

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SUPPLEMENTARY CASE/INCIDENT RECORD

ORGANIZATION (PARK) NAME	CASE/INCIDENT NUMBER
Denali National Park and Preserve	080318

LOCATION OF INCIDENT:

The area of traditional use of off-road vehicles for subsistence hunting in Denali National Park and Preserve by the subsistence community of Cantwell, Alaska, which includes portions of the Windy Creek, Cantwell Creek and Bull River watersheds.

DATE OF INCIDENT

07/28/2008

13.460 Closures or restrictions to the use of snowmobiles, motorboats, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses

- Operating a motor vehicle off road is prohibited except by authorized residents as defined in this section when engaged in subsistence uses. For purposes of this paragraph, “authorized residents” means residents of the Cantwell resident zone community or those residents of Alaska Game Management Unit 13E holding a permit issued under § 13.440 of this part. Operating a motor vehicle off road for subsistence purposes outside designated areas as shown on Maps 1-7 (attached) is prohibited. A map and GPS coordinates of designated trails and areas are available on the park website and at the park visitor center.
- All of the following are prohibited: (1) Motor vehicles greater than 5.5 feet wide; (2) Motor vehicles exceeding 1,000 pounds curb (unloaded) weight; (3) Motor vehicles that steer by locking or skidding a wheel or track; and (4) Operating a motor vehicle in violation of § 13.460(d) of this part.

There are five routes that are specifically exempted from this closure (shown in maps 1 through 7):

1. the “**Windy Creek-Connector trail**”; encompassing the bulldozed trail that leads to the NW approximately 0.8 miles from the Park boundary to the edge of the ravine that descends to Windy Creek. (see attached map number 1)
2. the “**Windy Creek-Southwest trail**”; encompassing the trail that leads to the SW approximately ½ mile from the Windy Creek Connector trail (as described above) to the base of the steep hill slope. (map 1)
3. the “**Cantwell Airstrip trail**”; encompassing the portion of the old roadbed that extends west from the Cantwell airstrip toward the Summit airstrip, for approximately the first ¾ of a mile on NPS land. (map 2)
4. the route encompassing the **active floodplain in the river bed of Cantwell Creek** within the TUA, downstream from the Denali NP wilderness boundary, including the short section that crosses the Park boundary to the south. (maps 3 through 6)
5. the “**Pyramid Peak trail**”; encompassing the trail that leads from the Cantwell Creek Floodplain west of Pyramid Creek north toward Pyramid Peak, until the beginning of the spruce-alder forest; approximately ⅔ of a mile from the floodplain. (map 7)

NATURE OF INCIDENT

Temporary closure of area to all off-road vehicles, with the exception of five specified access routes where ORV access will be permitted by vehicles not exceeding 1,000 pounds and/or more than 5.5 feet wide.

COMPLAINANT'S NAME	COMPLAINANTS ADDRESS
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EFFECTIVE DATE: 08/01/2008; Duration of Closure 120 days.

CLOSURE NAME: Cantwell off-road vehicle traditional use area.

CLOSURE NUMBER: 13.46-002

BACKGROUND: The community of Cantwell is a subsistence resident zone community for Denali National Park and Preserve (DNP) (36 Code of Federal Regulations (CFR) 13.63(a)) and permanent local residents within the resident zone are eligible for subsistence uses within the ANILCA park and preserve additions. The resident zone for Cantwell has been defined in the Subsistence Management Plan as the area within 3 miles of the Cantwell Post Office. ANILCA section 811(a) states: "...rural residents engaged in subsistence uses shall have reasonable access to subsistence resources on public lands." Subsistence access is further defined by section 811(b) "...the Secretary shall permit on the public lands appropriate use for subsistence purposes of snowmobiles, motorboats and other means of surface transportation traditionally employed for such purposes by local residents, subject to reasonable regulation." DNP's 1986 General Management Plan states: "Authorized means of access for subsistence uses in Denali National Park and Preserve are snowmachines, motorboats and dog teams, and they are governed by existing regulations (36 CFR 13.46). If another means of surface access is shown to have been traditionally employed in the unit for subsistence purposes, it may be permitted in that unit subject to reasonable regulations. The existing regulations contained in 36 CFR 13.46 do not allow for transportation modes other than snowmobiles, motorboats, and other means of surface transportation traditionally employed. Any additional information about traditional means will be reviewed on a case-by-case basis."

The NPS has concluded that ORVs are a traditional means of access for subsistence purposes only in the following specific area of DNP, which is shown outlined in red on the attached map (see map number two):

That area of the 1980 Denali National Park additions between Windy Creek and the south bank of the Bull River excluding the portion of the South Fork of Windy Creek drainage in the Foggy Pass area as shown on map number 8 below: "Traditional ORV Use Areas for Subsistence Purposes on Denali National Park Lands in the Cantwell Area by Federally Qualified Subsistence Users"

Use of ORVs within these specific areas is subject to the provisions of 36 CFR 13.46, 50 CFR part 100 and all other applicable laws and regulations.

JUSTIFICATION: This temporary closure is necessary to assure the protection of the vegetation and soils resources of DNP from damage resulting from off-road vehicle (ORV) use during the period that field studies and an Environmental Assessment (EA) are undertaken to accomplish the following items:

- 1) An evaluation of routes within this region where access by ORVs is feasible and sustainable without resulting in unacceptable levels of impact to the resources of DNP.
- 2) The site study and design of possible trail modifications and new trail construction in portions of the TUA, as proposed under certain alternatives of the ongoing EA.
- 3) The design of a program to monitor and assess the ongoing impacts of ORV use through time as proposed in the EA, in order to ensure that continuing use of ORVs does not result in adverse impacts to resources of DNP.
- 4) An examination of the alternatives for managing ORV access to subsistence resources in the designated region of DNP.

