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Special Areas, Research Natural Areas, and Experimental Forests

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Idaho Panhandle National Forests



Cover Photo: Orville Mountain

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Special Areas, Research Natural Areas, and Experimental Forests

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

Special Areas

Introduction

Special Areas were identified for a wide variety of reasons. These areas are managed to emphasize recreational and other specific related values. Special Areas are classified as follows:

- Botanical – A unit of land that contains plant specimens, plant groups, or plant communities that are significant because of their form, color, occurrence, habitat, location, life history, arrangement, ecology, rarity, or other features;
- Geological – A unit of land with outstanding formations or unique geological features of the earth's development such as caves, fossils, dikes, cliffs, or faults;
- Historical – A unit of land possessing a significant site or a concentration of sites, buildings, structures, or objects, united historically or prehistorically by plan or physical development. Memorial areas are included in this definition;
- Paleontological – A unit of land that contains fossils of plants and animals, shellfish, early vertebrates, coal swamp forests, early reptiles, dinosaurs, and other prehistoric plants or animals;
- Recreational – A unit of land that has been administratively designated for particular recreation opportunities or activities such as hiking, rock hounding, recreational mining, photography, or other special activities;
- Scenic – A unit of land with outstanding natural beauty that requires special management to preserve this beauty;
- 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, ecology, rarity, or other features. A Pioneer Area is 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.

Following is a brief description of each existing or recommended Special Area. A locator map and individual maps are found following the descriptions of the Special Areas and Research Natural Areas.

Existing Special Areas

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 feet downward into a pool continuing its path until joining the Moyie River. The area contains approximately 40 acres (Geological).

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 (Botanical),

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 five to eight 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 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 five to seven foot diameter trees throughout much of this larger area, and numerous eight to nine 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 percent 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 1960s-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 (Botanical).

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 2,600 feet to over 7,000 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 13,948 acres (Pioneer).

Northwest Peaks 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 1,972 acres on the Idaho Panhandle side and 4,714 acres on the Kootenai side (Scenic).

Roosevelt Grove of Ancient Cedars Scenic Area and Granite Falls Geologic 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 four to twelve 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 (Scenic/Botanical),

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. 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 20th 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 (Botanical).

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 seven 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 (Botanical).

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 2,117 acres of State of Idaho land and 4,696 acres of Forest Service land (Scenic).

Recommended Special Areas

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 (Geological).

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 Special Area. The area contains approximately 2,350 acres (Recreational).

Hobo Cedar Grove Botanical Area: 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 five to seven foot diameter trees throughout much of this larger area, and numerous eight to nine foot plus diameter trees. Some trees approach ten 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 percent 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, and it is 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 1960s-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 plus 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 453 acres to 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 (Botanical).

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 IPNF 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 a Special Area should ideally be, and is now being formally recognized and designated. The area contains approximately 70 acres (Botanical).

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 2,400 feet to over 7,000 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 (13,948) and the proposed (9,004) addition will be 22,952 acres (Pioneer).

Northwest Peak Scenic Area: Additions would be made to both the Idaho Panhandle and the Kootenai 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 2,639 acres (Scenic).

Roosevelt Ancient Cedar Grove/Granite Falls: 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 four to twelve feet in diameter with estimated heights of 150 feet. Average age is approximately 800 years. Nestled within 291 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 four to twelve feet in diameter and up to 150 feet 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 291 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 152 acres (Botanical/Scenic),

Upper Priest River Botanical Area: This botanical area stretches along both sides of Upper Priest River, from about two miles north of Upper Priest Lake, and twelve 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 twelve 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 feet DBH with ages 500 plus years). The biggest trees are ten plus 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 beadleily in the driest sites to western hemlock/oak-fern, western red cedar/lady-fern, western red cedar/lady-fern/maidenhair fern, and western red cedar/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

beechnut, Braun's sword-fern, *Krusheia twisted-stalk*, and black snake-root. The area also contains what are likely the most extensive populations in the IPNF 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 red cedars 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 5,090 acres (Botanical).

Research Natural Areas (RNAs)

Introduction

Research Natural Areas are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on NFS lands. RNAs are for non-manipulative research, observation, and study. Most of these areas protect either outstanding examples of late-successional plant communities; 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 Draft Forest Plan effort. The few that are proposed in this Plan were identified over the previous ten years as unique habitats or prime examples of habitat types that are not currently identified in existing RNAs.

The selection and establishment of RNAs in Region 1 is guided by the 'Research Natural Areas of the Northern Region: Status and Needs Assessment (Oct. 1996) The Forest Service Manual (FSM 4063) and Establishment Record provide specific direction concerning RNA management.

Following is a brief description of each existing or recommended RNA. A locator map and individual maps are found following the descriptions of the RNAs.

Existing Research Natural Areas

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 red cedar, 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.

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 clubmoss, and swamp cranberry. A dense forest of old growth western red cedar, 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.

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 895 acres.

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.

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 red cedar 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 1,426 acres.

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.

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.

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/menzie Special Area 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.

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.

Round Top Mountain: This RNA includes and surrounds Round Top Mountain (elev. 6,466 feet) 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 ten miles south of the Canadian border). It contains multiple high elevation vegetation types including: subalpine parkland dominated by 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 IPNF, and 116 acres administered by the Colville National Forest,

Scotchman #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 #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 1,312 acres.

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 (Endangered Species) and the grizzly bear (Threatened). Established in 1988 the RNA contains approximately 1,248 acres.

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 woodland caribou (Endangered) and the grizzly bear (Threatened). Established in 1991 the RNA contains approximately 845 acres.

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 481 acres.

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 red cedar 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 614 acres.

Theriault 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 of which 111 are existing and 45 are recommended.

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 red cedar, 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.

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 plus 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 red cedar 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 318 acres.

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 1,306 acres.

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.

Recommended Research Natural Areas

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 five miles east of Lake Coeur d'Alene, and approximately three 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 IPNF. This RNA was nominated by Chuck Wellner in 1992, and was one the last he proposed on Forest Service lands in northern Idaho. The area contains approximately 1,274 acres.

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 red cedar/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 encompasses approximately 1,340 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 1970s 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 *Krusheia 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 Threatened and Endangered animal species, and pristine riparian and wetland features all combine to make the Upper Priest River Proposed RNA one of the outstanding RNA locations in the Northern Rocky Mountains. The area contains approximately 1,394 acres.

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 6,228 acres.

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 3,516 acres.

Table 1. Research Natural & Special Areas Maps Index

Map Ref #	Area Name	District	Page #
11	Bath Creek Gorge Geological Area	Priest Lake	
13	Binarch Creek RNA	Priest Lake	
6	Bottle Lake RNA	Priest Lake	
17	Canyon Creek RNA	Priest Lake	
19	Copper Falls Geological Area	Bonnors Ferry	
28	Deception Creek Experimental Forest	Coeur d'Alene River	
35	Emerald Creek Recreational Area	St Joe	
37	Five Lakes Butte RNA	St Joe	
12	Hanna Flats Botanical Area	Priest Lake	
34	Hobo Cedar Grove Botanical Area	St Joe	
9	Huff Lake Botanical Area	Priest Lake	
22	Hunt Girl Creek RNA	Lower Kootenai	
14	Kaniksu Marsh RNA	Priest Lake	
36	Mallard Larkins Pioneer Area	St Joe	
29	Montford Creek RNA	Coeur d'Alene River	
20	Northwest Peak Scenic Area	Bonnors Ferry	
26	Pond Peak RNA	Coeur d'Alene River	
10	Potholes RNA	Priest Lake	
15	Priest River Experimental Forest		
30	Red Horse Mountain RNA	Coeur d'Alene River	
8	Roosevelt Grove of Ancient Cedars Scenic / Botanical Area & Granite Falls Geological Area	Priest Lake	
7	Round Top Mountain RNA	Priest Lake	
32	Sandhouse Cedar Grove Botanical Area	St Joe	
23	Scotchman #2 RNA	Sandpoint	
27	Settlers Grove of Ancient Cedars Botanical Area	Coeur d'Alene River	
18	Smith Creek RNA	Bonnors Ferry	
1	Snowy Top RNA	Priest Lake	
25	Spion Kop RNA	Coeur d'Alene River	
5	Tepee Creek RNA	Priest Lake	
33	Therault Lake RNA	St Joe	
21	Three Ponds RNA	Bonnors Ferry	
31	Upper Fishhook RNA	St Joe	
4	Upper Priest Lake Scenic Area	Priest Lake	
2	Upper Priest River Botanical Area	Priest Lake	
3	Upper Priest River RNA	Priest Lake	
24	Upper Shoshone Creek RNA	Coeur d'Alene River	
16	Wellner Cliffs RNA	Priest Lake	

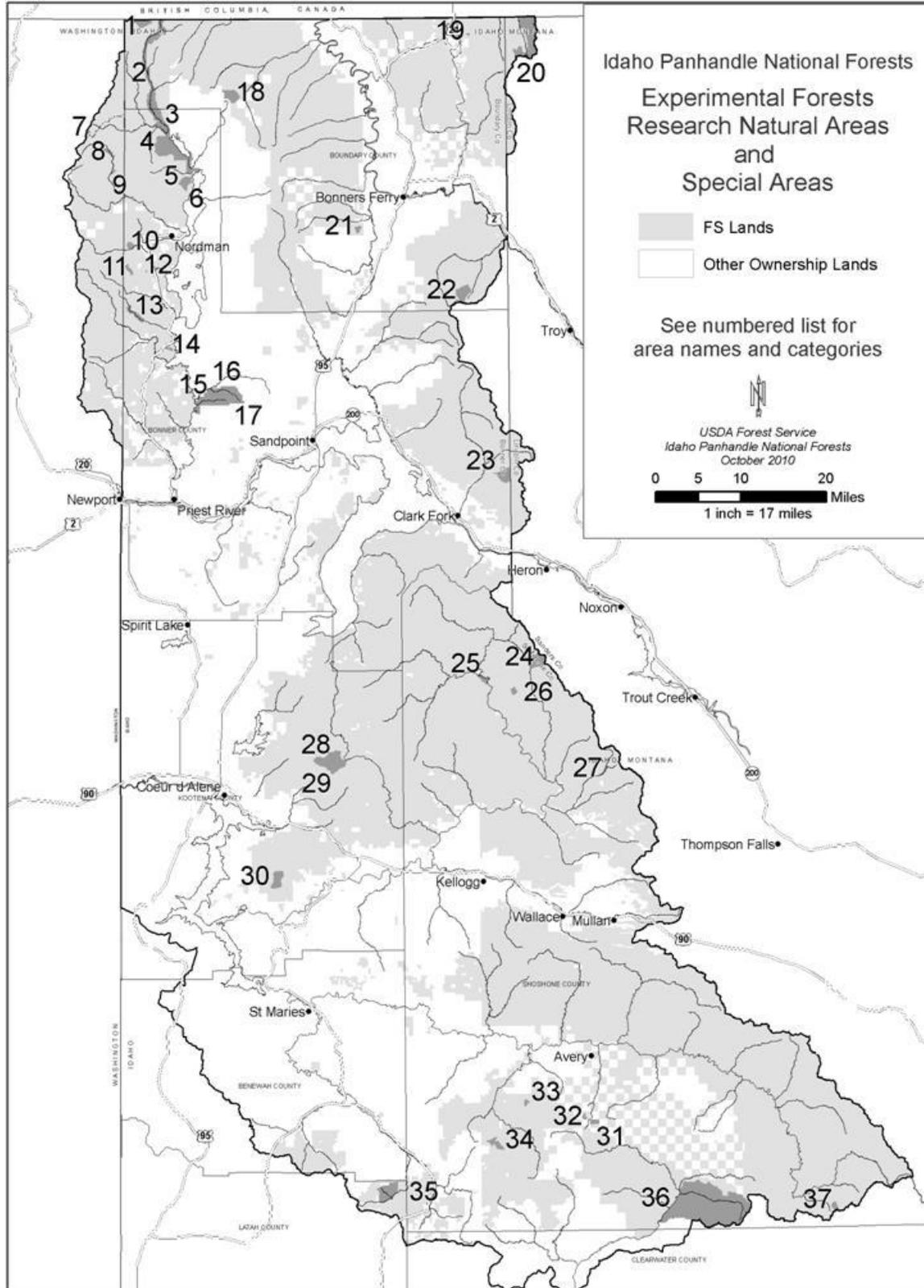


Figure 1. Index of Research Natural Areas & Special Areas Maps

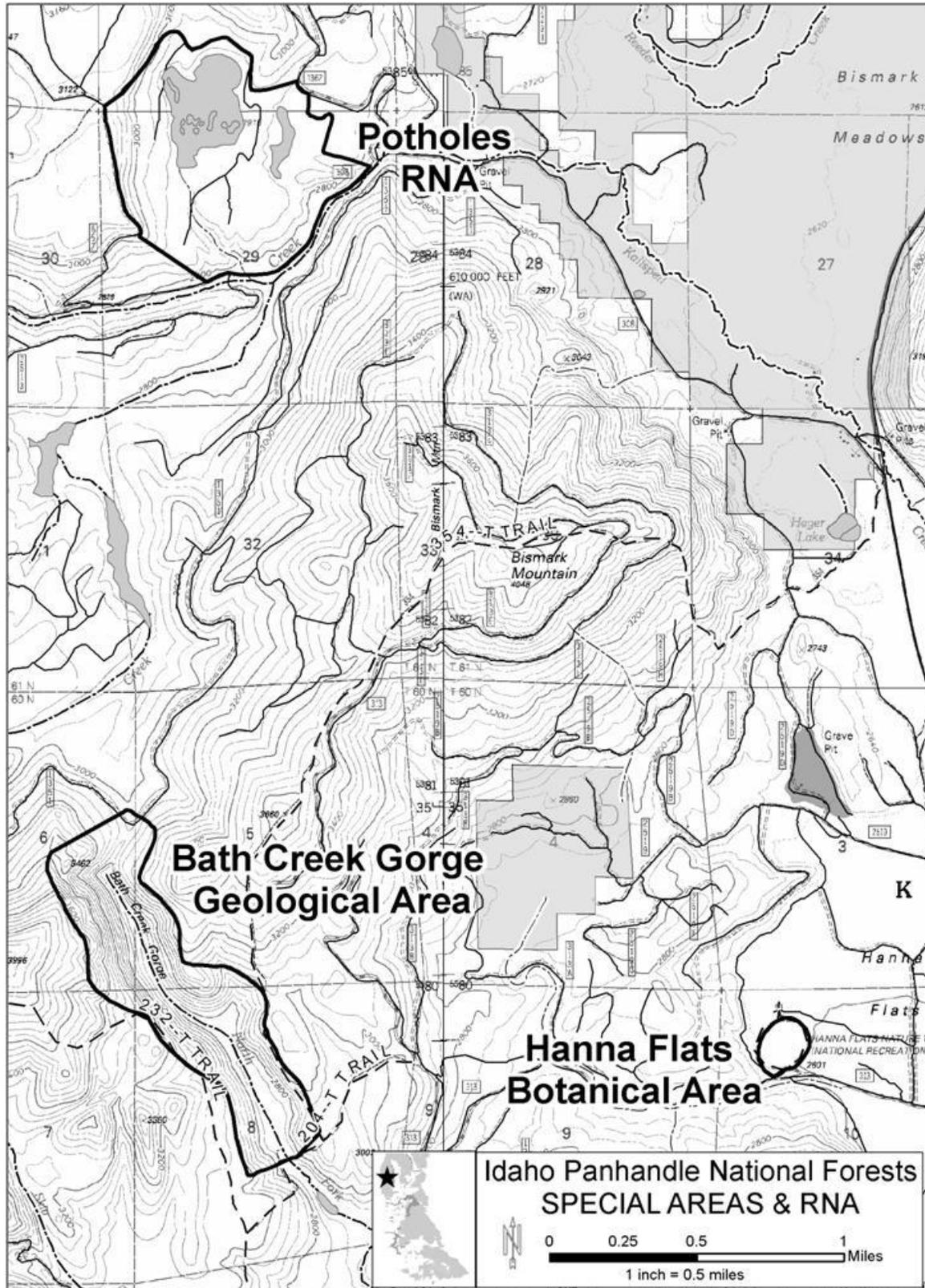


Figure 2. Bath Creek Gorge Geological Area/Hanna Flats Botanical Area/Potholes RNA

