, 133 ha. It is oriented in a northeasterly-southwesterly direction, located between 59.4° and 60.3° N, and between 149.5° and 151.0° W, and is bounded on the west and north by the Kenai Mountains and Harding Icefield, and to the east and south by the Gulf of Alaska (**Figure 1**).

The surficial landscape of the Park reflects a combination of glacial erosion, tectonic subduction (the coastline dropped approximately two meters in one day during the 1964 Alaska earthquake), and isostatic rebound as a result of recent glacial recession since the Little Ice Age maximum ca. 1850 A.D. Predominant surficial rock types in the Park include metasedimentary flysch, sandstone, siltsone, granodiorite, and conglomerate (Bradley & Donley 1995).

Climate near KEFJ Headquarters in Seward can be generalized as humid subarctic con-

Figure 1. Bryophyte and lichen survey site locations during the 2012-2013 field seasons, Kenai Fjords NP.



tinental to suboceanic with no dry season. Precipitation peaks in September with a monthly average of 175 cm, while snowfall peaks in December with a monthly average of 214 cm. Summers are cool with an average high/low in July of 16.8˚C/9.9˚C, while winters are mild at -1.1˚C/-6.7˚C in January (WRCC 2013).

Vegetation in KEFJ includes high elevation herbaceous meadows, dwarf shrub heaths, low to tall shrubs, and sparse to dense mid- and low elevation conifer forests. Willow and alder are common in more disturbed areas such as floodplains or avalanche tracks. Many small pockets of sloping peatland exist on the outer Harris and McCarty Fjord peninsulas. Vegetation communities in KEFJ are similar to those in neighboring coastal communities of western Prince Williams Sound and in many areas established following the Little Ice Age maximum.

Methods and Results

Figure 2 (top right). Documenting epiphytic macrolichen occurence on a Sitka spruce tree at a off-frame FIA site near Nuka Bay. Photo: Michael Shephard/NPS.

Bryophye and lichen species listed in this report were encountered during the establishment of off-frame Forest Inventory and Analysis (FIA) epiphytic macrolichen monitoring plots in low elevation Sitka spruce - mountain hemlock forests. We also conducted intuively-controlled surveys for interesting bryophyte and lichen taxa in or near these FIA sites.

Off-frame FIA epiphytic macrolichen surveys

During August 2012, the first author established eleven lichen monitoring plots in mature, low elevation Sitka spruce-mountain hemlock stands (**Appendix A**) using an 'off-frame' survey method developed by the FIA Program of the U.S. Forest Service (USFS 2013). We chose this forest type to monitor because it is one of the oldest and most commonly encountered along the KEFJ coastline. Representative, spatially dispersed survey sites were initially chosen by evaluating available GIS information, including satellite imagery, topographic maps, and potential vascular vegetation maps. Actual plot locations were selected after on-the-ground reconnaissance, to ensure plot-level uniformity of our targeted vegetation type. At each 34.7m-radius circular plot, a voucher collection was made and an abundance code was recorded for each macrolichen species on woody material > 0.5 m in height and within arm's reach. Freshly fallen lichens in the litter were also collected. Surveys lasted a minimum of 30 minutes and a maximum of two hours. Surveys were terminated when no additional new species were encountered within ten minutes time.

Lichens are fungi that live in intimate association with algae and/or cyanobacteria. Epiphytic lichens, those growing on trees and shrubs, are excellent indicators of changes in air quality and climate due to their unique physiology and reliance on airborne nutrients. Epiphytic lichen communities can provide a wealth of information about forest health, function, and local climatic conditions; thus, they are widely used as biological indicators for natural resource assessments.

Data summaries from our FIA lichen fieldwork will be presented in a forthcoming NPS report, so we will only note that these FIA off-frame surveys will provide a range of park-specific information, as well as contribute information to the national FIA program, which houses one of the most extensive epiphytic macrolichen community data sets in North America. These data are invaluable for using lichens as forest health indicators by exploring relationships between lichen communities and large-scale environmental factors. Our survey data can be used for biodiversity monitoring, while multivariate gradient models can address air quality and climate questions when combined with other regional datasets.

Intuitively-controlled bryophyte and lichen surveys

Many bryophytes and lichens are microhabitat specific and are likely to be missed using survey methods based on more general macrohabitats, such as the aforementioned FIA method. Intuitively-controlled

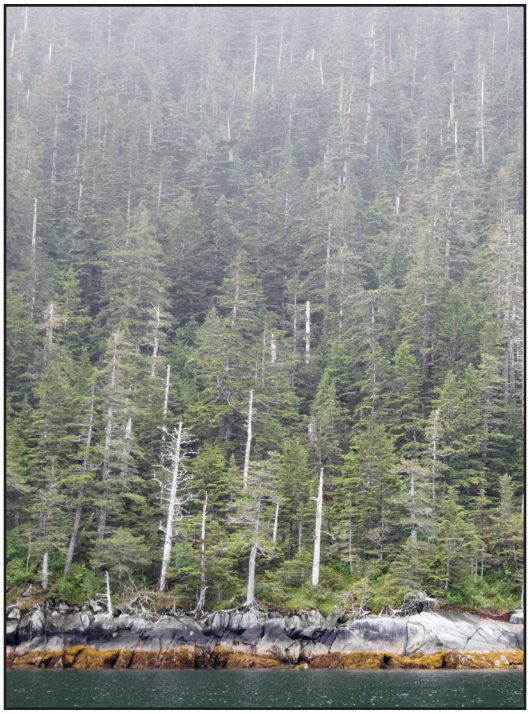


Figure 3 (bottom right). Low elevation Sitka spruce - mountain hemlock forests, such as this fog-drenched stand in Square Bay near McArthur Pass, were the target vegetation type for our FIA surveys. Photo: James Walton/NPS

Figure 4 (top). Certain rare to uncommon species, like the moss *Takakia lepidozioides,* were only found in sloping peatlands such as this one near Fire Cove. Photo: James Walton/NPS.

Bryophytes (mosses, liverworts) are small autotrophic cryptogams (spore-producing plants) that often flourish in high latitide ecosytems. Bryophytes, like lichens, are also important indicators of air quality, precipitation chemistry, and climate. They provide important ecosystem functions as well, including high productivity and biomass accumulation, nutrient cycling, soil thermoregulation, vascular plant facilitation, and mycorrhizal relationships.

("intuition-based") surveys are an effective and efficient means for skilled taxonomists to maximize species capture in a relatively short amount of time. The method involves surveying habitats with known patterns of species occurrence and adapting survey methods as needed to include unanticipated substrates and microhabitats. Collection of common taxa are typically not treated equally at all survey sites, but rare taxa are treated equally at all sites.

Between August 27-31, 2012 the Southwest Alaska Inventory and Monitoring Program (SWAN) brought in the second author through a work detail agreement with Lassen Volcanic National Park. Given the second author's expertise with the western North America bryophytes, his primary objective was to develop a voucher collection of bryophytes, while the first author focussed on the FIA lichen work. The bryophyte work to date consequently is constrained by the FIA lichen surveys locations at elevations below 100 m, in or near the Sitka spruce - mountain hemlock forest zone. Time permitting, the first author also conducted intuitively-based lichen and bryophyte surveys after completing daily FIA survey work.

Figure 5 (center right). Bryophyte and lichen diversity was found to be high at the shoreline - forest ecotone, which required careful and patient study of substrates, such as this exposed bedrock just above the hightide line. Photo: James Walton/NPS.

Figure 6 (bottom right). At the end of each field day bryophyte and lichen voucher collections were organized and dried on the M/V Serac. Photo: James Walton/NPS.

Additional though less intensively surveyed habitats included sloping peatlands, coastal cliffs, and active colluvial slopes. Also included in this report are a handful of specimens opportunistically encountered by the first author during a brief stopover at the McArthur Weather Station, which is located on an alpine ridge in the southern part of the Park.

In total we surveyed 22 site areas (**Figure 1, Appendix A**) over roughly 15 person-days. Upon returning from the field specimens were air dried. Specimen voucher collection information, including collector, date, site and substrate information were entered into an MS Access database in about ten person days.

Identifications were made by the first and second authors. Laboratory identification and processing of voucher collections took approximately 3-5 times as long as time spent in the field (a common "rule-of-thumb" for bryological and lichenological work). The amount of lab work required was not only due to the high diversity encoutered, but also a relatively high proportion of species requiring specialized literature and advanced laboratory examination.

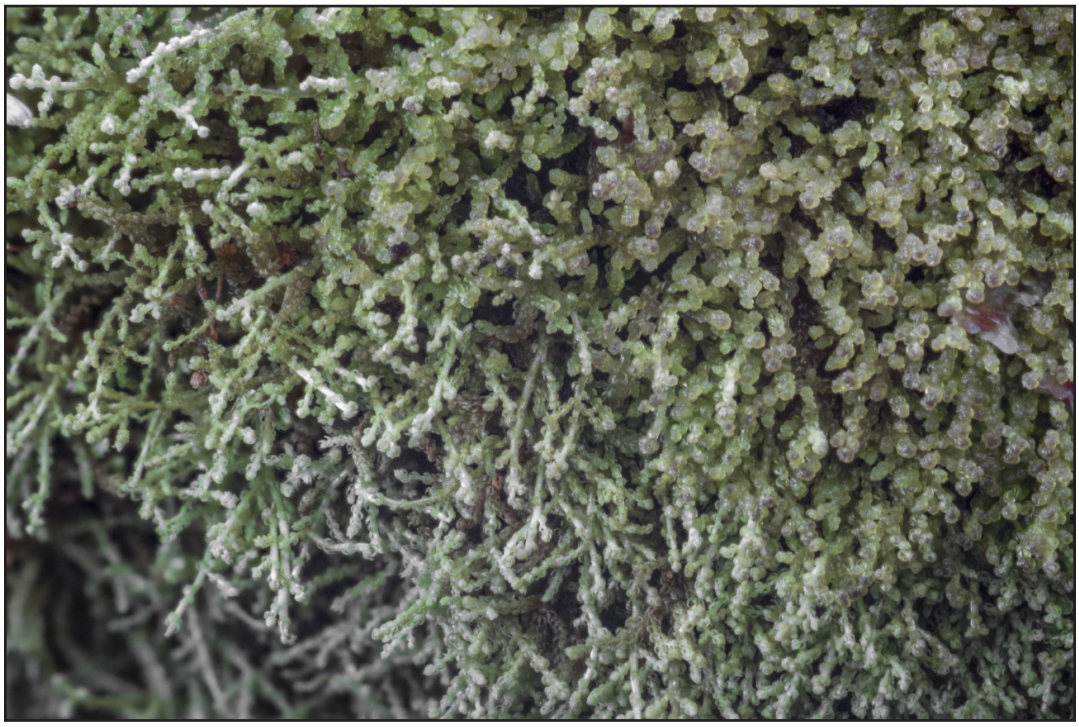
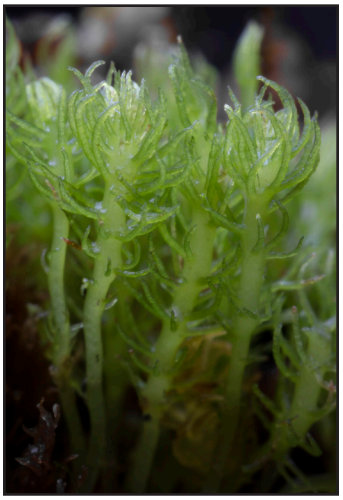


Figure 7. *Kurzia trichoclados*, a small and pleasantly sweet aromatic liverwort that can be "sniffed out" in moist places such as shady boulder crevices or over *Sphagnum* moss. Discoveries at Crater Bay, Three Hole Bay, and Bear Cove are apparenty the first for Alaska. Photo: James Walton/NPS.

Notable Discoveries and Future Work

Polytrichastrum papillatum



Takakia lepidozioides

Myuroclada maximowiczii

Notable discoveries

While several species encountered during this project begin to fill regional information gaps, the following are some of the more notable that we have identified so far:

» *Polytrichastrum papillatum* – The discovery of this moss in Coleman Bay represents the second site now known for North America. The first site discovered was in 1967 at Thomson Pass along the Richardson Highway, near Valdez, Alaska. The species is otherwise only known from the Himalayan region in Asia.

» *Kurzia trichoclados* – Discovery of this small liverwort at Crater Bay, Three Hole Bay, and Bear Cove are apparenty the first for Alaska. The closest known records are from British Columbia.

» *cf. Marsupella adusta* – The identification of this small liverwort is tentative pending further comparison work with other similar taxa, but if correct would also be a new state record for Alaska. The closest known records are from British Columbia.

» *Racodium rupestre* - Our single record of this dark filimentous rock-dwelling lichen near Northwest Lagoon is apparently the first for Alaska. The closest known records are from British Columbia.

» *Takakia lepidozioides* – As a member of one of the most morphologically unusual moss genera in the world, our collections appear to be the western-most in North America for this particular species. The next nearest locality is in Cordova, Alaska, with a scattering of sites then known from SE Alaska to British Columbia.

» *Myuroclada maximowiczii* – This moss was thought to be Asian until discovered in North America near King Salmon, Alaska (Steere & Schofield 1956). A handful of additional North American sites are now also known in the high arctic near Cape Thompson and the Brooks Range in Alaska.

» *Hypogymnia duplicata* – A western North America endemic, this epiphytic lichen was previously known only in coastal areas from SE Alaska into Oregon.

Additionally, we encountered at least three lichen species listed as rare by the Alaska Natural Heritage Program (AKNHP 2014): *Cavernularia lophyrea* (G2G3/S2S3), *Stereocaulon spathuliferum* (G4G5/S2), and *Umbilicaria angulata* (G2/S3). No rare bryophyte list for Alaska currently exists.

Future work

Complete the identification of difficult and interesting specimens. – There remain several taxa new to KEFJ which were excluded from **Appendix B** because more careful study is needed before applying a species name with certainty. These include several crustose lichen taxa, and bryophyte taxa which lack certain morphological components that aid in positively identifying the species quickly. We are continuing to review these collections (approx. 100 vouchers) and will be sending several to taxonomic specialists for identification.

Review historic collections from Kenai Fjords NP. – A small set of historic bryophyte and lichen vouchers exist in the KEFJ herbarium. These should be examined and annotated. Voucher specimens made by Miller et al. 2006) should also be reviewed.

Develop list of target sites for future comprehensive inventory fieldwork. – Regional bryophyte and lichen checklists should be thoroughly reviewed to ascertain what habitats and substrates yield taxa not documented in KEFJ. Landcover documents such as Boggs et al. 2008) will be important to consult in order to fine-tune what geographic areas, ecological systems (**Table 1**), and macrohabitats are available in the Park.

Table 1. Ecological Systems (Boggs et al. 2008) expected to increase known bryophyte and lichen diversity in Kenai Fjords NP.
» Sea Cliff
» Tree Line Forest
» Sparse Vegetation Ridge / Cliff
» Floodplain
» Sloping / Depressional Peatland
» Tall Shrub
» Alpine Active Colluvial Slope
» Alpine Dwarf Shrub
» Alpine Floodplain
» Alpine / High Alpine Herbaceous

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***Ptilidium ciliare*, a common liverwort usually found growing among mosses and other liverworts on the forest floor or over rocks and cliffs. Photo: James Walton.**

Appendix A: Survey Sites.

2012-2013 survey site areas. FIA = epiphytic macrolichen survey site, with some intuitively-controlled bryophyte and lichen surveys (time permitting). INT = intuitively-controlled bryophyte and lichen surveys.

Site Area	Survey Type	Survey Date	Latitude (NAD83)	Longitude (NAD83)	Elevation (m)
McArthur WX	INT	06 May 2012	59.4726	-150.3337	398
North Arm Nuka Bay	FIA	07 August 2012	59.56793	-150.5123	44
Pilot Harbor	INT	07 August 2012	59.60275	-150.49588	4
East Arm (westside)	FIA INT	08 August 2012 16 August 2013	59.50071	-150.44939	81
James Lagoon	FIA	08 August 2012	59.58743	-150.42032	5
Moonlight Bay	INT	08 August 2012	59.50245	-150.357	38
Square Bay (northside)	FIA	09 August 2012	59.48741	-150.34161	20
Chance Cove	FIA INT	09 August 2012 14 August 2013	59.48638	-150.31815	24
Square Bay (southside)	FIA INT	10 August 2012 15 August 2013	59.47458	-150.38519	56
Crater Bay (southside)	INT INT	27 August 2012 17 August 2013	59.691	-149.785	16
Crater Bay (northside)	INT	27 August 2012	59.7073	-149.81334	91
Crater Bay	FIA	28 August 2012	59.7052	-149.78075	23
Northwest Lagoon Beach	INT	28 August 2012	59.74992	-149.85205	30
Verdant Cove	FIA	29 August 2012	59.70901	-149.7493	61
Fire Cove	FIA INT	29 August 2012 18 August 2013	59.65334	-149.77316	84
Granite Passage Peatland	INT	29 August 2012	59.6448	-149.75208	31
Harris Peninsula Lakes	INT	29 August 2012	59.73121	-149.75914	89
Three Hole Bay	FIA	30 August 2012	59.74353	-149.62755	45
Coleman Bay	INT	30 August 2012	59.88228	-149.61687	76
Coleman Bay Cliffs	INT	30 August 2012	59.8762	-149.6378	3
Bear Cove	FIA INT	31 August 2012 19 August 2013	59.78849	-149.61649	75
Bear Cove Notch	INT	31 August 2012	59.79963	-149.60494	69

Bartramia pomiformis

Buckiella undulata

Bryum argenteum var. argenteum

Bartramiopsis lescurii

Appendix B: Species List.

All species listed below are documented by voucher specimens currently housed at the NPS Alaska Regional Office, Anchorage, Alaska. Nomenclature for mosses and liverworts largely follows the Flora of North America (FNA 2007, FNA, In prep), and Esslinger 2012) was used for most lichens. Basic substrate information follows each species name and geographical distribution is noted. Superscript numbers represent inclusion in the following nearby checklists: 1 = Schofield et al. 2002 (Tuxedni bryophytes), 2 = Worley 1972 (SE Alaska bryophytes), 3 = Talbot et al. 1992 (Tuxedni lichens).

It is important to note that many of the determinations below are provisional and subject to change upon further investigation. In addition to the species reported below, several collections have been identified only to genus and more records will be forthcoming. All photography in **Appendix B** is from the personal archives of James Walton or Martin Hutten.

