

# APPENDIX L

## Special Areas

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# Appendix L - Special Areas

Following is a description of the proposed and existing Special Interest Areas, Research Natural Areas and Experimental Forests found on the Kootenai and Idaho Panhandle National Forests.

## Special Interest Areas

### PROCESS

Special Interest Areas (SIA's) were identified for a wide variety of reasons. SIAs are managed with emphasis on protecting and/or enhancing areas of unusual characteristics. These areas are managed to maintain their special interest values. SIAs are designated as aquatic (AQU), botanical (BOT), ecological (ECO), geological (GA), heritage resource (HR), pioneer area (PA), recreational (REC), scenic (SA), traditional cultural (TC), and zoological (ZOO) depending on their special characteristics or unique values. These designations are defined below. They can be designated to protect and manage threatened, endangered, and sensitive (TES) species and other elements of biological diversity, for their emotional significance, for scenic values, for public popularity, for recreational activities, for significant geological features, etc. Many of the areas have more than one feature type. A specific protocol was developed for new SIAs proposed in this Forest Plan Revision effort.

There are 44 existing SIAs within the Kootenai Idaho Panhandle Planning Zone (KIPZ). Nine of these are on the IPNF and 35 are on the KNF. Table 1-SIA lists the established SIAs. Sixty-four SIAs have been identified for Forest Plan Revision. Seven are located on the Idaho Panhandle and 57 on the Kootenai. Table 2-SIA lists the proposed areas including their acres and designation. Definitions of SIA Type are: 1) **Aquatic** – a unit of land that contains unique or outstanding water features that provide function, process, and habitat for the living organisms within its realm; 2) **Botanical** – a unit of land that contains plant specimens, plant groups, or plant communities that are significant because of their occurrence, habitat, location, life history, ecology, rarity, or other features; 3) **Ecological** – a unit of land that displays the special characteristics between biotic and abiotic components of the landscape; 4) **Geological** – a unit of land with outstanding formations or unique geological features of the earth's development; 5) **Heritage Resource** – a unit of land possessing a significant site or a concentration of sites, buildings, structures, or objects, including artifacts, united historically or prehistorically by plan or physical development that are eligible for inclusion in the National Register of Historic Places; 6) **Pioneer Area** – a unit of land that is recognized for its unroaded, scenic, recreational, wildlife, and watershed values intended to provide a primitive recreation experience and maintain an undeveloped setting; 7) **Recreational** – a unit of land that has been administratively designated for particular recreation opportunities or activities such as hiking, rock hounding, recreational mining, viewing, or other special activity; 8) **Scenic** – a unit of land with outstanding natural beauty that requires special management to preserve this beauty; 9) **Traditional Cultural** – a unit of land associated with the traditional beliefs of an American Indian Tribe about its origins, its cultural history, or the nature of the world; where American Indian religious practitioners have historically gone, and are known to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; where an American Indian community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity; 10) **Zoological** – a unit of land

that contains animal specimens, animal groups, or animal communities that are significant because of their occurrence, habitat, location, life history, rarity, or other features.

## Idaho Panhandle NFs Existing SIAs

**Copper Falls:** Copper Falls consists of 40 acres of scenic geologic area located near the Canadian border on the Bonners Ferry Ranger District. This highest waterfall in Boundary County was first designated on September 17, 1987, for protection of its distinct geologic, historic, and special interest features. An interpretive trail provides access to Copper Creek, which spills over ancient Precambrian Belt Group rocks 80 ft. downward into a pool to continue its path until joining the Moyie River. The area contains approximately 40 acres. This area is classified as a Geologic SIA (see figure L-18, page L-46).

**Granite Falls:** Granite Falls was officially designated as a distinct Special Interest Area in the 1987 IPNF Forest Plan, for its unique scenic and geologic values. Two popular trails follow along the North Fork of Granite Creek and provide stunning views of upper La Sota Falls (~20 ft.) over which the water pours into the boulder-filled, cascading streambed through sheer rock walls down to the lower Granite Falls (~70 ft.). Parts of Granite Falls complex overlaps with the 1987 boundaries of the Roosevelt Grove and parts are between. The area contains approximately 25 acres. This area is classified as a Geologic SIA (see figure L-11, page L-39).

**Hanna Flats Botanical Area:** This site is the location of large, old growth western red cedar. Other species within the stand are western white pine, grand fir, western hemlock, western larch, Engelmann spruce, and black cottonwood. The dense, overhead canopy is composed of western red cedar, western white pine, grand fir, western hemlock, and western larch, while the understory contains a wide mixture of shrubs, ferns, and forbs. The Hanna Flats National Recreational Trail, established in 1978, is within the area. It also contains a population of rare ferns. The area contains approximately 16 acres. This area is classified as a Botanical SIA (see figure L-12, page L-40).

**Hobo Cedar Grove Botanical Area:** This site is the location of very large, old growth western red cedar. It is an outstanding example of pristine western red cedar, with much of the grove in near natural condition. The cedars range from 5-8 feet in diameter, with a lush understory of lady fern. Minor amounts of western white pine, mountain hemlock, and grand fir grow in the area. It was established in 1969 and was designated as a National Natural Landmark by the USDI Heritage Conservation and Recreation Service. The existing Hobo Cedar Grove has well-developed interpretive facilities, including road access, parking area, picnic tables, interpretive signs, and 2 loop trails marked for self-guided nature tours.

To the southeast, and contiguous with the existing Botanical Area is an even larger area with a complex of ancient cedar groves that contain more and even bigger trees. This is known as the Upper Hobo Cedar Grove. There are 5-7 foot diameter trees throughout much of this larger area, and numerous 8-9 foot plus diameter trees. Some trees approach 10 feet in diameter. There are populations of large yew in some understories, and other extensive areas that have open understories of diverse ferns and wet site forbs. Small incised streams, wet slump basins, and small springs abound across this north-facing slope. An extensive moist site vascular plant, moss, and lichen list could easily be compiled, but the full botanical diversity remains to be explored, and is likely to yield surprises. Moonworts have been observed. The overall appearance is spectacular, and is ideally suited to development of future interpretive nature trails. Professor Fred Johnson (retired University of Idaho), a recognized authority on cedar groves of The Northern Rocky Mountains, has visited part of this additional area, and has declared it “world-

class". This southeast additional area would add approximately 400 acres to the existing Botanical Area. About 60% of this proposed addition is within the existing Grandmother Mountain Roadless Area.

Small patches of big old trees are sometimes not sustainable. One known problem is wind breakage in large old trees at the edge of openings. Prevailing winds in this area are from the southwest. It's also near the top of a major mountain divide. Old wind shearing of tree tops along the south boundary of the Botanical Area was noted in the 1969 establishment report. There is early 1960's-era clearcutting along the southwest corner of the existing Botanical Area. However, uphill and south of Road #3557 the center of the south boundary is occupied by a continuation of big cedar and large old growth spruce and grand fir. The cedars here are not as continuously large as in the existing Botanical Area, but a 90 inch diameter cedar was measured, and numerous three to five foot-plus diameter trees are present. This uphill old growth stand protects the integrity of the existing Hobo Cedar Grove by keeping the prevailing winds from funneling down into the heart of the existing grove; similarly protects the southeast addition; and also contributes to the overall atmosphere of both groves. This additional area is about 50 acres, and is also contiguous with the corner of the southeast addition discussed in the paragraph above.

It is proposed to add both of the above areas (a total of approximately 450 acres) to create an expanded Hobo Cedar Grove Botanical Area. This will capture the full extent of the most spectacular large old cedars into one of the outstanding Special Interest Areas on this forest, and maintain the integrity of these outstanding ecological features. The area currently contains approximately 232 acres. This area is a Botanical SIA (see figure L-31, page L-59).

**Mallard Larkins Pioneer Area:** The area lies on the western slopes of the Bitterroot Mountains. It is mostly subalpine type on the divide between the North Fork and the Little North Fork of the Clearwater River. The high country is dotted with glacial lakes. The principal tree species are mountain hemlock and subalpine fir with some whitebark pine and an understory of shrubs and forbs. It is mostly rocky with steep slopes. Elevations range from 2600 feet to over 7000 feet. The area supports mountain goats, elk, mule deer, black bear, and various small fur bearers. Rainbow and cutthroat trout are found in the lakes and streams. The Heritage Cedar Grove, located at the southern edge of the area, provides an outstanding example of several majestic groves of ancient cedars. The area contains approximately 13,949 acres. This area is a Pioneer SIA (see figure L-33-34, page L-61-62).

**Northwest Peak Scenic Area:** The area includes the high ridgeline setting and the upper, glaciated basins of West Fork Yaak River and American Creek in the northwestern-most corner of Montana. There are several small alpine lakes. Vegetation includes all the high, cold habitat types and contains moderately open stands of trees that include subalpine larch, subalpine fir, whitebark pine, and Engelmann spruce. The IPNF and KNF share the area with 4714 acres on the Kootenai side and 1972 acres on the Idaho Panhandle side. This area is classified as a Scenic SIA (see figure L-19, page L-47).

**Roosevelt Grove of Ancient Cedars Scenic Area:** This site is the location of very large, old growth western red cedar and two waterfalls with the associated pools. The cedars range in size from 4-12 feet in diameter with estimated heights of 150 feet. Average age is approximately 800 years. Nestled within 139 acres of the Roosevelt Grove of Ancient Cedars Scenic Area on the Priest Lake Ranger District, Granite Falls consists of waterfalls, pools, and riparian areas. The area was first recognized for its unique values as early as 1919 and was formally established in 1943. Granite Falls and LaSota Falls were described as features of the Roosevelt Cedar Grove in 1943, although only parts of the falls are within those 1943 boundaries. The area contains

approximately 139 acres. This area is classified as a Scenic/Botanical SIA (see figure L-11, page L-39).

**Sandhouse Cedar Grove:** An ancient cedar grove located in the upper reaches of the West Fork of Fishhook Creek. The stand is dominated by near climax stands of exceptionally large and old western red cedar with scattered, residual, large and old spruce, grand fir, subalpine fir, and western white pine. Five to six foot diameter cedars are numerous, and some of the largest cedars are in the seven foot to nine foot diameter range. The site is very moist with scattered small streams and springs throughout. The predominant habitat type is western red cedar/ladyfern/ladyfern. The understory is dominated by ferns and moist-site forbs, with some yew. Ladyfern is the most common fern species, but several other fern species are present, including Botrychiums. There are some absolutely beautiful stretches of almost pure ancient cedar groves with an open-fern understory. The beauty of this area is so obvious to any observer, that even when much of the surrounding area was logged in the mid/late 20<sup>th</sup> century, people protected this grove. Sandhouse Cedar Grove is adjacent to the junction of the Fishhook Creek Rd. (No. 301) and Road 201. The area contains approximately 120 acres. It is a botanical area (see figure L-29, page L-57).

**Settlers Grove of Ancient Cedars Botanical Area:** This site is the location of large, old growth western red cedar and western white pine. Many of the cedar range in size up to 7 feet in diameter. The trail through the area is lined with ferns, devil's club, and mountain maple. The area was designated in 1970. The area contains approximately 182 acres. This is a Botanical SIA (see figure L-26, page L-54).

