Confirmed Fen Site Descriptions

Confirm Fen Site Descriptions 1

Fen Polygon: GRTE-00001-A General Location: Arizona Lake 3

Fen Polygon: GRTE-00008-A General Location: Colter Bay Junction 7

Fen Polygon: GRTE-00036-A General Location: SE of Horse Stables 13

Fen Polygon: GRTE-00091-A General Location: Bearpaw Lake 17

Fen Polygon: GRTE-00092-A General Location: Bearpaw Lake Trail 22

Fen Polygon: GRTE-00095-A General Location: String Lake 27

Fen Polygon: GRTE-00099-A General Location: String Lake 33

Fen Polygon: GRTE-00104-A General Location: Taggart Lake 39

Fen Polygon: GRTE-00111-A General Location: String Lake 45

Fen Polygon: GRTE-00248-A General Location: Arizona Lake Rd 50

Fen Polygon: GRTE-00278-A General Location: Willow Flats 55

Fen Polygon: GRTE-00278-B General Location: Willow Flats 61

Fen Polygon: GRTE-00279-A General Location: North of Christian Pond 64

Fen Polygon: GRTE-00279-B General Location: North of Christian Pond 69

Fen Polygon: GRTE-00279-C General Location: West of Christian Pond 72

Fen Polygon: GRTE-00281-A General Location: Willow Flats 75

Fen Polygon: GRTE-00287-A General Location: Signal Mountain 80

Fen Polygon: GRTE-00293-A General Location: Signal Mountain 85

Fen Polygon: GRTE-00294-A General Location: Signal Mountain 90

Fen Polygon: GRTE-00342-A General Location: Spread Creek 95

Fen Polygon: GRTE-00420-A General Location: Christian Creek 102

Fen Polygon: GRTE-00421-A General Location: Christian Creek 108

Fen Polygon: GRTE-00427-A General Location: Jackson Lake Dam 112

Fen Polygon: JODR-00046-A General Location: West of Flagg Mountain 117

Fen Polygon: JODR-00130-A General Location: Glade Creek 129

Fen Polygon: JODR-00131-A General Location: Glade Creek 134

Fen Polygon: JODR-00184-A General Location: Flagg Mountain 140

Fen Polygon: JODR-00185-A General Location: Southeast of Flagg Mountain 145

Fen Polygon: JODR-00186-A General Location: Southeast of Flagg Mountain 148
Fen Polygon: JODR-00187-A General Location: Southeast of Flagg Mountain 151
Fen Polygon: JODR-00192-A General Location: Southeast of Flagg Mountain 154
Fen Polygon: JODR-00194-A General Location: Southeast of Flagg Mountain 158
Fen Polygon: JODR-00195-A General Location: Southwest of Huckleberry Hot Springs 161
Fen Polygon: JODR-00196-A General Location: Northeast of Camp Spur #5..... 166
Fen Polygon: JODR-00197-A General Location: Northeast of Camp Spur #5..... 171
Fen Polygon: JODR-00839-A General Location: Southwest of Huckleberry Hot Springs 175

Fen Polygon: GRTE-00001-A Arizona Lake

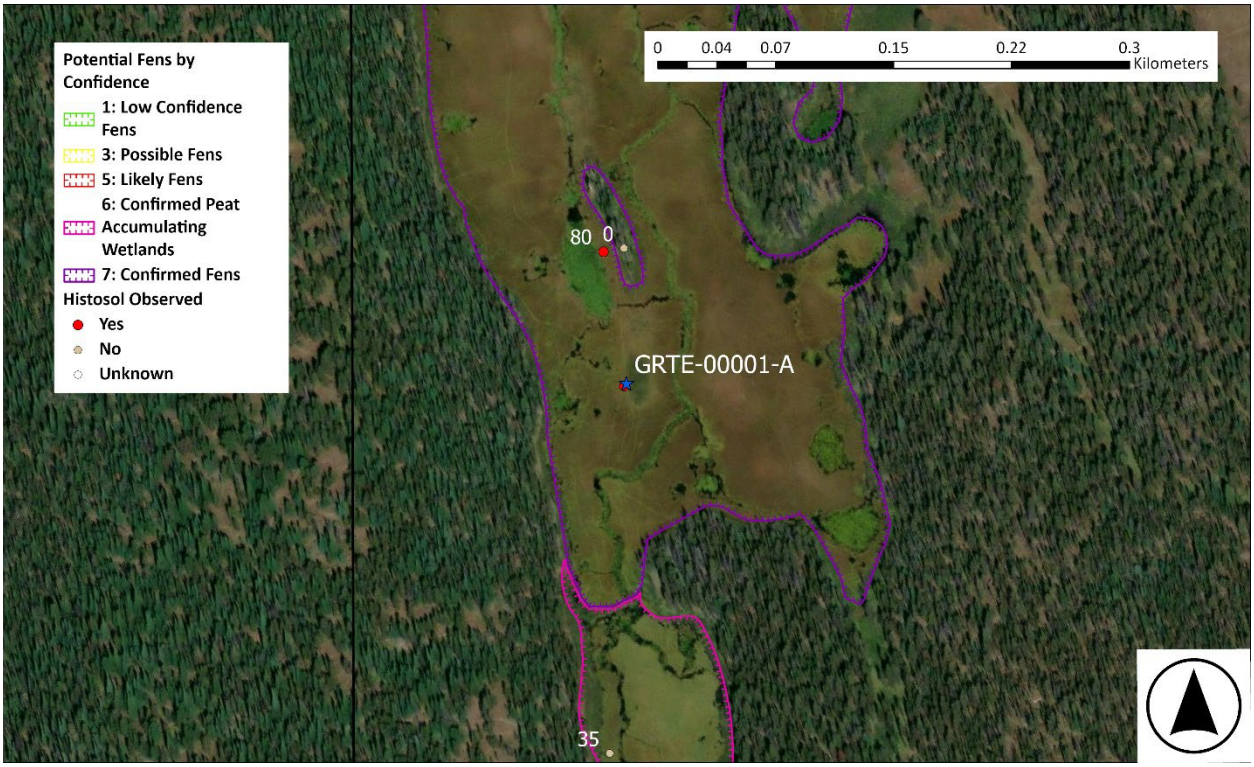


Figure 1. Aerial imagery of GRTE-00001-A.

Table 1. Site characteristics of GRTE-00001-A

Characteristic	Value
Latitude	43.955471
Longitude	-110.618109
Coordinate system	NAD83, UTM Zone 12
Elevation	2123 m (6965 ft)
Survey date	7/9/2023
Approximate peat depth	50 – 80 cm

Site Description

Site largely dominated by *Carex utriculata.* Some *Nuphar lutea* in open water or in channels, along with a decent amount of *Comarum palustre*. Located around Arizona Lake with several channels through it, likely a result of beaver action. On the date of 7/9/2023, only the southwestern portion of the polygon was assessed, as it's over a mile long.

Survey Notes

No evidence of human activity. Channels observed in the site are suspected to be from beavers. A Heron rookery was present in the forested inclusion with multiple active nests.

Access Directions

Drive north along North Park Rd and turn right onto Arizona Lake Rd, a rocky two track road. Take the road to the end of the two track, then hike in ~850 m to site. Hike follows an unmaintained trail to a part of the wetland south of the polygon, then veers north along the upland/wetland margin, along a decent wildlife trail.

Table 2. Species list for GRTE-00001-A

Scientific Name	Cover Class
Carex utriculata	8: 50-<75%
Carex aquatilis	5: 5-<10%
Nuphar lutea ssp. *polysepala*	5: 5-<10%
Carex canescens	4: 2-<5%
Comarum palustre	4: 2-<5%
Salix boothii	4: 2-<5%
Calamagrostis canadensis	3: 1-<2%
Carex diandra	3: 1-<2%
Cicuta bulbifera	3: 1-<2%
Epilobium sp.	3: 1-<2%
Galium trifidum	3: 1-<2%
Polygonum amphibium	3: 1-<2%
Salix geyeriana	3: 1-<2%
Salix planifolia	3: 1-<2%
Scutellaria brittonii	3: 1-<2%
Utricularia macrorhiza	3: 1-<2%

Table 3. Water quality measurements taken in GRTE-00001-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	Unkn	12.6	5.85	103	Near patch of willows
2	Shallow standing water	Unkn	15.2	6.39	88	In standing water, next to floating mat
3	Shallow standing water	Unkn	14.5	5.90	75	On floating mat

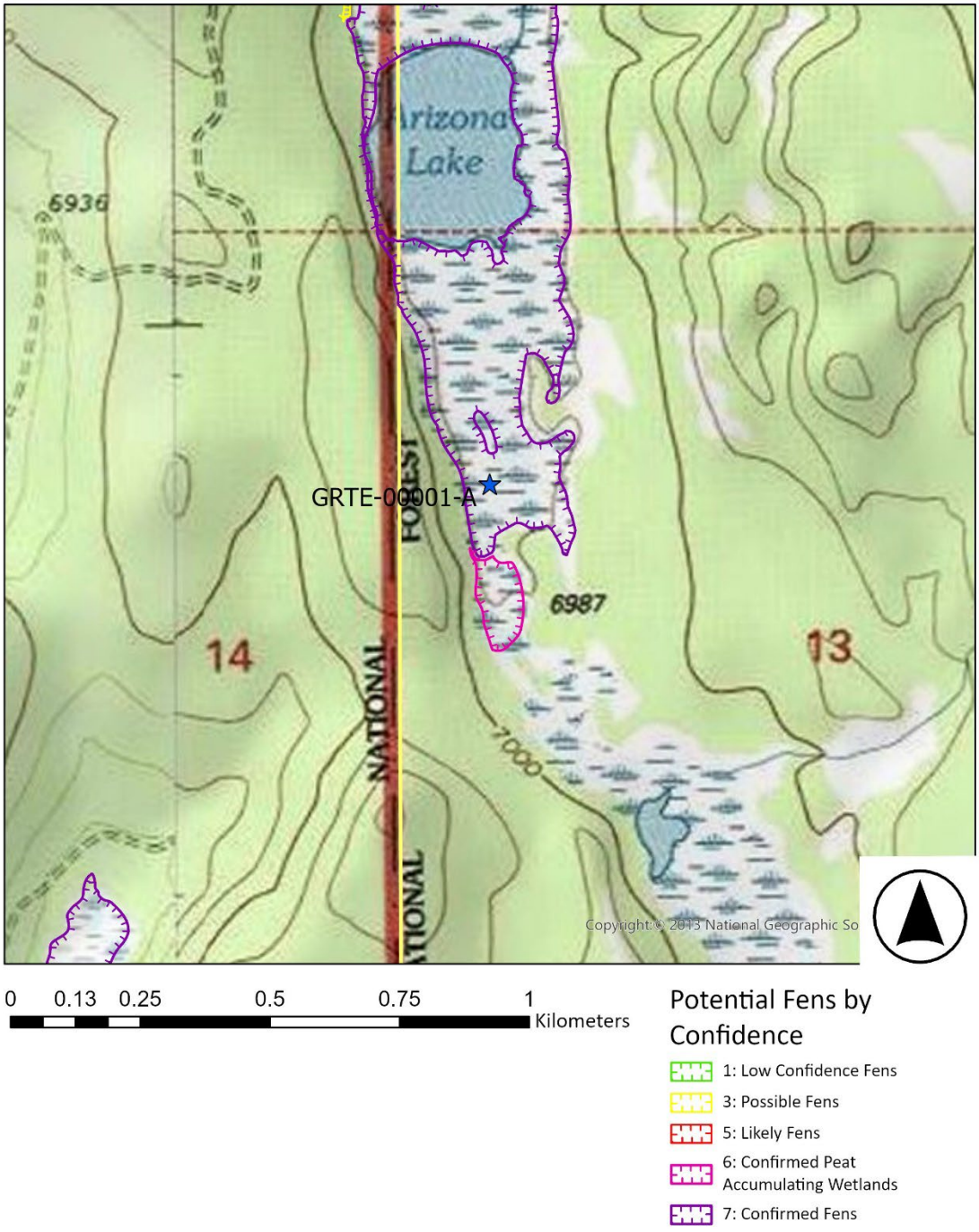


Figure 2. Location map of GRTE-00001-A.



Figure 3. A channel runs through the southern portion of the site.



Figure 4. Large open body of water with *Nuphar lutea* within the site, south of Arizona Lake

Fen Polygon: GRTE-00008-A Colter Bay Junction

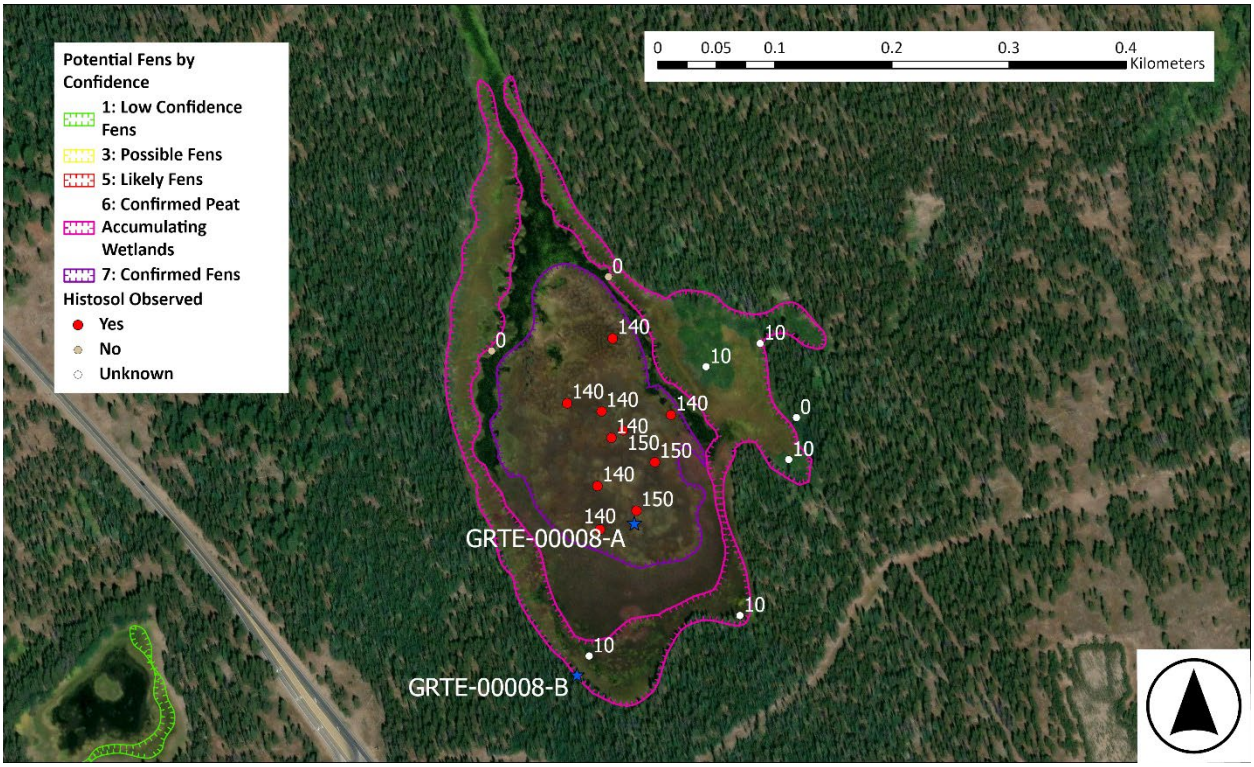


Figure 5. Aerial imagery of GRTE-00008-A.

Table 4. Site characteristics of GRTE-00008-A

Characteristic	Value
Latitude	43.913603
Longitude	-110.627194
Coordinate system	NAD83, UTM Zone 12
Elevation	2098 m (6883 ft)
Survey date	8/16/2023
Approximate peat depth	140 – 150 cm

Site Description

Veg dominated by *Carex lasiocarpa, Sphagnum, Drosera anglica,* and a decent amount of *Carex aquatilis.* Surrounded by lots of *Schoenoplectus acutus.* Previously inaccessible due to a moat around the mat of vegetation at the center of the site - lower water levels led to accessibility the second attempt at access. Basin site, water mostly at shin level.

Survey Notes

Site is beautiful, appears largely untouched by humans. Some moose likely present, beaver history (possibly present), swan egg found floating in water in site.

Access Directions

Park at Colter Bay gas station and cross North Park Rd. Hike in headed Northeast on utility clearing, then cut in towards site.

Table 5. Species list for GRTE-00008-A

Scientific Name	Cover Class
Carex lasiocarpa	7:25-<50%
Carex limosa	6:10-<25%
Carex aquatilis	6:10-<25%
Drosera anglica	6:10-<25%
Calamagrostis canadensis	4:2¬-<5%
Comarum palustre	4:2¬-<5%
Kalmia microphylla	4:2¬-<5%
Carex utriculata	3:1-<2%
Eleocharis quinqueflora	3:1-<2%
Lycopus Uniflorus	3:1-<2%
Menyanthes trifoliata	3:1-<2%
Schoenoplectus acutus	3:1-<2%
Eriophorum gracile	2:<1%
Nuphar lutea ssp. *polysepala*	2:<1%
Pedicularis groenlandica	2:<1%
Pinus contorta	2:<1%
Potamogeton natans	2:<1%
Scheuchzeria palustris	2:<1%
Spiranthes romanzoffiana	2:<1%
Triantha occidentalis	2:<1%
Utricularia macrorhiza	2:<1%
Vaccinium uliginosum	2:<1%

Table 6. Water quality measurements taken in GRTE-00008-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	Unkn	18.8	5.70	18	Measurement taken in standing water on the edge of the site
2	Shallow standing water	20	22.5	6.20	21	On north edge of site adjacent to willows
3	Shallow standing water	20	21.7	5.96	35	
4	Shallow standing water	35	16.9	6.30	24	

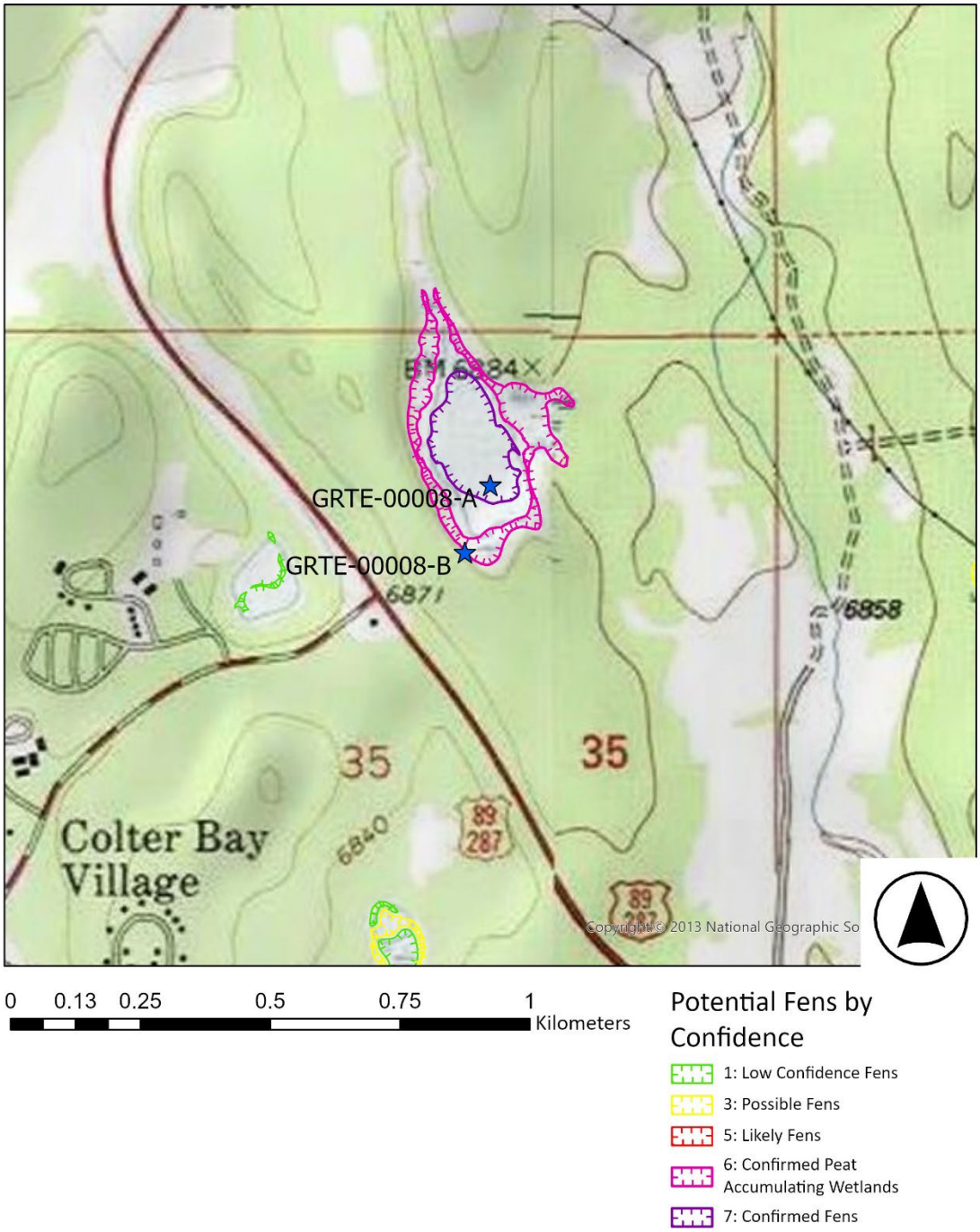


Figure 6. Location map of GRTE-00008-A.



Figure 7. Topography changes with mounds of *Sphagnum*.



Figure 8. Significant amounts of *Drosera anglica*.



Figure 9. General site landscape.



Figure 10. Up close photo of *Scheuchzeria palustris,* a common component in the site.



Figure 11. Up close photo of *Drosera anglica* growing on *Sphagnum* with *Kalmia microphylla.*

Fen Polygon: GRTE-00036-A Southeast of Horse Stables

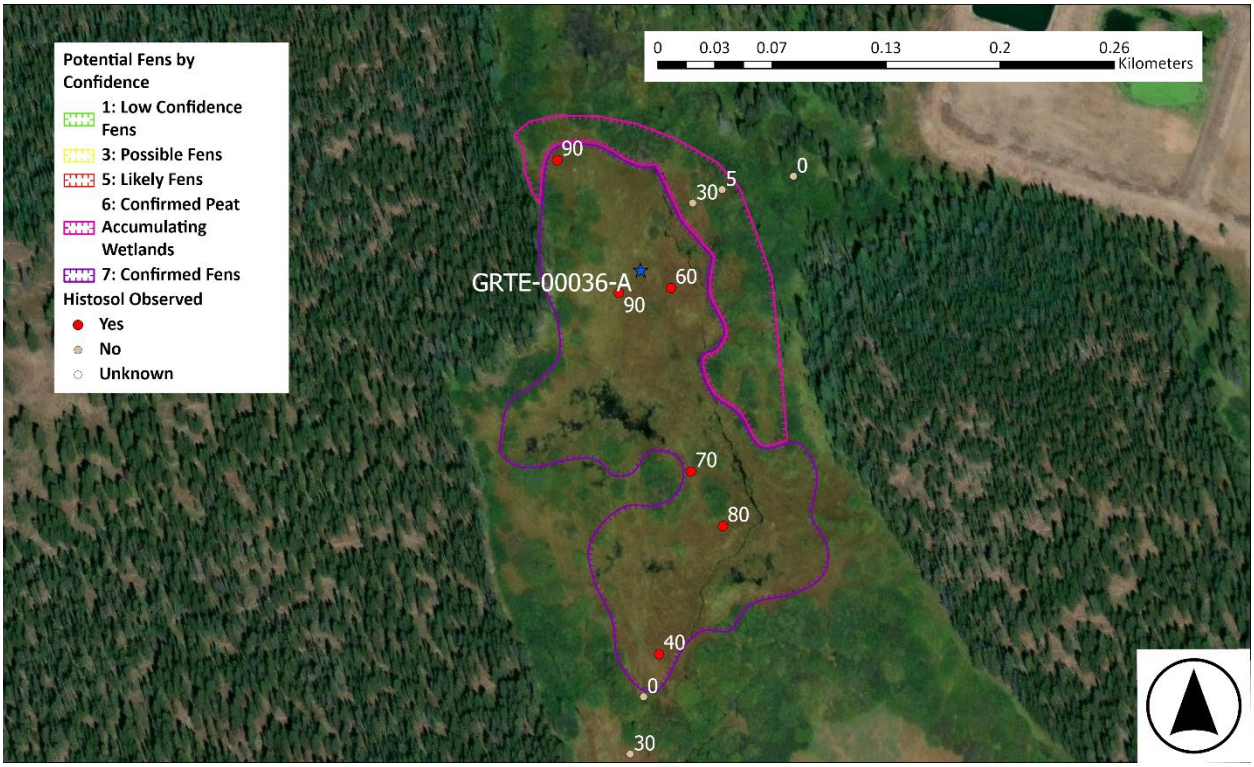


Figure 12. Aerial imagery of GRTE-00036-A.

Table 7. Site characteristics of GRTE-00036-A

Characteristic	Value
Latitude	43.89855
Longitude	-110.63028
Coordinate system	NAD83, UTM Zone 12
Elevation	2084 m (6840 ft)
Survey date	8/7/2023
Approximate peat depth	30 – 90 cm

Site Description

The understory is largely dominated by *Carex utriculata*, with some *Carex aquatilis*. Shrubs are mostly *Salix geyeriana* and *Salix boothii*. Mostly a basin, with the slightest slope towards Swan Lake to the South. Water levels are generally low.

Survey Notes

No major evidence of human activity. There appears to be some minor herbivory on some of the willows.

Access Directions

Park at the horse stables just Southeast of Colter Bay Campground and visitor area. Hike in heading east along Hermitage Point Trail, heading south at the wastewater treatment facilities. Cross over a downed fence in the southwest corner of the treatment facilities and bushwhack through willows until reaching the open area of *Carex utriculata*.

Table 8. Species list for GRTE-00036-A

Scientific Name	Cover Class
Carex utriculata	8:50-<75%
Salix geyeriana	6:10-<25%
Carex aquatilis	4:2¬-<5%
Salix boothii	4:2¬-<5%
Calamagrostis canadensis	3:1-<2%
Calamagrostis stricta	3:1-<2%
Deschampsia cespitosa	3:1-<2%
Salix wolfii	3:1-<2%
Epilobium species	2:<1%
Rumex	2:<1%

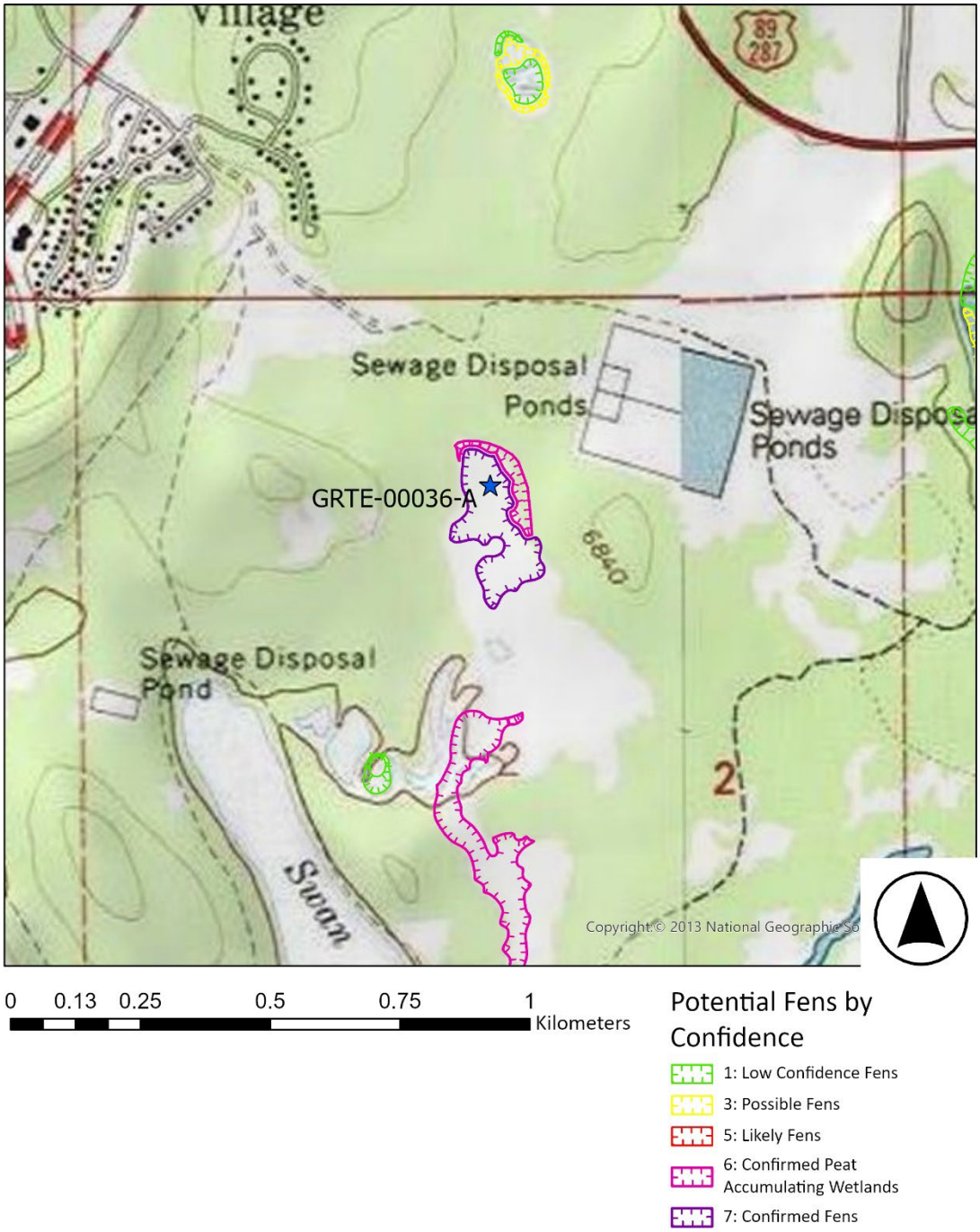


Figure 13. Location map of GRTE-00036-A.



Figure 14. GRTE-00036 is heavily dominated by *Carex utriculata* and *Salix geyeriana*.



Figure 15. Site landscape.

Fen Polygon: GRTE-00091-A Bearpaw Lake



Figure 16. Aerial imagery of GRTE-00091-A.

Table 9. Site characteristics of GRTE-00008-A

Characteristic	Value
Latitude	43.831477
Longitude	-110.728638
Coordinate system	NAD83, UTM Zone 12
Elevation	2089 m (6854 ft)
Survey date	7/22/2023
Approximate peat depth	10 – 100 cm

Site Description

Dominated by a large stand of *Carex lasiocarpa*, creating a floating mat of vegetation. Other rare plants within the site include *Comarum palustre*, *Juncus brevicaudatus*, *Carex buxbaumii*, *Sparganium natans*. *Botrychium multifidum* was observed just outside the polygon as well, to the northeast in a forested area. The site borders the edge of Bearpaw Lake. Soils at the edge of the water are generally at 0 cm of peat. The soil within the site are very deep peat and mucky.

Survey Notes
Adjacent to Trapper Lake Trail and Bearpaw Lake, but the site appears untouched.

Access Directions
Park at String Lake Picnic Area and Hike in starting at String Lake Trailhead. From there, hike along String Lake Trail, following the east side of the lake. Connect with Leigh Lake Trail, continuing to follow up north and east of the lake. At the intersection of Bearpaw Lake Trail and Trapper Lake Trail, take Bearpaw Lake Trail and follow it till the end. The fen will be on the left, across the area where Bearpaw lake drains into another fen. Crossable with knee boots, though waders are likely needed since it's a floaty mat.

Table 10. Species list for GRTE-00091-A

Scientific Name	Cover Class
Carex lasiocarpa	8:50-<75%
Comarum palustre	5:5-<10%
Carex buxbaumii	4:2¬-<5%
Carex echinata	4:2¬-<5%
Juncus brevicaudatus	4:2¬-<5%
Sparganium natans	4:2¬-<5%
Eleocharis palustris	3:1-<2%
Alnus incana	2:<1%
Botrychium multifidum	2:<1%
Carex	2:<1%
Carex lenticularis var. lipocarpa	2:<1%
Carex utriculata	2:<1%
Juncus ensifolius	2:<1%

Table 11. Water quality measurements taken in GRTE-00091-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	0	20.7	5.51	64	Measurement taken in a mucky hole in the floating mat with water table at ground level
2	Pool or pond	40	23.6	6.95	30	Taken in Bearpaw Lake. Mucky bottom with fish present.

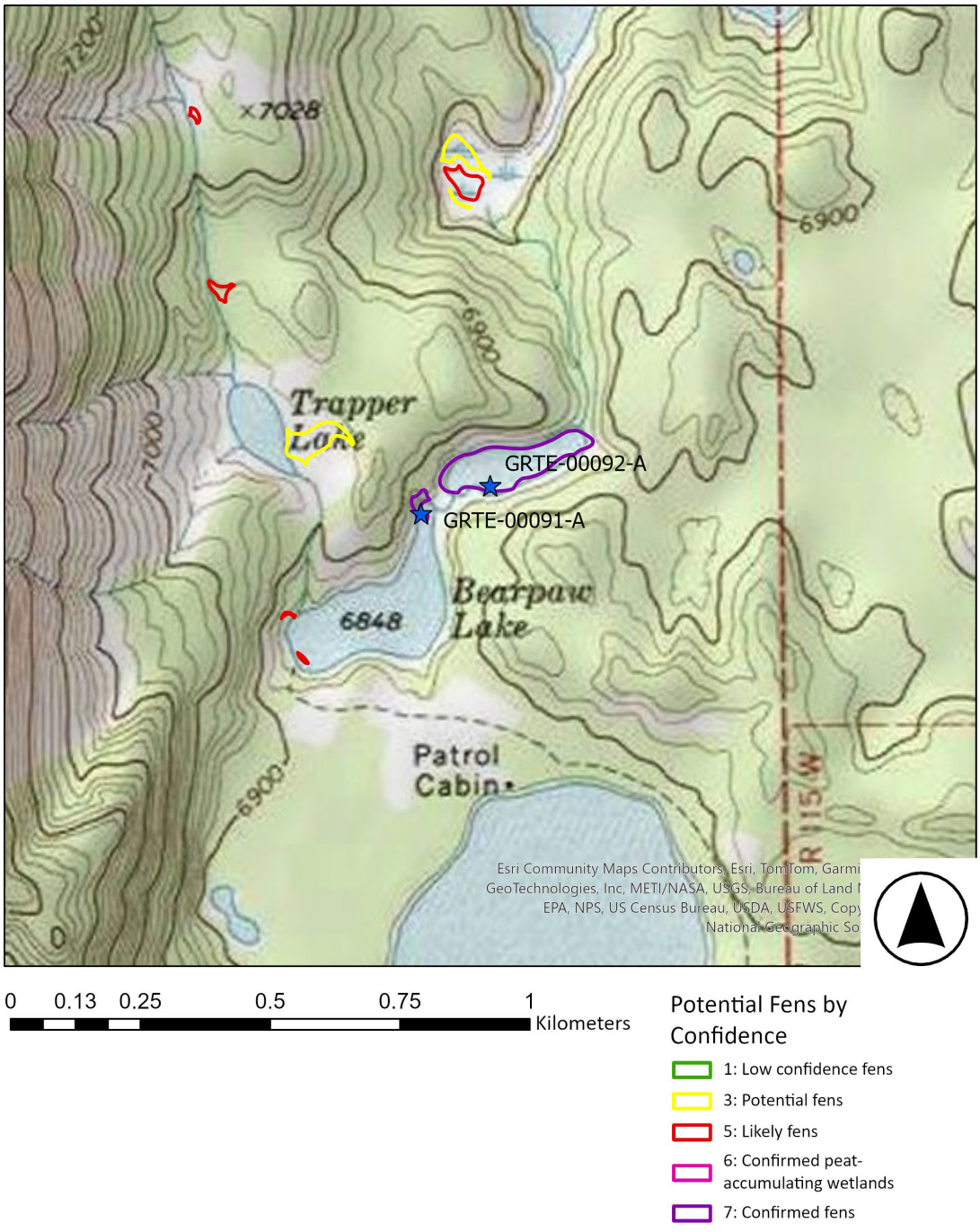


Figure 17. Location map of GRTE-00091-A.



Figure 18. *Botrychium multifidum* grows in forested area on the margin of the polygon.



Figure 19. An inconsistent floating mat of sparse *Eleocharis palustris* and *Carex lasiocarpa* is on the side of the polygon closest to Bearpaw Lake.



Figure 20. Site landscape.



Figure 21. Site borders Bearpaw Lake.

Fen Polygon: GRTE-00092-A Bearpaw Lake Trail

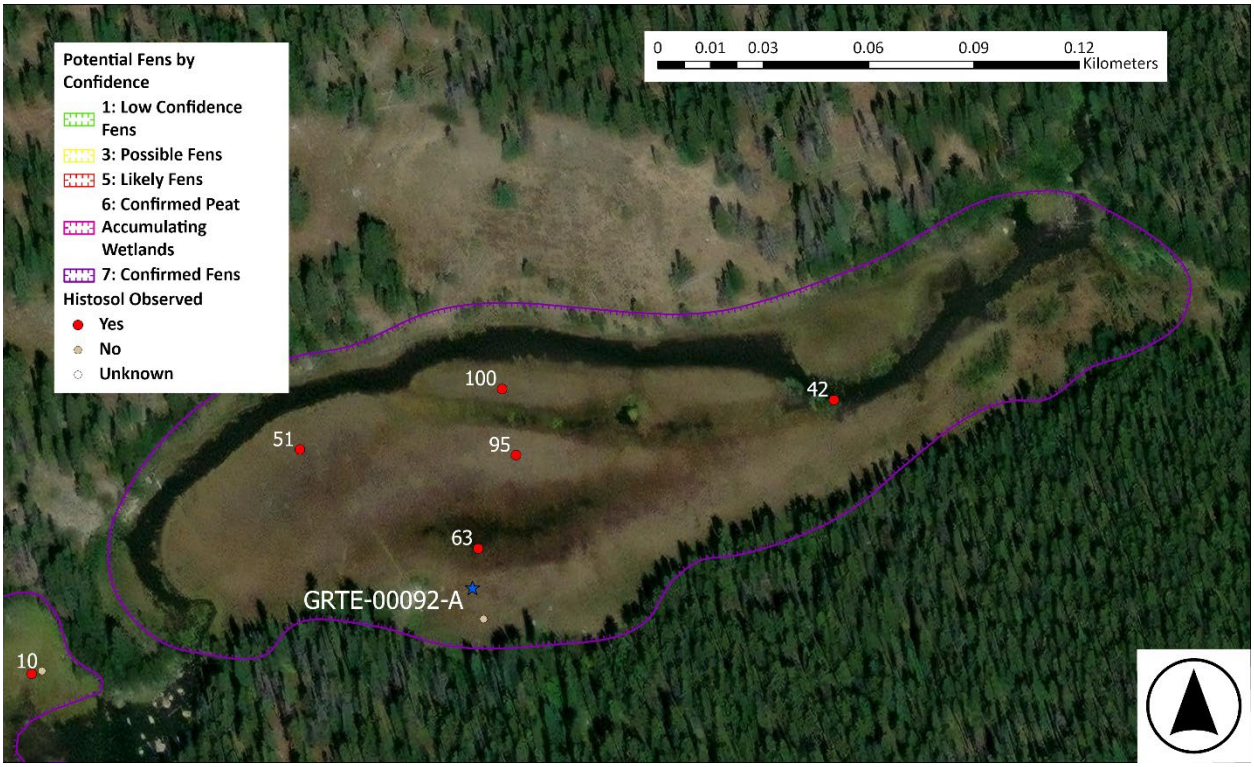


Figure 22. Aerial imagery of GRTE-00092-A.