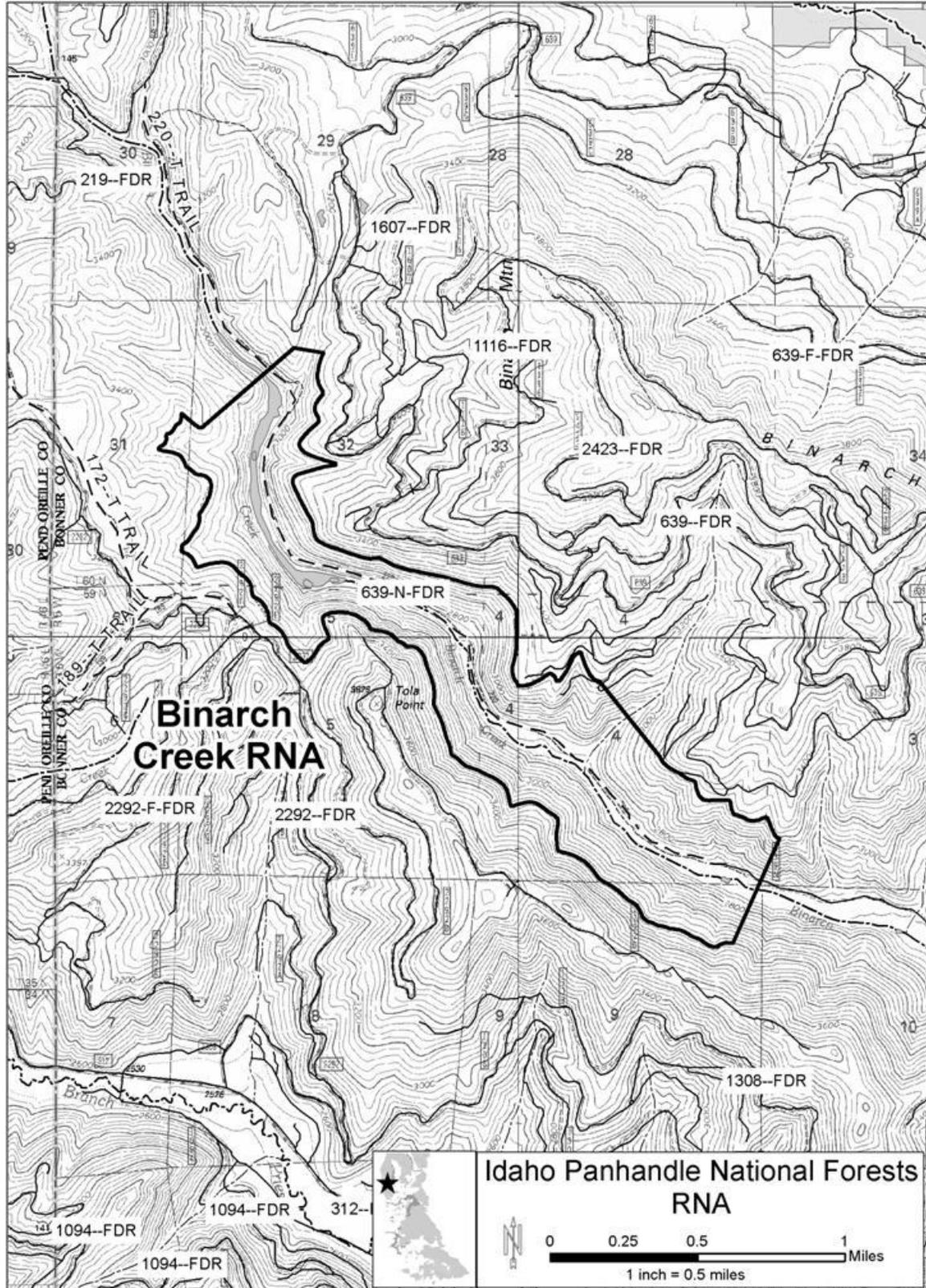


Figure 3. Binarch Creek RNA

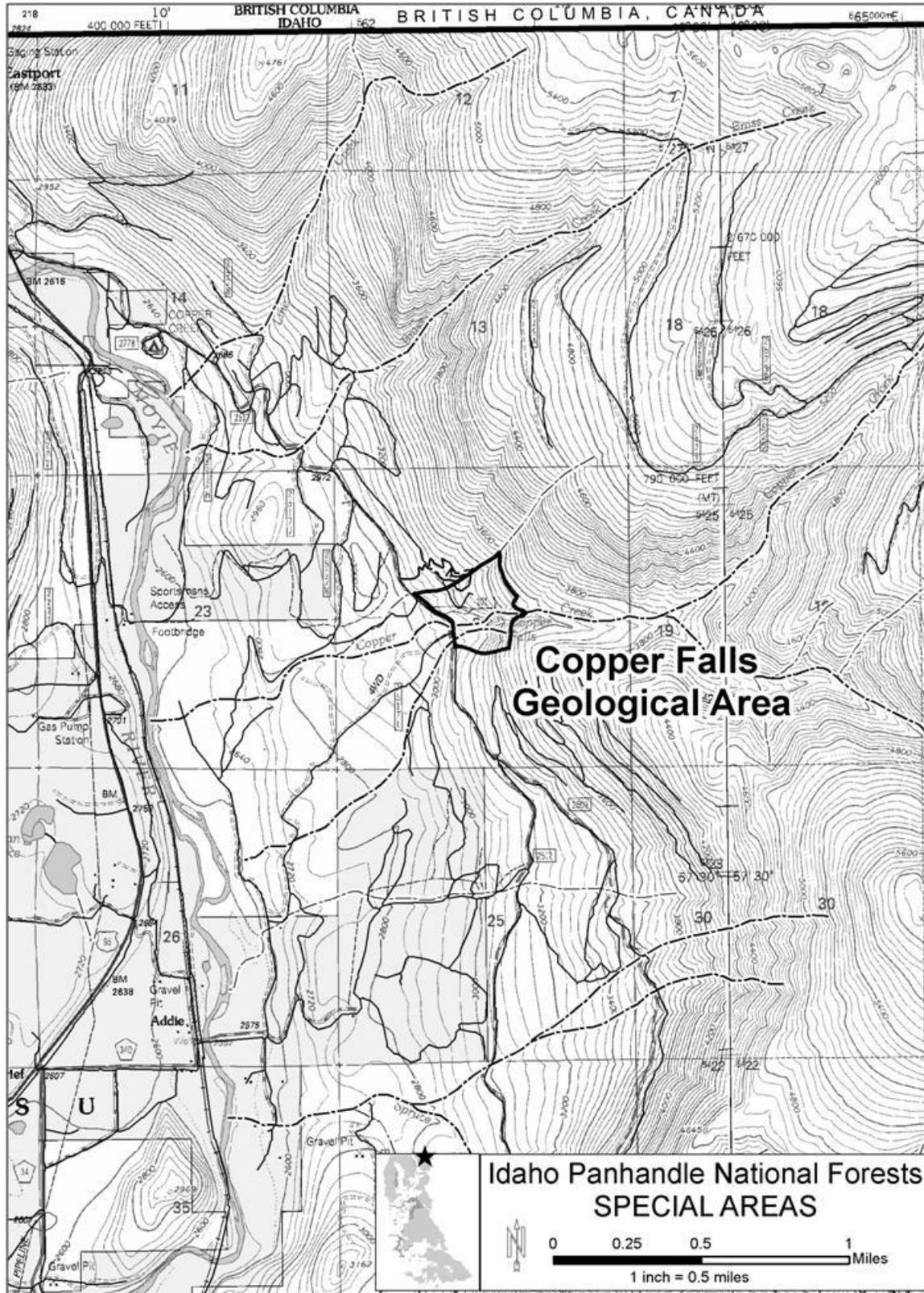


Figure 4. Copper Falls Geological Area

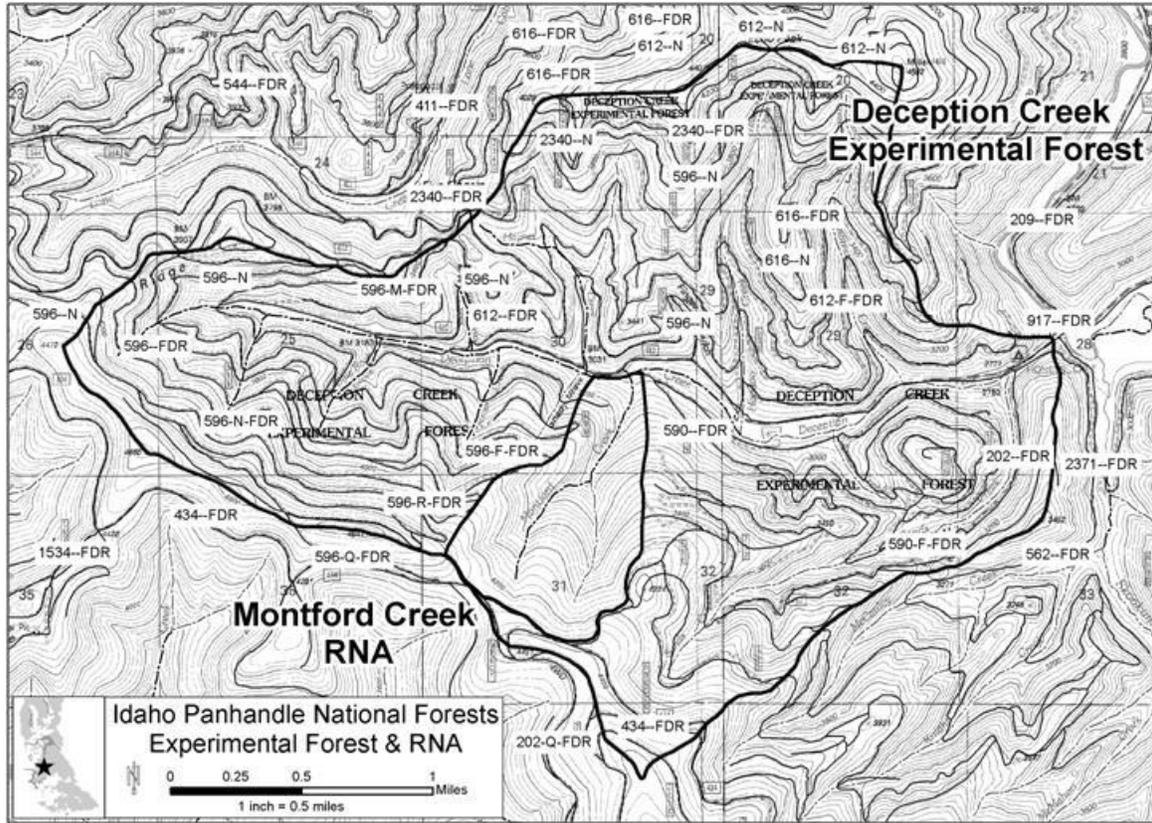


Figure 5. Deception Creek Experimental Forest/Montford Creek RNA

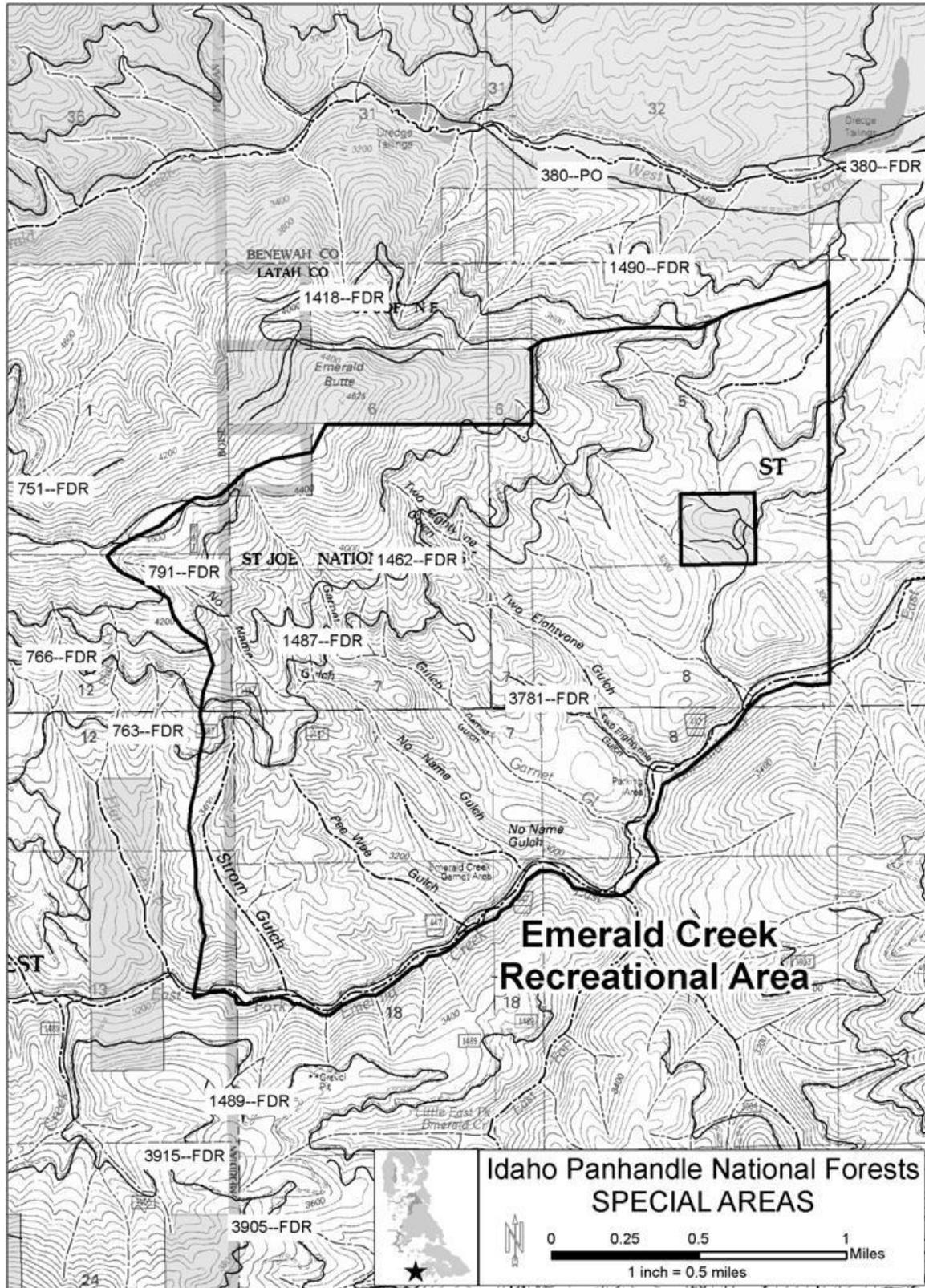


Figure 6. Emerald Creek Recreational Area

