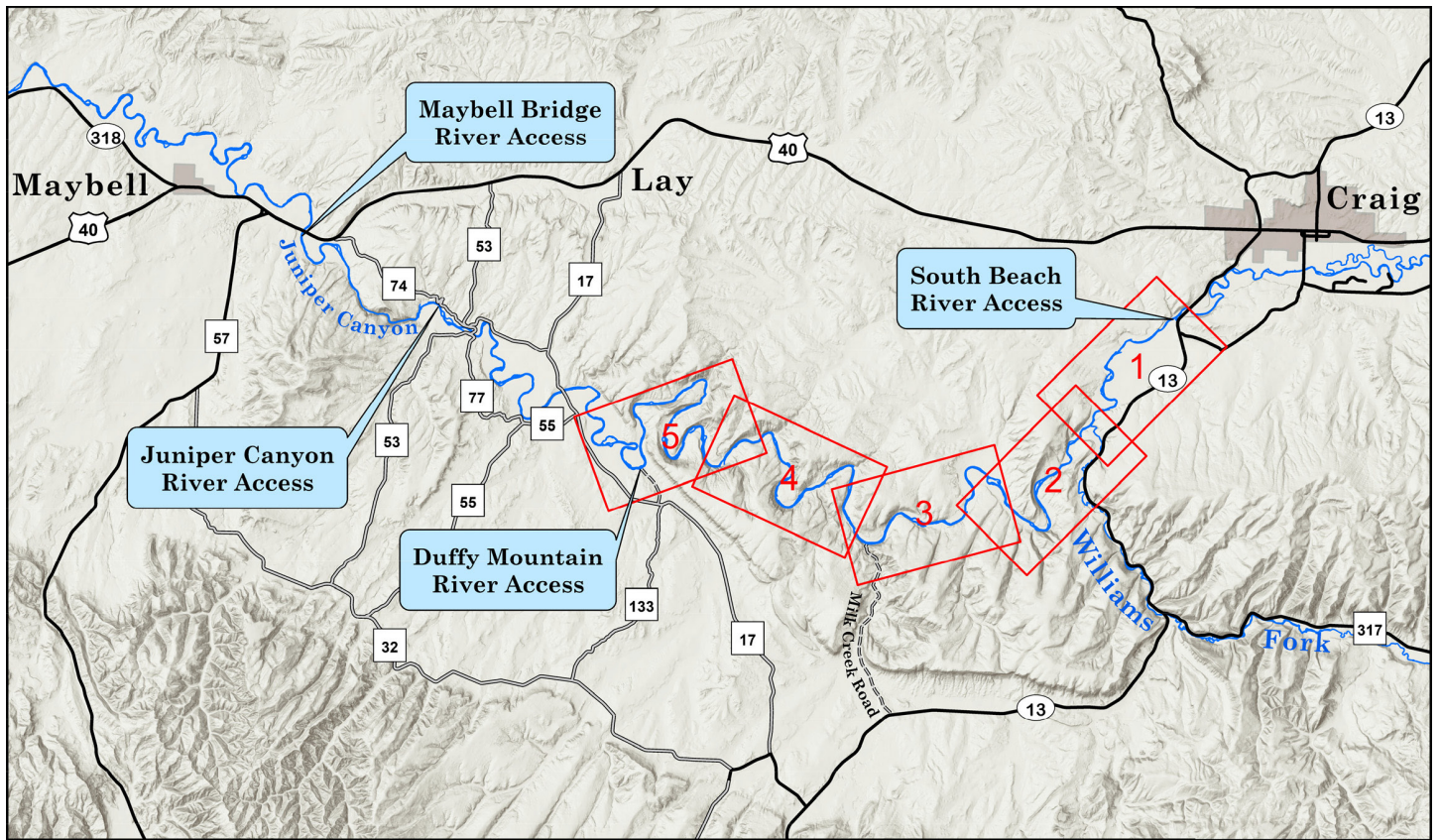


YAMPA RIVER GUIDES

LITTLE YAMPA CANYON



LITTLE YAMPA CANYON LEGEND

HYDROGRAPHIC FEATURES

- Stream or Mainstem Ditch
- Intermittent Stream
- Branch Ditch
- Irrigation Pipe or Culvert
- Irrigation Pump
- Center-Pivot Irrigation
- River Mile

ROADS AND STRUCTURES

- Trail or Closed 4WD
- 4WD
- Graded Road
- Paved Road
- Railroad
- Power Line
- Buildings

ADMINISTRATIVE BOUNDARIES

- Bureau of Land Management
- BLM Special Management
- Yampa River State Park

ENVIRONMENTAL FEATURES

- Active or Prehistoric Floodplain
- Riparian Herbaceous/Short Shrub
- Riparian Tree/Tall Shrub Canopy
- Upland Tree/Shrub Cover
- Fluvial Sand or Gravel
- Gravel Quarry