Table 12. Site characteristics of GRTE-00092-A

Characteristic	Value
Latitude	43.831958
Longitude	-110.726979
Coordinate system	NAD83, UTM Zone 12
Elevation	2092 m (6864 ft)
Survey date	7/22/2023
Approximate peat depth	42 – 100 cm

Site Description

Largely dominated by *Carex lasiocarpa*. Other common components included *Carex buxbaumii* and *Juncus brevicaudatus*. Site appears a basin, though very close to lake edge (Bearpaw Lake drains into the site). Some of the site is a floating mat, though several portions are dry. A channel runs through the very north edge of the site.

Survey Notes

Site is adjacent to Bearpaw Lake Trail, but it appears undisturbed.

Access Directions

Park at String Lake Picnic Area and Hike in starting at String Lake Trailhead. From there, hike along String Lake Trail, following the east side of the lake. Then connect with Leigh Lake Trail, continuing to follow up north and east of the lake. At the intersection of Bearpaw Lake Trail and Trapper Lake Trail, take Bearpaw Lake Trail and follow it till the end. The fen will be on the left right next to the trail.

Table 13. Species list for GRTE-00092-A

Scientific Name	Cover Class
Carex lasiocarpa	9:75-<95%
Carex buxbaumii	5:5-<10%
Juncus brevicaudatus	4:2¬-<5%
Nuphar lutea ssp. polysepala	4:2¬-<5%
Potamogeton gramineus	3:1-<2%
Annual Forb	2:<1%
Carex canescens	2:<1%
Carex echinata	2:<1%
Carex lenticularis var. lipocarpa	2:<1%
Carex utriculata	2:<1%
Comarum palustre	2:<1%
Eleocharis palustris	2:<1%
Galium trifidum	2:<1%
Geum macrophyllum	2:<1%
Glyceria borealis	2:<1%
Juncus ensifolius	2:<1%
Pinus contorta	2:<1%
Sparganium natans	2:<1%
Annual Forb	1:trace
Carex viridula	1:trace
Spiranthes romanzoffiana	1:trace

Table 14. Water quality measurements taken in GRTE-00092-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	65	21.2	7.53	31	Fish in slow flowing channel. Some Nuphar lutea is growing in the channel, bordered entirely by Carex lasiocarpa. The bottom appears very mucky.

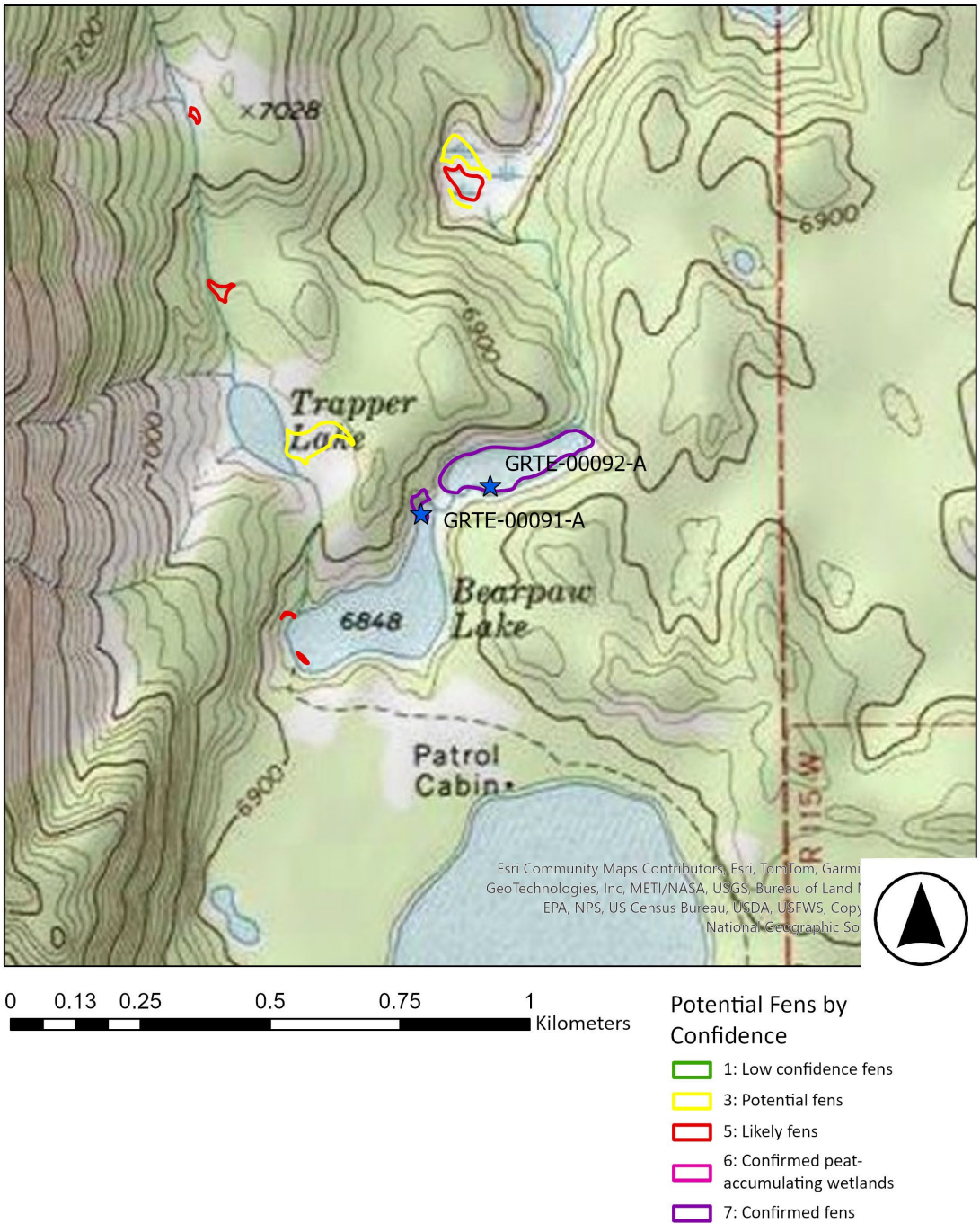


Figure 23. Location map of GRTE-00092-A.



Figure 24. Some of the site vegetation is very brown and much drier than other portions of the site.



Figure 25. Site landscape. Heavily dominated by *Carex lasiocarpa*.



Figure 26. A channel cuts through the north part of the site, which is fed by flow from Bearpaw Lake.

Fen Polygon: GRTE-00095-A String Lake

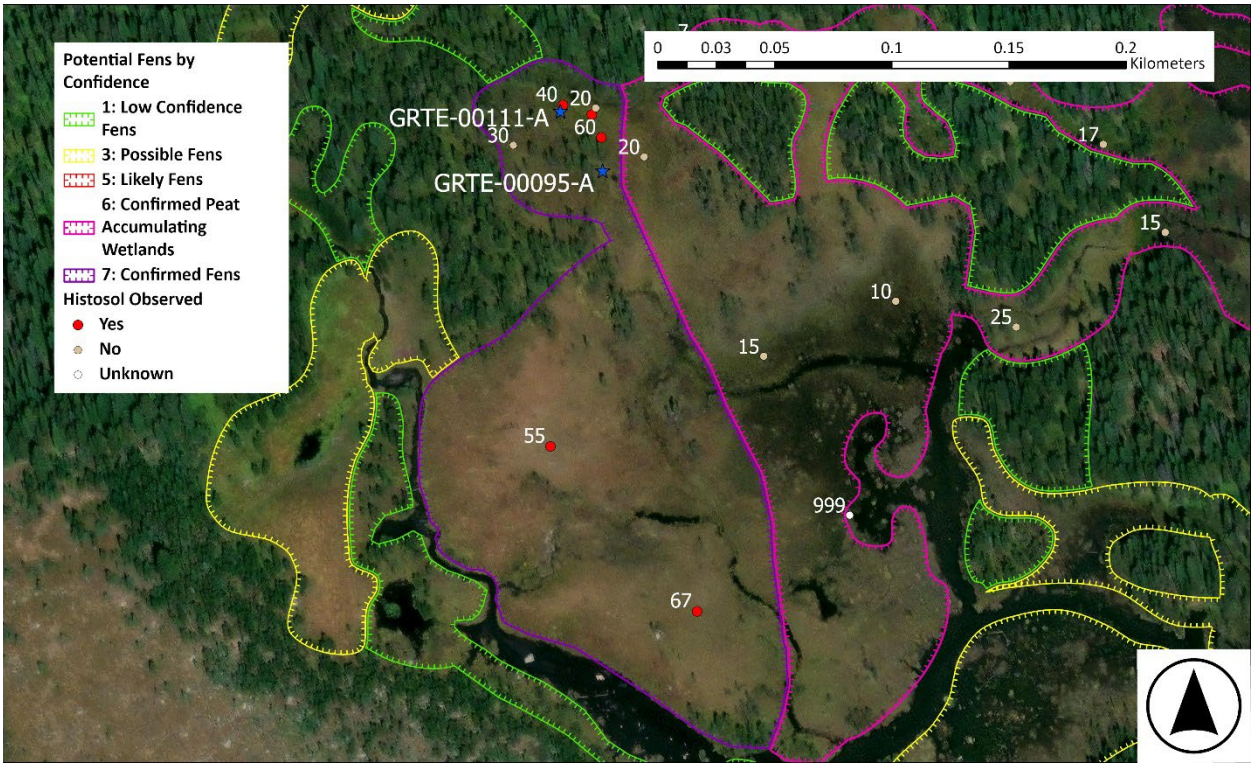


Figure 27. Aerial imagery of GRTE-00095-A.

Table 15. Site characteristics of GRTE-00095-A

Characteristic	Value
Latitude	43.795651
Longitude	-110.732305
Coordinate system	NAD83, UTM Zone 12
Elevation	2098 m (6883 ft)
Survey date	7/21/2023
Approximate peat depth	10 – 67 cm

Site Description

Dominated mostly by *Carex lasiocarpa* and *Carex buxbaumii*. *Juncus ensifolius* and *Juncus brevicaudatus* common, as well as some *Carex utriculata* (further in the large polygon, near open channel through site). Surrounded mostly by *Pinus contorta*. *Sphagnum* is also present throughout the polygon. Some soil cores were of deep peat, textures towards the bottom were seemingly nearing sapric, as they became less cohesive. However, soils were mostly hemic peat. Water generally at ground level, sometimes dry patches, other patches underwater. Basin fen, not too terribly far from edge of String Lake.

Survey Notes

Site not far from String Lake and String Lake Trail (you can hear hikers from the site) but the site generally appears undisturbed.

Access Directions

Park at String Lake Picnic Area and hike in from String Lake Trailhead. Hike north and east looping along the lake. Cross the bridge where String Lake tapers and eventually meets with Leigh Lake, and continue into the open area right after crossing bridge. Then bushwack in southwest approximately 230 m to the site.

Table 16. Species list for GRTE-00095-A

Scientific Name	Cover Class
Carex lasiocarpa	8:50-<75%
Carex buxbaumii	6:10-<25%
Comarum palustre	5:5-<10%
Juncus ensifolius	4:2¬-<5%
Calamagrostis canadensis	3:1-<2%
Carex utriculata	3:1-<2%
Dasiphora fruticosa ssp. floribunda	3:1-<2%
Juncus brevicaudatus	3:1-<2%
Pinus contorta	3:1-<2%
Antennaria parvifolia	2:<1%
Arctostaphylos uva-ursi	2:<1%
Carex echinata	2:<1%
Cirsium arvense	2:<1%
Drosera anglica	2:<1%
Eleocharis quinqueflora	2:<1%
Eriophorum angustifolium	2:<1%
Fragaria virginiana	2:<1%
Nuphar lutea ssp. polysepala	2:<1%
Platanthera dilatata	2:<1%
Trisetum wolfii	2:<1%
Epilobium	1:trace
Packera	1:trace
Utricularia macrorhiza	1:trace

Table 17. Water quality measurements taken in GRTE-00095-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	20	27	6.35	44	Next to slow moving stream. Abundant *Carex buxbaumii* community with some *Carex lasiocarpa*, *Carex utriculata*, and *Comarum palustre*.
2	Channel	60	12.6	6.39	48	The intensive survey was conducted the day prior to WQ sample (8/3/2023). WQ forgotten and lightning storms prohibited coming back. Water collected on 8/4/2023.

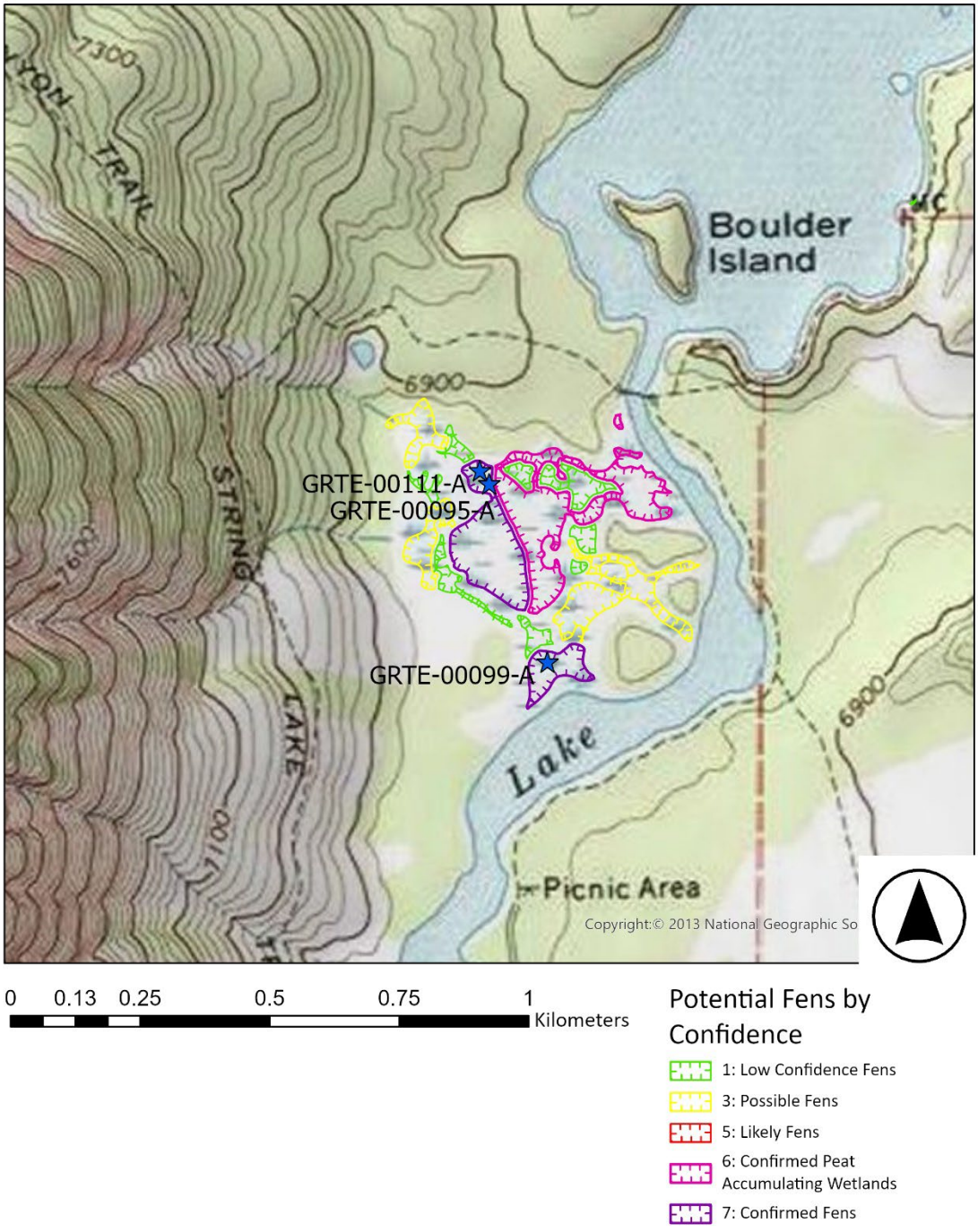


Figure 28. Location map of GRTE-00095-A.



Figure 29. Site landscape.



Figure 30. A deep, wide channel with beaver influence runs through the southern end of the site.



Figure 31. Site landscape. Adjacent to the mountains.

Fen Polygon: GRTE-00099-A String Lake



Figure 32. Aerial imagery of GRTE-00099-A.

Table 18. Site characteristics of GRTE-00099-A

Characteristic	Value
Latitude	43.792553
Longitude	-110.730922
Coordinate system	NAD83, UTM Zone 12
Elevation	2102 m (6896 ft)
Survey date	8/3/2023
Approximate peat depth	45 – 90 cm

Site Description

Overstory of scattered *Pinus contorta*. Lower growing woodies include *Betula glandulosa* and *Alnus incana*. The understory is mostly *Carex lasiocarpa*, *Carex buxbaumii*, and *Carex aquatilis*. The site is a lake edge with lots of deep beaver channels throughout. The channels flow into the lake. Soils are deep peat and water levels (not in channels) were generally around 0-10 cm.

Survey Notes

The site is adjacent to String Lake, but appears to have no human disturbance. Significant beaver impacts, and appears to be an ideal moose habitat (scat, browse, and trails).

Access Directions

Park at String Lake Picnic Area and hike in at String Lake Trailhead. From the trailhead, hike approximately 389 m. To access the site, it was easier to wade across String Lake using chest waders. There was a good bottom and not too much debris, until closer to the polygon where there are several old, downed trees. Wading across is approximately 100 m where String Lake pinches together a bit. There is a decent sand bar as well. Walk along the edge of the northern edge of the lake towards the west towards the polygon.

Table 19. Species list for GRTE-00099-A

Scientific Name	Cover Class
Carex lasiocarpa	7:25-<50%
Carex buxbaumii	6:10-<25%
Carex aquatilis	5:5-<10%
Pinus contorta	5:5-<10%
Alnus incana	4:2¬-<5%
Betula glandulosa	4:2¬-<5%
Carex utriculata	4:2¬-<5%
Juncus brevicaudatus	4:2¬-<5%
Juncus ensifolius	4:2¬-<5%
Comarum palustre	3:1-<2%
Dasiphora fruticosa ssp. floribunda	3:1-<2%
Salix	3:1-<2%
Salix geyeriana	3:1-<2%
Bromus ciliatus	2:<1%
Calamagrostis canadensis	2:<1%
Cirsium arvense	2:<1%
Geum macrophyllum	2:<1%
Nuphar lutea ssp. polysepala	2:<1%
Scutellaria galericulata	2:<1%

Table 20. Water quality measurements taken in GRTE-00099-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	60	12.1	6.73	48	Measurements taken from a channel flowing into String Lake with some beaver influence.

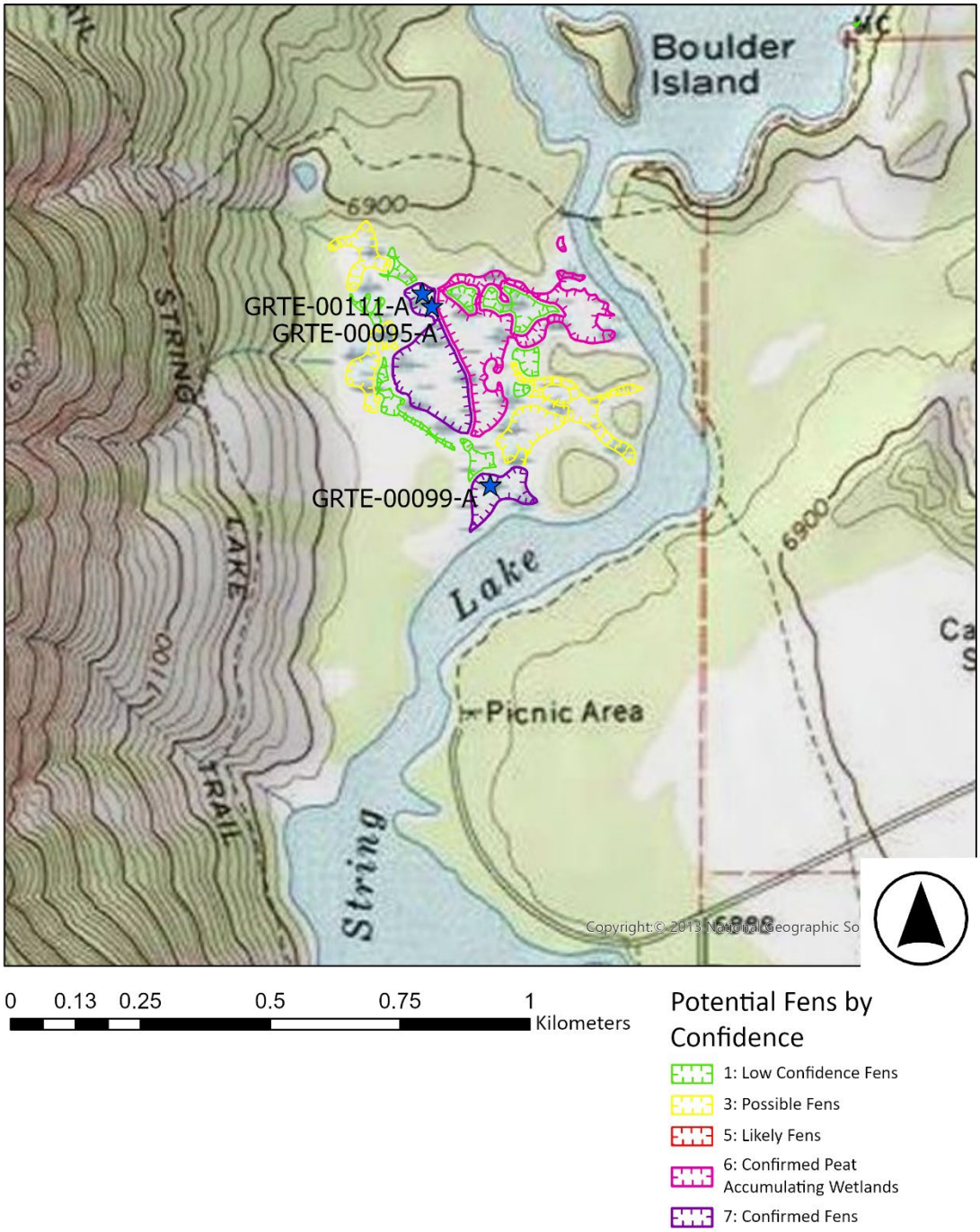


Figure 33. Location map of GRTE-00099-A.



Figure 34. Cross String Lake approximately 100 m with chest waders to access the site. There are too many deep and wide beaver channels to access from the north.



Figure 35. Site landscape with channels running through it.



Figure 36. Deep beaver pond is present in the site.



Figure 37. Beaver dam in site.



Figure 38. Beaver channel flows into String Lake.



Figure 39. Site landscape. Lots of sedges with some mixed shrubs.

Fen Polygon: GRTE-00104-A Taggart Lake

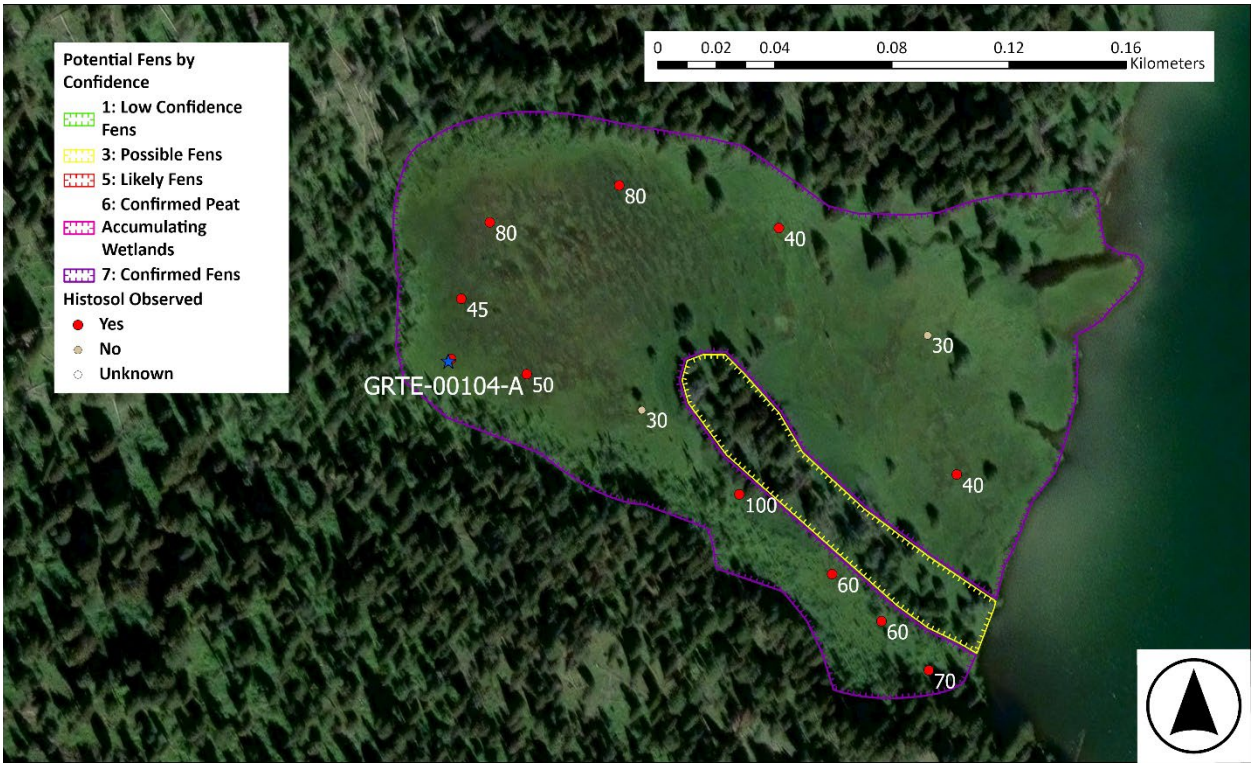


Figure 40. Aerial imagery of GRTE-00104-A.

Table 21. Site characteristics of GRTE-00104-A

Characteristic	Value
Latitude	43.703851
Longitude	-110.761524
Coordinate system	NAD83, UTM Zone 12
Elevation	2109 m (6919 ft)
Survey date	8/21/2023
Approximate peat depth	30 – 80 cm

Site Description

Understory largely *Carex simulata*, *Juncus ensifolius*, and a significant amount of moss. Overstory largely *Pinus contorta*, *Betula glandulosa*, and *Alnus incana* near the edges of the site. Vegetation components appear to change significantly in different areas of the site. The site has a gentle slope towards the lake. Water levels are predominantly at the ankles or lower.

Survey Notes

Some herbivory, and clear signs of animals bedding down, but overall great condition. Appears largely untouched by humans. The area of the site further from Taggart Lake seems to have more target rare plants.

Access Directions

Park at Taggart Lake Trailhead. From there, hike in north along Taggart Lake Trail, headed towards the lake. Follow the tail 2.70 km to the bridge adjacent to the lake. After crossing the bridge, bushwhack 0.72 km the rest of the way in for a total hike of 3.42 km. The bushwhack was very dense and rocky at points, and will likely be longer than 72 m.

Table 22. Species list for GRTE-00104-A

Scientific Name	Cover Class
Calamagrostis canadensis	5:5-<10%
Carex simulata	5:5-<10%
Juncus ensifolius	5:5-<10%
Alnus incana	4:2¬-<5%
Betula glandulosa	4:2¬-<5%
Carex lasiocarpa	4:2¬-<5%
Carex viridula	4:2¬-<5%
Comarum palustre	4:2¬-<5%
Menyanthes trifoliata	4:2¬-<5%
Muhlenbergia filiformis	4:2¬-<5%
Carex aquatilis	3:1-<2%
Carex buxbaumii	3:1-<2%
Carex utriculata	3:1-<2%
Dasiphora fruticosa ssp. floribunda	3:1-<2%
Lonicera involucrata	3:1-<2%
Pinus contorta	3:1-<2%
Solidago canadensis	3:1-<2%
Sparganium natans	3:1-<2%
Vaccinium uliginosum	3:1-<2%
Apiaceae	2:<1%
Bromus ciliatus	2:<1%
Carex interior	2:<1%
Eriophorum gracile	2:<1%
Eriophorum scheuchzeri	2:<1%
Geum macrophyllum	2:<1%
Parnassia palustris	2:<1%
Pedicularis groenlandica	2:<1%
Platanthera huronensis	2:<1%

Symphyotrichum	2:<1%
Triantha occidentalis	2:<1%
Typha latifolia	2:<1%
Utricularia minor	2:<1%

Table 23. Water quality measurements taken in GRTE-00104-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	10	21	7.29	111	Measurement taken in a shallow pond with *Menyanthes trifoliata*. Appears that the water is flowing in from the west.

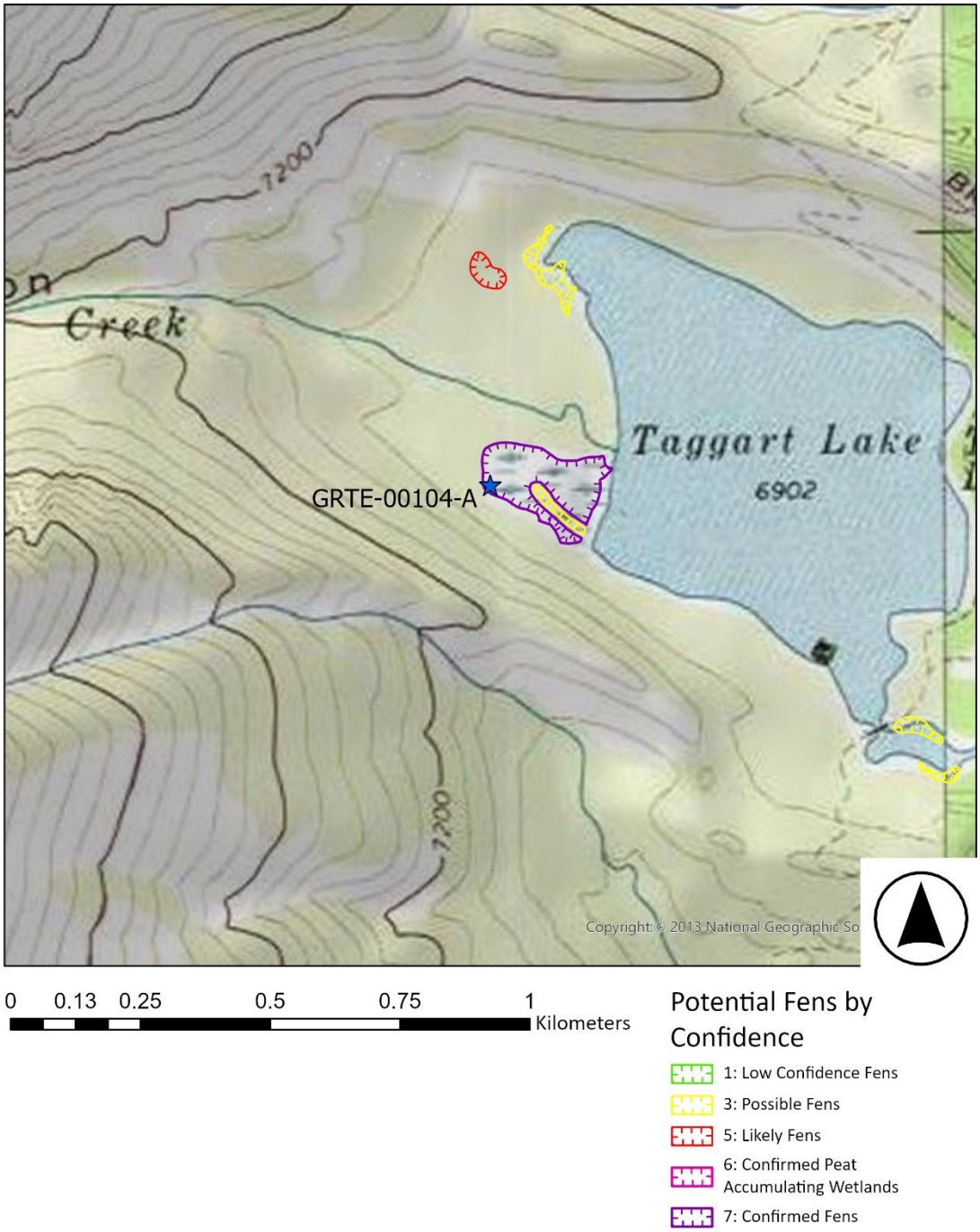


Figure 41. Location map of GRTE-00104-A.



Figure 42. Site landscape. Taggart lake borders the site on the eastern side of the polygon.



Figure 43. Shallow pool of *Menyanthes trifoliata* where WQ measurements were taken.



Figure 44. Site landscape looking to the west.

Fen Polygon: GRTE-00111-A String Lake

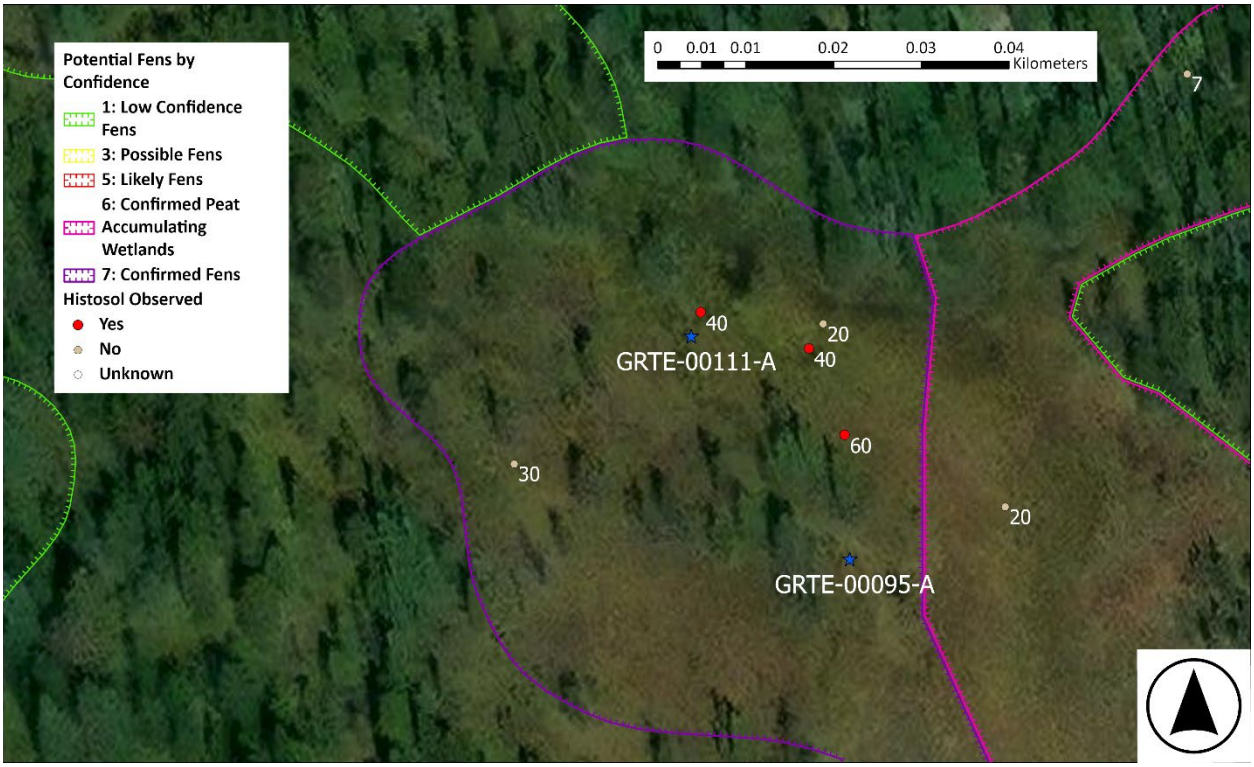


Figure 45. Aerial imagery of GRTE-00111-A.

Table 24. Site characteristics of GRTE-00111-A

Characteristic	Value
Latitude	43.795880
Longitude	-110.732528
Coordinate system	NAD83, UTM Zone 12
Elevation	2099 m (6886 ft)
Survey date	7/21/2023
Approximate peat depth	20 – 60 cm

Site Description

The open area is full of rare plants. *Carex buxbaumii* is abundant. There is a small floaty area of *Carex lasiocarpa*, as well as significant amounts of *Juncus ensifolius*, *Vaccinium uliginosum*, *Comarum palustre*, *Drosera anglica*, etc. *Sphagnum* is also present in this site. The site is a basin fen. No obvious signs of flow or sloping in any direction.

Survey Notes

Not too far from String Lake Trail (you can hear people from the trail at the site), but no obvious signs of human disturbance.

Access Directions

Park at String Lake Picnic area. Hike in from String Lake Trailhead, looping north and west around the lake. Take the trail to the bridge where the lake tapers off between String Lake and Leigh Lake. From the clearing on the other side of the bridge, bushwack in for approximately 250 m to site.

Table 25. Species list for GRTE-00111-A

Scientific Name	Cover Class
Carex buxbaumii	7:25-<50%
Carex lasiocarpa	6:10-<25%
Comarum palustre	5:5-<10%
Juncus brevicaudatus	5:5-<10%
Juncus ensifolius	5:5-<10%
Calamagrostis canadensis	4:2¬-<5%
Carex aquatilis	4:2¬-<5%
Vaccinium uliginosum	4:2¬-<5%
Betula glandulosa	3:1-<2%
Dasiphora fruticosa ssp. floribunda	3:1-<2%
Pinus contorta	3:1-<2%
Antennaria parvifolia	2:<1%
Arctostaphylos uva-ursi	2:<1%
Carex canescens	2:<1%
Carex utriculata	2:<1%
Fragaria virginiana	2:<1%
Galium trifidum	2:<1%
Platanthera dilatata	2:<1%
Carex echinata	1:trace
Drosera anglica	1:trace
Epilobium	1:trace

Table 26. Water quality measurements taken in GRTE-00111-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	5	27.1	6.37	30	Measurement taken in a floating mat of *Carex lasiocarpa* with some standing water.

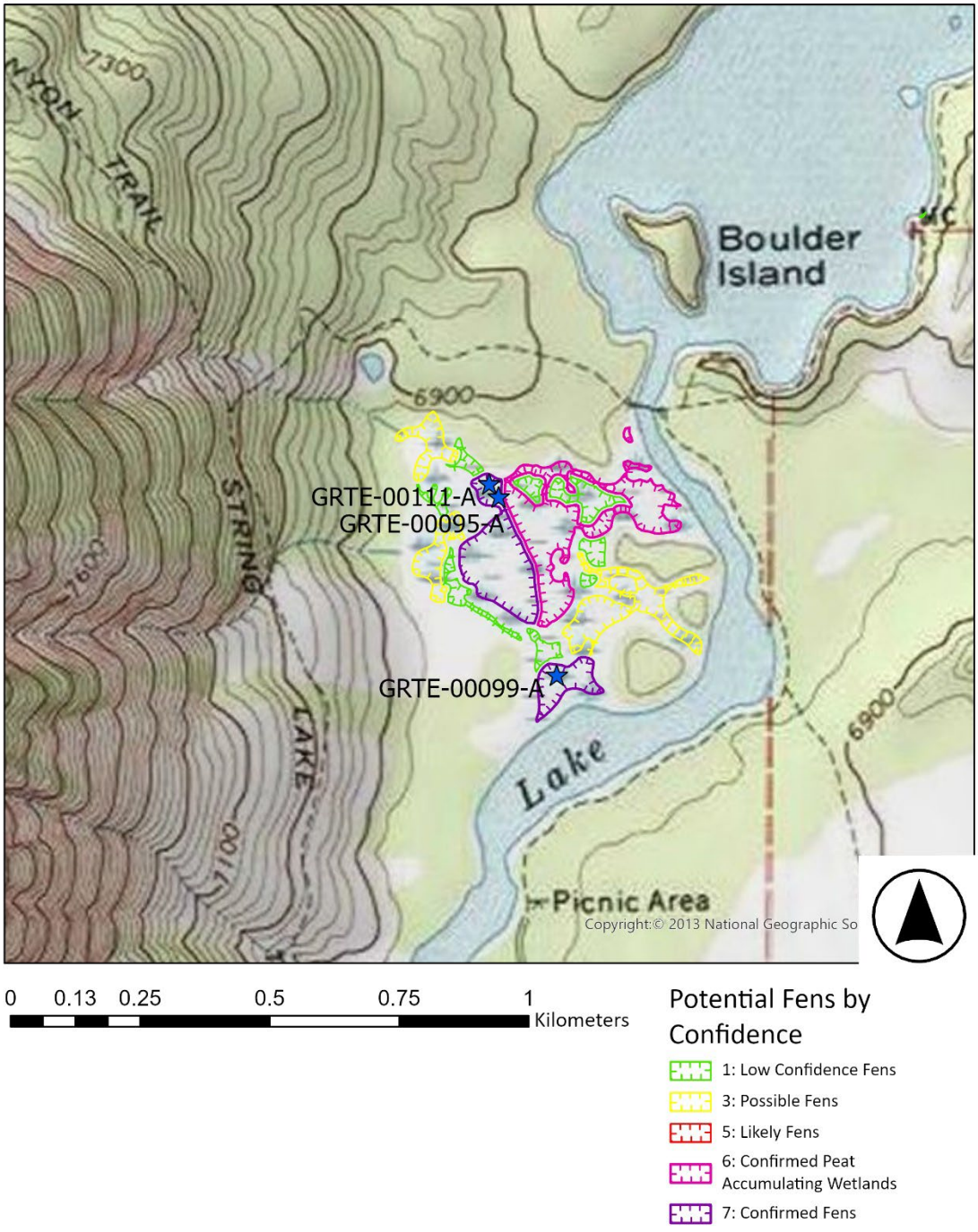


Figure 46. Location map of GRTE-00111-A.