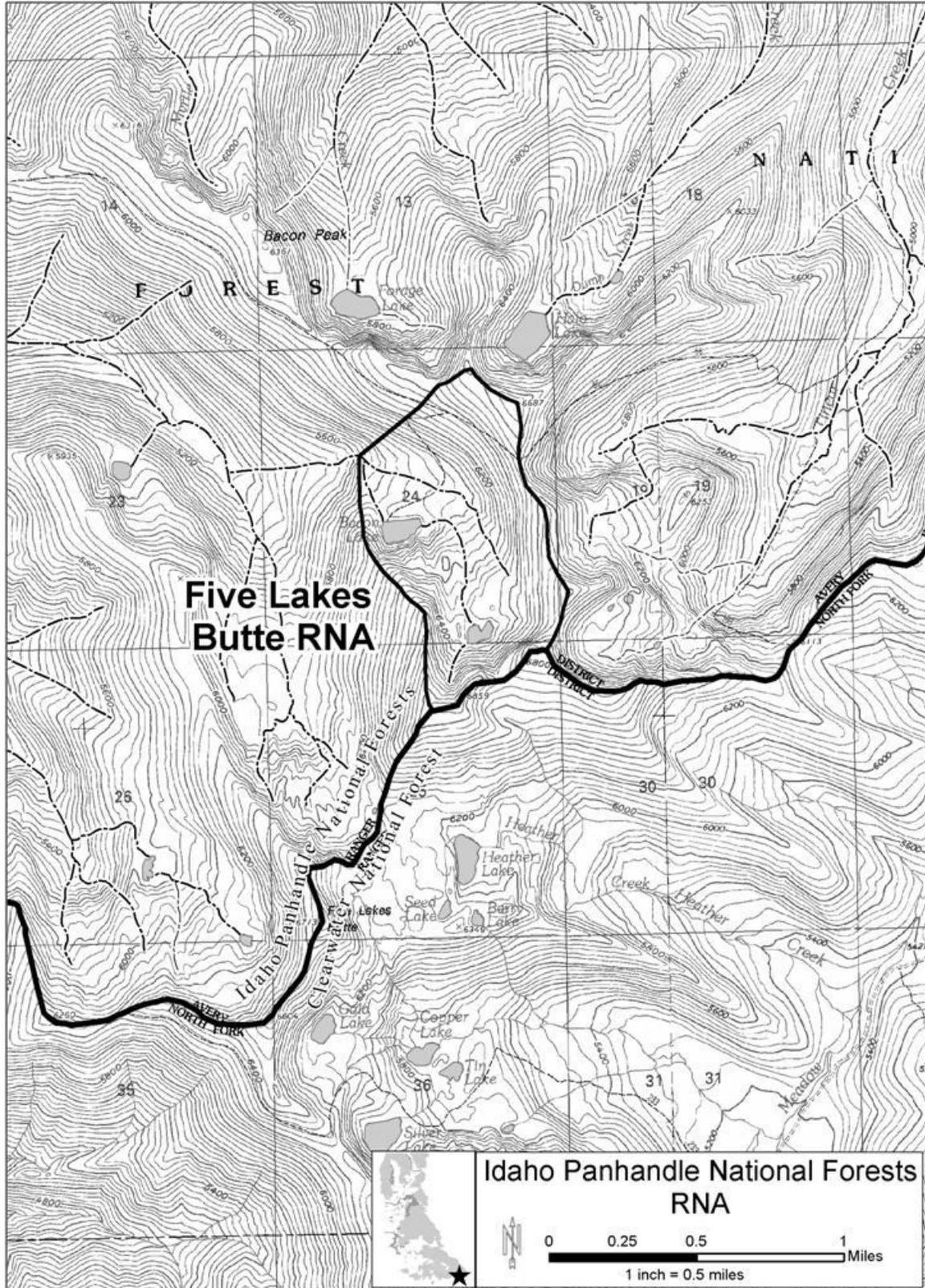


Figure 7. Five Lakes Butte RNA

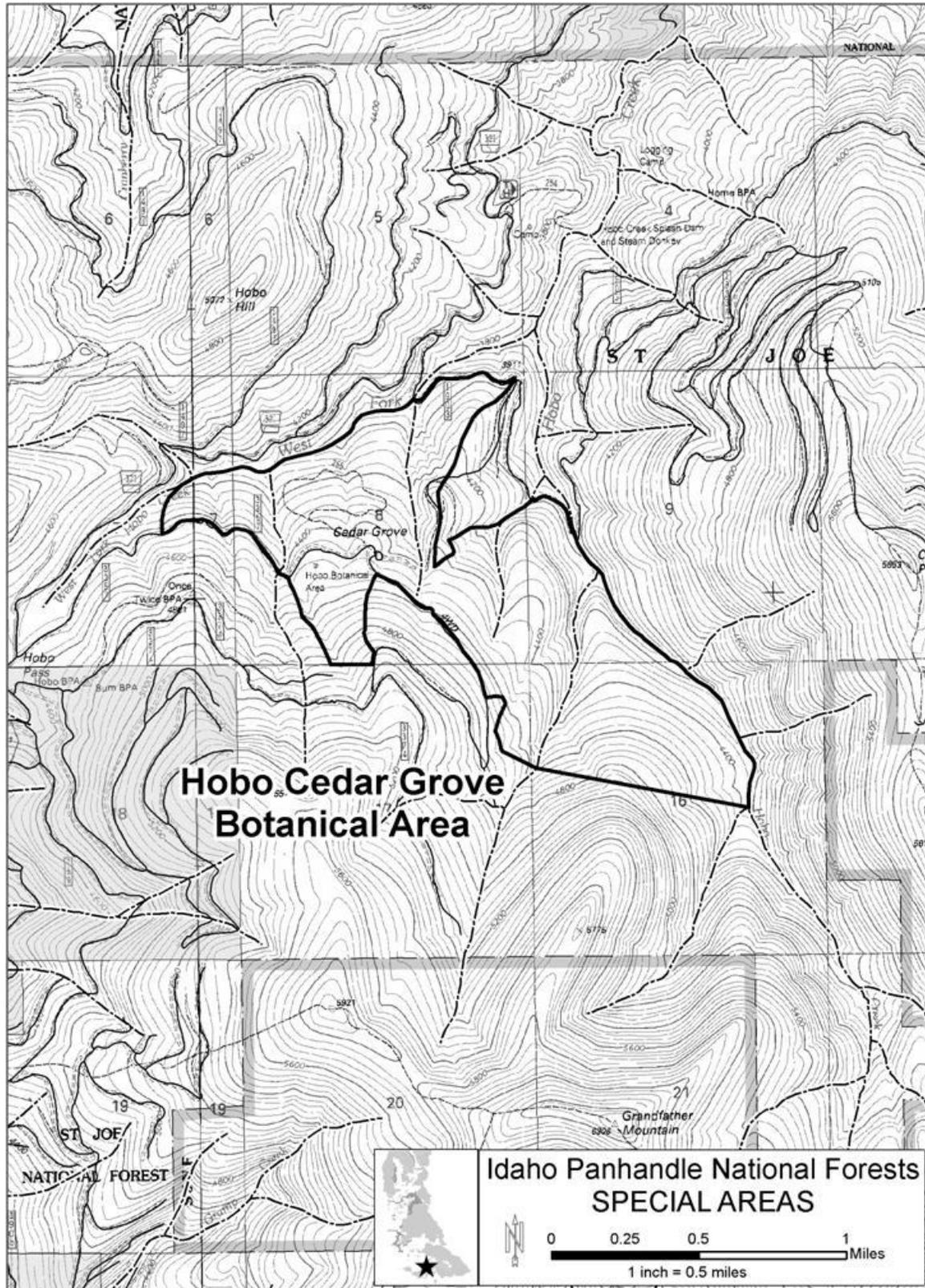


Figure 8. Hobo Cedar Grove Botanical Area

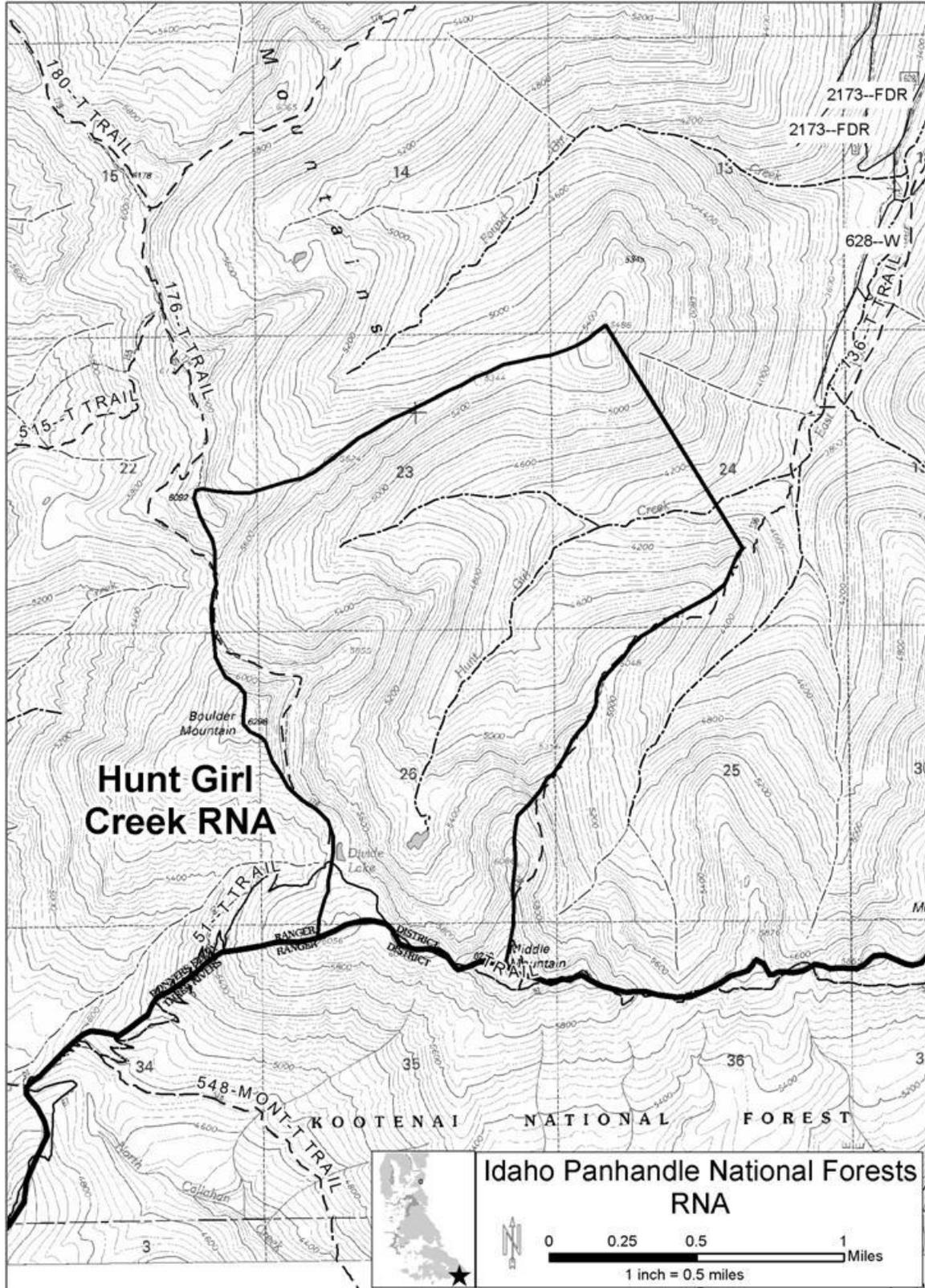


Figure 9. Hunt Girl Creek RNA

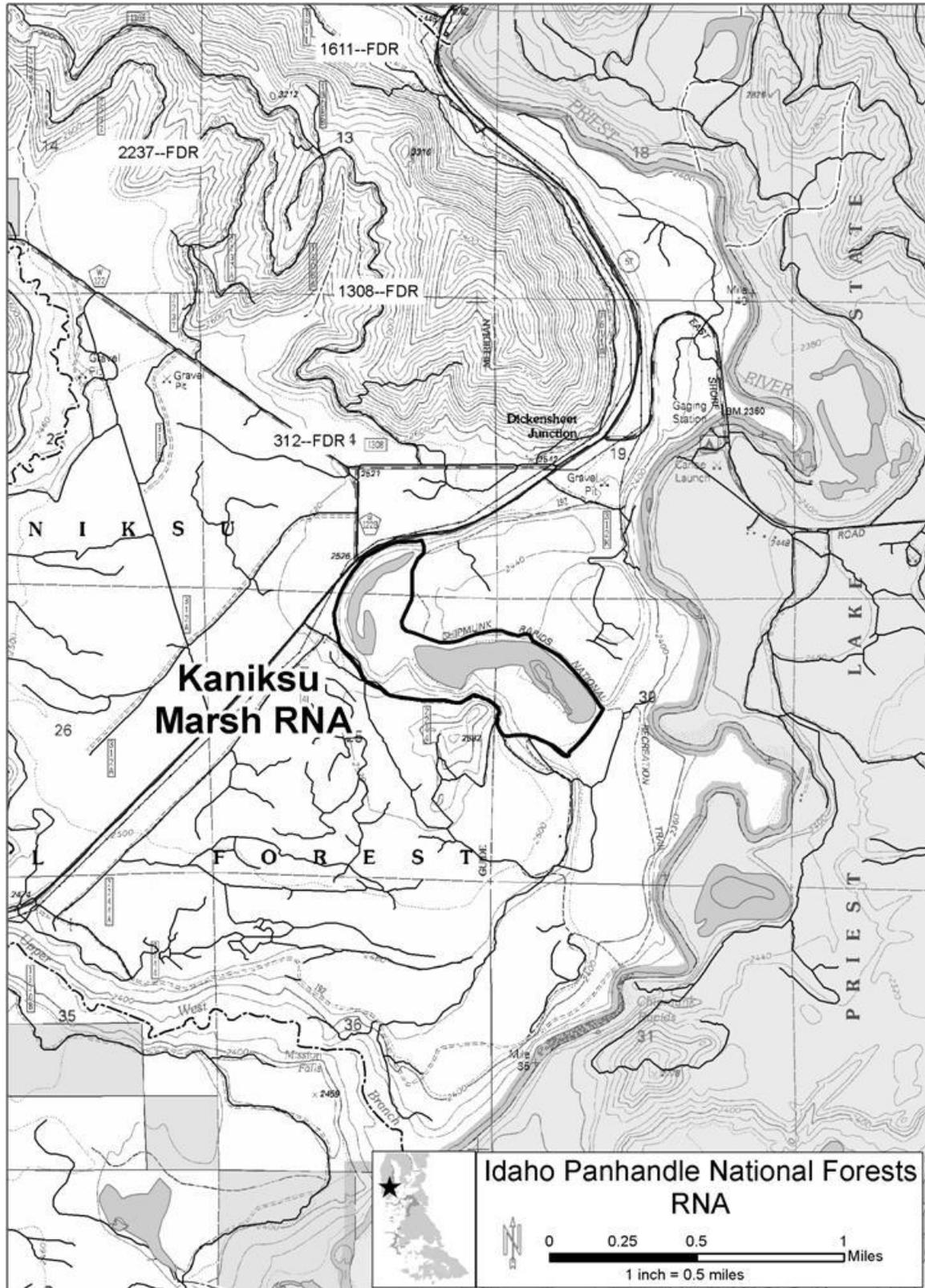


Figure 10. Kaniksu Marsh RNA

