

2014 BLM Instream Flow Recommendations



2014 Recommendations Emphasis

- Recommendations from previous years-complete work
- Protect streams that provide habitat for sensitive and native fish species – work to prevent listing under Endangered Species Act
- Decree instream flow increases for streams where existing instream could more fully protect the natural environment

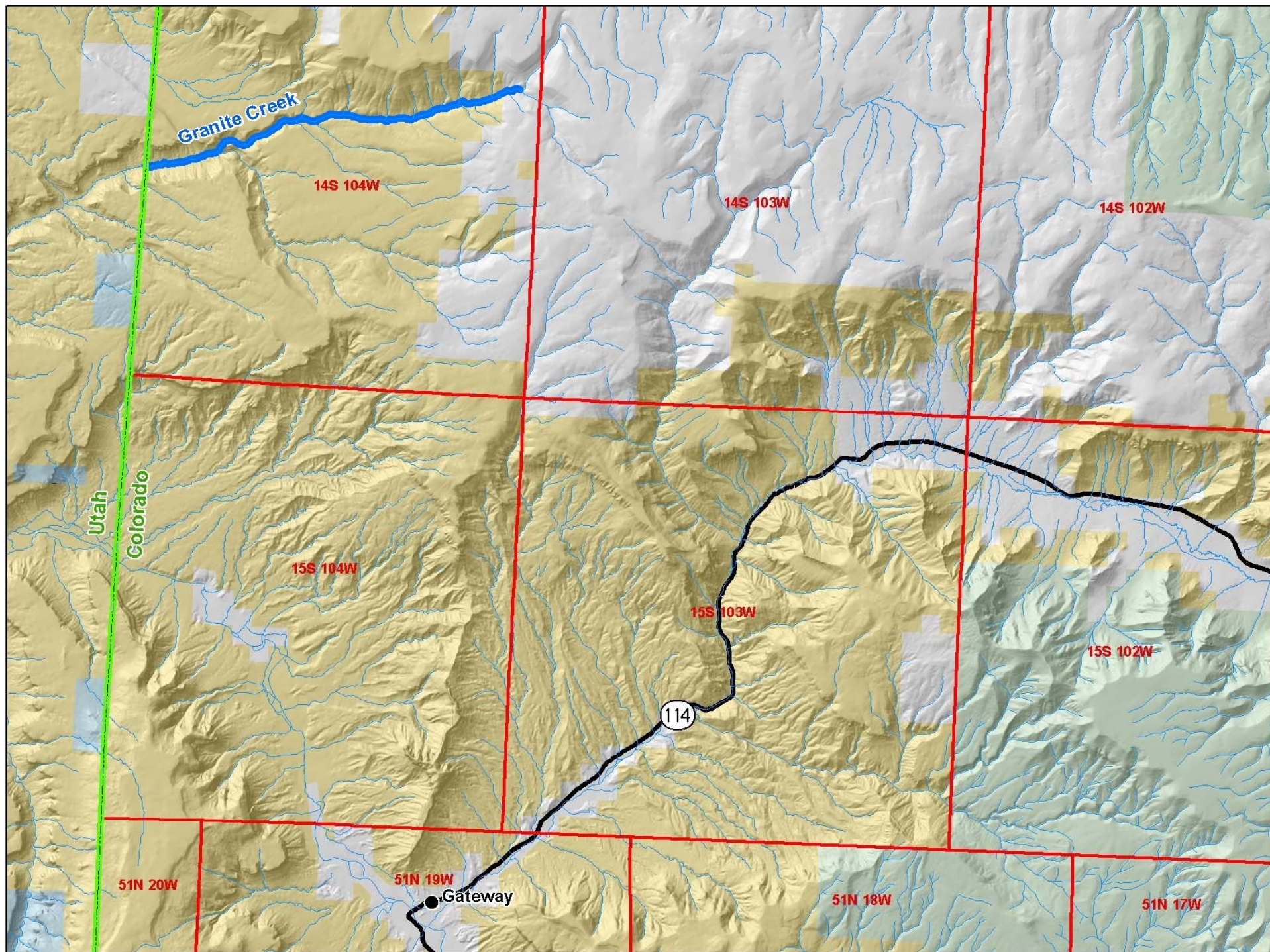


BLM Recommendations From Previous Years



Granite Creek Mesa County





Granite Creek



Natural Environment:

- Brook Trout
- Alder-Willow Riparian
- High Gradient Canyon
- Pristine Condition

Flow Rates:

2.7 cfs April 1 - June 30

1.6 cfs July 1 – August 31

0.6 cfs Sept. 1 – March 31

Granite Creek



Water Availability:

Headwaters stream; typical snowmelt hydrograph

Losing stream; low flows in late summer and fall

Located on state boundary

Water Rights Upstream:

One livestock watering ditch

Multiple small reservoirs and springs

Granite Creek



Stakeholders:

Mesa County

Trout Unlimited

Wilderness Advocates

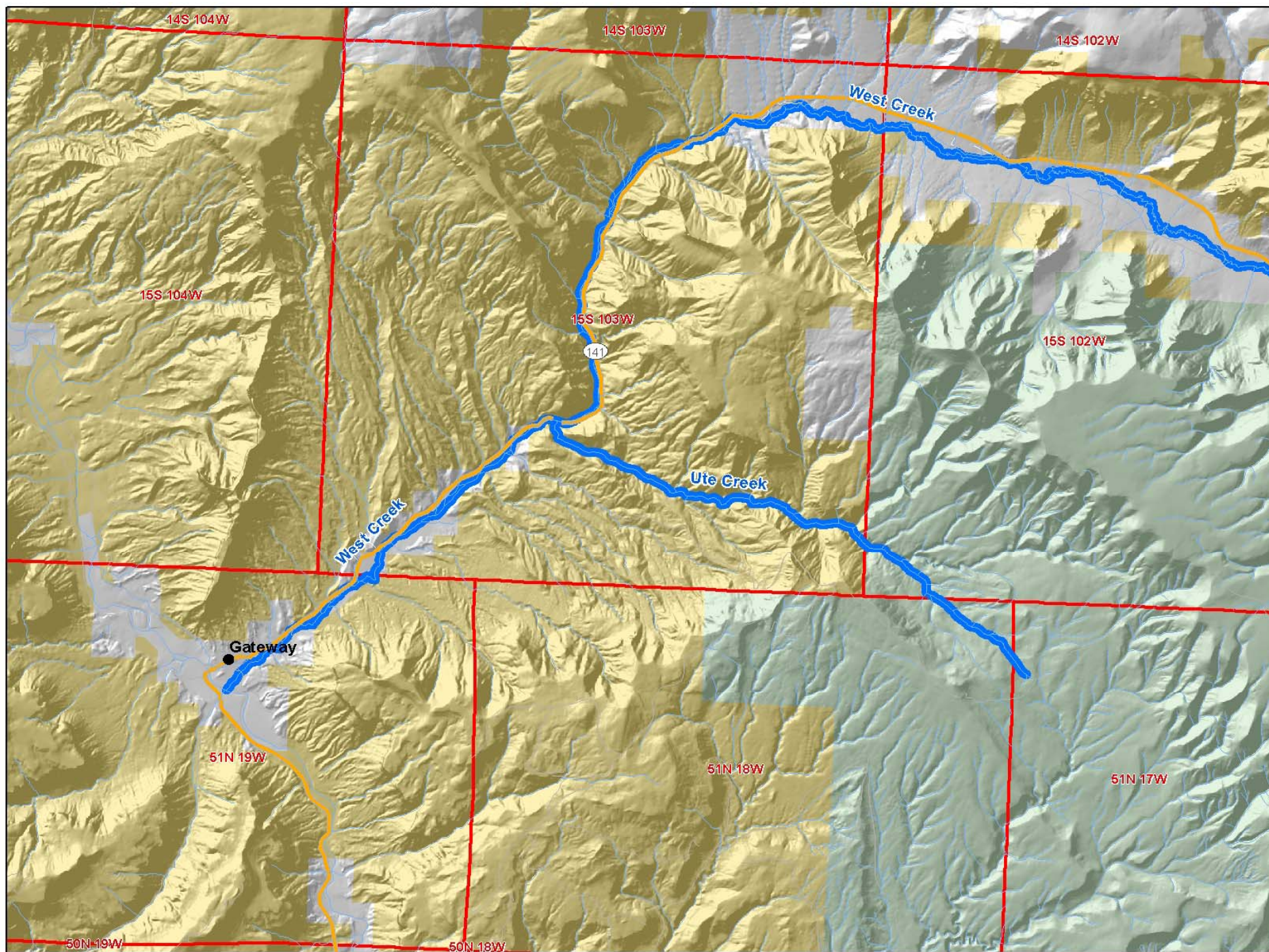
Colorado River Water
Conservation District