Figure 47. Site landscape looking into an adjacent site in the distance.



Figure 48. *Carex buxbaumii* is a common component of the site.



Figure 49. Site landscape looking.



Figure 50. *Drosera anglica* within the site.

Fen Polygon: GRTE-00248-A Arizona Lake Rd

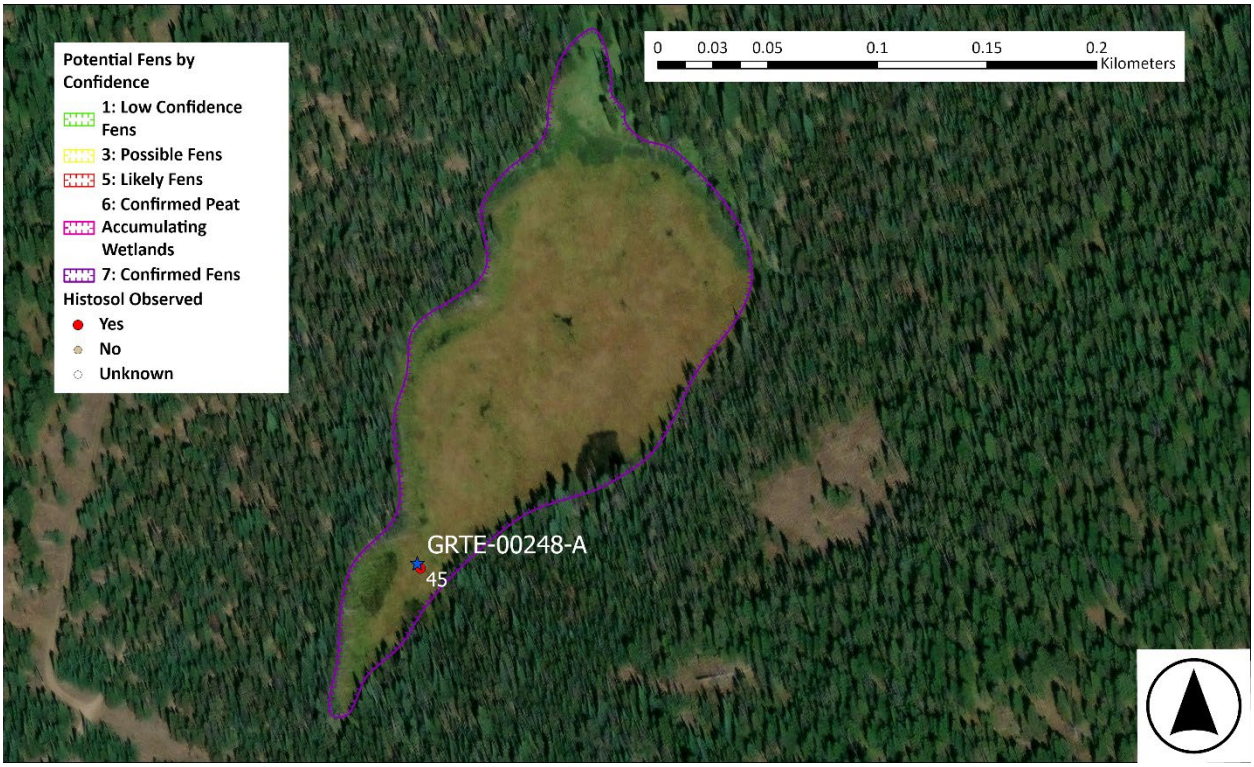


Figure 51. Aerial imagery of GRTE-00248-A.

Table 27. Site characteristics of GRTE-00248-A

Characteristic	Value
Latitude	43.946585
Longitude	-110.628711
Coordinate system	NAD83, UTM Zone 12
Elevation	2095 m (6873 ft)
Survey date	7/9/2023
Approximate peat depth	45 cm

Site Description

Site largely composed of *Carex vesicaria* with a significant amount of *Sium suave*. *Potamogeton epihydrous* located in open pools of water. Small basin fen with open pockets of water. Suspected beaver presence in area.

Survey Notes

Located close to a utility corridor. Otherwise, no obvious signs of human impact.

Access Directions

Drive north along North Park Rd, then turn right on Arizona Lake Rd, which is a rocky two track road. From the main road, head along the two track for about 250 m at a utility clearing for powerlines. Follow clearing ~100 m just below polygon, then head up towards the wetland.

Table 28. Species list for GRTE-00248-A

Scientific Name	Cover Class
Carex vesicaria	8: 50-<75%
Potamogeton epihydrus	6: 10-<25%
Sium suave	6: 10-<25%
Glyceria grandis	5: 5-<10%
Nuphar lutea ssp. polysepala	4: 2-<5%
Galium trifidum	3: 1-<2%
Montia chamissoi	3: 1-<2%
Senecio hydrophilus	3: 1-<2%
Stellaria	3: 1-<2%

Table 29. Water quality measurements taken in GRTE-00248-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	Unkn	21.2	4.66	33	None

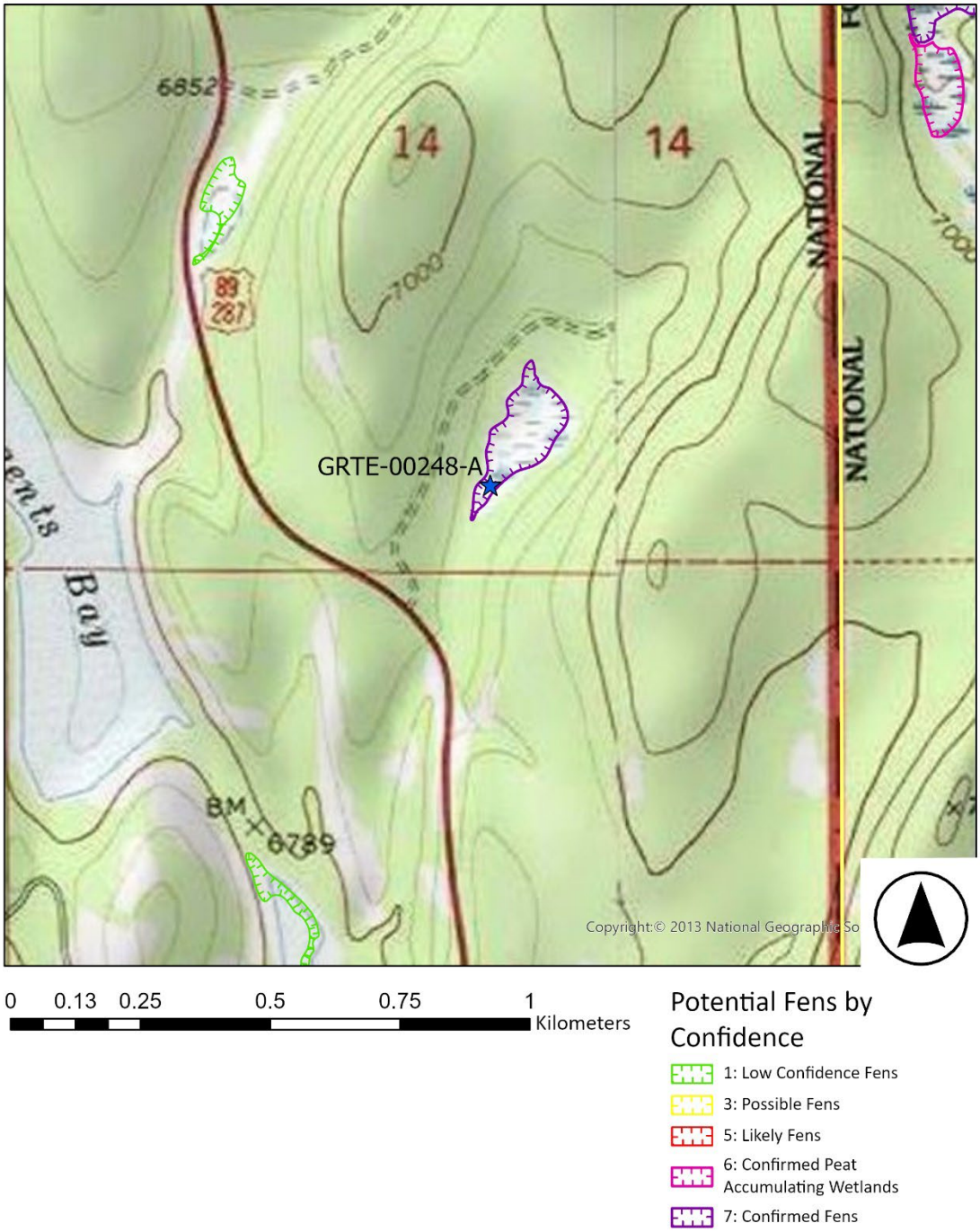


Figure 52. Location map of GRTE-00248-A.



Figure 53. Site vegetation is largely *Carex vesicaria*.



Figure 54. An open pool of water with *Potamogeton epihydrous* in it.



Figure 55. A pool with *Nuphar lutea*.

Fen Polygon: GRTE-00278-A Willow Flats

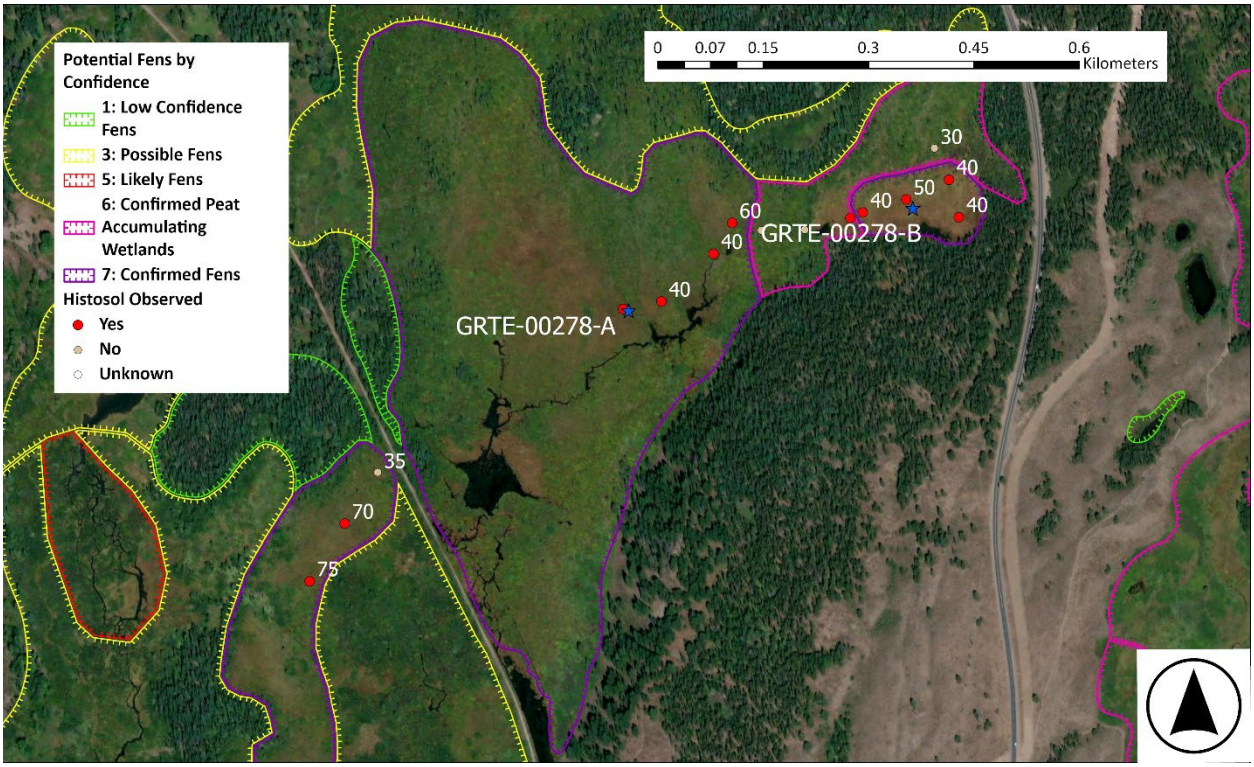


Figure 56. Aerial imagery of GRTE-00278-A.

Table 30. Site characteristics of GRTE-00278-A

Characteristic	Value
Latitude	43.889867
Longitude	-110.578582
Coordinate system	NAD83, UTM Zone 12
Elevation	2092 m (6864 ft)
Survey date	7/14/2023
Approximate peat depth	40 – 80 cm

Site Description

The understory is dominated by *Carex utriculata* and *Carex diandra* with very high bryophyte cover. Overstory composed of low growing *Salix boothii*, *Salix wolfii*, and *Betula glandulosa*. Taller shrubs surrounding the site are not fen. The site is a gently sloping fen. Standing water is at or slightly above the ground surface. The soil is at least 40-60 cm of hemic peat. There appear to be several springs in the area that discharged to the surface, concentrated in pools and a channel that drains south/southwest to Jackson Lake.

Survey Notes

Far eastern lobe of the site is adjacent to North Park Road, and far western sides are adjacent to Wagon Road (a trail), but otherwise, the site appears to have very little human impact.

Access Directions

From Colter Bay Campground, drive south on North Park Road. Near the polygon on the right, there is a small pull-off on the west side of the road just past Grandview Point Road. Follow a game trail down to an open herbaceous area of wetland. The site is 650 m into the wetland, past the open herbaceous area and a stand of dense tall willows.

Table 31. Species list for GRTE-00278-A

Scientific Name	Cover Class
Carex utriculata	6: 10-<25%
Carex aquatilis	5: 5-<10%
Salix boothii	5: 5-<10%
Salix boothii	5: 5-<10%
Salix wolfii	5: 5-<10%
Carex diandra	4:2¬-<5%
Cirsium arvense	4:2¬-<5%
Deschampsia cespitosa	4:2¬-<5%
Senecio hydrophilus	4:2¬-<5%
Agrostis	3:1-<2%
Carex canescens	3:1-<2%
Eleocharis	3:1-<2%
Geum macrophyllum	3:1-<2%
Glyceria	3:1-<2%
Juncus ensifolius	3:1-<2%
Juncus ensifolius	3:1-<2%
Mimulus	3:1-<2%
Pedicularis groenlandica	3:1-<2%
Pinus contorta	3:1-<2%
Poa pratensis	3:1-<2%
Poa pratensis	3:1-<2%
Polemonium occidentale	3:1-<2%
Polygonum amphibium	3:1-<2%
Potamogeton	3:1-<2%
Salix planifolia	3:1-<2%
Senecio sphaerocephalus	3:1-<2%
Epilobium	2:<1%
Equisetum arvense	2:<1%
Galium trifidum	2:<1%

Hippuris vulgaris	2:<1%
Juncus arcticus	2:<1%
Platanthera huronensis	2:<1%
Potamogeton	2:<1%
Rumex	2:<1%

Table 32. Water quality measurements taken in GRTE-00278-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	10	27	6.35	182	Measurement taken in 5 to 10 cm standing water surrounded by Carex utriculata
2	Shallow standing water	Unkn	15.6	6.77	11	None

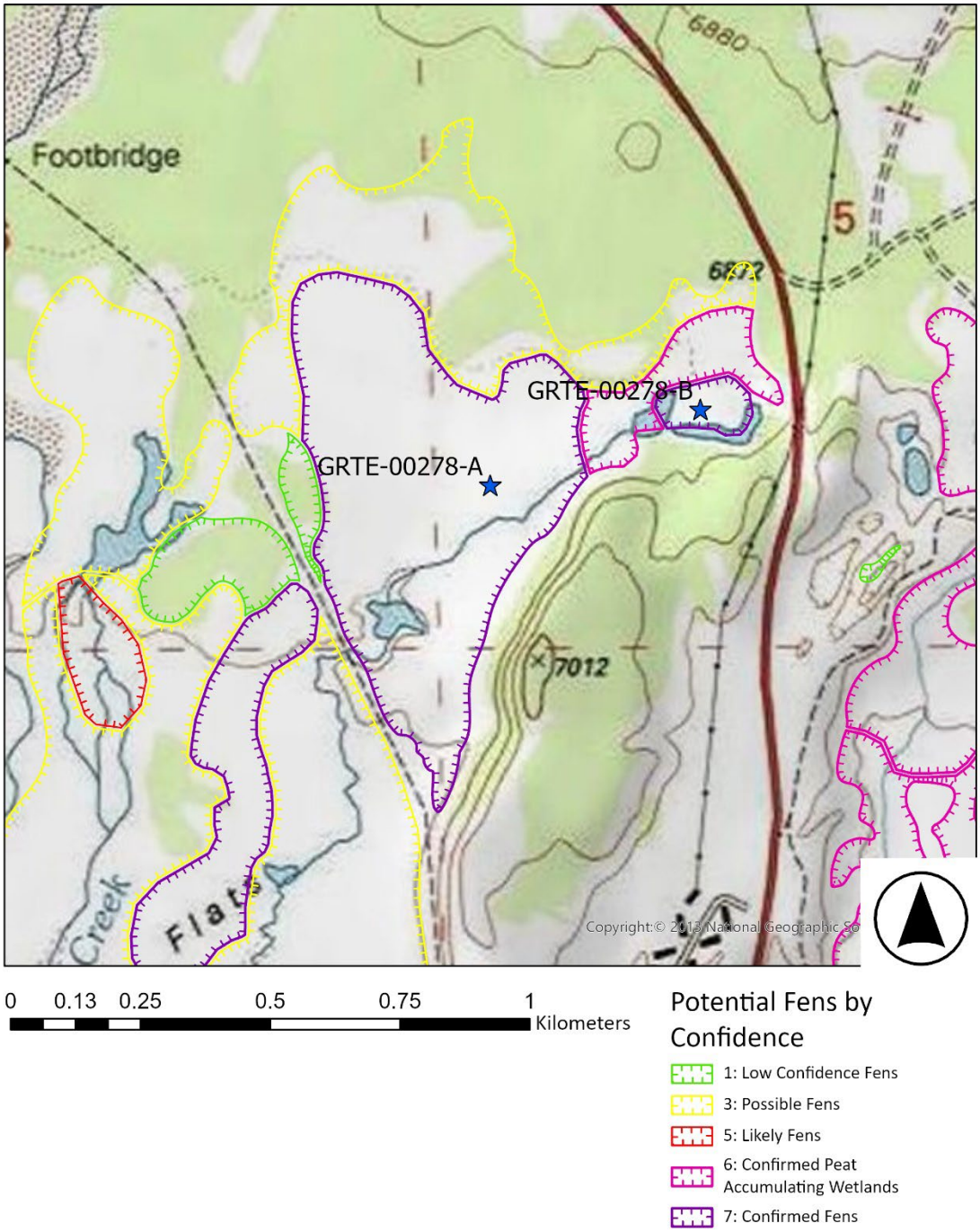


Figure 57. Location map of GRTE-00278-A.



Figure 58. Site landscape.



Figure 59. Channels running through site, likely with spring influence.

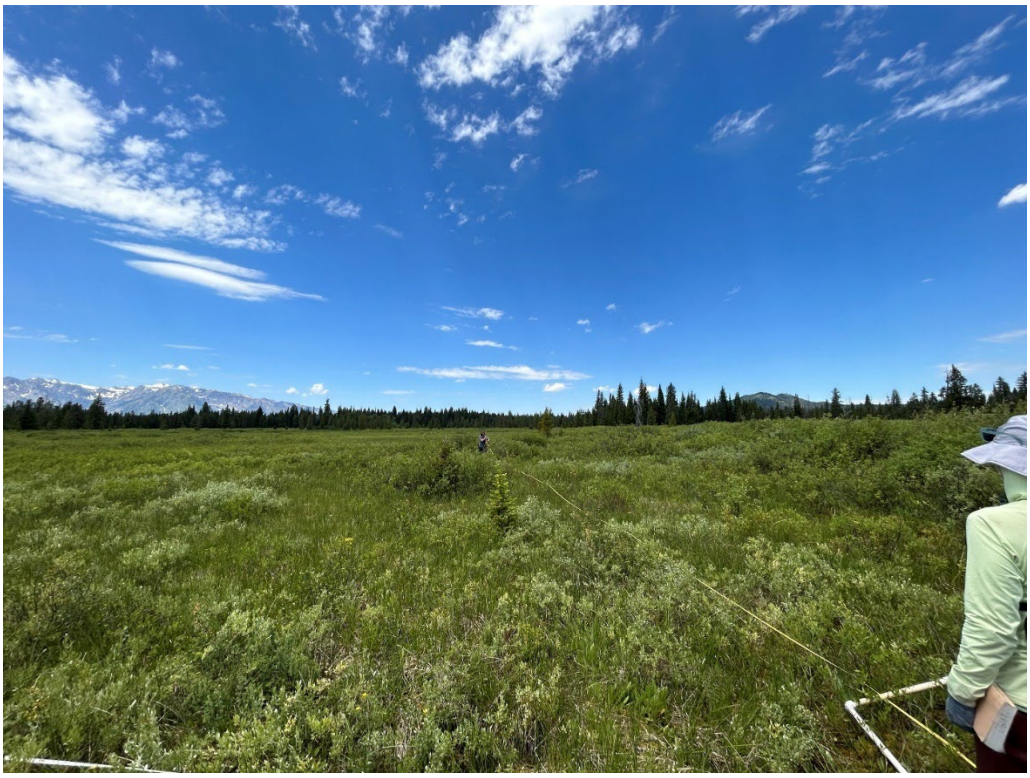


Figure 60. Running transects for a quantitative assessment at the site.



Figure 61. Site vegetation with low shrubs and sedges.

Fen Polygon: GRTE-00278-B Willow Flats

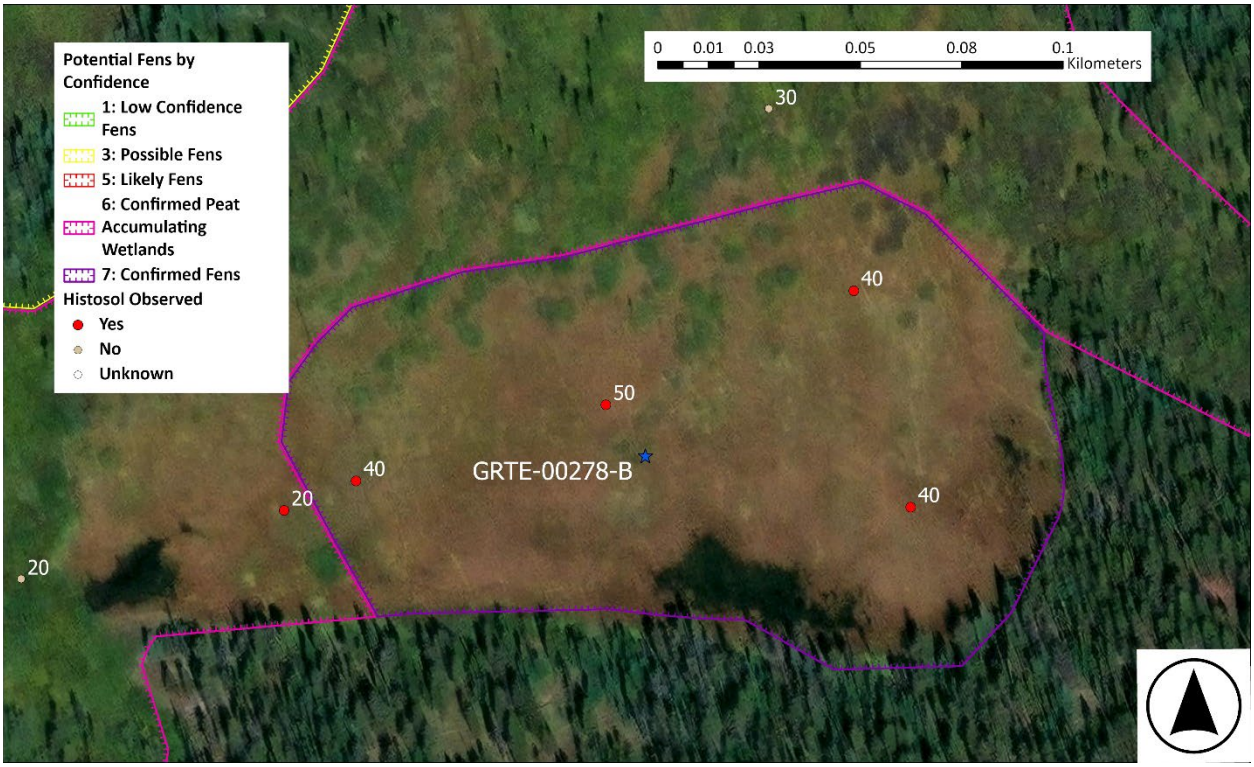


Figure 62. Aerial imagery of GRTE-00278-B.

Table 33. Site characteristics of GRTE-00278-B

Characteristic	Value
Latitude	43.891161
Longitude	-110.573534
Coordinate system	NAD83, UTM Zone 12
Elevation	2092 m (6864 ft)
Survey date	7/14/2023
Approximate peat depth	20 – 50 cm

Site Description

Low shrubland dominated by *Salix wolfii* and *Salix boothii*. Graminoid layer dominated by *Carex diandra* and *Carex utriculata*. Gentle slope towards Jackson Lake. Soils with approximately 40 cm of organic layer. Some pockets of water with likely spring influence from nearby Spring Creek.

Survey Notes

Some of the area near North Park Rd has a decent amount of *Cirsium arvense*, which is a sign of a disturbed area.

Access Directions

From Colter Bay Campground, drive south on North Park Road. Near the polygon on the right, there is a small pull-off on the west side of the road just past Grandview Point Road. Follow a game trail down to an open herbaceous area of wetland.

Table 34. Species list for GRTE-00278-B

Scientific Name	Cover Class
Carex utriculata	7: 25-<50%
Betula glandulosa	6: 10-<25%
Carex diandra	6: 10-<25%
Salix boothii	6: 10-<25%
Salix wolfii	6: 10-<25%
Carex aquatilis	5: 5-<10%
Salix planifolia	5: 5-<10%
Dasiphora fruticosa ssp. floribunda	4: 2-<5%
Deschampsia cespitosa	4: 2-<5%
Juncus arcticus ssp. littoralis	4: 2-<5%
Senecio sphaerocephalus	4: 2-<5%
Antennaria parvifolia	3: 1-<2%
Equisetum arvense	3: 1-<2%
Fragaria virginiana	3: 1-<2%
Galium trifidum ssp. subbiflorum	3: 1-<2%
Mimulus guttatus	3: 1-<2%
Polemonium occidentale	3: 1-<2%
Stellaria crassifolia	3: 1-<2%
Mimulus guttatus	3: 1-<2%

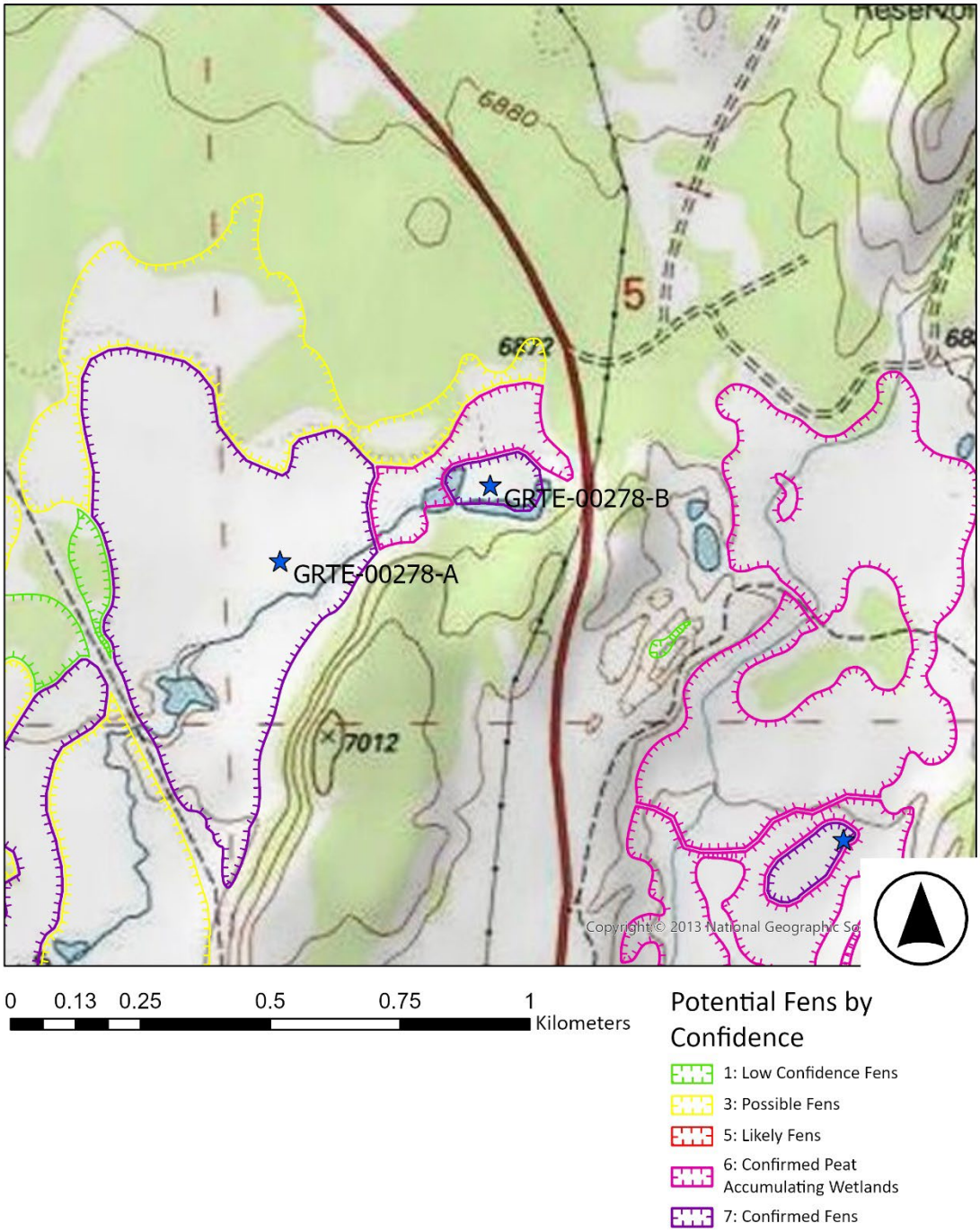


Figure 63. Location map of GRTE-00278-B.

Fen Polygon: GRTE-00279-A North of Christian Pond

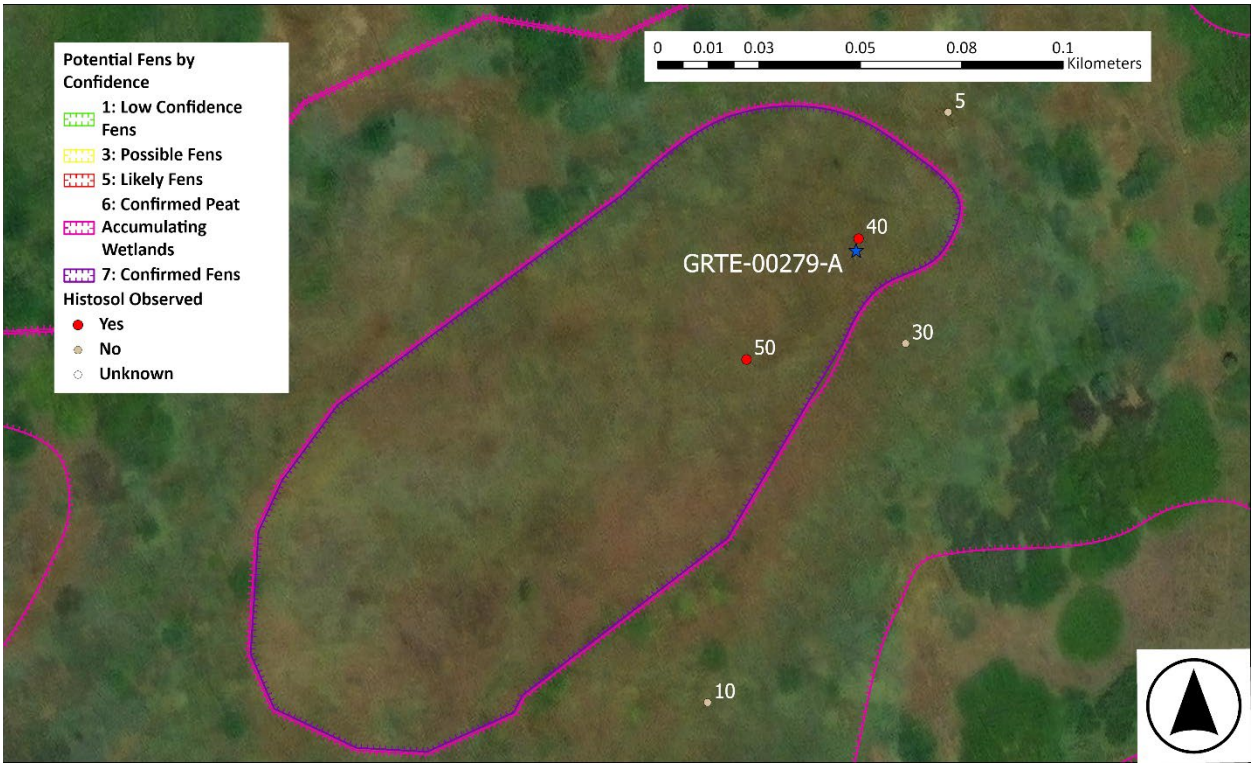


Figure 64. Aerial imagery of GRTE-00279-A.

Table 35. Site characteristics of GRTE-00279-A

Characteristic	Value
Latitude	43.88499
Longitude	-110.56510
Coordinate system	NAD83, UTM Zone 12
Elevation	2087 m (6847 ft)
Survey date	7/19/2023
Approximate peat depth	30 – 50 cm

Site Description

Overstory dominated by *Salix wolfii* and *Betula glandulosa*. Sedge understory dominated by *Carex utriculata* and *Carex simulata*. Significant presence of moss. Hemic peat layer. Very slight slope towards Christian Pond, but slope was not calculated in the field because clinometer was left in the truck. Soils generally saturated, water higher in some areas.

Survey Notes

Adjacent to North Park Rd and horse trails, but no obvious impacts present. Some natural channels through the larger polygon have a very slow flow towards Christian Pond.

Access Directions

Park at the parking lot at Jackson Lake Lodge and hike in on the Jackson Lake Spur, starting at the Christian Pond Trailhead near the horse stables. At the trail split, take the left along the Christian Pond Loop Trail. Hike east from the trail into the polygon.

Table 36. Species list for GRTE-00279-A

Scientific Name	Cover Class
Carex utriculata	7:25-<50%
Salix wolfii	7:25-<50%
Betula glandulosa	6:10-<25%
Carex simulata	6:10-<25%
Juncus arcticus	6:10-<25%
Polemonium occidentale	4:2¬-<5%
Pedicularis groenlandica	3:1-<2%
Antennaria parvifolia	2:<1%
Dasiphora fruticosa ssp. floribunda	2:<1%
Packera	2:<1%
Mimulus guttatus	2:<1%
Fragaria virginiana	1:trace

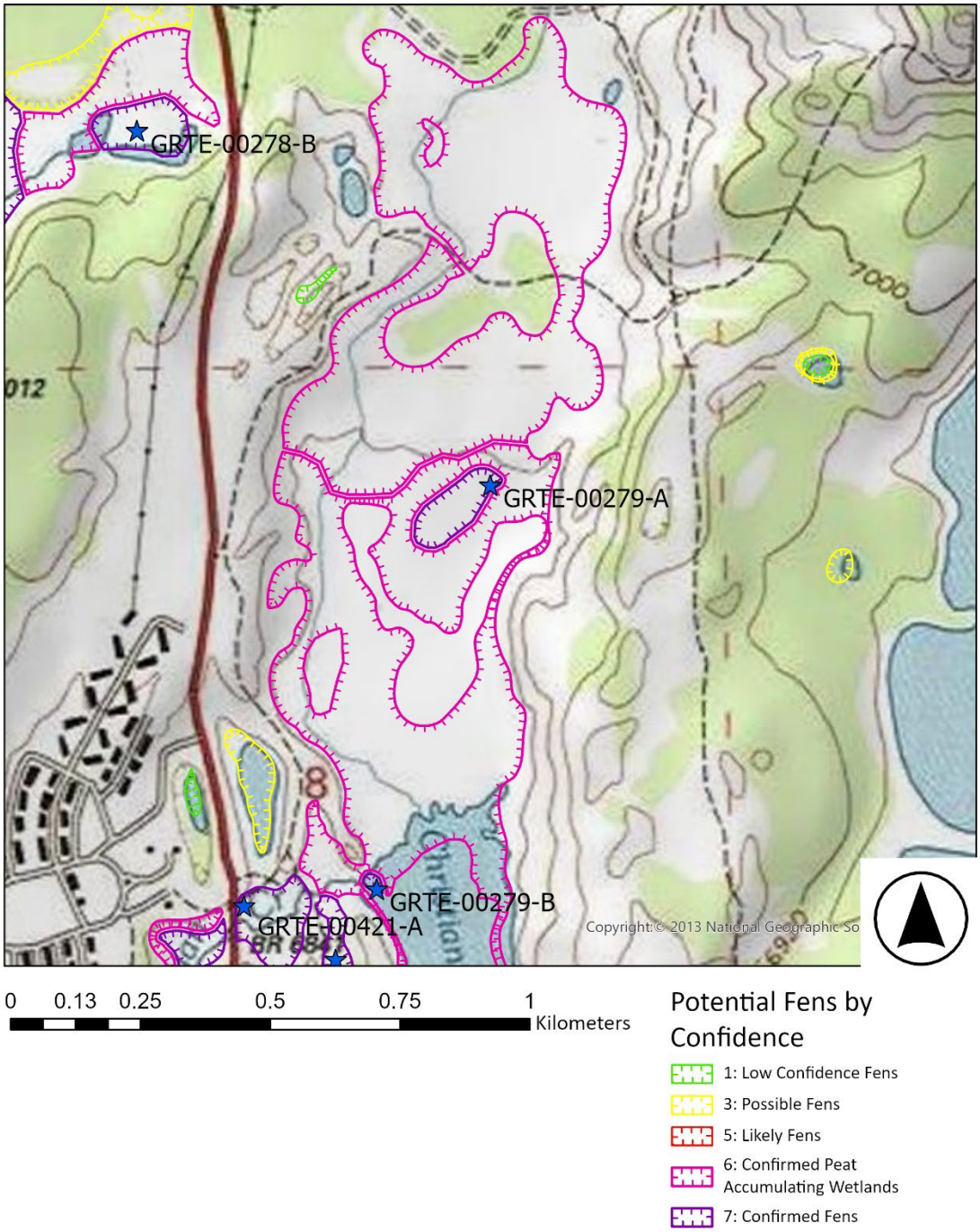


Figure 65. Location map of GRTE-00279-A.