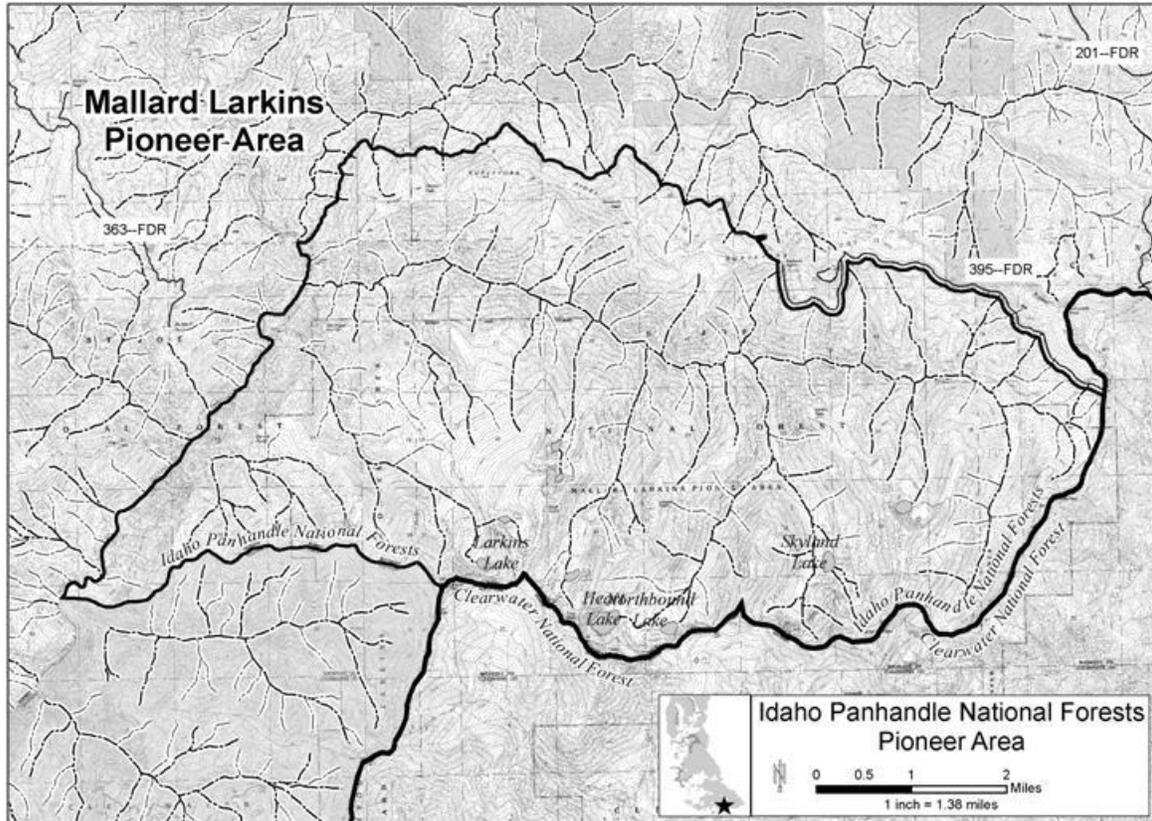


Figure 11. Mallard Larkins Pioneer Area

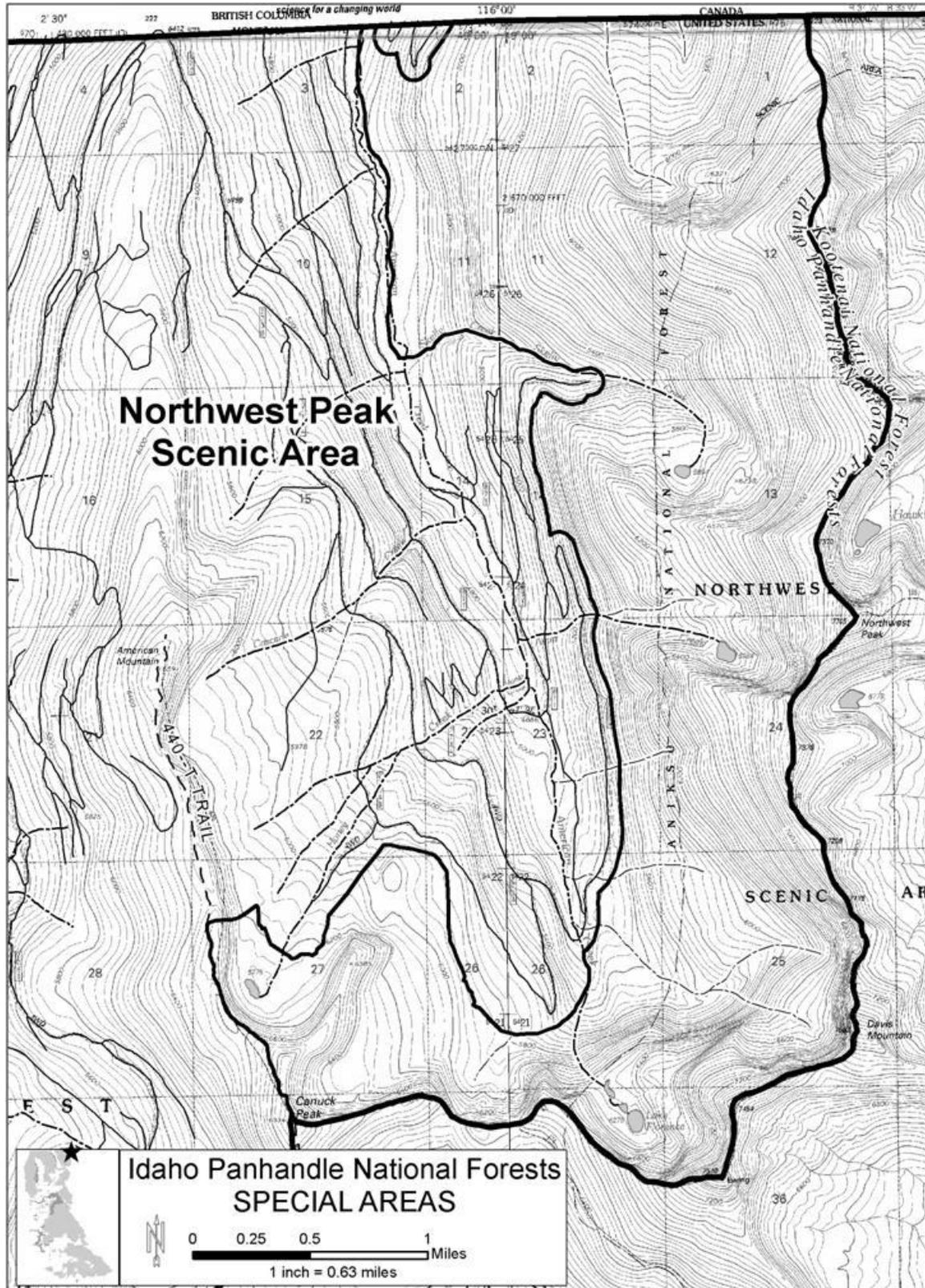


Figure 12. Northwest Peak Scenic Area

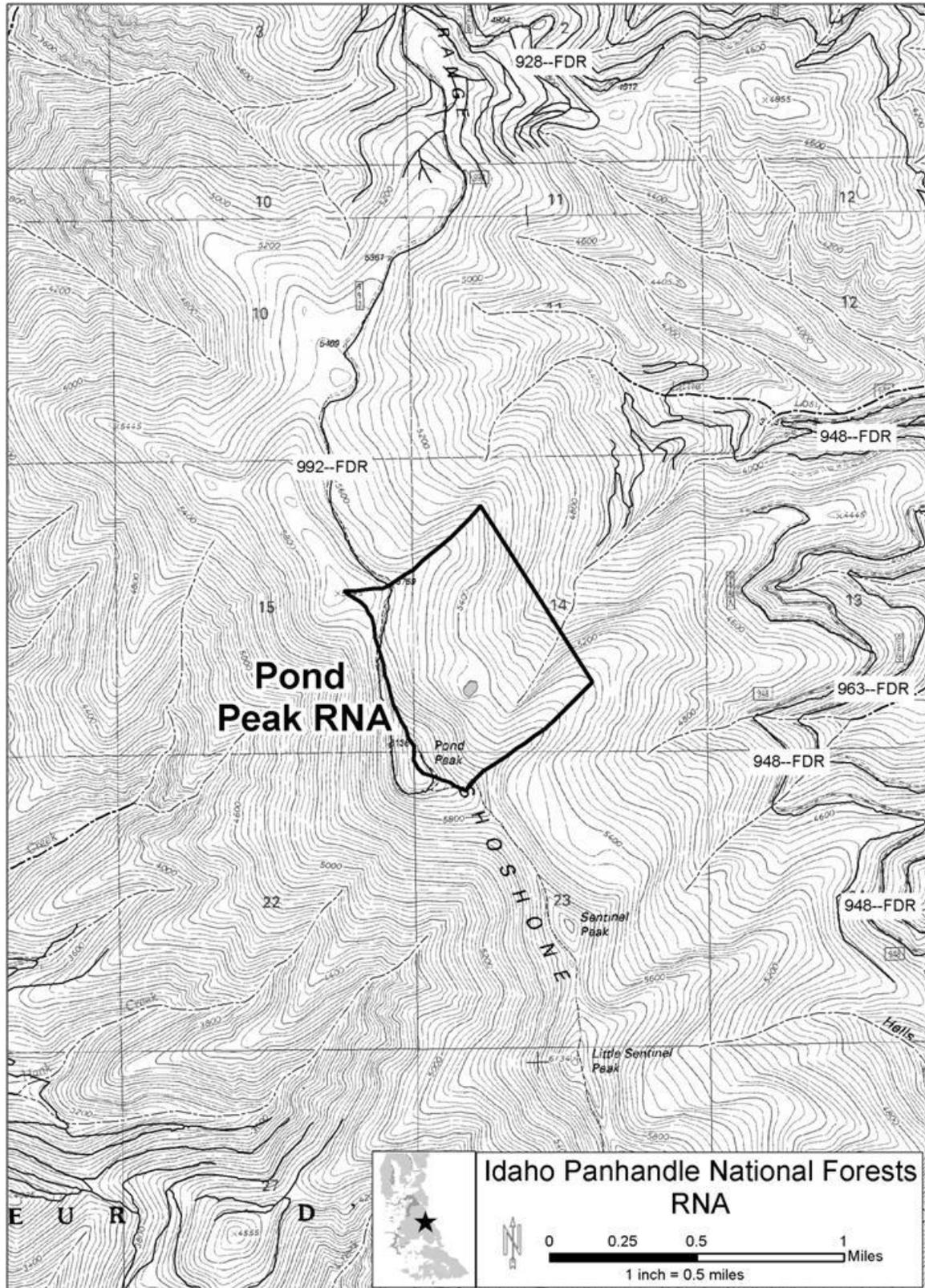


Figure 13. Pond Peak RNA

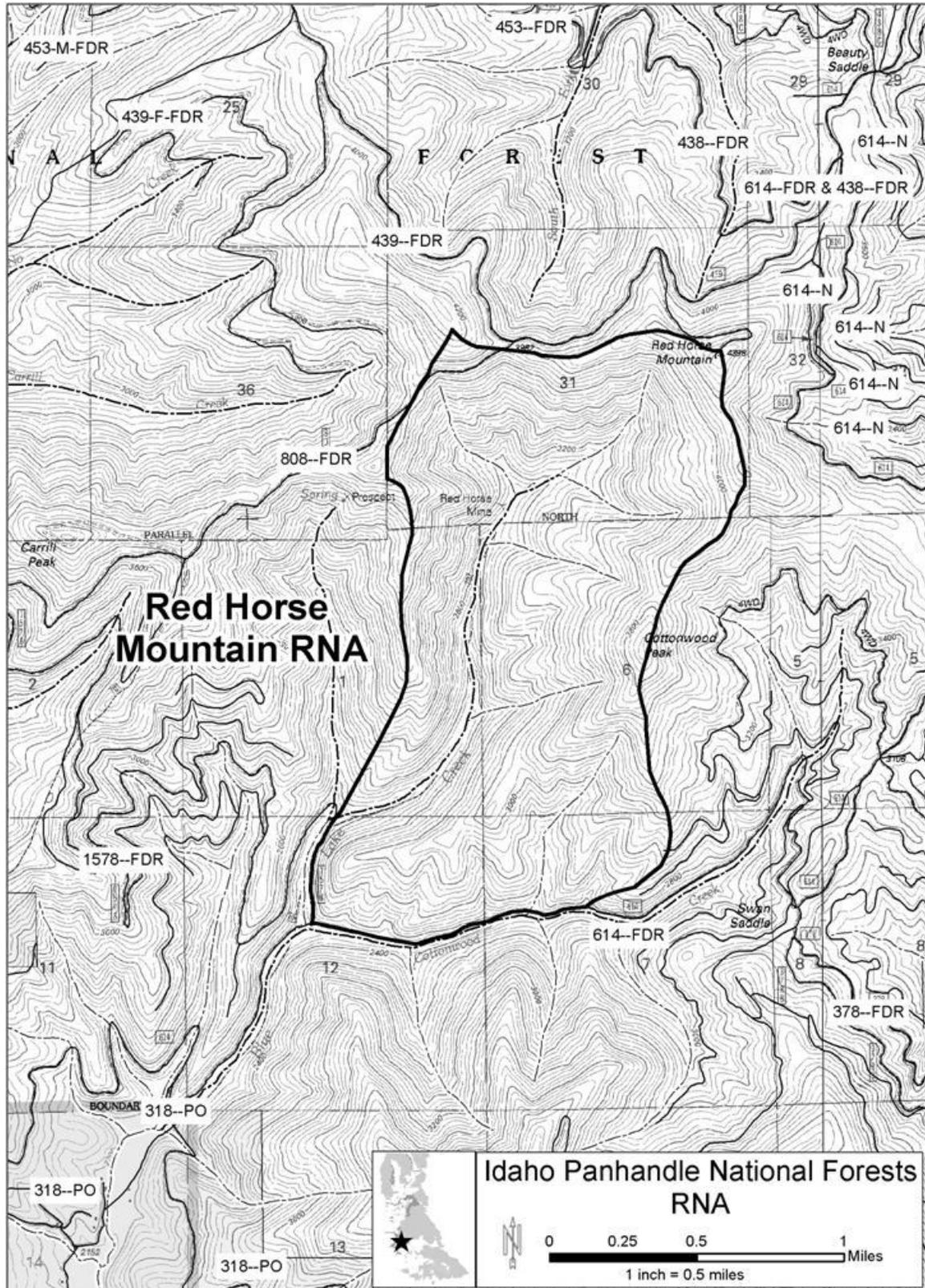


Figure 14. Red Horse Mountain RNA

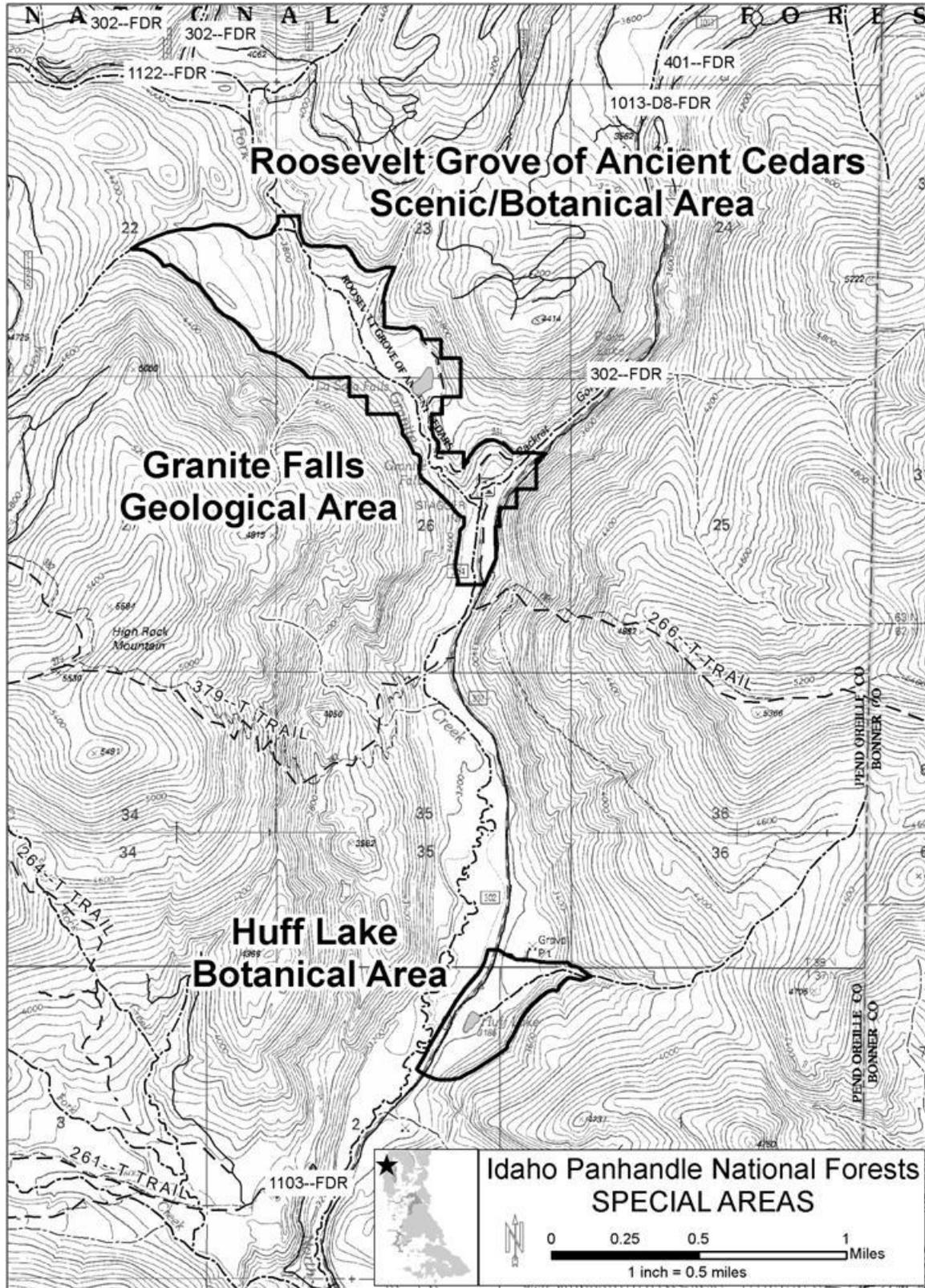