Mosses (126 taxa)

Amblystegium serpens (Hedwig) Schimper in B.S.G. – Moist organic soil. Cosmopolitan. [1,2]

Amphidium lapponicum (Hedwig) Schimper – Cliff crevices and bases. Circumboreal. [1,2]

Andreaea blyttii Schimper in P. Bruch and W.P. Schimper – Exposed rock, subalpine. Circummontane. [1,2]

Andreaea nivalis Hooker – Cliff base. Circummontane. [1,2]

Andreaea rupestris Hedwig – Full to partially shaded rocks. Circumboreal. [1,2]

Antitrichia curtipendula (Hedwig) Bridel – Epiphytic on trees and shrubs. Temperate-Interrupted. [1,2]

Arctoa fulvella (Dicks.) Bruch & Schimper in B.S.G. – Partially shaded lakeside boulder. Circummontane. [1,2]

Aulacomnium palustre (Hedwig) Schwaegr. – Seepage along cliff face. Cosmopolitan. [1,2]

Aulacomnium turgidum (Wahlenb.) Schwaegr. – Moist organic soil. Arctic-Alpine. [1,2]

Bartramia ithyphylla Bridel – Moist humic soil. Arctic-Alpine. [1,2]

Bartramia pomiformis Hedwig – Crevices of boulders and cliffs. Circumboreal. [1,2]

Bartramiopsis lescurii (James) Kindberg – Shaded mineral soil and boulders. Boreal-AmphiPacific. [1,2]

Blindia acuta (Hedwig) Bruch & Schimper – Moist cliff face. Boreal-Interrupted. [1,2]

Brachythecium albicans (Hedwig) Schimper in B.S.G. – Rock near shoreline. Circumboreal. [1,2]

Brachythecium frigidum (C. Müll.) Besch. Western North America. [2]

Bryum argenteum Hedwig var. *argenteum* – Soil on cliff shelf. Cosmopolitan. [1,2]

Buckiella undulata (Hedwig) Ireland – Forest floor, base of trees, boulder ledges. Temperate-Interrupted (Europe-W. NA). [1,2]

Bucklandiella affinis (F. Weber & D. Mohr) Bednarek-Ochyra & Ochyra in R. Ochyra et al. – Rock. Circumtemperate. [1,2]

Bucklandiella heterosticha (Hedwig) Bednarek-Ochyra & Ochyra in R. Ochyra et al. – Rock. Circumboreal. [1,2]

Calliergon cordifolium (Hedwig) Kindberg – Periodically flooded mineral soil. Circumboreal. [1,2]

Calliergonella cuspidata (Hedwig) Loeske – Moist hollow. Circumboreal. [2]

Campylopus atrovirens De Notaris – Moist soil, rocks, cliff bases. Temperate-Wide. [2]

Climacium dendroides (Hedwig) Web. & Mohr – Moist humic soil. Circumboreal. [1,2]

Codriophorus acicularis (Hedwig) P. Beauvois – Moist to wet rocks, soil, cliff

Dicranella palustris

Dicranodontium denudatum

Diphyscium foliosum

Hylocomium splendens

Hypnum plicatulum

bases. Circumboreal. [1,2]

Codriophorus fascicularis (Hedwig) Bednarek-Ochyra & Ochyra in R. Ochyra et al. – Rock. Circumboreal. [1,2]

Conostomum tetragonum (Hedwig) Lindberg – Alpine sod. Arctic-Alpine. [1,2]

Cratoneuron filicinum (Hedwig) Spruce – Moist cliff base. Circumboreal. [1,2]

Dichodontium pellucidum (Hedwig) Schimper – Moist mineral soil. Boreal-Interrupted. [1,2]

Dicranella cerviculata (Hedwig) Schimper – Cliff bases, mineral soil, rock. Circumpolar.

Dicranella heteromalla (Hedwig) Schimper – Mineral soil. Circumboreal. [1,2]

Dicranella palustris (Dicks.) Crundw. ex Warb. – Periodically flooded rock. Boreal-Interrupted. [1,2]

Dicranella schreberiana (Hedwig) Hilf. ex Crum & Anderson – Moist organic soil. Circumboreal. [1,2]

Dicranodontium denudatum (Bridel) E. Britton in N. L. Britton et al. – Cliff crevices, boulder ledges, and organic soil. Circumtemperate-Interrupted. [2]

Dicranum fuscescens Turner var. *fuscescens* – Organic soil. Circumboreal. [1,2]

Dicranum majus Turner var. *majus* – Cliff bases, soil. Boreal-Interrupted. [1,2]

Dicranum scoparium Hedwig – Soil. Circumboreal. [1,2]

Dicranum tauricum Sapjegin – Heavily decayed CWD. Temperate-Western North America/Europe Disjunct. [1,2]

Diphyscium foliosum (Hedwig) D. Mohr – Mineral soil in cliff crevice. Circumboreal.

Distichium capillaceum (Hedwig) Bruch & Schimper – Humic soil on cliff shelf. Cosmopolitan. [1,2]

Drepanocladus aduncus (Hedwig) Warnst. – Periodically flooded mineral soil. Cosmopolitan. [1,2]

Fissidens osmundioides Hedwig – Seepy rock crevice near shoreline. Circumboreal. [2]

Funaria hygrometrica Hedwig var. *hygrometrica* – Periodically flooded mineral soil. Cosmopolitan. [1,2]

Grimmia ramondii (Lamarck & de Candolle) Margadant – Mesic to seepy cliff faces and rocks. Boreal-Interrupted. [2]

Grimmia torquata Drummond – Rock, cliff crevices. Boreal-Interrupted. [1,2]

Herzogiella striatella (Bridel) Z. Iwatsuki – Organic soil. Boreal-Interrupted. [1,2]

Heterocladium macounii Best – Shaded cliff bases, boulders, and rootwads. North America endemic. [2]

Hygrohypnum ochraceum (Turn. ex Wils.) Loeske – Wet to seepy rocks. Boreal-Interrupted. [1,2]

Hylocomiastrum umbratum (Hedwig) Fleisch. – Boulder. Circumboreal. [2]

Hylocomium splendens (Hedwig) Schimper in B.S.G. – Boulder top and side. Circumboreal. [1,2]

Hypnum circinale Hooker – Conifer bases and boles, cliff face. Temperate-Western North America Endemic. [2]

Hypnum dieckii Ren. & Card. in Röll – Moist cliff face and boulder. AmphiPacific. [1,2]

Hypnum lindbergii Mitt. – Moderately decayed CWD. Circumboreal. [1,2]

Hypnum plicatulum (Lindberg) Jaeg. – Cliff base and boulder top. Boreal-Interrupted. [1,2]

Hypnum subimponens Lesquereux – Moist rock. AmphiPacific. [1,2]

Isopterygiopsis pulchella (Hedwig) Iwatsuki – Organic soil. Circumboreal. [1,2]

Isothecium stoloniferum Bridel – Rocks and boulders. Temperate-Western North America Endemic. [1,2]

Iwatsukiella leucotricha (Mitt.) Buck & Crum – Conifer and hardwood twigs and branches. Boreal-AmphiPacific. [1,2]

Iwatsukiella leucotricha

Kinbergia oregana

Paraleucobryum enerve

Pohlia crudoides

Kinbergia oregana (Sull.) Ochyra – Over litterfall and rock near shoreline. Temperate-Western North America Endemic. [2]

Kindbergia praelonga (Hedwig) Ochyra – Moist forest floor. Circumpolar to Temperate-Interrupted. [2]

Leptodictyum riparium (Hedwig) Warnstorf – Submerged along lake margin. Cosmopolitan.

Mnium thomsonii Schimper – Organic soil. Circumboreal. [1,2]

Myuroclada maximowiczii (G. G. Borshchow) Steere & Schofield – Moist organic soil. Circumboreal.

Niphotrichum ericoides (Bridel) Bednarek-Ochyra & Ochyra in R. Ochyra et al. – Organic soil. Circumboreal to circumtemperate. [2]

Oedipodium griffithianum (Dickson) Schwägrichen – Moist organic soil. Circummontane. [1,2]

Oligotrichum hercynicum (Hedwig) Lamarck & A. P. DeCandolle – Mineral soil. Circummontane. [1,2]

Oligotrichum parallelum (Mitten) Kindberg – Mineral to organic soil. Boreal-AmphiPacific. [1,2]

Oncophorus virens (Hedwig) Bridel – Mineral soil of upturned rootwad. Circummontane. [2]

Oncophorus wahlenbergii Bridel – Mineral soil. Circumboreal. [1,2]

Paraleucobryum enerve (Thedenius) Loeske – Humic soil over bedrock. Circumboreal. [2]

Philonotis fontana (Hedwig) Bridel var. *fontana* – Wet cliff bases, rock, and soil. Circumboreal. [1,2]

Plagiomnium medium (Bruch & Schimper in B.S.G.) T. Kop. – Humus. Circumboreal. [1,2]

Plagiothecium denticulatum (Hedwig) Schimper in B.S.G. - On moss over mineral soil. Circumboreal. [1,2]

Plagiothecium laetum Schimper in B.S.G. – Soil, cliff base. Boreal-Interrupted. [1,2]

Plagiothecium piliferum (Sw. ex Hartm.) Schimper in B.S.G. – Cliff bases, Alnus branch. Temperate-Interrupted. [2]

Pleuroziopsis ruthenica (Weinmann) E. Britton – Moist to wet forest floor. Boreal-AmphiPacific. [2]

Pleurozium schreberi (Bridel) Mitt. – Organic soil over boulder. Circumboreal. [1,2]

Pogonatum contortum (Bridel) Lesquereux – Mineral soil. Temperate-Interrupted. [2]

Pogonatum dentatum (Bridel) Bridel – Mineral soil. Circumboreal. [1,2]

Pogonatum urnigerum (Hedwig) P. Beauvois - Mineral soil. Circumpolar. [1,2]

Pohlia cruda (Hedwig) Lindberg – Cliff base. Circumboreal. [1,2]

Pohlia crudoides (Sullivant & Lesqereux) Brotherus in A. Engler & K. Prantl – Cliff crevice, boulder. North America endemic.

Pohlia nutans (Hedwig) Lindberg – Soil. Circumboreal. [1,2]

Pohlia proligera (Kindberg ex Breidl.) Lindberg ex Arnell – Cliff face. Circumboreal. [1,2]

Pohlia wahlenbergii (Web. & Mohr) Andrews – Moist mineral soil. Cosmopolitan. [1,2]

Polytrichastrum alpinum (Hedwig) G. L. Smith var. *alpinum* – Mineral and organic soil. Circumboreal. [1,2]

Polytrichastrum formosum (Hedwig) G.L. Smith var. formosum – Wet mineral soil. Circumboreal. [1,2]

Polytrichastrum papillatum G.L. Smith – Mineral soil. N. America (Alaska) - Asia (Kashmir, e. Nepal).

Polytrichum juniperinum Hedwig – Mineral soil. Cosmopolitan. [1,2]

Polytrichum piliferum Hedwig – Mineral soil. Cosmopolitan. [1,2]

Pseudoleskea baileyi Best & Grout – Base of shrubs, rock, and CWD. Montane-Western North America Endemic. [1,2]

Pseudoleskea stenophylla Ren. & Card.

Pseudotaxiphyllum elegans

Ptilium crista-castrensis

Racomitrium lanuginosum

Rhytidiadelphus loreus

Sphagnum girgensohnii

in Röll – On Alnus. Temperate-North America Endemic Disjunct. [1,2]

Pseudotaxiphyllum elegans (Bridel) Z. Iwatsuki – Rock outcrop, mineral soil. Circumtemperate. [1,2]

Ptilium crista-castrensis (Hedwig) De Not. – Over boulder. Circumboreal. [1,2]

Ptychostomum pseudotriquetrum (Hedwig) J. R. Spence – Cliff base. Cosmopolitan. [2]

Ptychostomum weigelii (Sprengel) J. R. Spence – Organic soil. Circumboreal. [2]

Racomitrium lanuginosum (Hedwig) Bridel – well lit boulder, alpine sod. Circumboreal. [2]

Rhabdoweisia crispata (Dickson ex Withering) Lindberg – Organic soil. Cosmopolitan. [2]

Rhizomnium glabrescens (Kindberg) T. Kop. – Organic soil. Temperate-Western North America Endemic. [1,2]

Rhizomnium magnifolium (Horik.) T. Kop. – Seepy organic soil. Circumboreal. [1,2]

Rhizomnium nudum (Britt. & Williams) T. Kop. – Moist soil. Montane-AmphiPacific. [1,2]

Rhizomnium pseudopunctatum (Bruch & Schimper) T. Kop. – Mineral soil. Circumboreal. [2]

Rhytidiadelphus loreus (Hedwig) Warnst. – Base of trees and shrubs, forest floor. Boreal-Interrupted. [1,2]

Rhytidiadelphus squarrosus (Hedwig) Warnstorf – Over soil, in depression. Boreal-Interrupted. [1,2]

Rhytidiadelphus triquetrus (Hedwig) Warnst. – Moist organic soil. Circumboreal. [1,2]

Rosulabryum capillare (Hedwig) J. R. Spence – Seepy cliff face. Cosmopolitan. [1]

Sanionia uncinata(Hedwig) Loeske - Forest floor, over boulder. Circumboreal. [1,2]

Schistidium maritimum (Turner ex Robt. Scott) Bruch & Schimper – Boulders above high tide line. Boreal-Interrupted. [1,2]

Scouleria aquatica Hooker – Wet soil. Boreal-Temperate AmphiPacific. [1,2]

Sphagnum alaskense R.E. Andrus & Janssens – Sloping peatland. Temperate-Western North America Endemic. [2]

Sphagnum compactum Lamarck & de Candolle – Moss-covered boulder and sloping peatland. Circumboreal. [1,2]

Sphagnum girgensohnii Russow – Forest floor. Circumboreal. [1,2]

Sphagnum lindbergii Schimper – Sphagnum mire. Circumboreal. [1,2]

Sphagnum quinquefarium (Lindberg) Warnstorf – Sphagnum-mire. Circumboreal. [2]

Sphagnum russowii Warnstorf – Sphagnum mire. Boreal-Interrupted. [1,2]

Sphagnum squarrosum Crome – Depression in Sphagnum mire. Circumboreal. [1,2]

Sphagnum tenellum (Bridel) Bory – Sphagnum mire. Circumboreal.

Straminergon stramineum (Dickson ex Bridel) Hedenäs – Mire. Circumboreal. [1,2]

Takakia lepidozioides S. Hattori & Inoue – Organic soil over sheltered, vertically inclined rock. Interrupted-Circumboreal. [2]

Tayloria serrata (Hedwig) Bruch & Schimper in B.S.G. – Organic soils. Circumboreal. [2]

Tetraphis geniculata Milde – Heavily decayed CWD and organic soil. Interrupted-Circumboreal. [2]

Tortella tortuosa (Hedwig) Limpricht var. *tortuosa* – Cliff underhang, mineral soil. Circumboreal. [1,2]

Ulota megalospora Venturi in J. Röll – Epiphytic on conifer twigs. North America Endemic. [2]

Ulota obtusiuscula Macoun & Kindberg – Epiphytic over conifers and hardwoods. Temperate-Western North America Endemic. [1,2]

Anastrepta orcadensis

Barbilophozia lycopodioides

Calycularia laxa

Diplophyllum albicans

Ulota phyllantha Bridel – Epiphytic on conifer, rock. Boreal-Interrupted. [1,2]

Warnstorfia fluitans (Hedwig) Loeske – Partially submerged rock at lake margin. Circumboreal. [1,2]

Warnstorfia sarmentosa (Wahlenberg) Hedenäs – Seepy organic soil and cliff shelf. Cosmopolitan. [1]

Liverworts (79 taxa)

Anastrepta orcadensis (Hook.) Schiffn. – Mesic to moist organic soils. Circumboreal-Interrupted. [2]

Anastrophyllum assimile (Mitt.) Steph. –Mesic to moist organic soils. Boreal-Interrupted. [2]

Anastrophyllum minutum (Schreb.) R. M. Schust. var. *minutum* – Cliffs, conifer base, soil. Circumboreal. [2]

Anastrophyllum sphenoloboides Schust. – Mineral soil. Circumboreal.

Anthelia julacea (L.) Dumort. – Soil, cliff bases, boulders, base of conifers. Boreal-Interrupted. [1,2]

Anthelia juratzkana (Limpr.) Trevis. – Mineral soil. Circummontane. [1,2]

Barbilophozia floerkei (F. Weber & D. Mohr) Loeske – Organic soil. Circummontane. [1,2]

Barbilophozia kunzeana (Huebener) Gams – Moist organic soil. Circumboreal. [2]

Barbilophozia lycopodioides (Wallr.) Loeske – Organic soils. Circumboreal. [1,2]

Bazzania tricrenata (Wahlenb.) Lindb. – Base of conifers, soil, boulders. Boreal-Interrupted. [2]

Blepharostoma trichophyllum (L.) Dumort. subsp. *trichophyllum* – Bark. Circumboreal. [1,2]

Calycularia laxa Lindb. & Arnell – Wet cliff bases and soils. Boreal-Amphi-Pacific.

Calypogeia azurea Stotler & Crotz - Moist soils. Probably circumboreal. [2]

Calypogeia fissa (L.) Raddi subsp. *neogaea* R. M. Schuster - Damp soil. Circumboreal.

Calypogeia integristipula Steph. – Moist soils. Temperate-Interrupted. [2]

Calypogeia muelleriana (Schiffn.) Müll. Frib. – Organic soil. Circumboreal. [1,2]

Calypogeia neesiana (C. Massal. & Carestia) Müll. Frib. – Moist soil and rock, bark. Circumboreal. [2]

Calypogeia suecica (Arnell & J. Perss.) Müll. Frib. - Moist soil. Circumboreal.

Cephalozia bicuspidata (L.) Dumort. – Organic material. Circumboreal. [1,2]

Cephalozia bicuspidata (L.) Dum. subsp. *ambigua* (Maas.) Schust. – Organic material. Circumboreal. [2]

Cephalozia cf. *connivens* (Dicks.) Lindb. - Moist soil. Circumboreal. [2]

Cephalozia lunulifolia (Dumort.) Dumort. – Base of tree, organic soil in underhang of rock. Circumboreal. [1,2]

Cephaloziella divaricata (Sm.) Schiffn. var. *divaricata* – Mineral soil of upturned rootwad. Cosmopolitan. [2]

Conocephalum salebrosum Szweykowski, Buczkowska & Odrykoski – Moist forest floor. Circumboreal. [1,2]

Diplophyllum albicans (L.) Dum. – Wet cliff face, boulder crevice. Boreal-Interrupted. [1,2]

Diplophyllum obtusifolium (Hook.) Dumort. – Mineral soil of upturned rootwad. Circumboreal. [2]

Diplophyllum plicatum Lindb. – Cliff face. Boreal-AmphiPacific. [1,2]

Diplophyllum taxifolium (Wahlenb.) Dumort. – Among moss over litterfall. Circumboreal. [1,2]

Douinia ovata (Dicks.) Buch. – Epiphytic on conifers and hardwoods. Boreal-Interrupted. [2]

Frullania nisquallensis Sull. – Epiphytic on conifer and hardwood, over boulder. Temperate-AmphiPacific. [2]

Gymnocolea inflata (Huds.) Dumort. –

Frullania nisquallensis

Herbertus aduncus

Lepidozia filamentosa

Marsupella emarginata

Sphagnum mire, wet organic soils. Circumboreal. [2]

Gymnomitrion concinnatum (Lightf.) Corda – Soil and soil over rock. Montane-Interrupted. [1,2]

Gymnomitrion obtusum Lindb. – Mineral soil, underhang of cliff crevice. Temperate-Wide. [1,2]

Harpanthus flotovianus (Nees) Nees – Wet organic soil. Circumboreal. [2]

Herbertus aduncus (Dickson) S. Gray var. *aduncus* – Cliff face, epiphytic on conifer bole. Western North America Endemic. [2]

Herbertus dicranus (Taylor) Trevisan – Boulders, cliff faces, organic soil. Circumboreal-Interrupted. [2]

Jungermannia exsertifolia Stephani – Moist mineral soil. Arctic-Alpine. [1,2]

Kurzia trichoclados (K. Muell.) Grolle – Boulders, over Sphagnum, organic soils. Circumboreal.

