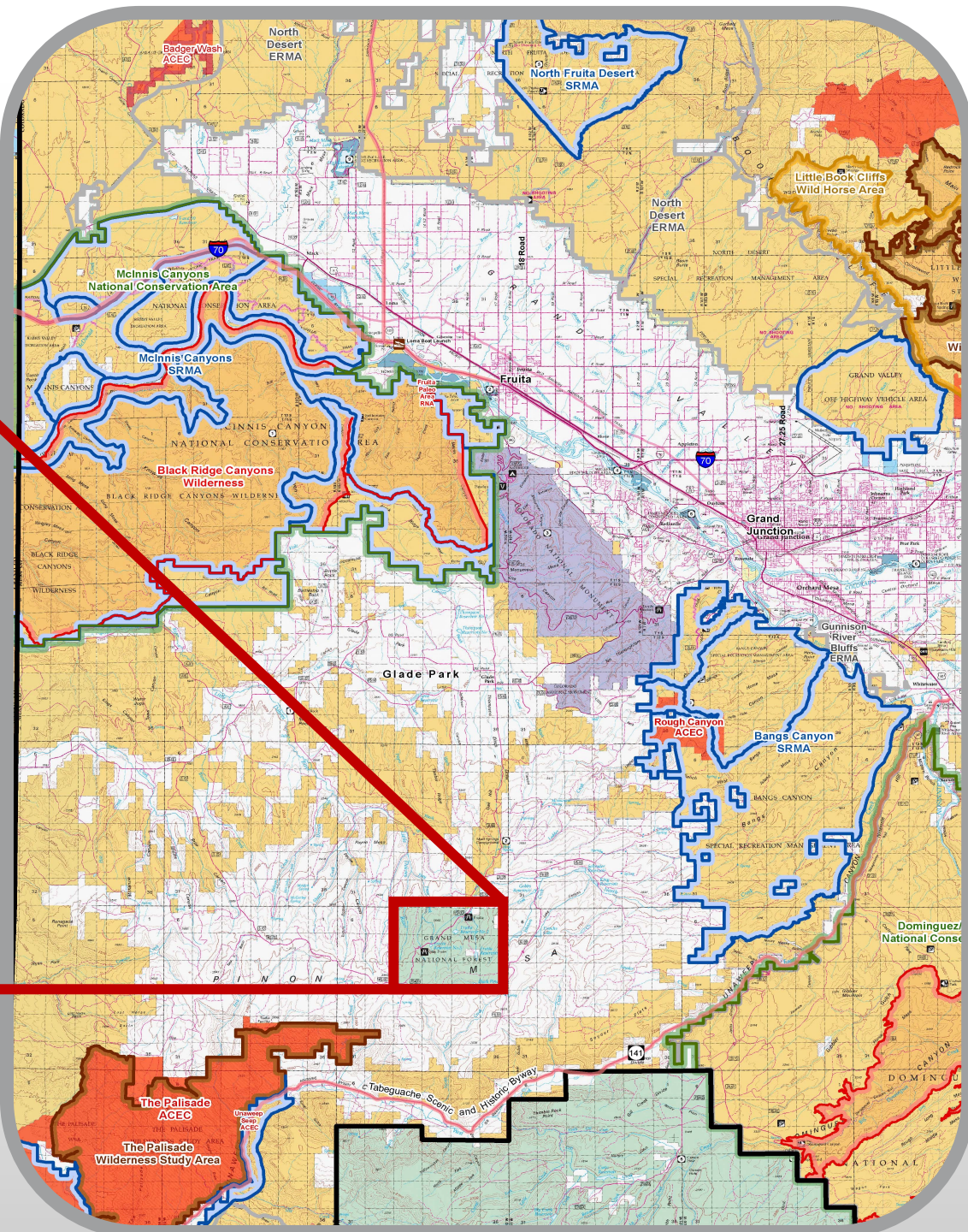
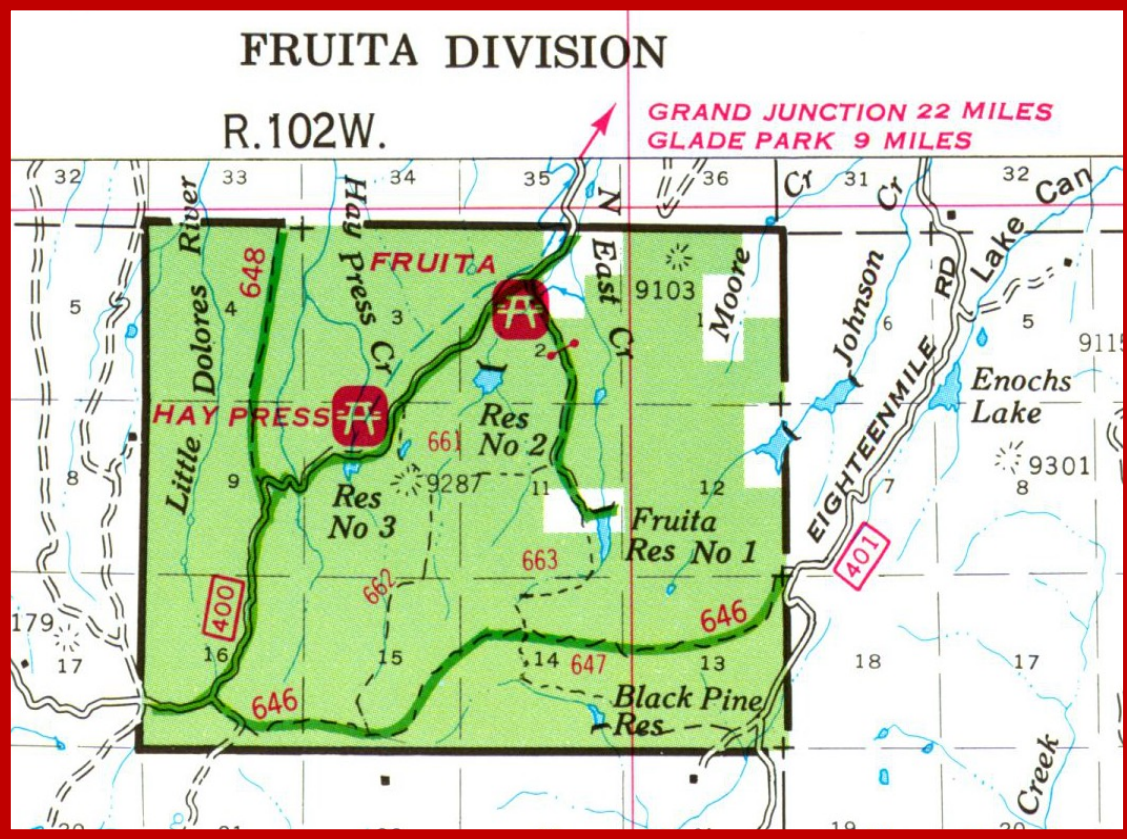