GEOLOGICAL FEATURES

- Anticline
 - Syncline
- Arrows indicate the direction of dip

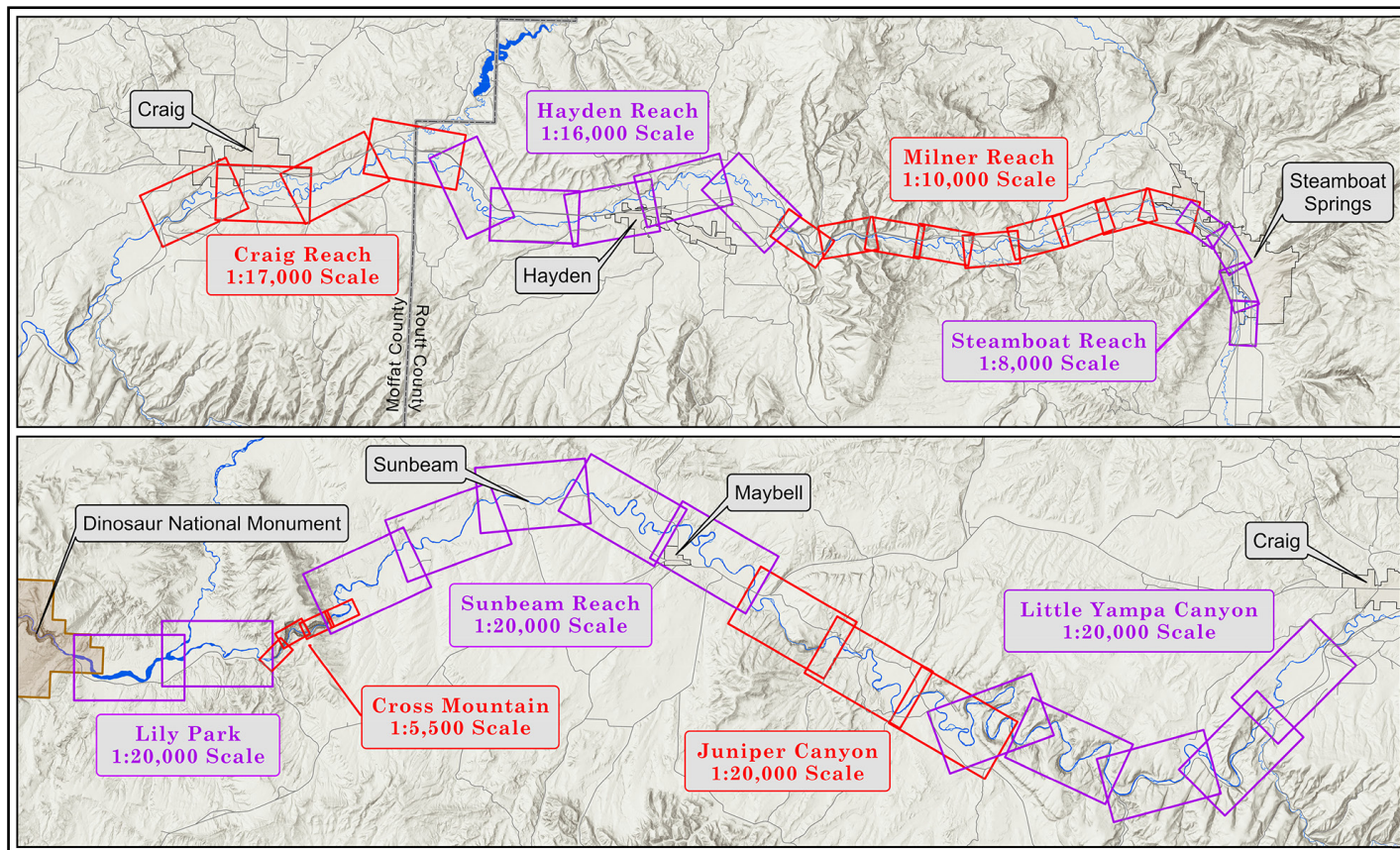
RECREATIONAL AREA SYMBOLS

- Fee Area
- Trailered Craft Access
- Picnic Tables
- Rest Rooms
- Longterm Parking
- Designated Camping
- No Camping

YAMPA RIVER GUIDES

Yampa River Guides are a FREE, downloadable series of map guides in PDF format, designed for recreational users of the Yampa River. When the entire series is completed they will cover approximately 158 miles of river, from the Chuck Lewis State Wildlife Area upstream of Steamboat Springs to the Deerlodge Park boat ramp on the eastern boundary of Dinosaur National Monument.

The Yampa River Guide Series



How to Download and Print Your Guides

Go to <https://guides.wildyampa.com> to download the most recent versions of the Yampa River Guides. Every attempt will be made to keep these guides up-to-date as boater access and river conditions evolve in the future. You can check the version date of your download at the bottom of the front cover and on each map page.

PRINTING ON LEGAL PAPER

Ideally, your Yampa River Guide should be printed on legal-size paper, using a duplex (prints to both sides) printer. Whether you can print to both sides of the paper or not, be sure to select the “ACTUAL SIZE” option in the print wizard (this keeps the printer software from adding an extra margin to the printed page).

Duplexed pages will lay out like a book, with each map page on the right and its corresponding text page facing it on the left. Your pages can then be stapled, or laminated and spiral bound for a more durable guide. You might also consider printing on waterproof paper.

PRINTING ON LETTER PAPER

Yampa River Guides can also be printed successfully on letter-size paper—the maps and print will just appear smaller. When printing on letter-size paper, be sure to select the “FIT” or “FIT TO PAGE” option in the print wizard.

Help Keep These Guides Accurate

The Yampa River is always in a state of flux, so over time even the best map is destined to become inaccurate. Legal river access for boaters is also a moving target. And of course, the author of this guide makes no claim to infallibility. If you discover errors or have suggestions for improvement, please E-mail Pete@wildyampa.com with “Yampa River Guides” in the subject line. Or just let me know if you are finding these guides helpful!

Terms of Use

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About The Maps

As has become the convention with river guides, the Yampa River Guide maps and their accompanying text are laid out with the river running from the **bottom to the top** of the page.

The river channels and environmental features depicted on these maps were originally drawn directly on top of the 2019 National Agricultural Imagery Program (NAIP) **aircraft overflight photography**. However, since 2019 there have been several significant changes in the river channels, and more should be expected in the future. Yampa River Guide maps are regularly revised as the river evolves, using as reference the most recently available photography. NAIP offers superior resolution and detail, but is only updated every two or three years (most recently 2023). During the interim, the online version of Copernicus/Sentinel-2 satellite photography, although much lower in resolution, is conveniently updated weekly.

An aerial photograph, or the map drawn from it, can only capture a dynamic, seasonally evolving river in one moment of time. These maps depict the river during a period of low flows, when the river channels are filled with **exposed sand and gravel bars**. Higher flows in the spring will inundate many of these features, and normally dry backwater channels may even be floatable under those conditions. Conversely, it is assumed that during lower flows boaters will appreciate having some idea of where the sand and gravel is likely to emerge.

The **river miles** (RM) depicted on these maps are measured upstream from the confluence of the Yampa and Green rivers at Echo Park, in Dinosaur National Monument. They were created specifically for these maps, and follow a line up the center of the main river channel as it existed in the fall of 2019. Note that there has never been a formal, “official” set of designated river miles for the Yampa River. River miles depicted on maps elsewhere have typically been based on long out-of-date hydrographic data, and can vary from the Yampa River Guide maps by as much as a mile or more.

Private Property

Private property boundaries are not represented on any of these maps. The only property boundaries depicted in the Yampa River Guides are for publicly owned (or publicly leased) properties that specifically allow for public boating access. ***Everywhere else should be treated as off limits to or from watercraft traveling the Yampa River.***

Under Colorado law, ownership of the river bank does not stop at the high water line. While the water and fish may belong to someone else, the **river bottom is the property of the abutting landowners**. Under these circumstances, standing on the river bottom, even in moving water, is trespassing. This can especially be a problem once river flows drop enough to require dragging your craft over obstacles. Please avoid floating the Yampa River when and where such conditions exist.

Much of the Yampa River from Steamboat Springs to Dinosaur National Monument flows through private land. Please help us stay on good terms with our private landowning neighbors, so boaters can continue to float the Yampa River without further restrictions in the future. Always stay in your boat when floating through private property.

Safety

The Yampa River Guides are intended for use as a general resource for boaters. ***They are not a substitute for staying alert to hazards and practicing good boating skills.*** Rivers are dynamic environments, and conditions can change dramatically as water levels rise and fall.

With the exception of the Cross Mountain and Juniper canyons, experienced boaters will find the “whitewater” character of the portions of the Yampa River covered by the Yampa River Guides to be mild. Nevertheless, natural hazards such as strainers or entrained wood may still be encountered. Human-made structures, especially bridges and diversion structures, can also create significant hazards to boaters. The most notorious (but certainly not all) of these structural hazards have been identified on the maps with **red-bordered labels**. When you see these labels, pay close attention to the “**Hazard!**” description in the accompanying text.

Always come prepared for the unexpected. Pay attention, and always keep an eye out downstream. Proper personal equipment should always include a PFD (Personal Flotation Device), appropriate footwear, and sunscreen. And, although much of the Yampa is flatwater, the knowledge gained from a swiftwater rescue course might one day help you save a life, even in downtown Steamboat Springs. In Cross Mountain and Juniper canyons such knowledge is essential.

Ultimately YOU are responsible for your own and your companions’ safety.

Disclaimer

The author and distributors of the Yampa River Guides are not responsible for trespass, property damage, personal injury, or death resulting from activities involving anyone using or possessing these river guides.

Little Yampa Canyon Map 1

River Mile (RM) topics follow the flow of the river, from the bottom of the page to the top.

RM 135.1 The **Williams Fork** joins the Yampa River here. There is no modern water gauge on the Williams Fork, but the USGS did maintain one upstream at Hamilton, Colorado, in the years 1904–1927. The mean monthly discharge calculated from that period of record suggests that one hundred years ago the Williams Fork was contributing only 50 to 70 cfs (cubic feet per second) of water to the Yampa throughout most of the year, but was capable of bumping up to as high as 1,000 cfs or more during peak spring flows (typically May and June). In these climate changing times, expect that peak to come a little earlier, perhaps in early May.