There is considerable evidence documenting the potential for serious damage to Alaskan vegetation and soils resulting from the use of off-road vehicles in Alaska's natural landscapes (Happe et al. 1998, Ahlstrand and Racine 1990, Racine & Johnson 1988, Sparrow et al. 1978, Wooding & Sparrow 1978). Even quite limited ORV traffic has been found to cause substantial damage to vegetation and disturbance of soils. A study by Ahlstrand & Racine in Alaska (1990) showed that the majority of impacts to vegetation can occur in the first 20 passes of an ORV. In addition, the severity of resource damage usually increases with the number of passes made by ORVs through an area. In DNP, the effects of a single ORV incursion by three vehicles into the Park in 2003 were still plainly visible in 2005, particularly in sensitive wetland sites or dwarf birch areas. Many heavily-impacted trails of longer duration show conspicuous vegetation and soil disturbance, particularly from the air.

ORVs can abrade, break, compress, and shear both vegetation and soils. The most obvious impact to vegetation is a decrease in live plant biomass that results from removal or killing of plants by physical contact with the vehicles. An ORV impact assessment in Wrangell-St. Elias National Park & Preserve (Happe et al. 1998) reported that plots on trails with active use had 41% less vegetation cover than control plots. Damage to plant tissues may kill plants and thereby alter the native vegetation of an area. The cumulative amount of injury to plants is controlled by the amount of traffic, the vegetation type and soil stability (Sparrow et al. 1978). Heavy use by ORVs may result in severe compaction and/or slicing of the organic mat that supports plant growth. Significant surface depression can occur as a result of ORV traffic, particularly in wet sites, and the soil surface may continue to subside even years after the original impact from ORV traffic (Alhstrand & Racine 1990).

A single track trail of a typical 4-wheel ORV (with no braids) disturbs approximately 1 acre of vegetation per mile, while on average, a braided track disturbs an average of 4 acres per mile (Meyer 2002). Severely impacted areas with a large number of braids will disturb much more area than this. An ORV incursion in the Dunkle Hills area of DNP that occurred during September 2003 impacted about 8,405 m² (2.08 acres) of vegetation and soils (Roland & Van Horn 2005). This footprint was a result of a single incident; therefore future ORV trails into this area would be expected to greatly expand the amount of affected vegetation. In fact, mapping completed during 2005 has identified large polygons of impacted wetlands within the boundaries of DNP.

The impact of ORV use varies among vegetation types (Happe et al. 1998, Wooding & Sparrow 1978, Roland & Van Horn 2005). Wetlands are apparently very sensitive to ORV incursions. Assessments documenting ORV damage within DNP showed that a reduction in vegetative cover was a conspicuous result of even limited use of these vehicles in wetland areas of Broad Pass near the ORV use area of the Park (Roland and Van Horn 2005) and in areas in and near the TUA (Liebermann & Roland 2006). The vegetation types with the most cumulative impacts of ORVs in Wrangell- St. Elias National Park & Preserve were open low shrub-sedge tussock bog and mesic herbaceous vegetation communities. Vegetation recovery was highest in the spruce woodland and low shrub communities, and lowest in the open spruce forest types (Happe et al. 1998). The Broad Pass region of Denali NP is predominantly covered by herbaceous wetland meadows, riparian corridors dominated by tall willows, and low birch-ericaceous shrub (Roland & Van Horn 2005); all of these vegetation types have been found to be easily damaged by relatively low levels of ORV traffic (Ahlstrand & Racine 1990m, Sparrow et al. 1978, Racine & Johnson 1988).

The most consistent impact of ORVs on soils is compaction of surface horizons. Compaction is a common result of soil disturbance in both arctic (Gersper & Challinor 1975, Abele et al. 1984, Rewa 2003) and interior Alaska (Sparrow et al. 1976, Happe et al. 1998, Alhstrand & Racine 1990). Compaction is the process by which the pore space in soils is decreased due to physical force, and bulk density of the soil is increased. The result of compaction is a reduced permeability of water and gas, which impairs the ability of roots to function. Soil that is saturated with water is highly likely to be greatly impacted by ORV use (Meyer, 2002). These soils are unstable and have been shown to be susceptible to churning that creates impassible muck holes (Happe et al. 2002, Ahlstrand & Racine 1990, Sparrow et al. 1978). The creation of impassable areas causes braiding of trails that magnifies the 'footprint' of disturbance over time. The effects on soils in wetlands are conspicuous. These soils are easily compacted, and pushed into ridges, churned and thrown, and lifted on vehicle tracks and tires (Meyer 2002).

The duration of ORV impacts is a crucial question for managers. The passage of a single ORV in some landscapes can leave a visual imprint that lasts indefinitely (Ahlstrand & Racine 1990, Forbes 1998). However, the duration of impacts along any specific ORV trail varies, depending on the severity of adverse impacts, and on several environmental variables including slope, aspect, soil moisture, hydrological regime, soil morphology, species composition and vegetation type (Meyer 2002).

In field assessments of ORV trails made in both 2004 and 2005 in the TUA and adjacent terrain of DNP, resource staff from have observed and mapped a variety of impacts resulting from ORV traffic within the Park. These range from minor surface and vegetation depressions due to soil compaction along a single track to vegetation removal and destruction, extensive trail braiding and mudhole formation, erosion and drainage capture, 5-15 meter-wide swaths of severely rutted wetland soils, and other severe forms of degradation to soils; vegetation; and hydrology on and near ORV use areas (Liebermann & Roland, 2006). An unauthorized 2006 incursion from the open Cantwell Creek floodplain caused visible damage to vegetation and soils from a single return trip with a 4-wheeled ORV and trailer, indicating the susceptibility of the landscape to impacts from minimal off-trail use (photograph 3). The total impacted area from ORV use documented in the TUA in 2005 was 36.8 kilometers (22.7 miles) of linear trail and 14.8 hectares (36.6 acres) of impact area; additional impacts were recorded outside the boundaries of the TUA.