Mountain Water Properties



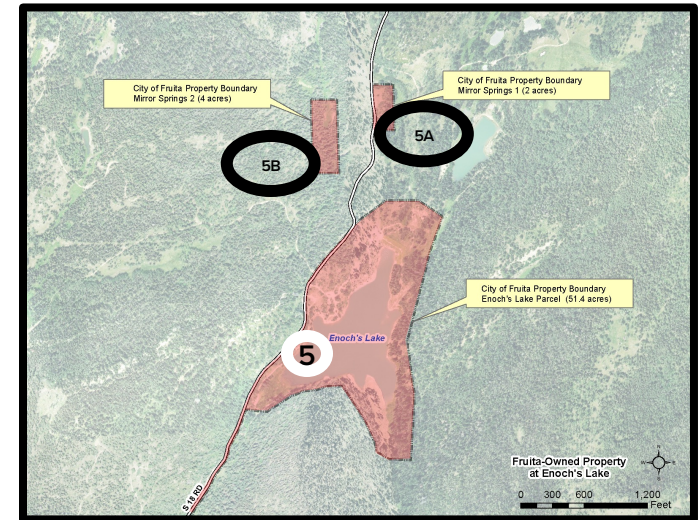
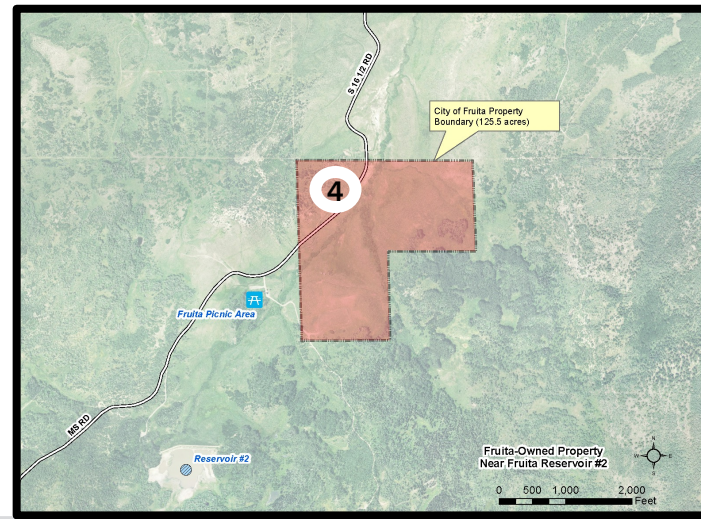
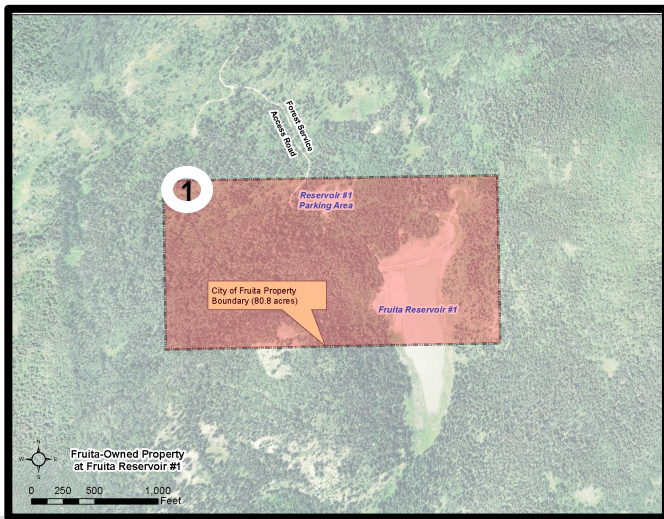
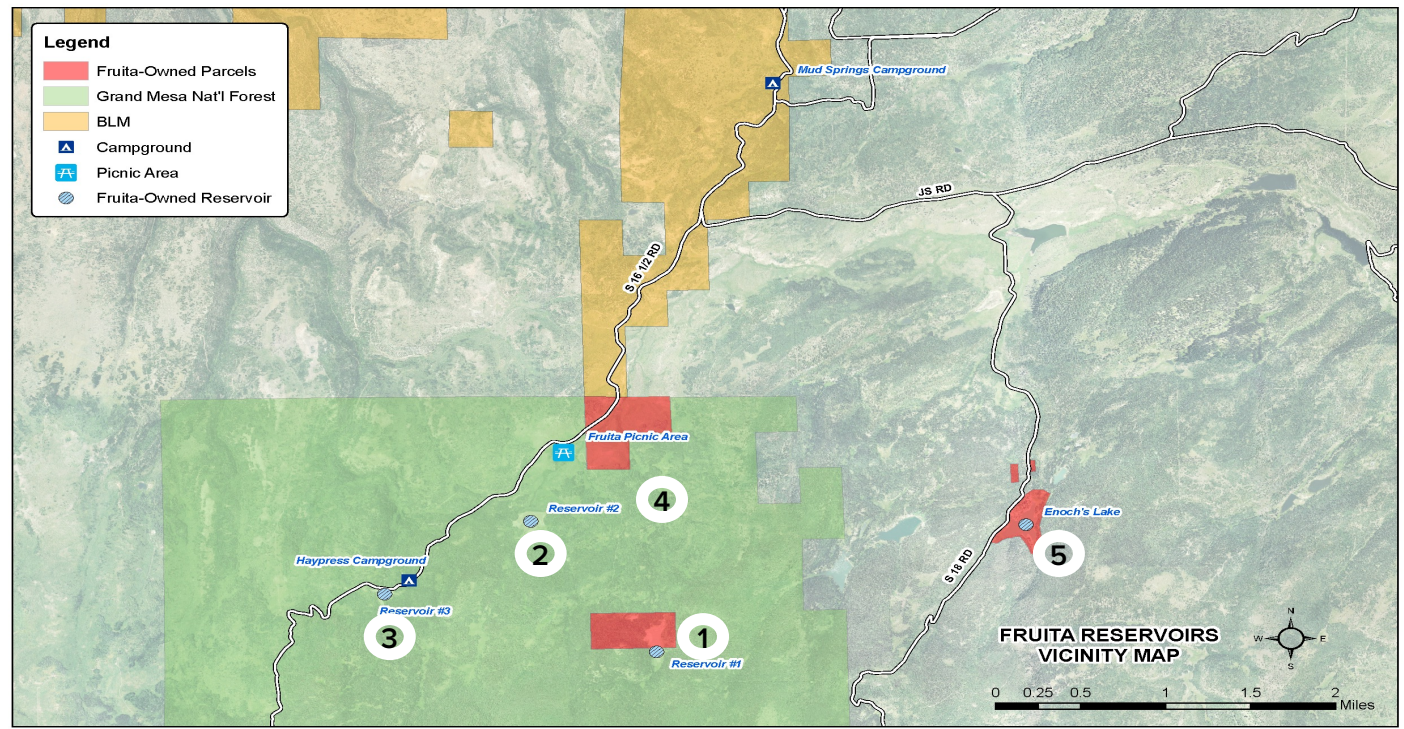
Location



City of Fruita Mountain Properties

The areas shown in the following table list the properties on Pinon Mesa that the City of Fruita has real interest in. This table does not include easements for pipeline or maintenance access.

Map No.	Location	Acres	Description
1	Fruita Reservoir #1	80.8	North half of reservoir
2	Fruita Reservoir #2	0.0	Grand Mesa National Forest
3	Fruita Reservoir #3	0.0	Grand Mesa National Forest
4	Fruita Reservoir #4	125.5	Reservoir never constructed
5	Enoch's Lake	51.4	Lake (surrounded by private properties)
5A	Mirror Springs 1	2.0	Springs north of Enoch
5B	Mirror Springs 2	4.0	Springs north of Enoch
Total		263.7	acres owned by the City of Fruita



History of Mountain Water

1884 – Town of Fruita Est.