RM 136 The **railroad** on river left was built in the late 1970s to connect the Colowyo Mine (near Axial, north of Meeker, Colorado) to the railhead in Craig. From there the coal could be transported to regional markets (an early customer of the mine was Colorado Springs). The railroad will be your neighbor for the next 11.5 miles downstream, until the tracks leave the river corridor and climb south out of the canyon at Milk Creek.

RM 137 The **Juniper Reservoir** of the proposed Juniper–Cross Mountain Project would have flooded all of the irrigated Yampa River bottomlands in the Axial Basin, and extended upstream through the Little Yampa Canyon. At full pool, you would have encountered the dead water at the head of the reservoir in approximately this area.



*Starting a Little Yampa Canyon trip, with the Craig Station in the background.
Photograph courtesy Kent Vertrees, Friends of the Yampa*

The Craig Station

Planning for a coal-burning, electricity generating plant to be located in Craig, Colorado, began in 1970. The original development plan, known as the Yampa Project, included construction of two generation units (Craig 1 and 2), multiple regional electrical distribution lines, the pumping station you passed while driving in to the South Beach boat ramp, and the Elkhead Reservoir northeast of Craig. The reservoir was designed to provide supplemental water to the Yampa River to keep the pump station supplied during periods of low flows. The Yampa Project was originally a cooperative venture between four non-profit electrical utilities (Colorado-Ute, Tri-State, Platte River, and the Salt River Project), with Colorado-Ute managing the operation. Today ownership is shared between five power utilities.

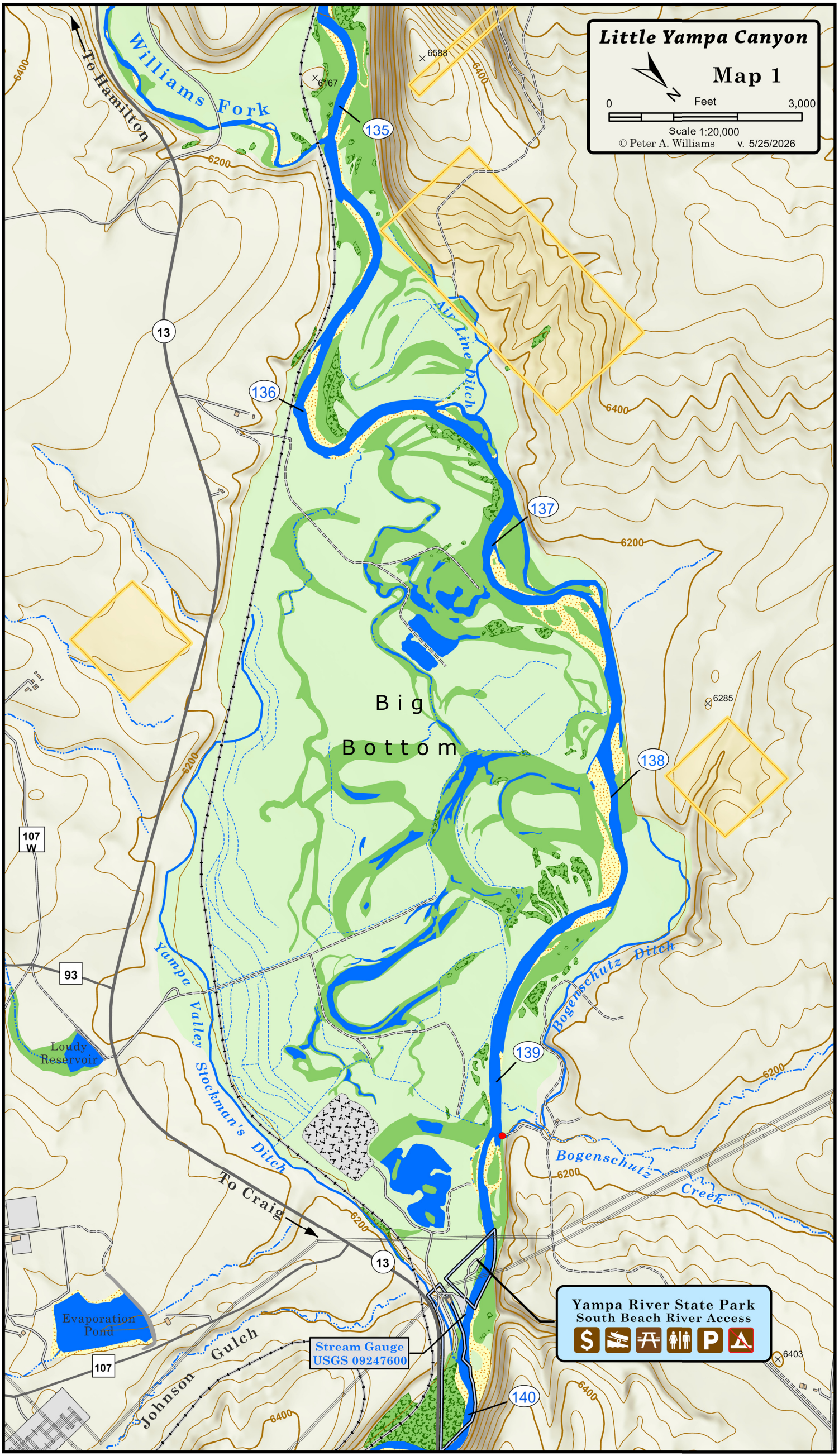
Construction started in 1974, and the two generating units came on line in 1979 and 1980. The addition of a third generation unit, Craig 3, was approved in 1978, and it came on line in 1984. This third unit is a separate entity from the Yampa Project, and was owned and managed entirely by Colorado-Ute, until Colorado-Ute's bankruptcy in 1990. Today it is owned entirely by Tri-State, which also took over management of the rest of the Craig Power Station.

Planning for the retirement of the station was announced in 2016. In 2023, Tri-State filed an updated resource plan with the Colorado Public Utilities Commission, indicating all three units will be retired by the end of 2028. The Trapper and Colowyo mines, which currently supply the Craig Station, will also be shutting down production.

Information courtesy:

Colorado Historic Newspapers Collection, Colorado State Library
Global Energy Monitor Wiki, https://www.gem.wiki/Craig_Station
Northwest Colorado Coal Final Environmental Statement, vol.2 (1976)

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Little Yampa Canyon
Map 1

0 Feet 3,000

Scale 1:20,000
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Yampa River State Park
South Beach River Access

Icons: \$, wheelchair, picnic table, tent, person, P, triangle

Stream Gauge
USGS 09247600

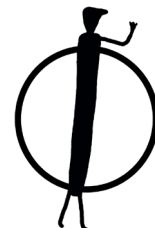
Little Yampa Canyon Map 2

River Mile (RM) topics follow the flow of the river, from the bottom of the page to the top.

RM 131.5 As you start into the major river bend just downstream of the Antlers river camp, the steep canyon walls on river left are composed of the **Iles Formation**. As you continue around the bend, the **Trout Creek Sandstone Member** can be seen diagonally downhill to the railroad tracks (on the downstream side of a gully). Everything above and downstream of the Trout Creek Sandstone is in the Williams Fork Formation. At this point, all of the rock layers are dipping southwest toward the axis of the Round Bottom syncline.

RM 131.9 Look for the **Antlers river camp**, marked by a post on river right.

RM 133.5 A thin coal seam can be seen in the bottom of the sandstone cliff band, just above the water on river right. Also keep a close eye out for a **pictograph** under a small overhang, about midway up the cliff band.