**Upper Priest Lake Scenic Area:** This is a unique area as it is a cooperative scenic area shared with the State of Idaho. The area completely surrounds Upper Priest Lake and all but a few hundred yards of the Priest Lake Thoroughfare. The area was established in 1968. There are 2117 acres of State of Idaho land and 5025 acres of Forest Service land. This area is classified as a Scenic SIA (see figures L-7-8, pages L-35-36).

## Kootenai NF Existing SIAs

**Barnum Wetlands:** The area contains a wetland (marsh/wet meadow) as defined by Executive Order 11990. The soils are hydric: somewhat poorly drained and have a water table less than 0.5 foot from the surface for a week or more during the growing season. The vegetation represents Obligate Wetland Plants (almost always occur in wetlands), Facultative Wetland Plants (plants that usually occur in wetlands), and Facultative Plants (plants with the likelihood of occurring in both wetlands and non-wetlands). Sedges, rushes, willows, alders, and pink spirea are scattered throughout. The area contains approximately 199 acres. Aquatic/Botanical (see figure L-100, page L-130).

**Berray Cedars:** The site is located in the South Fork Bull River at mid-elevation and contains a stand of large, very old western red cedars. The area contains approximately 47 acres. Botanical (see figure L-105, page L-135).

**Bitterroot Point:** One of the few areas on the Kootenai NF with the bitterroot flower. The site is on the north side of the Kootenai River on a southerly aspect. The plants are located mainly on the shallow soil, rocky ledges of the open slopes below Flagstaff Mountain between 3000 and 3800 feet elevation. It is an important gathering site for Native Americans. The site contains approximately 126 acres. Botanical/Traditional Cultural (see figure L-90, page L-120).

**Boyd Mill:** The site is located near the junction of the North Fork Yaak River and the East Fork Yaak River. There are several wetlands that were old stream channels. The landform ranges from nearly flat to rolling uplands. Vegetation is mostly an old stand of Douglas-fir and western larch with an understory of subalpine fir and Engelmann spruce. Habitat types include Douglas-fir/pinegrass, subalpine fir/twinflower, subalpine fir/queencup beadlily, and Engelmann spruce/queencup beadlily. The Boyd Hill Cemetery (approximately one acre) is located within the SIA. The area includes approximately 125 acres. Ecological (see figure L-66, page L-96).

**Clay Mountain:** It is the location of several moonwort species located under a cover of western red cedar with old growth features. The area contains approximately 21 acres. Botanical (see figure L-74, page L-104).

**Devil Gap:** It is located near the confluence of Devil Gap drainage and Marten Creek south of the Clark Fork River. The area contains very steep sidewalls with cliffs and prominent rock outcrops. Vegetation is very sparse in the canyon while the uplands have stands of Douglas-fir and ponderosa pine. Douglas-fir/bluebunch wheatgrass, Douglas-fir/pinegrass, Douglas-fir/ninebark habitat types are present. The area contains approximately 831 acres. Geological (see figure L-110, page L-140).

**Fortine Creek Meadows:** It is a complex of marsh-meadows, birch carrs, and riparian spruce woodlands (occurring from the wetland interior outwards, respectively). The herb meadows have been sampled and are characterized by tall mannagrass and common cat-tail plant associations. Bounding these two plant associations are spruce types comprised mostly of spruce/horsetail. The area is recognized for its unique communities, near-pristine condition, and the occurrence of a rare grass, wedgrass. The area contains approximately 37 acres. Botanical/Ecological (see figure L-41, page L-71).

**French Creek Fen:** The French Creek Fen is located in the bottom of French Creek in Sections 21 and 28, T37N, R32W. It is a fen as opposed to a bog, since the reaction ranges from slightly acidic to neutral to alkaline. A bog tends to be fairly acidic. The French Creek Fen is a low-lying peat land, made up of sedge in various stages of decomposition. Water is at or near the surface. It lies within a zone of mostly forest riparian and some stream riparian. Sedges dominate surface vegetation. The area contains approximately 37 acres. Botanical (see figure L-64, page L-94).

**Hamilton Gorge:** Located at the head of Hamilton Creek, this is a narrow and long (over one mile) rocky canyon composed of coarse, stabilized talus derived from the Empire Formation (calcareous argillite). A series of small ponds occupy the bottom of the crevasse in the southern portion. The crevasse is a surface expression of the Pinkham Thrust and was probably exacerbated by glaciation. The entire area is only sparsely forested and is mostly dominated by rock habitats and shrub fields. The area contains approximately 144 acres. Geological (see figure L-42, page L-72).

**Hidden Lake:** It contains a unique assemblage of low-elevation forest, ponds and lakes, wetlands, and sensitive plant species (small yellow lady's slipper, sparrow's-egg lady's-slipper, and round-leaved orchis), landforms, and geologic substrates. The area supports more sensitive plant populations than any other on the Kootenai NF. It is characterized by a series of narrow, northwest-southeast trending ridges separated by small drainages and basins. The bedrock, of alternating layers of softer and harder bedrock, has been tilted nearly vertically and was scoured by continental glaciers resulting in the softer rock being removed. The area burned in the early 1900's with the stand now composed of western larch, lodgepole pine, and Douglas-fir. There are

three lakes and two swampy areas that contain water. The area includes approximately 607 acres. Botanical/ Aquatic (see figure L-40, page L-70).

**Kelsey Creek:** This site boasts three rare species in the moonwort genus, two of which are presently on the Kootenai NF sensitive list. The Kelsey Fire engulfed this site in 2000 and, without any human intervention, these populations (located in thick cedar duff) survived this wildfire. This event demonstrated how these three species may have a historic interaction with wildfire edge, and demonstrated the importance of “fire refugia” as habitat for rare plant species. Kelsey Creek is an existing SIA and it is proposed that the present SIA is enlarged, to the east, to include an additional population of trianglelobe moonwort and is also part of the “fire refugia” area. It is the location of a control plot for a moonwort monitoring study. The original area contains 17 acres, but with the proposed addition the total will be approximately 53 acres. Botanical (see figure L-74, page L-104).

**Kerr Meadows:** This is a string of wet meadows in the bottom of Sunday Creek with surrounding riparian forest. It is designated because of its deep cushions of sphagnum moss and the habitat of northern bog lemming and poor sedge, both of which can be found there. The area contains approximately 58 acres. Aquatic/Botanical (see figure L-45, page L-75).

**Kilbrennan Lake:** The site is located at the south end of Kilbrennan Lake. It has strong wetland features. There is a good cover of western red cedar and western hemlock. There is also a mixture of lodgepole pine, Douglas-fir, ponderosa pine, paper birch, and black cottonwood. Skunk cabbage is very prevalent in the area, the best on the Kootenai NF. The area contains approximately 56 acres. Aquatic/Botanical (see figure L-77, page L-107).

**Kootenai Falls:** An archeological district with both historic and prehistoric values. It is located on both the north and south banks of the Kootenai River. The area contains a diverse set of historic-period resources representing railroading, a Chinese settlement, homesteading, and placer mining. The area is very important for traditional culture values. The area contains approximately 420 acres. Traditional Cultural/Heritage Resource (see figure L-89, page L-119).

**Lower Brimstone:** Lower Brimstone is located in the Trego area south of Fortine. The wetlands are home to a high vascular plant, moss, and lichen species diversity. The most common wetlands are the streamside, alluvial forests of Engelmann spruce and Douglas-fir. The shrub and herb layers are well developed and species-rich. A variety of orchids (sensitive species) are present. There is sufficient quantity of calcium and magnesium present that these two minerals precipitate from the water in the stream flow. This precipitation of minerals is causing the stream channels to aggrade as opposed to geologic degradation that more commonly occurs. This material remains soft and is very susceptible to erosion when flow rates change. The area contains approximately 39 acres. Botanical/Aquatic (see figure L-41, page L-71).

**Lower Sunday Creek Ecosystem:** The area is located on lower Sunday Creek. The falls on Sunday Creek are within the boundary of the area. This is a riparian forest and swamp along lower Sunday Creek. The area supports a diverse, mixed-conifer forest with a swamp dominated by western red cedar and skunk cabbage, a unique feature on the eastern half of the Kootenai NF. It also supports old growth forest features. The area contains approximately 150 acres. Ecological/Traditional Cultural (see figure L-44, page L-74).

**Lower West Fork Yaak Falls:** There are two falls along the lower West Fork Yaak River shortly before it joins the Yaak River. Vegetation mostly includes older-aged Douglas-fir, western red cedar, western hemlock, and western larch depending on the aspect. Habitat types include

Douglas-fir/pinegrass, western hemlock/queencup beadleily, subalpine fir/queencup beadleily. The bedrock is described as west-dipping argillite of the Wallace Formation located slightly east of the Yaak River Syncline. The area includes approximately 274 acres. Traditional Cultural/Geological (see figure L-65, page L-95).

**Magnesia Fen:** It is a palustrine, scrub-shrub, saturated wetland. It is unique because it is a calcareous fen with rare vascular and moss species. The area contains approximately 12 acres. Aquatic/Botanical (see figure L-41, page L-71).

**Napi Knob:** It is an intermountain grassland formation located just south of Eureka and the Tobacco Plains. It is characterized by a green fescue/bluebunch wheatgrass habitat type. The plant communities are largely intact and have been recognized as a rare vegetative formation on the Kootenai NF. The area contains approximately 18 acres. Botanical (see figure L-48, page L-78).

**North End Alkali Ecosystem:** Alkali Lake (realistically a pond) is located about three miles south of Eureka. The area has been recognized for its unique ecological potential. The area contains approximately 23 acres. Ecological (see figure L-48, page L-78).

**Northwest Peak Scenic Area:** The area includes the high ridgeline setting and the upper, glaciated basins of West Fork Yaak River and American Creek in the northwestern-most corner of Montana. There are several small alpine lakes. Vegetation includes all the high, cold-habitat types and contains moderately open stands of trees that include subalpine larch, subalpine fir, whitebark pine, and Engelmann spruce. The IPNF and KNF share the area with 4714 acres on the Kootenai side and 1972 acres on the Idaho Panhandle side. Scenic (see figure L-62, page L-92).

**Pete Creek:** The location of a significant population of northern beechfern. Old growth features occur along the stream channel including the presence of western red cedar and the slow-meandering sections of the channel. The area contains approximately 320 acres. Botanical (see figures L-70-71, pages L-100-101).

**Rexford Hoodoos:** This is an erosional landform that has developed on a drumlin exposed as the Tobacco River reestablished its channel following glaciation. The “hoodoos” are developing in dense glacial till. The vegetation represents the droughty nature of the area. It is a very open stand of grass and trees. Habitat types include Idaho fescue/bluebunch wheatgrass, Douglas-fir/Idaho fescue, and rough fescue/Idaho fescue. The area includes approximately 73 acres. Geological (see figure L-49, page L-79).