The studies cited above suggest that substantial and lasting damage to Park resources is a real potential consequence of unmanaged ORV use, particularly in sensitive areas such as wetlands and alpine tundra. The attached photographs show examples of ORV-impacted vegetation and soils in wetlands between Cantwell Creek and the Bull River. It is clear from these observations that damage to vegetation and soil resources within DNP has occurred; without a closure, these impacts would continue to be exacerbated. Therefore, it is essential that the designated area be closed to further ORV use while a thorough environmental assessment of the scale and intensity of impacts from ORV use in DNP is made.

This EA is currently being prepared, and is expected to be completed by the end of 2006. The EA will identify alternatives for managing ORV access, including specific routes that could support ORV traffic without unacceptable levels of impact to native vegetation, soils, and other Park resources. This temporary closure is a necessary action to forestall additional negative impacts to Park resources while the environmental assessment process is being completed. This is a necessary step towards the development of a sound and sustainable plan for managing use of ORVs to access subsistence resources within Denali National Park and Preserve.

The authority to close this area is exercised under Title 36 13.46 of the Code of Federal Regulations (CFR), which is cited below. The five specific routes that are exempt from this closure are provided to allow reasonable access to subsistence resources for the community of Cantwell.



Photograph one: Photo showing extensive rut-formation and vegetation removal caused by ORV use in a wetland area of DNP, located between Cantwell Creek and the Bull River. This photo was taken during the summer of 2005.



Photograph two: An aerial view of one example of conspicuous braiding of trails and pattern of proliferating impacts resulting from ORV use through sensitive wetland vegetation and soils documented in DNP during summer 2005.



Photograph three: Impacts from the September 2005 off-trail incursion, approximately on week after the incident.

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§13.46 Use of snowmobiles, motorboats, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses.

- (a) Notwithstanding any other provision of this chapter, the use of snowmobiles, motorboats, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses is permitted within park areas except at those times and in those areas restricted or closed by the Superintendent.
- (b) The Superintendent may restrict or close a route or area to use of snowmobiles, motorboats, dog teams, or other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses if the Superintendent determines that such use is causing or is likely to cause an adverse impact on public health and safety, resource protection, protection of historic or scientific values, subsistence uses, conservation of endangered or threatened species, or the purposes for which the park area was established.
- (c) No restrictions or closures shall be imposed without notice and a public hearing in the affected vicinity and other locations as appropriate. In the case of emergency situations, restrictions or closures shall not exceed sixty (60) days and shall not be extended unless the Superintendent establishes, after notice and public hearing in the affected vicinity and other locations as appropriate, that such extension is justified according to the factors set forth in paragraph (b) of this section. Notice of the proposed or emergency restrictions or closures and the reasons therefore shall be published in at

least one newspaper of general circulation within the State and in at least one local newspaper if appropriate, and information about such proposed or emergency actions shall also be made available for broadcast on local radio stations in a manner reasonably calculated to inform local rural residents in the affected vicinity. All restrictions and closures shall be designated on a map which shall be available for public inspection at the office of the Superintendent of the affected park area and the post office or postal authority of every affected community within or near the park area, or by the posting of signs in the vicinity of the restrictions or closures, or both.

(d) Motorboats, snowmobiles, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses shall be operated (1) in compliance with applicable State and Federal law, (2) in such a manner as to prevent waste or damage to the park areas, and (3) in such a manner as to prevent the herding, harassment, hazing or driving of wildlife for hunting or other purposes.

(e) At all times when not engaged in subsistence uses, local rural residents may use snowmobiles, motorboats, dog teams, and other means of surface transportation in accordance with §§13.10, 13.11, 13.12, and 13.14, respectively.

LOCATION: Cantwell ORV traditional use area of Denali National Park and Preserve, including the relevant portions of the drainages of Windy Creek, Cantwell Creek and the Bull River, as shown in map 8, with the exception of five designated routes that are specifically exempted from this closure, which are described above and shown in attached maps 1-7.

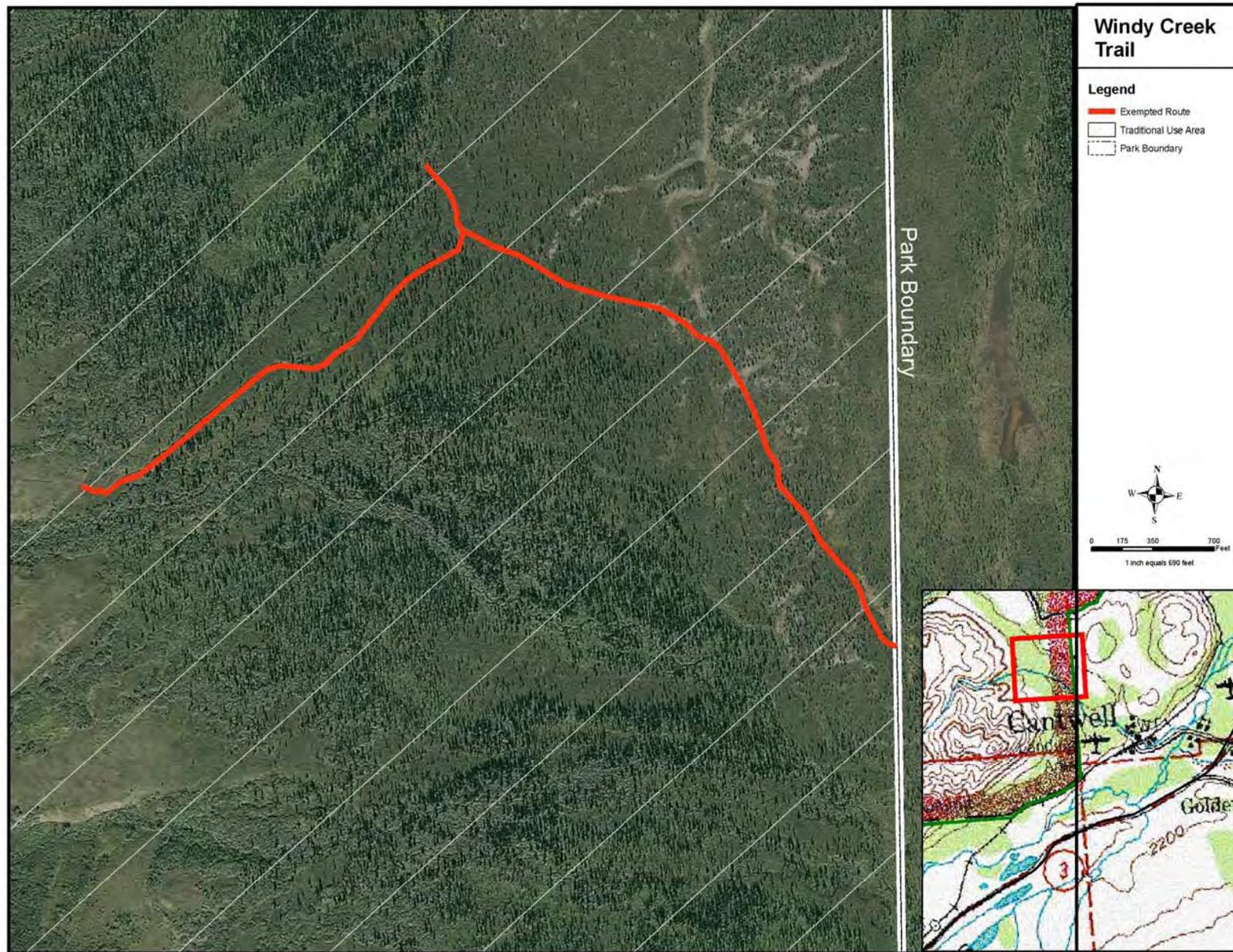
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NOTIFY COMM. CENTER: Amy Craver