Figure 66. Site vegetation largely *Carex utriculata* and *Salix wolfii*.



Figure 67. A channel runs through the site with *Mimulus guttatus* along its margins.



Figure 68. Looking in on the site area near Christian Pond from outside the site.

Fen Polygon: GRTE-00279-B North of Christian Pond

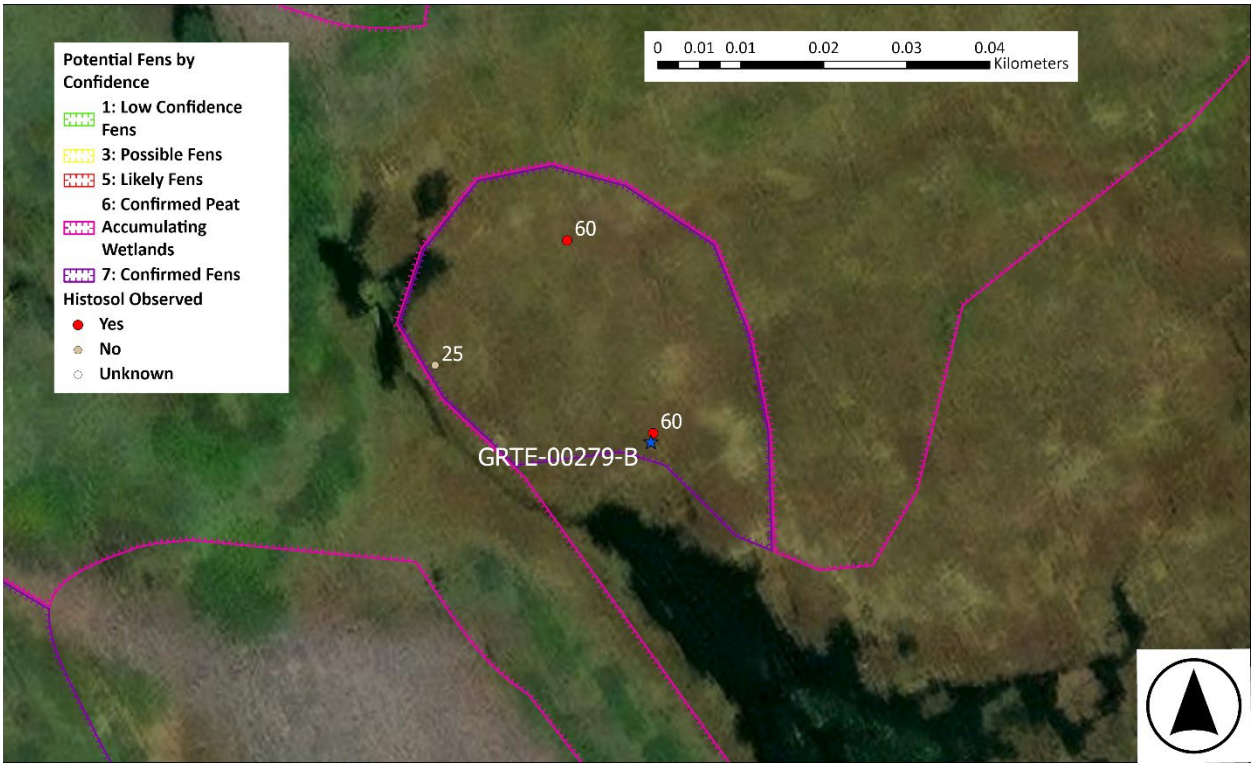


Figure 69. Aerial imagery of GRTE-00279-B.

Table 37. Site characteristics of GRTE-00279-B

Characteristic	Value
Latitude	43.87800
Longitude	-110.56787
Coordinate system	NAD83, UTM Zone 12
Elevation	2079 m (6821 ft)
Survey date	7/19/2023
Approximate peat depth	25 – 60 cm

Site Description

Sedges are dominated by *Carex utriculata*, surrounding willows include *Salix geyeriana* and *Salix boothii*. Adjacent to Christian Pond, the site is a basin which has a very gentle slope towards the pond.

Survey Notes

Adjacent to North Park Rd and horse trails, but no obvious impacts present. Directly North of Christian Pond.

Access Directions

Park at Jackson Lake Lodge near horse stables. Begin hike at the Christian Pond Trailhead. Head down the Jackson Lake Lodge spur of the trail and take a left at the junction of Christian Pond Loop. Very shortly after the left (approximately 175 m) hike in across upland. Head southeast on gray upland lobe, visible with a satellite map. Then head down into wetland towards Christian Pond, about 60 m from where the upland lobe ends.

Table 38. Species list for GRTE-00279-B

Scientific Name	Cover Class
Carex utriculata	8:50-<75%
Salix geyeriana	6:10-<25%
Carex aquatilis	4:2¬-<5%
Geum macrophyllum	4:2¬-<5%
Salix boothii	4:2¬-<5%
Cirsium arvense	3:1-<2%
Brassicaceae	2:<1%
Lamiaceae	2:<1%
Epilobium ciliatum	1:trace
Polygonum amphibium	1:trace

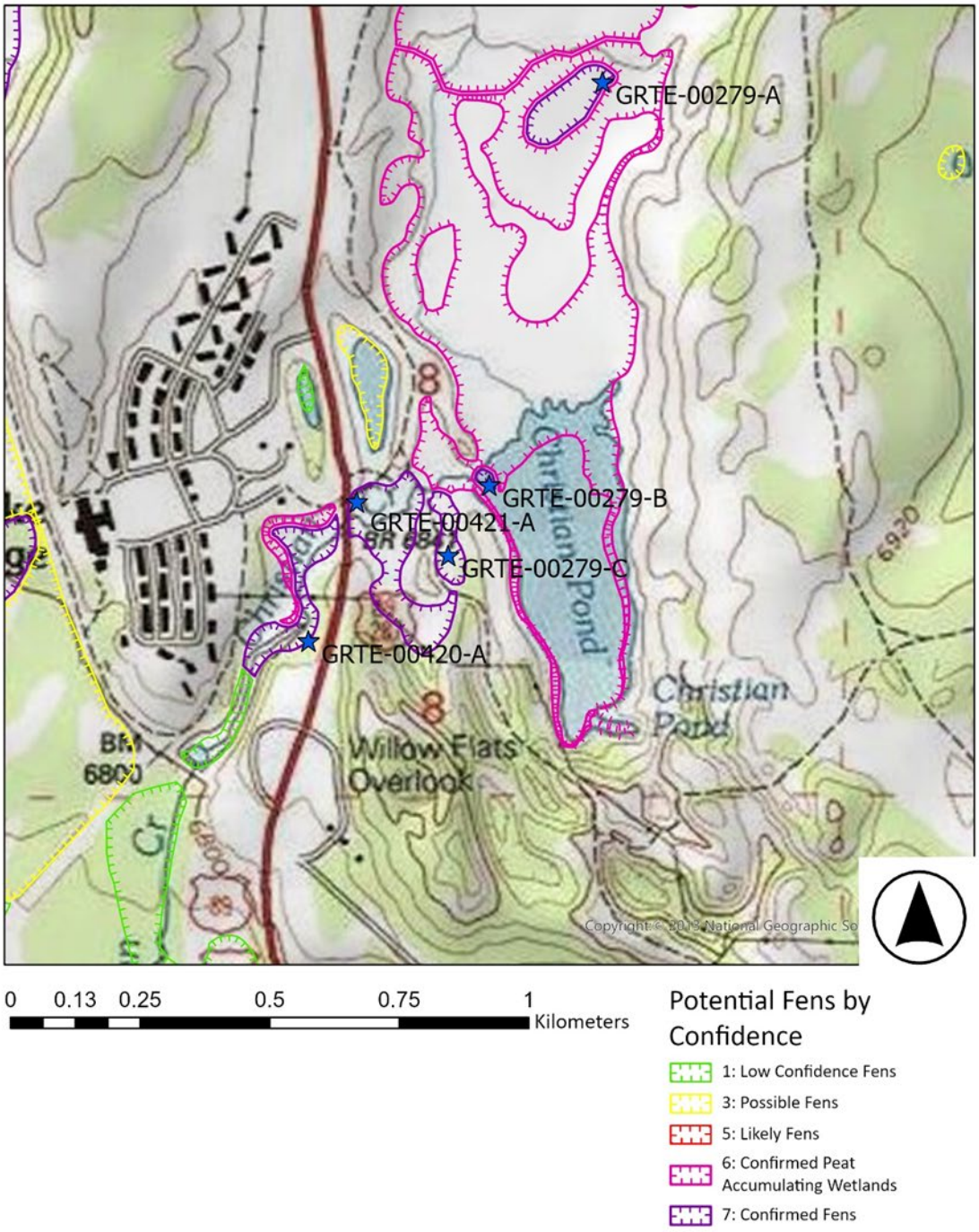


Figure 70. Location map of GRTE-00279-B.

Fen Polygon: GRTE-00279-C West of Christian Pond



Figure 71. Aerial imagery of GRTE-00279-C.

Table 39. Site characteristics of GRTE-00279-C.

Characteristic	Value
Latitude	43.87492
Longitude	-110.56867
Coordinate system	NAD83, UTM Zone 12
Elevation	2079 m (6820 ft)
Survey date	7/8/2023
Approximate peat depth	45 – 120 cm

Site Description

Largely dominated by *Carex utriculata* and *Carex atherodes*, with some *Salix geyeriana*, *Salix wolfii*, and *Carex aquatilis*. Small fen located in valley west of Christian Pond along Christian Pond trail loop. Mostly flat.

Survey Notes

Adjacent to North Park Road and horse trails, but no obvious impacts present.

Access Directions

From horse corral at Jackson Lake Lodge, follow Christian Pond trail east and south. Site is adjacent to trail.

Table 40. Species list for GRTE-00279-C.

Scientific Name	Cover Class
Carex atherodes	7: 25-<50%
Carex aquatilis	6: 10-<25%
Carex utriculata	6: 10-<25%
Salix geyeriana	6: 10-<25%
Salix wolfii	6: 10-<25%
Calamagrostis canadensis	5: 5-<10%
Salix boothii	5: 5-<10%

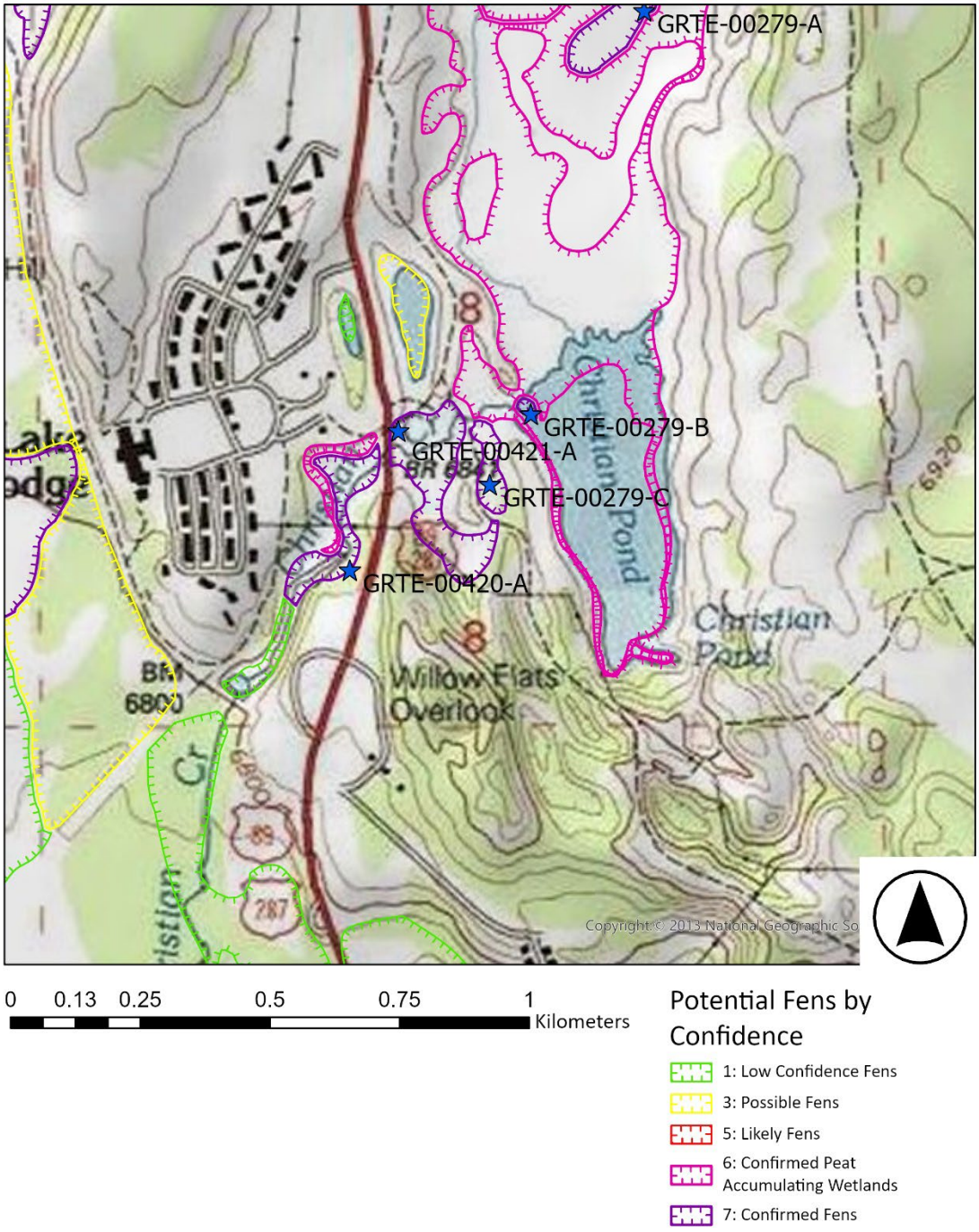


Figure 72. Location map of GRTE-00279-C.

Fen Polygon: GRTE-00281-A Willow Flats

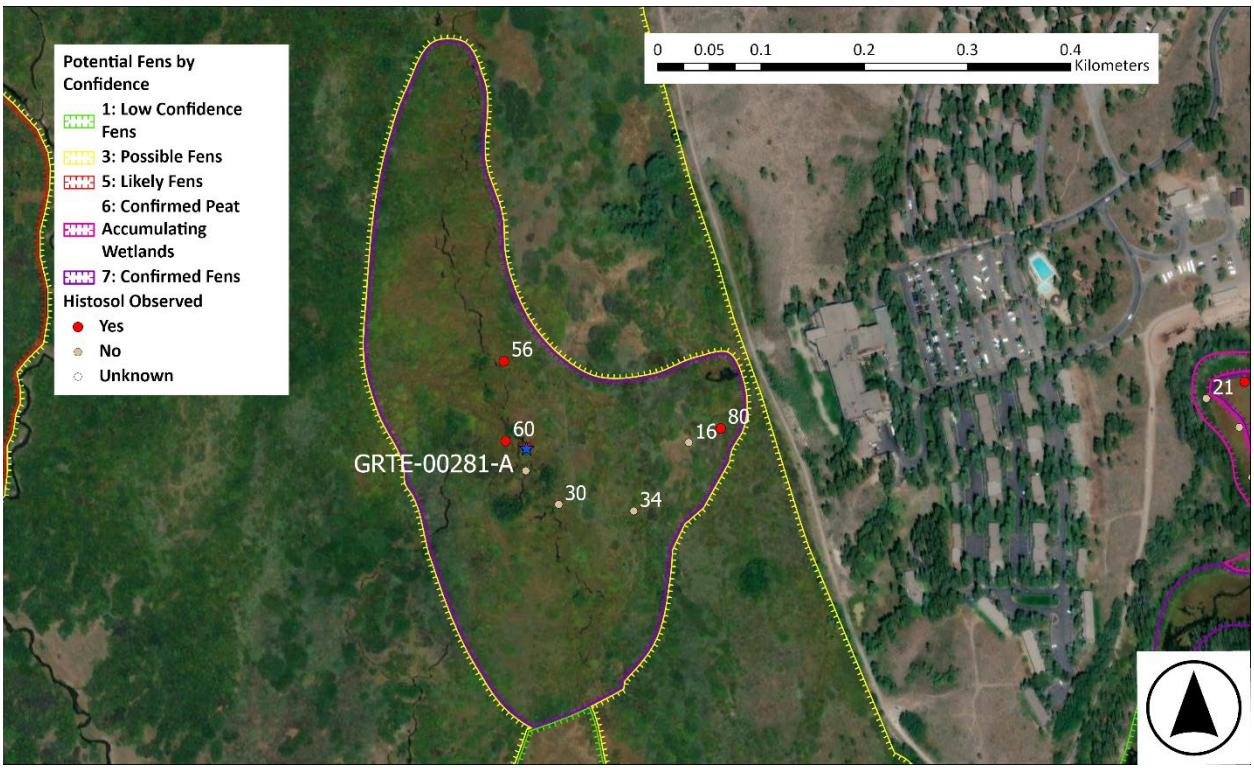


Figure 73. Aerial imagery of GRTE-00281-A.

Table 41. Site characteristics of GRTE-00278-A

Characteristic	Value
Latitude	43.876707
Longitude	-110.581390
Coordinate system	NAD83, UTM Zone 12
Elevation	2077 m (6814 ft)
Survey date	8/2/2023
Approximate peat depth	27 – 100 cm

Site Description

Understory mostly *Carex utriculata*, with *Carex aquatilis*. The overstory is mostly *Betula glandulosa*, *Salix geyeriana*, and *Salix wolfii*. A basin fen with channels through site, some 60+ cm deep. There is likely beaver presence in the northern lobe of the site.

Survey Notes

Site adjacent to a historical road (Wagon Rd Trail) and not far from Jackson Lake Lodge and parking lot, as well as many other human activities. No obvious disturbances within the site.

Access Directions

Park at Jackson Lake Lodge and take Jackson Lake Promenade Trail behind the lodge down to Willow Flats Trail. Hike the historical road's trail approximately 250m and then bushwack west approximately 236 m.

Table 42. Species list for GRTE-00281-A

Scientific Name	Cover Class
Carex utriculata	7:25-<50%
Betula glandulosa	5:5-<10%
Carex aquatilis	5:5-<10%
Salix geyeriana	5:5-<10%
Salix wolfii	5:5-<10%
Carex praegracilis	4:2-<5%
Salix boothii	4:2¬-<5%
Alnus incana	3:1-<2%
-Dasiphora fruticosa ssp. floribunda	2:<1%
Mentha arvensis	2:<1%
Polemonium occidentale ssp. occidentale	2:<1%
Polygonum amphibium	2:<1%
Salix planifolia	2:<1%
Scutellaria	2:<1%
Galium trifidum	1:trace

Table 43. Water quality measurements taken in GRTE-00281-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	60	12.7	7.23	1	Channel with decent flow

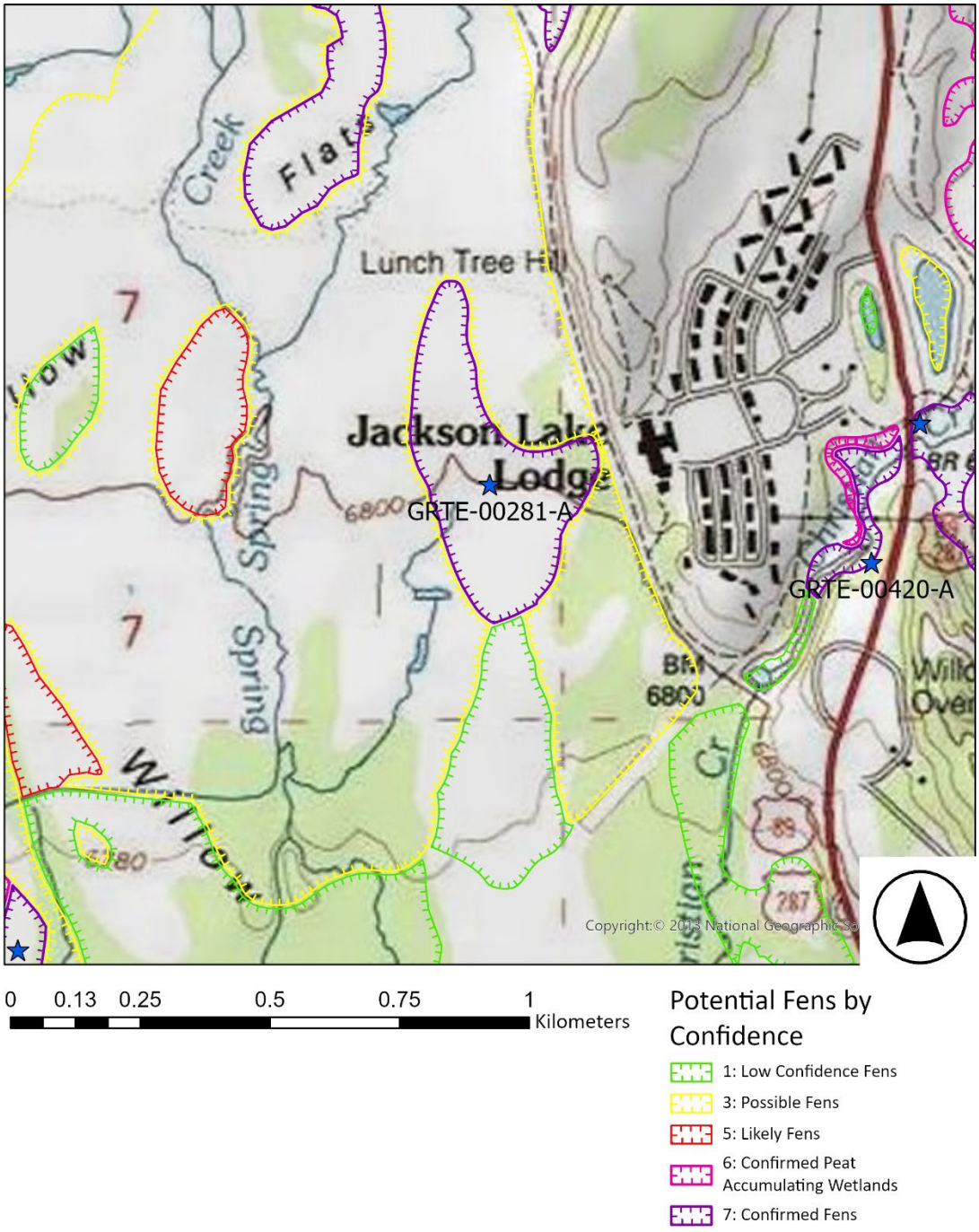


Figure 74. Location map of GRTE-00278-A.



Figure 75. Site community with low shrubs and sedges.



Figure 76. Channel that runs through the site where water quality was taken.



Figure 77. Site landscape.

Fen Polygon: GRTE-00287-A Signal Mountain

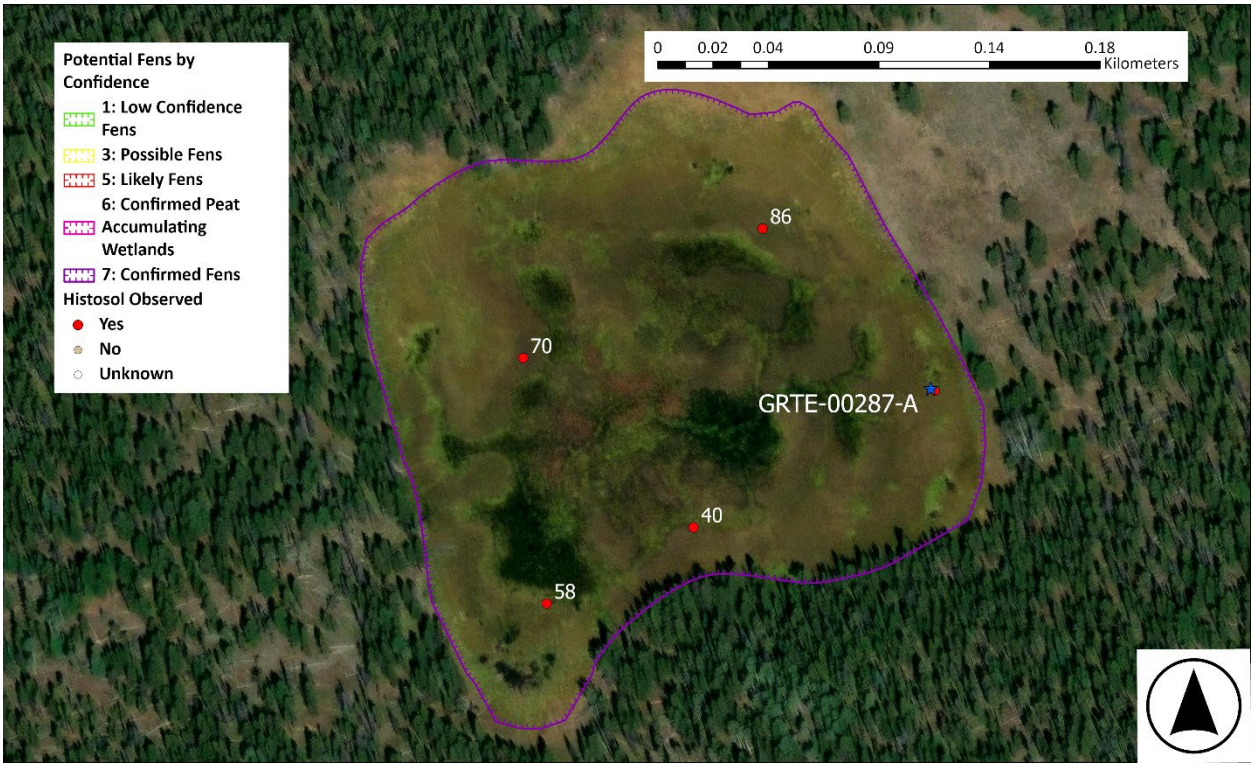


Figure 78. Aerial imagery of GRTE-00287-A.

Table 44. Site characteristics of GRTE-00287-A

Characteristic	Value
Latitude	43.831478
Longitude	-110.602149
Coordinate system	NAD83, UTM Zone 12
Elevation	2113 m (6932 ft)
Survey date	7/24/2023
Approximate peat depth	40 – 86 cm

Site Description

Vegetation primarily *Carex utriculata*, with a decent amount of *Potamogeton epihydrous*. Lots of *Nuphar lutea* as well. The site is a basin fen. Soils are a hemic peat. Water levels are generally at or below knees, though it occasionally gets deep near *Nuphar lutea*.

Survey Notes

No obvious signs of impact from humans or herbivory.

Access Directions

Park at or near Signal Mountain and hike to Signal Mountain Trailhead. From there, take the trail, veering right when it splits. Take the trail approximately 1.58 km and then bushwack through woods to site. Walking through the woods is not bad at all, some downed trees but over all clear. Including the bushwack, the hike is approximately 1.94 km.

Table 45. Species list for GRTE-00287-A

Scientific Name	Cover Class
Carex utriculata	6:10-<25%
Nuphar lutea ssp. polysepala	6:10-<25%
Carex vesicaria	5:5-<10%
Potamogeton epihydrus	4:2¬-<5%
Menyanthes trifoliata	3:1-<2%
Polygonum amphibium	3:1-<2%
Schoenoplectus acutus	3:1-<2%
Eleocharis palustris	2:<1%
Glyceria borealis	2:<1%
Utricularia macrorhiza	2:<1%
Sium suave	1:trace

Table 46. Water quality measurements taken in GRTE-00287-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	20	18.2	5.69	30	Taken in ponded water with *Nuphar lutea*, *Potamogeton epihydrous*, and *Schoenoplectus acutus*.

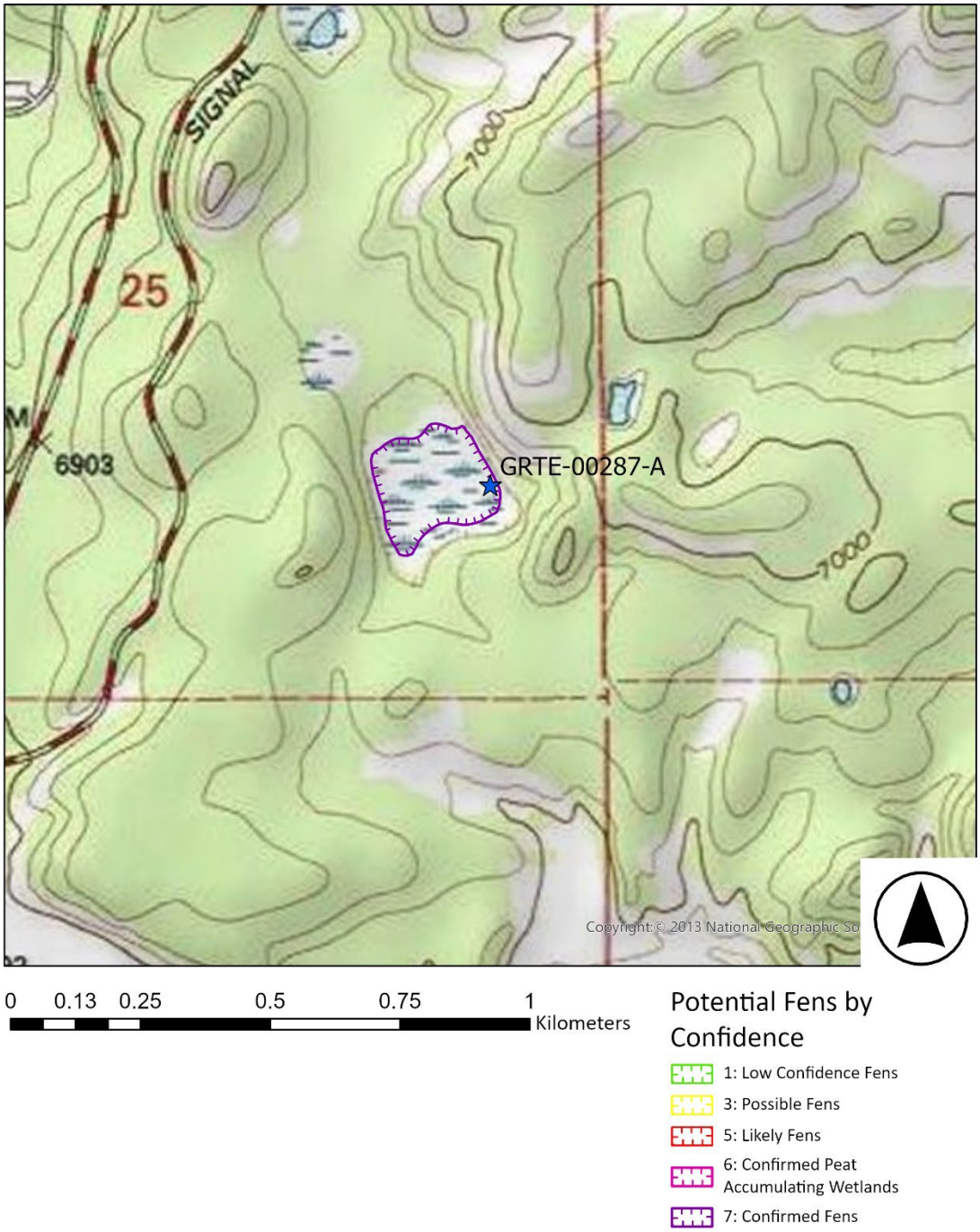


Figure 79. Location map of GRTE-00287-A.



Figure 80. *Menyanthes trifoliata* community within the site.



Figure 81. Patches of *Nuphar lutea* where water levels are deeper.



Figure 82. Site is a basin site with a significant amount of *Carex utriculata.*

Fen Polygon: GRTE-00293-A Signal Mountain

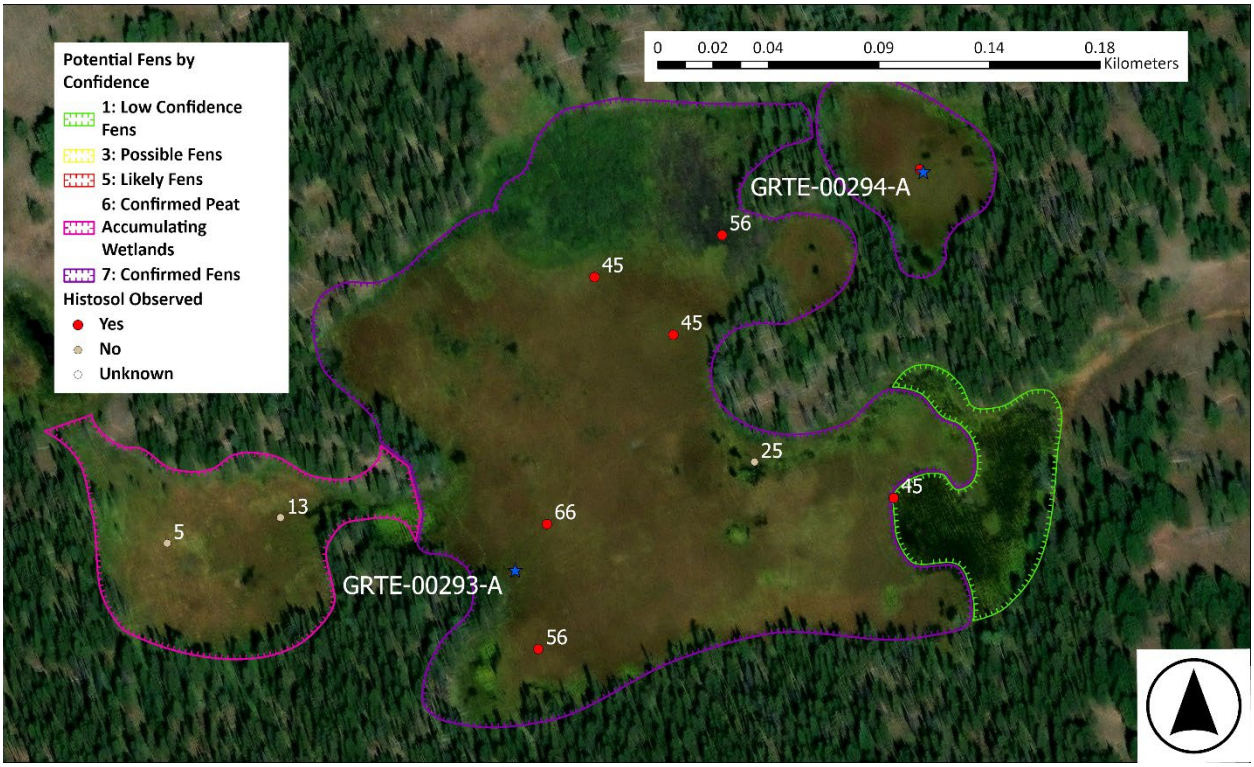


Figure 83. Aerial imagery of GRTE-00293-A.

Table 47. Site characteristics of GRTE-00293-A

Characteristic	Value
Latitude	43.834919
Longitude	-110.579019
Coordinate system	NAD83, UTM Zone 12
Elevation	2113 m (6932 ft)
Survey date	7/24/2023
Approximate peat depth	45 – 66 cm

Site Description

Largely dominated by *Carex utriculata*. Margin of the fen lined with *Salix geyeriana*. Other common species include *Sium suave* and *Potamogeton epihydrus*. The site is a basin fen. Water generally low, some patches it was higher to knees. Soil mostly hemic peat, though the far western part of the site did not appear to be fen.

Survey Notes

Site generally appears undisturbed by humans. Looks like moose have been through, but not a huge impact.

Access Directions

Park at or near Signal Mountain Lodge and hike to Signal Mountain Trailhead. Hike up the trail, veering right when the trail splits. Hike approximately 2.81 km up the trail then cut east to bushwack the rest of the way to site. Pretty hilly but not bad hiking (generally pretty clear understory) The whole hike including the bushwack is approximately 3.21 km. At site, we encountered two sandhill cranes who were not pleased with our presence, which is something to be aware of if this area is being revisited.

Table 48. Species list for GRTE-00293-A

Scientific Name	Cover Class
Carex utriculata	7:25-<50%
Nuphar lutea ssp. polysepala	4:2¬-<5%
Potamogeton epihydrus	4:2¬-<5%
Glyceria striata	3:1-<2%
Sium suave	3:1-<2%
Salix geyeriana	2:<1%
Utricularia macrorhiza	2:<1%

Table 49. Water quality measurements taken in GRTE-00293-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	30	18	5.79	55	Measurement taken in a pond with *Nuphar lutea*, surrounded by *Carex utriculata*.

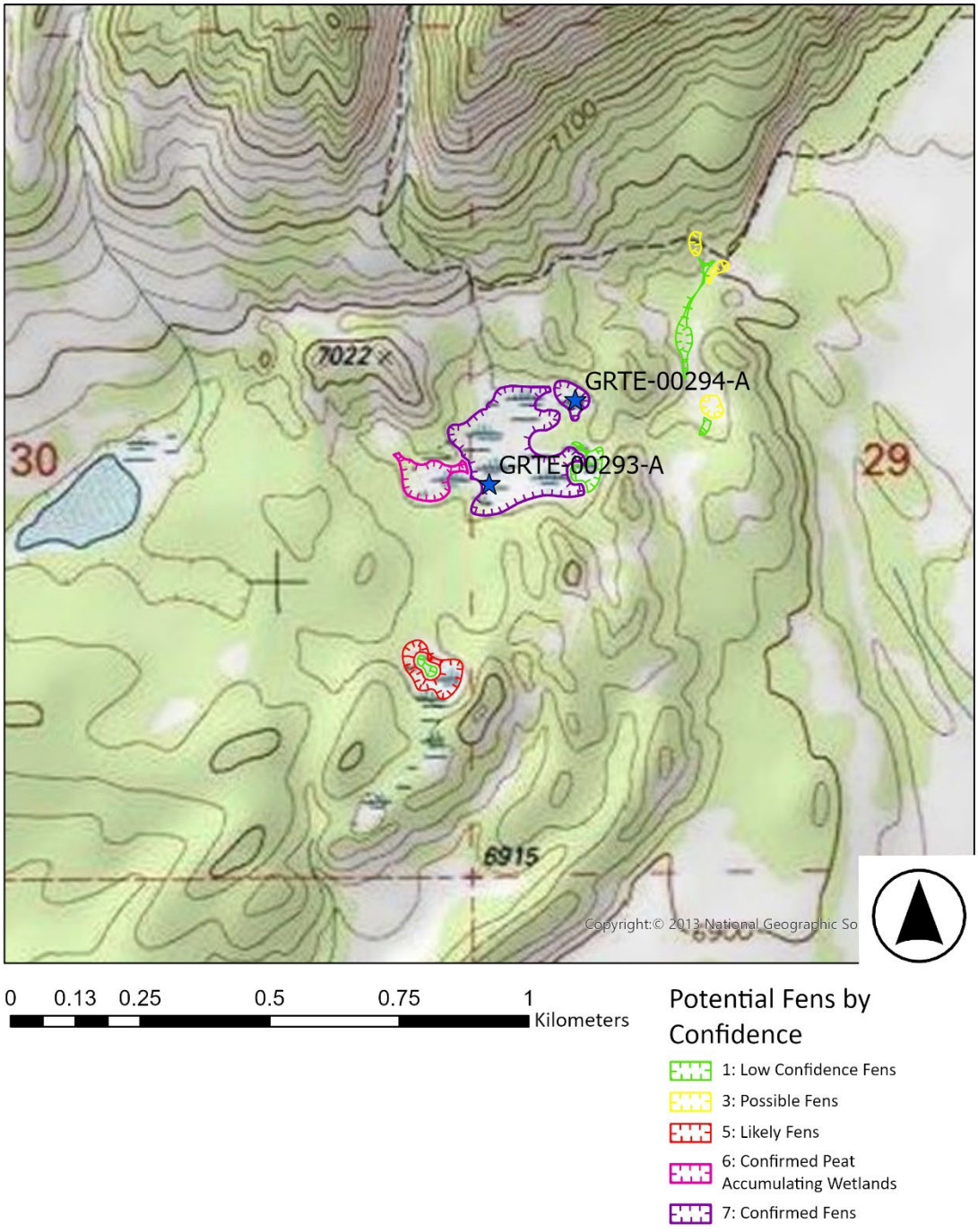


Figure 84. Location map of GRTE-00293-A.