Lepidozia filamentosa (Lehm. & Lindenb.) Lindenb. – Organic soil on cliffs or over litterfall. AmphiPacific. [2]

Lepidozia reptans (L.) Dumort. – Moist stump and heavily decayed CWD. Probably circumboreal. [2]

Lophocolea bidentata (L.) Dumort. – Over moist litterfall. Temperate-Wide. [2]

Lophozia guttulata (Lindb. & H. Arnell) Evans – Moist log in lake margin, upturned rootwad. Circumboreal. [2]

Lophozia sudetica (Nees ex Huebener) Grolle – Moist soils and boulder. Circumboreal.

Lophozia ventricosa (Dicks.) Dumort. – Organic material. Circumboreal. [1,2]

Lophozia ventricosa (Dicks.) Dumort. var. *longiflora* (Nees) Macoun – Organic material. Circumboreal.

Lophozia wenzelii (Nees) Steph. var. *wenzelii* – Organic soil. Arctic-Alpine. [1,2]

cf. Marsupella adusta (Nees) Spruce – Wet seepage. Circumboreal.

Marsupella emarginata (Ehrh.) Dumort. – Moist soil. Circumboreal. [1,2]

Marsupella sphacelata (Giesecke ex Lindenb.) Dumort. – Soil. Montane-Interrupted. [1,2]

Metzgeria conjugata Lindb. – Shaded wet cliff base. Cosmopolitan. [2]

Moerckia blyttii (Moerch) Brockm. – Organic soil. Montane-Interrupted. [1,2]

Mylia taylorii (Hook.) S. Gray – Stumps, cliff bases, humic soil, conifer boles. Circumboreal. [2]

Nardia scalaris Gray – Wet soil, boulders, cliffs. Circumboreal. [1,2]

Odontoschisma elongatum (Lindb.) Evans – Humic soil, boulder. Circumboreal. [2]

Pellia endiviifolia (Dicks.) Dumort. – Moist soil. Circumboreal. [1,2]

Pellia epiphylla (L.) Corda – Organic soil. Circumtemperate. [2]

Pellia neesiana (Gottsche) Limpr. – Mineral soil. Circumboreal. [1,2]

Plagiochila porelloides (Torr. ex Nees) Lindenb. – Organic soil, over litterfall, base of confers. Circumboreal. [1,2]

Pleurocladula albescens (Hook.) Grolle – Over coniferous litterfall. Arctic-Alpine. [1,2]

Ptilidium californicum (Aust.) Underw. – Over downed wood, base of *Vaccinium*. Western North America Endemic. [2]

Ptilidium ciliare (L.) Hampe – Over ground and rocks. Circumboreal. [1,2]

Radula bolanderi Gott. – On snag. Western North America Endemic. [2]

Radula cf. *obtusiloba* Steph. - Wet cliff base. Boreal-AmphiPacific. [2]

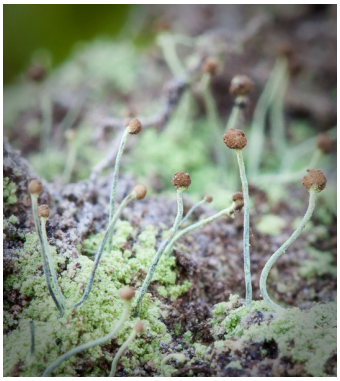
Riccardia latifrons (Lindb.) Lindb. – Heavily decayed CWD. Circumboreal. [2]

Riccardia multifida (L.) A. Gray – Moist litterfall. Circumboreal. [2]

Scapania bolanderi Austin – Conifer stumps and boles. Temperate-Amphi-Pacific. [2]

Scapania bolanderi

Tetralophozia setiformis



Chaenotheca furfuracea

Cladonia arbuscula* subsp. *beringiana

Scapania curta (Mart.) Dumort. – Bedrock. Circumboreal. [2]

Scapania cuspiduligera (Nees) Müll. Frib. – Thin soil. Circumboreal.

Scapania paludosa (Müll. Frib.) Müll. Frib. – Over wet soil and litterfall. Circumpolar. [2]

Scapanis subalpina (Nees) Dumort. - Wet rock and organic material. Circumboreal. [1, 2]

Scapania uliginosa (Sw. ex Lindenb.) Dumort. – Soil and streamside rock. Circumboreal. [1, 2]

Scapania umbrosa (Schrad.) Dumort. – Dead, downed wood. Boreal-Interrupted. [1, 2]

Scapania undulata (L.) Dumort. var. *undulata* – Boulder and mineral soil over boulder. Circumboreal. [1, 2]

Schistochilopsis incisa (Schrad.) Konstant. var. *incisa* – Organic soils. Circumboreal. [1, 2]

Schistochilopsis incisa var. *opacifolia* (Culmann) Bakalin – Organic soils. Probably circumpolar.

Sphenolobopsis pearsonii (Spruce) Schust. – Mineral soil. Temperate-Interrupted.

Tetralophozia setiformis (Ehrh.) Schljakov – Alpine sod. Circumboreal. [1, 2]

Tritomaria exsecta (Schrad.) Loeske - Wet organic soil. Temperate-Wide.

Tritomaria quinquedentata (Huds.) H. Buch – Underhang of boulder. Boreal-Interrupted. [1, 2]

Lichens (92 taxa)

Alectoria sarmentosa (Ach.) Ach. subsp. *sarmentosa* – Conifer bark, wood. Incompletely circumpolar.

Baeomyces rufus (Hudson) Rebent. – Sandy soil. Circumpolar.

Bryoria bicolor (Ehrh.) Brodo & D. Hawksw. – Conifer bark. Incompletely circumpolar.

Bryoria cervinula Motyka ex Brodo & D. Hawksw. – Conifer branches. Western North America Endemic.

Bryoria trichodes subsp. *americana* (Motyka) Brodo & D. Hawksw. – Conifer bark and wood. North America Endemic.

Cavernularia hultenii Degel. – Conifer bark and wood. Incompletely circumpolar. [3]

Cavernularia lophyrea (Ach.) Degel. – Conifer bark and wood. Western North America.

Cetraria aculeata (Schreb.) Fr. – Sandy soil. Circumpolar.

Cetraria ericetorum subsp. *reticulata* (Räsänen) Kärnefelt – Soil over ground and rock. Western North America.

Cetraria islandica subsp. *crispiformis* (Räsänen) Kärnefelt – Mineral and organic soil. Incompletely circumpolar. [3]

Chaenotheca furfuracea (L.) Tibell – Hollow in roots. Incompletely circumpolar.

Cladonia amaurocraea (Flörke) Schaerer – Over moss, soil. Circumpolar. [3]

Cladonia arbuscula subsp. *beringiana* Ahti – Moss over rock. W. NA - E. Eurasia

Cladonia bellidiflora (Ach.) Schaerer – Conifer bark, soil. Incompletely circumpolar. [3]

Cladonnia carneola (Fr.) Fr. – Conifer bark, soil. Circumpolar.

Cladonia chlorophaea group (Flörke ex Sommerf.) Sprengel – Conifer bark and wood. Circumpolar. [3]

Cladonia coccifera (L.) Willd. – Mineral soil, moss over rock. Circumpolar. [3]

Cladonia crispata (Ach.) Flotow var. *crispata* – Sandy soil. Circumpolar.

Cladonia gracilis subsp. *vulnerata* Ahti – Forest floor; Forest floor. W. North America - E. Eurasia.

Cladonia maxima (Asahina) Ahti – Exposed moss over boulder. Circumpolar. [3]

Cladonia ochrochlora Flörke – Conifer

Cladonia uncialis

Hypogymnia duplicata

Lichenomphalia umbellifera

Lobaria linita

Nephroma isidiosum

bark and wood. Circumpolar.

Cladonia phyllophora Hoffm. – Sandy soil. Circumpolar. [3]

Cladonia pyxidata (L.) Hoffm. – Mineral and organic soils. Circumpolar.

Cladonia rangiferina (L.) F. H. Wigg. – Mineral and organic soils. Circumpolar. [3]

Cladonia squamosa Hoffm. – Conifer bark, branches, soil. Circumpolar.

Cladonia stygia (Fr.) Ruoss - On moss over exposed boulder. Circumpolar.

Cladonia uncialis (L.) F. H. Wigg. – Soil, soil over rock. Circumpolar. [3]

Dibaeis baeomyces (L. f.) Rambold & Hertel – Organic soils. Circumpolar.

Ephebe sp. Fr. – Exposed rock in and near streamlets. Species determination pending.

Fuscopannaria cf. *confusa* (P. M. Jørg.) P. M. Jørg. – Conifer branch. Probably circumpolar.

Graphis scripta (L.) Ach. – Alnus branches. Circumtemperate.

Hydropunctaria maura group (Wahleb.) Keller, Gueidan & Thüs – Rock above high tide line. Cosmopolitan.

Hypogymnia apinnata Goward & McCune – Conifer bark and wood. Western North America Endemic.

Hypogymnia duplicata (Ach.) Rass. – Conifer branches. Western North America Endemic.

Hypogymnia physodes (L.) Nyl. – Conifer twig. Circumpolar. [3]

Hypogymnia tubulosa (Schaerer) Hav. – Conifer branch. Incompletely circumpolar.

Icmadophila ericetorum (L.) Zahlbr. – Rotten conifer stump. Cicumpolar.

Leptogium lichenoides (L.) Zahlbr. – Rock. Cicumpolar.

Leptogium saturninum (Dickson) Nyl. – Conifer branch. Circumpolar. [3]

Lichenomphalia umbellifera (L. : Fr.) Redhead, Lutzoni, Moncalvo & Vilgalys – Rotten conifer wood. Circumpolar.

Lobaria linita (Ach.) Rabenh. – Conifer bark and wood. Incompletely circumpolar. [3]

Lobaria oregana (Tuck.) Müll. – Conifer bark and wood. Western North America.

Lobaria pulmonaria (L.) Hoffm. – Conifer bark and wood. Incompletely circumpolar. [3]

Lobaria scrobiculata (Scop.) DC. – Conifer branch. Circumpolar.

Loxosporopsis corallifera Brodo, Henssen & Imshaug – Conifer bark. Western North America.

Massalongia carnosa (Dickson) Körber – Rock. Circumpolar.

Mycoblastus sanguinarius (L.) Norman - Conifer litterfall. Circumpolar. [3]

Nephroma bellum (Sprengel) Tuck. – Conifer bark and wood. Circumpolar. [3]

Nephroma helveticum subsp. *sipeanum* (Gyelnik) Goward & Ahti – Conifer and hardwood bark. Incompletely circumpolar.

Nephroma isidiosum (Nyl.) Gyelnik – Salix bark. Incompletely circumpolar.

Nephroma parile (Ach.) Ach. - Conifer branch. Circumpolar. [3]

Nephroma resupinatum (L.) Ach. – Rotten wood, Salix bark. Circumpolar.

Parmelia cf. *hygrophila* Goward & Ahti – Conifer wood. Western North America.

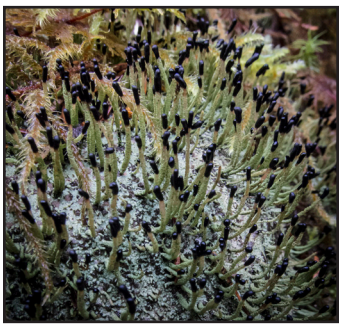
Parmelia pseudosulcata Gyelnik – Conifer-bark. Western North America.

Parmelia saxatilis (L.) Ach. – Conifer bark and wood. Circumpolar. [3]

Parmelia squarrosa Hale – Conifer bark. Incompletely circumpolar.

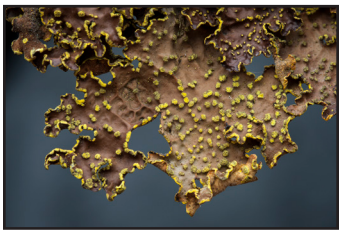
Parmeliopsis hyperopta (Ach.) Arnold – Conifer bark, wood. Circumpolar. [3]

Peltigera britannica (Gyelnik) Holt.-Hartw. & Tønsberg – Forest floor, over moss.



Pilophorus clavatus

Platismatia lacunosa



Pseudocyphellaria crocata

Siphula cerites

W. NA - E. Eurasia.

Peltigera collina (Ach.) Schrader – Conifer bark, rock. Probably incompletely circumpolar. [3]

Peltigera membranacea (Ach.) Nyl. – Moss over soil. Incompletely circumpolar. [3]

Peltigera neopolydactyla (Gyelnik) Gyelnik – Forest floor, over moss. Probably incompletely circumpolar. [3]

Peltigera praetextata (Flörke ex Sommerf.) Zopf – Over moss, rock. Circumpolar.

Phylliscum demangeonii (Moug. & Mont.) Nyl. – Rock near shoreline. Incompletely circumpolar.

Physcia caesia (Hoffm.) Fürnr. – Rock near shoreline. Circumpolar. [3]

Pilophorus acicularis (Ach.) Th. Fr. – Rock. W. NA - E. Eurasia.

Pilophorus clavatus Th. Fr. – Rock. W. NA - E. Eurasia.

Pilophorus nigricaulis Satô – Rock. W. NA - E. Eurasia.

Placopsis gelida (L.) Lindsay – Rock. Probably circumpolar. [3]

Platismatia glauca (L.) Culb. & C. Culb. – Conifer bark and wood. N. America - W. Eurasia. [3]

Platismatia herrei (Imshaug) Culb. & C. Culb. – Conifer bark and wood. Western North America.

Platismatia lacunosa (Ach.) W. L. Culb.. & C. F. Culb – Conifer bark and wood. Western North America. [3]

Platismatia norvegica (Lynge) Culb. & C. Culb. – Conifer bark, wood. N. America - E. Eurasia.

Polychidium muscicola (Ach.) Gray – Lakeside boulder above high water mark. Possibly circumpolar.

Protopannaria pezizoides (Weber) P. M. Jørg. & S. Ekman – Moss over soil. Circumpolar. [3]

Pseudocyphellaria anomala Brodo & Ahti – Conifer bark and wood. Western North America.

Pseudocyphellaria crocata (L.) Vainio – Salix bark. Incompletely circumpolar.

Psoroma hypnorum (Vahl) Gray – Over moss, rotten wood. Circumpolar. [3]

Racodium rupestre Pers. – Shaded underhang of boulder. W. NA - W. Eurasia.

Ramalina roesleri (Hochst. ex Schaerer) Hue – Conifer twig. Probably incompletely circumpolar. [3]

Siphula ceratites (Wahlenb.) Fr. – Moist soil. Circumpolar.

Sphaerophorus tuckermanii Räsänen – Conifer bark and wood. Apparently circumpolar. [3]

Stereocaulon paschale (L.) Hoffm. – Soil. Circumpolar. [3]

Stereocaulon spathuliferum Vainio – Rock. Incompletely circumpolar.

Stereocaulon tomentosum Fr. – Sandy soil. Circumpolar.

Stereocaulon vesuvianum Pers. – Rock. Circumpolar.

Tuckermannopsis chlorophylla (Willd.) Hale – Conifer bark and wood. Incompletely circumpolar. [3]

Umbilicaria angulata Tuck. – Rock. W. NA - E. Eurasia.

Umbilicaria deusta (L.) Baumg. – Rock. Circumpolar.

Umbilicaria hyperborea (Ach.) Hoffm. var. *hyperborea* – Rock. Circumpolar.

Umbilicaria torrefacta (Lightf.) Schrader – Rock. Circumpolar.

Usnea filipendula Stirton – Conifer bark. Probably circumpolar.

Usnea longissima Ach. – Conifer branches near shoreline. Incompletely circumpolar.

Appendix C: Potential Species List.

The following taxa are known to be near KEFJ but were not reported by us during the course of our present work (see **Appendix B** and **Appendix D**). This list is largely built from Schofield et al. 2002), Worley 1972), and Talbot et al. 1992), and can be used as a guide for targeting additional species that may occcur within Park boundaries. Note that this list is not all-inclusive of what could be found in KEFJ. The recent lichen checklist developed for Klondike Goldrush N.H.P. by Spribille et al. 2010), reporting over 750 taxa, can also be used as an additional guide for searching out many additional lichens.