Figure 15. Roosevelt Grove of Ancient Cedars Scenic/Huff Lake Botanical Area & Granite Falls Geological Area

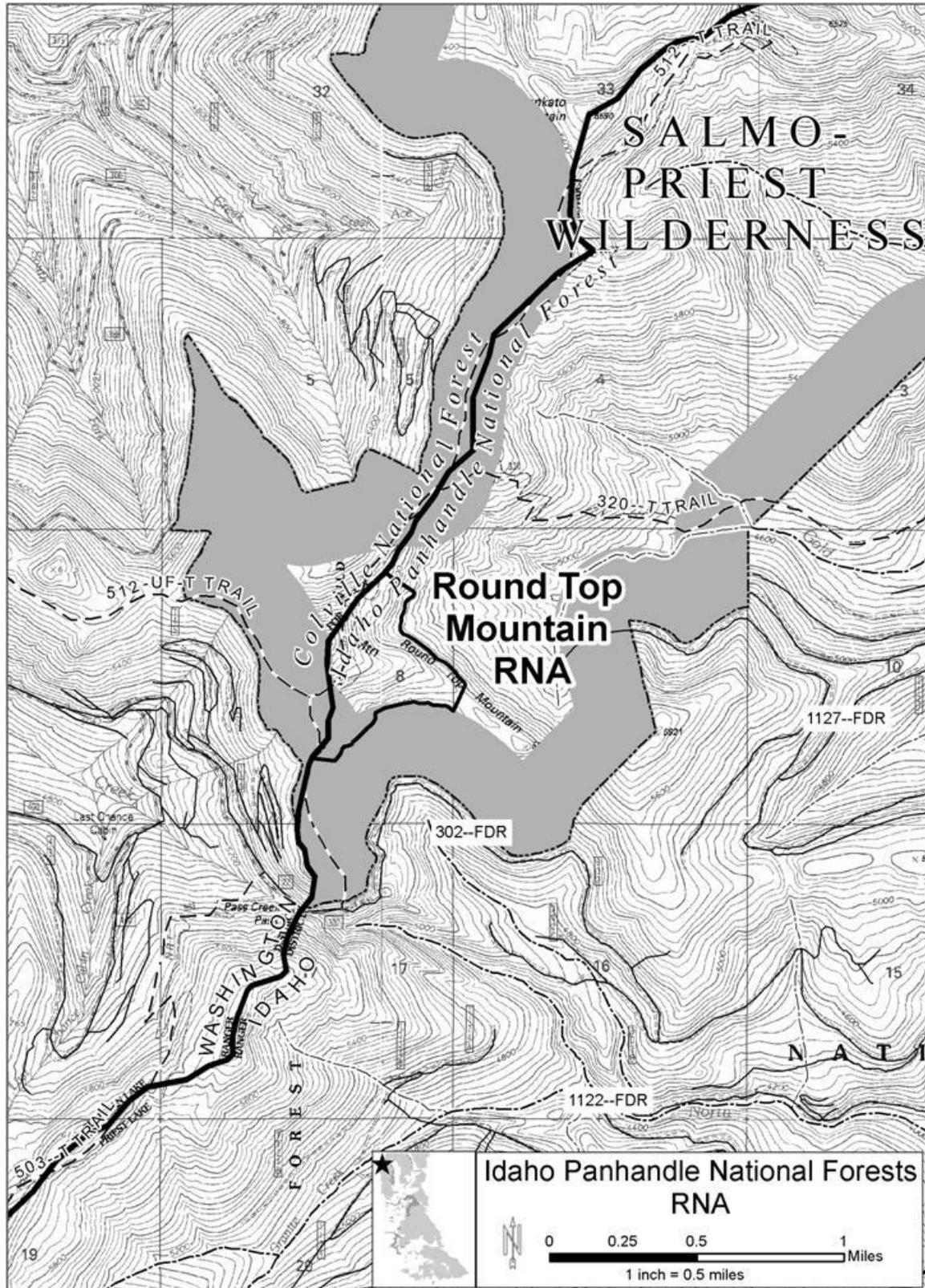


Figure 16. Round Top Mountain RNA

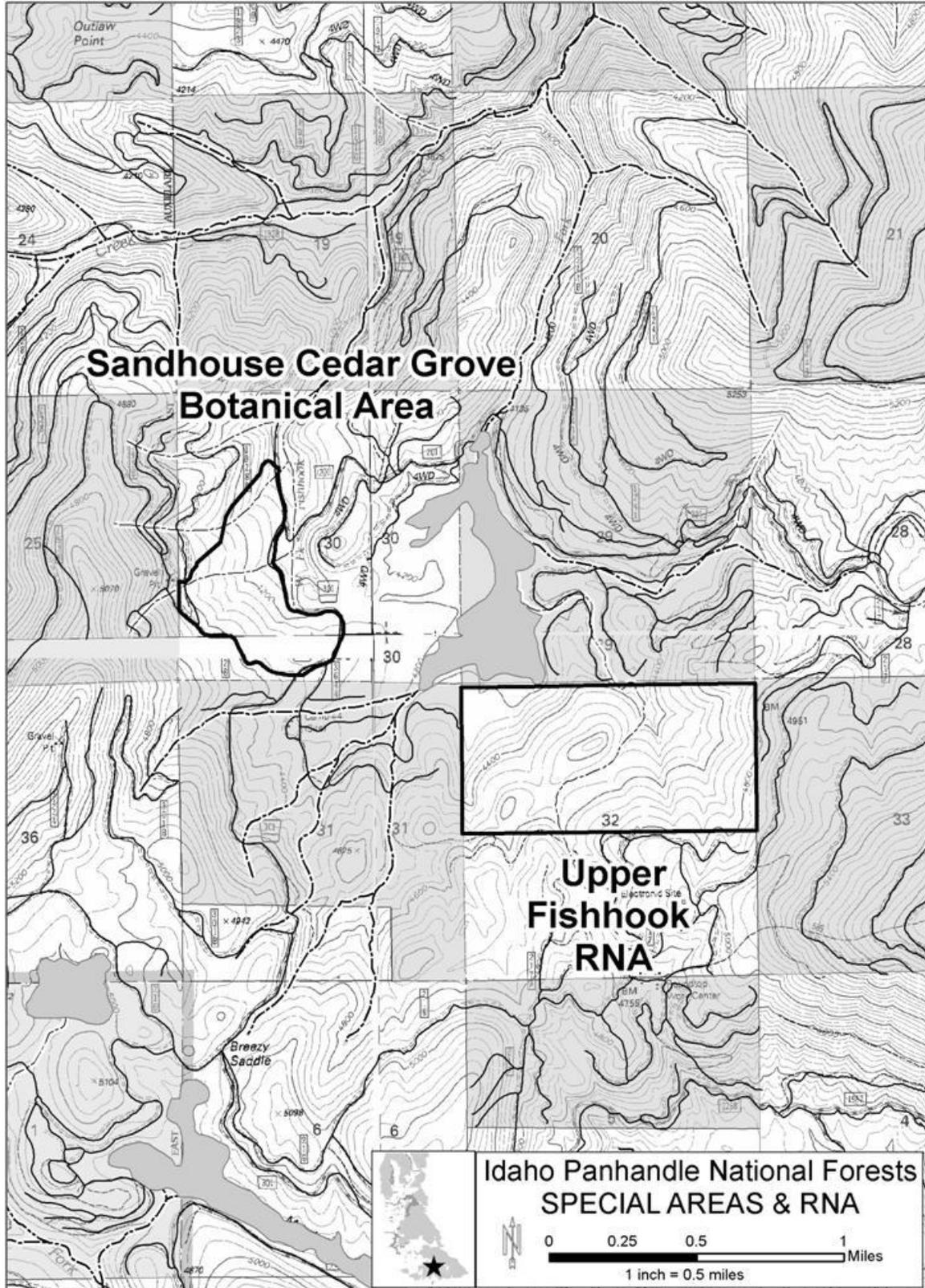


Figure 17. Sandhouse Cedar Grove Botanical Area/Sandhouse Cedar Grove Botanical Area