1894 – Mayor Betts filed first water decrees on Pinon Mesa

1902 – Addison McCune hired to survey pipeline alignment

1906-1909 – Construction of wooden pipeline



1932 – Fruita Reservoir #3
constructed

1935 – Fruita Reservoir #2
Constructed

1949 – Fruita Reservoir #1
Constructed

1957 – Enochs Lake
Constructed

1959 – Fruita Reservoir #2
Enlarged

1977 - Fruita acquires water
rights on Colorado River

1981 – Fruita becomes a city

1983 - Fruita contracts with Ute Water
to provide water

1990 – Fruita Reservoirs opened to
public recreation

2005 – Enoch Lake Reconstruction

2009 - Reconstruct Reservoir #1 Dam

2013 – Reconstruct Reservoir #3
Spillway

2016 – Fruita Reservoir #2 Storage
Restrictions

2016 - Enoch's Lake changed to Day
Use Only

Existing Assets

- Combination of absolute water rights, decreed storage rights, and various infrastructure components.
 - 24 miles of pipeline
 - Four reservoirs
 - Property, approximately 257 acres
- * Most of the reservoirs are not actually located on property owned by the City of Fruita

Decreed Storage Rights Pinon Mesa	Case No.	Storage Right
Fruita Reservoir #1	CA5812	62.2 ac-ft
Fruita Reservoir #1, Enlargement	CA8303	80.58 ac-ft
Fruita Reservoir #2	CA8303	25.97 ac-ft
Fruita Reservoir #2, Enlargement	CA8303	141.86 ac-ft
Fruita Reservoir #3	CA5812	45.9 ac-ft
Fruita Reservoir #4 *	CA8303	54.53 ac-ft
Enoch's Reservoir (aka Mirror Lake #1)	CA8303	163.30 ac-ft
Enoch's Reservoir (aka Mirror Lake #1), Enlargement	CA8303	43.7 ac-ft
TOTAL		618.04 ac-ft

* Fruita Reservoir #4 was never constructed and cannot be considered a usable right.

Direct Flow Water Rights

The following table summarizes the amount of water owned or utilized by the City of Fruita for non-domestic purposes.

Water Rights	Flow (cfs)	# of Shares	Current Use
Mountain Pipeline	2.51	-	Glade Park Irrigation
GVIC Shares – owned	0.94	90	City Irrigation
GVIC Shares – rented	3.65	350	City Irrigation
Colorado River	25.00	-	Absolute rights - .6 cfs
TOTAL	32.09	681	

* 1.5 cfs of mountain pipeline restricted to use along pipeline & 1.0 cfs restricted to use in Town of Fruita.

Past Studies

- 2011 Irrigation Feasibility Study
- 2015 Market Study (Pipeline)
- 2015 Evaluation of Mountain Water Rights
 - Alternatives – Status Quo, Irrigation Utility Provider, Sell Water Rights/Assets, Abandon Water Rights
- 2022-23 NRCS Preliminary Investigation Feasibility Study