Figure 85. Site is overwhelmingly dominated by *Carex utriculata*.



Figure 86. Significant amounts of leaf litter within the site.



Figure 87. Ponded water with *Nuphar lutea* where water quality measurements were taken.

Fen Polygon: GRTE-00294-A Signal Mountain

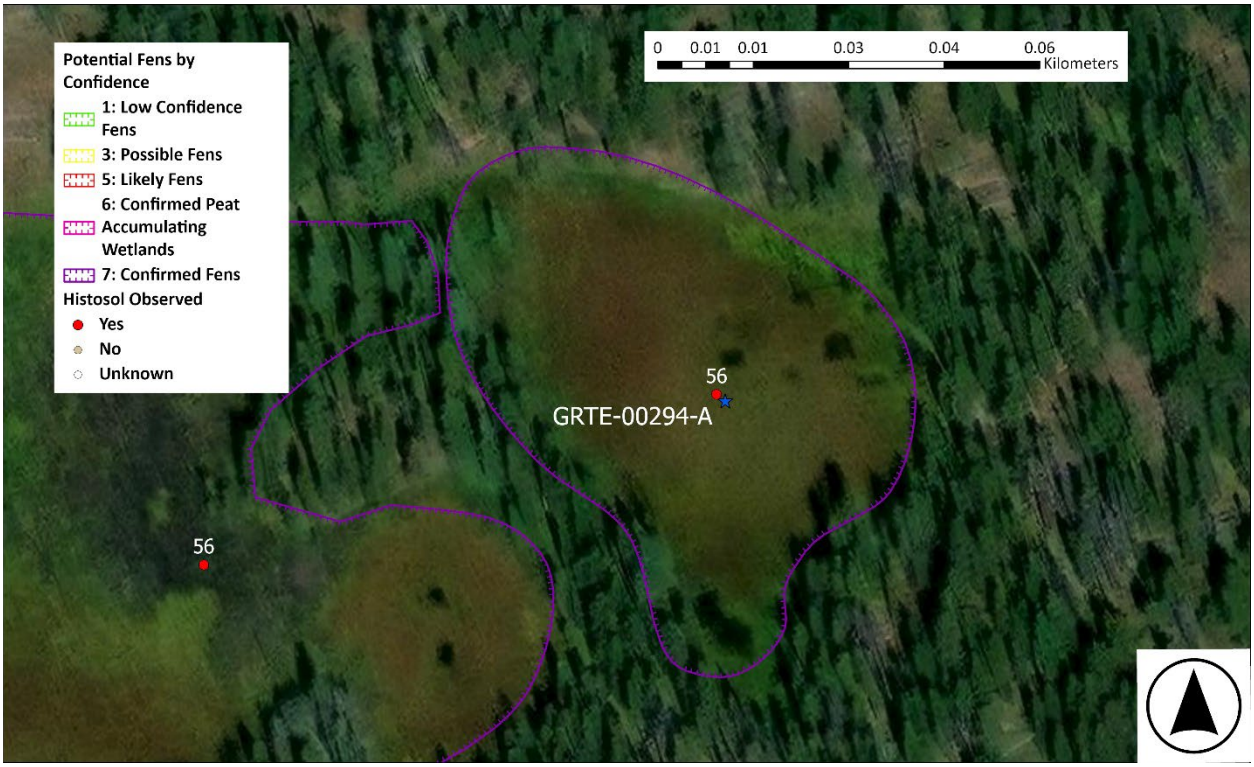


Figure 88. Aerial imagery of GRTE-00294-A.

Table 50. Site characteristics of GRTE-00294-A

Characteristic	Value
Latitude	43.836371
Longitude	-110.576943
Coordinate system	NAD83, UTM Zone 12
Elevation	2115 m (6939 ft)
Survey date	7/24/2023
Approximate peat depth	56 cm

Site Description

Almost entirely dominated by *Carex utriculata*. The site is a small basin fen, with water levels that are relatively low. The soil is a hemic peat.

Survey Notes

Appears to have no human impacts. Looks like moose have been browsing through here, but no significant impacts.

Access Directions

Park at or near Signal Mountain Lodge, then walk to trailhead on Signal Mountain Boat Launch Rd. Hike up the trail, veering right when the trail eventually splits. Hike approximately 2.87 km on the trail before bushwacking the rest to the site. It's best to cut off from the trail at the point where it juts out just before connecting back with the other side of the loop (this can be seen with the park's trail maps.) the hike in total, including the bushwack through the woods to the site, is approximately 3.55 km.

Table 51. Species list for GRTE-00294-A

Scientific Name	Cover Class
Carex utriculata	7:25-<50%
Nuphar lutea ssp. polysepala	3:1-<2%
Sium suave	3:1-<2%
Potamogeton epihydrus	2:<1%

Table 52. Water quality measurements taken in GRTE-00294-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	40	18	5.98	54	Measurement taken in a pond of *Nuphar lutea* with some *Carex utriculata* and *Sium suave* also present.

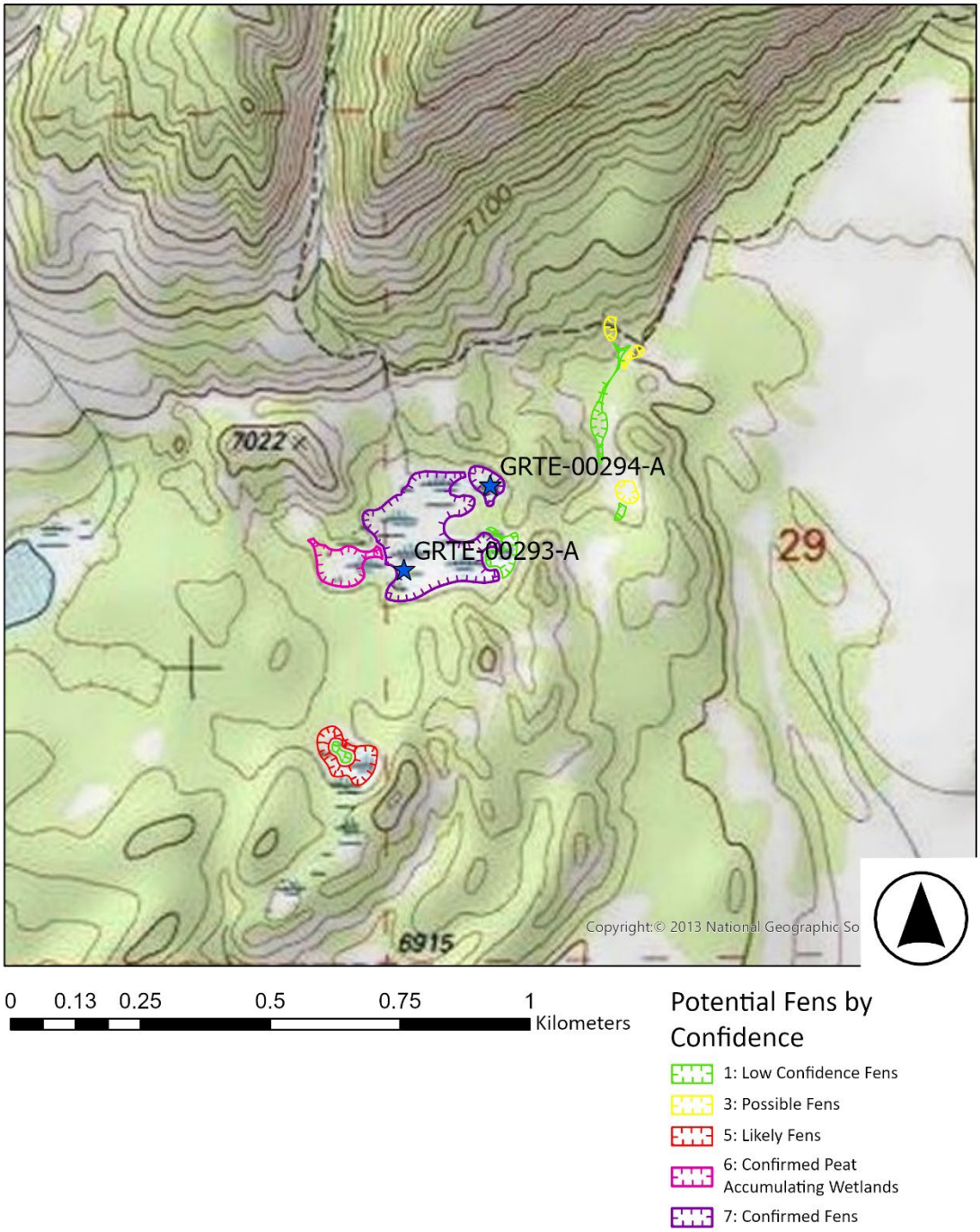


Figure 89. Location map of GRTE-00294-A.



Figure 90. Site is dominated by *Carex utriculata*.



Figure 91. *Nuphar lutea* with ponded water in the site.



Figure 92. *Potamogeton epihydrous* growing on top of leaf litter.

Fen Polygon: GRTE-00342-A Spread Creek

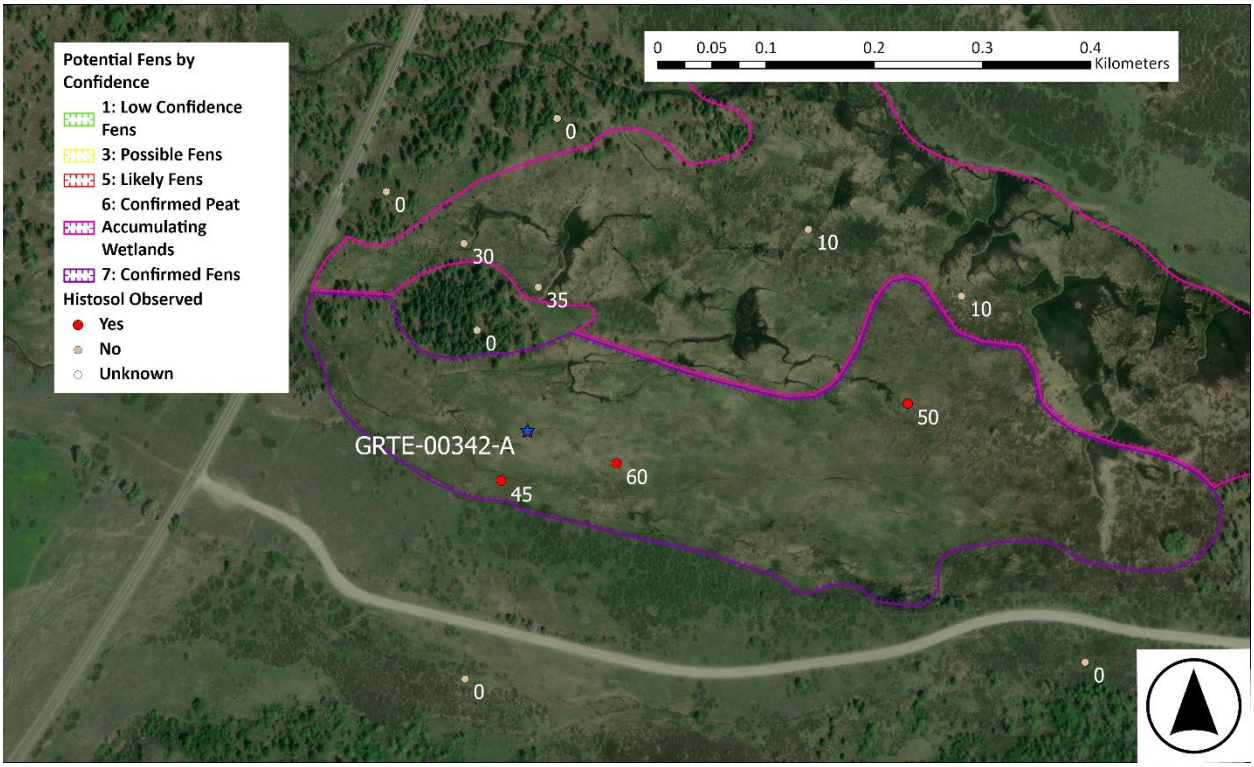


Figure 93. Aerial imagery of GRTE-00342-A.

Table 53. Site characteristics of GRTE-00342-A

Characteristic	Value
Latitude	43.7825212
Longitude	-110.539287
Coordinate system	NAD83, UTM Zone 12
Elevation	2089 m (6854 ft)
Survey date	7/20/2023
Approximate peat depth	45 – 70 cm

Site Description

Betula glandulosa, *Salix planifolia*, and a few *Pinus contorta* populate the overstory. The understory dominated by *Carex simulata*. Moss is a major component.

Survey Notes

Adjacent to North-South Highway, but generally appears undisturbed.

Access Directions

Park on the side of North-South Highway, at what appears to be a pull-off aerially (there is an indent in the polygon where it appears to be) but there is not much of a paved side. Hike in from there, site is directly adjacent to road.

Table 54. Species list for GRTE-00342-A

Scientific Name	Cover Class
Carex simulata	7:25-<50%
Betula glandulosa	6:10-<25%
Carex nebrascensis	6:10-<25%
Salix wolfii	6:10-<25%
Carex utriculata	4:2¬-<5%
Dasiphora fruticosa ssp. floribunda	4:2¬-<5%
Juncus arcticus	4:2¬-<5%
Salix boothii	4:2¬-<5%
Salix planifolia	4:2¬-<5%
Annual Forb	3:1-<2%
Swertia perennis	3:1-<2%
Antennaria pulcherrima	2:<1%
Carex interior	2:<1%
Equisetum x ferrissii	2:<1%
Fragaria virginiana	2:<1%
Pedicularis groenlandica	2:<1%
Platanthera huronensis	2:<1%
Polemonium occidentale	2:<1%
Symphyotrichum boreale	2:<1%

Table 55. Water quality measurements taken in GRTE-00342-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	25	13.2	7.67	276	Measurement taken in a small channel flowing through the site

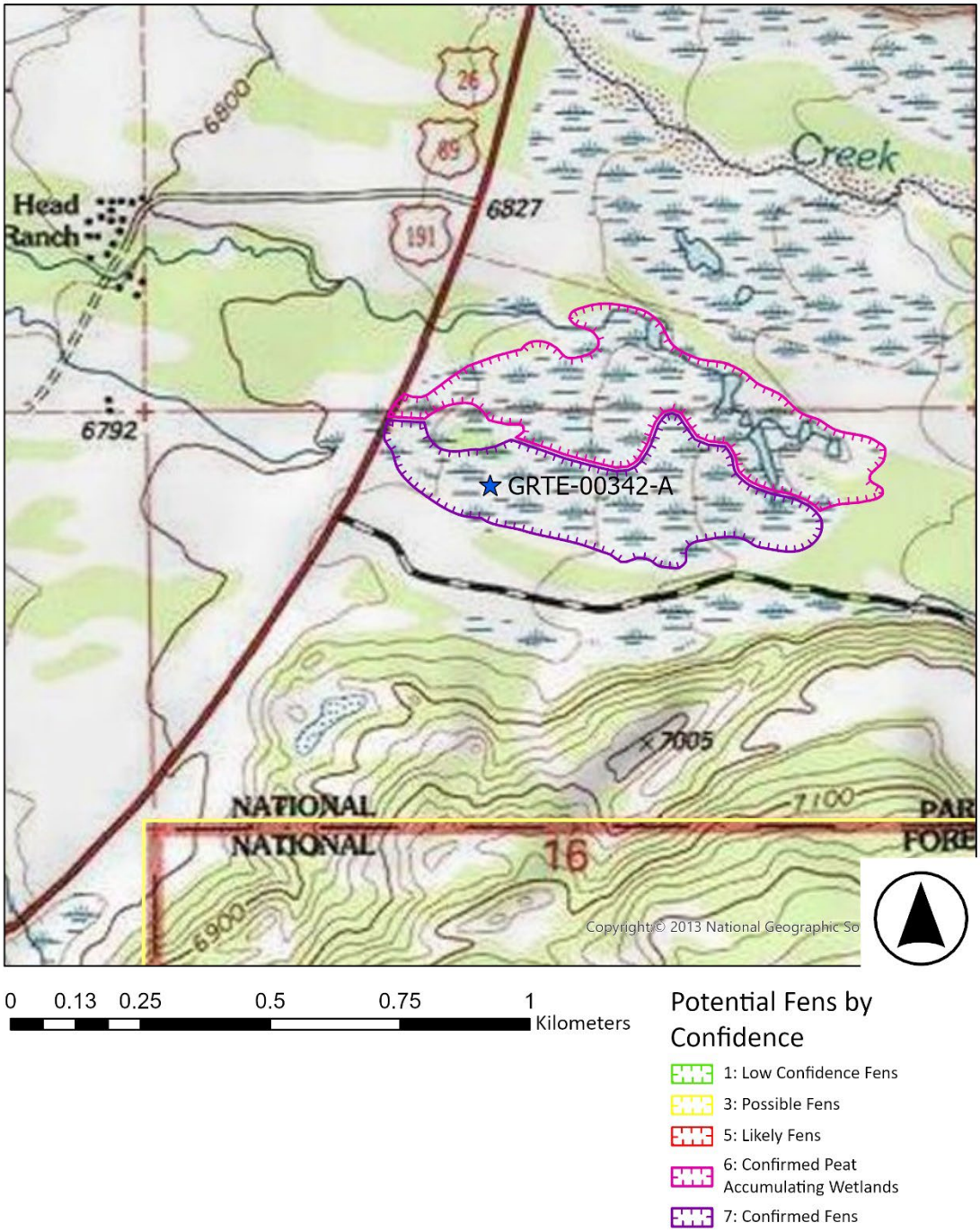


Figure 94. Location map of GRTE-00342-A.



Figure 95. Vegetation within the site.



Figure 96. Channel through site.



Figure 97. *Swertia perennis*.



Figure 98. Site landscape with a higher concentration of shrubs.



Figure 99. *Carex nebrascensis* growing with *Carex utriculata*.



Figure 100. Site landscape with a higher concentration of sedges.



Figure 101. Site landscape facing the east.

Fen Polygon: GRTE-00420-A Christian Creek

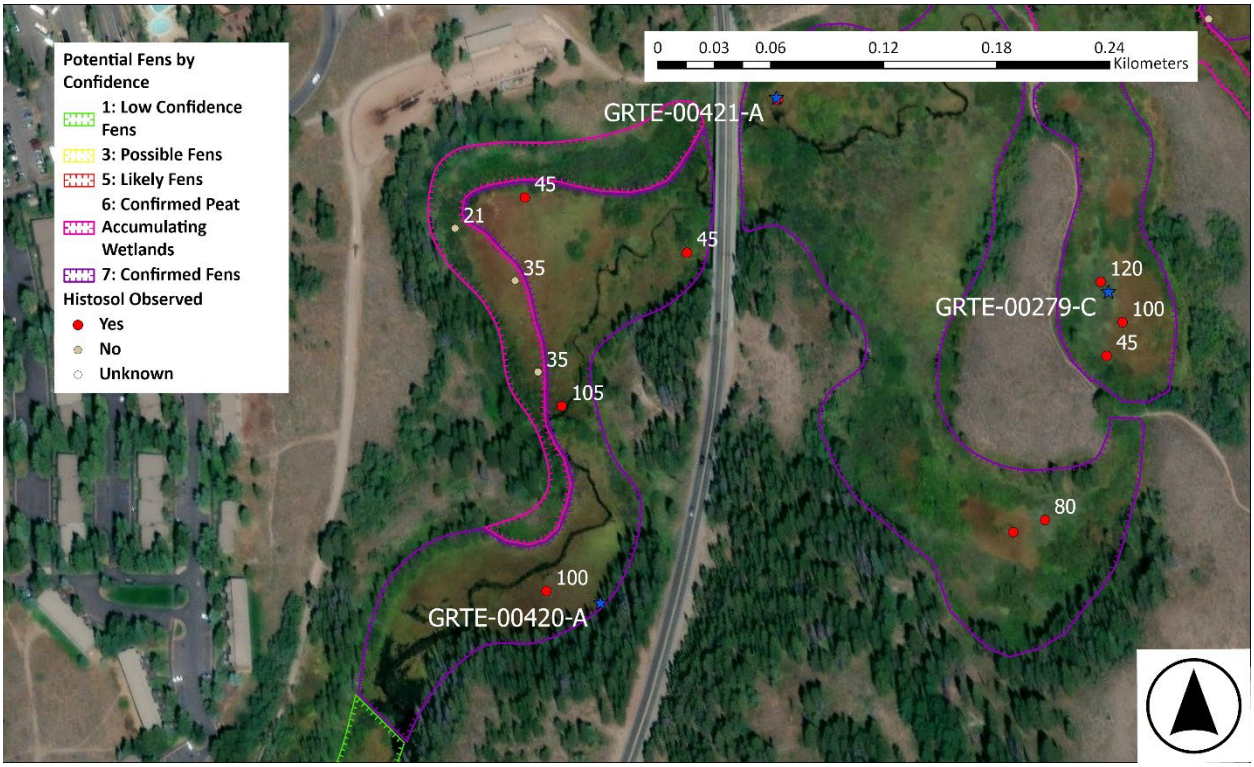


Figure 102. Aerial imagery of GRTE-00420-A.

Table 56. Site characteristics of GRTE-00420-A

Characteristic	Value
Latitude	43.875320
Longitude	-110.572240
Coordinate system	NAD83, UTM Zone 12
Elevation	2076 m (6811 ft)
Survey date	7/7/2023
Approximate peat depth	35 – 105 cm

Site Description

The understory largely *Carex aquatilis*, *Carex utriculata*, and some *Carex atherodes*, interspersed with woodies like *Salix wolfii*, *Salix planifolia*, *Salix boothii*, and *Salix geyeriana*. A channel runs through the site, and it is adjacent to a road. Overall, the site is flat. There are drier areas in the original polygon, but most of the polygon appears to be fen based on estimates from tile probe. We did not assess the southern end, which contains open water and is not fen.

Survey Notes

Site adjacent to horse stables and trail, road crosses over the wetland on an elevated bridge.

Access Directions

From parking lot at Pronghorn Place (horse barn), walk down Jackson Lake Lodge Spur Trail and quickly peel off to the south towards the polygon. Hike is steeply downhill with many animal holes to look out for. Cross through dense willows to the open clearing. This day, the crew was joined by NPS staff out in the field.

Table 57. Species list for GRTE-00420-A

Scientific Name	Cover Class
Carex aquatilis	7: 25-<50%
Carex utriculata	7: 25-<50%
Carex atherodes	6: 10-<25%
Deschampsia cespitosa	6: 10-<25%
Polygonum amphibium	6: 10-<25%
Salix boothii	6: 10-<25%
Salix wolfii	6: 10-<25%
Poaceae	5: 5-<10%
Salix geyeriana	5: 5-<10%
Salix planifolia	5: 5-<10%
Cirsium arvense	3: 1-<2%
Galium trifidum	3: 1-<2%
Lonicera involucrata	3: 1-<2%
Pinus contorta	3: 1-<2%
Platanthera huronensis	3: 1-<2%
Scutellaria brittonii	3: 1-<2%
Solidago canadensis	3: 1-<2%
Carex diandra	2:<1%

Table 58. Water quality measurements taken in GRTE-00420-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	Unkn	14.4	6.23	390	In a shallow hole with water. Specific conductance jumping around from 380 to 400
2	Channel	Unkn	15.6	8.38	260	Measurement taken in Christian Creek, which flows through the wetland.

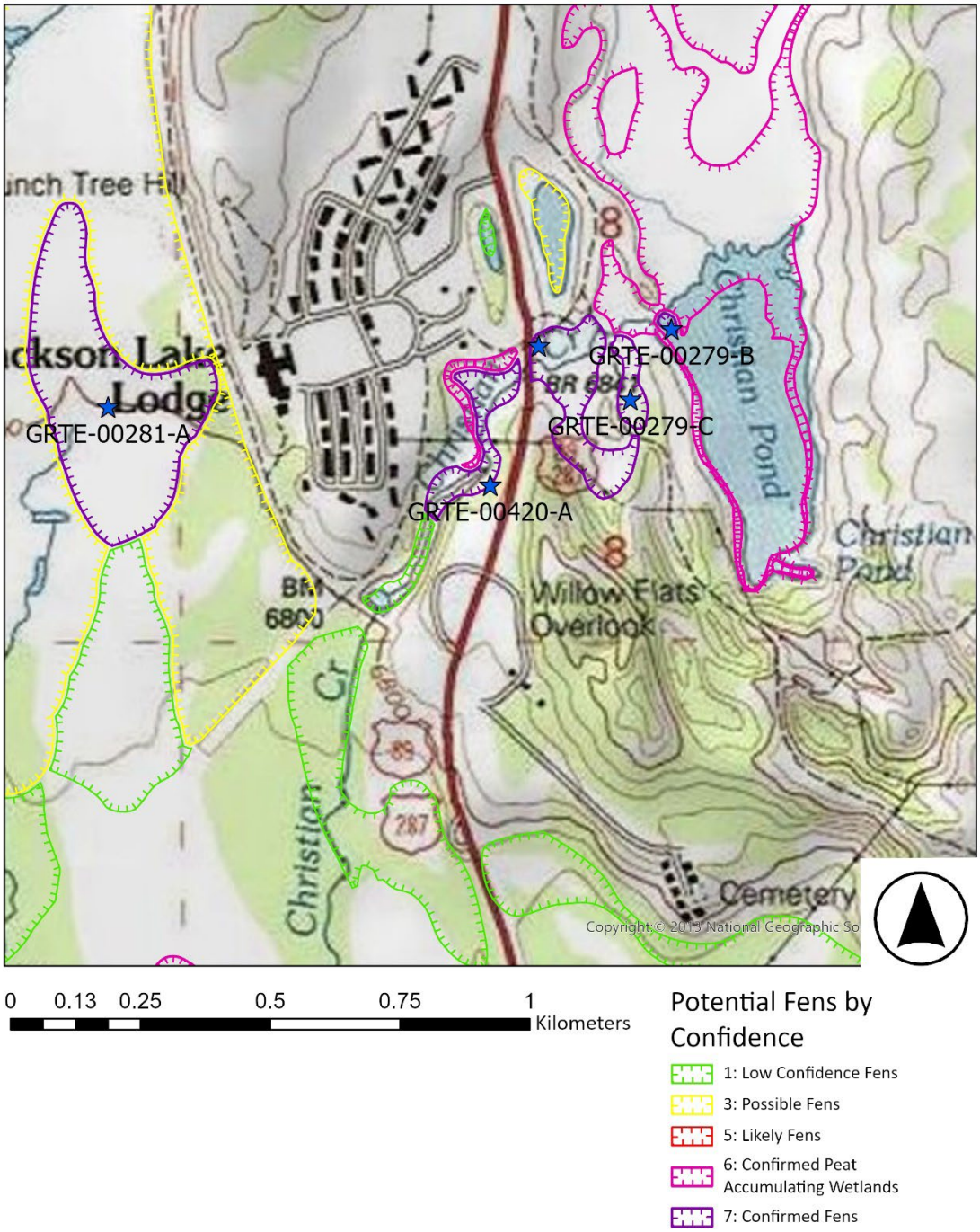


Figure 103. Location map of GRTE-00420-A.



Figure 104. Site landscape.



Figure 105. Christian Creek runs through the site.



Figure 106. A shrubbier area of the polygon.



Figure 107. *Platanthera huronensis*.

Fen Polygon: GRTE-00421-A Christian Creek

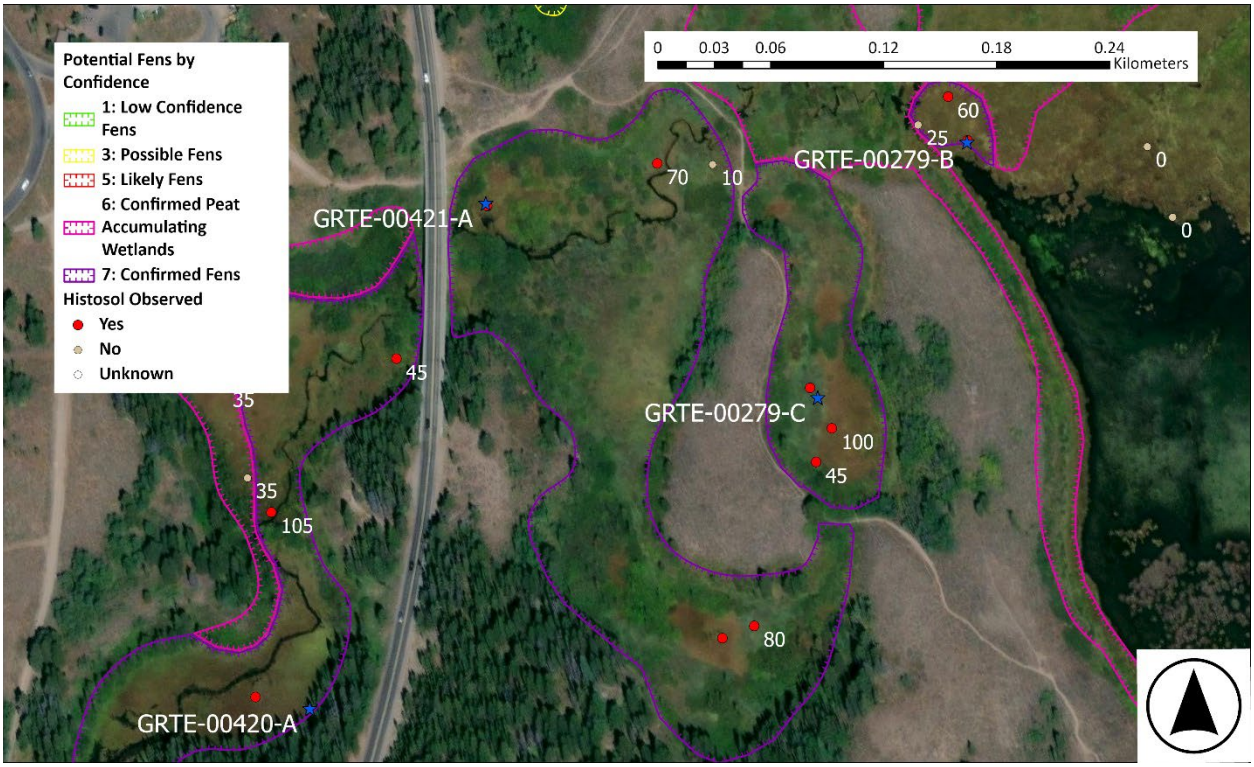


Figure 108. Aerial imagery of GRTE-00421-A.

Table 59. Site characteristics of GRTE-00421-A

Characteristic	Value
Latitude	43.877729
Longitude	-110.571060
Coordinate system	NAD83, UTM Zone 12
Elevation	2077 m (6814 ft)
Survey date	7/7/2023
Approximate peat depth	70 – 120 cm

Site Description

The site is largely dominated by *Carex utriculata* and *Carex aquatilis*, with a significant presence of *Salix wolfii* as well. Site is located along Christian Creek on the east side of North Park Road. Immediately east of the bridge, there is a floating, quaking sedge mat likely formed by groundwater upwelling. The area adjacent to the creek is fen, but other areas in the vicinity contain willow stands on mineral soil.

Survey Notes

Site is adjacent to trail and under the North Park Road bridge.

Access Directions

From the horse stables at Jackson Lake Lodge, follow Christian Pond trail to the east. Site is south of trail along the creek east of the North Park Road Bridge. Requires crossing the creek, which is doable in hip waders or by jumping over it. Site is floaty, likely due to groundwater upwelling.

Table 60. Species list for GRTE-00421-A

Scientific Name	Cover Class
Carex utriculata	7: 25-<50%
Carex aquatilis	6: 10-<25%
Salix wolfii	6: 10-<25%
Polygonum	4: 2-<5%
Fragaria virginiana	3: 1-<2%
Geum macrophyllum	3: 1-<2%
Lonicera involucrata	3: 1-<2%
Mimulus guttatus	3: 1-<2%
Pinus contorta	3: 1-<2%
Poa pratensis	3: 1-<2%
Polemonium occidentale	3: 1-<2%
Solidago canadensis	3: 1-<2%
Tanacetum vulgare	3: 1-<2%
Veronica anagallis-aquatica	3: 1-<2%

Table 61. Water quality measurements taken in GRTE-00421-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	Unkn	21.7	8.65	255	Measurements taken in Christian Creek. Minor beaver activity noted downstream, under the North Park Road bridge.

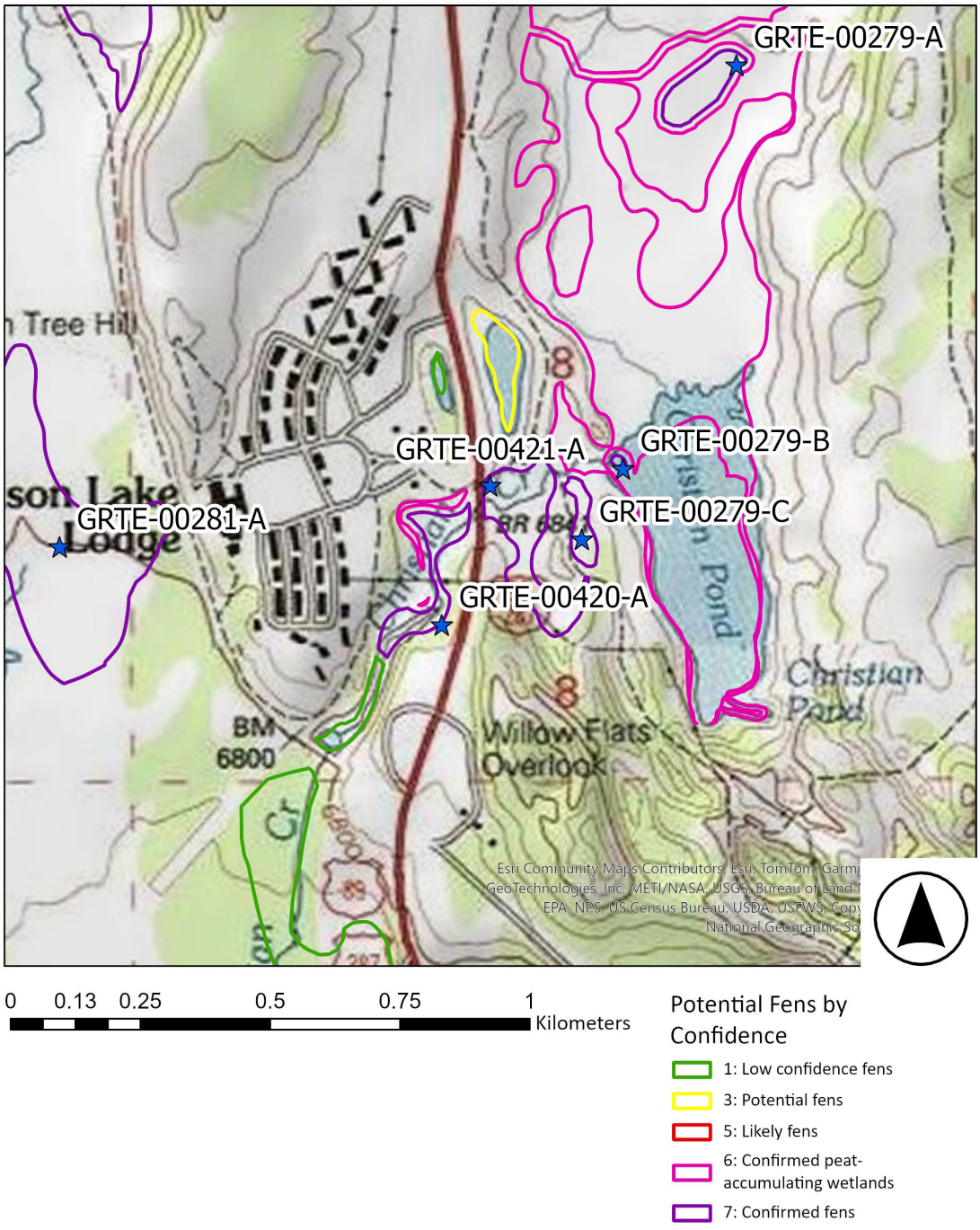


Figure 109. Location map of GRTE-00421-A.



Figure 110. Site landscape.



Figure 111. Minor beaver activity downstream of Christian Creek.

Fen Polygon: GRTE-00427-A Jackson Lake Dam

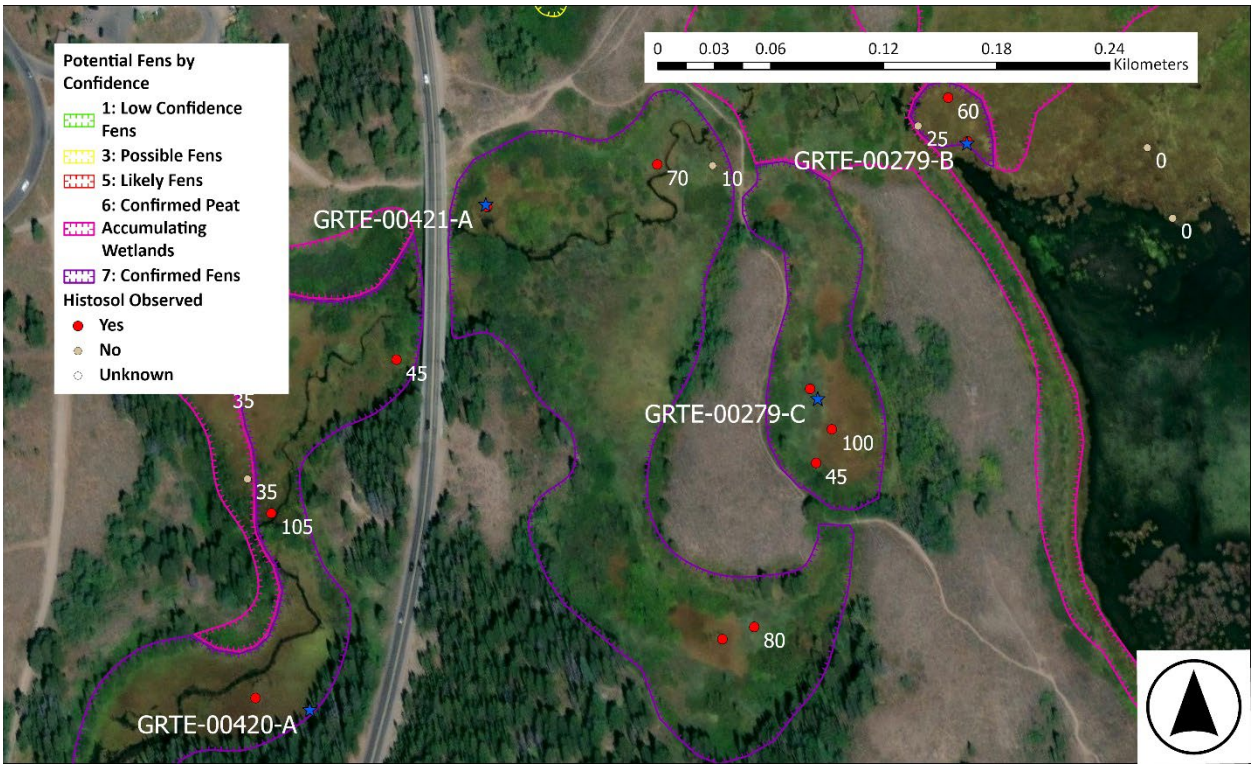


Figure 112. Aerial imagery of GRTE-00427-A.

Table 62. Site characteristics of GRTE-00427-A

Characteristic	Value
Latitude	43.868674
Longitude	-110.592767
Coordinate system	NAD83, UTM Zone 12
Elevation	2115 m (6782 ft)
Survey date	8/2/2023
Approximate peat depth	35 – 75 cm

Site Description

The understory is dominated by *Carex utriculata*, *Carex simulata*, and some *Carex interior*. Overstory dominated by *Betula glandulosa*, *Salix wolfii*. Lots of moss is present. Flat fen area near edge of Jackson Lake, adjacent to Jackson Lake Dam.

Survey Notes

Site adjacent to dam, Jackson Lake, and not far from utility road or general park road. Over all the site does not seem to be super disturbed by humans or herbivory.