**Rocky Fivemile Forest:** It includes a rocky-landform, spruce-fir forest at the headwaters of Lake Creek. There are many rock outcrops in the midst of late seral spruce-fir forest. The area also includes stringers of bedrock meadows, which lie on quartzite of the Ravalli Formation. The rock outcrops host a very rich and varied acid-loving lichen flora in many different microclimates. Between the rock outcrop stringers is a chain of wetlands, which are dominated by large, coarse-beaked sedge. The rare, diminutive annual false mermaid and uncommon threeleaf Lewisia are also found. The presence of arctic-alpine species in the rock crevices of the area underlies the refugium-nature of the bedrock area. The area contains approximately 160 acres. Ecological (see figure L-47, page L-77).

**Ross Creek Scenic Area:** Located in the bottom of Ross Creek and containing a stand of large, old western red cedars. A .9 mile, self-guided trail winds through the stand. The trees are upwards of eight feet in diameter and 175 feet tall. The area includes sites referred to by descriptive names: “Cedar Chimney”, the “Wrestlers”, the “Fairy Den”, the “Twins”. Ground fire has

occurred in the area killing scattered trees and allowing enough opening for some other tree species to inhabit the area: western white pine, grand fir, Douglas-fir, and younger, smaller western red cedar and western hemlock. The area contains approximately 101 acres. Scenic/Traditional Cultural (see figure L-85, page L-115).

**Spread Otis Creeks:** The location of a significant population of northern beechfern. This population is located on both sides of the Yaak River. The area contains approximately 381 acres. Botanical (see figure L-72, page L-102).

**Star Canyon:** A steep-walled canyon at the mouth of Star Creek near the Idaho-Montana border; and is a surface reflection to the Leonia Fault. The area contains 100 percent sideslopes with areas of slide rock and cliffs. There are a series of waterfalls up to 40 feet in height. There is little vegetation in the canyon itself. Douglas-fir/pinegrass, Douglas-fir/kinnikinnick, western hemlock/queencup beadlily are the main habitat types depending on aspect or depth of soil. The vegetation is mostly old-aged stands of western hemlock, western red cedar, western larch, and Douglas-fir. The area contains approximately 81 acres. Geological (see figure L-78, page L-108).

**Sterling Forest:** An ancient cedar forest located in the Salish Mountains southwest of Fortine. The forest also contains large and very old western white pine and Engelmann spruce. It is the home of the largest sensitive moonwort populations on the east half of the Kootenai NF. A number of rare or uncommon lichens also inhabit the microclimates of the area. The area contains approximately 127 acres. Ecological/Botanical (see figure L-43, page L-73).

**Swamp Mountain Meadows:** These are herbaceous meadows that are relatively large, extraordinarily pristine, and represent an unusual cover type. The area contains approximately 34 acres. Botanical (see figure L-46, page L-76).

**Ten Lakes Scenic Area:** It is composed of high alpine ridges with many lakes. The area is part of the Galton Mountains of the Whitefish Range. It was strongly glaciated by alpine ice. Vegetation is composed of alpine species reflecting a cold, moist climate. Mountain hemlock is common. There is a patented mining claim within the boundaries of the SIA. The total acreage is 6561, with 19 acres of patented mining claim (private) and 6542 acres of Forest Service. Scenic (see figure L-37-39, page L-67-69).

**Tenmile Talus:** The prime features are the "Notch" in the topographic divide between Pinkham Creek and Tenmile Creek and the rock outcrops and talus debris found there. The area is a surface expression of the "Pinkham Thrust" fault. The notch was accentuated by glacial scour and water flowing through it during glacial melt. Vegetation includes subalpine fir/twinflower, subalpine fir/grouse whortleberry, Douglas-fir/pinegrass, and Engelmann spruce/twinflower. Where tree cover exists it ranges from very open to dense composed of subalpine fir, Engelmann spruce, and lodgepole pine. Where vegetation exists on the lower slopes it is mostly grass. The area contains approximately 390 acres. Geological (see figure L-58, page L-88).

**Upper Big Creek Riparian Ecosystem:** The area is comprised of a low-gradient stream and the adjacent, gentle lands along the East and West Branches of upper South Fork Big Creek. During glacial melt the area was a glacial lake with outlets to the south and the west. Two very obvious outlets are seen on the topographic divide with Everett and Gold Creeks. The soil material is mostly lacustrine silt. The vegetation is over eighty-five percent lodgepole pine with scattered subalpine fir and Engelmann spruce. The acreage is approximately 2966 acres. Ecological (see figures L-54-56, pages L-84-86).

**White Creek Fen:** It is a fen peatland within a zone of stream riparian and riparian forest. It has been recognized for its rare flora including the only known population of sheathed sedge in the western United States. The area contains approximately 14 acres. Botanical (see figure L-46, page L-76).

**Wood Creek Larch:** The site is composed mostly of a pure, intact stand of large, old western larch. The topography is steep, mountainous slopes. The habitat type is subalpine fir/twinflower. The area contains approximately 115 acres. Scenic (see figure L-66, page L-96).

**Yahk Mining District:** Intact mining operation--1930 vintage. Originally a mining camp was established in the 1890's and was revitalized in 1910 and again in 1930. The 1910 Fire burned through the entire area. There are many adits and houses, two stamp mills, an assay office, shops, and a business office--in all over 200 features. The area contains approximately 456 acres. Heritage Resource (see figure L-75, page L-105).

## Idaho Panhandle NFs Proposed SIAs

**Bath Creek Gorge:** Located near the Washington/Idaho state line, the Gorge is rugged terrain carved up to 600 feet deep in an otherwise gently-sloping, broadly-incised landscape composed of granite bedrock. Its position in the landscape suggests it may be a remnant outlet of a glacial lake(s). Surrounding views from the rim extend as far as the Selkirk Mountains and include benches and valleys that stretch and connect with the main stem of Lamb Creek and allow for a broad overview of the glaciated history of the area. The area contains approximately 254 acres. This area is proposed as a Geological SIA (see figure L-12, page L-40).

**Emerald Creek:** The area is known for its star garnets. The star garnet is the state gemstone for Idaho. There are 39 acres of private land within the boundaries of the SIA. The area contains approximately 2350 acres. This area is proposed as a Recreational SIA (see figure L-32, page L-60).

**Huff Lake:** The area contains a unique assemblage of sensitive plants. Huff Lake occurs in a glacial kettle adjacent to the North Fork of Granite Creek, 19 km northwest of Nordman in the Selkirk Mountains of northeastern Washington. Huff Lake is an excellent example of a low-elevation valley peatland with high community diversity. It contains several types of peatland. Sphagnum-rich and Sphagnum-poor peatlands occur at this site as well as open water with aquatic vegetation. Sphagnum-rich communities occur on floating mats and on hummocks that support conifers. Sphagnum-poor communities consisting of carr occur on fixed mats around the lake's margin. In addition, Huff Lake supports at least five rare plant species: bristle-stalked sedge, creeping snowberry, northern starflower, bog willow, and bog cranberry. The wetlands are surrounded by young coniferous forest.

Huff Lake Fen is accessible by vehicle. This site provides exceptional educational, interpretive, and scientific values. A cooperative project between the Idaho Panhandle National Forest and the Native Plant Society constructed a high quality interpretive display with an overlook and boardwalk. The boardwalk also serves to protect the botanical features of the site. Detailed studies of the flora, paleoecology, and water chemistry of the site have been completed. This work provides valuable data for monitoring long-term environmental and ecological changes. Although not previously classified as a Special Interest Area, both the natural features and ongoing management of Huff Lake exemplify what an SIA should ideally be, and is now being formally recognized and designated. The area contains approximately 70 acres. This area is proposed as a botanical area (see figure L-11, page L-39).

**Hobo:** The existing Hobo Cedar Grove has well-developed interpretive facilities, including road access, parking area, picnic tables, interpretive signs, and two loop trails marked for self-guided nature tours. To the southeast, and contiguous with the existing Botanical Area, is an even larger area with a complex of ancient cedar groves that contain more and even bigger trees. This is known as the Upper Hobo Cedar Grove. There are 5-7 foot diameter trees throughout much of this larger area, and numerous 8-9 foot plus diameter trees. Some trees approach 10 feet in diameter. There are populations of large yew in some understories. Other extensive areas have open understories of diverse ferns and wet site forbs. Small incised streams, wet-slump basins, and small springs abound across this north-facing slope. An extensive moist-site vascular plant, moss, and lichen list could easily be compiled, but the full botanical diversity remains to be explored and is likely to yield surprises. *Botrychiums* have been observed. The overall appearance is spectacular and is ideally suited to development of future interpretive nature trails. Professor Fred Johnson (retired University of Idaho), a recognized authority on cedar groves of the Northern Rocky Mountains, has visited part of this additional area and has declared it “world-class”. This southeast additional area would add approximately 400 acres to the existing Botanical Area. About 60% of this proposed addition is within the existing Grandmother Mountain Roadless Area.

Small patches of big old trees are sometimes not sustainable. One known problem is wind breakage in large old trees at the edge of openings. Prevailing winds in this area are from the southwest, & it’s near the top of a major mountain divide. Old wind shearing of tree tops along the south boundary of the existing Botanical Area was noted in the 1969 establishment report. There is early 1960’s-era clearcutting along the southwest corner of the existing Botanical Area. However, uphill and south of Road #3557 the center of the south boundary is occupied by a continuation of big cedar and large, old growth spruce and grand fir. The cedars here are not as continuously large as in the existing Botanical Area, but a 90 inch diameter cedar was measured and numerous three to five+ foot diameter trees are present. This uphill, old growth stand protects the integrity of the existing Hobo Cedar Grove by keeping the prevailing winds from funneling down into the heart of the existing grove; similarly protects the southeast addition; and also contributes to the overall atmosphere of both groves. This additional area is about 50 acres and also is contiguous with the corner of the southeast addition discussed in the paragraph above.

It is proposed to add (approximately 450 acres) both of the above areas to create an expanded Hobo Cedar Grove Botanical Area. This will capture the full extent of the most spectacular large, old cedars into one of the outstanding Special Interest Areas on this forest, and maintain the integrity of these outstanding ecological features. The area will have a total acreage of 685 acres. This area is proposed as an addition to an existing Botanical SIA (see figure L-31, page L-59).

**Mallard Larkins Pioneer Area:** This is an addition to the existing area. The additions include high quality features similar to the existing site and also help to better define the boundaries. The area lies on the western slopes of the Bitterroot Mountains. It is mostly subalpine type on the divide between the North Fork and the Little North Fork of the Clearwater River. The high country is dotted with glacial lakes. The principal tree species are mountain hemlock and subalpine fir with some whitebark pine and an understory of shrubs and forbs. It is mostly rocky with steep slopes. Elevations range from 2400 feet to over 7000 feet. The area supports mountain goats, elk, mule deer, black bear, and various small fur bearers. Rainbow and cutthroat trout are found in the lakes and streams. The Heritage Cedar Grove, located at the southern edge of the area, provides an outstanding example of several majestic groves of ancient cedars. The total area for the established (13,949) and the proposed (9002) addition will be 22,951 acres. This area is a proposed addition to the existing pioneer area (see figures L-33-34, pages L-61-62).