Colorado River Rights

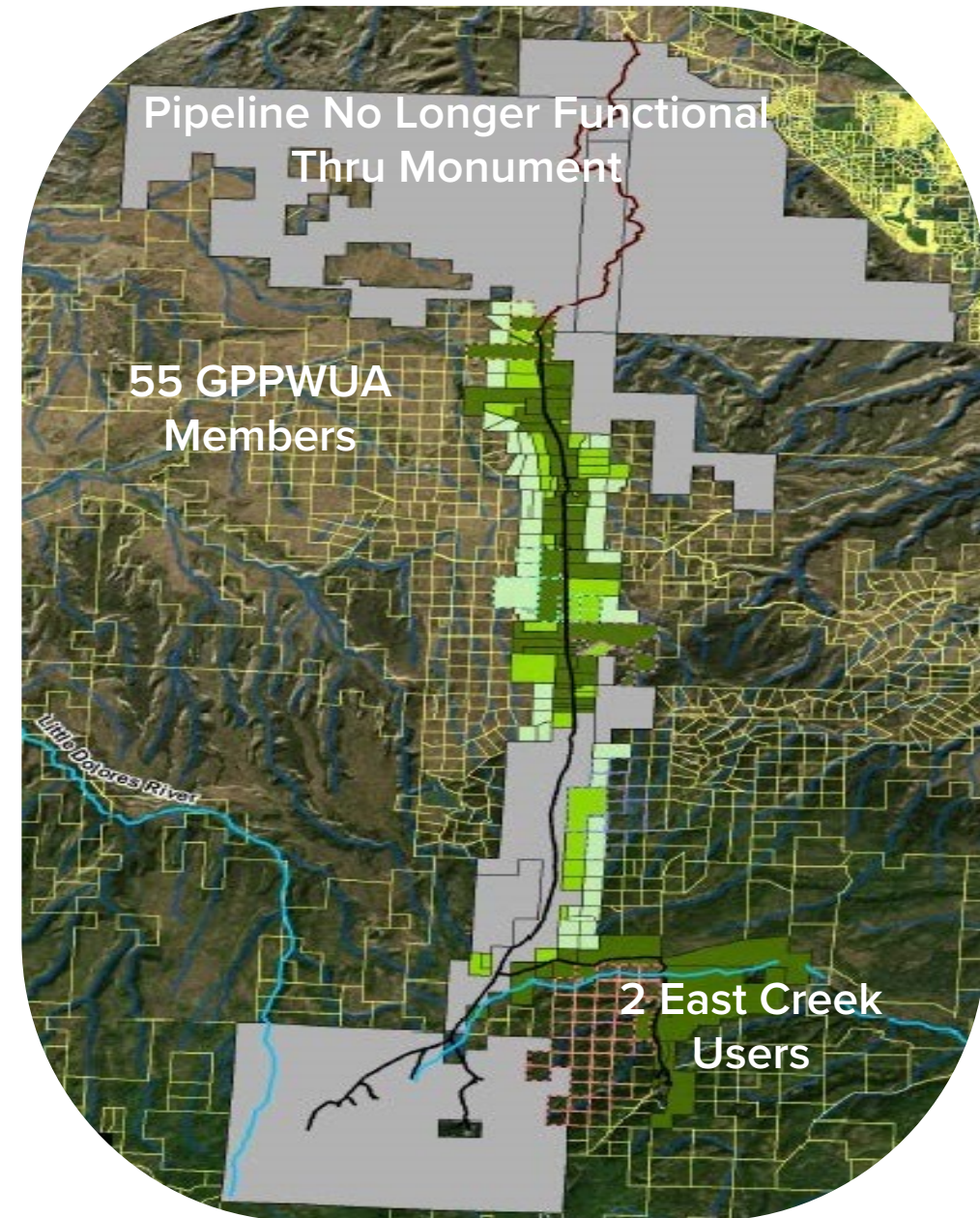
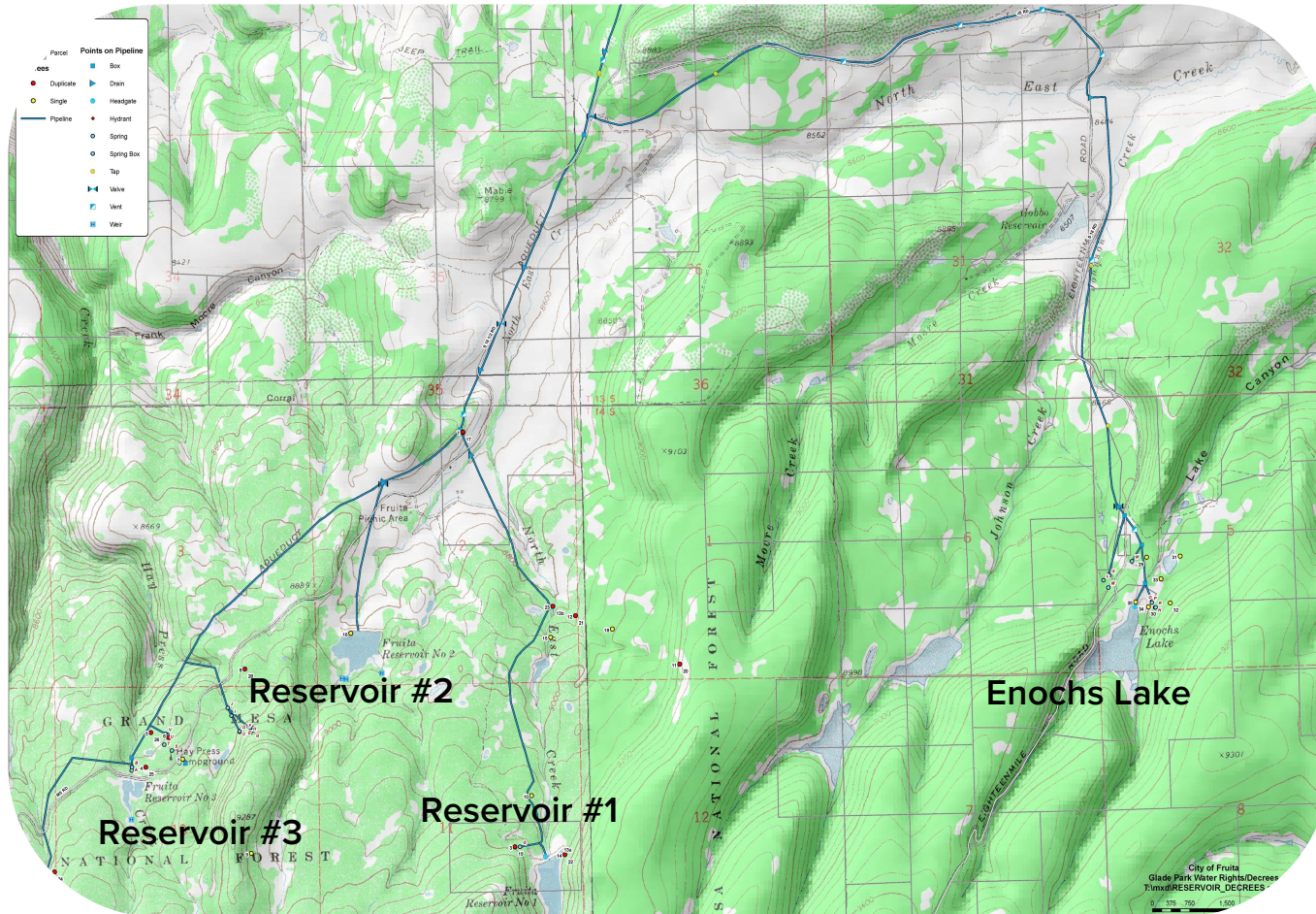
- Original Point of Diversion – Old Fruita Bridge – 171/2 Road
- Alternate Point of Diversion, near lagoon property



Liabilities

- Tipping Lease – capital improvements to Enoch's Reservoir & Fruita #1 Reservoir. Required to deliver 100-acre feet of water per year. (\$127,420.56 still owed to Mr. Tipping)
- GPPWUA – Renewed 5-year agreement to deliver irrigation water along the pipeline.
- Reservoir #2 – No Fill Order
- Reservoir #1 & #2 Significant Hazard class dams

2022 – Renewed 5-year agreement with GPPWUA, they maintain majority of system improvements.