RM 133.75 On river right you can see evidence of an abandoned surface **coal mine**, on a bluff above the river, just downstream of a small gully. Such small “wagon mines,” where locals might fill up a wagon for personal use, were common throughout Northwest Colorado in the late nineteenth and early twentieth centuries.

RM 135 The steep, cliffy hillside on river right, just downstream of the Yampa’s confluence with the Williams Fork River, is composed of the **Williams Fork Formation**. Note the different layer colors. The reddish rocks along the top of the slope are outcrops of “clinker,” composed of coalbeds that burned sometime in the geologic past. Watch for many more of these reddish areas, which can sometimes be quite extensive, as you continue your journey.

The prominent white sandstone band in the middle of the hillside is an outcrop of the **Twentymile Sandstone Member** of the Williams Fork Formation. You’ll see this distinctive cliff band trend higher along the canyon wall as you approach the axis (or crest) of the Williams Fork Anticline, which crosses the river just downstream.

Geology

The Little Yampa Canyon has been cut through two major geologic units, the Iles Formation and the Williams Fork Formation, both of Upper Cretaceous age.

The Iles Formation is the lower—and so the older—of the two in the geologic column. It is approximately 1,300 feet thick, and composed predominately of brown-to-gray sandstones, intermixed with shales and (in the upper portions of the formation) thin coal beds. The top of the Iles Formation is defined by its Trout Creek Sandstone Member, a prominent bed of cliff-forming, fine-grained gray-to-white colored sandstone.

Above the Iles Formation lies the Williams Fork Formation, a roughly 1,900-foot-thick unit composed of brown-to-gray sandstones, intermixed with darker siltstones, mudstones and carbonaceous shales. Lenticular coalbeds, some quite prominent, are widely distributed throughout the unit. A few of these coalbeds have burned, giving some areas in the Williams Fork a distinctive reddish tone. Also prominent is the Twentymile Sandstone Member, a fine-grained light gray-to-white sandstone up to 85 feet thick. Other unnamed light-colored sandstones may also outcrop above and below the Twentymile, depending on your location.

Although the sedimentary strata of the region were originally laid down horizontally, one on top of the other, today the landscape surrounding the Little Yampa Canyon has been warped by compressive forces into a series of anticlines and synclines. Think of holding sheets of paper horizontally by the edges. Each sheet of paper represents a layer in the geologic column. Push the ends of the stack together until it bends into an “S” shape. The anticline is where the sheets are pushed up (the top surfaces face away from each other), while the syncline is where the sheets are pushed down (the top surfaces face towards each other).

Between the Williams Fork Anticline and the Round Bottom Syncline, the rock layers dip roughly southwest. In contrast, once you cross the syncline at Round Bottom, for the rest of your trip the rock layers will always be rising to the southwest (towards the crest of the Axial Basin Anticline, which lies south of Duffy Mountain). As the river zigzags westward, the upper portions of the Iles Formation are frequently exposed when the river loops to the south. But the dip of the geologic strata to the northeast dictates that the top of the Iles is lower down on the canyon walls when the river loops to the north, and so less of it will be visible below the Williams Fork Formation.

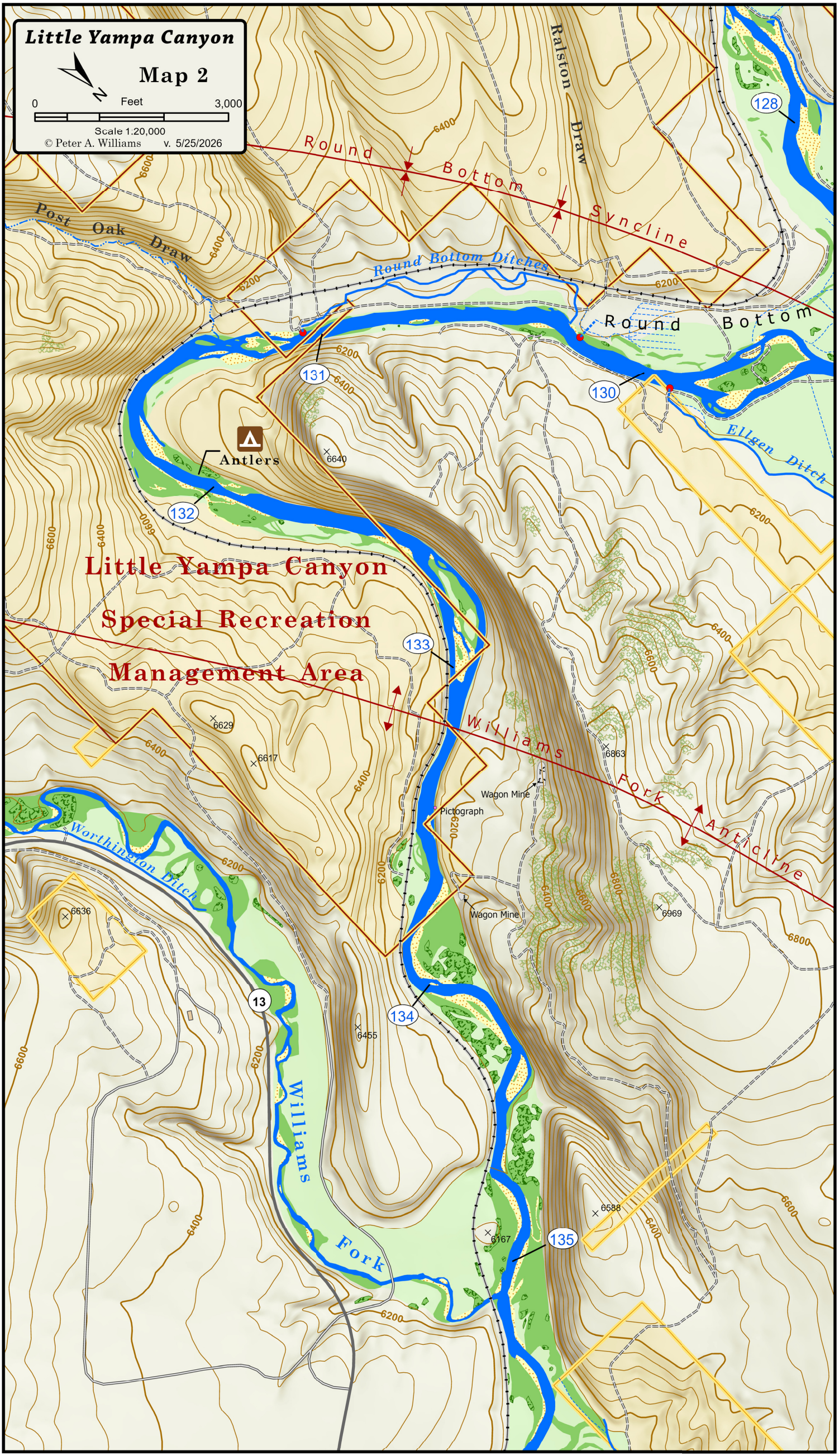
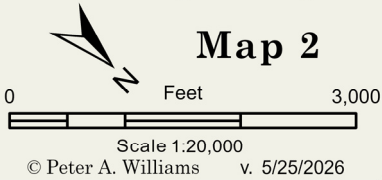
Information courtesy:

Johnson, E.A., *Geologic Map and Coal Sections of the Round Bottom Quadrangle* (1987)
Tweto, Ogden (comp.), *Geologic Map of Colorado* (1979)

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Little Yampa Canyon

Map 2



Little Yampa Canyon Map 3

River Mile (RM) topics follow the flow of the river, from the bottom of the page to the top.