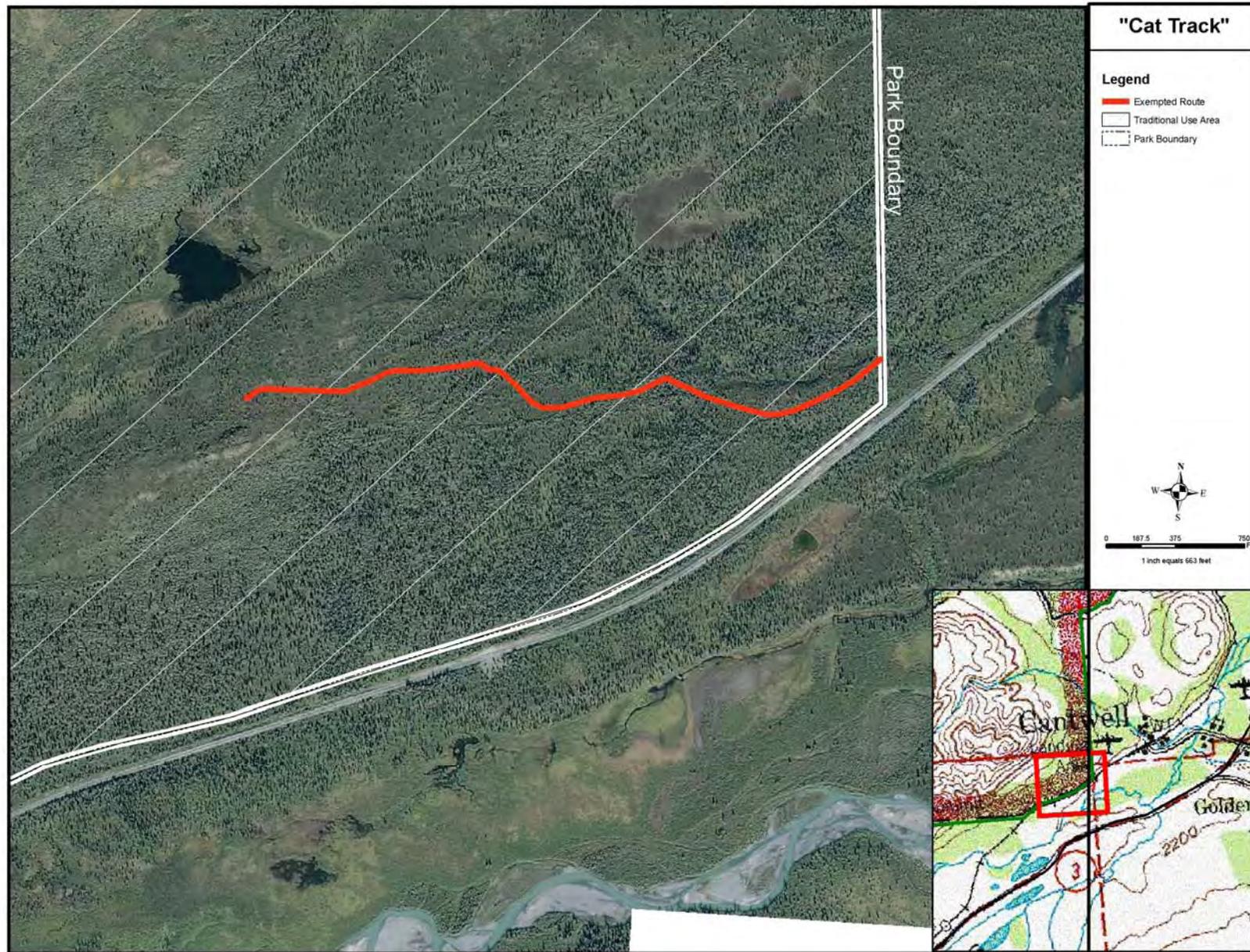
MONITORING: Backcountry LE staff, Botany program staff

SUBMITTED BY (SIGNATURE AND DATE)