Mosses

Abietinella abietina
Aloina brevirostris
Amphidium mougeotii
Andreaea rothii
Anoectangium aestivum
Anomobryum filiforme
Antitrichia californica
Aongstroemia longipes
Arctoa hyperborea
Atrichum selwynii
Bartramia subulata
Brachydontium olympicum
Brachythecium erythrorrhizon
Brachythecium plumosum
Brachythecium rivulare
Brachythecium salebrosum
Brachythecium turgidum
Brachythecium velutinum
Brotherella canadensis
Bryhnia hultenii
Bryoerythrophyllum inaequalifolium
Bryoerythrophyllum recurvirostre
Bucklandiella brevipes
Bucklandiella lawtoniae
Bucklandiella macounii
Bucklandiella occidentalis
Bucklandiella sudetica
Buxbaumia viridis
Calliergon giganteum
Calliergon megalophyllum
Campylium stellatum
Campylophyllum halleri
Campylophyllum hispidulum
Campylopus gracilis
Campylopus schimperi
Catoscopium nigritum
Ceratodon purpureus
Cinclidium subrotundum
Cirriphyllum cirrosum
Claopodium bolanderi
Claopodium crispifolium
Claopodium pellucinerve
Claopodium whippleanum
Codriophorus mollis
Codriophorus ryszardii
Codriophorus varius
Coscinodon yukonensis
Cynodontium jenneri
Cynodontium polycarpon
Cynodontium schisti
Cynodontium strumiferum
Cynodontium tenellum
Dichelyma falcatum
Dichodontium olympicum
Dicranella crispa
Dicranella rufescens
Dicranella subulata
Dicranella varia
Dicranodontium asperulum
Dicranodontium uncinatum
Dicranoweisia crispula
Dicranum acutifolium
Dicranum bonjeanii
Dicranum elongatum
Dicranum fragilifolium
Dicranum howellii
Dicranum majus
Dicranum muehlenbeckii
Dicranum pallidisetum
Dicranum polysetum
Dicranum spadiceum
Dicranum undulatum
Didymodon fallax
Didymodon ferrugineus
Didymodon giganteus
Didymodon nigrescens
Didymodon rigidulus
Didymodon vinealis
Distichium inclinatum
Ditrichum ambiguum
Drepanocladus polygamus
Echinophyllum sachalinense
Encalypta affinis
Encalypta ciliata
Encalypta procera
Encalypta rhaptocarpa

Encalypta vulgaris
Entodon concinnus
Eurhynchiastrum pulchellum
Fissidens adianthoides
Fissidens bryoides
Fissidens grandifrons
Fontinalis antipyretica
Fontinalis hypnoides
Gemmabryum caespiticium
Gemmabryum dichotomum
Grimmia anodon
Grimmia anomola
Grimmia attenuata
Grimmia donniana
Grimmia leibergii
Grimmia longirostris
Grimmia mollis
Grimmia muehlenbeckii
Grimmia ovalis
Grimmia sessitana
Grimmia trichophylla
Gymnostomum aeruginosum
Hamatocaulis vernicosus
Haplodontium macrocarpum
Hedwigia ciliata
Helodium blandowii
Herzogiella adscendens
Heterocladium dimorphum
Heterocladium procurrens
Homalothecium fulgescens
Homalothecium nevadense
Homalothecium nuttallii
Hookeria acutifolia
Hookeria lucens
Hygroamblystegium varium
Hygrohypnum alpestre
Hygrohypnum alpinum
Hygrohypnum bestii
Hygrohypnum luridum
Hygrohypnum molle
Hygrohypnum polare
Hymenostylium recurvirostrum var. *recurvirostrum*
Hymenostylium recurvirostrum var. *insigne*
Hypnum bambergeri
Hypnum callichroum
Hypnum cupressiforme
Hypnum cupressiforme var. *subjulaceum*
Hypnum hamulosum
Hypnum pallescens
Hypnum pratense
Hypnum revolutum
Hypopterygium flavolimbatum
Imbribryum miniatum
Isopterygiopsis muelleriana
Isothecium myosuroides
Kiaeria blyttii
Kiaeria falcata
Kiaeria glacialis
Kiaeria starkei
Leptobryum pyriforme
Lescuraea saxicola
Leskeella nervosa
Leucolepis acanthoneura
Loeskypnum badium
Loeskypnum wickesiae
Meesia longiseta
Meesia triquetra
Meesia uliginosa
Meiotrichum lyallii
Mnium blyttii
Mnium lycopodioides
Mnium spinosum
Mnium spinulosum
Myurella julacea
Myurella sibirica
Neckera douglasii
Neckera menziesii
Neckera pennata
Niphotrichum canescens
Niphotrichum elongatum
Niphotrichum muticum
Oligotrichum aligerum
Orthothecium chryseum
Orthothecium strictum
Orthotrichum anomalum
Orthotrichum consimile
Orthotrichum lyellii
Orthotrichum rupestre
Orthotrichum speciosum
Orthotrichum striatum
Orthotrichum cupulatum
Orthotrichum obtusifolium
Orthotrichum pallens
Orthotrichum pulchellum
Paludella squarrosa
Palustriella commutata
Palustriella falcata
Philonotis capillaris
Philonotis fontana
Philonotis marchica
Philonotis seriata
Plagiobryum zierii
Plagiomnium affine
Plagiomnium cuspidatum
Plagiomnium ellipticum
Plagiomnium insigne

Plagiomnium rostratum
Plagiopus oederianus
Plagiothecium cavifolium
Platydictya jungermannioides
Pohlia andalusica
Pohlia annotina
Pohlia bulbifera
Pohlia columbica
Pohlia drummondii
Pohlia elongata
Pohlia filum
Polytrichastrum longisetum
Polytrichastrum sexangulare
Polytrichum commune
Polytrichum strictum
Pseudobryum cinclidioides
Pseudoleskea atricha
Pseudoleskea incurvata var. *incurvata*
Pseudoleskea julacea
Pseudoleskea patens
Pseudoleskea radicosa var. *radicosa*
Pterigynandrum filiforme
Ptychostomum arcticum
Ptychostomum creberrimum
Ptychostomum inclinatum
Ptychostomum knowltonii
Ptychostomum pallens
Ptychostomum pallescens
Ptychostomum turbinatum
Pylaisia polyantha
Pylaisia selwynii
Rhizomnium andrewsianum
Rhytidiadelphus subpinnatus
Rhytidiopsis robusta
Rhytidium rugosum
Rosulabryum flaccidum
Sanionia orthothecioides
Schistidium agassizii
Schistidium apocarpum
Schistidium boreale
Schistidium dupretii
Schistidium frigidum
Schistidium papillosum
Schistidium platyphyllum
Schistidium rivulare
Schistidium strictum
Schistostega pennata
Sciuro-hypnum latifolium
Sciuro-hypnum oedipodium
Sciuro-hypnum populeum
Sciuro-hypnum reflexum
Sciuro-hypnum starkei
Scleropodium cespitans
Scleropodium obtusifolium
Scorpidium revolvens
Scorpidium scorpioides
Seligeria campylopoda
Seligeria donniana
Seligeria pusilla
Sphagnum andersonianum
Sphagnum angustifolium
Sphagnum annulatum
Sphagnum aongstroemii
Sphagnum austinii
Sphagnum balticum
Sphagnum bartlettianum
Sphagnum brevifolium
Sphagnum capillifolium
Sphagnum centrale
Sphagnum fimbriatum
Sphagnum fuscum
Sphagnum henryense
Sphagnum inexpectatum
Sphagnum inundatum
Sphagnum lenense
Sphagnum magellanicum
Sphagnum mendocinum
Sphagnum obtusum
Sphagnum pacificum
Sphagnum papillosum
Sphagnum platyphyllum
Sphagnum pseudopapillosum
Sphagnum riparium
Sphagnum rubellum
Sphagnum rubiginosum
Sphagnum sitchense
Sphagnum sjorsianum
Sphagnum subfulvum
Sphagnum subnitens
Sphagnum subsecundum
Sphagnum teres
Sphagnum tongassense
Sphagnum warnstorfii
Sphagnum wilfii
Splachnum sphaericum
Splachnum vasculosum
Syntrichia norvegica
Syntrichia ruralis
Tayloria lingulata
Tetraphis pellucida var. *pellucida*
Tetraplodon mnioides
Tetraplodon urceolatus
Tetrodontium brownianum
Tetrodontium repandum
Thamnobryum neckeroides
Thuidium delicatulum var. *radicans*

Timmia austriaca
Timmia norvegica
Tomentypnum nitens
Tortella fragilis
Tortella inclinata
Tortella tortuosa
Tortula deciduidentata
Tortula hoppeana
Tortula mucronifolia
Trachycystis flagellaris
Trematodon ambiguus
Trichostomum tenuirostre
Ulota barclayi
Ulota curvifolia
Ulota drummondii
Ulota reptans
Warnstorfia exannulata
Warnstorfia pseudostraminea
Warnstorfia sarmentosa
Warnstorfia trichophylla
Warnstorfia tundrae
Weissia controversa
Zygodon reinwardtii
Zygodon viridissimus

Liverworts

Anastrophyllum donnianum
Anastrophyllum saxicola
Aneura pinguis
Apometzgeria pubescens
Apotreubia nana
Asterella gracilis
Asterella lindenbergiana
Athalamia hyalina
Barbilophozia attenuata
Barbilophozia barbata
Barbilophozia hatcheri
Barbilophozia quadriloba
Bazzania ambigua
Bazzania pearsonii
Bazzania trilobata
Blasia pusilla
Calypogeia sphagnicola
Cephalozia catenulata
Cephalozia leucantha
Cephalozia loitlesbergeri
Cephalozia pleniceps
Cephaloziella divaricata
Cephaloziella rubella
Chiloscyphus pallescens
Chiloscyphus polyanthos
Cladopodiella fluitans
Diplophyllum imbricatum
Frullania californica
Frullania chilcootenis
Frullania franciscana
Geocalyx graveolens
Gymnomitrion alpinum
Gymnomitrion brevissimum
Gymnomitrion corallioides
Gymnomitrion pacificum
Gyrothyra underwoodiana
Haplomitrium hookeri
Harpanthus scutatus
Hygrobiella laxifolia
Jungermannia atrovirens
Jungermannia confertissima
Jungermannia hyalina
Jungermannia hyalinum
Jungermannia leiantha
Jungermannia obovata
Jungermannia pumila
Jungermannia rubra
Jungermannia sphaerocarpa
Kurzia setacea
Leiocolea bantriensis
Leiocolea gillmanii
Leiocolea heterocolpos
Lepidozia sandvicensis
Lophocolea cuspidata
Lophocolea heterophylla
Lophozia alpestris
Lophozia badensis
Lophozia bicrenata
Lophozia excisa
Lophozia obtusa
Marchantia polymorpha
Marsupella apiculata
Marsupella sparsifolia
Metzgeria leptoneura
Metzgeria temperata
Moerckia hibernica
Nardia compressa
Nardia geoscyphus
Plagiochila arctica
Plagiochila satoi
Plagiochila schofieldiana
Plagiochila semidecurrens
Pleurozia purpurea
Porella cordaeana
Porella navicularis
Porella platyphylla
Porella roellii
Preissia quadrata

Radula complanata
Reboulia hemisphaerica
Riccardia chamedryfolia
Riccardia palmata
Rivulariella gemmipara
Sauteria alpina
Scapania americana
Scapania gymnostomophila
Scapania irrigua
Scapania mucronata
Scapania paludicola
Scapania scandica
Scapania undulata
Schofieldia monticola
Tritomaria polita

Lichens

Alectoria ochroleuca
Amandinea coniops
Amandinea punctata
Arctocetraria andrejevii
Arthrorhaphis alpina
Bacidia subincompta
Baeomyces carneus
Biatora vernalis
Bryocaulon divergens
Buellia erubescens
Caloplaca cerina
Caloplaca ferruginea
Calvitimela aglaea
Candelariella aurella
Catolechia wahlenbergii
Cetraria islandica subsp. *islandica*
Cetraria kamczatica
Cetraria laevigata
Cladonia cenotea
Cladonia cervicornis subsp. *cervicornis*
Cladonia coniocraea
Cladonia cornuta
Cladonia decorticata
Cladonia ecmocyna
Cladonia fimbriata
Cladonia furcata
Cladonia gracilis subsp. *gracilis*
Cladonia gracilis subsp. *turbinata*
Cladonia grayi
Cladonia humilis
Cladonia metacorallifera
Cladonia mitis
Cladonia pleurota
Cladonia scabriuscula
Cladonia stellaris
Cladonia stricta
Cladonia subfurcata
Cladonia sulphurina
Cladonia umbricola
Cladonia verruculosa
Collema furfuraceum
Collema nigrescens
Collema subflaccidum
Collema undulatum
Dactylina arctica
Dactylina beringica
Dermatocarpon miniatum
Dermatocarpon reticulatum
Diploschistes scruposus
Farnoldia hypocrita
Flavocetraria cucullata
Flavocetraria nivalis
Gowardia nigricans
Hafellia disciformis
Helocarpon crassipes
Hypogymnia enteromorpha
Hypogymnia inactiva
Hypogymnia vittata
Lecanora albella var. *albella*
Lecanora albellula
Lecanora cinereofusca
Lecanora circumborealis
Lecanora epanora
Lecanora hybocarpa
Lecanora impudens
Lecanora intricata
Lecanora pacifica
Lecanora polytropa
Lecanora pulicaris
Lecanora rupicola
Lecanora symmicta
Lecanora varia
Lecidea albohyalina
Lecidea auriculata
Lecidea lapicida
Lecidea tessellata
Lecidella euphorea
Lepraria spp.
Lobaria hallii
Melanelia commixta
Melanelia hepatizon
Melanelia stygia
Melanohalea elegantula
Melanohalea exasperatula
Melanohalea olivacea
Melanohalea olivaceoides
Melanohalea septentrionalis

Micarea assimilata
Micarea denigrata
Mycoblastus alpinus
Nephroma arcticum
Ochrolechia arborea
Ochrolechia frigida
Ochrolechia laevigata
Ochrolechia oregonensis
Ochrolechia szatalaensis
Ochrolechia xanthostoma
Ophioparma lapponica
Parmelia omphalodes
Parmelia sulcata
Peltigera aphthosa
Peltigera canina
Peltigera didactyla
Peltigera horizontalis
Peltigera malacea
Peltigera neckeri
Peltigera rufescens
Peltigera scabrosa
Peltigera venosa
Pertusaria alpina
Pertusaria carneopallida
Pertusaria dactylina
Pertusaria leioplaca
Pertusaria macounii
Pertusaria oculata
Pertusaria ophthalmiza
Pertusaria panyrga
Pertusaria sommerfeltii
Pertusaria subdactylina
Phaeophyscia hirtella
Phaeophyscia orbicularis
Phaeophyscia sciastra
Physcia adscendens
Physcia aipolia
Physcia dubia
Physcia tenella
Physconia detersa
Physconia muscigena
Physconia perisidiosa
Porpidia macrocarpa
Pseudephebe minuscula
Pseudephebe pubescens
Ramalina farinacea
Ramboldia cinnabarina
Ramboldia elabens
Rhizocarpon eupetraeoides
Rhizocarpon eupetraeum
Rhizocarpon geminatum
Rhizocarpon geographicum
Rhizocarpon grande
Rhizocarpon inarense
Rhizocarpon polycarpum
Rhizoplaca chrysoleuca
Rinodina archaea
Rinodina septentrionalis
Sagiolechia rhexoblephara
Scoliciosporum chlorococcum
Solorina crocea
Sphaerophorus fragilis
Sphaerophorus globosus
Staurothele drummondii
Stereocaulon alpinum
Stereocaulon botryosum
Stereocaulon condensatum
Stereocaulon grande
Stereocaulon intermedium
Stereocaulon rivulorum
Stereocaulon saxatile
Stigmidium schaereri
Thamnolia subuliformis
Thamnolia vermicularis
Trapeliopsis flexuosa
Trapeliopsis granulosa
Tuckermannopsis sepincola
Umbilicaria cinereorufescens
Umbilicaria cylindrica
Umbilicaria hyperborea
Umbilicaria phaea
Umbilicaria vellea
Usnea florida
Verrucaria aethiobola
Vulpicida pinastri
Xanthoria alaskana
Xanthoria candelaria
Xanthoria elegans
Xanthoria polycarpa
Xanthoria sorediata
Xylographa parallela

Appendix D. Voucher Collections

The following table is a current list of vouchers collections that have NPS accession and catalog numbers assigned to them under permit KEFJ-2012-SCI-0016. Survey site details can be found in Appendix A. Author abbreviations are used to denote collector: JKW = James K. Walton, MH = Martin Hutten, SKT = Stacey K. Torigoe.

Species	Survey Site	Collector & Collection Number	NPS Accession Number	NPS Catalog Number
MOSSES				
Amblystegium serpens	Bear Cove Notch	MH 16382	KEFJ-00278	KEFJ 19068
Amphidium lapponicum	Coleman Bay Cliffs	MH 16345	KEFJ-00278	KEFJ 19181
Amphidium lapponicum	Coleman Bay Cliffs	MH 16350	KEFJ-00278	KEFJ 19065
Amphidium lapponicum	Coleman Bay Cliffs	MH 16363	KEFJ-00278	KEFJ 19451
Amphidium lapponicum	Crater Bay (northside)	MH 16024	KEFJ-00278	KEFJ 18851
Andreaea blyttii	McArthur WX	JKW 17824	KEFJ-00278	KEFJ 19258
Andreaea nivalis	Harris Peninsula Lakes	MH 16239	KEFJ-00278	KEFJ 19004
Andreaea rupestris	Northwest Lagoon Beach	MH 16184	KEFJ-00278	KEFJ 19369
Antitrichia curtipendula	Crater Bay (northside)	MH 16048	KEFJ-00278	KEFJ 18828
Arctoa fulvella	Harris Peninsula Lakes	MH 16242	KEFJ-00278	KEFJ 19006
Aulacomnium palustre	Granite Passage Peatland	MH 16185	KEFJ-00278	KEFJ 19173
Aulacomnium turgidum	Granite Passage Peatland	MH 16186	KEFJ-00278	KEFJ 19174
Bartramia ithyphylla	Coleman Bay Cliffs	MH 16351	KEFJ-00278	KEFJ 19066
Bartramia pomiformis	Chance Cove	JKW 17977	KEFJ-00278	KEFJ 19336
Bartramia pomiformis	Crater Bay (northside)	MH 16025	KEFJ-00278	KEFJ 18850
Bartramia pomiformis	Crater Bay (southside)	MH 16064	KEFJ-00278	KEFJ 19164
Bartramiopsis lescurii	Coleman Bay	MH 16325	KEFJ-00278	KEFJ 19054
Bartramiopsis lescurii	Crater Bay (northside)	MH 16000	KEFJ-00278	KEFJ 18819
Bartramiopsis lescurii	Verdant Cove	JKW 18188	KEFJ-00278	KEFJ 19216
Blindia acuta	Crater Bay (northside)	MH 16011	KEFJ-00278	KEFJ 18860
Brachythecium albicans	Northwest Lagoon Beach	MH 16162	KEFJ-00278	KEFJ 19356
Brachythecium frigidum	Northwest Lagoon Beach	MH 16174	KEFJ-00278	KEFJ 19458
Brachythecium frigidum	Northwest Lagoon Beach	MH 16176	KEFJ-00278	KEFJ 19459
Bryum argenteum var. argenteum	Coleman Bay Cliffs	MH 16346	KEFJ-00278	KEFJ 18841
Buckiella undulata	Crater Bay	MH 16089	KEFJ-00278	KEFJ 19095
Bucklandiella affinis	Harris Peninsula Lakes	MH 16226	KEFJ-00278	KEFJ 19460
Bucklandiella heterosticha	Chance Cove	JKW 17970	KEFJ-00278	KEFJ 19332
Bucklandiella heterosticha	Coleman Bay	MH 16322	KEFJ-00278	KEFJ 19340
Bucklandiella heterosticha	Crater Bay (southside)	MH 16077	KEFJ-00278	KEFJ 19087
Bucklandiella heterosticha	Crater Bay (southside)	MH 16078	KEFJ-00278	KEFJ 19088
Bucklandiella heterosticha	Harris Peninsula Lakes	MH 16217	KEFJ-00278	KEFJ 18991
Bucklandiella heterosticha	McArthur WX	JKW 17830	KEFJ-00278	KEFJ 19263
Bucklandiella heterosticha	Northwest Lagoon Beach	MH 16137	KEFJ-00278	KEFJ 19122
Bucklandiella microcarpa	McArthur WX	JKW 17831	KEFJ-00278	KEFJ 19264
Calliergon cordifolium	Verdant Cove	JKW 18206	KEFJ-00278	KEFJ 19230
Calliergonella cuspidata	Verdant Cove	JKW 18171	KEFJ-00278	KEFJ 19427
Campylopus atrovirens	Coleman Bay	MH 16326	KEFJ-00278	KEFJ 19339
Campylopus atrovirens	Granite Passage Peatland	SKT 2012-7	KEFJ-00278	KEFJ 19171
Campylopus atrovirens	Northwest Lagoon Beach	MH 16139	KEFJ-00278	KEFJ 19186