RM 124.5 **Milk Creek** joins the Yampa River here, and the railroad tracks depart the canyon. The railroad ends at the Colowyo coal mine another 12 miles to the south.

RM 125 The tract of **private land** on river right was homesteaded by Hugh Gilna in 1896, when he was just 21 years old. If you look closely, the remains of the homestead cabin are visible as you pass by (please don't trespass). In 1900 Gilna also purchased the old Fuhr property at Fuhr Gulch, but sold it around 1915 to focus on ranching his original homestead.

In 1914 Gilna married Jessie Foster in Craig, and the couple maintained a home in town. Hugh Gilna was killed in an automobile accident in 1935. Two years later Jessie sold the ranch property to Ben Anderson, who had just purchased the Round Bottom Ranch the year before. The property is still part of the Round Bottom Ranch today.

RM 125.75 Look for the post for the **Railroad river camp** on river left. This popular camp is smaller than Friends, and closer to passing trains, but still a nice alternative.

RM 126 Look for the post for the **Friends river camp** on river right. This is a large, popular campsite. The Friends of the Yampa is a nonprofit organization that provided the impetus and coordination between the Bureau of Land Management, Colorado Parks and Wildlife's Yampa River State Park, and multiple volunteer groups, to rehabilitate all five of the designated Little Yampa Canyon river camps during the spring of 2018. The campsites were marked with posts, fire grates and picnic tables installed, and overgrown camps cleared.

RM 128–30 The river bends through the broad valley of **Round Bottom** for these two miles.

The first structure in Round Bottom was a stone house built in 1884 for L.H. Ralston. Reminiscing as an old man in 1939, Henry Wolcott wrote of being just 20 years old and living in Golden when he was offered the job of helping Ralston's son, Jim, drive about 100 head of cattle from Lookout Mountain (above Denver) to Round Bottom, where the Ralston family intended to homestead. After many adventures along the way (including a July snowstorm on Berthoud Pass), they finally managed to get the cattle to Round Bottom in August. Wolcott then helped with the construction of the new house and stayed on with Jim through the first fall and winter. The elder Ralston and the rest of the family arrived the next spring.

Over the ensuing decades, the "Round Bottom Ranch" went through many owners, gradually growing in size, until it was eventually acquired by the Ellgen family, who still own it today. The first Ellgen to homestead in the area was Herman Ellgen, who arrived in 1909.

Gold Dreams

The sand and gravel bars of the Round Bottom section of the Yampa River once looked like gold to a few local prospectors. There were placer claims in the area as early as 1893, with a few individuals even claiming success for their efforts. In 1897, the Darnall brothers claimed to have produced a whopping 6.75 ounces of gold at Round Bottom in just two weeks.

Thomas Harkins, another local, developed his own design for a "gold washing machine" in the 1890s, and was still refining it two decades later, while working a claim downstream of the Gilna ranch. The *Craig Empire* reported in the fall of 1911 that his latest design "actually eats dirt like a hungry goat," and thoroughly rinsed even the finest gold dust from the river sands. Over that summer Harkins and a local house painter named H.W. Conger had joined forces with Hugh Gilna to work the bars on Gilna's property. According to the *Moffat County Courier*, it was not going to be long before "Gilna, Harkins, et al. will join the millionaire club."

Tellingly, no gold rush ever followed, despite the predictions in the local press. While "men made wages," no one ever joined any millionaire club. Certainly Gilna did not, and after about 1912 he appears to have given up on gold mining. Conger returned to painting houses. The last report of placer work in the area was in 1933, by the Ratcliff brothers with their own version of a home-made "gold washing machine." As for Harkins' design, it was surely a workable innovation, but he spent the teens and twenties seeking investors to finance its commercial production without success. In 1922, it was even reported that Harkins had demonstrated separating gold out of oil shale—which would seem to defy geological possibility. Historian Paul Russell used this report as an example of the hucksterism in the oil shale promotions of the era, when its commercial viability was often fraudulently represented. But Harkins' own involvement in such a scam might also hint at a personal financial desperation.

Information courtesy:

Colorado Historic Newspapers Collection, Colorado State Library
Russell, Paul L., *History of Western Oil Shale* (1980)

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Little Yampa Canyon

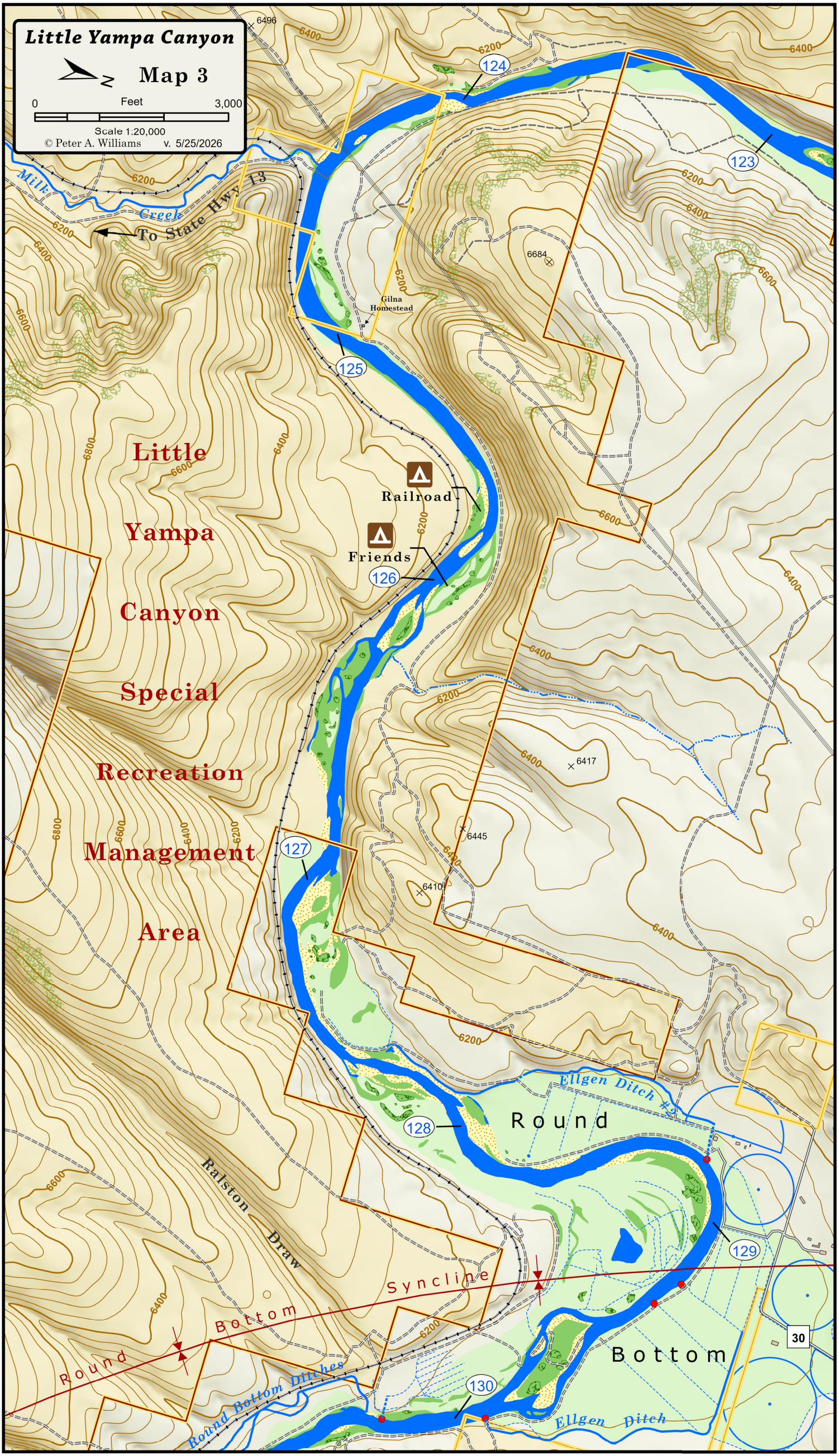


Map 3

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**Little
Yampa
Canyon
Special
Recreation
Management
Area**

**Railroad
Friends**

Round

Bottom

Round

Bottom

Syncline

Elgen Ditch

Elgen Ditch #9

**Ralston
Draw**

**Round Bottom
Ditches**

To State Hwy 13

**Mile
Creek**

30

125

124

123

126

127

128

129

130

6684

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Little Yampa Canyon Map 4

River Mile (RM) topics follow the flow of the river, from the bottom of the page to the top.