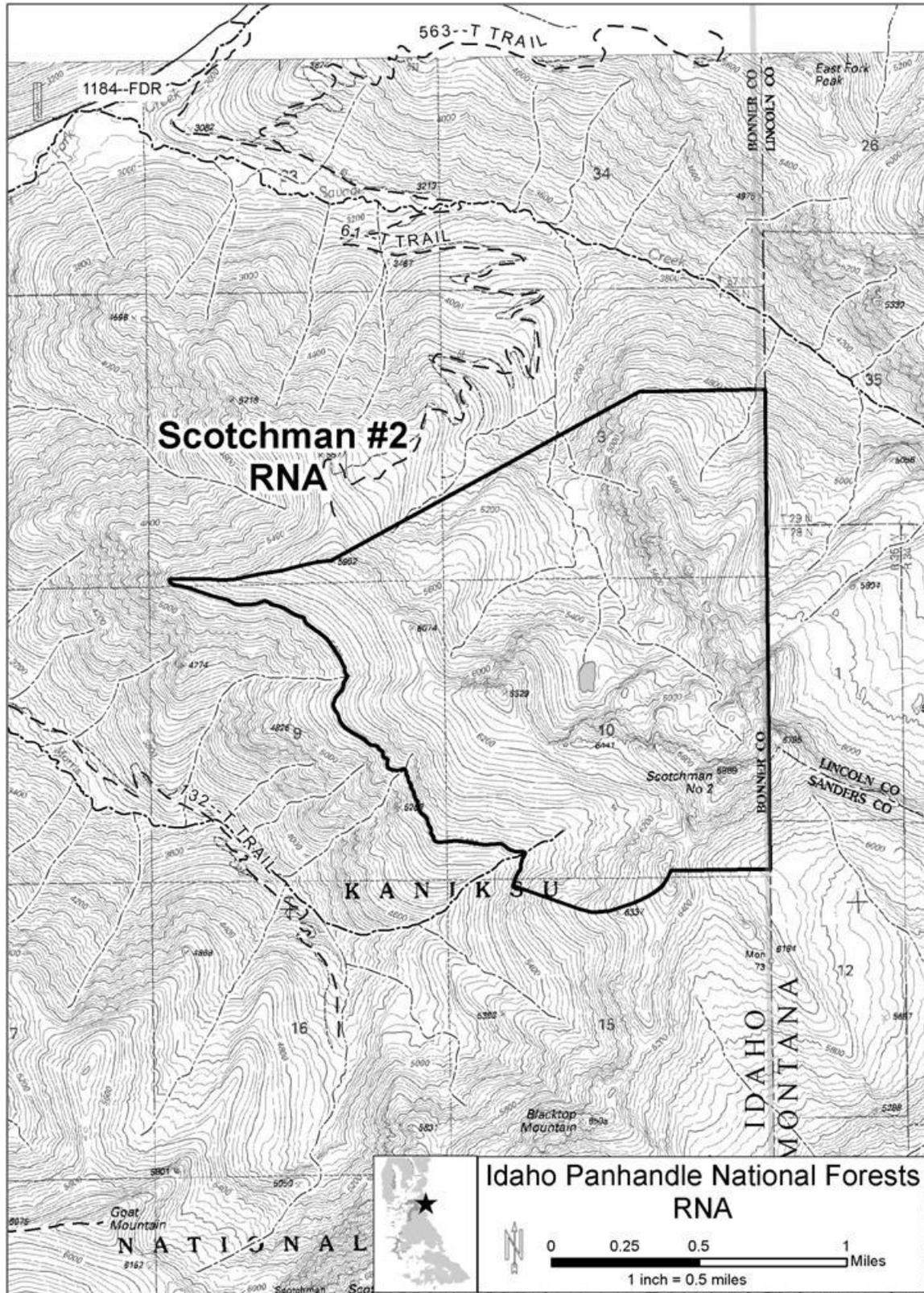


Figure 18. Scotchman #2 RNA

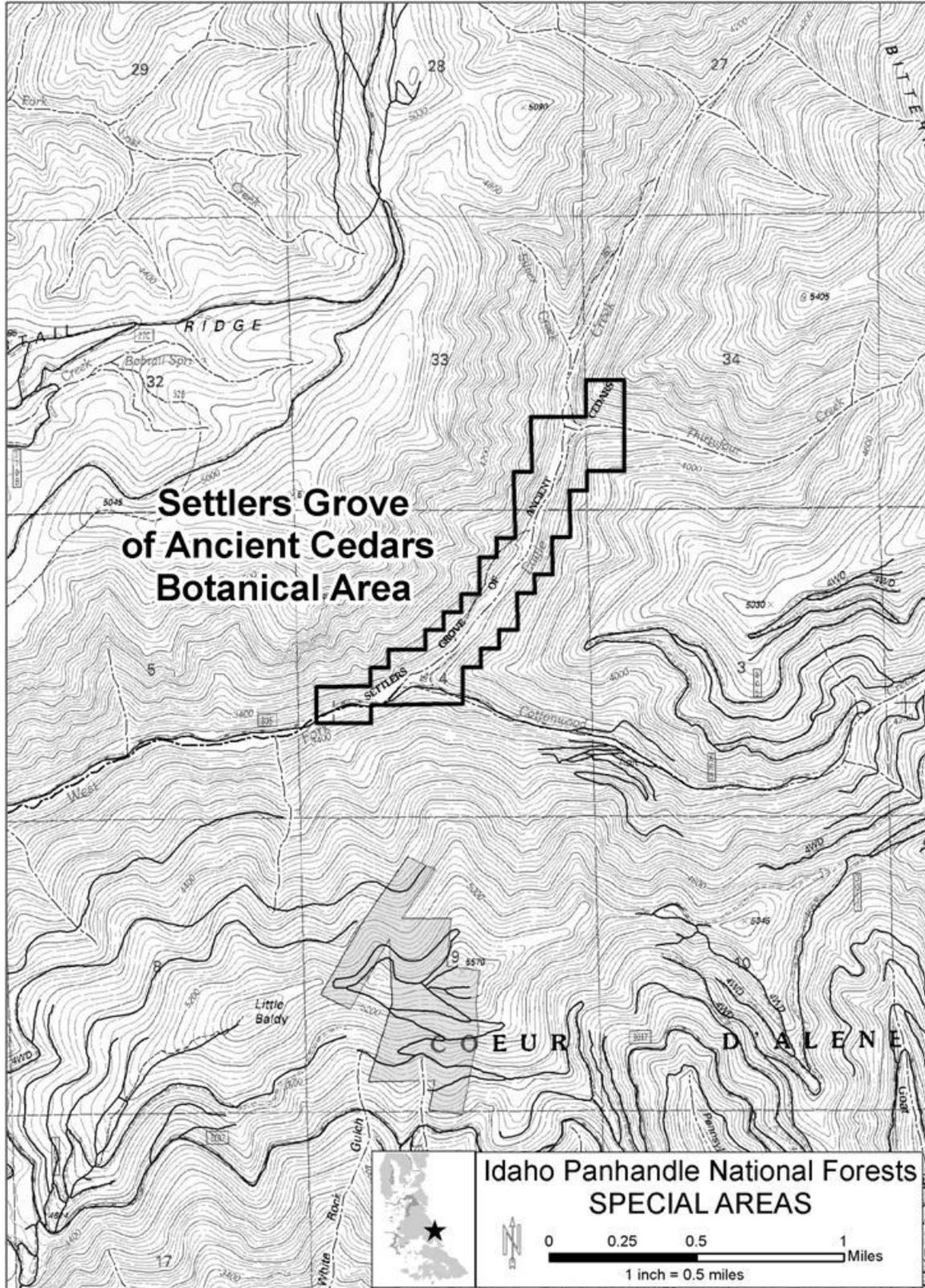


Figure 19. Settlers Grove of Ancient Cedars Botanical Area

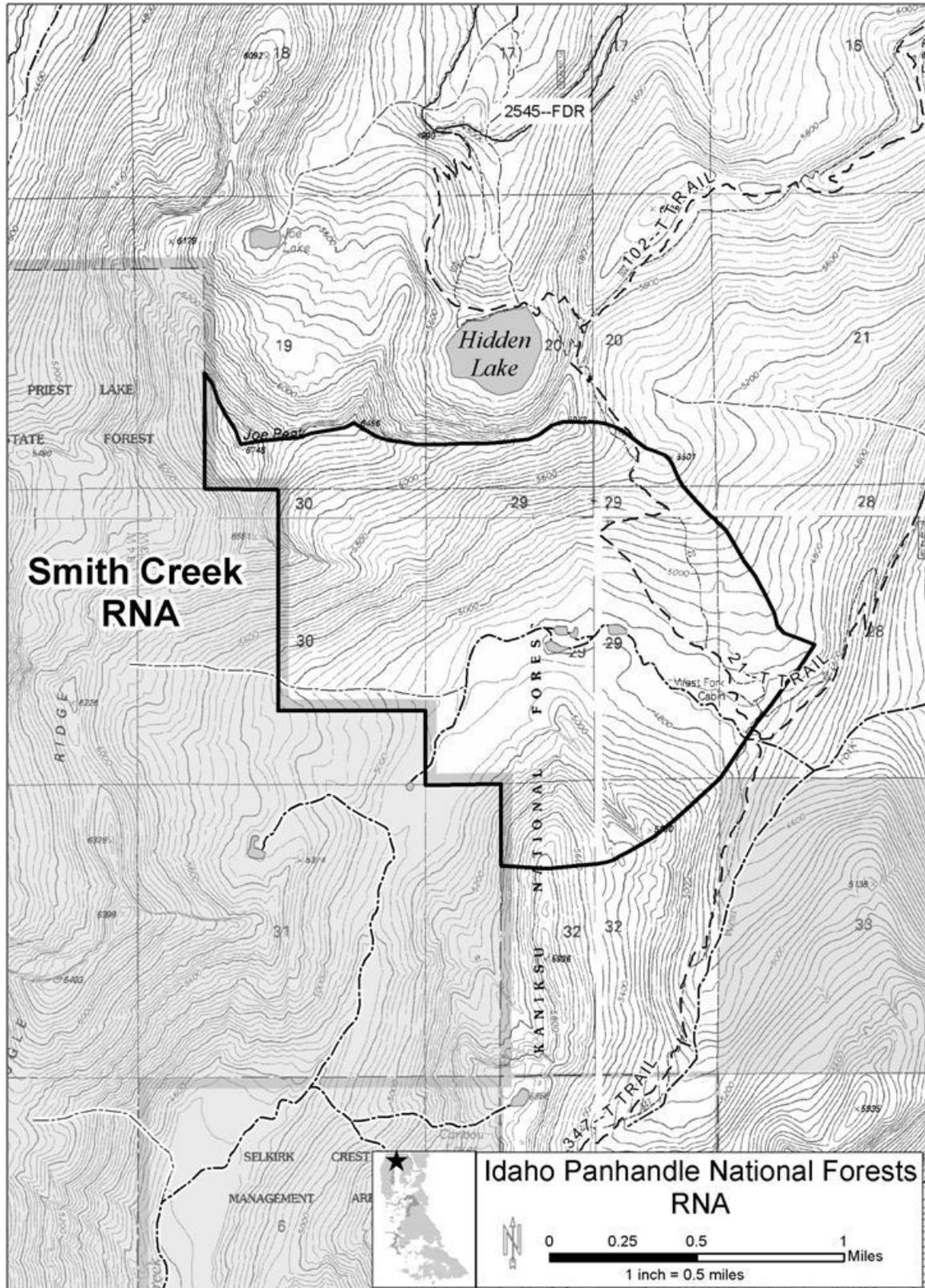


Figure 20. Smith Creek RNA

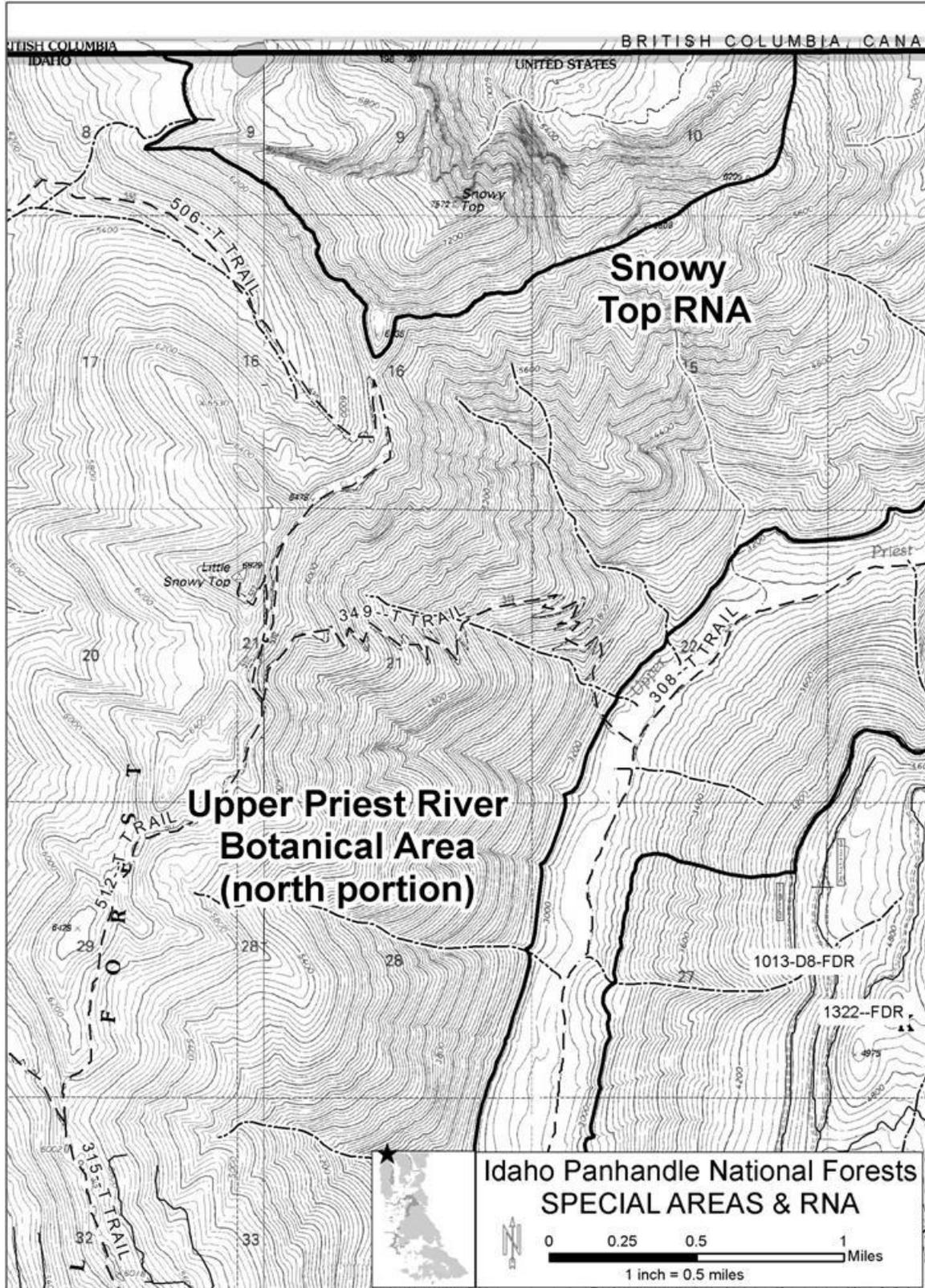


Figure 21. Snowy Top RNA/Upper Priest River Botanical Area (Northern Portion)