**Northwest Peak Scenic Area:** Additions would be made to both the Kootenai and the Idaho Panhandle portions of the Scenic Area. The additions include larger portions of the glaciated basins and several lakes and the boundary is extended to the Canadian Line. The area includes the high ridgeline setting and the upper, glaciated basins of West Fork Yaak River and American Creek in the northwestern-most corner of Montana. There are several small alpine lakes. Vegetation includes all the high, cold-habitat types and contains moderately open stands of trees that include subalpine larch, subalpine fir, whitebark pine, and Engelmann spruce. This addition for the IPNF is approximately 2639 acres. The area will have a total acreage of 17, 858 -- 13, 247 on the Kootenai and 4611 on the Idaho Panhandle. This area is proposed as an addition to the existing Scenic Area (see figure L-19, page L-47).

**Roosevelt Ancient Cedar Grove/Granite Falls:** This site is the location of very large, old growth western redcedar and two waterfalls with the associated pools. The cedars range in size from 4-12 feet in diameter with estimated heights of 150 feet. Average age is approximately 800 years. Nestled within 254 acres of the Roosevelt Grove of Ancient Cedars Scenic Area on the Priest Lake Ranger District, Granite Falls consists of waterfalls, pools, and riparian areas. The area was first recognized for its unique values as early as 1919 and was formally established in 1943. The falls were described as a feature of the Roosevelt Cedar Grove in 1943, although only parts of the falls are within those 1943 boundaries. Granite Falls was first officially designated as a distinct Special Interest Area on September 17, 1987, for its unique scenic and geologic values. Two popular trails follow along the North Fork of Granite Creek and provide stunning views of the sheer rock walls of the lower Granite Falls (~70 ft.) and upper La Sota Falls (~20 ft.) over which the water pours into the cascading, boulder-filled streambed.

The original "Roosevelt Grove of Ancient Cedars Scenic Area" features two large groves of ancient cedars from 4 to 12 ft. in diameter and up to 150 ft. tall, and some adjacent areas of mature mixed conifer stands. Rich moist fern, forb, and devil's club communities dominate the understory. The upper grove is particularly spectacular. The boundaries also include a small peatland. However, the 1987 boundary is a rectangular stair-step line based on legal descriptions, but not readily locatable on the ground. Both the 1943 and the 1987 Roosevelt Grove boundaries inexplicably omit a grove of large cedars on a bench just above the recognized "upper grove".

To address these multiple boundary and overlap problems and to simplify management, a single 254 acre Special Interest Area is now being designated. It includes all of the ancient Cedar Groves in the 1987 Roosevelt Grove of Ancient Cedars Scenic Area boundary, the additional cedar grove on the upper bench, the entire Granite Falls Geologic Area, and some buffer areas of mature and old growth forest. Boundaries use existing trails, streams, and topographic breaks (where feasible) to be more readily identifiable on the ground. A few angular corners of the 1987 boundary are now omitted. The areas were originally known as the "Roosevelt Grove of Ancient Cedars Scenic Area" and "Granite Falls". The proposed area contains approximately 254 acres and would be an addition to the existing Botanical/Geological/Scenic SIA (see figure L-11, page L-39).

**Upper Priest River Botanical Area:** This botanical area stretches along both sides of Upper Priest River, from about 2 miles north of Upper Priest Lake, 12 miles north to the Canadian border. The Upper Priest River Botanical Area occupies the riparian areas, old stream terraces, toe slopes, and some adjacent lower slopes on both sides of Upper Priest River in the bottom of a steep, high-relief, relatively narrow glacial trough. Regional weather patterns along with a deep-trough bottom location combine to produce an extremely moist environment that receives unusually high precipitation for its elevation. A high relative humidity is present most summer days.

The focus of this botanical area is the combination of extensive, very moist, old growth forests with an extremely rich understory of very moist ferns, forbs, and shrubs. The virtually pristine 12 mile extent of Upper Priest River is also a key feature. An outstanding scenic feature (Upper Priest River Falls) lies near the northern boundary. Most of the botanical area is occupied by old growth western red cedar/western hemlock/grand fir forests. Significant portions of the botanical area are dominated by Ancient Cedar stands (these contain trees >5' DBH with ages 500+ years). The biggest trees are 10+ feet in diameter. This is the largest contiguous area of old growth cedar/hemlock/grand fir forests in the interior western United States. Habitat types are consistently moist to wet, ranging from western red cedar/queencup beadlily in the driest sites to western hemlock/oak-fern, western redcedar/lady-fern, western redcedar//lady-fern/maidenhair fern, and western redcedar/devil's club across most of the area. The forest understory is dominated by an extremely rich, moist community of coastal-disjunct ferns, forbs, and shrubs with some boreal elements. There are significant populations of a number of uncommon, sensitive, and rare plant species. These include the rare plant species northern beechfern, Braun's sword-fern, *Krushea twisted-stalk*, and black snake-root. The area also contains what are likely the most extensive populations in the Idaho Panhandle of maidenhair fern and deerfern.

The area is within the Upper Priest Wild and Scenic River corridor. It is being high-lighted due to the large western redcedars located at the north end of Upper Priest Lake. A popular trailhead and non-motorized recreation trail provides access to the upper 2/3 of this area. The area contains approximately 5096 acres. This is a proposed botanical SIA (see figures L-3-5, pages L-31-33).

## Kootenai NF Proposed SIAs

**494 Bedrock Meadows:** Spectacular bedrock meadow. It is the only known Kootenai NF site for Nevada bitterroot. It is also the site for a new vascular plant species for Montana, Harkness' linanthus. The area contains approximately 35 acres. Botanical (see figure L-43, page L-73).

**Bad Medicine:** A very special area on the Kootenai NF. The area contains a surface expression of the Leonia Fault – rocky cliffs, rockfall. The Fault has been studied by many geologists, including Willis Johns (1972) and is described as having had 26,000 to 32,000 vertical feet of movement in the vicinity of the Bad Medicine area. The rocky cliffs are the only occupied nesting habitat for the peregrine falcon (sensitive species) on the Kootenai. The area also contains sensitive plant species. The cliffs are one of, if not, the largest vertical relief-cliff areas on the Forest. It has important traditional cultural aspects. The area contains approximately 1937 acres. Zoological/Traditional Cultural (see figure L-86, page L-116).

**Baree Creek:** This site is located on the alluvial-fan area where Baree Creek joins Silver Butte Fisher River. The tree vegetation is composed of subalpine fir, Engelmann spruce, and lodgepole pine. It has important traditional cultural aspects. The area contains approximately 57 acres. Traditional Cultural (see figure L-104, page L-134).

**Barron Creek:** The area includes the lands surrounding the mouth of Barron Creek as it enters Kooconusa Reservoir. Much of the area is underlain by lacustrine material deposited as the glacial ice was melting and retreating. It has important traditional cultural aspects. The area contains approximately 326 acres. Traditional Cultural (see figure L-60, page L-90).

**Big Creek Face:** The site is located on a glacially-scoured face adjacent to the south side of Big Creek bay and Kooconusa Reservoir. A stand of lodgepole pine intermixed with Douglas-fir and western larch covers much of the area. An understory of western red cedar and western hemlock is common, especially on the northeast aspect. The area was strongly scoured as glacial ice

“flowed” from Canada. “Polished” rock outcrops can be seen scattered along the slope. It has important traditional cultural aspects. The area contains approximately 327 acres. Traditional Cultural (see figure L-53, page L-83).

**Blacktail Wallows:** A unique area lying amidst five stands in the Blacktail Creek drainage. The unique and noteworthy features in this area include “ancient” old growth western red cedar and western larch, sensitive plant species, pristine wildlife habitat, and historically unique old growth fire regimes. The “wallows” area itself is a moist western red cedar/lady-fern habitat type site with 55+ inch diameter breast height, 400+ year old cedar that have survived wildfires due to their moist-site location. This area is also surrounded by a stand of 350-400+ year old western larch and Douglas-fir in an area that has survived many mixed-severity fires due to the juxtaposition with the stream bottoms, and the fire-resistant nature of the very-old western larch. Also a moonwort genus community is located along the stream courses in the cedar groves. The site also contains unique wildlife habitat. The area contains approximately 144 acres. Botanical/Aquatic (see figure L-67, page L-97).

**Bristow Creek:** The location of a Kootenai National Forest sensitive species, northern beechfern, the eastern-most known location on the Forest. It is within a population of western red cedar that over the years has survived wildfires. The area contains approximately 18 acres. Botanical (see figure L-60, page L-90).

**Callahan Historic Mining & Logging District:** A lot of “sites” related to early-day logging and mining activities lie all along Callahan Creek, including old railroad rail pinned to the canyon walls. The area contains approximately 1689 acres. Heritage Resource (see figures L-79-80, pages L-109-110).

**Canyon Falls:** A neat waterfalls located at a right-angle bend in Canyon Creek, probably on a small fault trace. A stand of black cottonwood and quaking aspen is located below the falls. The area contains approximately 33 acres. Geological (see figure L-61, page L-91).

**Caribou Creek:** 400–500+ year old “fire refugial” type. “Ancient cedar” are scattered adjacent to springs, with adjacent 350+ year old fire-influenced western larch stands in the upland areas. Also noteworthy is a moonwort community located in the cedar groves. The area contains approximately 107 acres. Botanical (see figure L-67, page L-97).

**Cheer Creek:** The location of a Kootenai NF sensitive species, northern beechfern, within an alpine glacial trough. The area contains approximately 67 acres. Botanical (see figure L-82, page L-112).

**Chicago Peak:** Located just inside the Cabinet Mountains Wilderness in the headwaters of Copper Gulch and the drainage containing Cliff Lake. Chicago Peak is the main-named feature, but Milwaukee Pass, Copper Lake, and Cliff Lake are also included. The area has been alpine glaciated and includes such features as cirque basins and arêtes. The area contains approximately 278 acres. Traditional Cultural (see figure L-107, page L-137).

**Cody Lakes:** A series of three small lakes at the head of Cody Creek within calcareous bedrock producing plant species consistent with calcareous soils. A thick organic mat fringes the lower lake. Important shrubs include bog birch, hoary willow, and small-leaved laurel. Major graminoids include slender sedge, few-flowered spikerush, beaked sedge, and mud sedge. It is habitat for northern bog lemming, a Northern Region sensitive species. The area contains approximately 41 acres. Aquatic/Zoological/Botanical (see figure L-98, page L-128).

**Drop Creek Fen:** Location of a variety of Kootenai NF sensitive species. Great sundew, poor sedge, and creeping sedge are present. There is a floating sphagnum fen with tall-bog sedge, many-spiked cotton-grass, and Chamisso's cotton-grass. Northern bog lemming are also found here. The pond formed in glacial debris located at the damming site of a glacial retreat lake. The area contains approximately 25 acres. Aquatic/Botanical (see figure L-93, page L-123).

**East Fork Bull River:** Southern-most known location of northern beechfern on the Kootenai NF. Rich environment for sensitive plant species located along the East Fork Bull River. The area contains approximately 109 acres. Botanical (see figure L-106, page L-136).