RM 116.6 Look for a small rock art panel, with both pictographs and petroglyphs, a short hike from the river on the left. The art is in an alcove in the **Trout Creek Sandstone**, which now reappears on both sides of the river. This means that the river is again cutting down through the upper layers of the Iles Formation, and will continue to do so for the next several miles.

RM 117.25 The vegetated gravel bar on river right is one of the several **leafy spurge biological control** release sites in the Little Yampa Canyon. See the photograph below.

RM 119.25 As the river turns left again just ahead of you, the **Trout Creek Sandstone** on river right will dip below river level for the next two miles, leaving just the Williams Fork Formation exposed along the canyon walls.

RM 120.9 Here you can see a prominent white sandstone cliff layer rising up from the river level on the right, and wrapping around the base of the steeper slopes. This is another outcrop of the **Trout Creek Sandstone Member** of the Iles Formation, and it marks the first significant exposure of the **Iles Formation** since upstream of Round Bottom. That's going to change, and you will be seeing a lot more of the Iles from now on, starting with the canyon walls along the outside of the upcoming bend in the river.

RM 122.4 **Fuhr Gulch** comes in on river right. In the late 1800s George Fuhr owned the private ranch property along the river just upstream of the gulch. In the 1890s he also began placer mining the gravel bars at the mouth of the gulch, which evidently did yield some gold. As with the Round Bottom placer operations, the local papers liked to brag on the potential for future wealth—"We trust George will have Brussels carpets on the floor, \$40,600 pictures on the walls and live in state during the rest of his natural life"—but just how much he might have put in the bank is not clear. Fuhr sold the ranch to John Banks of Lay, Colorado, in 1898, and then disappeared from the news. Hugh Gilna purchased the property in 1900.

Leafy Spurge Biological Control

Leafy spurge (*Euphorbia virgata*) is an exotic perennial weed that is highly detrimental to native ecosystems. Originally from Eurasia, leafy spurge readily establishes in rangeland, pasture, and riparian habitats, and can quickly become dominant. It grows up to three feet high, with distinctive yellowish-green flowers. If bruised, the leaves and stems exude a toxic white sap that can damage eyes or skin. The plant is poisonous to cattle and most wildlife.

Leafy spurge biological control involves the introduction of several insect species from the *Aphthona* and *Oberea* genera. These insects are true specialists, having co-evolved with leafy spurge in Eurasia to the point where they can only survive by eating and reproducing on the spurge—while the damage they inflict reduces the spurge's vitality and seed production.

Unlike most herbicides, leafy spurge biological control is safe to use in riparian habitats. It does not negatively impact desirable species, and it has the potential to be self-sustaining. *Aphthona* and *Oberea* beetles were released in the Little Yampa Canyon at multiple sites in 2022 and 2024. Site monitoring, and potentially new releases at additional sites, will continue on a regular basis in the future.



Aphthona beetles released on leafy spurge



Monitoring the leafy spurge biocontrol release site at RM 117.25


Information courtesy: <https://www.yampariverleafyspurgeproject.com>

Colorado Historic Newspapers Collection, Colorado State Library

For more on leafy spurge visit: <https://www.yampariverleafyspurgeproject.com>

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Little Yampa Canyon
Map 4



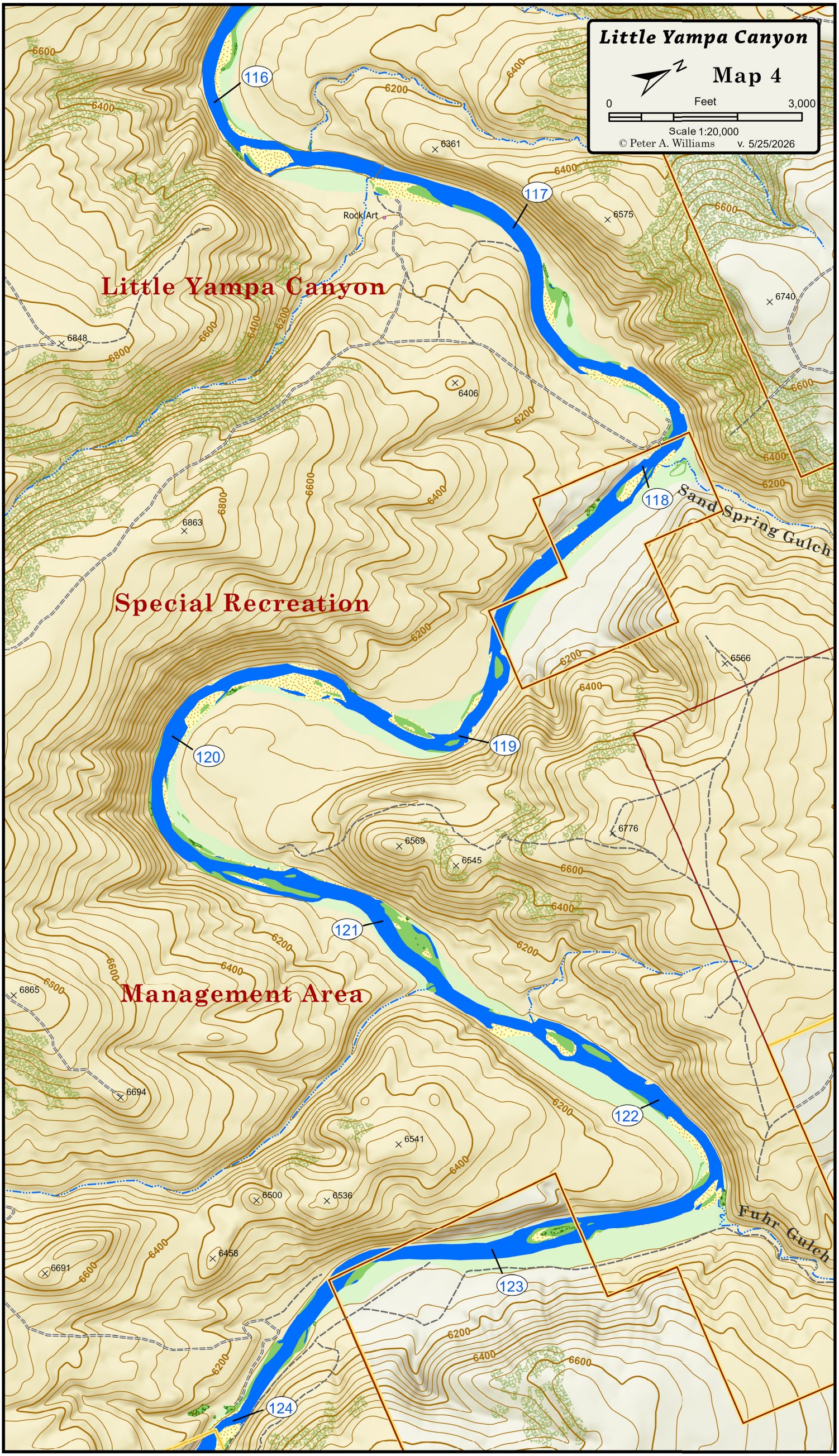
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Little Yampa Canyon

Special Recreation

Management Area



Little Yampa Canyon Map 5

River Mile (RM) topics follow the flow of the river, from the bottom of the page to the top.