Upstream Ranch Owner



Ute Creek Mesa County





Ute Creek



Natural Environment:

- Rainbow Trout
- Brown Trout
- Pristine Cottonwood Galleries
- Narrow, armored canyon

Flow Rates:

2.0 cfs Mar 16 to Jun 30

0.3 cfs Jul 1 to Mar 15

Ute Creek

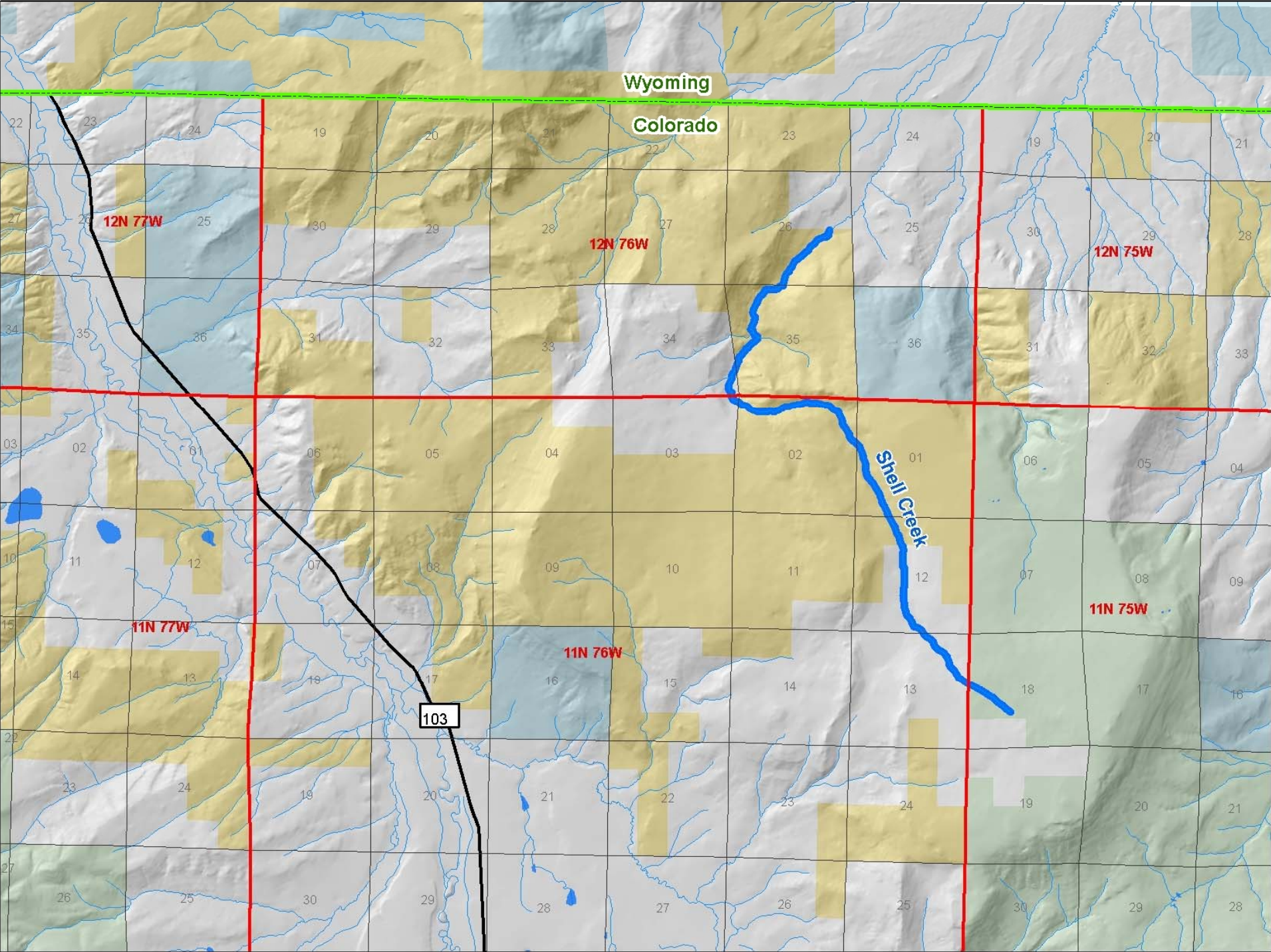


Stakeholders:

- Mesa County
- Town of Gateway
- Trout Unlimited
- Wilderness Advocates
- Colorado River Water Conservation District

Shell Creek Larimer County





Shell Creek



Natural Environment:

- Brook Trout
- Spruce/Willow/
Alder/Sedge Riparian
- Moderate width valley in
foothills/alpine zone

Flow Rates:

1.15 cfs April 1 – Oct. 31

1.00 cfs Nov. 1 – March 31

Shell Creek



Water Availability:

- Headwaters
- Snowmelt hydrograph

Water Rights:

- None in reach
- Located above headgates

Shell Creek



Stakeholders:

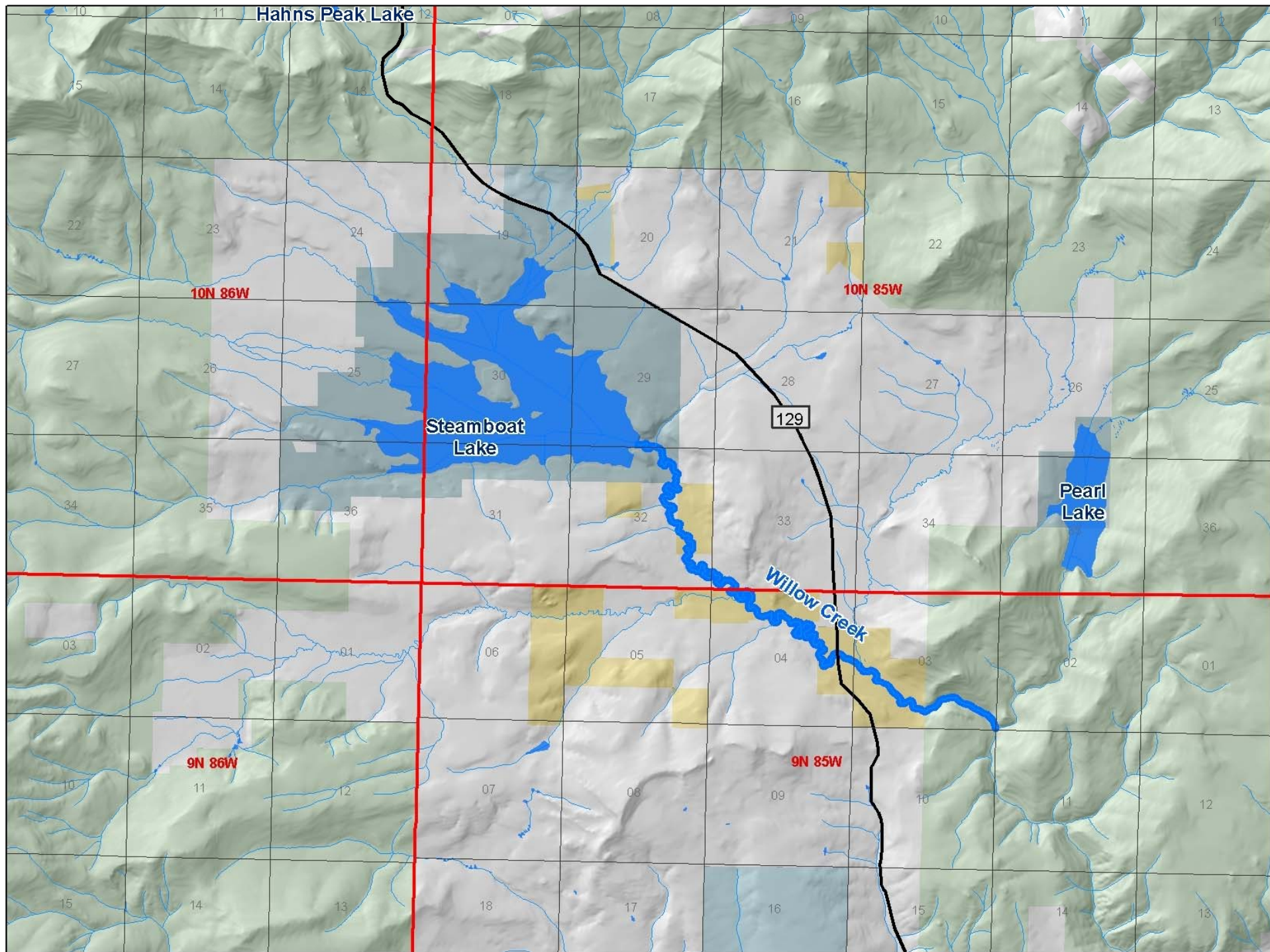
Larimer County

Ditch owner at lower
terminus

State of Colorado –
interstate decree

Willow Creek Routt County





Willow Creek



Natural Environment:

- Native fishery – mountain suckers, mottled sculpin, speckled dace
- Willow/sedge riparian zone – much of stream channel is not shaded
- Low gradient stream in wide valley



Willow Creek



Existing ISF water right,
appropriated in 1977:

- Steamboat Lake to Beaver Creek – 5.0 cfs, year round
- Beaver Creek to Elk River – 7.0 cfs, year round

Willow Creek



Proposed Enlargements:

Steamboat Lake to Beaver Creek –

- 6.9 cfs April 1 to July 31
(11.9 cfs total ISF right)
- 2.7 cfs August 1 to
March 31
(7.70 total ISF right)

Willow Creek

Proposed Enlargements

Beaver Creek to Lester Creek Segment (no enlargement proposed for lower portion of current ISF reach):

- 13.3 cfs April 1-July 31 (20.3 cfs total ISF right)
- No enlargement proposed for rest of year



Willow Creek



Water Availability:

Snowmelt hydrology

Base flows controlled by
releases from
Steamboat Lake

Two upstream ditches



Willow Creek



Stakeholders:

- Upper Yampa Water Conservancy District
- Steamboat Lake Water and Sanitation District – owns conditional rights
- Tri-State Generation and Transmission Association
- Multiple small landowners
- Colorado Parks & Wildlife

Willow Creek



Water Rights:

- Storage rights in Steamboat Lake – 23,000 AF
- Decrees allow part of storage right to be used for augmentation
- Upper Yampa District has requested agreement with CPW to use part of storage to augment out-of-priority depletions in Elk River watershed
- CPW releases 5 cfs from lake outside of snowmelt season

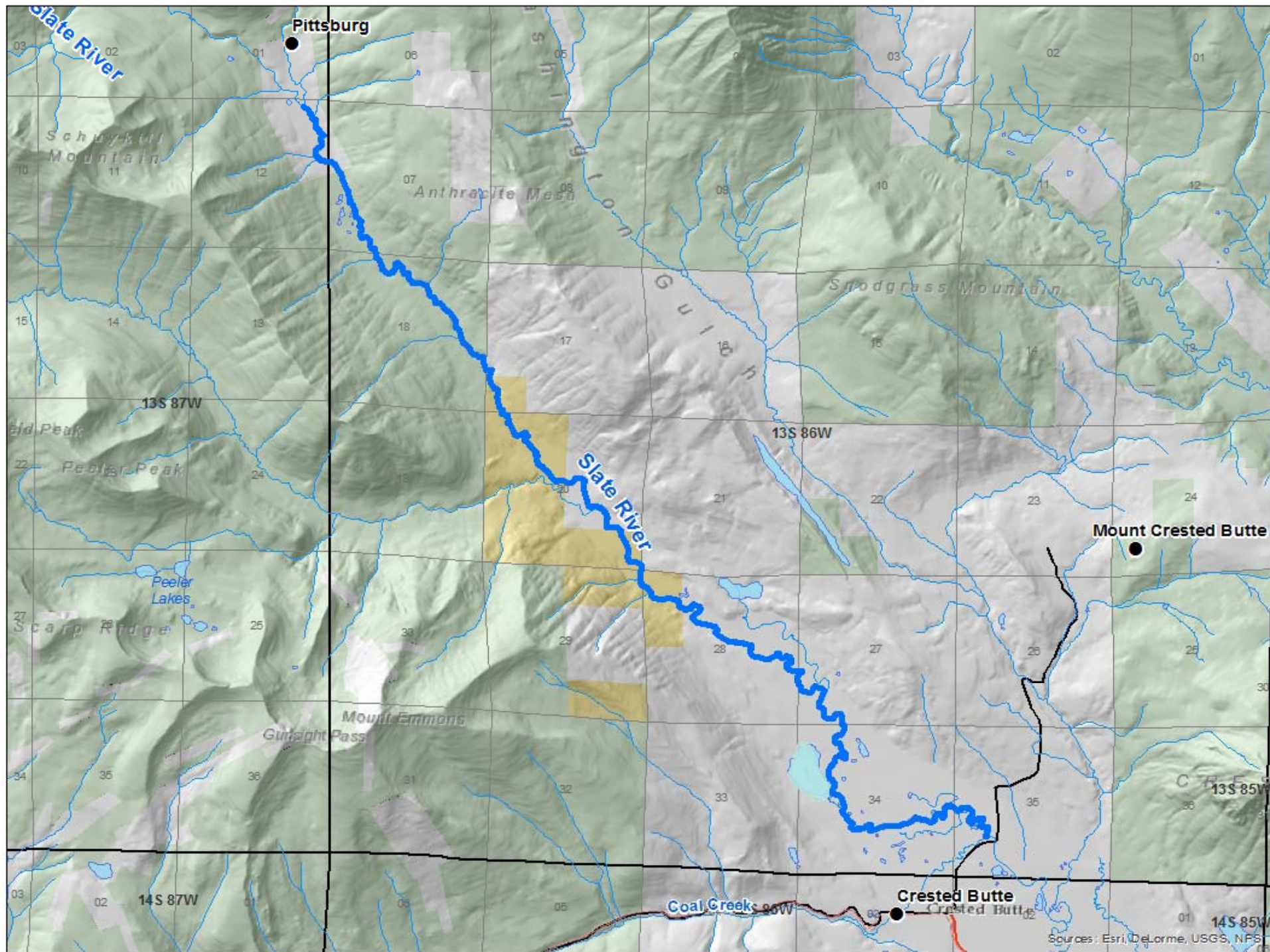
Streams in Water Division 4



Dolores River near Gateway

Slate River Gunnison County





Slate River



Natural Environment:

- Fishery – Brook Trout and Brown Trout
- Above average macro-invertebrate abundance
- Blue Spruce – Willow Riparian Community
- Broad valleys and canyon sections – high bedload
- Affected by heavy metals

Slate River



Current ISF water rights with
1980 priority:

*Poverty Gulch to Oh-Be-Joyful
Creek*

15.0 cfs Apr. 1 to Nov. 30

8.0 cfs Dec. 1 to Mar. 31

*Oh-Be-Joyful Creek to Coal
Creek*

20.0 cfs Apr. 1 to Nov. 30

10.0 cfs Dec. 1 to Mar. 31

Slate River



Proposed ISF increases:

Poverty Gulch to Oh-Be-Joyful Creek

35.5 cfs May 1 to July 15

(50.5 cfs total after increase)

Oh-Be-Joyful Creek to Coal Creek

41.0 cfs May 1 to July 15

(60 cfs total after increase)



Slate River

Water Availability:

- Near headwaters
- Snowmelt driven
- Gage data available

Water Rights:

- Berg Irrigation Ditch – 1.5 cfs in upper reach
- Peanut 1 and 2 Ditch – 2.67 cfs in lower reach
- Conditional mining rights – 30 cfs



Slate River

Stakeholders:

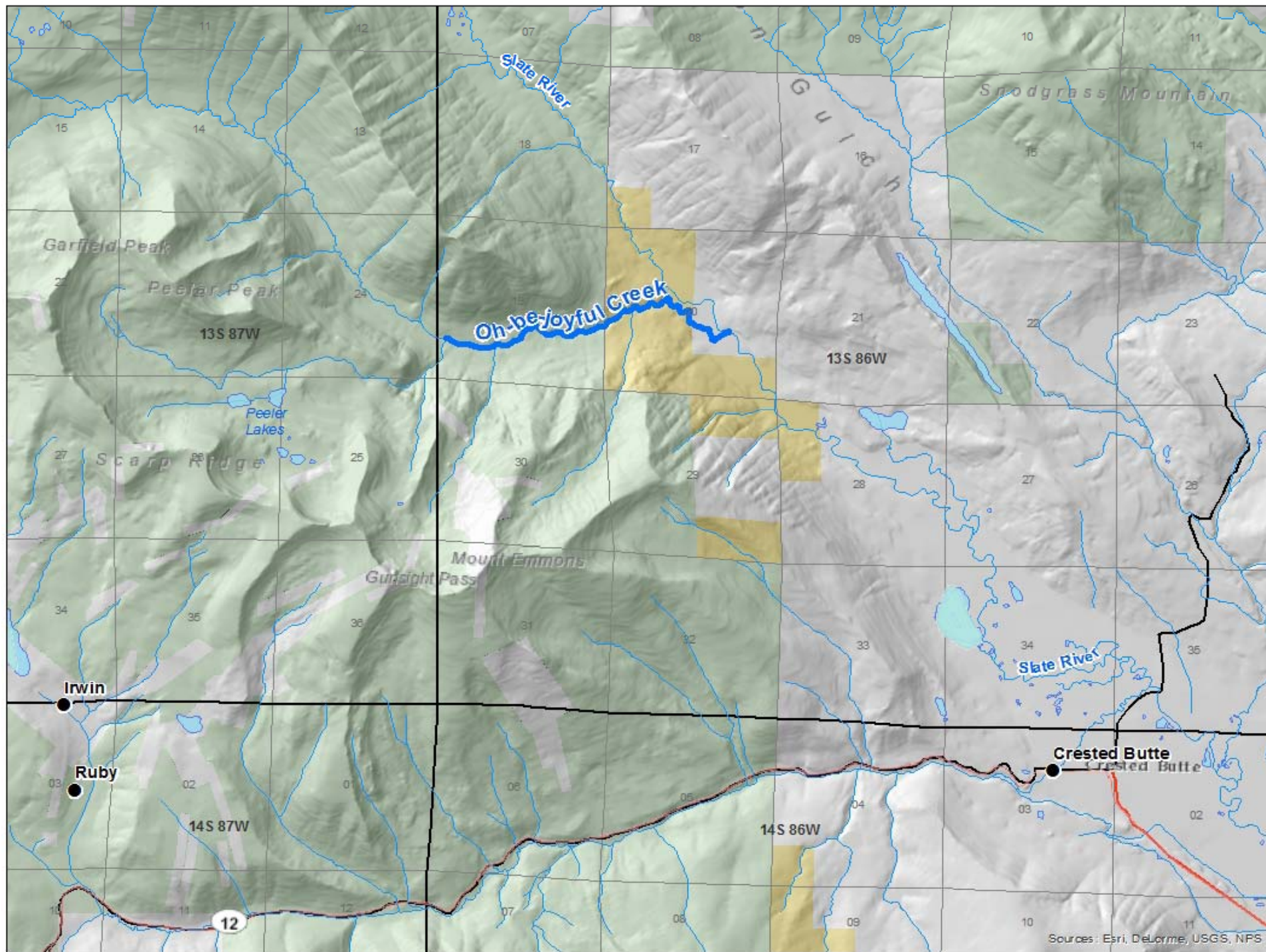
- Upper Gunnison Water Conservancy District
- US Energy
- Mt. Crested Butte Water & Sanitation District
- City of Crested Butte
- Crested Butte Land Trust
- Upper Slate River Committee of Coal Creek Watershed Coalition
- High Country Citizens Alliance



Oh-Be-Joyful Creek

Gunnison County



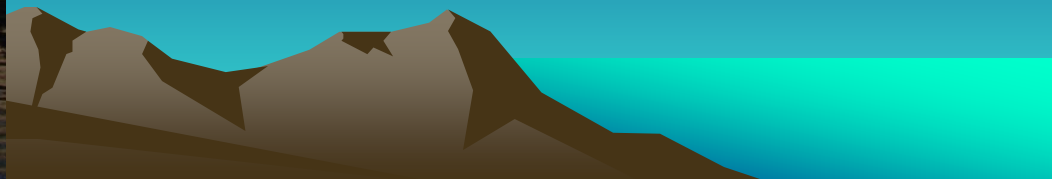


Oh-Be-Joyful Creek



Natural Environment:

- Fishery – Brook Trout
- Above average macro-invertebrate abundance
- Blue Spruce – Willow Riparian Community
- Highly armored canyon environment with high bedload
- Affected by heavy metals



Oh-Be-Joyful Creek



Existing ISF water right,
appropriated in 1980:

- Unnamed tributary to confluence with Slate River – 3.0 cfs, year round

Oh-Be-Joyful Creek



Proposed Enlargement:

Unnamed tributary to Slate River confluence—

- 2.45 cfs Apr 1 to Apr 30
(5.45 cfs total ISF right)
- 17.8 cfs May 1 to July 15
(20.8 cfs total ISF right)
- 2.45 cfs Jul 16 to Oct 31
(5.45 cfs total ISF right)

Oh-Be-Joyful Creek



Water Availability:

- Snowmelt hydrology
- Gage data available on Slate River
- No current diversions or water rights