**East Fork Pipe Creek:** Parallel, adjacent notches accentuated/created by outflow from glacial lakes ponded in the South Fork Big Creek as well as the east and west branches of the South Fork Big Creek. The area contains approximately 1118 acres. Geological (see figure L-93, page L-123).

**Fairway Falls:** A beautiful waterfall and, therefore, a good potential Geologic SIA. The area contains approximately 40 acres. Geological (see figure L-83, page L-113).

**Falls Creek Scenic Area:** Falls located within and adjacent to the western boundary of the Cabinet Mountains Wilderness. A high falls observed from west of Troy traveling on Highway 2 east to Libby. The area contains approximately 42 acres. Scenic/Geological (see figure L-88, page L-118).

**Fivemile:** A short, narrow canyon on the lower end of Fivemile Creek drainage. It has important traditional cultural aspects. The overstory vegetation is composed of Engelmann spruce and subalpine fir intermixed with western larch and Douglas-fir. The area contains approximately 80 acres. Traditional Cultural (see figure L-59, page L-89).

**Flower Lake:** A small lake lying adjacent to east side of the Cabinet Mountains Wilderness. The landform is the result of alpine and continental glacial till colliding and leaving glacial debris that eventually formed a lake. The lake is surrounded by an organic floating fen that grades into an attached fen. It is referred to as a "poor" fen, which is characterized by a bryophyte layer dominated by sphagnum and low surface-water pH (4.0-5.5). This site is an excellent example of a "poor" fen, a rare wetland type in Montana. It supports a boreal toad population as well as watershield, creeping sedge, English sundew, and pod grass. The area contains approximately 13 acres. Aquatic/Botanical (see figure L-95, page L-125).

**French Creek Cedars:** One of our finest examples of an "ancient", old growth cedar grove in the southern end of the Purcell Mountains. The location of this grove is in the moist valley bottom of French Creek near many stream confluences, which has allowed this grove to survive multiple wildfires. This grove boasts abundant 50+ inch diameter breast height western red cedar, and 40+ inch diameter breast height western larch, many of which exceed 500 years of age. This is also the location of two rare moonwort species. It is the location of a control plot for a moonwort monitoring study. The area contains approximately 131 acres. Botanical (see figure L-64, page L-94).

**Gateway Prairie:** Remnant Palouse prairie. Idaho fescue/bluebunch wheatgrass and rough fescue/bluebunch wheatgrass cover types are present. Soils are neutral to slightly calcareous and have a mollic epipedon (dark surface). The area contains approximately 2137 acres. Ecological (see figure L-50, page L-80).

**Geiger Lakes:** Located on the east side of the Cabinet Mountains divide just inside the Cabinet Mountains Wilderness boundary. The area incorporates all the upper basin of Lake Creek that contains the two Geiger Lakes. The area has been strongly glaciated and the lakes are nestled in two cirques. It has important traditional cultural aspects. The area contains approximately 577 acres. Traditional Cultural (see figure L-103, page L-133).

**Halverson Creek:** Location of northern beechfern, a Kootenai NF sensitive plant species. Unlike the other locations on the Forest the site is similar to sites in Glacier Park—weeping rock walls. The area contains approximately 47 acres. Botanical (see figure L-82, page L-112).

**Kelsey Creek:** This site boasts three rare species in the moonwort genus, two of which are presently on the Kootenai NF sensitive plant species list. The Kelsey Fire engulfed this site in 2000 and, without any human intervention, these populations (located in thick cedar duff) survived this wildfire. This event demonstrated how these three species may have a historic interaction with wildfire edge, and demonstrated the importance of “fire refugia” as habitat for rare plant species. Kelsey Creek is an existing SIA and it is proposed that the present SIA is enlarged to the east to include an additional population of trianglelobe moonwort and is part of the “fire refugia” area. It is the location of a control plot for a moonwort monitoring study. The area contains approximately 49 acres. Botanical (see figure L-74, page L-104).

**Kenelty Caves:** Only caves on Kootenai NF and they are located within the Cambrian Limestone Formation. There is a very small amount of Cambrian exposed on the Kootenai NF. Also grotto-like features are seen in several above-ground sites. The area contains approximately 87 acres. Geological (see figure L-102, page L-132).

**Kootenai Mountain:** Located approximately one mile north of the Kootenai River just as it leaves the canyon between the towns of Libby and Troy. Kootenai Mountain is the highest topographic feature on the divide between Surprise Gulch and Koot Creek. It has important traditional cultural aspects. The area contains approximately 217 acres. Traditional Cultural (see figure L-89, page L-119).

**Libby Creek Gold Panning:** Historic gold panning area located along Libby Creek and Howard Creek. It is commonly used for recreational gold panning. 156 acres. Recreational (see figure L-96, page L-126).

**Little North Fork Falls:** The area is located on the lower end of Little North Fork Big Creek just before it joins Big Creek. The site is a popular recreation area. It has important traditional cultural aspects. The area contains approximately six acres. Recreational/Traditional Cultural (see figure L-53, page L-83).

**Lost Horse Fen:** A unique peatland with a large, floating, sphagnum mat. Also, it is the location of one of two occurrences for Wulf’s sphagnum in Montana. The Kootenai NF sensitive plant species, poor sedge, can be found here. This SIA includes the upper wetland and the unique cliffs and outcrops above the fen. A population of the Kootenai NF sensitive plant species, Iceland-moss lichen, occurs near the fen. The area contains approximately 308 acres. Aquatic/Botanical (see figure L-73, page L-103).

**Lower Bristow:** The area surrounds the mouth of Bristow Creek as it enters Koocanusa Reservoir. The area contains deep deposits of glacial till as well as glacio-fluvial material. It has important traditional cultural aspects. The area contains approximately 371 acres. Traditional Cultural (see figure L-60, page L-90).

**Lower Stone Hill:** Located along Koocanusa Reservoir (approximately 15 miles south of the Canadian Line). This portion of the Kootenai Valley becomes much narrower than further north. As the continental glacial ice moved down-valley the walls of the valley were strongly scoured leaving the area known as Stone Hill highly polished. It is located below Highway 37. The site has important traditional cultural aspects. The area contains approximately 81 acres. Traditional Cultural (see figure L-52, page L-82).

**McKillop Fen:** A unique peatland habituated frequently by moose. An organic mat covers much of the area. Mud sedge, inland sedge, and slender sedge communities dominate. Purple marshlocks and Chamisso's cotton-grass communities are present as inclusions. The site is an example of a "poor" (have a bryophyte layer dominated by Sphagnum moss and low surface water pH) fen. The area contains approximately 28 acres. Aquatic (see figure L-101, page L-131).

**North Fork Keeler:** Location of unique water and plant features. The area contains approximately 95 acres. Aquatic/Botanical/Geological (see figure L-81, page L-101).

**North/Middle/South Forks Bull River:** Location of large population of northern beechfern. The site is a very good representation of western red cedar/devil's club habitat type and contains ladyfern, coolwort foamflower, Hooker fairy-bell, and sweetscented bedstraw. It is a good riparian area with a high water table. The area contains approximately 215 acres. Botanical (see figure L-105, page L-135).

**Northwest Peak Scenic Area:** Additions would be made to both the Kootenai and the Idaho Panhandle portions of the Scenic Area. The additions include larger portions of the glaciated basins and several lakes and the boundary is extended to the Canadian Line. The area includes the high ridgeline setting and the upper, glaciated basins of West Fork Yaak River and American Creek in the northwestern-most corner of Montana. There are several small alpine lakes. Vegetation includes all the high, cold-habitat types and contains moderately open stands of trees that include subalpine larch, subalpine fir, whitebark pine, and Engelmann spruce. The addition will be 8533 acres on the KNF side and 2619 on the IPNF side. The area will have a total acreage of 17, 858 -- 13, 247 on the Kootenai and 4611 on the Idaho Panhandle. Scenic Area (see figure L-62, page L-92).

**Pinkham Falls:** A narrow canyon on lower Pinkham Creek. The falls is the part of the drainage where the stream makes the turn from a northerly flow to a westerly flow to the Koocanusa Reservoir. There is western red cedar located in the canyon bottom. It has important traditional cultural aspects. The area contains approximately 21 acres. Traditional Cultural/Geologic (see figure L-51, page L-81).

**Pipe Ridge:** Site includes several Kootenai NF sensitive moonwort species. The area contains approximately 30 acres. Botanical (see figure L-94, page L-124).

**Purcell Summit Fen:** A unique peatland with a large floating sphagnum mat. Also, it is the location of an occurrence of poor sedge and sundew species, as well as many other unique peatland species. The area contains approximately 76 acres. Aquatic/Botanical (see figure L-68, page L-98).

**Rainbow Lake:** A glacial-debris lake located in the Purcell Mountains. Floating and anchored mats exist around the lake. The fen is dominated by a slender-sedge community. The site supports three rare plants; swollen beaked sedge, English sundew, and pod grass. It is an excellent example of a "poor" (dominated by a bryophyte layer rich in sphagnum moss and a low surface water pH)

fen. A small gorge is associated with the outlet. The area contains approximately 167 acres. Aquatic (see figure L-91, page L-121).

**Rock Creek Meadows:** A significant meadow, wetland area in the head of Rock Creek. It lies adjacent to the west side of the Cabinet Mountains Wilderness. The area contains approximately 186 acres. Aquatic/Botanical (see figure L-107, page L-137).

**Ross Falls:** It is located on lower Ross Creek below Ross Creek Cedars. The falls is tucked in a narrow gorge with steep sidewalls and scattered vegetation on the rocky, southerly aspect. It has important traditional cultural aspects. The area contains approximately 44 acres. Traditional Cultural/Geological (see figure L-85, page L-115).

**Silver Butte Mountain:** Located in the head of Silver Bow Creek, the area is mostly an upland meadow with minimal tree cover that faces to the east. It contains a lot of herbaceous vegetation. It has important traditional cultural aspects. The area contains approximately 170 acres. Traditional Cultural (see figure L-104, page L-134).

**Skid Creek Fen:** A small lake with floating fen and the location of sensitive species: northern bog violet, pod grass, and hardstem bulrush. The area contains approximately 79 acres. Aquatic/Botanical (see figure L-57, page L-87).

**Smeads Bench:** The fen occupies an elongated, trough-like feature cut into the level-lying sedimentary rocks of an erosional bench about 1000 feet above the Clark Fork River valley. Glacial Lake Missoula floods probably played a role in the creation/enlargement of the site. Western hemlock/queencup beadrily habitat type is the dominant flora in the vicinity. It is the site of core samples taken to study forest history in order to understand the natural, manageable range of variability in disturbance regimes and taxonomic composition for forest stands. The area contains approximately 68 acres. Aquatic (see figure L-108, page L-138x).

**Spar Creek Cedars:** The location of this grove is in the moist valley bottom of Spar Creek just south of Spar Lake. It is in an alpine glaciated valley. This grove boasts abundant 50+ inch diameter breast height western red cedar, many of which exceed 500 years of age. The area contains approximately 74 acres. Botanical (see figure L-84, page L-114).