Species	Survey Site	Collector & Collection Number	NPS Accession Number	NPS Catalog Number
Climacium dendroides	Coleman Bay Cliffs	MH 16343	KEFJ-00278	KEFJ 19062
Climacium dendroides	Crater Bay (southside)	MH 16062	KEFJ-00278	KEFJ 18838
Codriophorus acicularis	Coleman Bay	MH 16318	KEFJ-00278	KEFJ 19049
Codriophorus acicularis	Coleman Bay Cliffs	MH 16341	KEFJ-00278	KEFJ 19061
Codriophorus acicularis	Coleman Bay Cliffs	MH 16344	KEFJ-00278	KEFJ 19063
Codriophorus acicularis	Coleman Bay Cliffs	MH 16347	KEFJ-00278	KEFJ 19182
Codriophorus acicularis	Harris Peninsula Lakes	MH 16257	KEFJ-00278	KEFJ 19178
Codriophorus acicularis	Northwest Lagoon Beach	MH 16170	KEFJ-00278	KEFJ 19362
Codriophorus fascicularis	McArthur WX	JKW 17826	KEFJ-00278	KEFJ 19260
Conostomum tetragonum	McArthur WX	JKW 17816	KEFJ-00278	KEFJ 19389
Conostomum tetragonum	McArthur WX	JKW 17825	KEFJ-00278	KEFJ 19259
Dichodontium pellucidum	Three Hole Bay	MH 16281	KEFJ-00278	KEFJ 19135
Dicranella cerviculata	Crater Bay (northside)	MH 16023	KEFJ-00278	KEFJ 18852
Dicranella heteromallum	Crater Bay (northside)	MH 16031	KEFJ-00278	KEFJ 19586
Dicranella palustris	Harris Peninsula Lakes	MH 16258	KEFJ-00278	KEFJ 19019
Dicranella schreberiana	Harris Peninsula Lakes	MH 16218	KEFJ-00278	KEFJ 18992
Dicranella schreberiana	Three Hole Bay	MH 16272	KEFJ-00278	KEFJ 19448
Dicranodontium denudatum	Crater Bay	MH 16095	KEFJ-00278	KEFJ 19099
Dicranodontium denudatum	Crater Bay (northside)	MH 16022	KEFJ-00278	KEFJ 18853
Dicranodontium denudatum	Northwest Lagoon Beach	MH 16151	KEFJ-00278	KEFJ 19349
Dicranodontium denudatum	Square Bay (southside)	JKW 18003	KEFJ-00278	KEFJ 18864
Dicranodontium denudatum	Three Hole Bay	JKW 18221	KEFJ-00278	KEFJ 19237
Dicranum fuscescens var. fuscescens	Crater Bay (northside)	MH 16033	KEFJ-00278	KEFJ 19461
Dicranum majus var. majus	Crater Bay (northside)	MH 16009	KEFJ-00278	KEFJ 18862
Dicranum majus var. majus	Crater Bay (southside)	MH 16063	KEFJ-00278	KEFJ 19163
Dicranum majus var. majus	Crater Bay (southside)	MH 16081	KEFJ-00278	KEFJ 19091
Dicranum majus var. majus	Northwest Lagoon Beach	MH 16144	KEFJ-00278	KEFJ 19342
Dicranum scoparium	Crater Bay (southside)	MH 16076	KEFJ-00278	KEFJ 19086
Dicranum scoparium	McArthur WX	JKW 17832	KEFJ-00278	KEFJ 19265
Dicranum scoparium	Northwest Lagoon Beach	MH 16119	KEFJ-00278	KEFJ 19114
Dicranum tauricum	North Arm Nuka Bay	JKW 17884	KEFJ-00278	KEFJ 19266
Diphyscium foliosum	Coleman Bay	MH 16324	KEFJ-00278	KEFJ 19053
Distichium capillaceum	Coleman Bay Cliffs	MH 16342	KEFJ-00278	KEFJ 19145
Drepanocladus aduncus	Northwest Lagoon Beach	MH 16156	KEFJ-00278	KEFJ 19351
Fissidens osmundioides	Granite Passage Peatland	SKT 2012-04	KEFJ-00278	KEFJ 19456
Funaria hygrometrica var. hygrometrica	Northwest Lagoon Beach	MH 16155	KEFJ-00278	KEFJ 19350
Grimmia ramondii	Coleman Bay	MH 16323	KEFJ-00278	KEFJ 19052
Grimmia ramondii	Crater Bay	MH 16096	KEFJ-00278	KEFJ 19100
Grimmia ramondii	Granite Passage Peatland	MH 16191	KEFJ-00278	KEFJ 19372
Grimmia ramondii	Harris Peninsula Lakes	MH 16238	KEFJ-00278	KEFJ 19003
Grimmia ramondii	Northwest Lagoon Beach	MH 16167	KEFJ-00278	KEFJ 19359
Grimmia ramondii	Three Hole Bay	JKW 18238	KEFJ-00278	KEFJ 19248
Grimmia torquata	Crater Bay (northside)	MH 16027	KEFJ-00278	KEFJ 18834
Grimmia torquata	McArthur WX	JKW 17813	KEFJ-00278	KEFJ 19387
Herzogiella striatella	Bear Cove Notch	MH 16418	KEFJ-00278	KEFJ 18802
Heterocladium macounii	Coleman Bay Cliffs	MH 16349	KEFJ-00278	KEFJ 19183
Heterocladium macounii	Crater Bay	MH 16099	KEFJ-00278	KEFJ 19166
Heterocladium macounii	Crater Bay (northside)	MH 16013	KEFJ-00278	KEFJ 19160

Species	Survey Site	Collector & Collection Number	NPS Accession Number	NPS Catalog Number
Hygrohypnum ochraceum	Coleman Bay	JKW 18249	KEFJ-00278	KEFJ 19250
Hygrohypnum ochraceum	Coleman Bay	MH 16313	KEFJ-00278	KEFJ 19044
Hygrohypnum ochraceum	Harris Peninsula Lakes	MH 16253	KEFJ-00278	KEFJ 19015
Hygrohypnum ochraceum	Northwest Lagoon Beach	MH 16171	KEFJ-00278	KEFJ 19363
Hylocomiastrum umbratum	Bear Cove Notch	JKW 18280	KEFJ-00278	KEFJ 18916
Hylocomium splendens	Crater Bay (southside)	MH 16059	KEFJ-00278	KEFJ 18833
Hypnum circinale	Crater Bay (northside)	MH 16036	KEFJ-00278	KEFJ 18844
Hypnum circinale	Crater Bay (southside)	MH 16058	KEFJ-00278	KEFJ 18821
Hypnum dieckii	Crater Bay (northside)	MH 16012	KEFJ-00278	KEFJ 18859
Hypnum dieckii	Crater Bay (southside)	MH 16065	KEFJ-00278	KEFJ 18808
Hypnum lindbergii	North Arm Nuka Bay	JKW 17872	KEFJ-00278	KEFJ 19462
Hypnum plicatulum	Crater Bay (southside)	MH 16072	KEFJ-00278	KEFJ 19083
Hypnum plicatulum	Northwest Lagoon Beach	MH 16141	KEFJ-00278	KEFJ 19341
Hypnum subimponens	Northwest Lagoon Beach	MH 16163	KEFJ-00278	KEFJ 19357
Hypnum subimponens	Northwest Lagoon Beach	MH 16169	KEFJ-00278	KEFJ 19361
Isopterygiopsis pulchella	Square Bay (southside)	JKW 18025	KEFJ-00278	KEFJ 18943
Isopterygiopsis pulchella	Square Bay (southside)	JKW 18026	KEFJ-00278	KEFJ 18944
Iwatsukiella leucotricha	Crater Bay (northside)	MH 16041	KEFJ-00278	KEFJ 18832
Iwatsukiella leucotricha	James Lagoon	JKW 17961	KEFJ-00278	KEFJ 19327
Iwatsukiella leucotricha	North Arm Nuka Bay	JKW 17886	KEFJ-00278	KEFJ 19268
Kinbergia oregana	Moonlight Bay	JKW 17930	KEFJ-00278	KEFJ 19302
Kinbergia oregana	Square Bay (southside)	JKW 18012	KEFJ-00278	KEFJ 18865
Kinbergia praelonga	Verdant Cove	JKW 18205	KEFJ-00278	KEFJ 18804
Mnium thomsonii	Bear Cove Notch	MH 16428	KEFJ-00278	KEFJ 18933
Mnium thomsonii	Crater Bay (northside)	MH 16053	KEFJ-00278	KEFJ 18806
Mnium thomsonii	Square Bay (southside)	JKW 18027	KEFJ-00278	KEFJ 18945
Mnium thomsonii	Three Hole Bay	JKW 18237	KEFJ-00278	KEFJ 19247
Myuroclada maximowiczii	Coleman Bay Cliffs	MH 16348	KEFJ-00278	KEFJ 19064
Niphotrichum ericoides	Northwest Lagoon Beach	MH 16120	KEFJ-00278	KEFJ 19115
Oedipodium griffithianum	Three Hole Bay	MH 16293	KEFJ-00278	KEFJ 19025
Oligotrichum hercynicum	Coleman Bay	MH 16314	KEFJ-00278	KEFJ 19045
Oligotrichum hercynicum	Coleman Bay	MH 16315	KEFJ-00278	KEFJ 19046
Oligotrichum hercynicum	Coleman Bay	MH 16316	KEFJ-00278	KEFJ 19047
Oligotrichum parallelum	Crater Bay (northside)	MH 16042	KEFJ-00278	KEFJ 18803
Oligotrichum parallelum	Crater Bay (southside)	MH 16071	KEFJ-00278	KEFJ 19082
Oligotrichum parallelum	Granite Passage Peatland	MH 16194	KEFJ-00278	KEFJ 19374
Oligotrichum parallelum	Verdant Cove	JKW 18199	KEFJ-00278	KEFJ 19225
Oncophorus virens	Bear Cove Notch	MH 16400	KEFJ-00278	KEFJ 18919
Oncophorus wahlenbergii	Coleman Bay	MH 16312	KEFJ-00278	KEFJ 19043
Paraleucobryum enerve	Three Hole Bay	MH 16295	KEFJ-00278	KEFJ 19027
Philonotis fontana var. fontana	Coleman Bay	MH 16319	KEFJ-00278	KEFJ 19050
Philonotis fontana var. fontana	Coleman Bay Cliffs	MH 16339	KEFJ-00278	KEFJ 19059
Philonotis fontana var. fontana	Harris Peninsula Lakes	MH 16256	KEFJ-00278	KEFJ 19018
Philonotis fontana var. fontana	Northwest Lagoon Beach	MH 16173	KEFJ-00278	KEFJ 19365
Plagiomnium medium	Bear Cove Notch	MH 16417	KEFJ-00278	KEFJ 18924
Plagiothecium laetum	Coleman Bay	MH 16317	KEFJ-00278	KEFJ 19048
Plagiothecium piliferum	Crater Bay (northside)	MH 16029	KEFJ-00278	KEFJ 18848
Plagiothecium piliferum	Northwest Lagoon Beach	MH 16113	KEFJ-00278	KEFJ 19112

Species	Survey Site	Collector & Collection Number	NPS Accession Number	NPS Catalog Number
Plagiothecium piliferum	Northwest Lagoon Beach	MH 16138	KEFJ-00278	KEFJ 19123
Pleuroziopsis ruthenica	Bear Cove Notch	MH 16410	KEFJ-00278	KEFJ 18837
Pleurozium schreberi	Crater Bay (southside)	MH 16080	KEFJ-00278	KEFJ 19090
Pogonatum contortum	Crater Bay (northside)	MH 16047	KEFJ-00278	KEFJ 18829
Pogonatum contortum	North Arm Nuka Bay	JKW 17896	KEFJ-00278	KEFJ 19277
Pogonatum dentatum	Crater Bay (northside)	MH 16030	KEFJ-00278	KEFJ 18863
Pogonatum dentatum	McArthur WX	JKW 17829	KEFJ-00278	KEFJ 19262
Pohlia cruda	Crater Bay	MH 16098	KEFJ-00278	KEFJ 19102
Pohlia crudoides	Crater Bay (southside)	MH 16068	KEFJ-00278	KEFJ 19079
Pohlia nutans	Crater Bay (southside)	JKW 18063	KEFJ-00278	KEFJ 18964
Pohlia proligera	Northwest Lagoon Beach	MH 16145	KEFJ-00278	KEFJ 19343
Pohlia wahlenbergii	Coleman Bay	MH 16327	KEFJ-00278	KEFJ 19055
Pohlia wahlenbergii	Coleman Bay	MH 16330	KEFJ-00278	KEFJ 19056
Pohlia wahlenbergii	Coleman Bay	MH 16331	KEFJ-00278	KEFJ 19057
Polytrichastrum alpinum	Coleman Bay	JKW 18251	KEFJ-00278	KEFJ 19252
Polytrichastrum alpinum	Coleman Bay	MH 16311	KEFJ-00278	KEFJ 19042
Polytrichastrum alpinum	Crater Bay (southside)	MH 16060	KEFJ-00278	KEFJ 18811
Polytrichastrum alpinum	Crater Bay (southside)	MH 16082	KEFJ-00278	KEFJ 19092
Polytrichastrum alpinum	Verdant Cove	JKW 18204	KEFJ-00278	KEFJ 19229
Polytrichastrum formosum	Granite Passage Peatland	MH 16210	KEFJ-00278	KEFJ 19380
Polytrichastrum papillatum	Coleman Bay	MH 16320	KEFJ-00278	KEFJ 19338
Polytrichum juniperinum	Coleman Bay	MH 16321	KEFJ-00278	KEFJ 19051
Polytrichum piliferum	Northwest Lagoon Beach	MH 16114	KEFJ-00278	KEFJ 19113
Pseudoleskea baileyi	Coleman Bay	MH 16310	KEFJ-00278	KEFJ 19041
Pseudoleskea stenophylla	Coleman Bay	MH 18240	KEFJ-00278	KEFJ 19463
Pseudotaxiphyllum elegans	Crater Bay (northside)	JKW 16032	KEFJ-00278	KEFJ 19146
Ptilium crista-castrensis	Crater Bay (southside)	MH 16066	KEFJ-00278	KEFJ 18809
Ptychostomum pseudotriquetrum	Coleman Bay Cliffs	MH 16352	KEFJ-00278	KEFJ 19184
Ptychostomum weigelii	Coleman Bay	MH 16338	KEFJ-00278	KEFJ 19464
Racomitrium lanuginosum	Crater Bay (southside)	JKW 18078	KEFJ-00278	KEFJ 18969
Rhabdoweisia crispata	Crater Bay (northside)	MH 16133	KEFJ-00278	KEFJ 19253
Rhizomnium glabrescens	Crater Bay (northside)	MH 16051	KEFJ-00278	KEFJ 18826
Rhizomnium glabrescens	McArthur WX	JKW 17821	KEFJ-00278	KEFJ 19255
Rhizomnium glabrescens	Moonlight Bay	JKW 17929	KEFJ-00278	KEFJ 19301
Rhizomnium glabrescens	Three Hole Bay	JKW 18233	KEFJ-00278	KEFJ 19243
Rhizomnium magnifolium	Harris Peninsula Lakes	MH 16251	KEFJ-00278	KEFJ 19013
Rhizomnium magnifolium	Northwest Lagoon Beach	MH 16135	KEFJ-00278	KEFJ 19121
Rhizomnium nudum	Coleman Bay	MH 16336	KEFJ-00278	KEFJ 19058
Rhizomnium nudum	Harris Peninsula Lakes	MH 16222	KEFJ-00278	KEFJ 18995
Rhizomnium nudum	Harris Peninsula Lakes	MH 16240	KEFJ-00278	KEFJ 19005
Rhizomnium pseudopunctatum	North Arm Nuka Bay	JKW 17897	KEFJ-00278	KEFJ 19278
Rhytidiadelphus loreus	Crater Bay (southside)	MH 16056	KEFJ-00278	KEFJ 18823
Rhytidiadelphus loreus	McArthur WX	JKW 17822	KEFJ-00278	KEFJ 19256
Rhytidiadelphus squarrosus	Northwest Lagoon Beach	MH 16106	KEFJ-00278	KEFJ 19108
Rhytidiadelphus squarrosus	Square Bay (southside)	JKW 18019	KEFJ-00278	KEFJ 18870
Rhytidiadelphus triquetrus	Northwest Lagoon Beach	MH 16110	KEFJ-00278	KEFJ 19110
Rosulabryum capillare	Northwest Lagoon Beach	MH 16165	KEFJ-00278	KEFJ 19465
Sarmenthypnum sarmentosum	Coleman Bay Cliffs	MH 16365	KEFJ-00278	KEFJ 19452