Access Directions

Park at the Jackson Lake Dam Fishing Access Parking lot, which is off of Teton Park Rd. Hike across Teton Park Rd to a road for authorized vehicles, which is just on the other side of the dam. Hike along the gravel road for approximately 1 km, and the fen will be adjacent to the road to the east.

Table 63. Species list for GRTE-00427-A

Scientific Name	Cover Class
Carex simulata	7:25-<50%
Carex utriculata	6:10-<25%
Betula glandulosa	4:2¬-<5%
Salix wolfii	4:2¬-<5%
Carex aquatilis	3:1-<2%
Comarum palustre	3:1-<2%
Fragaria virginiana	3:1-<2%
Carex interior	2:<1%
Dasiphora fruticosa ssp. floribunda	2:<1%
Epilobium	2:<1%
Pedicularis groenlandica	2:<1%
Polemonium occidentale	2:<1%

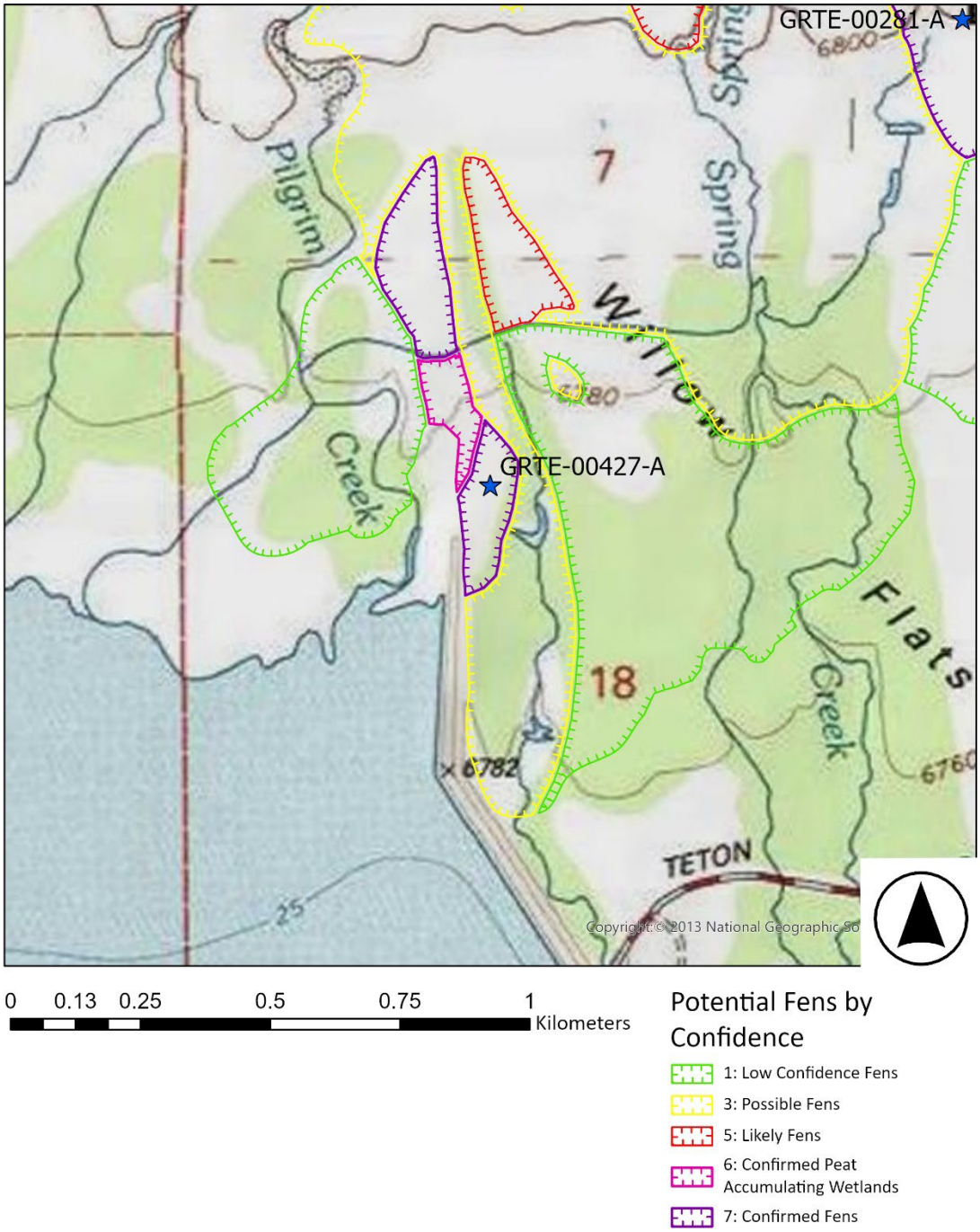


Figure 113. Location map of GRTE-00427-A.



Figure 114. Low shrubs and sedges are major components of the site.



Figure 115. Site landscape.



Figure 116. Site landscape.

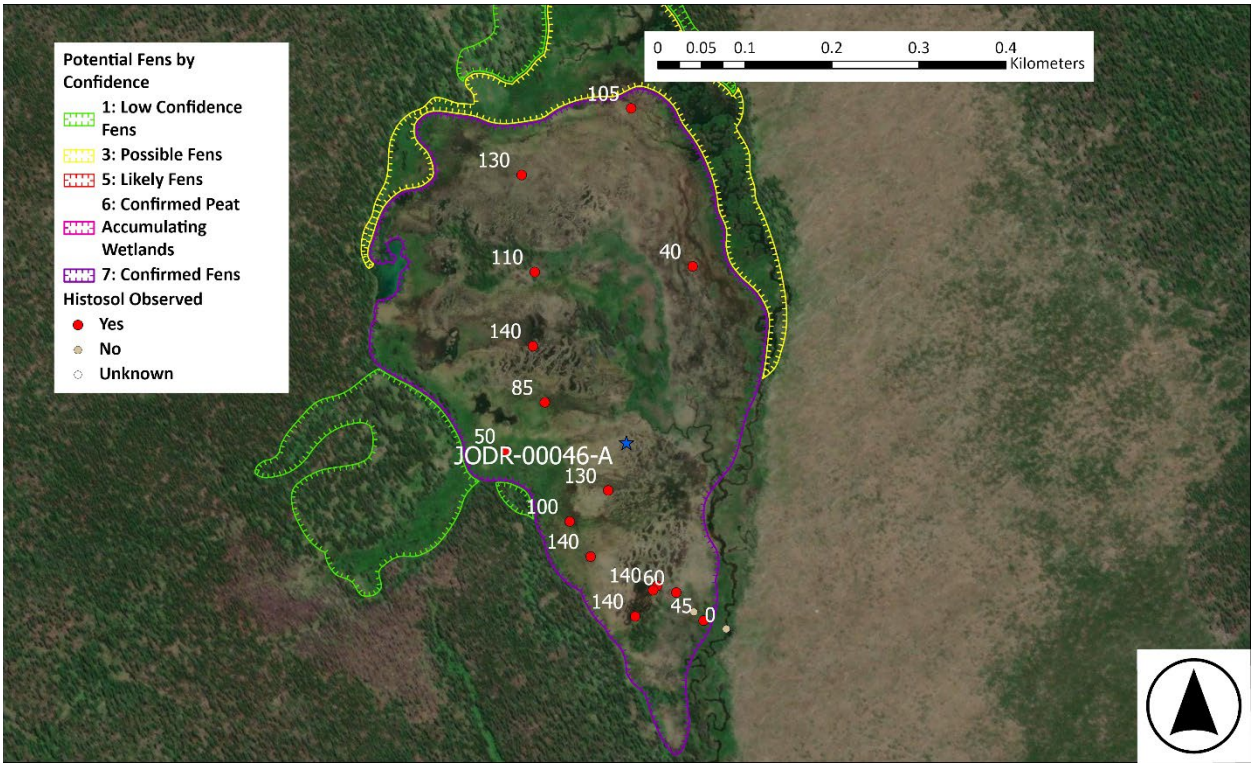


Figure 117. Aerial imagery of JODR-00046-A.

Table 64. Site characteristics of JODR-00046-A

Characteristic	Value
Latitude	44.112873
Longitude	-110.733474
Coordinate system	NAD83, UTM Zone 12
Elevation	2195 m (7200 ft)
Survey date	8/5/2023
Approximate peat depth	40 – 140 cm

Site Description

Significant amounts of *Sphagnum* in site. Understory heavily dominated by *Carex livida*, *Carex lasiocarpa*, *Agrostis scabra*, and *Eleocharis quinqueflora*. *Salix geyeriana* and *Pinus contorta* are included, as they are on the edge of the polygon, and there are several *Pinus contorta* in the site. *Sphagnum* rises and falls throughout, with some spring-like water action through site. Some water runs generally from the west to the east, sometimes across the surface of the ground, towards the stream that separates JODR-00046 and an adjacent polygon.

Survey Notes

Site appears to be in pristine condition. No obvious signs of human or animal impact.

Access Directions

Drive West along Grassy Lake Rd from Flagg Ranch for approximately 5.2 miles. From an aerial view south of the site is the burn scar. Park at the edge of the road where it widens and hike up along the burn scar for approximately 1.2 miles. There are some downed trees, hills, and loose rocks that could pose as a challenge, but it is likely easier than walking in the forest.

Table 65. Species list for JODR-00046-A

Scientific Name	Cover Class
Carex livida	6:10-<25%
Carex lasiocarpa	5:5-<10%
Eleocharis quinqueflora	5:5-<10%
Agrostis scabra	4:2¬-<5%
Carex limosa	4:2¬-<5%
Carex utriculata	4:2¬-<5%
Comarum palustre	4:2¬-<5%
Drosera anglica	4:2¬-<5%
Pedicularis groenlandica	4:2¬-<5%
Betula glandulosa	3:1-<2%
Carex aquatilis	3:1-<2%
Carex buxbaumii	3:1-<2%
Carex echinata	3:1-<2%
Dasiphora fruticosa ssp. floribunda	3:1-<2%
Menyanthes trifoliata	3:1-<2%
Poaceae	3:1-<2%
Triantha occidentalis	3:1-<2%
Vaccinium uliginosum	3:1-<2%
Eriophorum angustifolium	2:<1%
Eriophorum chamissonis	2:<1%
Gentianopsis thermalis	2:<1%
Packera	2:<1%
Parnassia	2:<1%
Pinus contorta	2:<1%
Potamogeton praelongus	2:<1%
Salix geyeriana	2:<1%
Salix planifolia	2:<1%
Spiranthes romanzoffiana	2:<1%
Symphyotrichum	2:<1%

Table 66. Water quality measurements taken in JODR-00046-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	80	19.5	6.25	33	Measurement taken in a channel where the surface water across the fen appears to flow towards
2	Channel	10	13.2	6.37	37	Channel through the Pinus contorta inclusion within the site.

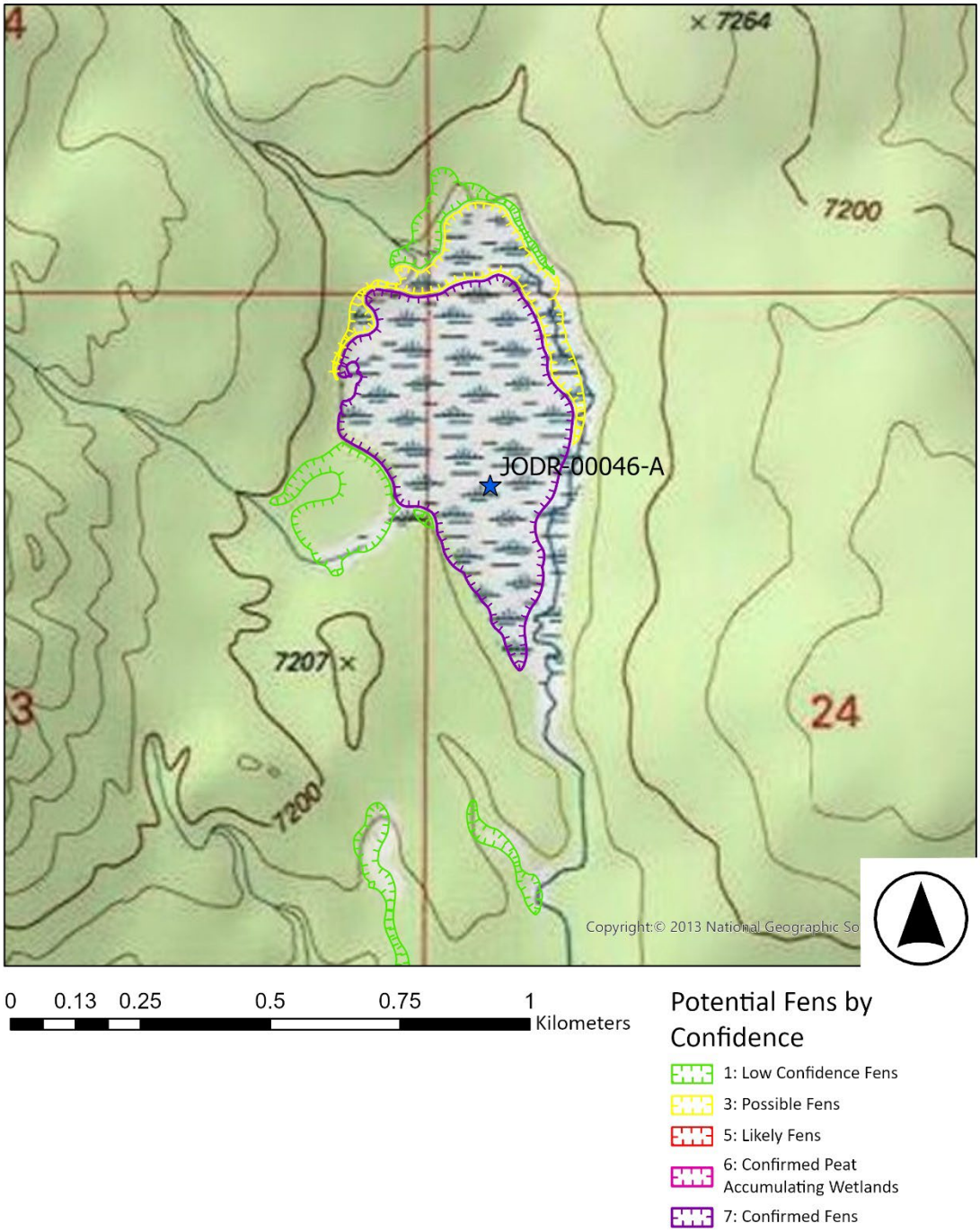


Figure 118. Location map of JODR-00046-A.



Figure 119. Raised mound of *Sphagnum* with *Comarum palustre* and various sedges.



Figure 120. Flowering *Comarum palustre* on a raised mound of *Sphagnum*.



Figure 121. *Drosera anglica* within the site.



Figure 122. Site landscape.



Figure 123. Site landscape.



Figure 124. Vegetation changes in the site.



Figure 125. Site landscape.



Figure 126. Lots of *Eriophorum*.



Figure 127. Looking across the site towards the east.

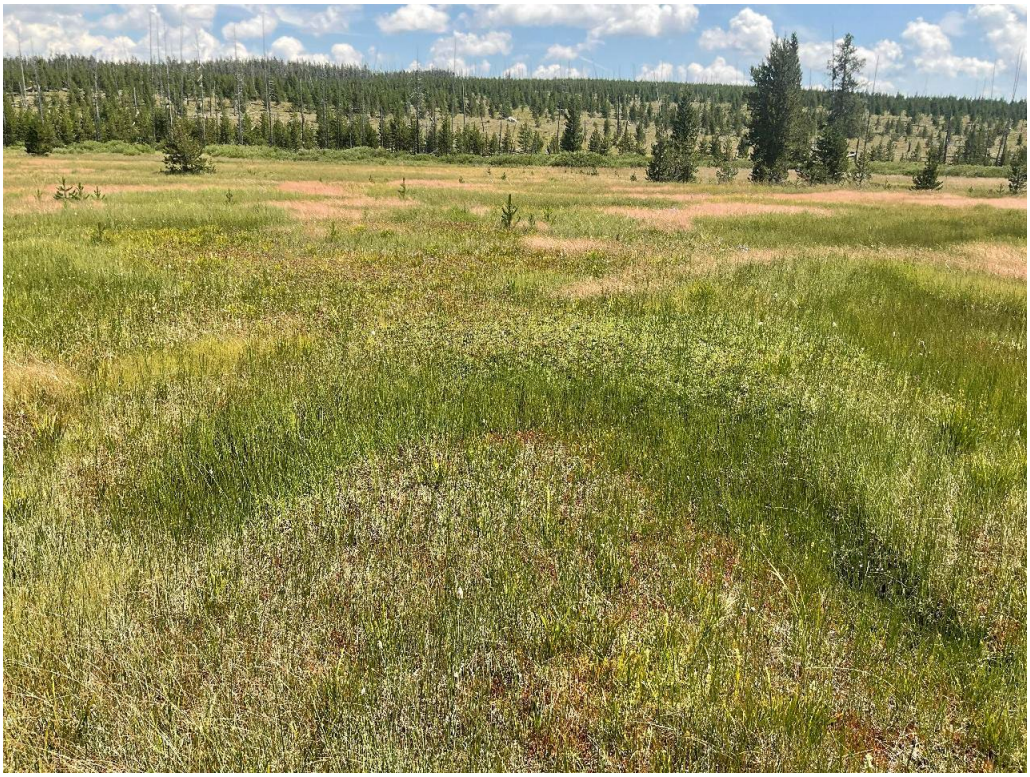


Figure 128. Distinct vegetation changes across the site.



Figure 129. A handful of small trees across the site.



Figure 130. *Carex livida* and *Sphagnum* within the site.



Figure 131. A large stand of *Eriophorum* in the north end of the site.



Figure 132. Channel through the site.



Figure 133. Water runs across the surface of the site and drains into the channel.



Figure 134. Bare soil with *Carex livida.*

Fen Polygon: JODR-00130-A Glade Creek

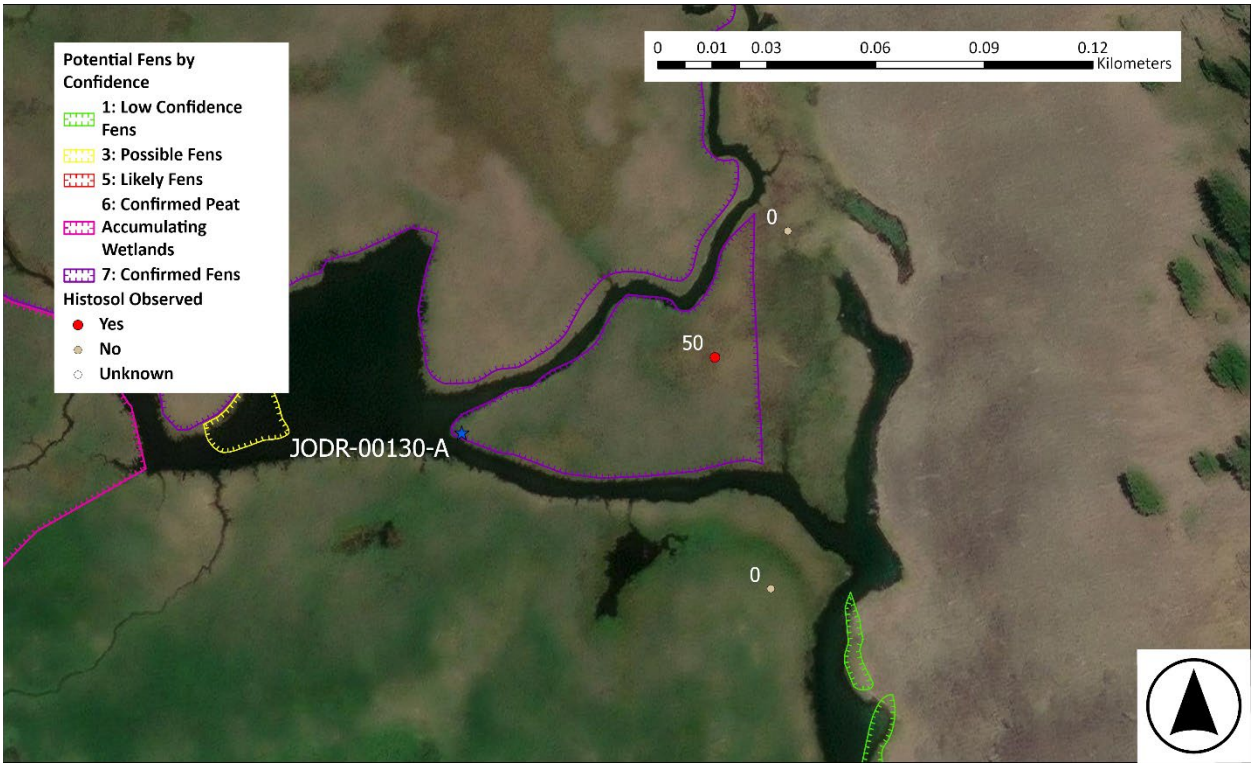


Figure 135. Aerial imagery of JODR-00130-A.

Table 67. Site characteristics of JODR-00130-A

Characteristic	Value
Latitude	43.836371
Longitude	-110.576943
Coordinate system	NAD83, UTM Zone 12
Elevation	2115 m (6939 ft)
Survey date	8/6/2023
Approximate peat depth	0 – 50 cm

Site Description

Entirely dominated by *Carex utriculata* and *Carex aquatilis*. Very high leaf litter, challenging to walk through. Seems to be lots of moss as well, some of which is floating. The site is surrounded by Glade Creek. No slope, but the area feels more marshy than fen - soils seem mineral, likely deposits from the huge rockface directly northeast of the site. Water levels vary from up to mid-calf to thigh high.

Survey Notes

Likely beaver presence. Challenging to tell peat depth with the tile probe, especially with such high water levels. Additionally, fens do not typically have such high water levels.

Access Directions

Drive approximately 12.27 km from Flagg Ranch headed west on Grassy Lake Rd, past Camp Spur 8. Park at a pull-off on the side of the road adjacent to fen, and hike in approximately 50 m as the crow flies to the site. There are deep channels of cold water (Glade Creek), so cross more on the west and walk along the base of the rockface to the site.

Table 68. Species list for JODR-00130-A

Scientific Name	Cover Class
Carex aquatilis	7:25-<50%
Carex utriculata	7:25-<50%
Calamagrostis canadensis	3:1-<2%

Table 69. Water quality measurements taken in JODR-00130-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	100	6.2	6.14	40	Measurement taken right where the site edge meets Glade Creek, where it widens into a bigger body of water.

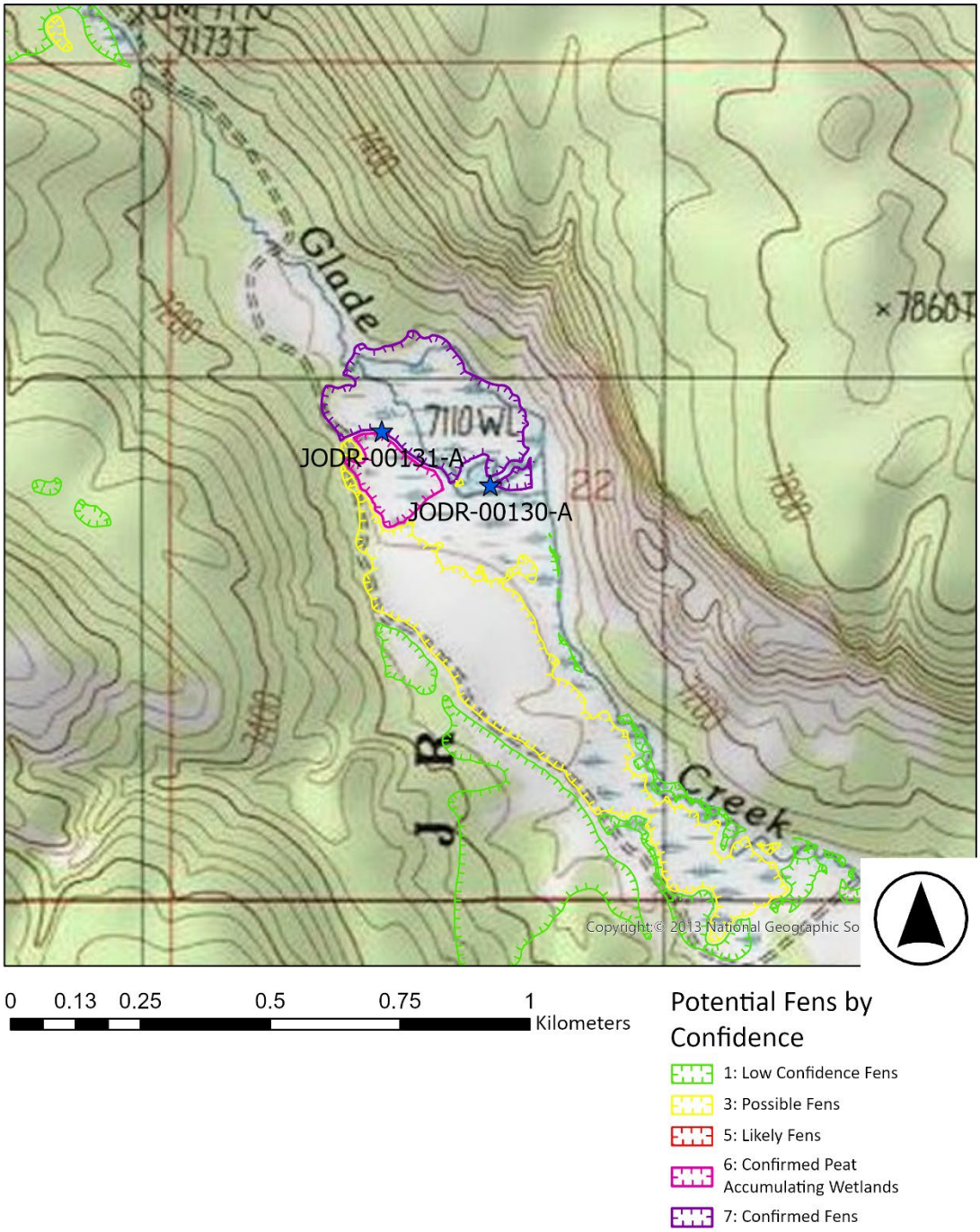


Figure 136. Location map of JODR-00130-A.



Figure 137. Very deep water with lots of leaf litter.



Figure 138. The site is adjacent to a large rockface.



Figure 139. Shallow pool of water between the large rockface and the wetland.



Figure 140. High levels of leaf litter and water make navigating through the sight challenging.

Fen Polygon: JODR-00131-A Glade Creek

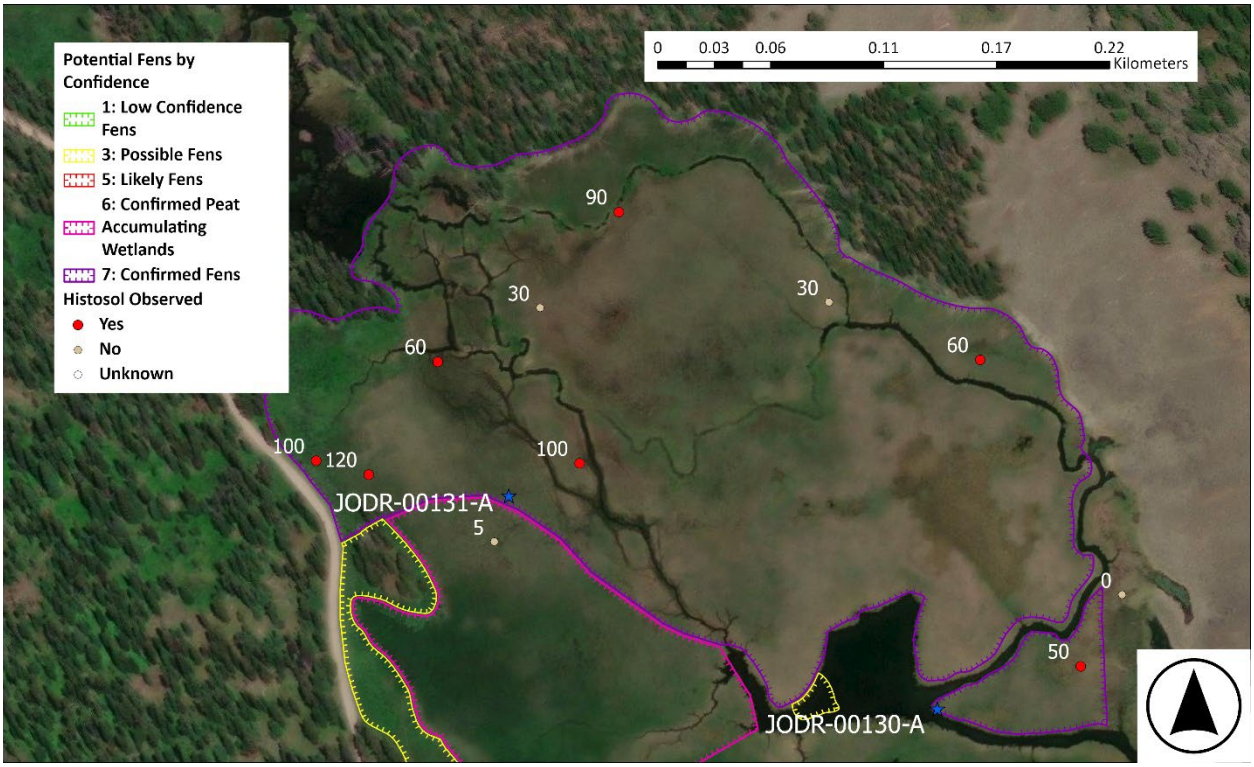


Figure 141. Aerial imagery of JODR-00130-A.

Table 70. Site characteristics of JODR-00130-A

Characteristic	Value
Latitude	44.109904
Longitude	-110.769891
Coordinate system	NAD83, UTM Zone 12
Elevation	2090 m (6857 ft)
Survey date	8/6/2023
Approximate peat depth	30 – 120 cm

Site Description

Almost entirely dominated by *Carex aquatilis* and *Carex utriculata*. Sometimes very high standing leaf litter and high water. The site is a basin, adjacent to a huge rockface. Glade Creek flows adjacent to it and is connected to the Glade Greek Reservoir, which is just west of the parkway. The open water within the site is very deep and very cold.

Survey Notes

Definite beaver influence. Significant browse on some willows, even appearing to kill off some of them.

Access Directions

From Flagg Ranch, drive approximately 12.27 km down Grassy Lake Rd, past Camp Spur 8 and park in a pull-off adjacent to then. From there, hike in approximately 15 m to the fen.

Table 71. Species list for JODR-00131-A

Scientific Name	Cover Class
Carex aquatilis	7:25-<50%
Carex utriculata	7:25-<50%
Calamagrostis canadensis	4:2¬-<5%
Pinus contorta	3:1-<2%
Salix boothii	3:1-<2%
Salix drummondiana	3:1-<2%
Juncus filiformis	2:<1%
Polygonum amphibium	2:<1%
Galium trifidum	1:trace

Table 72. Water quality measurements taken in JODR-00131-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	60	9.4	6.78	39	Measurement taken in a channel with slight flow and some fish present. Surrounded by *Carex aquatilis*, *Carex utriculata*, *Salix boothii*, and *Salix drummondiana*

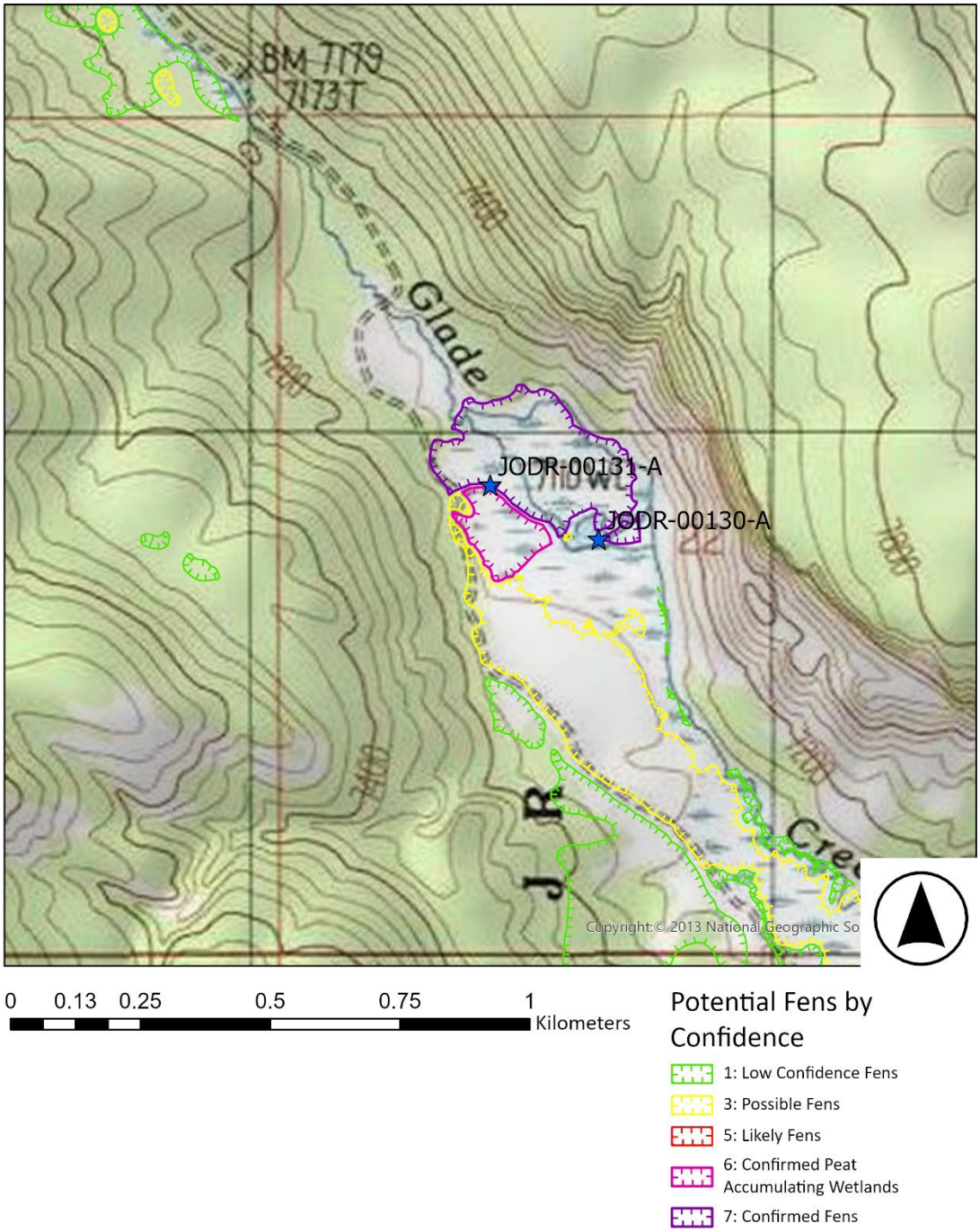


Figure 142. Location map of JODR-00131-A.



Figure 143. Looking in at the site from Grassy Lake Road.



Figure 144. Site landscape.



Figure 145. Ground cover with lots of leaflitter.



Figure 146. High levels of leaf litter and water make navigating through the sight challenging.



Figure 147. Large open, deep, and cold body of water within the site, connected to Glade Creek.



Figure 148. Glade Creek, a flowing channel of deep, cold water runs through the site.

Fen Polygon: JODR-00184-A Flagg Mountain



Figure 149. Aerial imagery of JODR-00184-A.

Table 73. Site characteristics of JODR-00184-A

Characteristic	Value
Latitude	44.101208
Longitude	-110.726693
Coordinate system	NAD83, UTM Zone 12
Elevation	2162 m (7074 ft)
Survey date	8/5/2023
Approximate peat depth	45 – 70 cm

Site Description

Vegetation is dominated by *Carex livida*, *Carex utriculata*, *Carex buxbaumii*, and *Carex lasiocarpa*. The fen is a basin fen, surrounded by forest and burned area. The water is generally not very deep.

Survey Notes

Appears untouched by humans. No obvious signs of herbivory.

Access Directions

Head west along Grassy Lake Rd from Flagg Ranch for approximately 8 km away from the Flagg Ranch parking lot. The parking will be a slight pull-off, a bit past the parking for Glade Creek Trail. From the pull-off, hike north, following the burn scar. The hike will include walking over many fallen trees and up and down large hills. Hike in approximately 900 km, as the crow flies, from the parking spot.

Table 74. Species list for JODR-00184-A

Scientific Name	Cover Class
Carex livida	7:25-<50%
Carex aquatilis	6:10-<25%
Carex buxbaumii	6:10-<25%
Carex lasiocarpa	5:5-<10%
Carex utriculata	5:5-<10%
Deschampsia cespitosa	4:2¬-<5%
Salix wolfii	4:2¬-<5%
Vaccinium uliginosum	4:2¬-<5%
Agrostis scabra	3:1-<2%
Pinus contorta	3:1-<2%
Carex canescens	2:<1%
Carex echinata	2:<1%
Eleocharis palustris	2:<1%
Equisetum arvense	2:<1%
Eriophorum angustifolium	2:<1%
Gentianopsis thermalis	2:<1%
Juncus ensifolius	2:<1%
Pedicularis groenlandica	2:<1%
Potamogeton natans	2:<1%
Spiranthes romanzoffiana	2:<1%
Symphyotrichum	2:<1%

Table 75. Water quality measurements taken in JODR-00184-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	40	13.8	5.58	34	Measurements taken in a small pool with *Carex aquatilis*, *Carex buxbaumii*, *Carex lasiocarpa*, and *Potamogeton natans*.

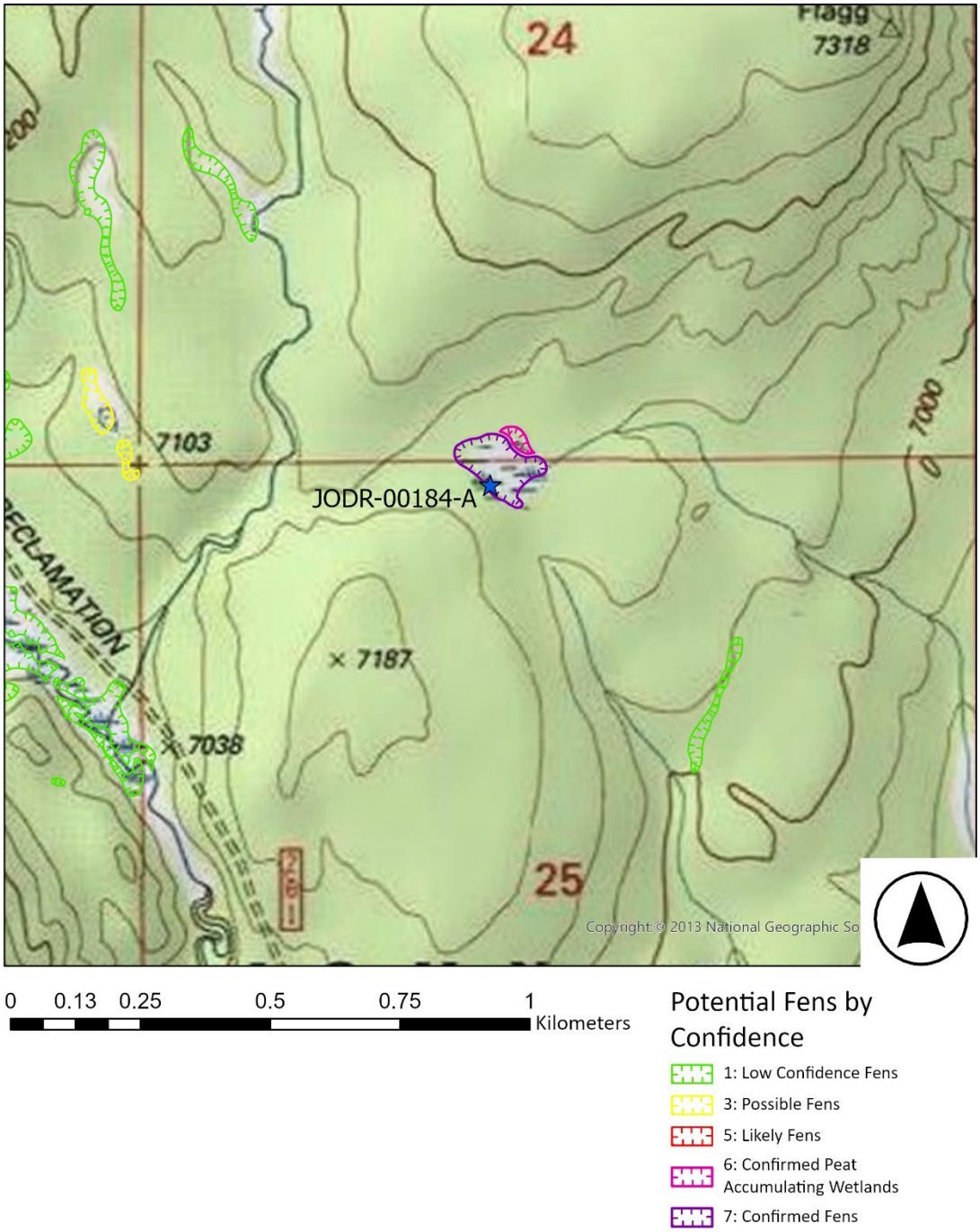


Figure 150. Location map of JODR-00184-A.