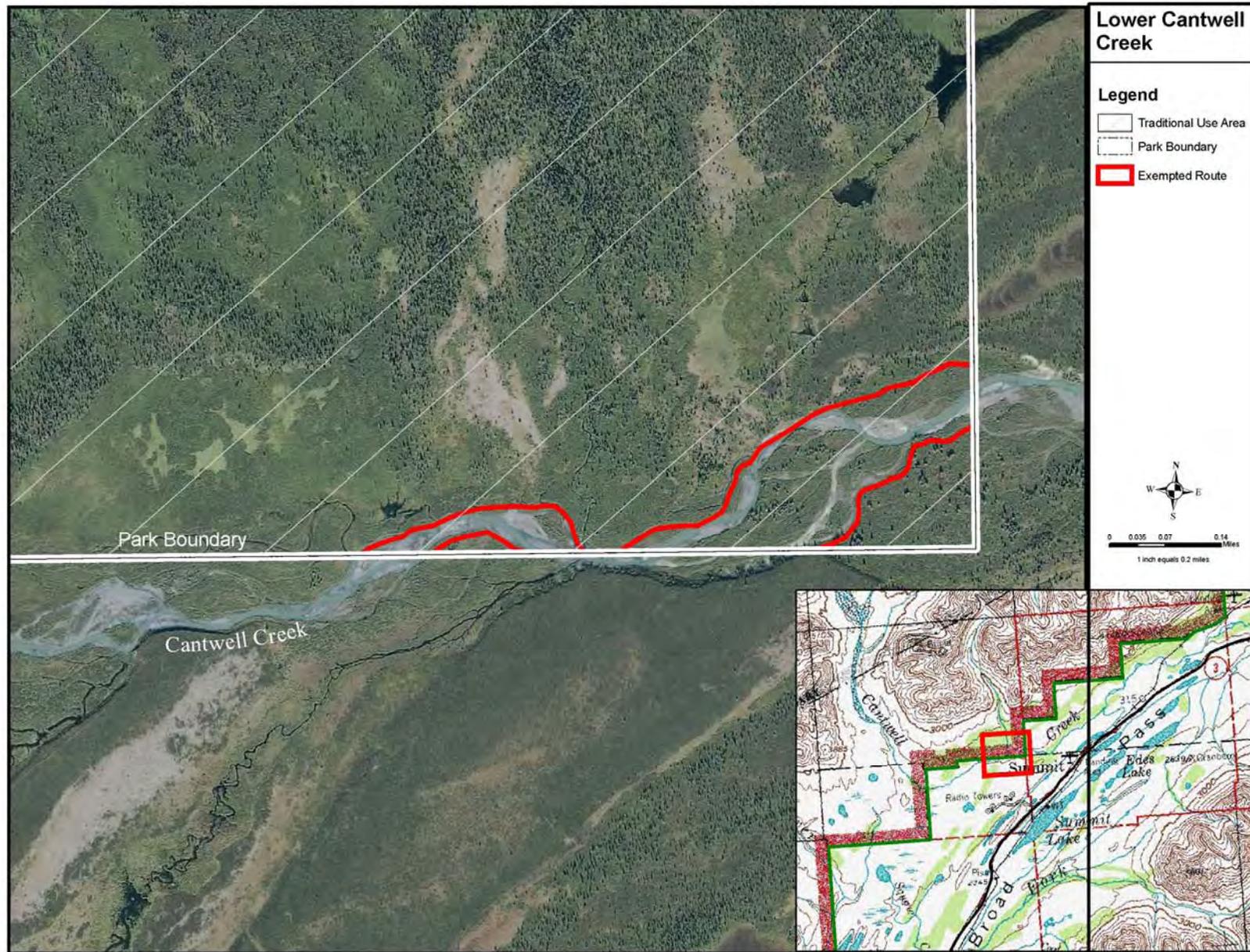
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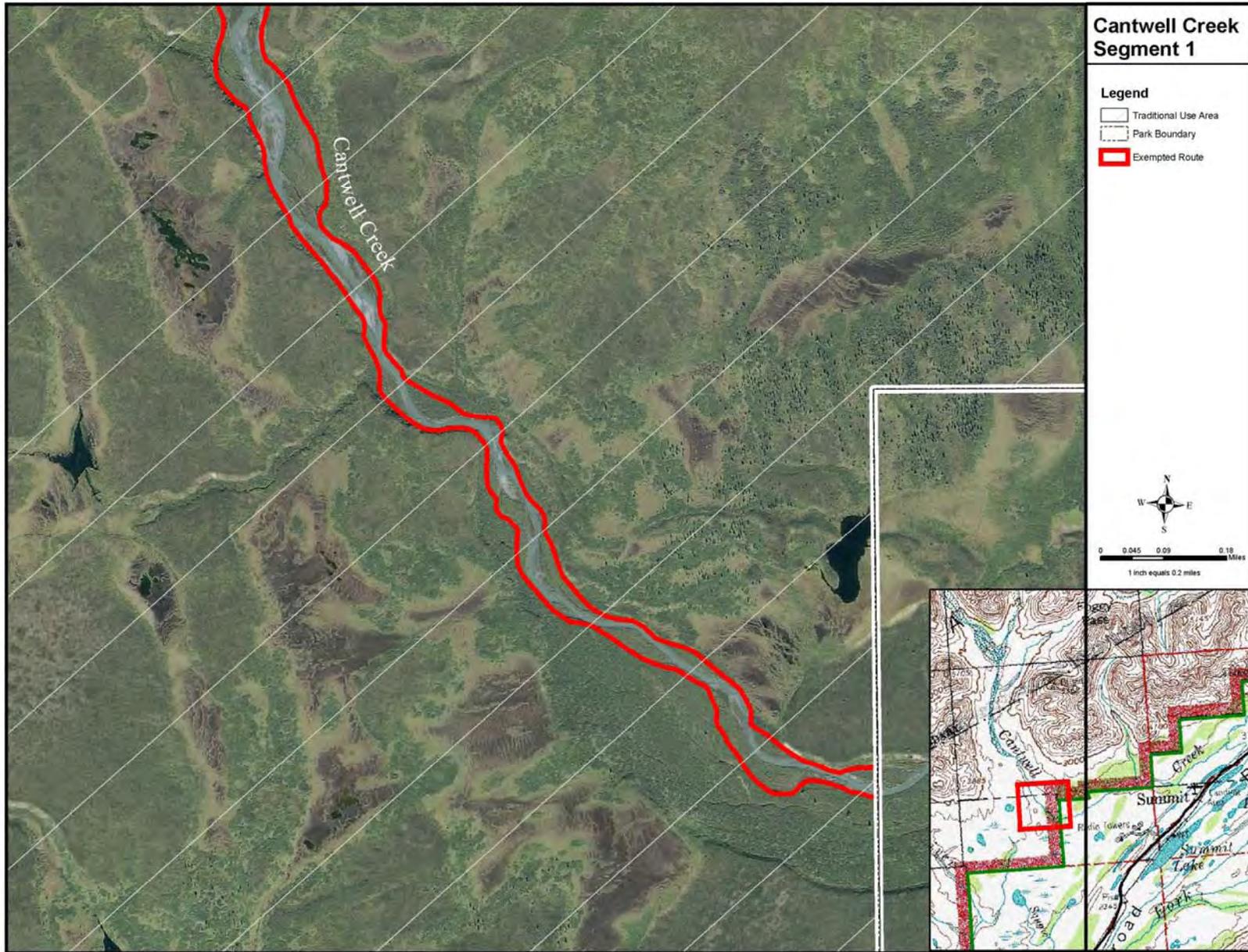
Map 1: Windy Creek-Access (SE-NW-trending) and Windy Creek-Southwest (NE-SW-trending) trails in DNP that are specifically exempted from the temporary closure of the traditional use area to ORV traffic.