Mountain Reservoirs

Reservoir #1



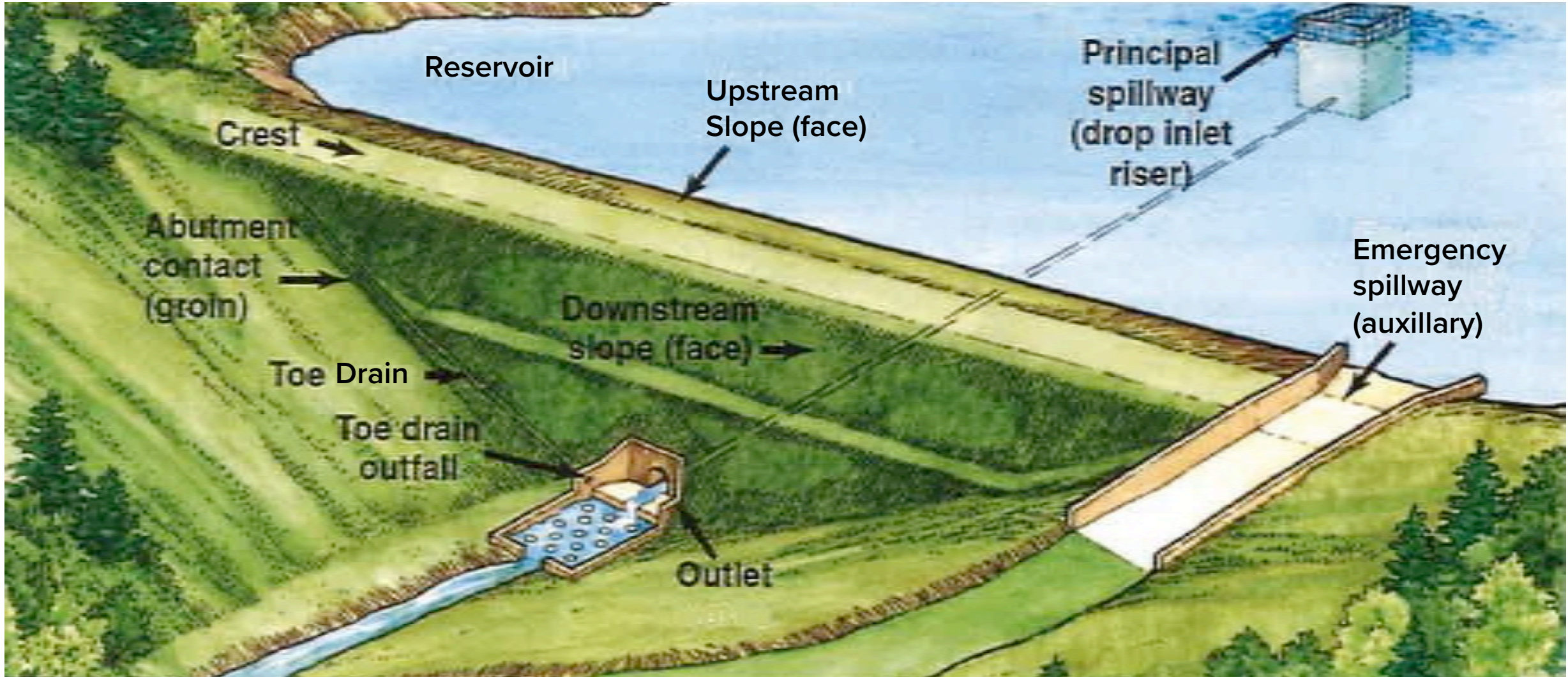
Reservoir #2



Reservoir #3



Dam Terminology



Hazard Classification

- Significant Hazard Dam

- A dam for which significant damage is expected to occur, but no loss of life is expected from failure of the dam.
- Significant damage is defined as damage to structures where people generally live, work, or recreate, or public or private facilities.

- Low Hazard Dam

- A dam for which loss of human life is not expected, and significant damage to structures and public facilities is not expected from failure of the dam.

Fruita Reservoirs

- Fruita #1 DAM
 - Hazard Classification – **Significant**
 - Dam Height - 47 ft., Crest length - 600 ft., Crest Width - 24 ft.
 - Requires Emergency Action Plan
- Fruita #2 DAM
 - Hazard Classification – **Significant**
 - Dam Height – 40 ft., Crest length – 950 ft., Crest Width – 15 ft.
 - Requires Emergency Action Plan
- Fruita #3 Dam
 - Hazard Classification – **Low Hazard**
 - Dam Height – 45 ft., Crest length – 564 ft., Crest Width – 5.0 ft.