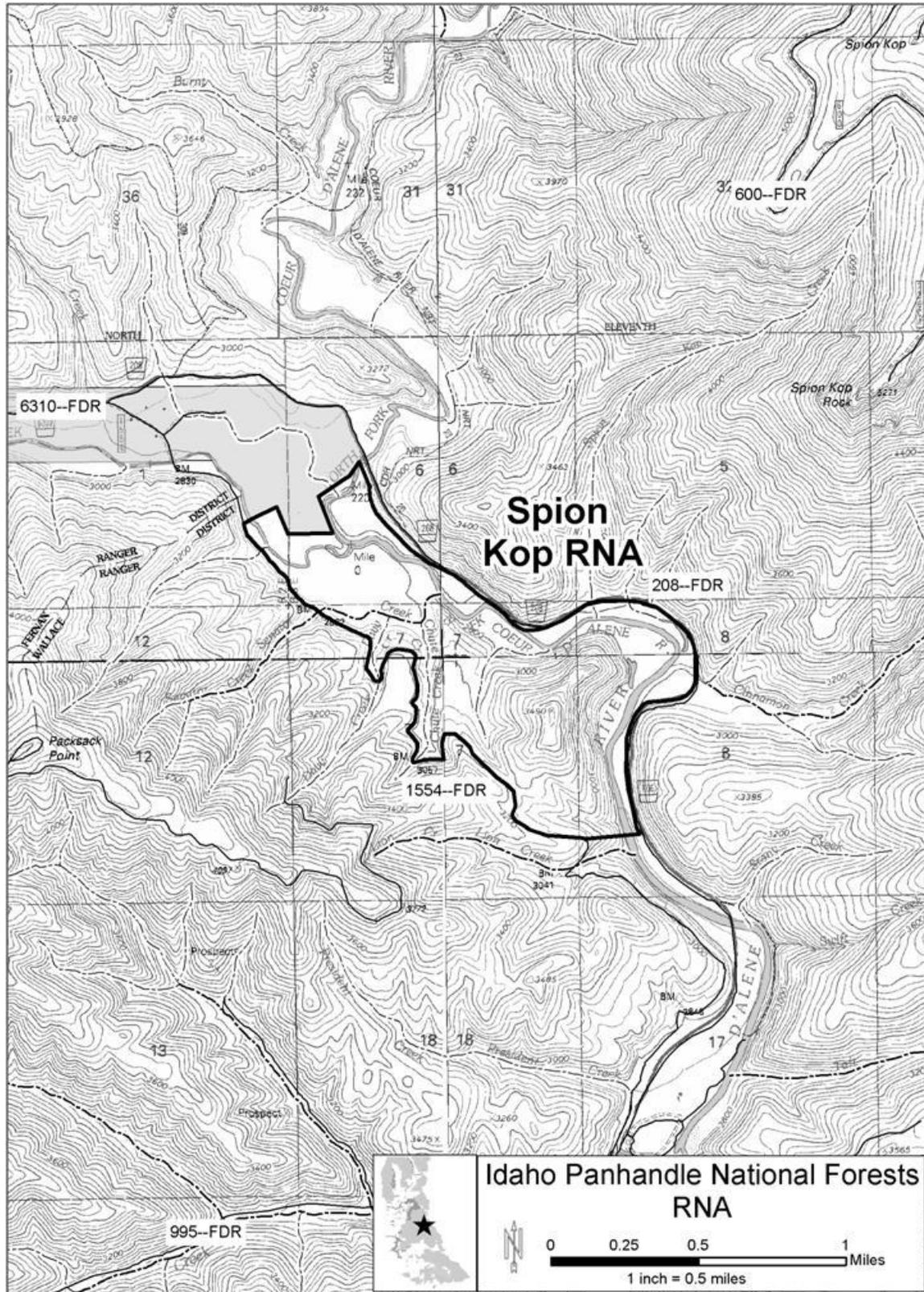


Figure 22. Spion Kop RNA

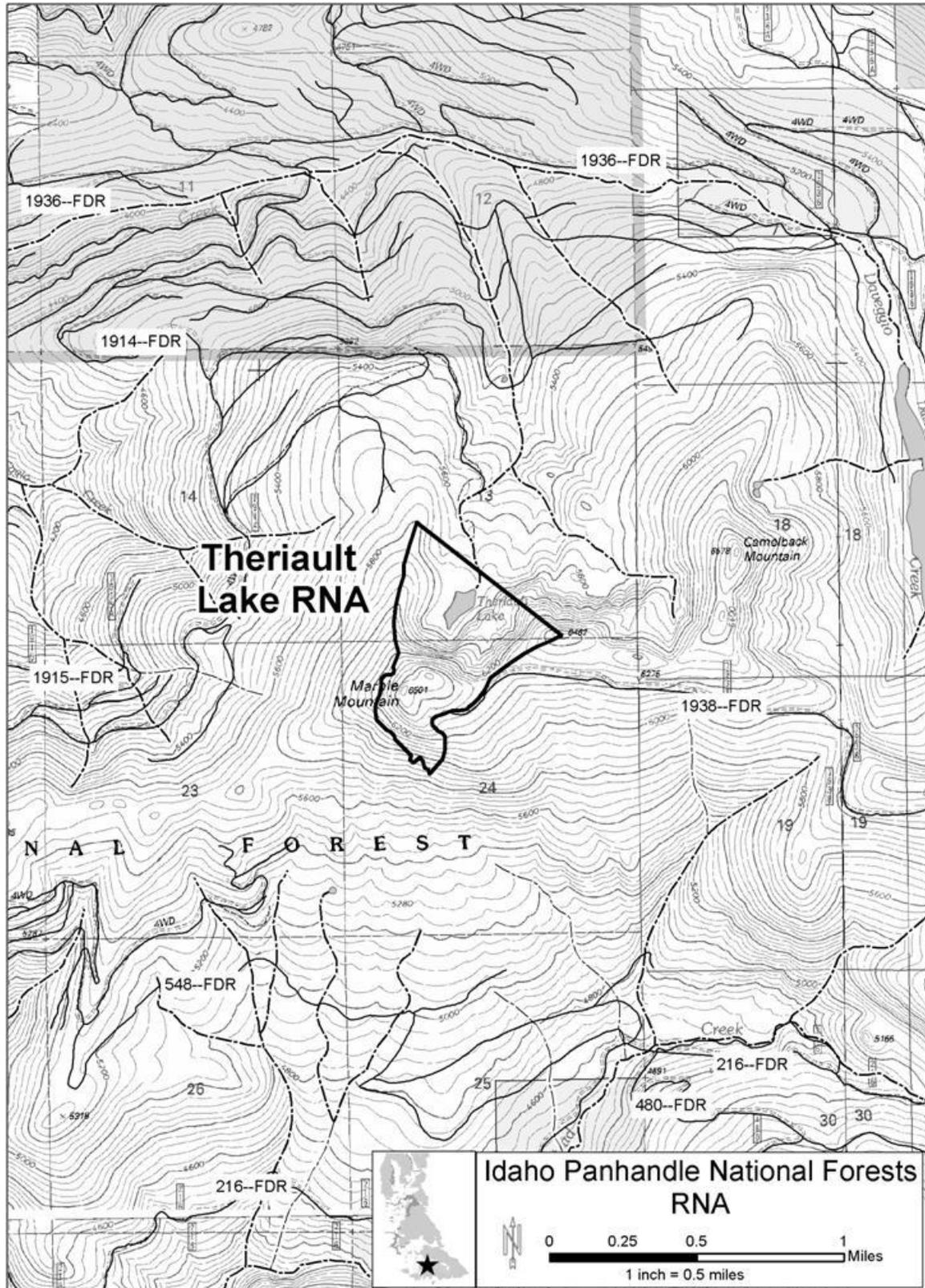


Figure 24. Theriault Lake RNA

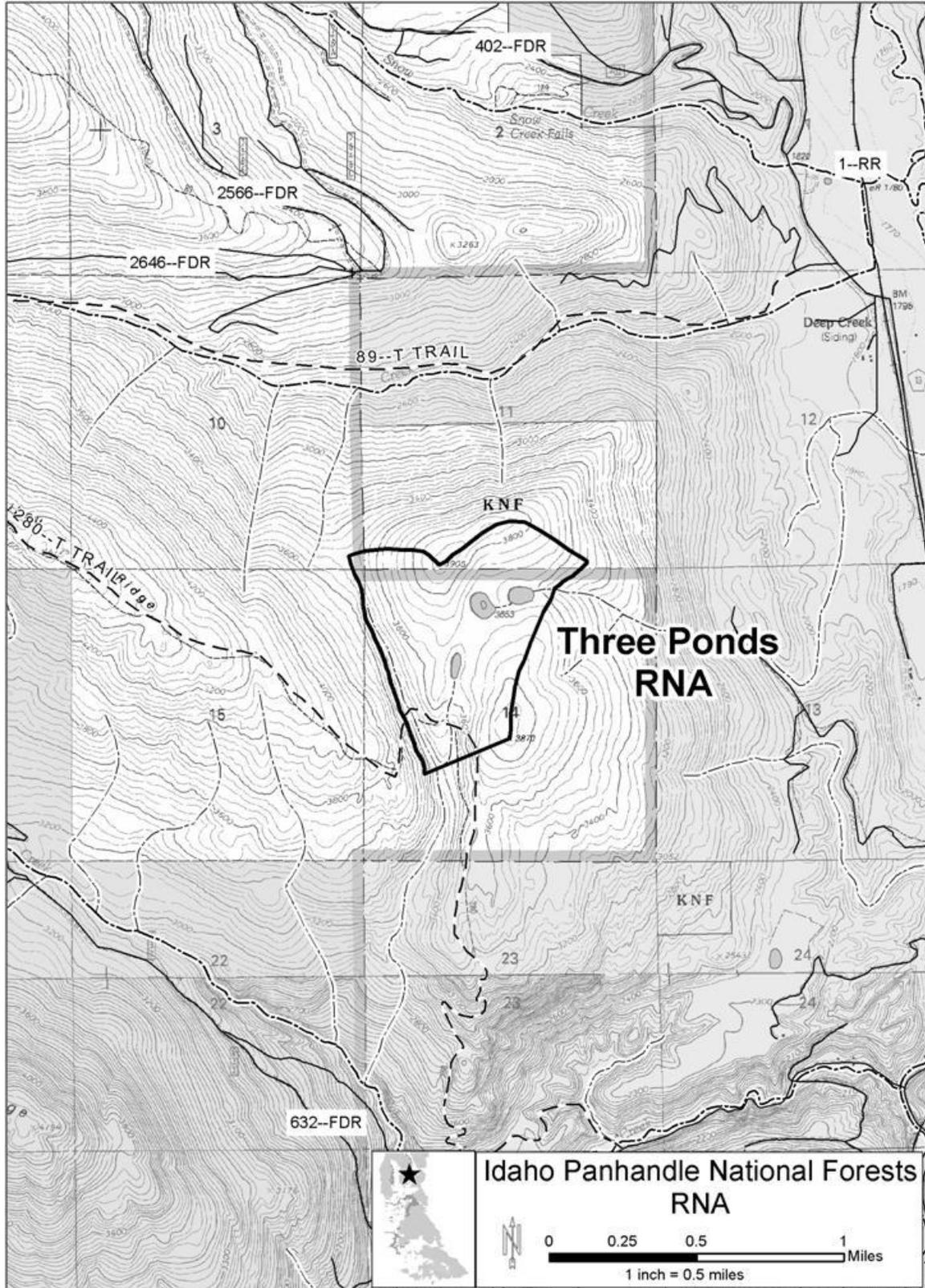


Figure 25. Three Ponds RNA

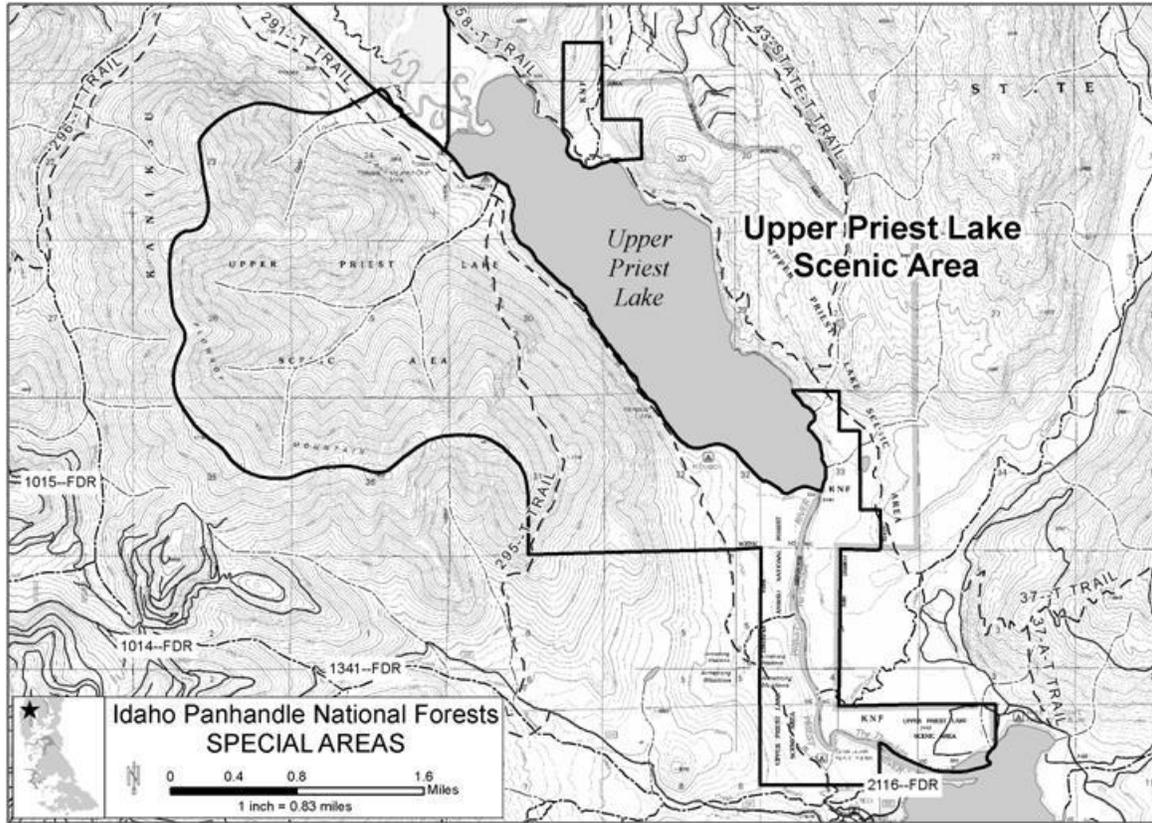


Figure 26. Upper Priest Lake Scenic Area