Figure 151. Site landscape.



Figure 152. Site vegetation.



Figure 153. *Carex livida* with *Carex buxbaumii* and *Eriophorum angustifolium*.

Fen Polygon: JODR-00185-A Southeast of Flagg Mountain

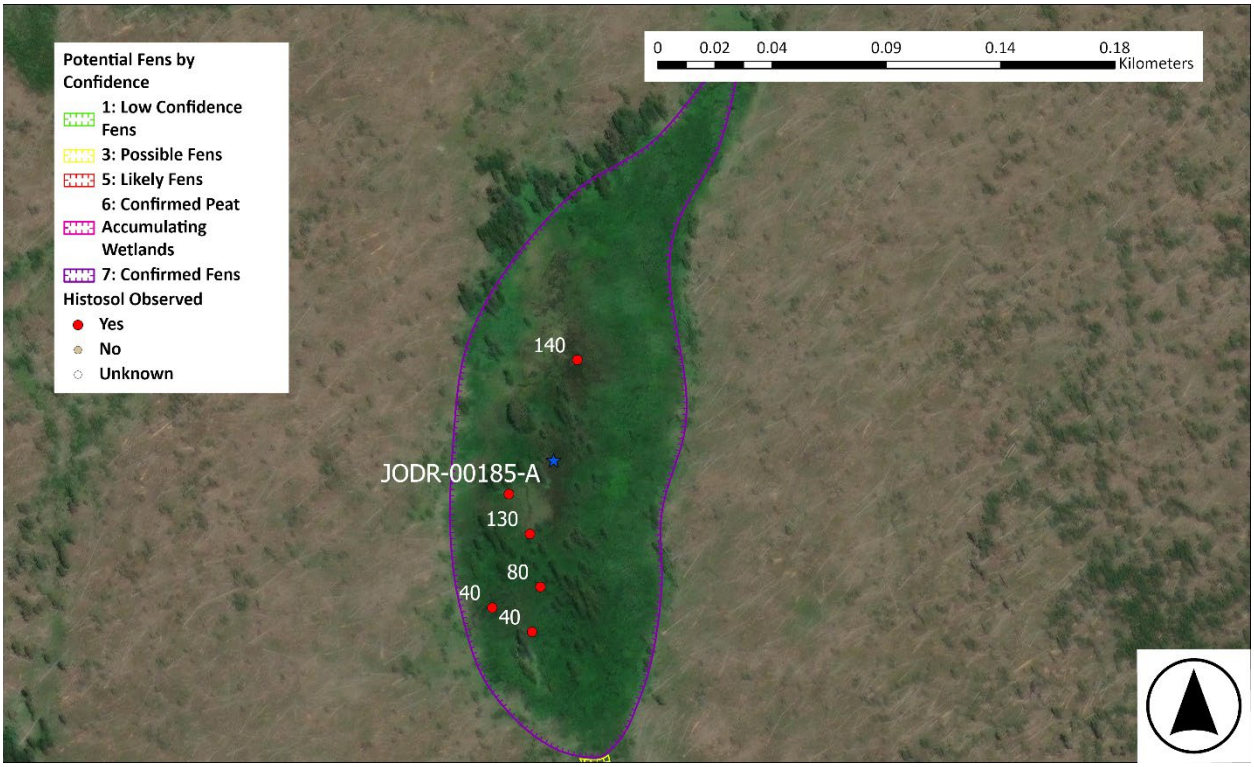


Figure 154. Aerial imagery of JODR-00185-A.

Table 76. Site characteristics of JODR-00185-A

Characteristic	Value
Latitude	44.104817
Longitude	-110.709566
Coordinate system	NAD83, UTM Zone 12
Elevation	2122 m (6962 ft)
Survey date	8/20/2023
Approximate peat depth	40 – 140 cm

Site Description

Lots of *Sphagnum* present. The understory mostly consists of mostly *Deschampsia cespitosa*, *Carex utriculata*, and *Muhlenbergia filiformis*. Woodies mostly include *Salix geyeriana*, *Salix planifolia*, *Betula glandulosa*, along with some *Pinus contorta*.

Survey Notes

Site appears untouched by humans.

Access Directions

Drive west along Grassy Lake Rd from Flagg Ranch approximately 6.13 km and park where the road widens, on the right. This spot will be a little past Grassy Lake Camp Spur 5. The hike into the site approximately 2 km as the crow flies, but hiking the burn scar is faster and easier, so total distance will be longer.

Table 77. Species list for JODR-00185-A

Scientific Name	Cover Class
Betula glandulosa	5:5-<10%
Carex utriculata	5:5-<10%
Muhlenbergia filiformis	5:5-<10%
Carex aquatilis	4:2¬-<5%
Deschampsia cespitosa	4:2¬-<5%
Salix geyeriana	4:2¬-<5%
Eriophorum scheuchzeri	3:1-<2%
Juncus ensifolius	3:1-<2%
Pedicularis groenlandica	3:1-<2%
Pinus contorta	3:1-<2%
Salix boothii	3:1-<2%
Salix planifolia	3:1-<2%
Vaccinium uliginosum	3:1-<2%
Antennaria parvifolia	2:<1%
Arctostaphylos uva-ursi	2:<1%
Carex echinata	2:<1%
Carex interior	2:<1%
Eriophorum angustifolium	2:<1%
Eriophorum chamissonis	2:<1%
Fragaria virginiana	2:<1%
Juncus brevicaudatus	2:<1%
Parnassia palustris	2:<1%
Spiranthes romanzoffiana	2:<1%

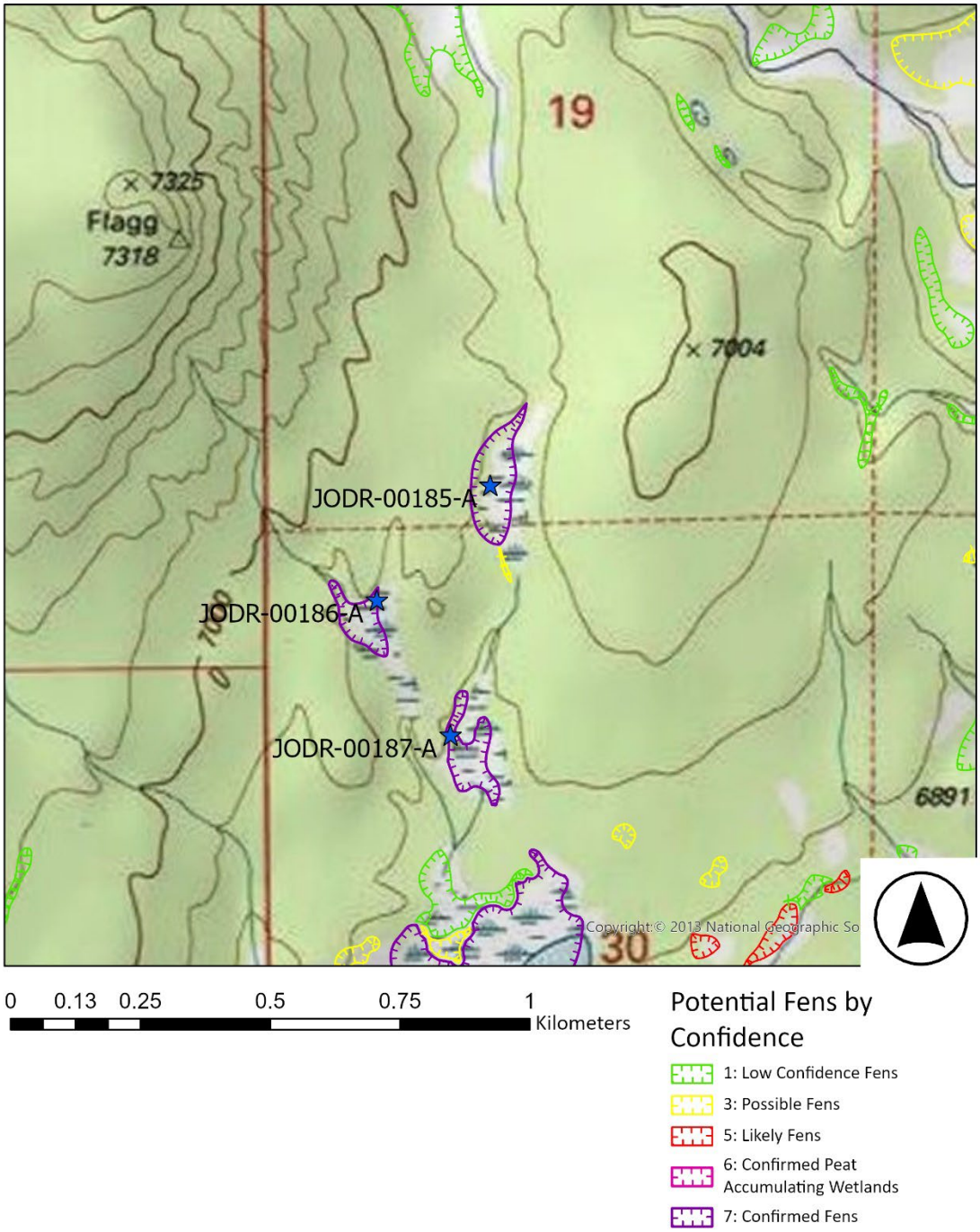


Figure 155. Location map of JODR-00185-A.

Fen Polygon: JODR-00186-A Southeast of Flagg Mountain

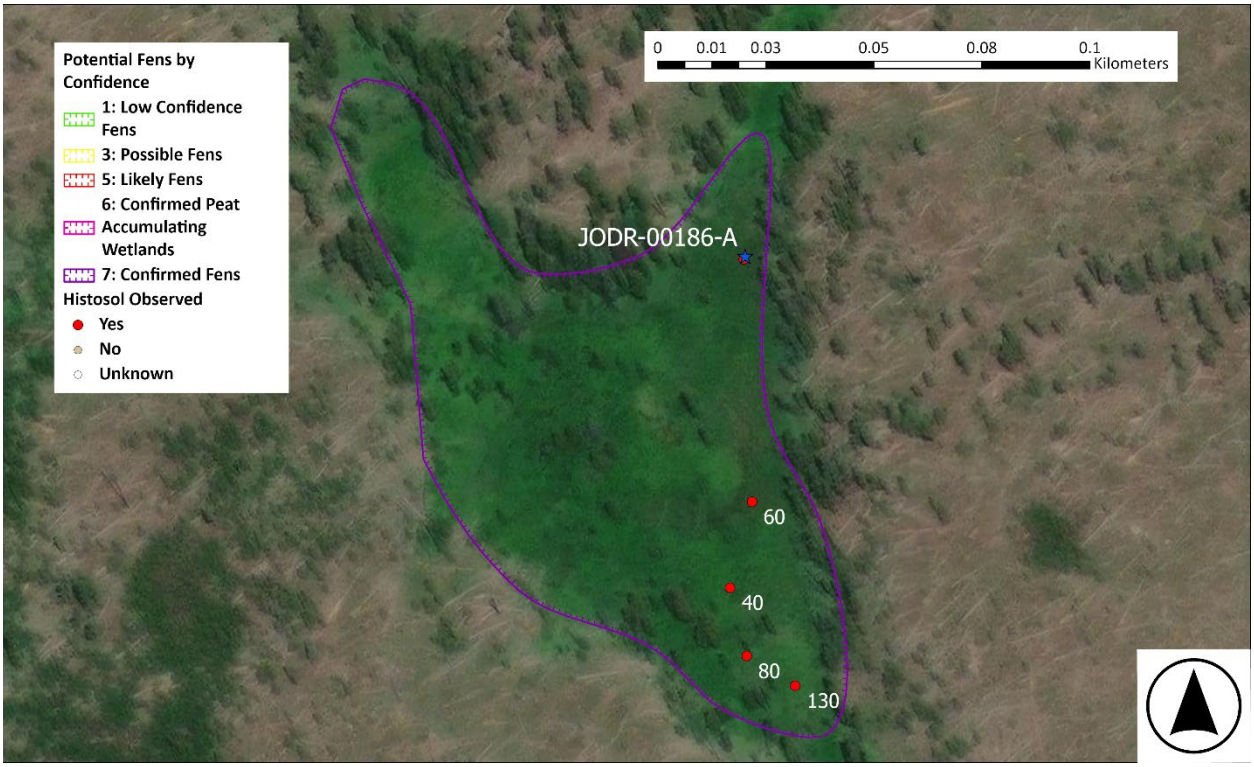


Figure 156. Aerial imagery of JODR-00186-A.

Table 78. Site characteristics of JODR-00186-A

Characteristic	Value
Latitude	44.102834
Longitude	-110.712303
Coordinate system	NAD83, UTM Zone 12
Elevation	2116 m (6942 ft)
Survey date	8/20/2023
Approximate peat depth	40 – 130 cm

Site Description

Lots of *Sphagnum*. Understory dominated by *Carex utriculata* and *Muhlenbergia filiformis*. Decent amount of *Deschampsia cespitosa* and *Calamagrostis canadensis* as well.

Survey Notes

Site appears untouched by humans.

Access Directions

Drive west along Grassy Lake Rd from Flagg Ranch approximately 6.13 km. Park on the right side of the road where the road widens, this spot will be a little past Grassy Lake Camp Spur 5. Hike in approximately 1.7 km as the crow flies to the site. Walking the burn scar is faster/easier, which will add more distance.

Table 79. Species list for JODR-00186-A

Scientific Name	Cover Class
Salix geyeriana	6:10-<25%
Carex utriculata	5:5-<10%
Deschampsia cespitosa	5:5-<10%
Muhlenbergia filiformis	5:5-<10%
Calamagrostis canadensis	4:2¬-<5%
Pinus contorta	4:2¬-<5%
Salix planifolia	4:2¬-<5%
Betula glandulosa	3:1-<2%
Carex aquatilis	3:1-<2%
Juncus ensifolius	3:1-<2%
Salix boothii	3:1-<2%
Gentianopsis	2:<1%
Pedicularis groenlandica	2:<1%
Senecio	2:<1%
Spiranthes romanzoffiana	2:<1%
Symphyotrichum	2:<1%

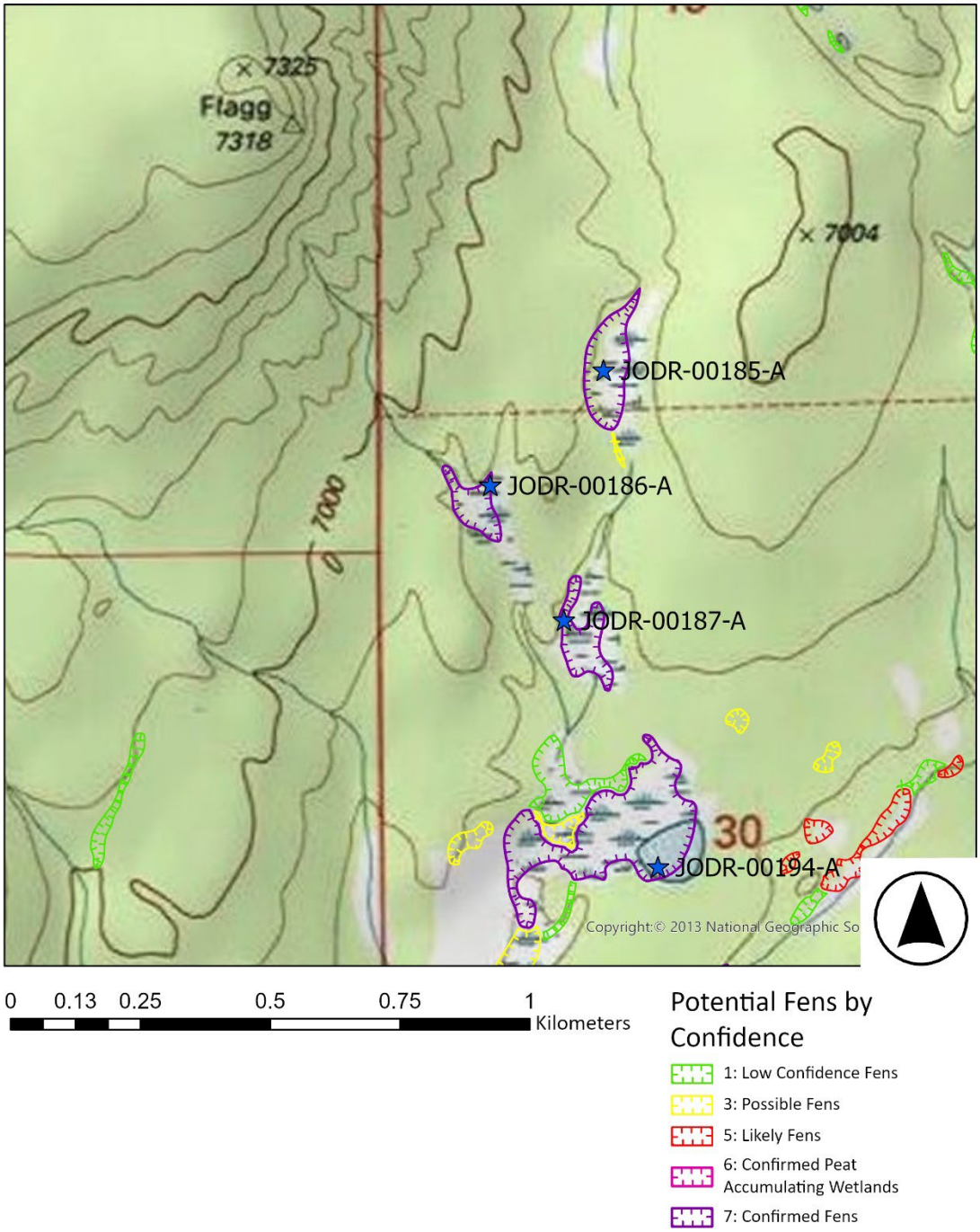


Figure 157. Location map of JODR-00186-A.

Fen Polygon: JODR-00187-A Southeast of Flagg Mountain

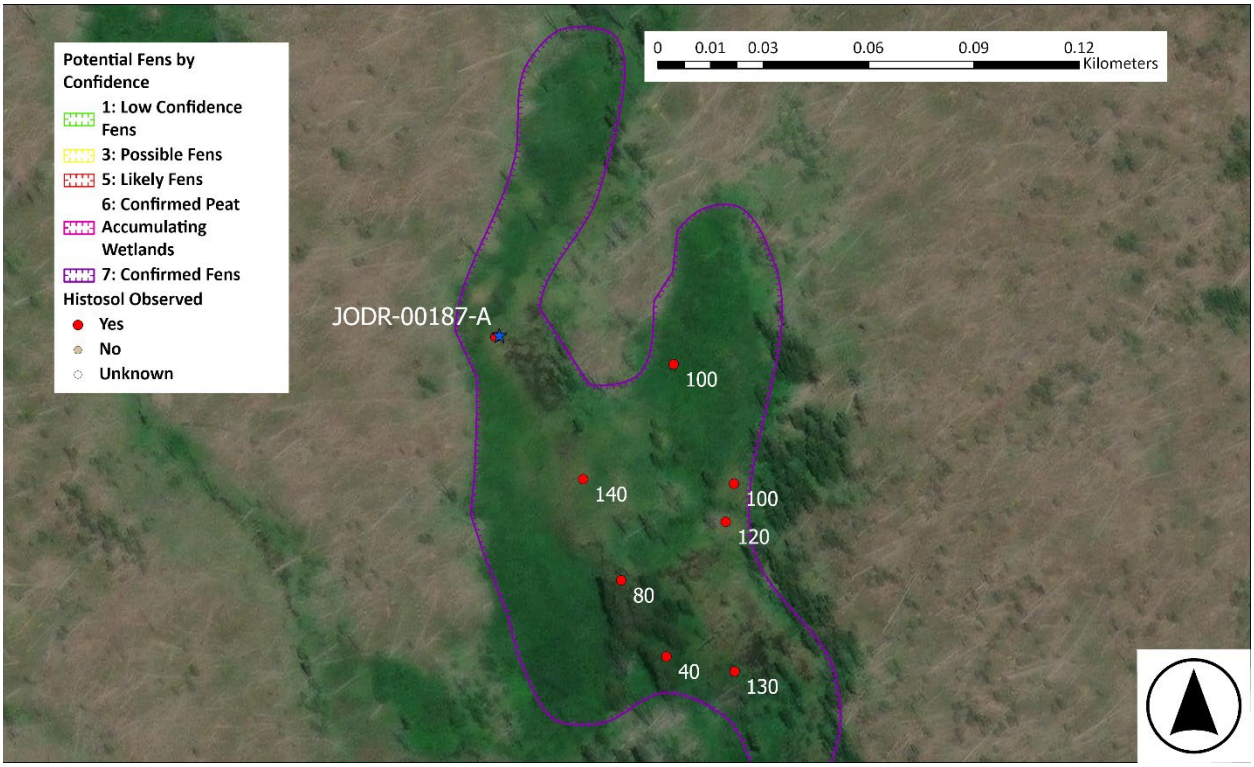


Figure 158. Aerial imagery of JODR-00187-A.

Table 80. Site characteristics of JODR-00187-A

Characteristic	Value
Latitude	44.100493
Longitude	-110.710543
Coordinate system	NAD83, UTM Zone 12
Elevation	2109 m (6919 ft)
Survey date	8/20/2023
Approximate peat depth	40 – 140 cm

Site Description

Plants are dominated by *Carex utriculta* and *Salix geyeriana*. There is also a decent amount of *Pinus contorta* present. Additionally, there is lots of Sphagnum.

Survey Notes

Site untouched by humans. Some minor herbivory on willows.

Access Directions

Drive west along Grassy Lake Rd from Flagg Ranch for approximately 6.13 km. Park along the road on the right on a slight pull-off. This spot will be a little past Grassy Lake Camp Spur 5. Hike in approximately 1.4 km (as the crow flies) from the parking spot. It's easier walking to travel via the burn scar, so total distance to the site will be more than 1.4 km.

Table 81. Species list for JODR-00187-A

Scientific Name	Cover Class
Carex utriculata	6:10-<25%
Salix geyeriana	6:10-<25%
Muhlenbergia filiformis	5:5-<10%
Betula glandulosa	4:2¬-<5%
Carex aquatilis	4:2¬-<5%
Juncus ensifolius	4:2¬-<5%
Salix boothii	4:2¬-<5%
Vaccinium uliginosum	4:2¬-<5%
Antennaria parvifolia	3:1-<2%
Asteraceae	3:1-<2%
Eriophorum gracile	3:1-<2%
Eriophorum scheuchzeri	3:1-<2%
Fragaria virginiana	3:1-<2%
Pinus contorta	3:1-<2%
Apiaceae	2:<1%
Eriophorum chamissonis	2:<1%
Gentianopsis thermalis	2:<1%
Picea pungens	2:<1%
Poaceae	2:<1%
Spiranthes romanzoffiana	2:<1%

Table 82. Water quality measurements taken in JODR-00187-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	10	7.8	6.50	38	None

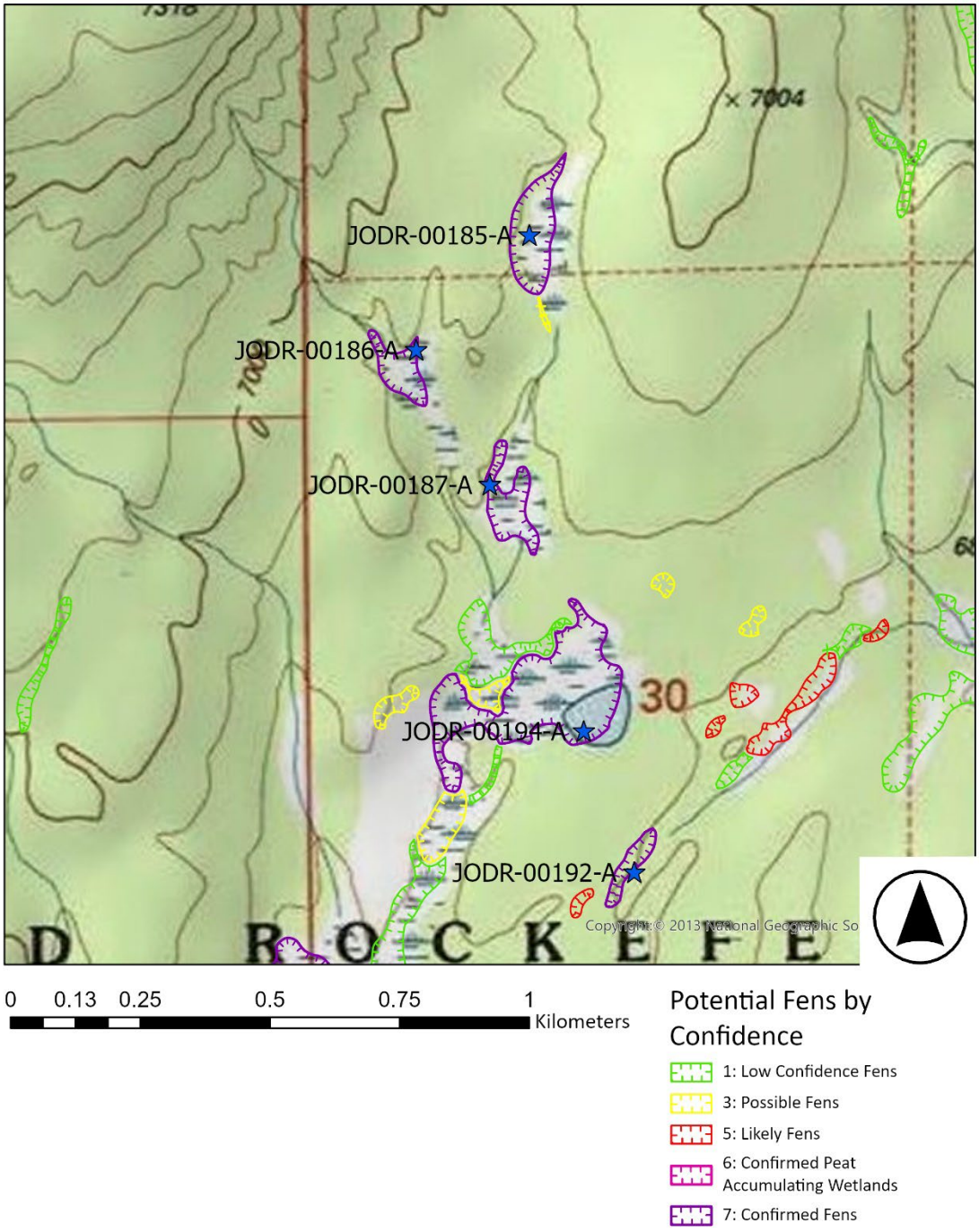


Figure 159. Location map of JODR-00187-A.

Fen Polygon: JODR-00192-A Southeast of Flagg Mountain

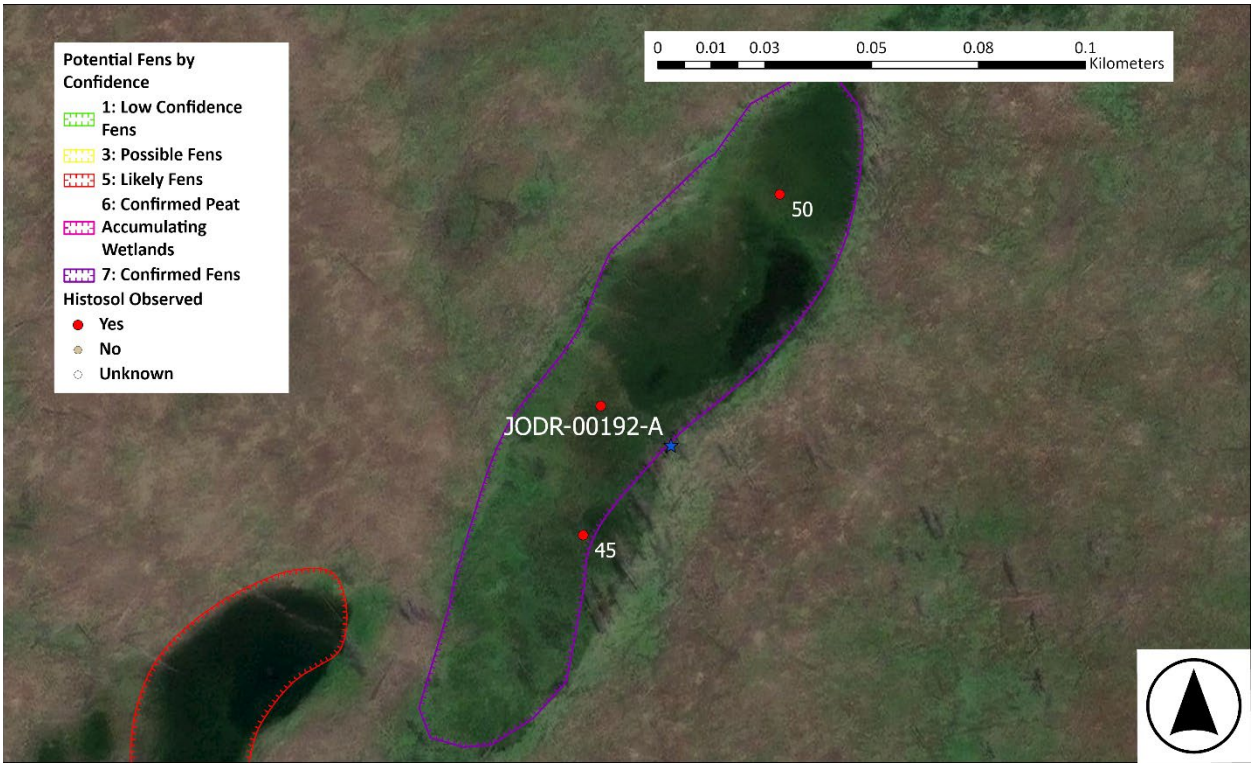


Figure 160. Aerial imagery of JODR-00192-A.

Table 83. Site characteristics of JODR-00192-A

Characteristic	Value
Latitude	44.093762
Longitude	-110.707096
Coordinate system	NAD83, UTM Zone 12
Elevation	2101 m (6893 ft)
Survey date	8/20/2023
Approximate peat depth	45 – 60 cm

Site Description

Mostly *Carex lasiocarpa*, *Carex utriculata*, and *Carex vesicaria*. Surrounded by *Salix geyeriana*. *Callitrichae* present too, unknown, <1%. The site is a basin fen with low water levels.

Survey Notes

The site appears largely untouched.

Access Directions

Drive west along Grassy Lake Rd from Flagg Ranch for approximately 6.13 km. Park on the right side of the road where it widens. This will be just a little past Grassy Lake Camp Spur 5. Hike in approximately 850 m as the crow flies, but hiking the burn scar is faster and easier, though it will be a longer distance.

Table 84. Species list for JODR-00192-A

Scientific Name	Cover Class
Carex lasiocarpa	6:10-<25%
Carex utriculata	5:5-<10%
Carex buxbaumii	4:2¬-<5%
Carex vesicaria	4:2¬-<5%
Salix geyeriana	4:2¬-<5%
Agrostis scabra	3:1-<2%
Deschampsia cespitosa	3:1-<2%
Eleocharis palustris	3:1-<2%
Juncus torreyi	3:1-<2%
Salix boothii	3:1-<2%
Carex canescens	2:<1%
Carex echinata	2:<1%
Epilobium	2:<1%
Eriophorum angustifolium	2:<1%
Galium trifidum	2:<1%
Geum macrophyllum	2:<1%
Hippuris vulgaris	2:<1%
Parnassia palustris	2:<1%
Pedicularis groenlandica	2:<1%
Sagittaria latifolia	2:<1%
Scutellaria galericulata	2:<1%
Sparganium natans	2:<1%
Callitrichae	2:<1%

Table 85. Water quality measurements taken in JODR-00192-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	40	15.2	5.86	31	Measurements taken in a small pool of water with *Sparganium natans*, *Hipparus vulgaris*, and *Sagittaria latifolia*.

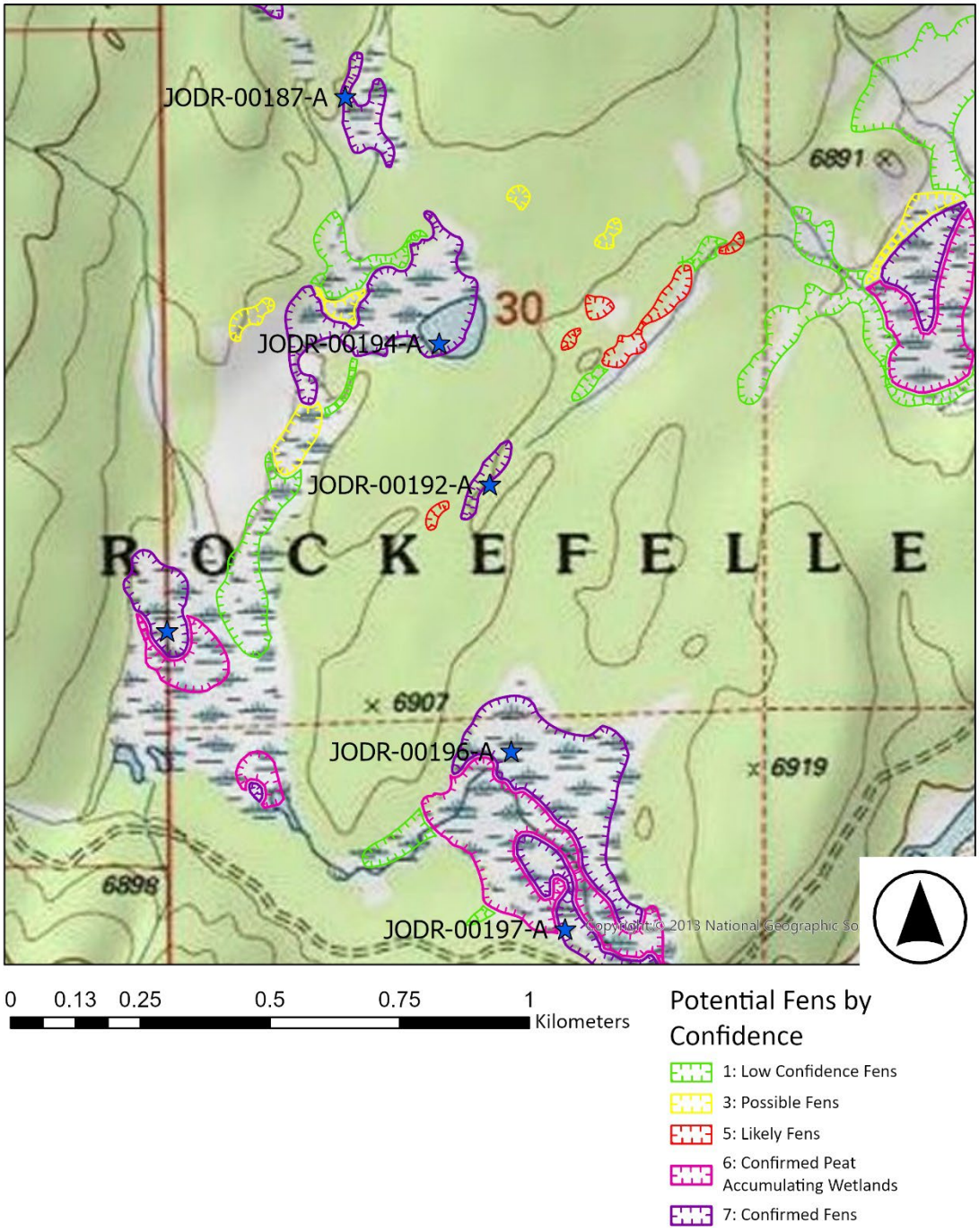


Figure 161. Location map of JODR-00192-A.



Figure 162. Site landscape.



Figure 163. *Sparganium natans* in a small pool.

Fen Polygon: JODR-00194-A Southeast of Flagg Mountain

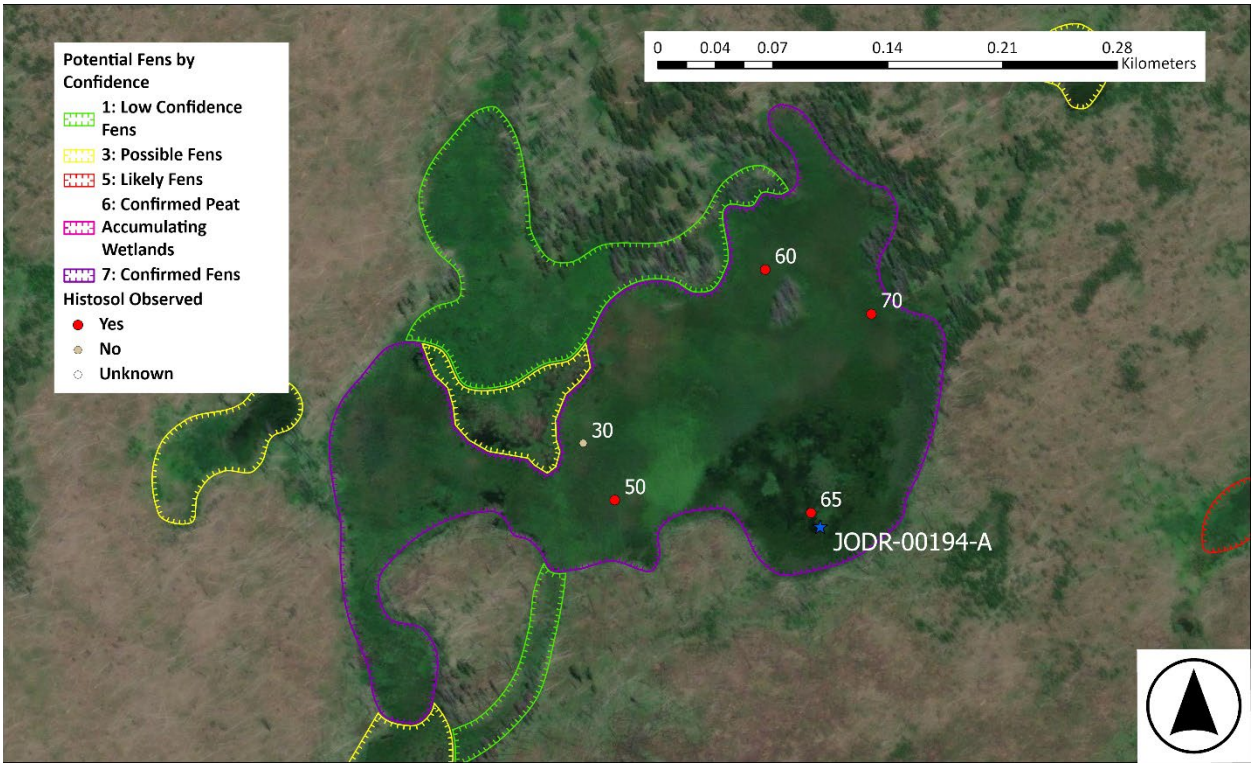


Figure 164. Aerial imagery of JODR-00194-A.