Reservoir #1



View of the downstream slope taken from the right abutment.



Reservoir #1



Reservoir #2

View of instability/scarp on the downstream face. The depth of sloughing measured two feet in some area.



Reservoir #3

Haypress Inlet



Looking across the upstream slope from the right abutment.

Windy Point

Trash cleaner box at Windy Point



- Additional infrastructure maintained – weir boxes, toe drains, operator wheels in vaults, pipeline, and spillways.

Mountain Water Maintenance/Capital Projects

Year	Project	Project Costs	
2004	Pipeline Measurement Improvements	\$	26,869
2005	Enochs Dam Repair	\$	387,407
2006	Reservoir #2 Repairs	\$	10,000
2008	Reservoir #1 Design & Permitting	\$	115,818
2009	Reservoir #1 Dam Reconstruction	\$	637,051
2012	Reservoir #3 Spillway Design	\$	46,723
2013	Reservoir #3 Spillway Construction	\$	96,881
2016	Reservoir #2 Safety Evaluation	\$	45,300
TOTAL		\$	1,339,181

* The total project expenses reflected in this table do not include expenses related to salaries of City Staff for project management, nor do they include expenses incurred by the Army National Guard on Reservoir #1.



Toilet Facilities

Reservoir Monitoring & Maintenance



Pipeline Maintenance



24 miles of pipe



Reservoir #1 Dam Reconstruction



Reservoir #1 Outlet

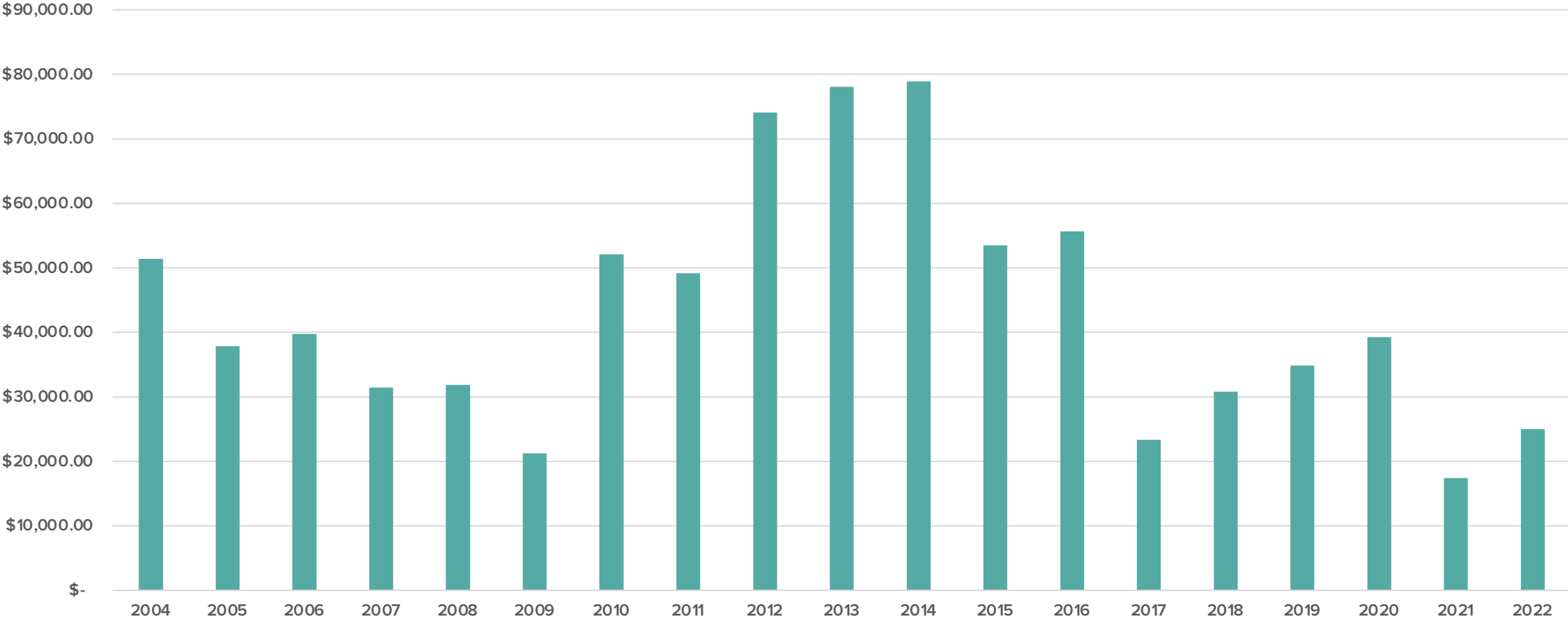


Reservoir #2 Dam



Reservoir #3 Spillway

Historical Expenses – Staffing & Maintenance (2004 – 2022)