**Spar Springs:** Subsurface outlet for Spar Lake. Spar Lake has no surface outlet and the spring area is recognized as the outlet for the lake. The flow from the springs is in the 60-80 cubic feet per second. The area contains approximately 196 acres. Aquatic (see figure L-83, page L-113).

**Spruce Mountain Rockfall:** In the geologic past the south side of Spruce Mountain slid into the valley of the South Fork Keeler Creek. The rockfall created a terrace-like feature at the base of Spruce Mountain and also a steep, talus-like, rock-face feature in the valley of the South Fork. The area contains approximately 49 acres. Geological (see figure L-83, page L-113).

**Stone Hill:** The area is located along the Koozan Reservoir (approximately 15 miles south of the Canadian Line). This portion of the Kootenai Valley becomes much narrower than further north. As the continental glacial ice moved down-valley the walls of the valley were strongly scoured leaving the area known as Stone Hill highly polished. Site used for significant amounts of rock climbing. Used for training novice climbers. The area contains approximately 760 acres. Recreational/Geological (see figure L-52, page L-82).

**Sutton Falls:** A drainage flowing from the north into Sutton Creek that contains a very visible falls during the spring melt period. The topography is very steep and the falls has a drop of over

100 feet. The vegetation is sparse. A lot of bedrock is scattered along this aspect. The area contains approximately 113 acres. Traditional Cultural/Geological (see figure L-52, page L-82).

**Ten Lakes Scenic Area:** The area incorporates most of the land between Grave Creek and the Canadian Line. Elevations range from 3200 feet in the bottom of Grave Creek to over 7800 feet on Green and Poorman Mountains. All of the area was glaciated, mostly by alpine ice, as evidenced by the cirque basins and lakes, the glaciated troughs, and the sharp mountain ridges. The landform facing into the Eureka Valley was largely influenced by continental ice. The area includes the landform known as Gibraltar Ridge. Much of the vegetation reflects a cooler/colder climatic influence—subalpine fir, Engelmann spruce, beargrass, grouse whortleberry and mountain hemlock. The Mediterranean influence extends up Grave Creek as evidenced by the stands of western redcedar. The Wigwam River and Blacktail Creek drain much of the northern portion of the area. These drainages flow into Canada where the water eventually joins the Kootenai River.

The area will include the Therriault Pass proposed SIA (approximately 479 acres). This site is a prominent U-shaped feature on the skyline seen while traveling north on US Hwy 95 between Fortine and Eureka. It is a fault-notch that was scraped/gouged/expanded by ice backing to the west away from the main alpine lobe. Between the existing and the proposed the area now contains 60,820 acres. Scenic/Recreational/Geological (see figures L-37-39, pages L-67-69).

**Tenmile Falls:** A steep-walled canyon with a series of falls in the middle section (mostly below the junction of Briery and Tenmile Creeks) of the Tenmile drainage. There is a lot of talus and rock bluffs. The southeasterly aspect is mostly devoid of vegetation while the northwesterly aspect has moist species mixed in with the rock bluffs. It has important traditional cultural aspects. The area contains approximately 187 acres. Traditional Cultural/Geological (see figure L-58, page L-88).

**Tepee Lake:** A beautiful lake with floating and anchored organic deposits. It is the only known location on the Kootenai NF and in Lincoln County for great sundew. The floating mat is dominated by a dulichium community. The site is a very good example of a “poor” (characterized by a bryophyte layer dominated by sphagnum moss and low surface water pH) fen. It is also home for buckbean, spatter-dock, dulichium, and purple cinquefoil. The area contains approximately 46 acres. Aquatic/Botanical (see figure L-97, page L-127).

**Vermilion Falls:** This site is represented by a series of falls located on the middle section of the Vermilion River near where Thirteen Gulch and Little Joe Gulch join the river. The area has a lot of traditional cultural value. The area contains approximately 99 acres. Traditional Cultural/Recreational (see figure L-111, page L-141).

**Vinal Lake:** A glacial lake located just east of the Yaak River between Vinal Creek and Yodkin Creek. The surrounding vegetation is composed of moist forest vegetation. It has important traditional cultural aspects. The area contains approximately 83 acres. Traditional Cultural (see figure L-69, page L-99).

**West Pipe:** Wide species diversity, lots of orchid and moonwort species. A springboard stump reflects old logging activity in the area. Many meandering channels move through the area. The area contains approximately 17 acres. Botanical (see figure L-94, page L-124).

**Winkum Creek:** Five species from the club-moss family occur here. This site is known primarily for the occurrence of “Running pine”. This is one of only two known sites for this species in

Montana. The other population is located in Glacier National Park. This is also the site for a population of alpine clubmoss, possibly the only known occurrence for this species on the Kootenai NF (there is one other historical report of this species from the Cabinet Mountains Wilderness Area). Also the Kootenai NF Sensitive species, Alaskan clubmoss, occurs here as well. Other Lycopod's present at this site include stiff clubmoss and ground cedar. The area contains approximately 80 acres. Botanical (see figure L-62, page L-92).

**Yaak Falls:** It is the second largest falls on the KNF, but has a greater drop than Kootenai Falls. Since the top of the falls is adjacent to the Yaak Highway it has high recreational interest. An old roadway spanned the top of the falls at one time. It also has important traditional cultural aspects. The area contains approximately 44 acres. Recreational/Traditional Cultural (see figure L-76, page L-106).

## Research Natural Areas

### PROCESS

Research Natural Areas (RNAs) and Experimental Forests are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands. RNAs are for nonmanipulative research, observation, and study. Most of these areas protect either outstanding example of late successional plant communities; or pristine examples of plant communities that are relatively rare; or unusual complexes of plant communities in very good condition. They also may assist in implementing provisions of special acts, such as the Endangered Species Act and the monitoring provisions of the National Forest Management Act. The prime consideration in managing RNAs is maintenance of unmodified conditions and natural processes. Most areas were established prior to the beginning of this Revised Forest Plan effort. The few that are proposed in this Plan were identified over the previous 10 years as unique habitats or prime examples of habitat types that are not currently identified in existing RNAs.

### Idaho Panhandle NFs Existing RNAs

**Binarch Creek:** This RNA consists of a low gradient stream, with beaver dams and ponds, inhabited by a pure strain of westslope cutthroat trout, and of adjacent steep forested slopes containing habitat types dominated by grand fir, western redcedar, Douglas-fir, and western hemlock. The stream and ponds harbor an unusually high diversity of aquatic invertebrates and plants. Established in 1989 the RNA contains approximately 653 acres (see figure L-13, page L-41).

**Bottle Lake:** This RNA consists of Bottle Lake, a 15-acre sphagnum fen and lake, and adjacent slopes. The primary feature of the RNA is the sphagnum fen. Rare plants found in the fen include maidenhair berry, marsh clubmoss, scheuchzeria, water clubbrush, and swamp cranberry. A dense forest of old growth western redcedar, western hemlock, and western white pine is co-dominant with grand fir and Douglas-fir in the overstory and is located in the surrounding area. Established in 1982 the RNA contains approximately 258 acres (see figure L-9, page L-37).

**Canyon Creek:** This RNA lies at the southern end of the Selkirk Mountains. Most of the RNA is forested with near-climax stands, primarily of western hemlock, western red cedar and subalpine

fir. Other tree species found in the RNA are western white pine, Douglas-fir, grand fir, western larch, lodgepole pine, ponderosa pine, Engelmann spruce, and whitebark pine. About 30 acres of the southern slope are an upper-elevation “bald” – grassland dominated by green fescue and patches of beargrass. Huge rockslides occur throughout the RNA. A cold spring on the west slope of the RNA is the origin of Benton Creek. Canyon Creek originates from several springs within the RNA. Established in 1937 the RNA contains approximately 987 acres (see figure L-16, page L-44).

**Five Lake Butte:** This RNA is a subalpine glaciated basin containing two lakes, moderate to steep gradient streams, and forest stands dominated by mountain hemlock. Bacon Lake, the larger of the two lakes, contains fish; the smaller lake does not. Other tree species found in the RNA include whitebark pine, Engelmann spruce, subalpine fir, lodgepole pine, and an occasional western white pine. Much of the basin burned in 1910 and perhaps later; stands of trees of various ages are present. Established in 1988 the RNA contains approximately 325 acres (see figure L-35, page L-63).

**Hunt Girl Creek:** This RNA encompasses the upper portion of the Hunt Girl Creek drainage in the Cabinet Mountains, extending from elevations below 4,000 feet to nearly 6,300 feet on Boulder Mountain. Most of the slopes above 4,500 feet are covered with vegetation that is, or potentially will be, dominated by subalpine fir. Western hemlock and western redcedar forests occur at the lowest elevations within the RNA.

Divide Lake, located near the southwestern boundary, is a system of wetland sites. The wet sedge meadows, fens, and streams increase the area’s diversity and wildlife habitat. Rainbow trout and cutthroat trout are present in the Hunt Girl Creek drainage. Established in 1978 the RNA contains approximately 1426 acres (see figure L-21, page L-49).

**Kaniksu Marsh:** This RNA consists of an undisturbed, 90-acre, crescent-shaped marsh and wet meadow, and adjacent forested slopes. Open water, less than six feet deep, with submergent aquatic plants surrounds an “island” of emergent vegetation at the lower end of the marsh. The central portion of the marsh ranges from shallow water to saturated soil with sedges and rushes interspersed with beaver ponds. This habitat grades into a spruce-hemlock forested wetland and sphagnum fen to progressively drier sites with margins of bog birch and alder and a forest setting at the upper end. Rare plants found in the fens include green keeled cotton-grass, northern starflower, maidenhair berry, swamp cranberry, and inundated clubmoss.

The old growth and second growth forests are composed of ponderosa pine, western white pine, western larch, grand fir, Douglas-fir, western hemlock, western red cedar, Engelmann spruce, and lodgepole pine. Habitat types within the RNA include western hemlock/queencup beadlily, grand fir/queencup beadlily, and Douglas-fir/ninebark. Established in 1981 the RNA contains approximately 172 acres (see figure L-14, page L-42).

**Montford Creek:** This RNA is a typical small drainage on the Coeur d’Alene National Forest. The RNA contains Montford Creek, a small perennial riffle-pool, spring-fed stream. Ridges, V-shaped valleys, and steep to moderate mountain slopes comprise the topography of the area. All of the RNA is forested with old growth stands of relatively pure or various mixtures of western hemlock, grand fir, western white pine, western larch, Douglas-fir, and occasional Engelmann spruce and subalpine fir. Western hemlock is the potential climax tree species over most of the RNA.

Within this rather narrow ecological framework, most of the RNA supports the moist habitat types of the western hemlock series. At least five habitat types are represented in the RNA. The

understory shrub, forb, grass-like, and grass vegetation is rich and diverse. The RNA was originally established as an example of undisturbed old growth white pine. Since its establishment in 1937, there has been very heavy mortality of western white pine due to infestation by the mountain pine beetle and white pine blister rust. Today, very little western white pine forest type remains. This RNA provides an excellent opportunity to observe ecosystem response to the loss of white pine, in the absence of any other human disturbance. The RNA contains approximately 299 acres (see figure L-27, page L-55).