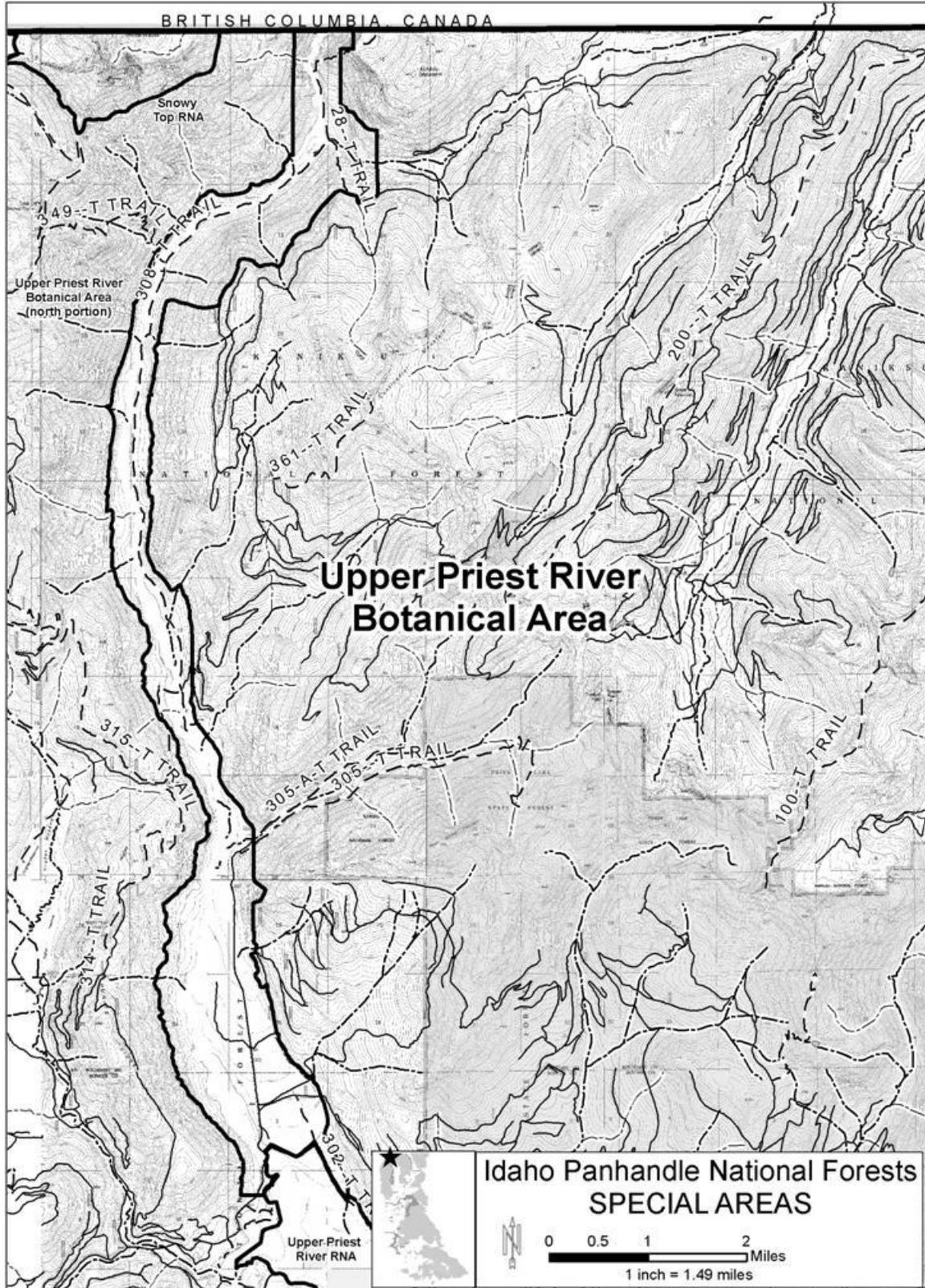


Figure 27. Upper Priest River Botanical Area

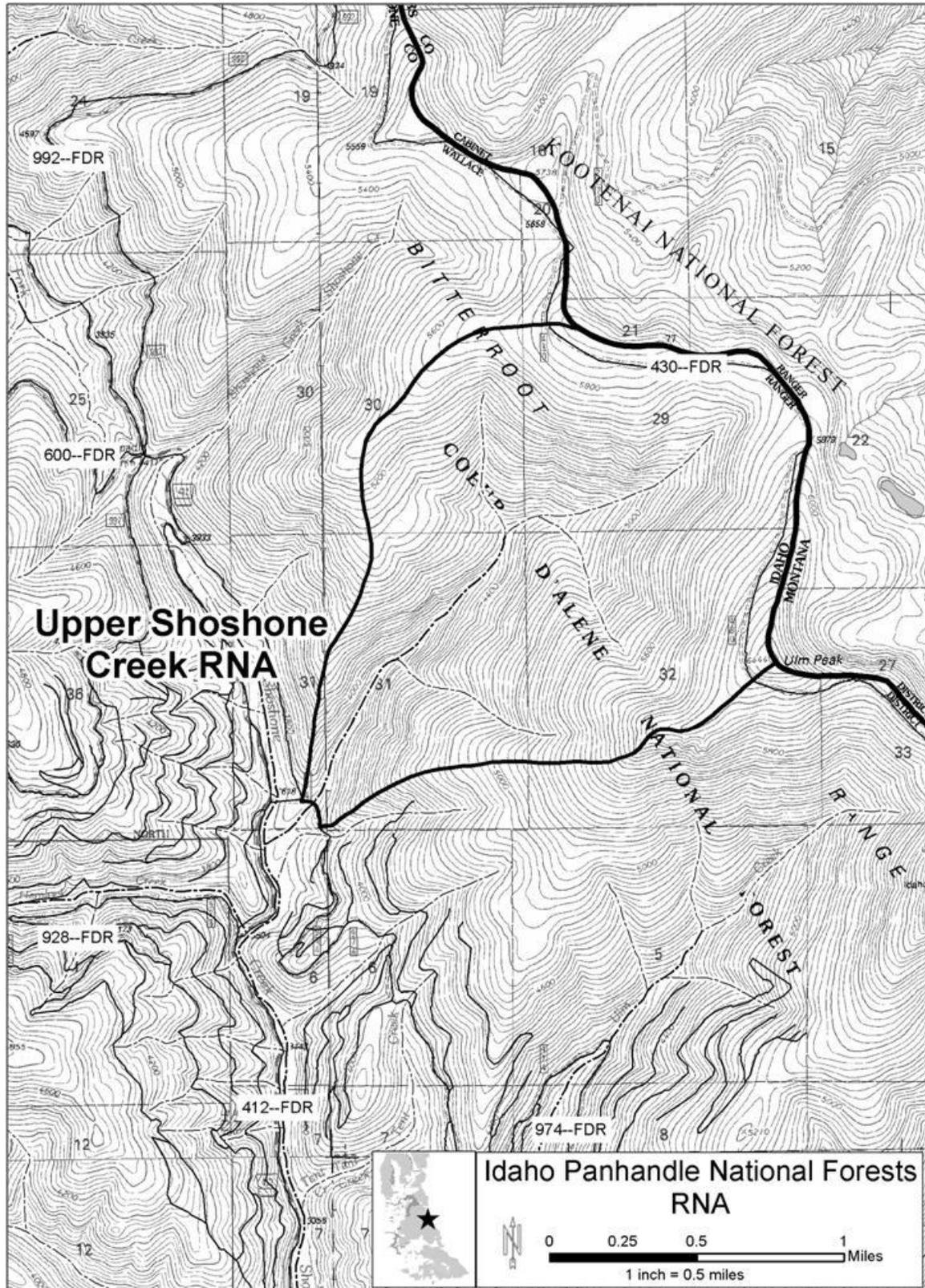


Figure 28. Upper Shoshone Creek RNA

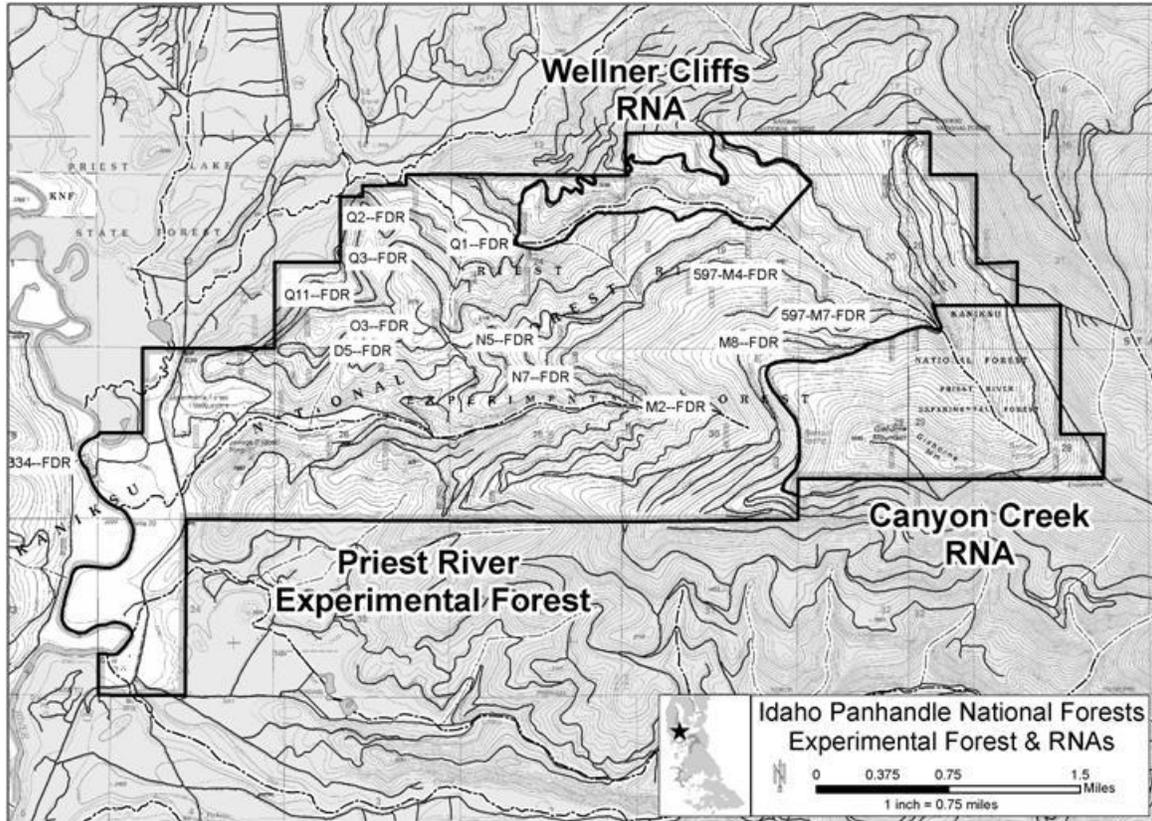


Figure 29. Wellner Cliffs RNA/Priest River Experimental Forest/Canyon Creek RNA