Public Lands

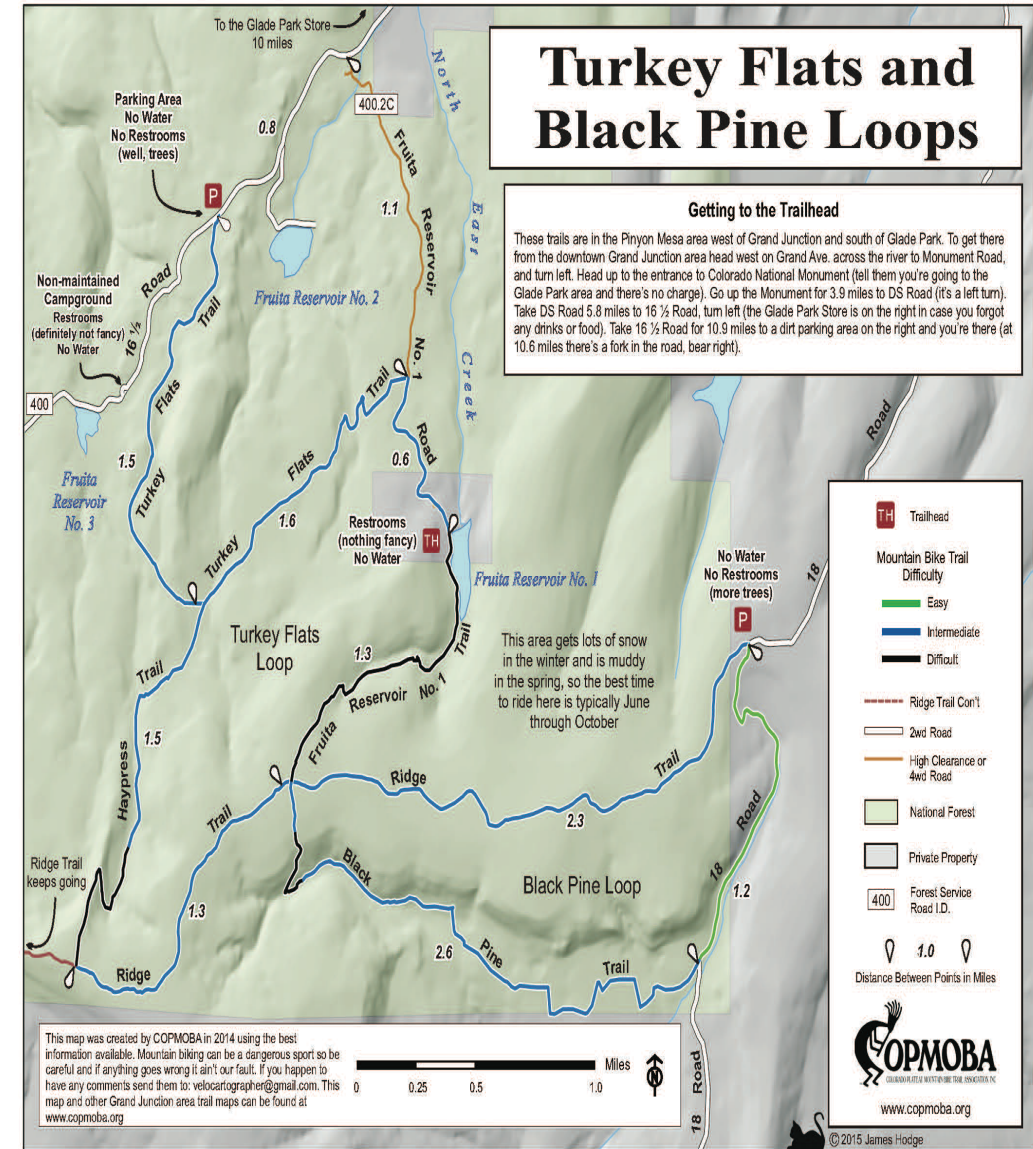


- Dispersed camping is allowed in Fruita Division of Grand Mesa National Forest, which includes Haypress Campground.
- Mud Springs Campground is a fee campground operated by the BLM.
- Camping is not allowed on City of Fruita properties, open for Day Use Only.



Challenges

- Illegal Camping
- Damage to private property
- Fires outside of fire pits
- Discharging firearms
- Safety – Limited resources, no cell service



Challenges - Reservoir #2

- Classified as a significant hazard dam
- State of Colorado – Dam Safety Engineers – No Fill Order
- Dam foundation shows existing cracks and slumps that appear to be related to shallow instability, freeze thaw, or dessication
- Dam currently does not meet minimum slope stability safety factors
- Requires a downstream stability berm with filters and draws, flattening the downstream slope and provide filter protection for the embankment.

State of Colorado - Dam Safety

- Storage restrictions is not a long-term solution
- Dam under zero storage restriction still presents a threat/liability as demonstrated by the 2019 unplanned filling of reservoir
- Options
 - Rehabilitate the dam and be released from storage restriction
 - Cut the spillway down to non-jurisdictional height, which might allow release from restriction as the dam no longer presents a threat to property
 - Breach the dam to achieve similar outcome as option #2

Natural Resource Conservation Service (NRCS)

- PL-566 Program – East Creek Watershed
- Preliminary Investigative Feasibility Study - \$50k
 - 1st step in development of a watershed plan
 - Will develop four alternatives which could include no action
 - Timeline for recommendations – May 2023

Questions?