Oh-Be-Joyful Creek

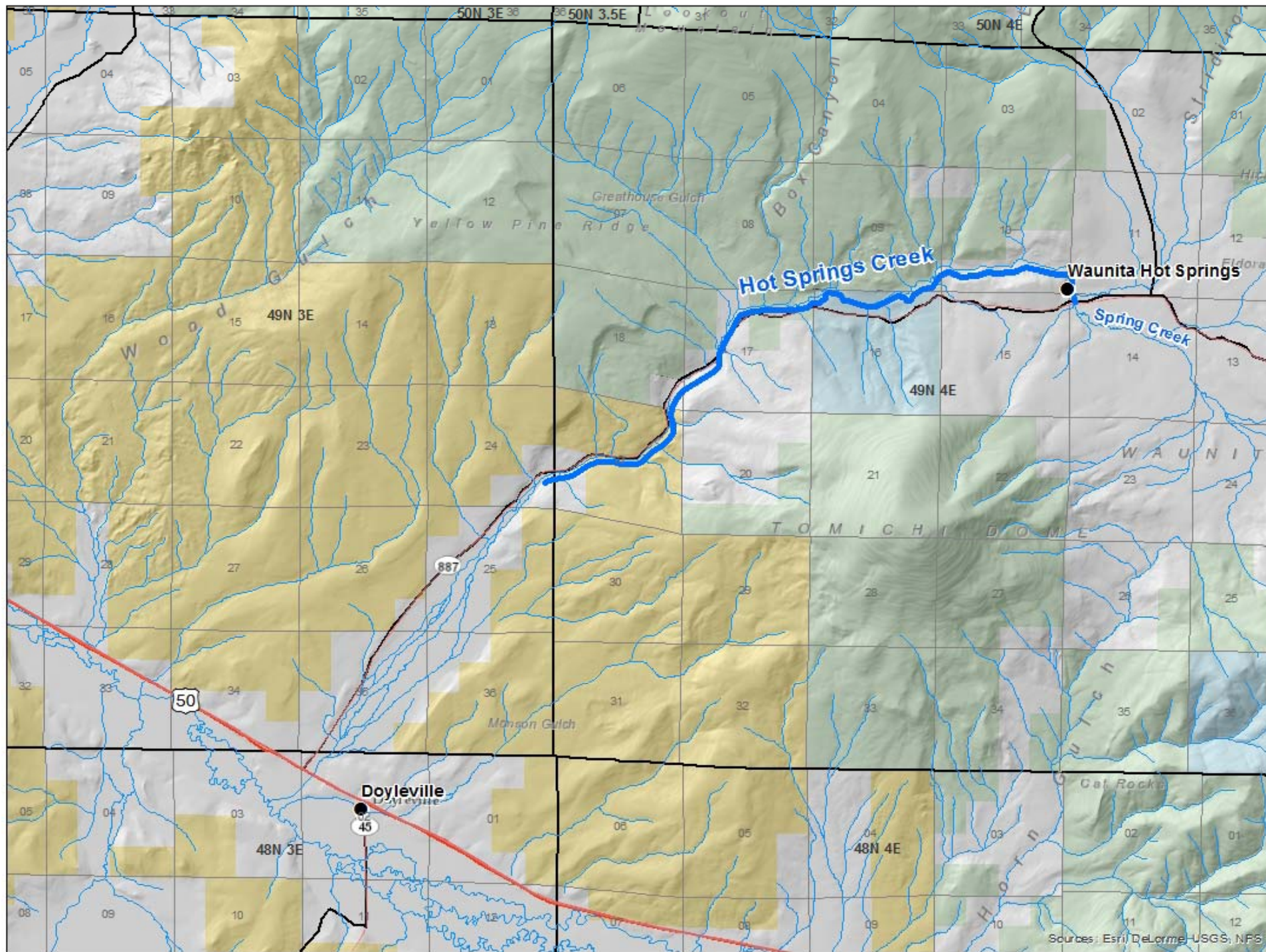
Stakeholders:

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- US Energy
- Mt. Crested Butte Water & Sanitation District
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Hot Springs Creek Gunnison County



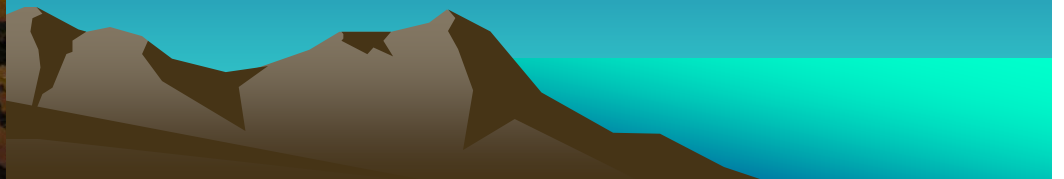


Hot Springs Creek



Natural Environment:

- Fishery – longnose dace and rainbow trout
- Cottonwood-alder-willow riparian; stable and recovering from historic livestock overuse



Hot Springs Creek



Current ISF Water Right:

- Headwaters to Tomichi Creek; 1984 priority
- 1.5 cfs year-round

Proposed Increase:

- Spring Creek to LL Bush Ditch #4:
- 2.4 cfs Apr 1 to Aug 31
(3.9 cfs total after increase)

Hot Springs Creek



Water Availability:

- Snowmelt runoff hydrology somewhat influenced by winter water storage – reservoir augments stream during late irrigation season

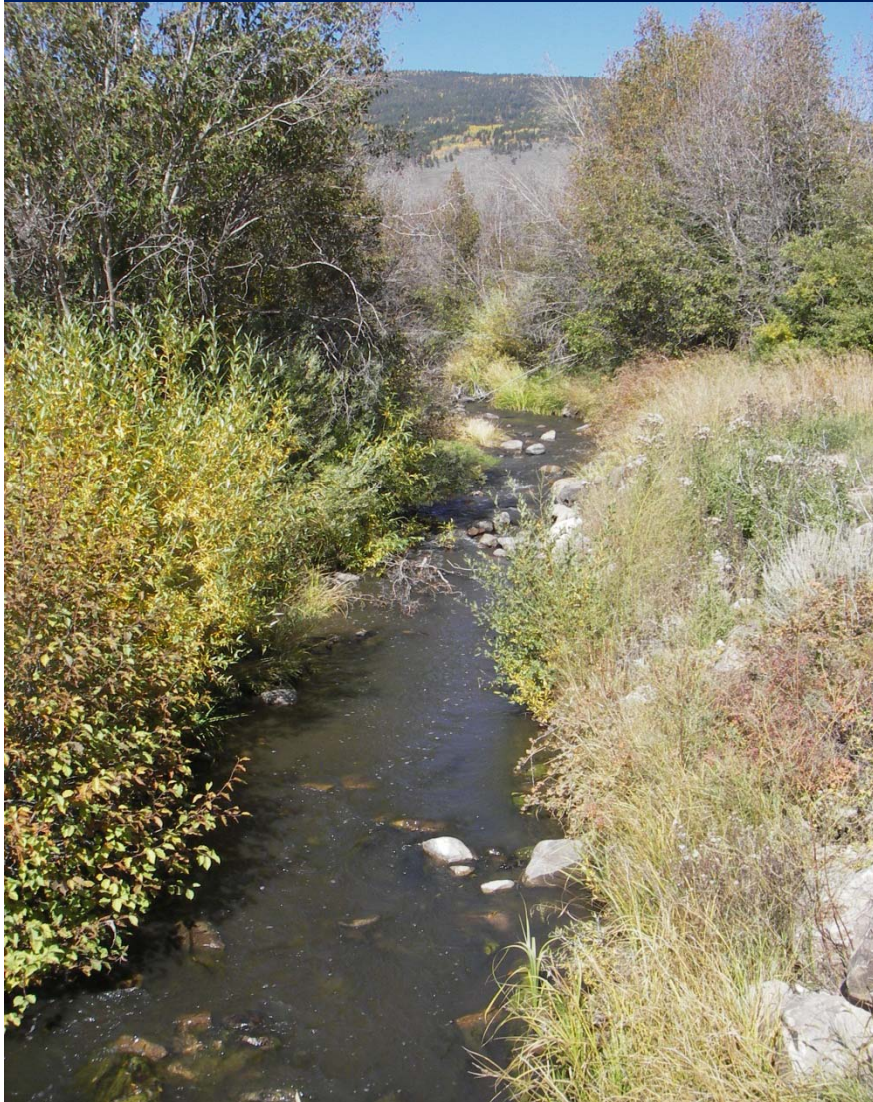
Water Rights:

8 ditches upstream – 15.6 cfs

The most senior rights are below proposed enlargement

Hot Springs Reservoir – 603 AF;
exclude from ISF reach

Hot Springs Creek

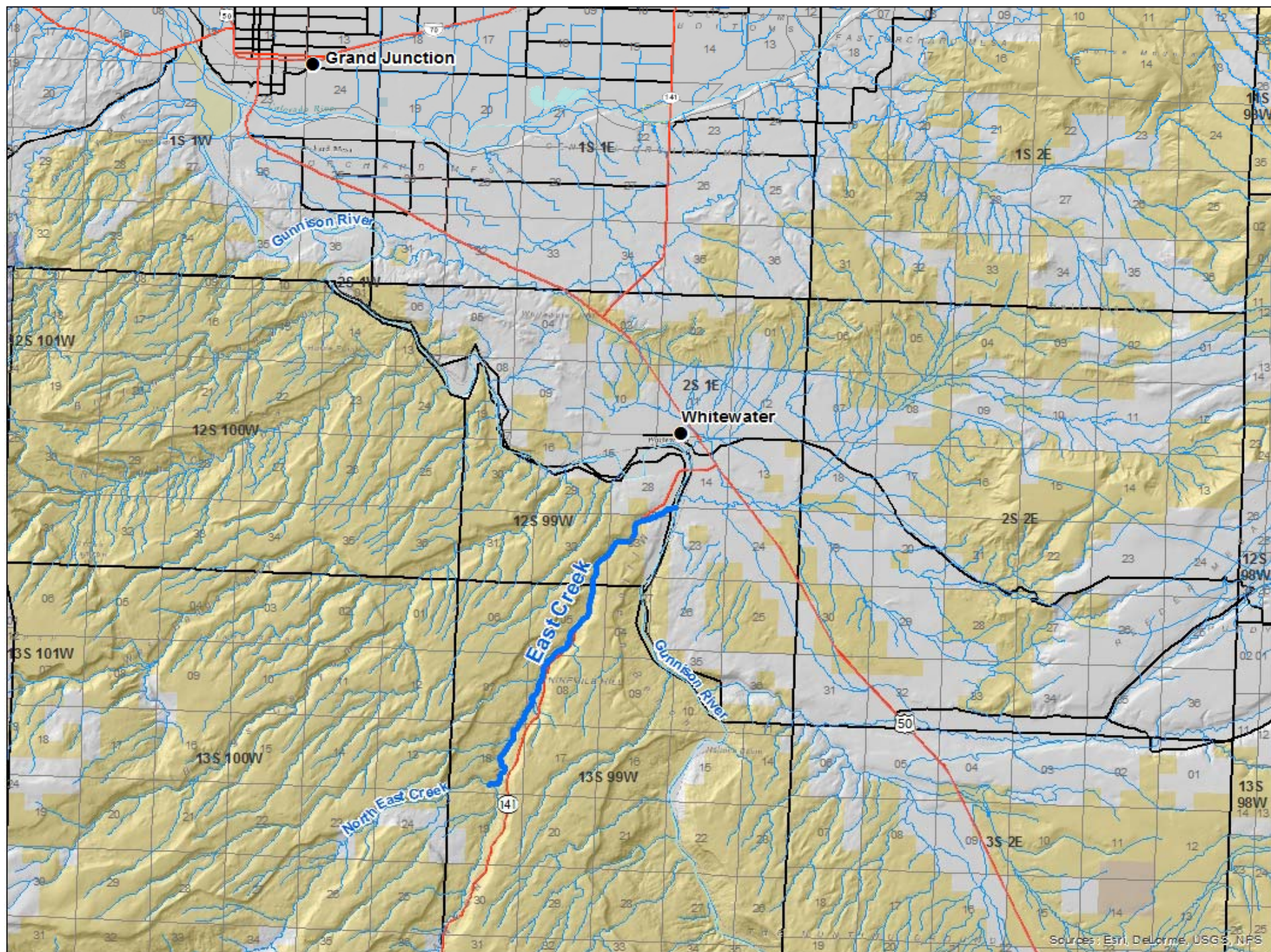


Stakeholders:

- Upper Gunnison River Water Conservancy District
- Gunnison County
- Upstream and downstream ditch owners
- Hot Springs Reservoir Association

East Creek Mesa County





East Creek



Natural Environment:

- Native Fishery: flannelmouth sucker, bluehead sucker, and speckled dace
- Robust cottonwood-willow riparian community
- Moderate gradient stream in narrow canyon
- Recovering from overuse by livestock and vehicles

East Creek



Proposed Flow Rates:

- 1.65 cfs March 1 to June 30
- Objective – protect spawning period for native fish species

East Creek



Water Availability:

- Snowmelt runoff hydrology; losing stream segment
- Water supplied from North East Creek ISF segment located upstream
- No gage data – must rely upon diversion records

Water Rights:

- 10 ditches located upstream from segment, totaling 14.78 cfs

East Creek

Stakeholders:

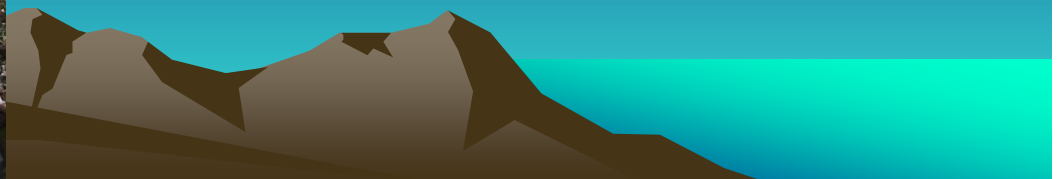
Mesa County

Upstream and downstream ditch owners

Farm Bureau

Users of BLM recreation areas along creek

Resource Advisory Council for
Dominguez-Escalante
National Conservation Area



Dolores River

Joint BLM-CPW Recommendation

Montrose and Mesa Counties





Dolores River



Reach Characteristics:

- 34 river miles
- Low gradient: averages 0.2%
- Mostly pool and run habitat; riffle habitat limited
- Substrate: sand/mud to small cobbles
- River characteristics (e.g. range of widths and depths) very consistent because of very limited tributary inflow

Dolores River



Natural Environment:

- Native Fishery: flannelmouth sucker, bluehead sucker, roundtail chub, speckled dace; (89% of population); some of best populations in Dolores River watershed
- Non-native fishes: catfish, carp, red shiner, sand shiner (11% of population)

Dolores River



Natural Environment:

- Riparian Natives: Fremont cottonwood, box elder, coyote willow, New Mexico privet, skunkbrush
- Riparian community seriously comprised by tamarisk invasion
- Dolores River Restoration Partnership aggressively treating tamarisk on entire length of river



Dolores River

Instream Flow Methodology – Two Methods:

- Physical Habitat Simulation – Identifies flows that optimize overall habitat area during critical snowmelt runoff season
- R2Cross – Identify base flows that meet instream flow criteria (wetted perimeter, depth, velocity) in riffle habitat



Dolores River



Instream Flow Data Collection

- PHABSIM Reach – Selected 1800' reach that represents habitat within the 34 river miles. Collected data on seven cross sections – riffle, runs, pools. Data collection complete.
- R2Cross – Will select 3 to 5 riffles for additional data collection during 2013.

Dolores River



Preliminary flow rates, based upon modeling:

900 cfs – April 15 to June 14

400 cfs – June 15 to July 31

200 cfs – August 1 to August 31

132 cfs – September 1 to
February 29 (most likely to
change based upon additional
data collection)

200 cfs – March 1 to April 14

Dolores River



Water Availability:

- Contribution from San Miguel River is snowmelt driven
- Contribution from Dolores River controlled by McPhee Dam
- No gage in stream segment, but excellent gage data available from San Miguel and Dolores
- BLM and CPW have installed pressure transducer within the reach; will correlate data to San Miguel & Dolores gages



Dolores River



Water Rights:

- 12 diversions within reach; mostly pasture irrigation
- Town of Gateway & Gateway Canyons Resort located at end of reach
- Major upstream usage on San Miguel River and from McPhee Project
- Dolores River contributes to Colorado River Compact deliveries to downstream states

Dolores River



Stakeholders:

Montrose and Mesa Counties

Colorado River District

Southwestern Colorado Water
Conservation District

Town of Gateway

Gateway Canyon Resort

Recreation users - floatboaters



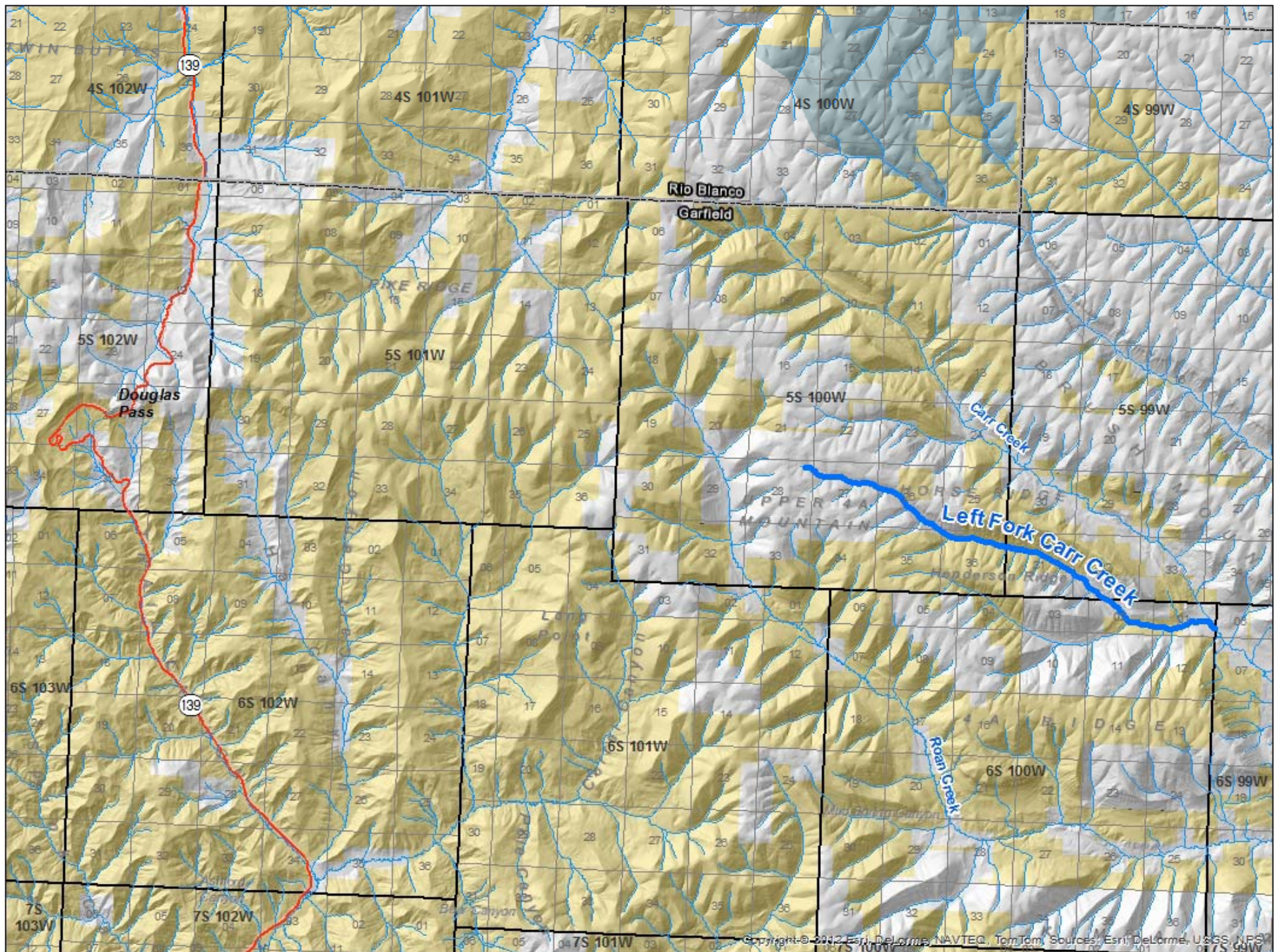
Streams in Water Division 5



Colorado River near State Bridge

Left Fork Carr Creek Garfield County





Left Fork Carr Creek



Natural Environment:

- Native Fishery: Colorado River Cutthroat Trout
- Robust cottonwood-willow-dogwood riparian
- High gradient stream in narrow canyon; large substrate
- Recovering from overuse by livestock

Left Fork Carr Creek



Proposed Flow Rates:

- 2.0 cfs Apr 1 to Aug 31
- 1.5 cfs Sep 1 to Oct 31
- 0.8 cfs Nov 1 to Mar 31

Left Fork Carr Creek



Water Availability:

- Headwaters stream; baseflow dependent upon springs
- Snowmelt runoff hydrology; losing stream segment
- No gage data – must rely upon nearby gages in similar watersheds

Water Rights:

- None; first ditch is recommended as lower terminus

Left Fork Carr Creek

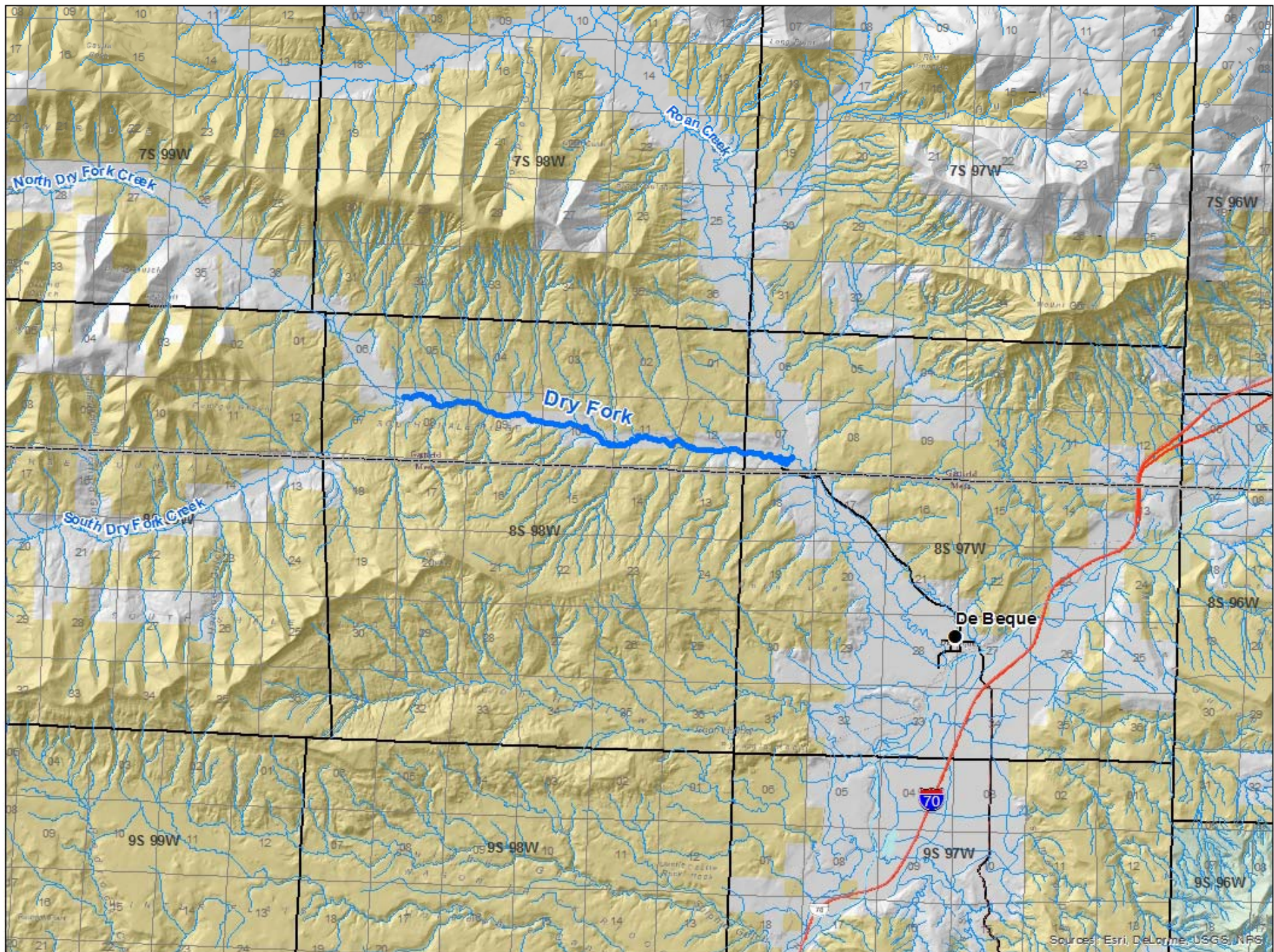


Stakeholders:

- Garfield County
- Owner of Franklin No. 2 Ditch
- Trout Unlimited
- Oil and gas companies developing leases in the area