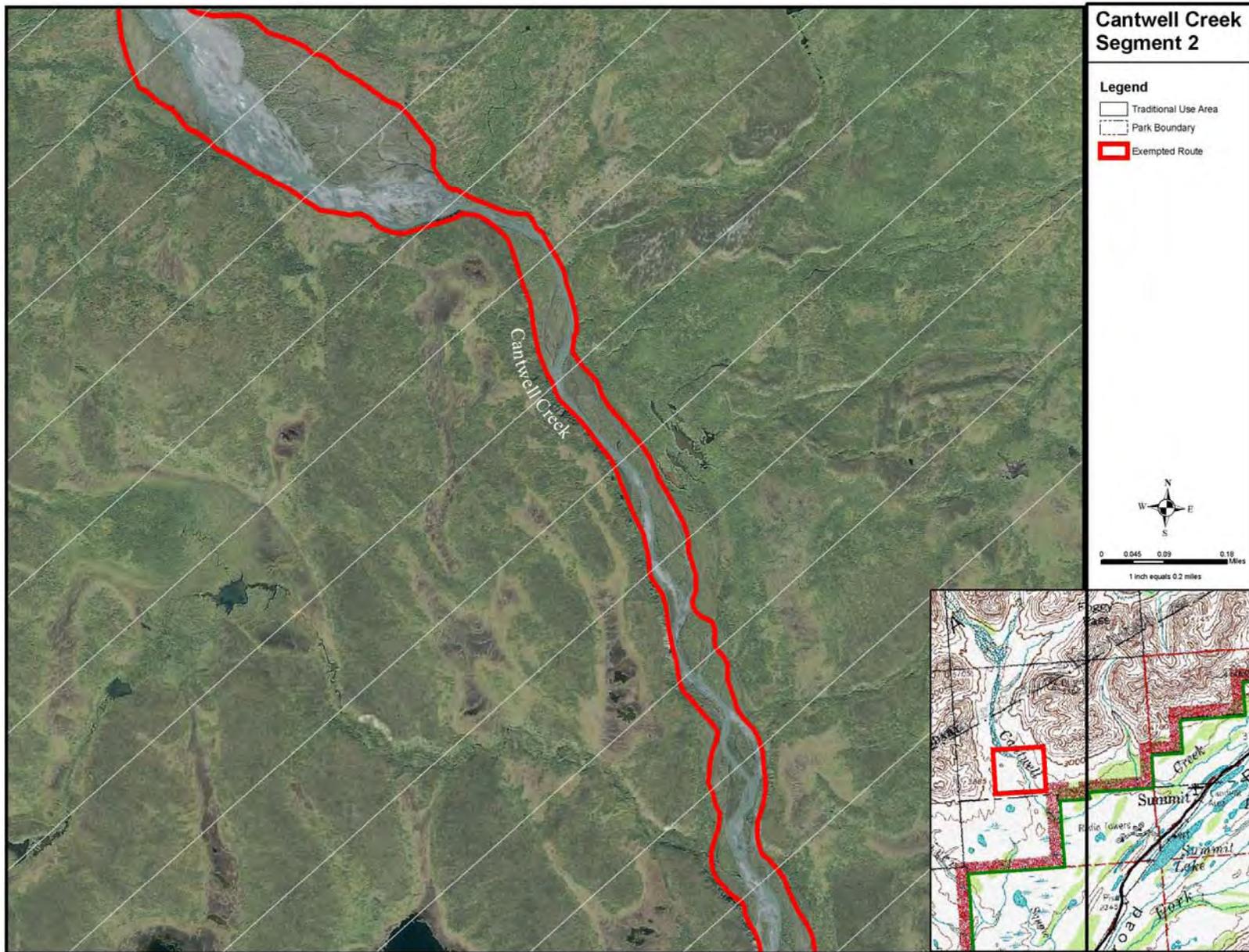
Map 2: Cantwell Airstrip trail in DNP that is specifically exempted from the temporary closure of the traditional use area to ORV traffic.