**Pond Peak:** This RNA is an upper-elevation watershed basin of old growth mountain hemlock surrounding a small pond. The near-pure mountain hemlock stands are in the climax stage of succession. Habitat types included in the RNA are mountain hemlock/menziesia and mountain hemlock/beargrass. Sapling- to pole-size, mixed-stands of mountain hemlock, lodgepole pine, subalpine fir, occasional whitebark pine, western larch, Douglas-fir, and western white pine are also present and resulted from a large, severe fire in 1931.

There is a small pond without an outlet that is fed by springs and melting snow banks. The pond is fringed with Sitka alder and sedges. The area also contains talus slopes of very old sedimentary rocks, with a variety of ripple marks showing on cleavage faces. Established in 1988 the RNA contains approximately 269 acres (see figure L-25, page L-53).

**Potholes:** This RNA is an example of a diverse, aquatic-wetland area resulting from Pleistocene glaciation and surrounded by forests of western hemlock and associates. The area contains a large upwelling cold spring. The spring ponds drain into a spring stream which supplies water for a complex of wet meadows, a fen, and several beaver ponds. Three streams drain the ponds. Two of these unite on a lower bench of alder meadows, marshes, and sphagnum moss fen. A number of rare and interesting plant species are found in the area, including northern starflower, swamp cranberry, poor sedge, maidenhair berry, and swamp willow-herb. Two uncommon plant communities, western red cedar/skunk cabbage habitat type and western red cedar/common horsetail community type, also occur in the RNA. The area contains approximately 305 acres (see figure L-12, page L-40).

**Round Top Mountain:** This RNA includes and surrounds Round Top Mountain (elev. 6466') in extreme northeastern Washington State, on a Selkirk Mountain divide between the Priest Lake watershed and Sullivan Creek (which drains into the Pend Oreille River about 10 miles south of the Canadian border). It contains multiple high elevation vegetation types including: a subalpine parkland dominated by a green fescue grassland in excellent condition; old growth mixed subalpine fir forest with a white rhododendron shrub layer; and whitebark pine krummholz. It also contains habitat for woodland caribou, grizzly bear, lynx, wolverine, boreal owl, and wolf. The total RNA contains approximately 212 acres, 96 acres of which are on the Idaho Panhandle National Forest, and 116 acres administered by the Colville National Forest (see figure L-10, page L-38x).

**Scotchman No. 2:** This RNA contains a high mountain peak (elevation 6,989 feet) in the panhandle of Idaho with surrounding subalpine conditions, including rock cliffs, ledges, talus slopes, and subalpine vegetation. The RNA is representative of the complex geology of low-grade metamorphism of Precambrian sedimentary rock strata that have been folded, tilted, fractured, and glaciated. Scotchman No. 2 RNA contains subalpine fir forests in various mixtures with Engelmann spruce, lodgepole pine, whitebark pine, western larch, western white pine, and Douglas-fir.

Other features of the RNA include a small pond without fish in a glacial cirque and many avalanche paths, some of which are well vegetated with Sitka alder. Grizzly bear occur in the

area, which is considered to be important habitat within the Cabinet-Yaak grizzly bear ecosystem. Established in 1988 the RNA contains approximately 1312 acres (see figure L-22, page L-50).

**Smith Creek:** This RNA contains undisturbed sphagnum fens and associated ponds, along with other areas dominated by sedges, cotton-grass, Engelmann spruce, and subalpine fir. Subalpine fir forest communities are present, especially the subalpine fir/white rhododendron community type. Three rare plant species are found in the fens: northern starflower, poor sedge, and sundew. Maple-leaf currant occurs in higher elevation sites. The area contains habitat for the woodland caribou - an Endangered species - and the Threatened grizzly bear. Established in 1988 the RNA contains approximately 1248 acres (see figure L-17, page L-45).

**Snowy Top:** This RNA is steep, mountainous high-elevation country near the United States/Canada border. The RNA represents near-alpine conditions of the Selkirk Mountains. It contains at least four subalpine fir habitat types, a southeastern slope of green fescue, a wet meadow dominated by undergreen willow, alpine and subalpine plant species, and at least two rare plant species: alpine arnica and Sitka mistmaiden. The area is habitat for the Endangered woodland caribou and the Threatened grizzly bear. Established in 1991 the RNA contains approximately 845 acres (see figure L-2, page L-30).

**Spion Kop:** This RNA is located on the floodplain of the Coeur d'Alene River and provides an example of complex river channel features, associated wetlands and river terraces, and riparian hardwood communities in excellent natural condition. Channels of the river and Tepee Creek have changed over the years due to flooding; resulting in a number of dry channels and sloughs. Beavers have dammed some of the sloughs, resulting in ponds and small marshes. River otters have been observed in the area. The RNA contains stands and scattered individual trees of very large northern black cottonwood, abundant hawthorn, and riparian shrub and grass/forb communities that have been relatively undisturbed except by natural events. The hawthorn provides a high quality late summer/fall food source for numerous species of wildlife, and the extensive hardwoods provide quality habitat for numerous bird species.

The area was severely burned in 1931, although most of the moist valley bottom escaped the fire. Stands of mixed coniferous species on the slopes adjacent to the valley bottom originated after the 1931 fire. The slopes are primarily potential western hemlock climax. Western white pine planted in the mid-1900s once dominated many of the slopes, but white pine blister rust has decimated the trees, with the result that other native species that seeded in naturally dominate the stands. Established in 1988 the RNA contains approximately 480 acres (see figure L-24, page L-52).

**Tepee Creek:** This RNA contains the Tepee Creek drainage and consists of a rather flat valley, a few short tributary gulches, and low, rounded ridges. The soil is a deep, sandy loam overlying schistose rocks of the Kaniksu Batholith. The area was subjected to continental glaciation. The RNA was established for its stands of 300-year old white pine, western redcedar and western hemlock. The older stands are encircled by younger pole stands of white pine resulting from previous fires. Blister rust, mountain pine beetle, and wind throw have taken a heavy toll on the white pine providing an opportunity to observe natural ecosystem response in the forest type in the face of these disturbances. Established in 1935 the RNA contains approximately 613 acres (see figure L-9, page L-37).

**Three Ponds:** This RNA is a small, heavily glaciated basin containing three productive lakes or ponds. Each pond is shallow, between three to five acres in size, without fish, and with the pond level controlled by beavers. About one third of the RNA is mature forest that originated about 1850, and approximately two-thirds is a mixture of older trees and young stands that originated

following a 1929 fire. The RNA contains Douglas-fir, grand fir, western redcedar, and western hemlock habitat types. An excellent stand of western paper birch occurs on the northern side of East Pond. A sharp, deep valley near the western boundary of the RNA marks a fault line. Sitka alder and lady-fern border a small stream in this valley. Established in 1988 the RNA contains approximately 243 acres (see figure L-20, page L-48).

**Therault Lake:** This RNA consists of a small lake surrounded by mountain hemlock forests within four habitat types. Old growth forests in the RNA are predominantly mountain hemlock, but also contain subalpine fir and Engelmann spruce. Adjacent to the lake are two meadows, one at the inlet of the lake and the other at the outlet, each dominated by a different species of sedge. Established in 1991 the RNA contains approximately 156 acres (see figure L-30, page L-58).

**Upper Fishhook:** This RNA is located in the upper basin of the East Fork Fishhook Creek. The area occurs on granitics of the Kaniksu Batholith and is characterized by broken, rolling topography, rushing streams, beaver ponds, and fens. The RNA contains one of the few remaining areas of climax western red cedar in the St. Joe River drainage. The cedars are 200+ years old, averaging four feet diameter breast height (DBH), with several trees greater than seven feet DBH. Mature western white pine, western larch, Douglas-fir, and grand fir occur with western redcedar toward the south edge of the area. Western white pine has a high incidence of heart rot and blister rust. Established in 1971 the RNA contains approximately 319 acres (see figure L-29, page L-57).

**Upper Shoshone Creek:** This RNA encompasses a small, undisturbed watershed in the Upper Shoshone Creek drainage on the crest of the Bitterroot Range. The RNA contains a diversity of aquatic features. Both western and mountain hemlock habitat types occur in the area, including old growth stands of each species. Two undescribed western hemlock-dominated communities occur on wet sites: western hemlock/devil's club and western hemlock/lady-fern. The RNA contains two undescribed western yew phases of drier western hemlock types that occur on lower north slopes and two subalpine fir habitat types. Also included is a subalpine bald dominated by green fescue, elk sedge, and bluebunch wheatgrass. Established in 1988 the RNA contains approximately 1306 acres (see figure L-23, page L-51).

**Wellner Cliffs:** Wellner Cliffs RNA is comprised of 305 acres on the Priest River Ranger District, and lies wholly within the Priest River Experimental Forest. This RNA was officially designated in 2005. The primary feature of the RNA is approximately 1.5 miles (2.4 km) of cliffs, talus slopes, and dry forests embedded in a fine-scale matrix with adjacent wet riparian forests. The dry forests contain scattered, remnant, old growth ponderosa pine, Douglas-fir, and western larch. High-quality examples of dry forest habitat types with remnant historic old growth have become rare in this generally moist area. Uncommonly steep environmental gradients under geological control result in a very wide range of habitat types and vegetation communities in close proximity, along with very high plant species diversity for such a small area. The cliffs, along with the adjacent dry forests and talus slopes, form a very diverse complex of habitat types that was previously poorly represented in the northern Idaho RNA network. Moss and lichen diversity is particularly high. This RNA also serves as a baseline natural reference area for the active research that's going on elsewhere within the Experimental Forest. Established in 2005 the area contains approximately 305 acres (see figures L-15-16, pages L-43-44).

## Kootenai NF Existing RNAs

**Big Creek:** The RNA is located on a series of terraces at the mouth of Big Creek where it joins Koocanusa Reservoir. The main habitat type is Douglas-fir/dwarf huckleberry. This vegetative

type is uncommon on the Kootenai NF and is generally confined to terraces and benches. The soil material is a glacio-fluvial deposit composed mainly of mixed and sorted silts, sands, and gravels. The terraces are nearly flat except for the steep edges that slope into the reservoir. This habitat type is generally only found on benchy/terrace landforms. Other vegetative types include drier Douglas-fir types, but scattered western redcedar and Engelmann can be seen. Established in 1991 the RNA contains approximately 182 acres (see figure L-53, page L-83).

**Hoskins Lake:** Hoskins Lake RNA is comprised of rolling to steep forested, mountainous terrain in the Yaak River drainage. The major habitat type is Engelmann spruce/queencup beadlily; others include Engelmann spruce/twinflower, Douglas-fir/twinflower, and western redcedar/queencup beadlily. The topography from the western boundary gradually rises to the east ending in two knobs. From these knobs the landform drops sharply to the east towards two lakes. The lakes lie in a structural trough created by fault activity and further enhanced by subsequent glacial scouring. Mature stands of western larch, Douglas-fir, Engelmann spruce, and western red cedar occupy much of the area. Established in 1992 the RNA contains approximately 376 acres (see figure L-69, page L-99).