Table 86. Site characteristics of JODR-00194-A

Characteristic	Value
Latitude	44.101208
Longitude	-110.726693
Coordinate system	NAD83, UTM Zone 12
Elevation	2103 m (6900 ft)
Survey date	8/20/2023
Approximate peat depth	30 – 70 cm

Site Description

Mostly dominated by *Carex utriculata* and *Carex aquatilis*. Surrounded by *Salix geyeriana*. Additionally, the site has some *Salix planifolia* throughout as well. The site is a basin fen. Some standing water is present, along with a small open pocket of water.

Survey Notes

The site generally appears untouched by humans. Surrounded by burn scar, some downed trees through outer areas of the site. Several areas where animals have bedded down. Minor herbivory on some willows.

Access Directions

Drive west on Grassy Lake Rd from Flagg Ranch approximately 6.13 km to pull-off on right side of the road. This spot will be just a bit past Grassy Lake Camp Spur 5. The site is approximately 1 km from the parking spot, as the crow flies, but walking the burn scar is easier, which will be more distance. Many downed trees from the fire, but not too challenging to get over.

Table 87. Species list for JODR-00194-A

Scientific Name	Cover Class
Carex utriculata	6:10-<25%
Carex aquatilis	5:5-<10%
Carex vesicaria	5:5-<10%
Eleocharis palustris	4:2¬-<5%
Salix geyeriana	4:2¬-<5%
Salix planifolia	4:2¬-<5%
Calamagrostis stricta	3:1-<2%
Carex canescens	3:1-<2%
Deschampsia cespitosa	3:1-<2%
Senecio hydrophilus	3:1-<2%
Asteraceae	2:<1%
Galium trifidum	2:<1%
Glyceria borealis	2:<1%
Hippuris vulgaris	2:<1%
Pedicularis groenlandica	2:<1%
Scutellaria galericulata	2:<1%

Table 88. Water quality measurements taken in JODR-00194-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Pool or pond	40	14.9	5.95	35	None

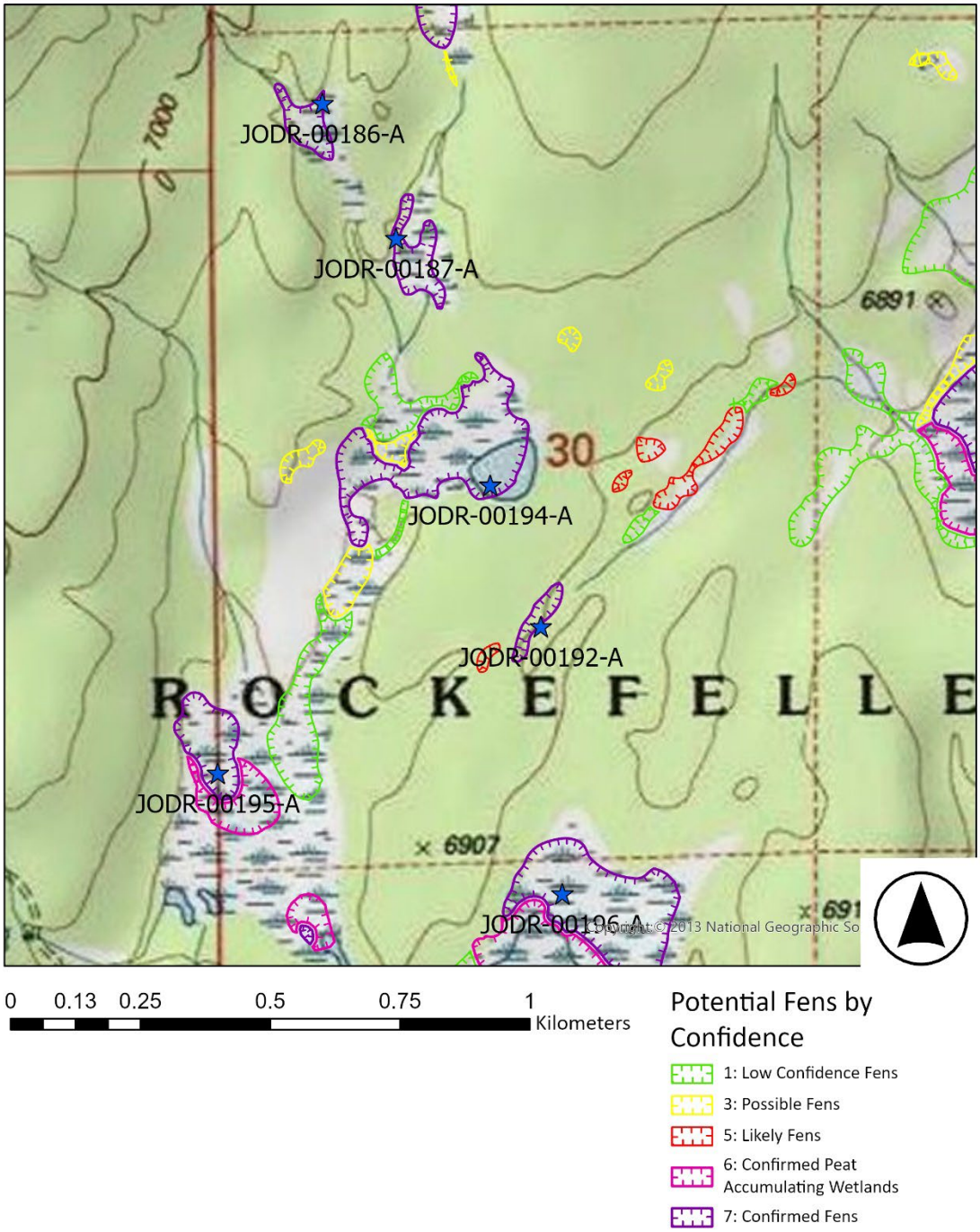


Figure 165. Location map of JODR-00194-A.

Fen Polygon: JODR-00195-A Southwest of Huckleberry Hot Springs

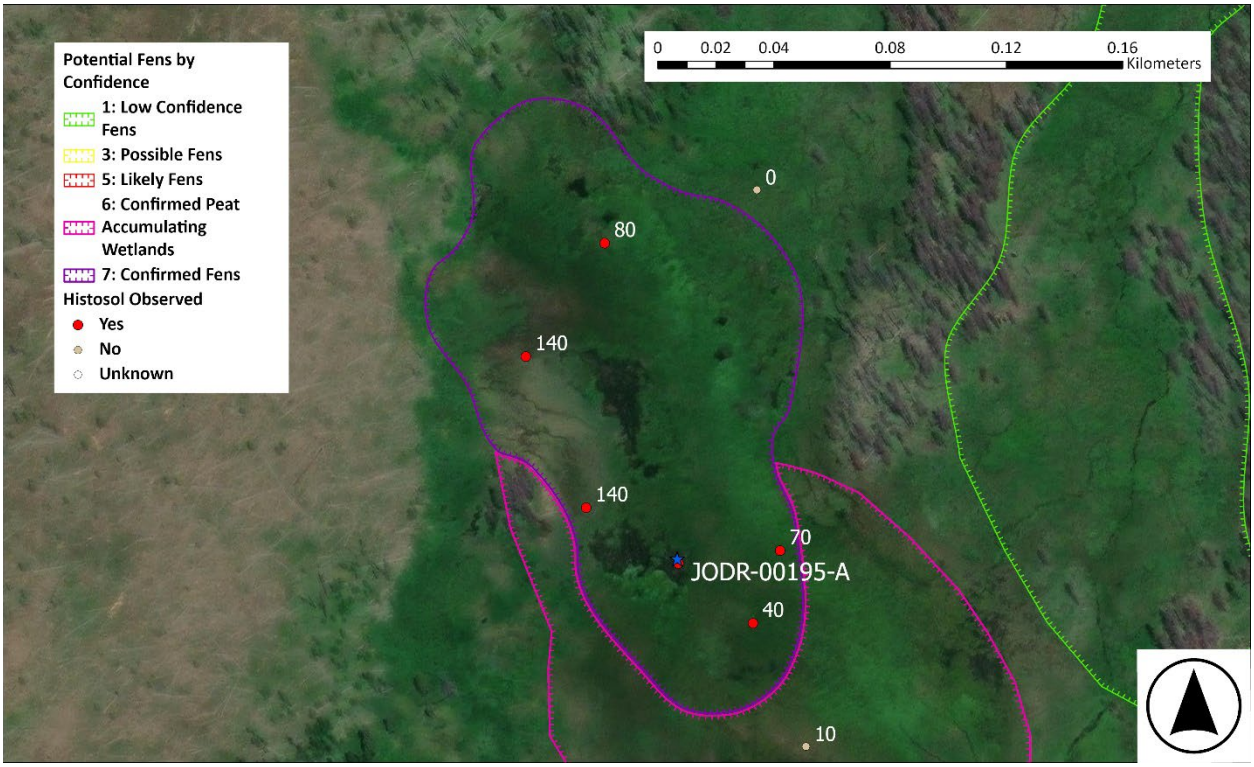


Figure 166. Aerial imagery of JODR-00195-A.

Table 89. Site characteristics of JODR-00195-A

Characteristic	Value
Latitude	44.091244
Longitude	-110.714879
Coordinate system	NAD83, UTM Zone 12
Elevation	2103 m (6896 ft)
Survey date	8/7/2023
Approximate peat depth	40 – 140 cm

Site Description

Lots of *Carex lasiocarpa*, *Carex utriculata* and *Carex canescens* present within the site. Some *Salix planifolia* and *Salix geyeriana* are present on the margins. Some obvious signs of herbivory. Possibility of beaver action. Soils are deep peat. Not much by way of water, some areas dryer than others, which seems odd since it's rained a lot recently.

Survey Notes

Site generally untouched by humans. Some signs of herbivory.

Access Directions

From Flagg Ranch, drive west along Grassy Lake Rd headed west. Drive approximately 6.25 km to the edge of site and pull off where road widens. Hike in from there, approximately 425 m to site.

Table 90. Species list for JODR-00195-A

Scientific Name	Cover Class
Carex lasiocarpa	5:5-<10%
Carex utriculata	5:5-<10%
Carex vesicaria	5:5-<10%
Betula glandulosa	4:2¬-<5%
Carex buxbaumii	4:2¬-<5%
Carex canescens	4:2¬-<5%
Pedicularis groenlandica	4:2¬-<5%
Poaceae	4:2¬-<5%
Senecio hydrophilus	4:2¬-<5%
Agrostis scabra	3:1-<2%
Carex livida	3:1-<2%
Carex simulata	3:1-<2%
Eleocharis palustris	3:1-<2%
Pinus contorta	3:1-<2%
Salix geyeriana	3:1-<2%
Salix planifolia	3:1-<2%
Asteraceae	2:<1%
Drosera anglica	2:<1%
Eriophorum chamissonis	2:<1%
Spiranthes romanzoffiana	2:<1%

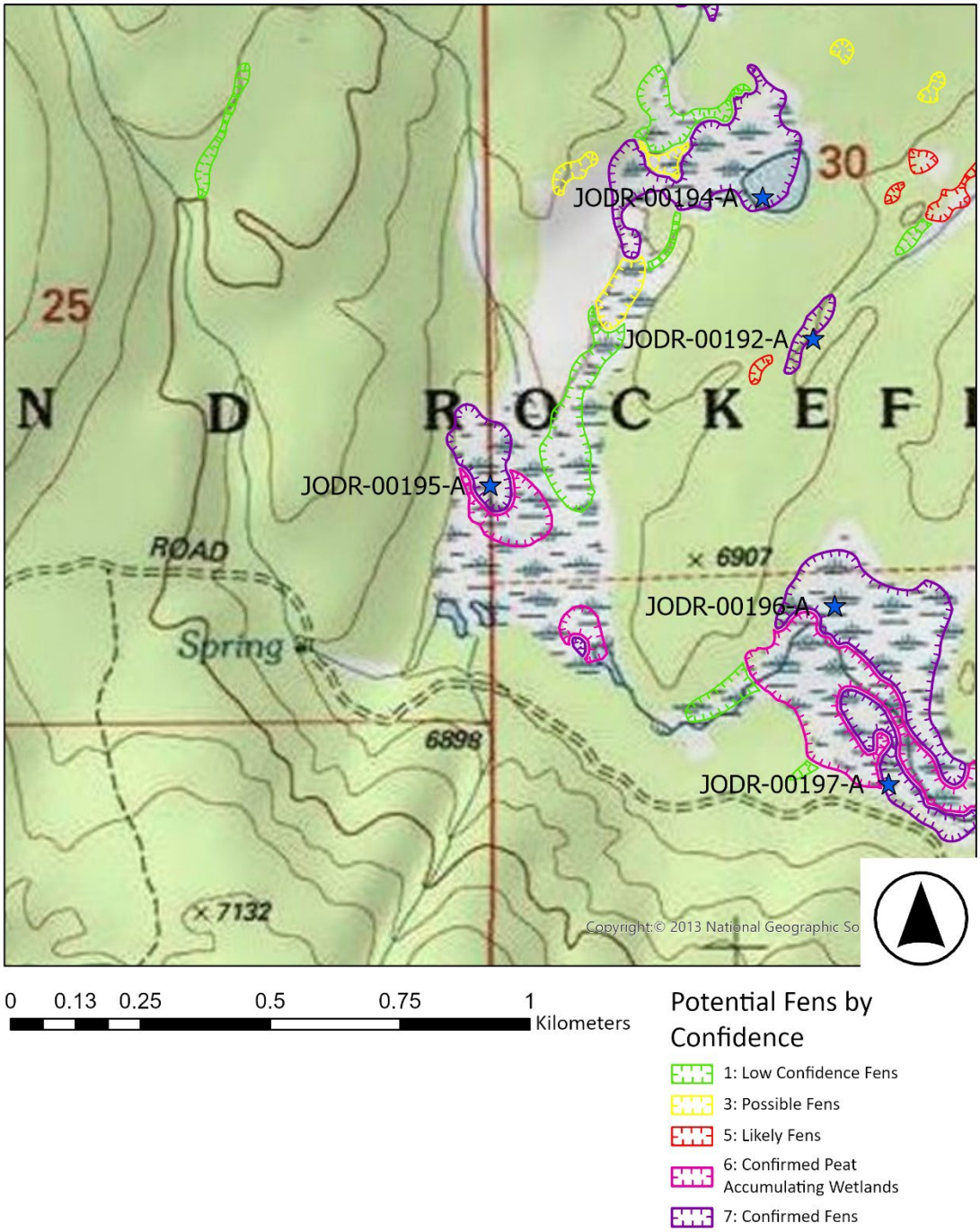


Figure 167. Location map of JODR-00195-A.



Figure 168. Site landscape with some shrubs mixed in with the dominant sedges.



Figure 169. Small depression of bare soil surrounded by sedge communities.



Figure 170. *Drosera anglica*.

Fen Polygon: JODR-00196-A Northeast of Camp Spur #5

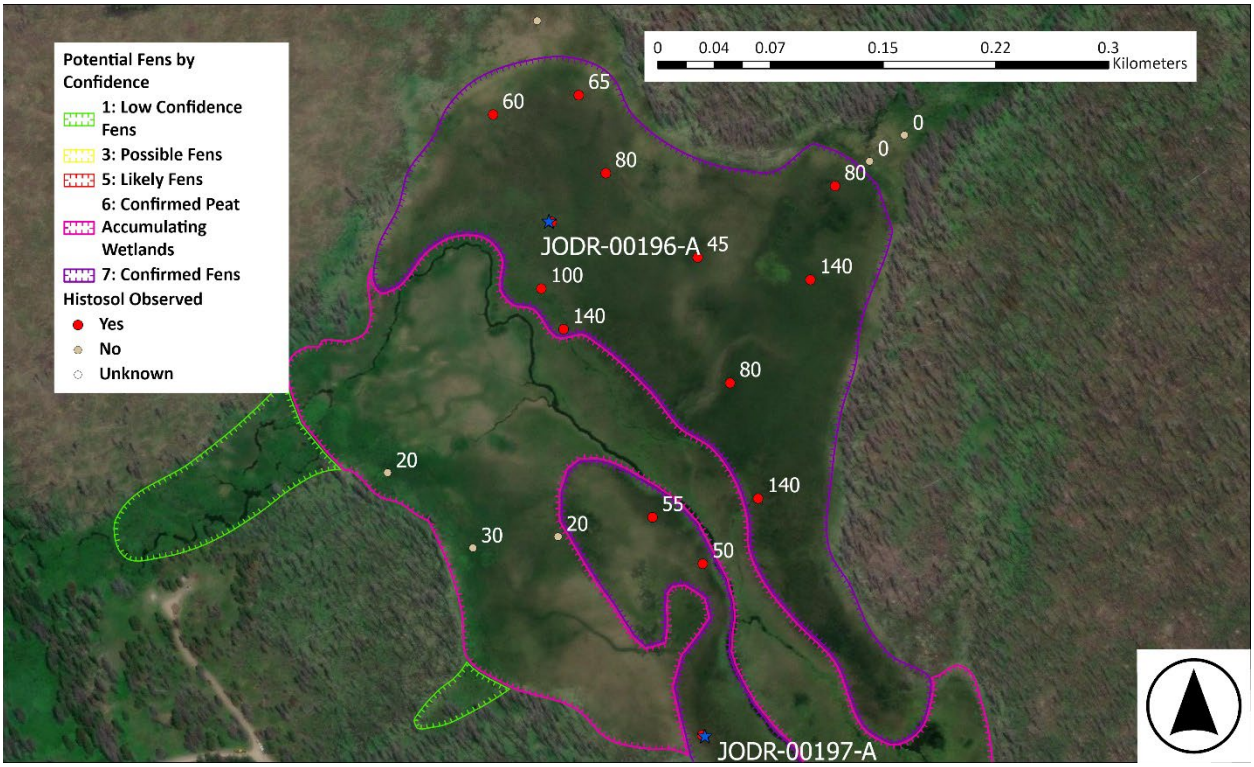


Figure 171. Aerial imagery of JODR-00196-A.

Table 91. Site characteristics of JODR-00196-A

Characteristic	Value
Latitude	44.089136
Longitude	-110.706600
Coordinate system	NAD83, UTM Zone 12
Elevation	2099 m (6886 ft)
Survey date	8/4/2023
Approximate peat depth	45 – 140 cm

Site Description

Largely dominated by *Carex lasiocarpa*. Some *Carex aquatilis* and *Carex utriculata* as well. Some areas of mapped polygon were not fen. Site is a basin. Water levels vary. Very deep peat according to the tile probe, but not confirmed by actually seeing the soil.

Survey Notes

Herbivory on willows in the site, clear bedding down, likely from elk.

Access Directions

From Flagg Ranch area, drive west along Grassy Lake Rd approximately 5.11 km and park where the road widens to a bit of a pull-off. Hike into site, trying to avoid the channel by backtracking on the road about 60 m from the parking spot, and hiking into the site on the east side of the channels and pool, hiking approximately 230 m.

Table 92. Species list for JODR-00196-A

Scientific Name	Cover Class
Carex lasiocarpa	8:50-<75%
Calamagrostis stricta	4:2¬-<5%
Carex aquatilis	4:2¬-<5%
Carex utriculata	4:2¬-<5%
Salix planifolia	3:1-<2%
Galium trifidum	2:<1%
Populus tremuloides	2:<1%
Salix boothii	2:<1%
Senecio hydrophilus	2:<1%

Table 93. Water quality measurements taken in JODR-00196-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water		14.9	5.95	35	Measurements taken in shallow standing water in *Carex lasiocarpa*.

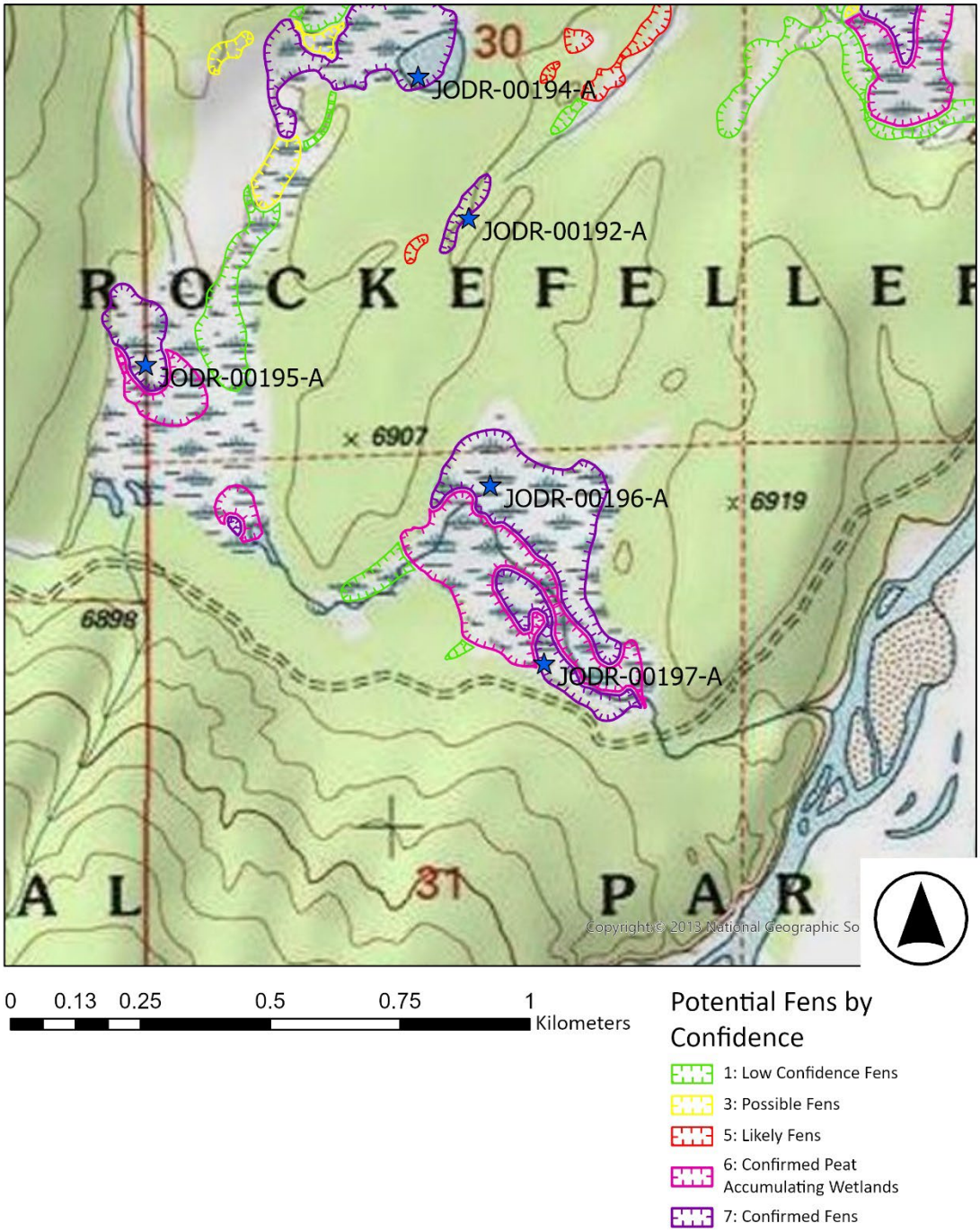


Figure 172. Location map of JODR-00196-A.



Figure 173. Looking into the fen from an adjacent site which did not have 40+ cm of peat.



Figure 174. Sedges appear to be down as a result of wildlife bedding down here.



Figure 175. Site landscape.

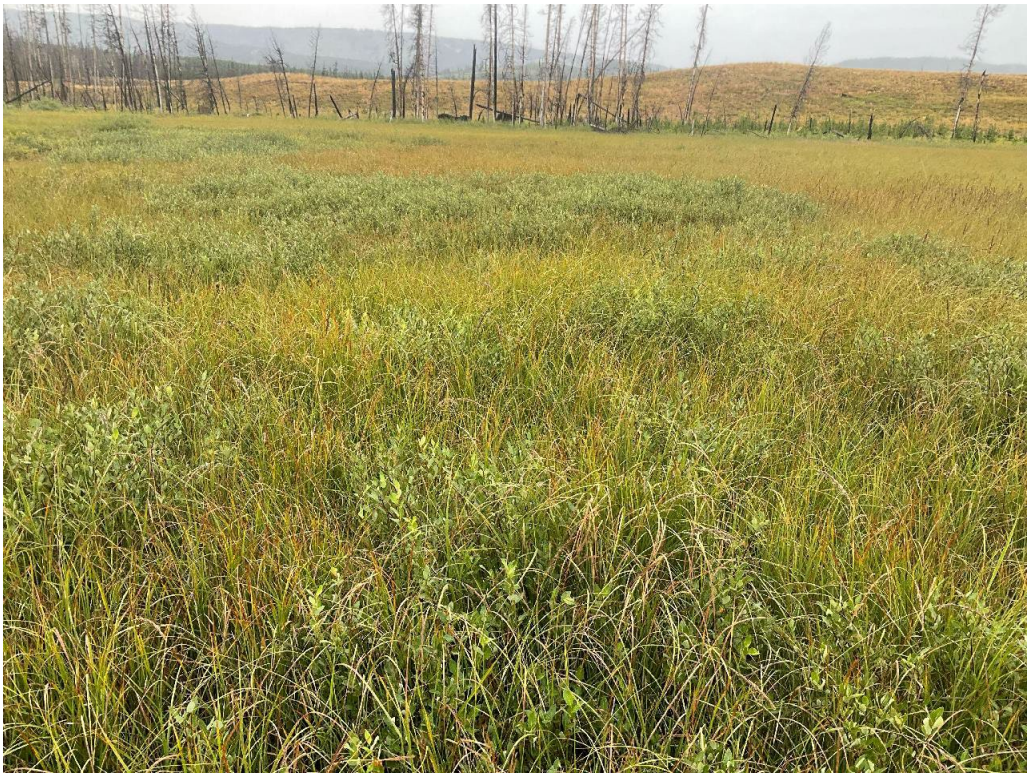


Figure 176. Some low *Salix planifolia* mixed in with *Carex lasiocarpa*.

Fen Polygon: JODR-00197-A Northeast of Camp Spur #5

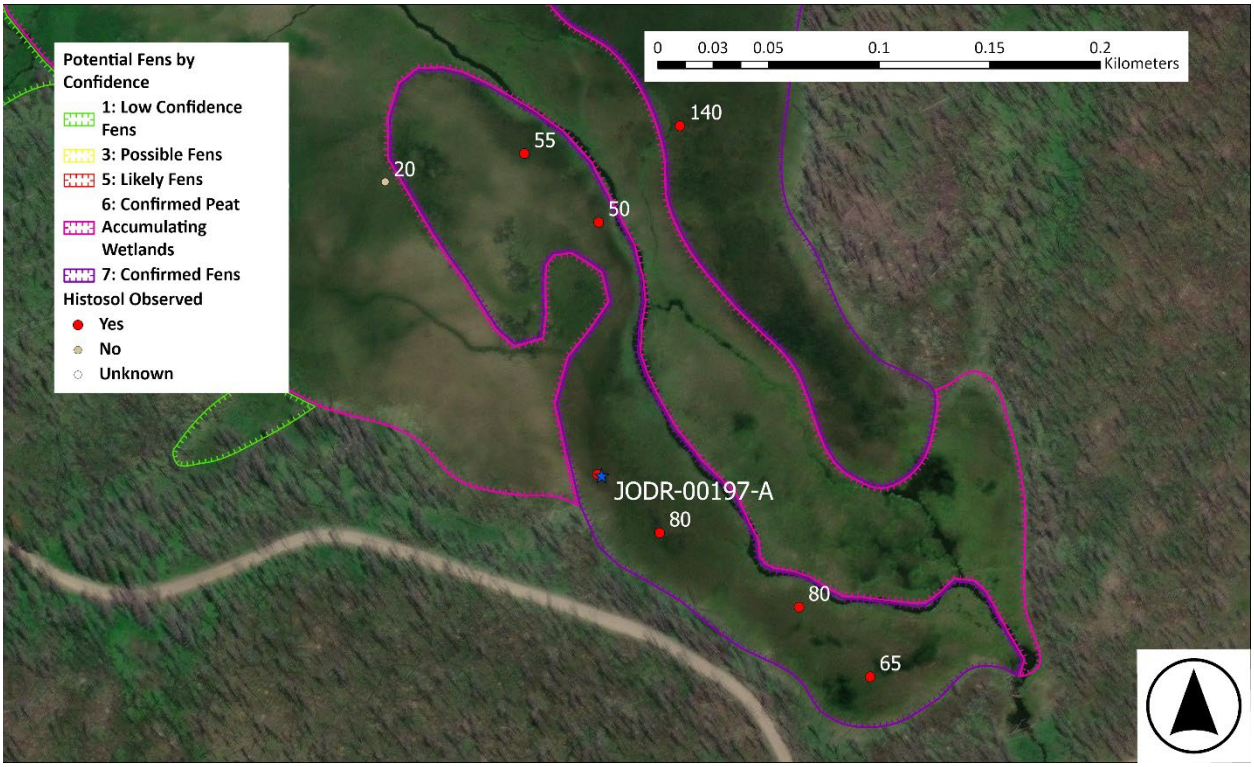


Figure 177. Aerial imagery of JODR-00197-A.

Table 94. Site characteristics of JODR-00197-A

Characteristic	Value
Latitude	44.089136
Longitude	-110.706600
Coordinate system	NAD83, UTM Zone 12
Elevation	2099 m (6886 ft)
Survey date	8/4/2023
Approximate peat depth	45 – 140 cm

Site Description

Almost entirely dominated by *Carex utriculata* and *Carex lasiocarpa*, in different areas of the polygon. The site is a basin fen. Water levels variable, some areas at ankles others above knees. Several channels cut through the site that appear too deep to easily cross.

Survey Notes

Site appears untouched by humans, though there are clear signs of browsing on many of the willows.

Access Directions

From Flagg Ranch area, drive approximately 5.11 km along Grassy Lake Rd. Park in area where the road widens into a bit of a pull-off. Then hike into the site, approximately 70 m.

Table 95. Species list for JODR-00197-A

Scientific Name	Cover Class
Carex utriculata	9:75-<95%
Carex lasiocarpa	5:5-<10%
Carex aquatilis	4:2¬-<5%
Salix geyeriana	3:1-<2%
Polygonum amphibium	2:<1%
Scutellaria galericulata	2:<1%
Galium trifidum	1:trace

Table 96. Water quality measurements taken in JODR-00197-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Channel	100	12.3	6.57	59	Water is likely deeper than 1 meter

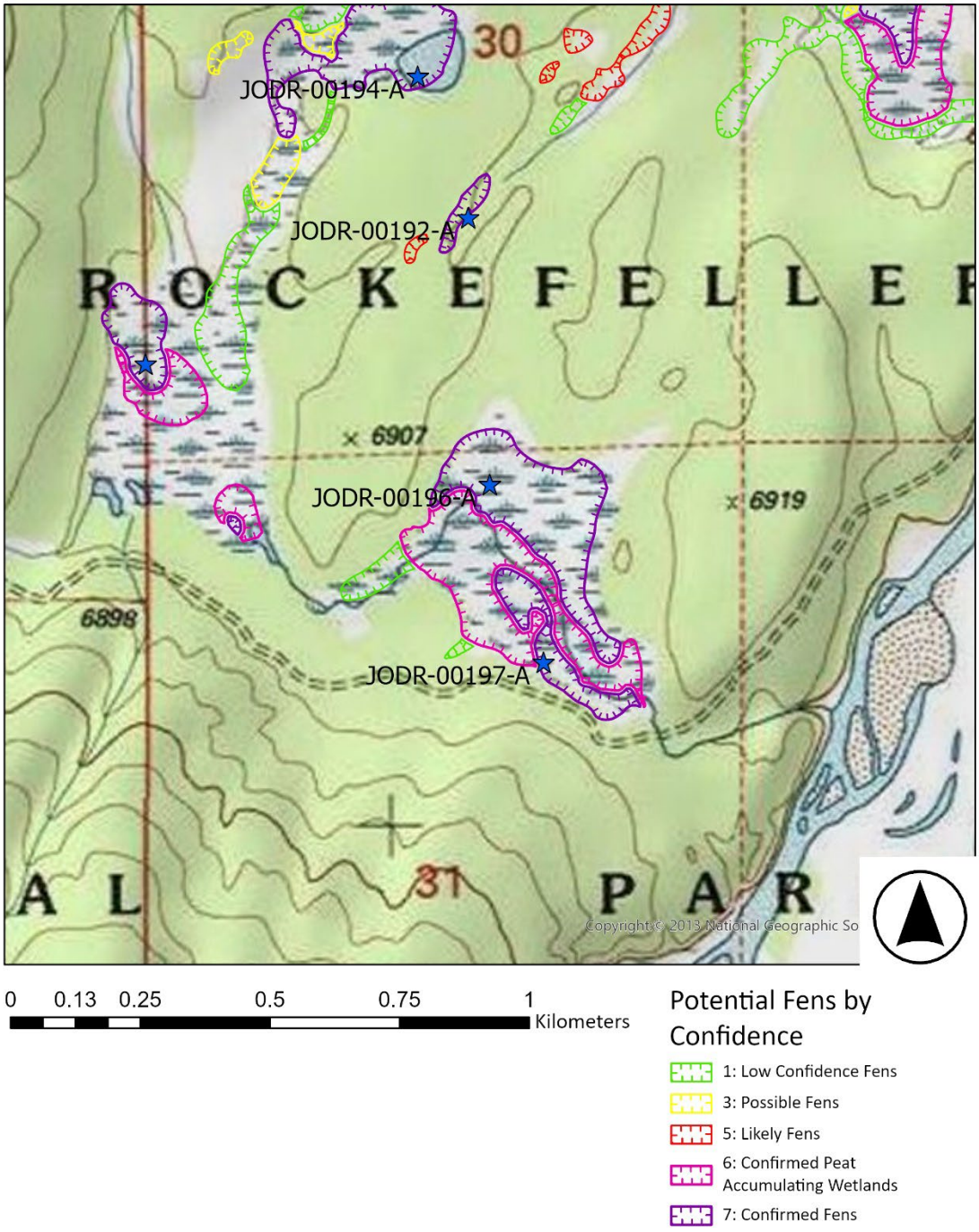


Figure 178. Location map of JODR-00197-A.



Figure 179. The site is largely composed of *Carex utriculata* with some *Carex lasiocarpa*.



Figure 180. Deep and occasionally wide channels cut through the site.

Fen Polygon: JODR-00839-A Southwest of Huckleberry Hot Springs



Figure 181. Aerial imagery of JODR-00839-A.

Table 97. Site characteristics of JODR-00839-A

Characteristic	Value
Latitude	44.105824
Longitude	-110.668350
Coordinate system	NAD83, UTM Zone 12
Elevation	2091 m (6860 ft)
Survey date	8/6/2023
Approximate peat depth	62 – 140 cm

Site Description

Largely *Eleocharis quinqueflora* and *Eleocharis palustris*. Lots of *Schoenoplectus acutus* as well. Some parts of polygon appear more prairie/wet meadow than fen. Differences in topography with different veg - some floaty. Soil pokes very deep generally. Very smelly.

Survey Notes

Appears untouched by humans. No obvious signs of herbivory.

Access Directions

Drive approximately 3.11 km along Grassy Lake Rd and park on a pull-off there. From there, hike about 45 m to site.

Table 98. Species list for JODR-00839-A

Scientific Name	Cover Class
Carex simulata	6:10-<25%
Eleocharis quinqueflora	6:10-<25%
Eleocharis palustris	5:5-<10%
Schoenoplectus acutus	5:5-<10%
Carex aquatilis	4:2¬-<5%
Typha latifolia	4:2¬-<5%
Carex cusickii	3:1-<2%
Carex nebrascensis	3:1-<2%
Pedicularis groenlandica	3:1-<2%
Poa pratensis	3:1-<2%
Solidago canadensis	3:1-<2%
Carex pellita	2:<1%
Carex simulata	2:<1%
Spiranthes romanzoffiana	2:<1%
Triglochin maritima	2:<1%
Utricularia minor	2:<1%

Table 99. Water quality measurements taken in JODR-00839-A

Number	Water Type	Depth (cm)	Temp (°C)	pH	Spec Cond (µS)	Comments
1	Shallow standing water	100	20.3	6.16	727	Measurement taken in a floating mat.

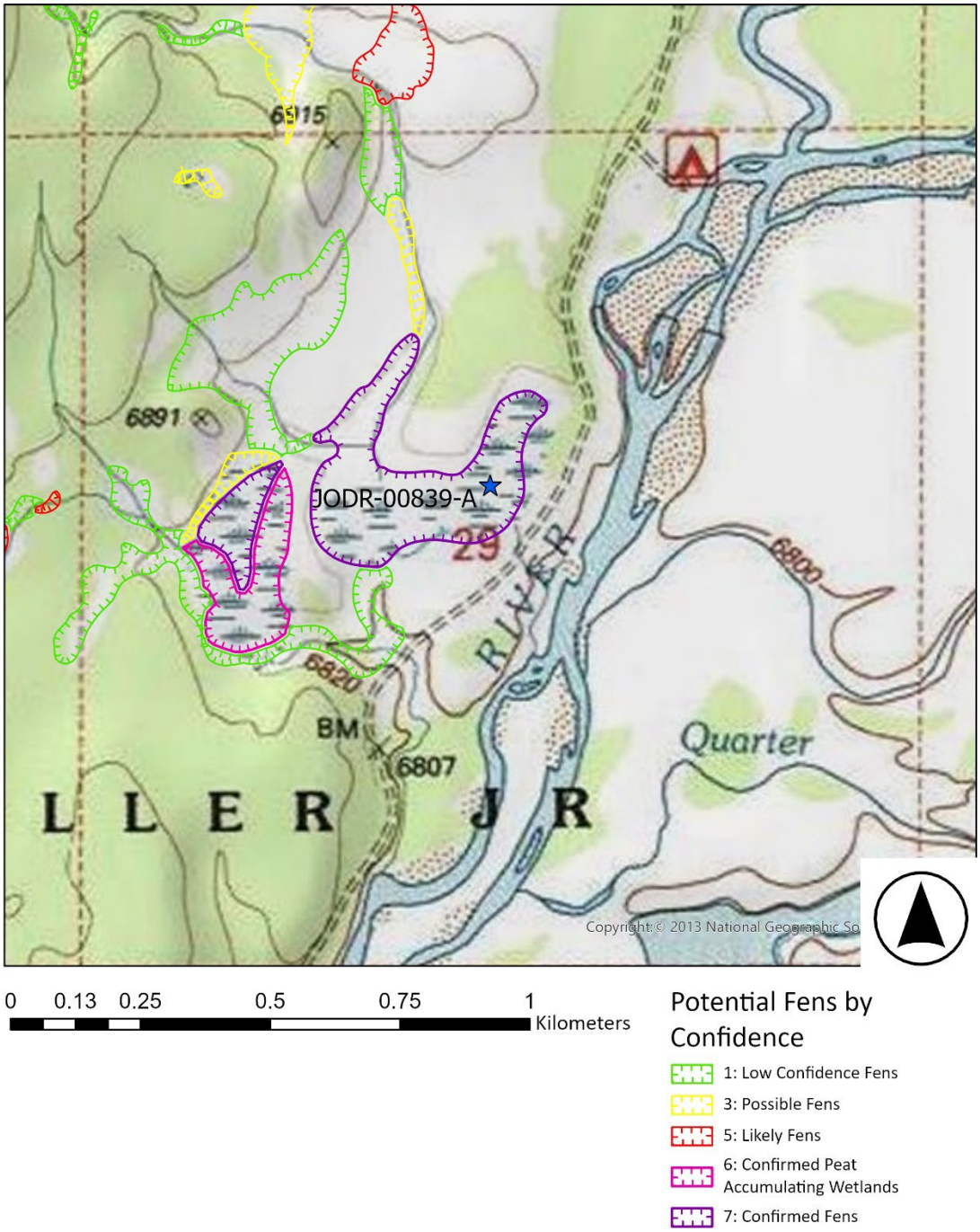


Figure 182. Location map of JODR-00839-A.



Figure 183. Distinct vegetation changes within the site. Some spots are bouncy.



Figure 184. Some areas with bare soil and leaf litter.



Figure 185. Clumps of *Carex cusickii* in water with a very mucky bottom. Soils here have a very distinct smell and color.