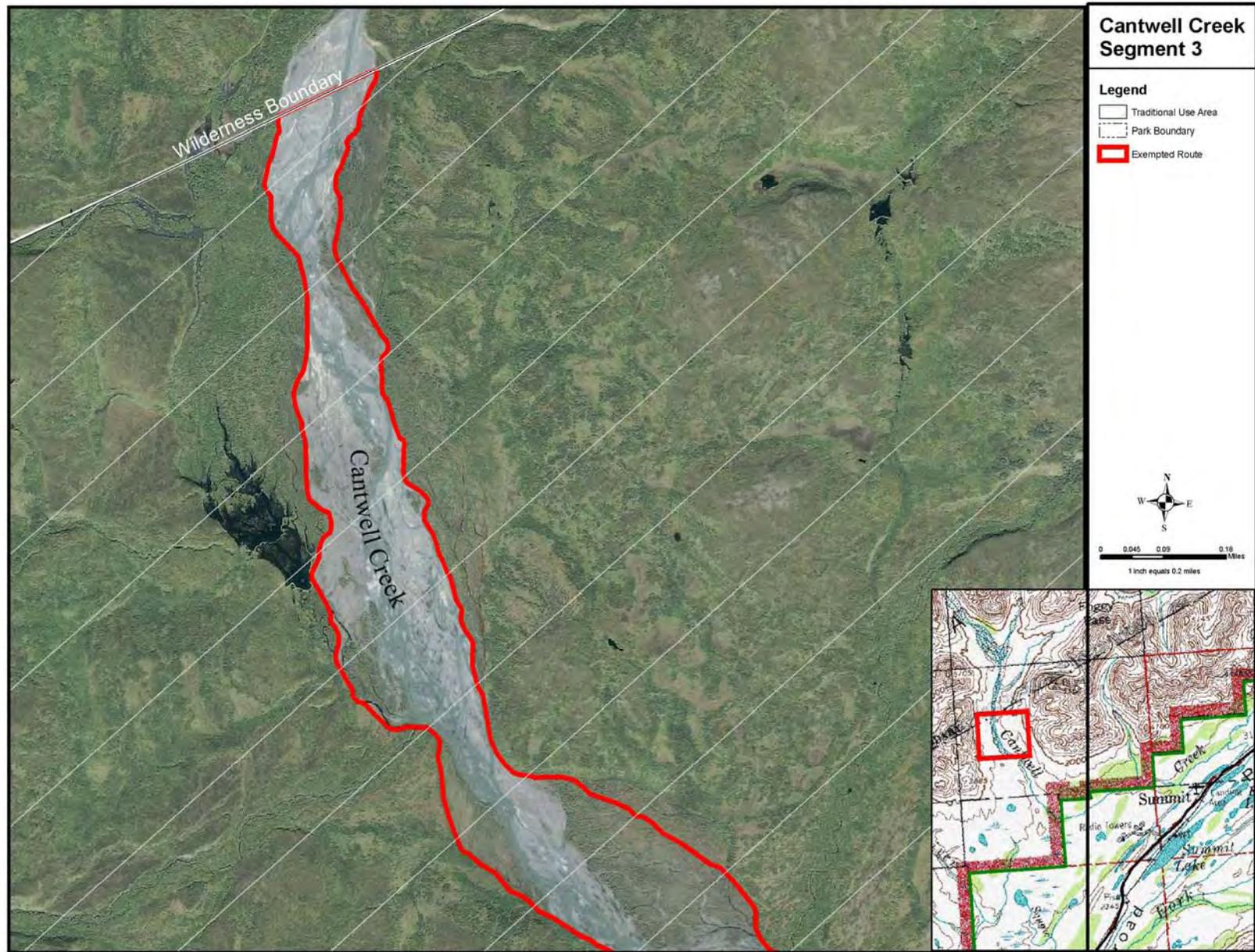
Map 3: Southeastern portion of the Cantwell Creek floodplain route in DNP that is specifically exempted from the temporary closure of the traditional use area to ORV traffic.



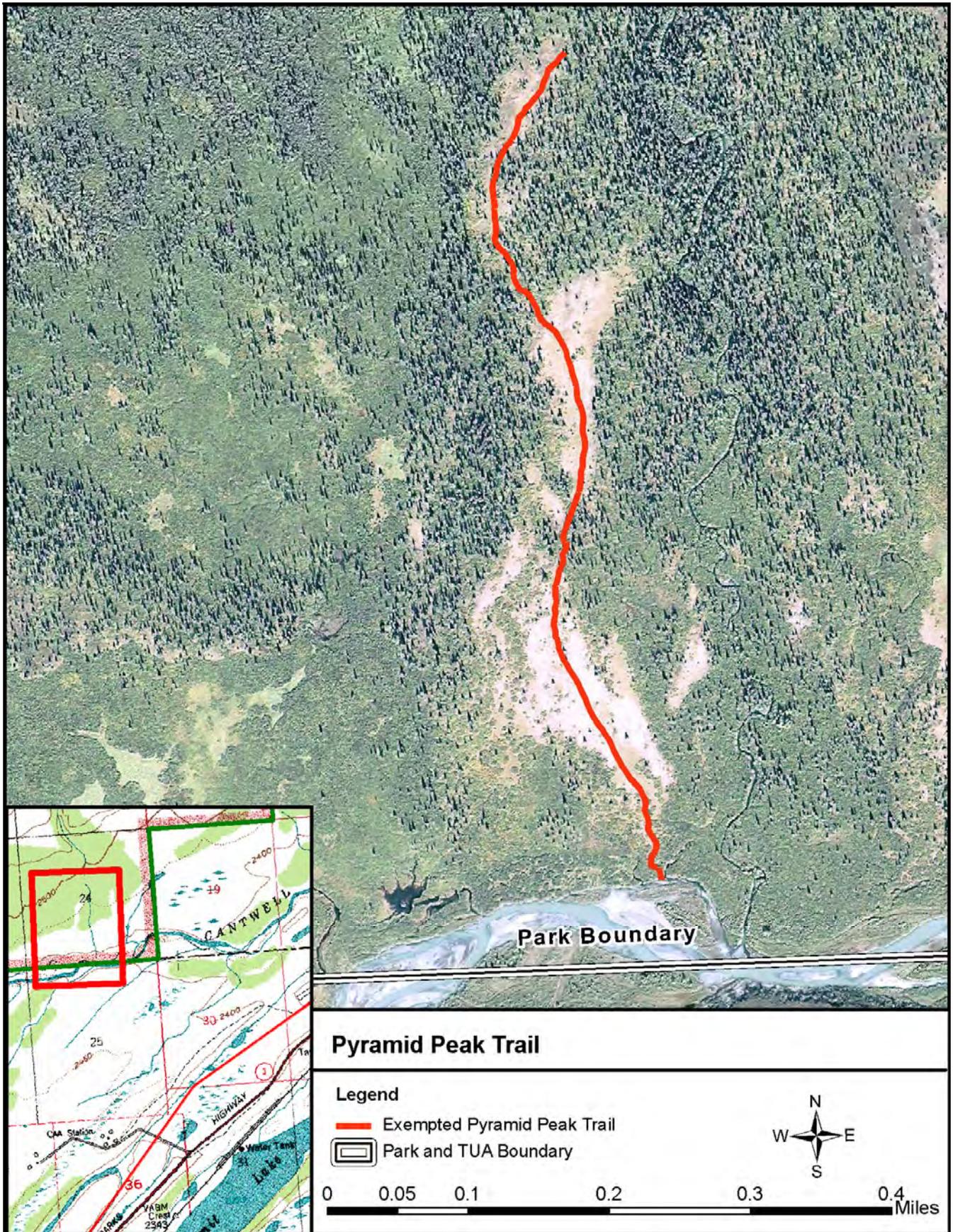
Map 4: Southern portion of the Cantwell Creek floodplain route in DNP that is specifically exempted from the temporary closure of the traditional use area to ORV traffic.