- RM 107.3 The Yampa River State Park **Duffy Mountain boat ramp** is on river left, just downstream of the mouth of Morgan Gulch. The Morgan brothers established a large ranch operation in the Axial Basin in the 1880s.
- RM 108.25 Look for where the **Duffy Tunnel** emerges downhill of an overhang at the base of the the hillside on river left. You probably won't be able to see the flowing water, but the tunnel is dumping it into the head of the **Juniper Mountain Ditch**.
- RM 108.75 The **Charlie Mike river camp** is on river right. Please stay on the BLM property, upstream of the private property fence. "Charlie Mike" is military jargon for "Continue the Mission." **The Mission Continues** is a veterans program connecting military vets with volunteer work projects, including the rehabilitation of this campsite in 2018.
- RM 111.25 **Horse Gulch** enters the Yampa River through the bottom layers of the Williams Fork Formation, which is particularly colorful and full of large cliff bands in this area. But in another mile downstream it will be history, as the Iles Formation rises above the river level yet again, and dominates the canyon walls the rest of the way to the Duffy Mountain takeout.
- RM 112.5 The steep slopes of **Signal Butte** are composed of the Iles Formation, but the white sandstone cliff band below the summit is the **Trout Creek Sandstone**, indicating that the actual summit is in the Williams Fork Formation. As you proceed downstream, the Trout Creek will trend downward until it intersects the river at about RM 111.6.
- RM 113.3 The intake channel leading to the entrance of the **Duffy Tunnel** is on river left, at the upstream end of a series of small islands and channels in mid-river. At high flows probably any channel through this maze will suffice, but at lower flows the best option is stay in the middle of the river, to the left of the largest island.
- RM 113.75. Look for the post and picnic table for the **Bubba's Beach river camp** on river right, as the river begins another sharp bend. Bubba's Beach is named in memory of Mike "Bubba" Brinks, who drowned on a Yampa River trip in Dinosaur National Monument in 2017. Brinks was a member of the Northwest Colorado Chapter of Parrotheads, one of the volunteer groups that worked on rehabilitating the Little Yampa Canyon campsites in the spring of 2018.

The Duffy Tunnel

Charles Duffy homesteaded on lands just across the river from the K Diamond Ranch in 1881, after several years of trying to make his fortune in the Leadville mines. It turned out that he was well suited to ranching, and he continued to add to his property over the next 20 years, eventually growing his ranch to about 750 acres. But irrigating some of that land was difficult, often requiring that water be pumped uphill and a long distance away from the river.

By 1900 Duffy was pondering other options. In consultation with county surveyor and engineer Dan Moog, he came up with an audacious plan to deliver water not only to his own land, but to his neighbors' as well. By taking water out of the river six miles upstream, and then shortcutting the river's meanders with a 2,200-foot tunnel bored directly through the intervening mountain, Duffy could avoid pumping and let gravity alone fill a large distribution canal built high enough above the river to water thousands of acres of land downstream.

The total cost of just the tunnel construction came to \$25,000, a huge sum at the time. A substantial share of the financing was provided by the estate of William Church (the wealthy Denver-based owner of the K Diamond Ranch, who died in 1901). Construction started in 1904, and the bore wasn't completed until the summer of 1910, after six years of drilling and blasting. After further work on the headgate and canal, the water finally began to flow in 1911. At first only about 400 acres of Duffy's ranch and 800 acres of the K Diamond received water, but as the canal was extended downstream additional neighbors began to receive the benefits.

The original tunnel roof was seven feet high and supported by juniper posts, which frequently required maintenance. In 1948 the potential for collapse made it clear that a major renovation was needed. Over the next two years, a two-foot-diameter galvanized culvert was installed and backfilled inside the old shaft, providing the essential upgrade that keeps the Duffy Tunnel still delivering water to downstream ranches today.

Information courtesy:

Colorado Historic Newspapers Collection, Colorado State Library
Koucherik, Shannon. *Duffy Tunnel* (Museum of Northwest Colorado, 2009)