**LeBeau:** Ridges and troughs, formed by intense glacial scouring as ice sheets advanced through a narrow portion of the Rocky Mountain Trench, characterize the topography of the LeBeau RNA. The resultant ridges, cliffs, and troughs are oriented parallel to the flow of the glaciers, generally north-south. A number of nearly level ridgetops support interesting herbaceous communities with an abundance of clubmosses, true mosses, and lichens. The more rounded ridgetops and mountain slopes support forests dominated by Douglas-fir, subalpine fir, western larch, and lodgepole pine. Troughs and valley bottoms feature wetlands and mesic forests, of spruce, grand fir, western redcedar, and western hemlock. Seven ponds and one lake ranging in size from 5-34 acres occur within the RNA. LeBeau RNA provides an important and viable area to meet the need for a landscape-level reference for understanding the range of natural variability of larger-scale natural processes. Established in 1995 the RNA contains approximately 5709 acres. The RNA is shared with the Flathead NF. Only 411 acres are on the Kootenai NF (see figure L-44, page L-74x).

**Lower Ross Creek:** The RNA contains an extensive stand of large, mature western red cedar. The wind-sheltered position and perpetual moistness of the streamsides have protected the western red cedar from most wildfires. It is evident light ground fire has moved into the stands as indicated by charred stumps and stems of cedars. Some stand-replacing fires have occurred as evidenced by some seral communities dominated by western larch, lodgepole pine, and Douglas-fir. The mature stands generally contain western redcedar, western hemlock, and western white pine. The mountain slopes are underlain by quartzite bedrock of the Belt rock group with several rock outcrops and talus slides present. The area was influenced by both alpine and continental glaciation. Some of the cedars may be more than 1000 years old. Established in 1997 the RNA contains approximately 1673 acres (see figure L-85, page L-115).

**Norman Parmenter:** The vegetation of the RNA varies from mature trees of western hemlock, western redcedar, black cottonwood, Douglas-fir, Engelmann spruce, and subalpine fir to pole-sized grand fir, western larch, Douglas-fir, lodgepole pine, western white pine, and Engelmann spruce. High water flows during winter rain-on-snow events and/or high spring flows have caused the main Parmenter Creek channel to migrate across the flood plain. These flood events have produced favorable habitat for the establishment of black cottonwood. The main vegetative features are Douglas-fir/pinegrass habitat type and stands of black cottonwood. The RNA lies in a canyon that was developed through natural processes, but was strongly influenced by alpine glaciation. Established in 1997 the RNA contains approximately 1289 acres (see figure L-95, page L-125).

**Pete Creek Meadows:** Pete Creek Meadows RNA is located in the Purcell Mountains in extreme northwestern Montana. It occupies the headwater reaches of Pete Creek within the Yaak River watershed. It lies on the topographic divide of two large watersheds. The RNA contains a series of wet meadows and adjacent stands of coniferous forest. Pole-sized to mature stands of subalpine fir, Engelmann spruce, and lodgepole pine occupy the small hillocks in the almost-level terrain. Sedges dominate the low-lying areas. The area is within a northwest trending fold, which lies about halfway between the Sylvanite Anticline and the Yaak River Syncline. Established in 1992 the RNA contains approximately 153 acres (see figure L-63, page L-93).

**Ulm Peak:** This RNA along the Bitterroot Divide contains a mature stand of mountain hemlock forest. Mountain hemlock is found primarily in the Cascade Mountains, western British Columbia, southern Alaska, and northern California. This site represents mountain hemlock's eastern range limits. This stand is valuable because of its mature, well-developed status. Fire has not influenced much of the RNA during the past two centuries. The area exhibits steep, rocky cliffs and talus slides. Ancient ripple marks and mud cracks are characteristic of the Precambrian bedrock. Whitebark pine and lodgepole pine are common along the edges of the rocky sites. The cliffs are wet and seep moisture through most of the summer. The wet ledges and crevices support an abundance of liverworts, mosses, ferns, and high moisture-requiring vascular plants. Established in 1988 the RNA contains approximately 689 acres (see figure L-110, page L-139).

**Wolf Weigel:** The RNA is located along the western edge of the Salish Mountains in northwestern Montana. It features a gorge and waterfall, a steep-sided basin, and a wetland dominated by willows and sedges. The vegetation varies from old growth elements of subalpine fir, Engelmann spruce, western larch, and Douglas-fir to pole- and sapling-sized lodgepole pine and western larch. The steep southerly and westerly slopes are comprised mainly of shallow soil, rock outcrops, and talus dominated by dry Douglas-fir vegetation while the gentler slopes have deeper soil and a greater variety of vegetation. The RNA includes a surface expression of the Pinkham Thrust; thus, the head of Wolf Creek lies in a trough. As a result, the head of Weigel Creek and glacial lakes draining to the south have downcut a steep canyon as it joins Wolf Creek. Established in 1992 the RNA contains approximately 240 acres (see figure L-99, page L-129).

## Idaho Panhandle NFs Proposed RNAs

**Red Horse Mountain:** Red Horse Candidate RNA encompasses approximately 1,274 acres in the upper reaches of Blue Lake Creek, reaching to the top of Red Horse Mountain at the head of the drainage. It lies approximately 5 miles east of Lake Coeur d'Alene, & approximately 3 miles north of the lower reaches of the Coeur d'Alene River. Its outstanding features are the upper slopes of several southerly and westerly facing ridges with extensive areas of dry plant communities in unusually pristine condition. One south facing ridge above Cottonwood Creek contains an extensive area of open-grown, old growth ponderosa pine with bunchgrass and low shrub understory. In-growth of Douglas-fir or dense young pine is relatively minimal. Multiple fire scars are present on some of the older trees. Other dry upper ridges contain significant areas of Idaho fescue, bluebunch wheatgrass, numerous dry site forbs, and low shrubs, with minimal evidence of forest domination. Bank monkeyflower is present.

Dry forests and plant communities like this were once extensive at low elevations in northern Idaho, but are now relatively rare, and examples in good condition are very rare on National Forest lands in the Idaho Panhandle. This RNA was nominated by Chuck Wellner in 1992, and was one the last he proposed on Forest Service lands in northern Idaho (see figure L-26, page L-56).

**Upper Priest River:** This proposed RNA encompasses the relatively level land between Upper Priest River and the Hughes Fork upstream from their confluence. Included are riparian floodplain lands along the two rivers, isolated oxbows in various stages of filling, and a series of old river terraces that become drier with increasing elevation. Ancient western red cedar forests, extremely wet habitat types of western redcedar/maidenhair fern and a diversity of rare plant species (including rare lichens) distinguish this area. Rare plants in the area include Anderson’s sword-fern, lance-leafed moonwort, Mingan moonwort, maidenhair berry, jelly lichen, and northern beechfern. Upper Priest River Proposed Research Natural Area (RNA) encompasses approximately 1340 acres of floodplain and river terraces, along and between the lower two miles of Upper Priest River and the Hughes Fork down to the mouth of Upper Priest Lake. This RNA was originally proposed in the mid 1970’s by the Northern Region Natural Areas committee, and included as a candidate RNA in the 1987 IPNF Forest Plan. The Region supported Establishment, but awaited completion of a necessary land exchange. That land exchange was completed in 1998 for the specific purpose of establishing this RNA.

This RNA features some of the most outstanding Ancient Cedar Groves in the Northern Rocky Mountains. Included are extensive areas of old growth cedar/hemlock forest, in conjunction with unusually diverse rare plant communities; some unique plant populations for northern Idaho, 21 different vegetation stand types; pristine shrub carr and riparian hardwood communities; several miles of pristine river channel; and a rich wildlife presence. The RNA includes the riparian floodplain lands along the two rivers, isolated oxbows in various stages of filling, and a series of old river terraces that become drier with increasing elevation. Five rare plants species are known from the area: northern beechfern, Braun’s sword-fern, arrowleaf coltsfoot, black snake-root, and *Krushea twisted-stalk*. The northern beechfern population is the largest known for Idaho. Unusually large populations of skunk cabbage and maidenhair fern, and moonworts are also present.

Harlequin duck are suspected to be breeding on Hughes Fork and the Upper Priest River. Flocks of Boreal chickadee a state species of special concern have been observed within the area. The area supports grizzly bear and provides potential habitat for caribou and fisher. Other significant wildlife species include great gray owl, bull trout, and bald eagle.

The great diversity in vegetation, outstanding Ancient Cedar Groves, large rare plant populations, numerous rare and T&E animal species, and pristine riparian and wetland features all combine to make the Upper Priest River Proposed RNA one of the outstanding Research Natural Area locations in the Northern Rocky Mountains. The area contains approximately 1351 acres (see figure L-6, page L-34).

## Kootenai NF Proposed RNAs

**Doonan Peak:** The area contains hybrids of a cross between western larch and alpine larch. It is known as hybrid larch. This site has an extensive, well-developed distributional overlap of western larch and alpine larch and their natural hybrids. Trees of all three taxa are present in both old growth and young age classes. It is the largest known concentration of hybrid larch in northwestern Montana. After the St. Mary’s area in the Bitterroot Valley it is the most extensive natural hybridization zone of western larch and alpine larch. The site also contains a tree that is nominated for the Montana Champion Tree Program for alpine larch. The proposed RNA is located adjacent to the Cabinet Mountain Wilderness. The area is in a rugged glacial cirque having a steep headwall with talus slopes and an adjacent subalpine ridge. The site contains approximately 504 acres (see figure L-87, page L-117).

**Huson Peak:** The area contains a viable stand of whitebark pine. This stand is an historic representation of the species for western Montana and northern Idaho. The site is used for collecting seed for a breeding program to determine genetic resistance of the species to white pine blister rust. It is not know if these trees contain any rust resistance, but they are alive and well, while many of the stands in the area have been killed by the rust. The stands are generally located above 5800 feet elevation. This site is approximately 731 acres (see figure L-92, page L-122).

**Seven Point:** The area contains a viable stand of whitebark pine. This stand is an historic representation of the species for western Montana and northern Idaho. The site is used for collecting seed for a breeding program to determine genetic resistance of the species to white pine blister rust. It is not know if these trees contain any rust resistance, but they are alive and well, while many of the stands in the area have been killed by the rust. The stands are generally located above 5800 feet elevation. This site is approximately 1991 acres (see figure L-112, page L-142).

## Experimental Forests

### Idaho Panhandle NFs Experimental Forests

**Priest River Experimental Forest:** This area was established for the purpose of researching tree species common in the inland northwest, including western white pine. The area, which includes Wellner Cliffs RNA and Canyon Creek RNA, encompasses approximately 6200 acres (see figures L-15-16, pages L-43-44).

**Deception Creek Experimental Forest:** This area was established in an area that was primarily large, mature western white pine at the time the experimental forest was established in the 1930s. Montford Creek RNA is included within the 3500 acres (see figure L-27, page L-55).