Species	Survey Site	Collector & Collection Number	NPS Accession Number	NPS Catalog Number
Sarmenthypnum sarmentosum	Granite Passage Peatland	MH 16201	KEFJ-00278	KEFJ 18987
Sarmenthypnum sarmentosum	Harris Peninsula Lakes	MH 16254	KEFJ-00278	KEFJ 19016
Schistidium maritimum	Crater Bay	MH 16091	KEFJ-00278	KEFJ 19096
Schistidium maritimum	North Arm Nuka Bay	JKW 17835	KEFJ-00278	KEFJ 19147
Scouleria aquatica	North Arm Nuka Bay	JKW 17898	KEFJ-00278	KEFJ 19188
Sphagnum compactum	Crater Bay (southside)	JKW 18054	KEFJ-00278	KEFJ 18955
Sphagnum compactum	Crater Bay (southside)	JKW 18065	KEFJ-00278	KEFJ 18966
Sphagnum compactum	Granite Passage Peatland	JKW 18164	KEFJ-00278	KEFJ 19202
Sphagnum compactum	Granite Passage Peatland	JKW 18166	KEFJ-00278	KEFJ 19204
Sphagnum compactum	Granite Passage Peatland	JKW 18167	KEFJ-00278	KEFJ 19205
Sphagnum girgensohnii	Crater Bay (northside)	JKW 18045	KEFJ-00278	KEFJ 19159
Sphagnum linbergii	Crater Bay (northside)	JKW 18029	KEFJ-00278	KEFJ 19466
Sphagnum quinquefarium	Crater Bay (northside)	JKW 18050	KEFJ-00278	KEFJ 18953
Sphagnum russowii	North Arm Nuka Bay	JKW17873	KEFJ-00278	KEFJ 19467
Sphagnum squarrosum	Crater Bay (northside)	JKW 18046	KEFJ-00278	KEFJ 18949
Sphagnum tenellum	Granite Passage Peatland	JKW 18163	KEFJ-00278	KEFJ 19201
Sphagnum tenellum	Granite Passage Peatland	JKW 18165	KEFJ-00278	KEFJ 19203
Sphagnum tenellum	Granite Passage Peatland	JKW 18168	KEFJ-00278	KEFJ 19206
Sphagnum tenellum	Granite Passage Peatland	JKW 18169	KEFJ-00278	KEFJ 19207
Straminergon stramineum	Crater Bay (northside)	MH 16055	KEFJ-00278	KEFJ 18824
Takakia lepidozioides	Three Hole Bay	MH 16282	KEFJ-00278	KEFJ 19136
Takakia lepidozioides	Three Hole Bay	MH 16292	KEFJ-00278	KEFJ 18842
Tayloria serrata	Bear Cove Notch	MH 16409	KEFJ-00278	KEFJ 18922
Tayloria serrata	Bear Cove Notch	MH 16420	KEFJ-00278	KEFJ 18926
Tayloria serrata	Bear Cove Notch	MH 16421	KEFJ-00278	KEFJ 18927
Tayloria serrata	Crater Bay (southside)	MH 16067	KEFJ-00278	KEFJ 18810
Tetraphis geniculata	Bear Cove Notch	MH 16419	KEFJ-00278	KEFJ 18925
Tetraphis geniculata	Verdant Cove	JKW 18189	KEFJ-00278	KEFJ 18840
Tortella tortuosa	Crater Bay (northside)	MH 16015	KEFJ-00278	KEFJ 18857
Tortella tortuosa	Granite Passage Peatland	MH 16180	KEFJ-00278	KEFJ 19367
Ulota megalospora	Crater Bay (northside)	MH 16039	KEFJ-00278	KEFJ 18849
Ulota obtusiuscula	Crater Bay (northside)	MH 16038	KEFJ-00278	KEFJ 18843
Ulota obtusiuscula	Northwest Lagoon Beach	MH 16109	KEFJ-00278	KEFJ 19109
Ulota phyllantha	Crater Bay	MH 16105	KEFJ-00278	KEFJ 19107
Warnstorfia fluitans	Harris Peninsula Lakes	MH 16230	KEFJ-00278	KEFJ 19000
LIVERWORTS				
Anastepta orcadensis	Bear Cove Notch	MH 16386	KEFJ-00278	KEFJ 19071
Anastepta orcadensis	Bear Cove Notch	MH 16387	KEFJ-00278	KEFJ 19072
Anastepta orcadensis	Bear Cove Notch	MH 16388	KEFJ-00278	KEFJ 19073
Anastepta orcadensis	Bear Cove Notch	MH 16412	KEFJ-00278	KEFJ 18923
Anastepta orcadensis	Crater Bay	MH 16102	KEFJ-00278	KEFJ 19104
Anastepta orcadensis	Crater Bay (northside)	MH 16020	KEFJ-00278	KEFJ 19162
Anastepta orcadensis	Crater Bay (northside)	MH 16035	KEFJ-00278	KEFJ 18845
Anastepta orcadensis	Granite Passage Peatland	MH 16190	KEFJ-00278	KEFJ 19371
Anastrophyllum assimile	Crater Bay (southside)	MH 16075	KEFJ-00278	KEFJ 19165
Anastrophyllum assimile	McArthur WX	JKW 17810	KEFJ-00278	KEFJ 19384
Anastrophyllum assimile	McArthur WX	JKW 17815	KEFJ-00278	KEFJ 19388

Species	Survey Site	Collector & Collection Number	NPS Accession Number	NPS Catalog Number
Anastrophyllum assimile	Three Hole Bay	MH 16296	KEFJ-00278	KEFJ 19028
Anastrophyllum minutum	Crater Bay (northside)	MH 16019	KEFJ-00278	KEFJ 19161
Anastrophyllum minutum	Granite Passage Peatland	MH 16196	KEFJ-00278	KEFJ 19176
Anastrophyllum minutum	Northwest Lagoon Beach	MH 16154	KEFJ-00278	KEFJ 19172
Anastrophyllum minutum var. minutum	Bear Cove Notch	MH 16389	KEFJ-00278	KEFJ 19074
Anastrophyllum minutum var. minutum	Bear Cove Notch	MH 16425	KEFJ-00278	KEFJ 18930
Anastrophyllum minutum var. minutum	Three Hole Bay	MH 16287	KEFJ-00278	KEFJ 19141
Anastrophyllum minutum var. minutum	Three Hole Bay	MH 16288	KEFJ-00278	KEFJ 19142
Anastrophyllum minutum var. minutum	Three Hole Bay	MH 16289	KEFJ-00278	KEFJ 19143
Anastrophyllum sphenoloboides	Northwest Lagoon Beach	MH 16128	KEFJ-00278	KEFJ 19170
Anthelia julacea	Crater Bay (southside)	MH 16079	KEFJ-00278	KEFJ 19089
Anthelia julacea	Granite Passage Peatland	MH 16195	KEFJ-00278	KEFJ 19375
Anthelia julacea	Harris Peninsula Lakes	MH 16216	KEFJ-00278	KEFJ 18990
Anthelia julacea	Three Hole Bay	MH 16297	KEFJ-00278	KEFJ 19029
Anthelia juratzkana	McArthur WX	JKW 17809	KEFJ-00278	KEFJ 19468
Barbilophozia floerkei	Harris Peninsula Lakes	MH 16260	KEFJ-00278	KEFJ 19021
Barbilophozia floerkei	Harris Peninsula Lakes	MH 16261	KEFJ-00278	KEFJ 19179
Barbilophozia kunzeana	Three Hole Bay	MH 16266	KEFJ-00278	KEFJ 19125
Barbilophozia lycopodioides	Crater Bay (southside)	MH 16074	KEFJ-00278	KEFJ 19085
Barbilophozia lycopodioides	Harris Peninsula Lakes	MH 16219	KEFJ-00278	KEFJ 18993
Bazzania tricrenata	Bear Cove Notch	MH 16391	KEFJ-00278	KEFJ 19076
Bazzania tricrenata	Bear Cove Notch	MH 16392	KEFJ-00278	KEFJ 19077
Bazzania tricrenata	Crater Bay (northside)	MH 16005	KEFJ-00278	KEFJ 18817
Bazzania tricrenata	Three Hole Bay	MH 16273	KEFJ-00278	KEFJ 19129
Bazzania tricrenata	Three Hole Bay	MH 16276b	KEFJ-00278	KEFJ 19449
Bazzania tricrenata	Three Hole Bay	MH 16277	KEFJ-00278	KEFJ 19133
Bazzania tricrenata	Three Hole Bay	MH 16290	KEFJ-00278	KEFJ 19144
Blepharostoma trichophyllum	Crater Bay (northside)	MH 16002	KEFJ-00278	KEFJ 18814
Calycularia laxa	Crater Bay	MH 16101	KEFJ-00278	KEFJ 19103
Calycularia laxa	Northwest Lagoon Beach	MH 16146	KEFJ-00278	KEFJ 19344
Calycularia laxa	Northwest Lagoon Beach	MH 16147	KEFJ-00278	KEFJ 19345
Calycularia laxa	Northwest Lagoon Beach	MH 16148	KEFJ-00278	KEFJ 19346
Calycularia laxa	Northwest Lagoon Beach	MH 16149	KEFJ-00278	KEFJ 19347
Calypogeia integristipula	Harris Peninsula Lakes	MH 16249	KEFJ-00278	KEFJ 19011
Calypogeia integristipula	Three Hole Bay	MH 16279	KEFJ-00278	KEFJ 19134
Calypogeia muelleriana	Bear Cove Notch	MH 16390	KEFJ-00278	KEFJ 19075
Calypogeia muelleriana	Crater Bay	MH 16097	KEFJ-00278	KEFJ 19101
Calypogeia neesiana	Bear Cove Notch	MH 16427	KEFJ-00278	KEFJ 18932
Calypogeia neesiana	Crater Bay (northside)	JKW 18036	KEFJ-00278	KEFJ 18947
Calypogeia neesiana	Crater Bay (northside)	MH 16018	KEFJ-00278	KEFJ 18805
Cephalozia bicuspidata	McArthur WX	JKW 17808	KEFJ-00278	KEFJ 19383
Cephalozia bicuspidata subsp. ambigua	Harris Peninsula Lakes	MH 16225	KEFJ-00278	KEFJ 19177
Cephalozia bicuspidata subsp. bicuspidata	Northwest Lagoon Beach	MH 16129	KEFJ-00278	KEFJ 19118
Cephalozia bicuspidata subsp. bicuspidata	Three Hole Bay	MH 16298	KEFJ-00278	KEFJ 19030
Cephalozia lunulifolia	Bear Cove Notch	MH 16380	KEFJ-00278	KEFJ 19185
Cephalozia lunulifolia	Crater Bay (southside)	MH 16088	KEFJ-00278	KEFJ 19094
Cephaloziella divaricata subsp. divaricata	Bear Cove Notch	MH 16401	KEFJ-00278	KEFJ 18920
Conocephalum salebrosum	Bear Cove	JKW 18282a	KEFJ-00278	KEFJ 19445

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Conocephalum salebrosum	Bear Cove	JKW 18282b	KEFJ-00278	KEFJ 19446
Diplophyllum albicans	Crater Bay (northside)	MH 16010	KEFJ-00278	KEFJ 18822
Diplophyllum obtusifolium	Crater Bay	MH 16104	KEFJ-00278	KEFJ 19106
Diplophyllum plicatum	Crater Bay (northside)	MH 16049	KEFJ-00278	KEFJ 18827
Diplophyllum taxifolium	Chance Cove	JKW 17967	KEFJ-00278	KEFJ 19469
Douinia ovata	Bear Cove Notch	MH 16384	KEFJ-00278	KEFJ 19069
Douinia ovata	Northwest Lagoon Beach	MH 16112	KEFJ-00278	KEFJ 19111
Frullania nisquallensis	Bear Cove Notch	MH 16385	KEFJ-00278	KEFJ 19070
Frullania nisquallensis	Bear Cove Notch	MH 16402	KEFJ-00278	KEFJ 18921
Gymnocolea inflata	Granite Passage Peatland	MH 16187	KEFJ-00278	KEFJ 19370
Gymnocolea inflata	Harris Peninsula Lakes	MH 16214	KEFJ-00278	KEFJ 18989
Gymnocolea inflata	Three Hole Bay	MH 16267	KEFJ-00278	KEFJ 19126
Gymnocolea inflata	Three Hole Bay	MH 16303	KEFJ-00278	KEFJ 19035
Gymnomitrion concinnatum	Bear Cove Notch	MH 16426	KEFJ-00278	KEFJ 18931
Gymnomitrion concinnatum	Northwest Lagoon Beach	MH 16140	KEFJ-00278	KEFJ 19124
Gymnomitrion concinnatum	Three Hole Bay	MH 16280	KEFJ-00278	KEFJ 19180
Gymnomitrion obtusum	Crater Bay (northside)	MH 16021	KEFJ-00278	KEFJ 18854
Gymnomitrion obtusum	Granite Passage Peatland	MH 16179	KEFJ-00278	KEFJ 19366
Gymnomitrion obtusum	Three Hole Bay	MH 16275	KEFJ-00278	KEFJ 19131
Harpanthus flotovianus	Harris Peninsula Lakes	MH 16221	KEFJ-00278	KEFJ 18994
Herbertus aduncus	Crater Bay (northside)	MH 16014	KEFJ-00278	KEFJ 18858
Herbertus aduncus	Northwest Lagoon Beach	MH 16150	KEFJ-00278	KEFJ 19348
Herbertus dicranus	Crater Bay	MH 16094	KEFJ-00278	KEFJ 19098
Herbertus dicranus	Granite Passage Peatland	MH 16211a	KEFJ-00278	KEFJ 19381
Herbertus dicranus	Granite Passage Peatland	MH 16211b	KEFJ-00278	KEFJ 19455
Herbertus dicranus	Northwest Lagoon Beach	MH 16124	KEFJ-00278	KEFJ 19117
Herbertus dicranus	Three Hole Bay	MH 16299	KEFJ-00278	KEFJ 19031
Herbertus dicranus	Three Hole Bay	MH 16300	KEFJ-00278	KEFJ 19032
Jungermannia exsertifolia	Coleman Bay	MH 16308	KEFJ-00278	KEFJ 19039
Kurzia trichoclados	Bear Cove Notch	MH 16381	KEFJ-00278	KEFJ 19067
Kurzia trichoclados	Crater Bay (southside)	MH 16069	KEFJ-00278	KEFJ 19080
Kurzia trichoclados	Three Hole Bay	MH 16284	KEFJ-00278	KEFJ 19138
Kurzia trichoclados	Three Hole Bay	MH 16285	KEFJ-00278	KEFJ 19139
Lepidozia filamentosa	Bear Cove Notch	MH 16393	KEFJ-00278	KEFJ 19078
Lepidozia filamentosa	Bear Cove Notch	MH 16422	KEFJ-00278	KEFJ 18928
Lepidozia filamentosa	Crater Bay	MH 16103	KEFJ-00278	KEFJ 19105
Lepidozia reptans	Crater Bay (northside)	MH 16008	KEFJ-00278	KEFJ 18847
Lepidozia reptans	East Arm (westside)	JKW 17915	KEFJ-00278	KEFJ 19289
Lophocolea bidentata	Granite Passage Peatland	MH 16189	KEFJ-00278	KEFJ 19175
Lophozia guttulata	Bear Cove Notch	MH 16394	KEFJ-00278	KEFJ 18917
Lophozia guttulata	Harris Peninsula Lakes	MH 16247	KEFJ-00278	KEFJ 19009
Lophozia sudetica	Harris Peninsula Lakes	MH 16228	KEFJ-00278	KEFJ 18999
Lophozia sudetica	Northwest Lagoon Beach	MH 16122	KEFJ-00278	KEFJ 19116
Lophozia sudetica	Three Hole Bay	MH 16269	KEFJ-00278	KEFJ 19128
Lophozia ventricosa	Northwest Lagoon Beach	MH 16117	KEFJ-00278	KEFJ 19167
Lophozia ventricosa	Northwest Lagoon Beach	MH 16118	KEFJ-00278	KEFJ 19168
Lophozia ventricosa	Northwest Lagoon Beach	MH 16126	KEFJ-00278	KEFJ 19169
Lophozia ventricosa var. longiflora	Bear Cove Notch	MH 16399	KEFJ-00278	KEFJ 18918

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Lophozia wenzelii var. wenzelii	Three Hole Bay	MH 16268	KEFJ-00278	KEFJ 19127
Marsupella emarginata	Coleman Bay	MH 16309	KEFJ-00278	KEFJ 19040
Marsupella emarginata	Granite Passage Peatland	SKT 2012-01	KEFJ-00278	KEFJ 19454
Marsupella emarginata	McArthur WX	JKW 17811	KEFJ-00278	KEFJ 19385
Marsupella emarginata	McArthur WX	JKW 17812	KEFJ-00278	KEFJ 19386
Marsupella emarginata var. emarginata	Crater Bay (northside)	MH 16034	KEFJ-00278	KEFJ 18846
Marsupella emarginata var. emarginata	Granite Passage Peatland	MH 16197	KEFJ-00278	KEFJ 19376
Marsupella emarginata var. emarginata	Three Hole Bay	MH 16305	KEFJ-00278	KEFJ 19036
Marsupella sphacelata	Three Hole Bay	MH 16263	KEFJ-00278	KEFJ 19022
Metzgeria conjugata	Northwest Lagoon Beach	JKW 18118	KEFJ-00278	KEFJ 18883
Moerckia blyttii	Harris Peninsula Lakes	MH 16223	KEFJ-00278	KEFJ 18996
Moerckia blyttii	Harris Peninsula Lakes	MH 16259	KEFJ-00278	KEFJ 19020
Mylia taylorii	Crater Bay (northside)	MH 16007	KEFJ-00278	KEFJ 18820
Mylia taylorii	Granite Passage Peatland	MH 16192	KEFJ-00278	KEFJ 19373
Mylia taylorii	North Arm Nuka Bay	JKW 17885	KEFJ-00278	KEFJ 19267
Mylia taylorii	Three Hole Bay	MH 16294	KEFJ-00278	KEFJ 19026
Mylia taylorii	Three Hole Bay	MH 16301	KEFJ-00278	KEFJ 19033
Nardia scalaris	Coleman Bay	MH 16307	KEFJ-00278	KEFJ 19038
Nardia scalaris	Crater Bay (northside)	MH 16043	KEFJ-00278	KEFJ 18831
Nardia scalaris	Crater Bay (southside)	MH 16070	KEFJ-00278	KEFJ 19081
Nardia scalaris	Harris Peninsula Lakes	MH 16212	KEFJ-00278	KEFJ 18988
Nardia scalaris	Harris Peninsula Lakes	MH 16227	KEFJ-00278	KEFJ 18998
Nardia scalaris	Three Hole Bay	MH 16302	KEFJ-00278	KEFJ 19034
Odontoschisma elongatum	Three Hole Bay	MH 16274	KEFJ-00278	KEFJ 19130
Odontoschisma elongatum	Three Hole Bay	MH 16286	KEFJ-00278	KEFJ 19140
Pellia endiviifolia	McArthur WX	JKW 17805	KEFJ-00278	KEFJ 19382
Pellia epiphylla	Northwest Lagoon Beach	MH 16131	KEFJ-00278	KEFJ 19119
Pellia neesiana	Bear Cove Notch	MH 16424	KEFJ-00278	KEFJ 18929
Plagiochila porelloides	Bear Cove Notch	MH 16411	KEFJ-00278	KEFJ 18836
Plagiochila porelloides	Bear Cove Notch	MH 16423	KEFJ-00278	KEFJ 18861
Plagiochila porelloides	Chance Cove	JKW 17966	KEFJ-00278	KEFJ 19400
Plagiochila porelloides	Granite Passage Peatland	MH 16188	KEFJ-00278	KEFJ 19447
Pleurocladula albescens	Harris Peninsula Lakes	MH 16255	KEFJ-00278	KEFJ 19017
Ptilidium californicum	Crater Bay (northside)	MH 16017	KEFJ-00278	KEFJ 18855
Ptilidium californicum	Crater Bay (southside)	MH 16085	KEFJ-00278	KEFJ 19093
Ptilidium ciliare	Crater Bay (southside)	MH 16073	KEFJ-00278	KEFJ 19084
Ptilidium ciliare	McArthur WX	JKW 17823	KEFJ-00278	KEFJ 19257
Radula bolanderi	Crater Bay (northside)	MH 16001	KEFJ-00278	KEFJ 18812
Riccardia latifrons	Crater Bay (northside)	JKW 18035	KEFJ-00278	KEFJ 18946
Riccardia latifrons	Crater Bay (northside)	MH 16045	KEFJ-00278	KEFJ 18830
Riccardia multifida	Northwest Lagoon Beach	MH 16132	KEFJ-00278	KEFJ 19120
Scapania bolanderi	Crater Bay (northside)	MH 16006	KEFJ-00278	KEFJ 18818
Scapania bolanderi	North Arm Nuka Bay	JKW 17871	KEFJ-00278	KEFJ 19392
Scapania curta	Three Hole Bay	MH 16306	KEFJ-00278	KEFJ 19037
Scapania cuspiduligera	Harris Peninsula Lakes	MH 16252	KEFJ-00278	KEFJ 19014
Scapania paludosa	Coleman Bay Cliffs	MH 16340	KEFJ-00278	KEFJ 19060
Scapania paludosa	Three Hole Bay	MH 16265	KEFJ-00278	KEFJ 19023
Scapania paludosa	Three Hole Bay	MH 16276a	KEFJ-00278	KEFJ 19132