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Little Yampa Canyon

Map 5







0 Feet 3,000

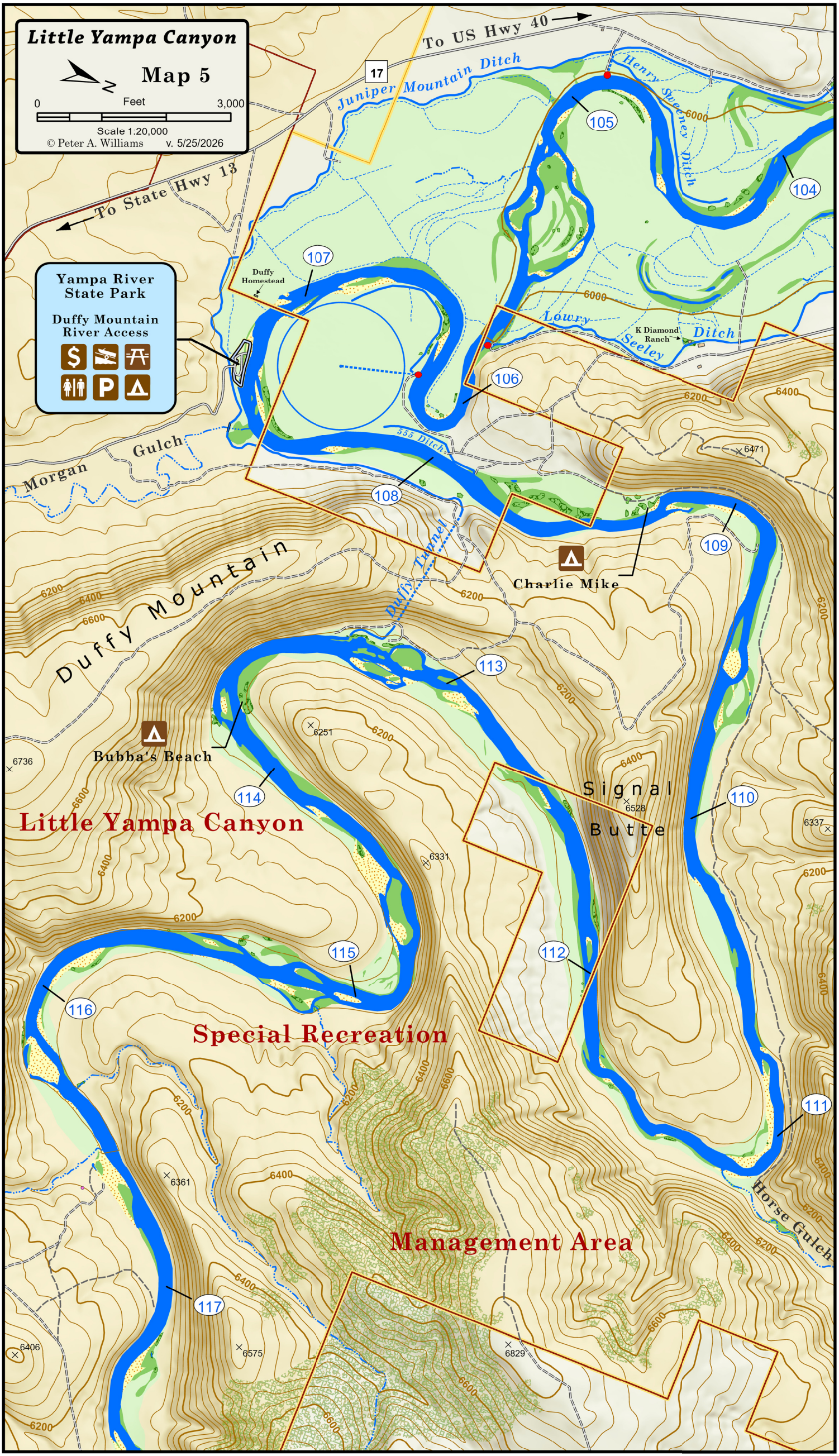
Scale 1:20,000

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Yampa River State Park

Duffy Mountain River Access



Little Yampa Canyon

Special Recreation

Management Area

THE BACK PAGE

Little Yampa Canyon Stream Gauge

RM 139.7 [USGS #09247600](#) Yampa River below Craig (South Beach boat ramp)

The **Yampa River below Craig** gauge is located at the north end of the parking lot just upstream of the South Beach boat ramp, and so provides the best information for your trip. (The alternative, the **Yampa River near Maybell**, is 51 miles and multiple diversions downstream!)

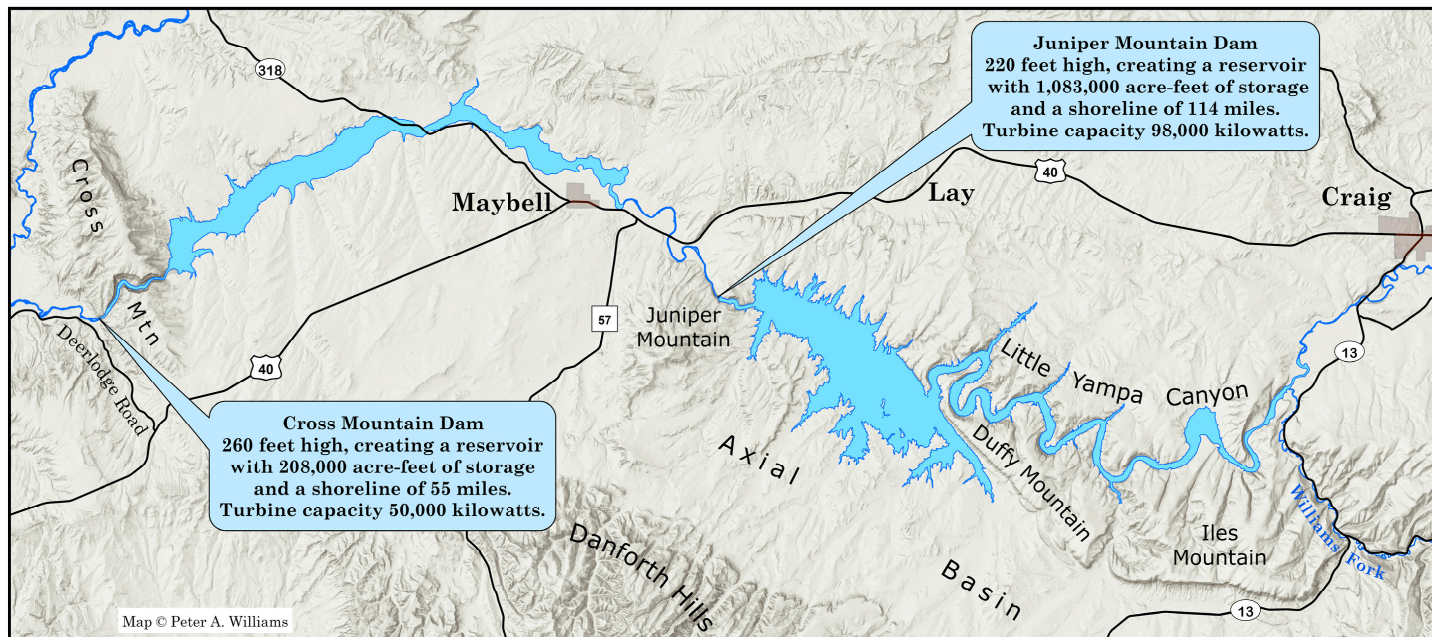
Additional information and flow recommendations for the Little Yampa Canyon reach can also be found at <https://friendsoftheyampa.com/know-before-you-go-lyc/>.

The Juniper–Cross Mountain Project

The potential for dams at the Juniper and Cross Mountain canyons was first studied over a hundred years ago. Test holes to determine the bedrock conditions were drilled at the head of Juniper Canyon by the Reclamation Service (precursor to the Bureau of Reclamation) in 1904, and a federal power withdrawal was made at Cross Mountain in 1910. By the late 1960s, the Bureau of Reclamation was planning to build a large dam at Juniper as part of the Colorado River Storage Project. But by the mid-1970s various economic and environmental complications (including the U.S. Fish and Wildlife Service's proposal to list the Yampa River as critical habitat for endangered fish) were contributing to substantial delays in the Bureau's plans.

At that point, the Colorado River Water Conservation District (CRWCD) took over the reins. The CRWCD (created by state law in 1937 to represent the water interests of 15 Colorado Western Slope counties) already held the conditional water rights for both reservoirs, and on January 31, 1980, it applied for a license from the Federal Energy Regulatory Commission (FERC) to construct the Juniper–Cross Mountain Project. Both dams would generate electric power, with the Cross Mountain dam operated to “re-regulate” (smooth out) the widely variable “on demand” releases from the Juniper power plant. Irrigation was also a large component of the project, and promotional materials emphasized the recreational value of the reservoirs.

To finance the required license application studies, dam construction, and then the eventual operation and maintenance costs, the CRWCD cut a deal with the Colorado-Ute Electric Association (at the time, the power supplier to 13 rural electrical cooperatives in western and southern Colorado). While the CRWCD would retain ownership of the dams and the irrigation water, Colorado-Ute would cover costs and use the power for its own revenue stream.



The proposed Juniper–Cross Mountain Project reservoirs, ca. 1980.

At first, the expectation was for a rapid completion of the permit process, but as the environmental costs became better understood, the FERC began to raise more concerns—and delays. Then came the big bust of the energy boom in the early 1980s, when the huge oil shale industry in western Colorado collapsed almost overnight. Colorado-Ute got cold feet, pulling out of the project in early 1982. The CRWCD persisted, but as time went on the project's momentum was lost. The FERC rejected the original application in 1987, although the CRWCD reapplied the following year. In the late 1980s the Colorado Department of Natural Resources was also offering to purchase some of the reservoir water rights to protect the fish, but the CRWCD rejected these overtures, still hopeful that at least a Juniper dam might be built. It was not to be. The cost of the project—and its potential impact on the endangered native fish—ultimately led to its demise.

Information courtesy:

Colorado Historic Newspapers Collection, Colorado State Library

CRWCD, *Juniper–Cross Mountain Hydroelectric: Summary, Preliminary Project Report* (1980)

Woolley, Ralf R. *The Green River and its Utilization: USGS Water Supply Paper 618* (1930)