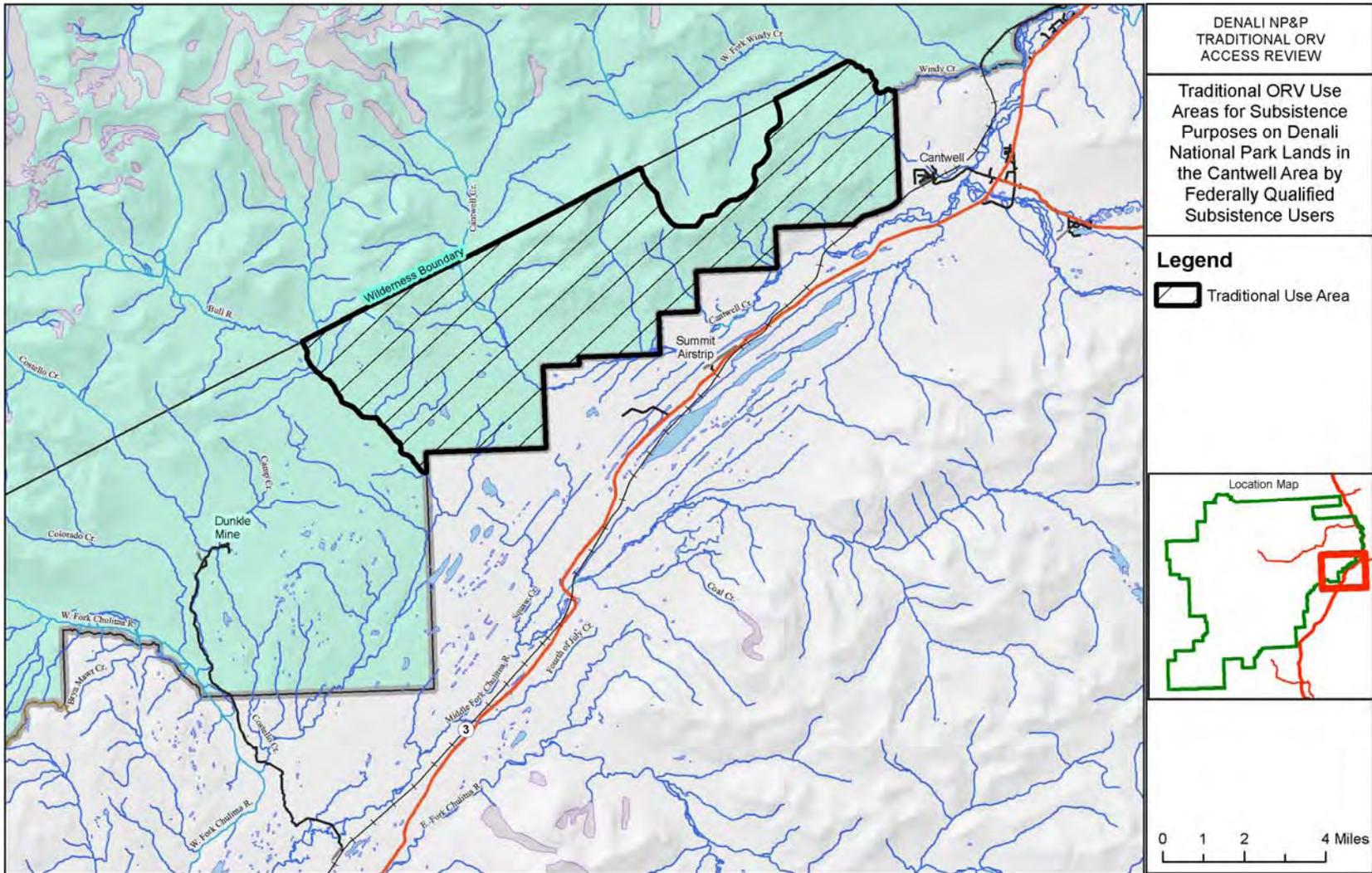
Map 5: Middle portion of the Cantwell Creek floodplain route in DNP that is specifically exempted from the temporary closure of the traditional use area to ORV traffic.



Map 6: Northern portion of the Cantwell Creek floodplain route in DNP that is specifically exempted from the temporary closure of the traditional use area to ORV traffic.



Map 7: Pyramid Peak trail in DNP that is specifically exempted from the temporary closure of the traditional use area to ORV traffic.



Map 8: Traditional ORV Use Area for Subsistence Purposes by Federally Qualified Subsistence Users on Denali National Park Lands in the Cantwell Area.