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Scapania uliginosa	Crater Bay (northside)	MH 16054	KEFJ-00278	KEFJ 18825
Scapania uliginosa	Harris Peninsula Lakes	MH 16250	KEFJ-00278	KEFJ 19012
Scapania umbrosa	Crater Bay (southside)	MH 16057	KEFJ-00278	KEFJ 18813
Scapania umbrosa	Harris Peninsula Lakes	MH 16246	KEFJ-00278	KEFJ 19008
Scapania undulata var. undulata	Crater Bay (northside)	MH 16003	KEFJ-00278	KEFJ 18815
Scapania undulata var. undulata	Verdant Cove	JKW 18181	KEFJ-00278	KEFJ 19209
Schistochilopsis incisa var. incisa	Crater Bay (northside)	MH 16016	KEFJ-00278	KEFJ 18856
Schistochilopsis incisa var. incisa	Harris Peninsula Lakes	MH 16224	KEFJ-00278	KEFJ 18997
Sphenolobopsis pearsonii	Granite Passage Peatland	MH 16181	KEFJ-00278	KEFJ 19368
Tetralophozia setiformis	McArthur WX	JKW 17828	KEFJ-00278	KEFJ 19208
Tritomaria quinquedentata	Crater Bay (southside)	MH 16061	KEFJ-00278	KEFJ 18807
LICHENS				
Alectoria sarmentosa subsp. sarmentosa	Bear Cove	JKW 18266	KEFJ-00278	KEFJ 18902
Alectoria sarmentosa subsp. sarmentosa	Chance Cove	JKW 17978	KEFJ-00278	KEFJ 19337
Alectoria sarmentosa subsp. sarmentosa	Crater Bay	JKW 18099	KEFJ-00278	KEFJ 18982
Alectoria sarmentosa subsp. sarmentosa	East Arm (westside)	JKW 17923	KEFJ-00278	KEFJ 19297
Alectoria sarmentosa subsp. sarmentosa	Fire Cove	JKW 18155	KEFJ-00278	KEFJ 19195
Alectoria sarmentosa subsp. sarmentosa	James Lagoon	JKW 17964	KEFJ-00278	KEFJ 19330
Alectoria sarmentosa subsp. sarmentosa	North Arm Nuka Bay	JKW 17894	KEFJ-00278	KEFJ 19276
Alectoria sarmentosa subsp. sarmentosa	Square Bay (northside)	JKW 17996	KEFJ-00278	KEFJ 19155
Alectoria sarmentosa subsp. sarmentosa	Square Bay (southside)	JKW 18022	KEFJ-00278	KEFJ 18872
Alectoria sarmentosa subsp. sarmentosa	Three Hole Bay	JKW 18222	KEFJ-00278	KEFJ 19238
Alectoria sarmentosa subsp. sarmentosa	Verdant Cove	JKW 18191	KEFJ-00278	KEFJ 19218
Alectoria sarmentosa subsp. sarmentosa	Verdant Cove	JKW 18193	KEFJ-00278	KEFJ 19220
Alectoria sarmentosa subsp. sarmentosa	Verdant Cove	JKW 18200	KEFJ-00278	KEFJ 19226
Baeomyces rufus	Northwest Lagoon Beach	JKW 18126	KEFJ-00278	KEFJ 18891
Bryoria bicolor	Bear Cove Notch	MH 16403	KEFJ-00278	KEFJ 19453
Bryoria bicolor	Fire Cove	JKW 18141	KEFJ-00278	KEFJ 19422
Bryoria bicolor	Three Hole Bay	JKW 18210	KEFJ-00278	KEFJ 19433
Bryoria bicolor	Verdant Cove	JKW 18177	KEFJ-00278	KEFJ 19429
Bryoria cervinula	Crater Bay (northside)	JKW 18032	KEFJ-00278	KEFJ 19470
Bryoria cervinula	Bear Cove	JKW 18261	KEFJ-00278	KEFJ 19471
Bryoria trichodes subsp. americana	Bear Cove Notch	MH 16404	KEFJ-00278	KEFJ 19472
Bryoria trichodes subsp. americana	North Arm Nuka Bay	JKW 17875	KEFJ-00278	KEFJ 19473
Bryoria trichodes subsp. americana	East Arm (westside)	JKW 17912	KEFJ-00278	KEFJ 19474
Bryoria trichodes subsp. americana	East Arm (westside)	JKW 17913	KEFJ-00278	KEFJ 19475
Bryoria trichodes subsp. americana	Moonlight Bay	JKW 17927	KEFJ-00278	KEFJ 19476
Bryoria trichodes subsp. americana	Square Bay (southside)	JKW 18007	KEFJ-00278	KEFJ 19477
Bryoria trichodes subsp. americana	Crater Bay	JKW 18085	KEFJ-00278	KEFJ 19478
Bryoria trichodes subsp. americana	Crater Bay	JKW 18086	KEFJ-00278	KEFJ 19479
Bryoria trichodes subsp. americana	Crater Bay	JKW 18087	KEFJ-00278	KEFJ 19480
Bryoria trichodes subsp. americana	Northwest Lagoon Beach	JKW 18108	KEFJ-00278	KEFJ 19481
Bryoria trichodes subsp. americana	Northwest Lagoon Beach	JKW 18109	KEFJ-00278	KEFJ 19482
Bryoria trichodes subsp. americana	Fire Cove	JKW 18140	KEFJ-00278	KEFJ 19483
Bryoria trichodes subsp. americana	Fire Cove	JKW 18142	KEFJ-00278	KEFJ 19484
Bryoria trichodes subsp. americana	Fire Cove	JKW 18143	KEFJ-00278	KEFJ 19485
Bryoria trichodes subsp. americana	Fire Cove	JKW 18144	KEFJ-00278	KEFJ 19486

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Bryoria trichodes subsp. americana	Verdant Cove	JKW 18175	KEFJ-00278	KEFJ 19487
Bryoria trichodes subsp. americana	Verdant Cove	JKW 18176	KEFJ-00278	KEFJ 19488
Bryoria trichodes subsp. americana	Three Hole Bay	JKW 18211	KEFJ-00278	KEFJ 19489
Bryoria trichodes subsp. americana	Bear Cove	JKW 18260	KEFJ-00278	KEFJ 19490
Bryoria trichodes subsp. americana	Bear Cove	JKW 18262	KEFJ-00278	KEFJ 19491
Bryoria trichodes subsp. americana	Bear Cove	JKW 18263	KEFJ-00278	KEFJ 19492
Bryoria trichodes subsp. americana	Bear Cove	JKW 18264	KEFJ-00278	KEFJ 19493
Bryoria trichodes subsp. americana	Bear Cove	JKW 18265	KEFJ-00278	KEFJ 19494
Cavernularia hultenii	Bear Cove	JKW 18268	KEFJ-00278	KEFJ 18904
Cavernularia hultenii	Crater Bay	JKW 18093	KEFJ-00278	KEFJ 18976
Cavernularia hultenii	Crater Bay (northside)	JKW 18037	KEFJ-00278	KEFJ 18948
Cavernularia hultenii	East Arm (westside)	JKW 17914	KEFJ-00278	KEFJ 19288
Cavernularia hultenii	Fire Cove	JKW 18149	KEFJ-00278	KEFJ 19190
Cavernularia hultenii	North Arm Nuka Bay	JKW 17901	KEFJ-00278	KEFJ 19281
Cavernularia hultenii	Square Bay (northside)	JKW 17993	KEFJ-00278	KEFJ 19153
Cavernularia hultenii	Square Bay (southside)	JKW 18017	KEFJ-00278	KEFJ 18869
Cavernularia hultenii	Three Hole Bay	JKW 18218	KEFJ-00278	KEFJ 19234
Cavernularia hultenii	Verdant Cove	JKW 18182	KEFJ-00278	KEFJ 19210
Cavernularia lophyrea	Fire Cove	JKW 18148	KEFJ-00278	KEFJ 19189
Cavernularia lophyrea	James Lagoon	JKW 17965	KEFJ-00278	KEFJ 19331
Cavernularia lophyrea	Three Hole Bay	JKW 18216	KEFJ-00278	KEFJ 19232
Cavernularia lophyrea	Three Hole Bay	JKW 18217	KEFJ-00278	KEFJ 19233
Cavernularia lophyrea	Verdant Cove	JKW 18183	KEFJ-00278	KEFJ 19211
Cetraria aculeata	Northwest Lagoon Beach	JKW 18124	KEFJ-00278	KEFJ 18889
Cetraria ericetorum subsp. reticulata	Coleman Bay	JKW 18248	KEFJ-00278	KEFJ 19249
Cetraria ericetorum subsp. reticulata	Northwest Lagoon Beach	JKW 18129	KEFJ-00278	KEFJ 18894
Cetraria islandica subsp. crispiformis	Granite Passage Peatland	JKW 18162	KEFJ-00278	KEFJ 19200
Cetraria islandica subsp. crispiformis	Northwest Lagoon Beach	JKW 18130	KEFJ-00278	KEFJ 18895
Chaenotheca furfuracea	Crater Bay (southside)	JKW 18057	KEFJ-00278	KEFJ 18958
Cladonia amaurocraea	Crater Bay (southside)	JKW 18076	KEFJ-00278	KEFJ 18967
Cladonia amaurocraea	Northwest Lagoon Beach	JKW 18122	KEFJ-00278	KEFJ 18887
Cladonia arbuscula subsp. beringiana	Crater Bay	JKW 18092	KEFJ-00278	KEFJ 18975
Cladonia bellidiflora	East Arm (westside)	JKW 17911	KEFJ-00278	KEFJ 19397
Cladonia bellidiflora	James Lagoon	JKW 17933	KEFJ-00278	KEFJ 19398
Cladonia bellidiflora	North Arm Nuka Bay	JKW 17876	KEFJ-00278	KEFJ 19393
Cladonia bellidiflora	North Arm Nuka Bay	JKW 17883	KEFJ-00278	KEFJ 19396
Cladonia bellidiflora	Northwest Lagoon Beach	JKW 18123	KEFJ-00278	KEFJ 18888
Cladonia bellidiflora	Verdant Cove	JKW 18179	KEFJ-00278	KEFJ 19431
Cladonia carneola	North Arm Nuka Bay	JKW 17882	KEFJ-00278	KEFJ 19495
Cladonia carneola	Northwest Lagoon Beach	JKW 18115	KEFJ-00278	KEFJ 19496
Cladonia carneola	Three Hole Bay	JKW 18214	KEFJ-00278	KEFJ 19497
Cladonia chlorophaea	Fire Cove	JKW 18145	KEFJ-00278	KEFJ 19423
Cladonia chlorophaea	Northwest Lagoon Beach	JKW 18110	KEFJ-00278	KEFJ 19418
Cladonia chlorophaea	Square Bay (southside)	JKW 18009	KEFJ-00278	KEFJ 19405
Cladonia chlorophaea	Square Bay (southside)	JKW 18011	KEFJ-00278	KEFJ 19407
Cladonia chlorophaea	Three Hole Bay	JKW 18230	KEFJ-00278	KEFJ 19437
Cladonia coccifera	Crater Bay (southside)	JKW 18055	KEFJ-00278	KEFJ 18956
Cladonia coccifera	Northwest Lagoon Beach	JKW 18120	KEFJ-00278	KEFJ 18885

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Cladonia crispata var. crispata	Northwest Lagoon Beach	JKW 18121	KEFJ-00278	KEFJ 18886
Cladonia gracilis subsp. vulnerata	Northwest Lagoon Beach	JKW 18113	KEFJ-00278	KEFJ 19498
Cladonia gracilis subsp. vulnerata	Fire Cove	JKW 19084	KEFJ-00278	KEFJ 19499
Cladonia maxima	Crater Bay (northside)	JKW 18040	KEFJ-00278	KEFJ 18877
Cladonia maxima	Crater Bay (southside)	JKW 18056	KEFJ-00278	KEFJ 18957
Cladonia ochrochlora	Crater Bay	JKW 18089	KEFJ-00278	KEFJ 19415
Cladonia ochrochlora	Crater Bay	JKW 18090	KEFJ-00278	KEFJ 19416
Cladonia ochrochlora	Crater Bay (southside)	JKW 18034	KEFJ-00278	KEFJ 19409
Cladonia ochrochlora	Fire Cove	JKW 18146	KEFJ-00278	KEFJ 19424
Cladonia ochrochlora	James Lagoon	JKW 17934	KEFJ-00278	KEFJ 19399
Cladonia ochrochlora	North Arm Nuka Bay	JKW 17877	KEFJ-00278	KEFJ 19394
Cladonia ochrochlora	Square Bay (southside)	JKW 18002	KEFJ-00278	KEFJ 19403
Cladonia ochrochlora	Square Bay (southside)	JKW 18008	KEFJ-00278	KEFJ 19404
Cladonia ochrochlora	Three Hole Bay	JKW 18212	KEFJ-00278	KEFJ 19434
Cladonia ochrochlora	Verdant Cove	JKW 18178	KEFJ-00278	KEFJ 19430
Cladonia phyllophora	Northwest Lagoon Beach	JKW 18128	KEFJ-00278	KEFJ 18893
Cladonia pyxidata	Granite Passage Peatland	JKW 18160	KEFJ-00278	KEFJ 19198
Cladonia pyxidata	Three Hole Bay	JKW 18231	KEFJ-00278	KEFJ 19438
Cladonia rangiferina	Crater Bay (southside)	JKW 18051	KEFJ-00278	KEFJ 19410
Cladonia rangiferina	Northwest Lagoon Beach	JKW 18119	KEFJ-00278	KEFJ 18884
Cladonia rangiferina	Three Hole Bay	JKW 18235	KEFJ-00278	KEFJ 19245
Cladonia squamosa	Bear Cove	JKW 18256	KEFJ-00278	KEFJ 19441
Cladonia squamosa	Bear Cove	JKW 18257	KEFJ-00278	KEFJ 19442
Cladonia squamosa	Bear Cove	JKW 18258	KEFJ-00278	KEFJ 19443
Cladonia squamosa	Bear Cove	JKW 18259	KEFJ-00278	KEFJ 19444
Cladonia squamosa	Crater Bay (southside)	JKW 18033	KEFJ-00278	KEFJ 19408
Cladonia squamosa	Crater Bay (southside)	JKW 18077	KEFJ-00278	KEFJ 18968
Cladonia squamosa	Fire Cove	JKW 18147	KEFJ-00278	KEFJ 19425
Cladonia squamosa	North Arm Nuka Bay	JKW 17880	KEFJ-00278	KEFJ 19395
Cladonia squamosa	Northwest Lagoon Beach	JKW 18117	KEFJ-00278	KEFJ 19420
Cladonia squamosa	Northwest Lagoon Beach	JKW 18125	KEFJ-00278	KEFJ 18890
Cladonia squamosa	Square Bay (southside)	JKW 18001	KEFJ-00278	KEFJ 19402
Cladonia squamosa	Square Bay (southside)	JKW 18010	KEFJ-00278	KEFJ 19406
Cladonia squamosa	Three Hole Bay	JKW 18213	KEFJ-00278	KEFJ 19435
Cladonia uncialis	Crater Bay (southside)	JKW 18058	KEFJ-00278	KEFJ 18959
Cladonia uncialis	Northwest Lagoon Beach	JKW 18111	KEFJ-00278	KEFJ 19419
Cladonia uncialis	Three Hole Bay	JKW 18232	KEFJ-00278	KEFJ 19439
Cladonia uncialis	Three Hole Bay	JKW 18234	KEFJ-00278	KEFJ 19244
Dibaeis baeomyces	Three Hole Bay	JKW 18215	KEFJ-00278	KEFJ 19231
Dibaeis baeomyces	Three Hole Bay	MH 16283	KEFJ-00278	KEFJ 19137
Ephebe sp.	Coleman Bay	JKW 18239	KEFJ-00278	KEFJ 19588
Ephebe sp.	Coleman Bay	SKT 2012-05	KEFJ-00278	KEFJ 19589
Fuscopannaria confusa	James Lagoon	JKW 17935	KEFJ-00278	KEFJ 19303
Graphis scripta	Three Hole Bay	JKW 18224	KEFJ-00278	KEFJ 19240
Hypogymnia apinnata	Bear Cove	JKW 18267	KEFJ-00278	KEFJ 18903
Hypogymnia apinnata	Crater Bay (northside)	JKW 18049	KEFJ-00278	KEFJ 18952
Hypogymnia apinnata	Fire Cove	JKW 18156	KEFJ-00278	KEFJ 19196
Hypogymnia apinnata	James Lagoon	JKW 17947	KEFJ-00278	KEFJ 19314

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Hypogymnia apinnata	North Arm Nuka Bay	JKW 17900	KEFJ-00278	KEFJ 19280
Hypogymnia apinnata	Northwest Lagoon Beach	JKW 18131	KEFJ-00278	KEFJ 18896
Hypogymnia apinnata	Square Bay (northside)	JKW 17990	KEFJ-00278	KEFJ 19150
Hypogymnia apinnata	Three Hole Bay	JKW 18223	KEFJ-00278	KEFJ 19239
Hypogymnia apinnata	Verdant Cove	JKW 18192	KEFJ-00278	KEFJ 19219
Hypogymnia duplicata	Fire Cove	JKW 18150	KEFJ-00278	KEFJ 19191
Hypogymnia physodes	Northwest Lagoon Beach	MH 16164	KEFJ-00278	KEFJ 19358
Hypogymnia tubulosa	James Lagoon	JKW 17951	KEFJ-00278	KEFJ 19318
Icmadophila ericetorum	Crater Bay (northside)	JKW 18038	KEFJ-00278	KEFJ 18875
Leptogium lichenoides	Northwest Lagoon Beach	MH 16158	KEFJ-00278	KEFJ 19353
Leptogium saturninum	James Lagoon	JKW 17942	KEFJ-00278	KEFJ 19310
Lichenomphalia umbellifera	Crater Bay (southside)	JKW 18072	KEFJ-00278	KEFJ 19414
Lobaria linita	Crater Bay (southside)	JKW 18059	KEFJ-00278	KEFJ 18960
Lobaria linita	Crater Bay (southside)	JKW 18060	KEFJ-00278	KEFJ 18961
Lobaria linita	Square Bay (southside)	JKW 18016	KEFJ-00278	KEFJ 18868
Lobaria linita	Verdant Cove	JKW 18190	KEFJ-00278	KEFJ 19217
Lobaria oregana	James Lagoon	JKW 17939	KEFJ-00278	KEFJ 19307
Lobaria oregana	James Lagoon	JKW 17956	KEFJ-00278	KEFJ 19323
Lobaria pulmonaria	Bear Cove	JKW 18271	KEFJ-00278	KEFJ 18907
Lobaria pulmonaria	James Lagoon	JKW 17949	KEFJ-00278	KEFJ 19316
Lobaria pulmonaria	North Arm Nuka Bay	JKW 17893	KEFJ-00278	KEFJ 19275
Lobaria scrobiculata	James Lagoon	JKW 17960	KEFJ-00278	KEFJ 19326
Loxosporopsis corallifera	Crater Bay (northside)	JKW 18039	KEFJ-00278	KEFJ 18876
Massalongia carnosa	Northwest Lagoon Beach	MH 16157	KEFJ-00278	KEFJ 19352
Nephroma bellum	Bear Cove	JKW 18270	KEFJ-00278	KEFJ 18906
Nephroma bellum	East Arm (westside)	JKW 17918	KEFJ-00278	KEFJ 19292
Nephroma bellum	Northwest Lagoon Beach	MH 16168	KEFJ-00278	KEFJ 19360
Nephroma helveticum subsp. sipeanum	James Lagoon	JKW 17948	KEFJ-00278	KEFJ 19315
Nephroma helveticum subsp. sipeanum	James Lagoon	JKW 17959	KEFJ-00278	KEFJ 19325
Nephroma helveticum subsp. sipeanum	Northwest Lagoon Beach	JKW 18132	KEFJ-00278	KEFJ 18897
Nephroma helveticum subsp. sipeanum	Verdant Cove	JKW 18185	KEFJ-00278	KEFJ 19213
Nephroma isidiosum	East Arm (westside)	JKW 17954	KEFJ-00278	KEFJ 19321
Nephroma resupinatum	James Lagoon	JKW 17943	KEFJ-00278	KEFJ 19311
Nephroma resupinatum	James Lagoon	JKW 17952	KEFJ-00278	KEFJ 19319
Parmelia pseudosulcata	Bear Cove	JKW 18274	KEFJ-00278	KEFJ 18910
Parmelia pseudosulcata	Crater Bay	JKW 18102	KEFJ-00278	KEFJ 18984
Parmelia saxatilis	Crater Bay	JKW 18101	KEFJ-00278	KEFJ 18881
Parmelia saxatilis	East Arm (westside)	JKW 17920	KEFJ-00278	KEFJ 19294
Parmelia saxatilis	East Arm (westside)	JKW 17922	KEFJ-00278	KEFJ 19296
Parmelia saxatilis	James Lagoon	JKW 17945	KEFJ-00278	KEFJ 19313
Parmelia saxatilis	James Lagoon	JKW 17963	KEFJ-00278	KEFJ 19329
Parmelia saxatilis	North Arm Nuka Bay	JKW 17888	KEFJ-00278	KEFJ 19270
Parmelia saxatilis	Square Bay (northside)	JKW 17994	KEFJ-00278	KEFJ 19154
Parmelia saxatilis	Three Hole Bay	JKW 18226	KEFJ-00278	KEFJ 19242
Parmelia saxatilis	Verdant Cove	JKW 18196	KEFJ-00278	KEFJ 19222
Parmelia saxatilis	Verdant Cove	JKW 18197	KEFJ-00278	KEFJ 19223
Parmelia squarrosa	North Arm Nuka Bay	JKW 17899	KEFJ-00278	KEFJ 19279
Parmeliopsis hyperopta	Harris Peninsula Lakes	MH 16248	KEFJ-00278	KEFJ 19010

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Peltigera britannica	East Arm (westside)	JKW 17926	KEFJ-00278	KEFJ 19300
Peltigera britannica	Fire Cove	JKW 18151	KEFJ-00278	KEFJ 19192
Peltigera britannica	James Lagoon	JKW 17950	KEFJ-00278	KEFJ 19317
Peltigera collina	James Lagoon	JKW 17936	KEFJ-00278	KEFJ 19304
Peltigera collina	James Lagoon	JKW 17953	KEFJ-00278	KEFJ 19320
Peltigera collina	Northwest Lagoon Beach	JKW 18127	KEFJ-00278	KEFJ 18892
Peltigera membranacea	Crater Bay (southside)	JKW 18064	KEFJ-00278	KEFJ 18965
Peltigera neopolydactyla	Bear Cove	JKW 18253	KEFJ-00278	KEFJ 19440
Peltigera neopolydactyla	Bear Cove Notch	JKW 18275	KEFJ-00278	KEFJ 18911
Peltigera neopolydactyla	Crater Bay (southside)	JKW 18062	KEFJ-00278	KEFJ 18963
Peltigera neopolydactyla	North Arm Nuka Bay	JKW 17902	KEFJ-00278	KEFJ 19282
Peltigera neopolydactyla	North Arm Nuka Bay	JKW 17903	KEFJ-00278	KEFJ 19283
Peltigera neopolydactyla	Three Hole Bay	JKW 18208	KEFJ-00278	KEFJ 19432
Peltigera neopolydactyla	Verdant Cove	JKW 18198	KEFJ-00278	KEFJ 19224
Peltigera praetextata	Harris Peninsula Lakes	MH 16233	KEFJ-00278	KEFJ 19002
Phylliscum demangeonii	Crater Bay	JKW 18103	KEFJ-00278	KEFJ 18882
Physcia caesia	Granite Passage Peatland	SKT 2012-02	KEFJ-00278	KEFJ 19457
Physcia caesia	Northwest Lagoon Beach	MH 16161	KEFJ-00278	KEFJ 19355
Physcia caesia	Three Hole Bay	JKW 18236	KEFJ-00278	KEFJ 19246
Pilophorus acicularis	Chance Cove	JKW 17979	KEFJ-00278	KEFJ 18934
Pilophorus acicularis	Crater Bay (northside)	JKW 18042	KEFJ-00278	KEFJ 18879
Pilophorus clavatus	Crater Bay (northside)	JKW 18043	KEFJ-00278	KEFJ 18880
Pilophorus nigricaulis	Crater Bay (southside)	JKW 18052	KEFJ-00278	KEFJ 19411
Pilophorus nigricaulis	Crater Bay (southside)	JKW 18066	KEFJ-00278	KEFJ 19412
Pilophorus nigricaulis	Three Hole Bay	JKW 18227	KEFJ-00278	KEFJ 19436
Pilophorus nigricaulis	Verdant Cove	JKW 18170	KEFJ-00278	KEFJ 19426
Placopsis gelida	Northwest Lagoon Beach	MH 16166	KEFJ-00278	KEFJ 19500
Platismatia glauca	Bear Cove	JKW 18269	KEFJ-00278	KEFJ 18905
Platismatia glauca	Bear Cove	JKW 18279	KEFJ-00278	KEFJ 18915
Platismatia glauca	Chance Cove	JKW 17972	KEFJ-00278	KEFJ 19334
Platismatia glauca	Chance Cove	JKW 17973	KEFJ-00278	KEFJ 19335
Platismatia glauca	Crater Bay (northside)	MH 18044	KEFJ-00278	KEFJ 19024
Platismatia glauca	East Arm (westside)	JKW 17925	KEFJ-00278	KEFJ 19299
Platismatia glauca	Fire Cove	JKW 18154	KEFJ-00278	KEFJ 19194
Platismatia glauca	North Arm Nuka Bay	JKW 17890	KEFJ-00278	KEFJ 19272
Platismatia glauca	Square Bay (northside)	JKW 17992	KEFJ-00278	KEFJ 19152
Platismatia glauca	Square Bay (northside)	JKW 17997	KEFJ-00278	KEFJ 19156
Platismatia glauca	Square Bay (northside)	JKW 17998	KEFJ-00278	KEFJ 19157
Platismatia glauca	Square Bay (southside)	JKW 18014	KEFJ-00278	KEFJ 18866
Platismatia glauca	Square Bay (southside)	JKW 18015	KEFJ-00278	KEFJ 18867
Platismatia glauca	Three Hole Bay	JKW 18220	KEFJ-00278	KEFJ 19236
Platismatia glauca	Verdant Cove	JKW 18184	KEFJ-00278	KEFJ 19212
Platismatia herrei	Bear Cove	JKW 18278	KEFJ-00278	KEFJ 18914
Platismatia herrei	Crater Bay	JKW 18095	KEFJ-00278	KEFJ 18978
Platismatia herrei	East Arm (westside)	JKW 17924	KEFJ-00278	KEFJ 19298
Platismatia herrei	East Arm (westside)	JKW 17938	KEFJ-00278	KEFJ 19306
Platismatia herrei	Fire Cove	JKW 18137	KEFJ-00278	KEFJ 19421
Platismatia herrei	North Arm Nuka Bay	JKW 17887	KEFJ-00278	KEFJ 19269

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Platismatia herrei	Verdant Cove	JKW 18186	KEFJ-00278	KEFJ 19214
Platismatia lacunosa	Chance Cove	JKW 17976	KEFJ-00278	KEFJ 19149
Platismatia lacunosa	Crater Bay	JKW 18097	KEFJ-00278	KEFJ 18980
Platismatia lacunosa	Crater Bay	MH 16092	KEFJ-00278	KEFJ 19097
Platismatia lacunosa	Fire Cove	JKW 18152	KEFJ-00278	KEFJ 18835
Platismatia lacunosa	North Arm Nuka Bay	JKW 17895	KEFJ-00278	KEFJ 19148
Platismatia lacunosa	Square Bay (southside)	JKW 18018	KEFJ-00278	KEFJ 19158
Platismatia lacunosa	Verdant Cove	JKW 18173	KEFJ-00278	KEFJ 19428
Platismatia norvegica	Bear Cove	JKW 18272	KEFJ-00278	KEFJ 18908
Platismatia norvegica	Bear Cove	JKW 18273	KEFJ-00278	KEFJ 18909
Platismatia norvegica	Crater Bay	JKW 18094	KEFJ-00278	KEFJ 18977
Platismatia norvegica	Crater Bay	JKW 18096	KEFJ-00278	KEFJ 18979
Platismatia norvegica	Crater Bay	JKW 18098	KEFJ-00278	KEFJ 18981
Platismatia norvegica	Crater Bay (northside)	JKW 18041	KEFJ-00278	KEFJ 18878
Platismatia norvegica	East Arm (westside)	JKW 17917	KEFJ-00278	KEFJ 19291
Platismatia norvegica	Fire Cove	JKW 18153	KEFJ-00278	KEFJ 19193
Platismatia norvegica	James Lagoon	JKW 17937	KEFJ-00278	KEFJ 19305
Platismatia norvegica	James Lagoon	JKW 17944	KEFJ-00278	KEFJ 19312
Platismatia norvegica	North Arm Nuka Bay	JKW 17892	KEFJ-00278	KEFJ 19274
Platismatia norvegica	Northwest Lagoon Beach	JKW 18106	KEFJ-00278	KEFJ 19417
Platismatia norvegica	Square Bay (northside)	JKW 17991	KEFJ-00278	KEFJ 19151
Platismatia norvegica	Square Bay (southside)	JKW 18024	KEFJ-00278	KEFJ 18874
Platismatia norvegica	Three Hole Bay	JKW 18219	KEFJ-00278	KEFJ 19235
Platismatia norvegica	Verdant Cove	JKW 18187	KEFJ-00278	KEFJ 19215
Polychidium muscicola	Harris Peninsula Lakes	MH 16245	KEFJ-00278	KEFJ 19599
Protopannaria pezizoides	East Arm (westside)	JKW 17921	KEFJ-00278	KEFJ 19295
Pseudocyphellaria anomala	Bear Cove	JKW 18276	KEFJ-00278	KEFJ 18912
Pseudocyphellaria anomala	James Lagoon	JKW 17955	KEFJ-00278	KEFJ 19322
Pseudocyphellaria anomala	James Lagoon	JKW 17962	KEFJ-00278	KEFJ 19328
Pseudocyphellaria anomala	Square Bay (southside)	JKW 18021	KEFJ-00278	KEFJ 18871
Pseudocyphellaria crocata	James Lagoon	JKW 17958	KEFJ-00278	KEFJ 19324
Psoroma hypnorum	James Lagoon	JKW 17940	KEFJ-00278	KEFJ 19308
Psoroma hypnorum	North Arm Nuka Bay	JKW 17891	KEFJ-00278	KEFJ 19273
Racodium rupestre	Northwest Lagoon Beach	JKW 18104	KEFJ-00278	KEFJ 19585
Ramalina roesleri	Verdant Cove	JKW 18203	KEFJ-00278	KEFJ 19501
Siphula ceratites	Granite Passage Peatland	MH 16199a	KEFJ-00278	KEFJ 18985
Siphula ceratites	Granite Passage Peatland	MH 16199b	KEFJ-00278	KEFJ 19377
Siphula ceratites	Granite Passage Peatland	MH 16199c	KEFJ-00278	KEFJ 19378
Siphula ceratites	Granite Passage Peatland	MH 16199d	KEFJ-00278	KEFJ 19379
Siphula ceratites	Granite Passage Peatland	MH 16200	KEFJ-00278	KEFJ 18986
Siphula ceratites	McArthur WX	JKW 17817	KEFJ-00278	KEFJ 19390
Siphula ceratites	McArthur WX	JKW 17827	KEFJ-00278	KEFJ 19261
Sphaerophorus tuckermanii	Bear Cove	JKW 18277	KEFJ-00278	KEFJ 18913
Sphaerophorus tuckermanii	Chance Cove	JKW 17971	KEFJ-00278	KEFJ 19333
Sphaerophorus tuckermanii	Crater Bay	JKW 18100	KEFJ-00278	KEFJ 18983
Sphaerophorus tuckermanii	East Arm (westside)	JKW 17916	KEFJ-00278	KEFJ 19290
Sphaerophorus tuckermanii	Fire Cove	JKW 18157	KEFJ-00278	KEFJ 19197
Sphaerophorus tuckermanii	James Lagoon	JKW 17941	KEFJ-00278	KEFJ 19309

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Sphaerophorus tuckermanii	North Arm Nuka Bay	JKW 17889	KEFJ-00278	KEFJ 19271
Sphaerophorus tuckermanii	Square Bay (northside)	JKW 17995	KEFJ-00278	KEFJ 19254
Sphaerophorus tuckermanii	Square Bay (southside)	JKW 18023	KEFJ-00278	KEFJ 18873
Sphaerophorus tuckermanii	Three Hole Bay	JKW 18225	KEFJ-00278	KEFJ 19241
Sphaerophorus tuckermanii	Verdant Cove	JKW 18195	KEFJ-00278	KEFJ 19221
Stenocybe sp. (see Spribille et al. 2010)	Bear Cove Notch	MH 16406	KEFJ-00278	KEFJ 19588
Stereocaulon paschale	Northwest Lagoon Beach	JKW 18133	KEFJ-00278	KEFJ 18898
Stereocaulon spathuliferum	Crater Bay (northside)	JKW 18047	KEFJ-00278	KEFJ 18950
Stereocaulon spathuliferum	Crater Bay (southside)	JKW 18079	KEFJ-00278	KEFJ 18970
Stereocaulon tomentosum	Northwest Lagoon Beach	JKW 18134	KEFJ-00278	KEFJ 18899
Stereocaulon vesuvianum	Crater Bay (southside)	JKW 18053	KEFJ-00278	KEFJ 18954
Stereocaulon vesuvianum	Crater Bay (southside)	JKW 18070	KEFJ-00278	KEFJ 19413
Stereocaulon vesuvianum	Crater Bay (southside)	JKW 18080	KEFJ-00278	KEFJ 18971
Stereocaulon vesuvianum	Crater Bay (southside)	JKW 18082	KEFJ-00278	KEFJ 18973
Stereocaulon vesuvianum	Granite Passage Peatland	JKW 18161	KEFJ-00278	KEFJ 19199
Tuckermannopsis chlorophylla	Crater Bay (southside)	JKW 18061	KEFJ-00278	KEFJ 18962
Tuckermannopsis chlorophylla	East Arm (westside)	JKW 17919	KEFJ-00278	KEFJ 19293
Tuckermannopsis chlorophylla	Verdant Cove	JKW 18194	KEFJ-00278	KEFJ 18839
Umbilicaria angulata	Crater Bay (northside)	JKW 18048	KEFJ-00278	KEFJ 18951
Umbilicaria angulata	Crater Bay (southside)	JKW 18081	KEFJ-00278	KEFJ 18972
Umbilicaria angulata	Crater Bay (southside)	JKW 18083	KEFJ-00278	KEFJ 18974
Umbilicaria angulata	Northwest Lagoon Beach	JKW 18135	KEFJ-00278	KEFJ 18900
Umbilicaria angulata	Northwest Lagoon Beach	JKW 18136	KEFJ-00278	KEFJ 18901
Umbilicaria deusta	Harris Peninsula Lakes	MH 16231	KEFJ-00278	KEFJ 19001
Umbilicaria deusta	Harris Peninsula Lakes	MH 16244	KEFJ-00278	KEFJ 19007
Umbilicaria hyperborea	Coleman Bay	JKW 18250	KEFJ-00278	KEFJ 19251
Umbilicaria hyperborea	Northwest Lagoon Beach	MH 16159	KEFJ-00278	KEFJ 19354
Umbilicaria torrefacta	Northwest Lagoon Beach	MH 16172	KEFJ-00278	KEFJ 19364
Usnea filipendula	Verdant Cove	JKW 18201	KEFJ-00278	KEFJ 19227
Usnea filipendula	Verdant Cove	JKW 18202	KEFJ-00278	KEFJ 19228
Usnea longissima	Crater Bay (southside)	JKW 19078	KEFJ-00278	KEFJ 19502

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National Park Service
U.S. Department of the Interior

Natural Resource Stewardship and Science
1201 Oak Ridge Drive, Suite 150
Fort Collins, Colorado 80525

www.nature.nps.gov