Dry Fork Roan Creek Garfield County





Dry Fork Roan Creek



Natural Environment:

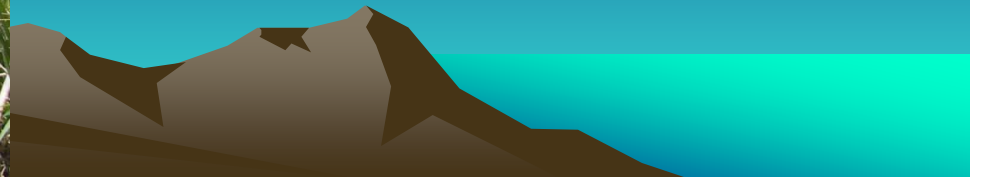
- Fishery: Speckled dace, brook stickleback, fathead minnow
- Amphibians: leopard frogs
- Riparian: Sedge-Rush-Willow-Cottonwood
- Narrow stream; small substrate; many overhanging banks
- Recovering from overuse by livestock

Dry Fork Roan Creek



Proposed Flow Rates:

- 1.4 cfs Mar 1 to May 31
- 1.2 cfs Jun 1 to Nov 30
- 1.05 cfs Dec 1 to Feb 28



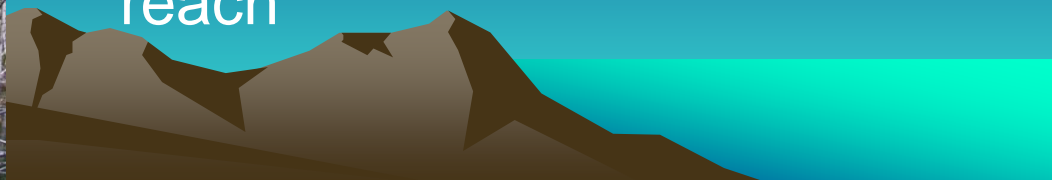
Dry Fork Roan Creek

Water Availability:

- Segment is low in watershed;
- Gage data is available to support water availability
- Flow rates influenced by return flows from irrigation practices

Water Rights:

- 6 ditches upstream – 9.2 cfs
- 2 ditches within reach – 4.9 cfs
- Most senior rights are located downstream from proposed reach



Dry Fork Roan Creek



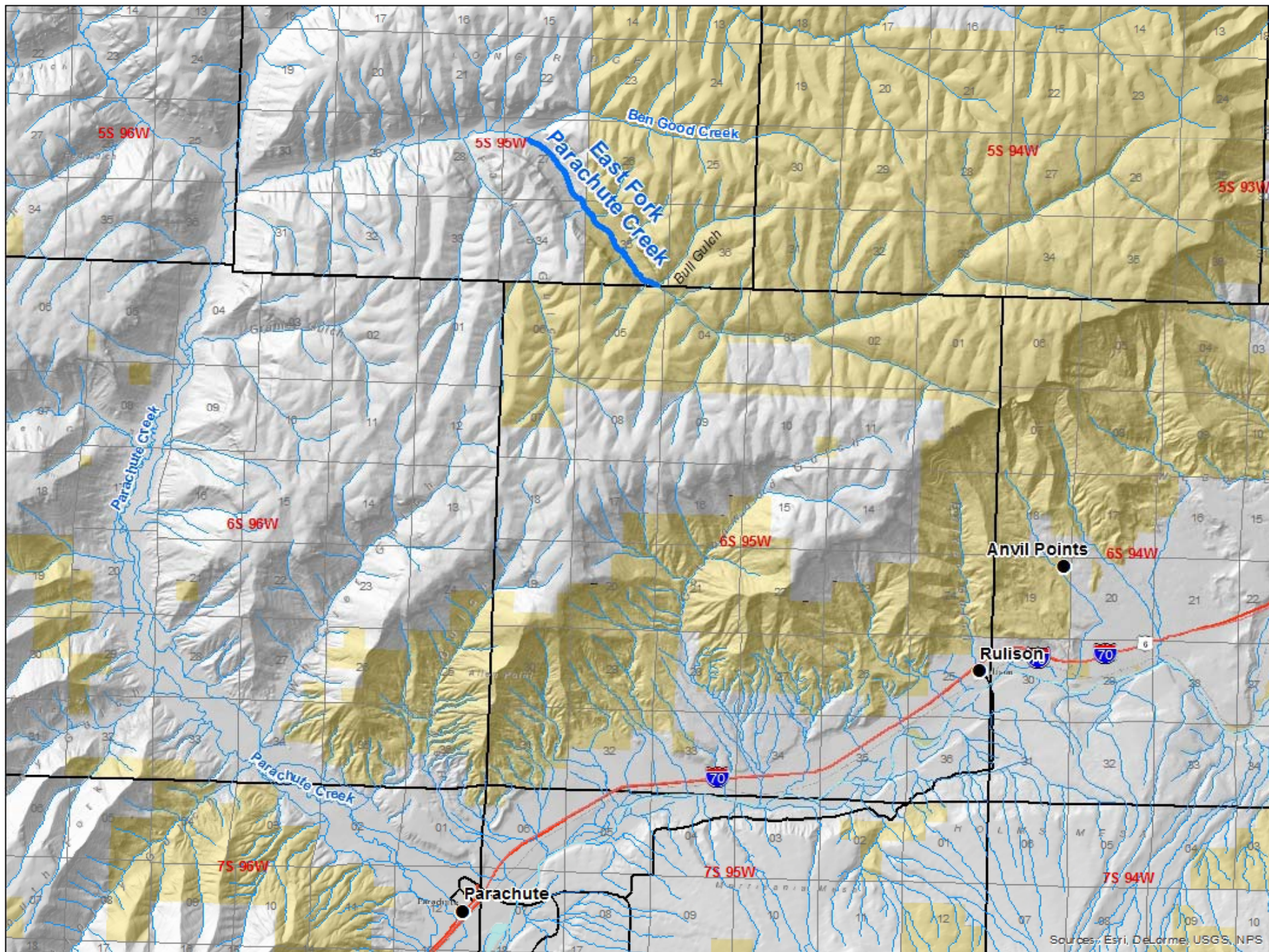
Stakeholders:

- Garfield County
- Ditch owners
- Oil and gas companies developing leases in the area

East Fork Parachute Creek

Garfield County



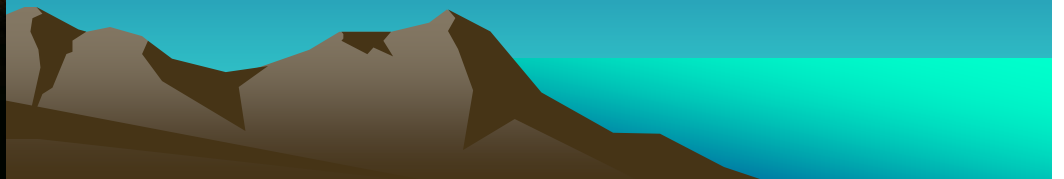


East Fork Parachute Creek



Natural Environment:

- Fishery: Brook Trout
- Riparian: Robust Box Elder – Maple Riparian Community
- High gradient stream with large substrate and woody debris
- Stream environment in very good condition



East Fork Parachute Creek



Proposed Flow Rates:

- 9.35 cfs Apr 1 to Jun 30
- 1.0 cfs Jul 1 to Aug 31
- 0.65 cfs Sep 1 to Mar 31

Existing ISF right upstream:

- 5.0 cfs Apr 15 to Jun 30
- 2.0 cfs Jul 1 to Aug 31
- 0.8 cfs Sep 1 to Mar 14
- 1.3 cfs Mar 15 to Apr 14

East Fork Parachute Creek



Water Availability:

- Segment in middle of watershed but above diversions
- Gage data is available to support water availability
- Flow rates influenced by losing stream environment

Water Rights:

- None

Dry Fork Parachute Creek



Stakeholders:

- Garfield County
- Oil and gas companies developing leases in the area
- Wilderness advocates

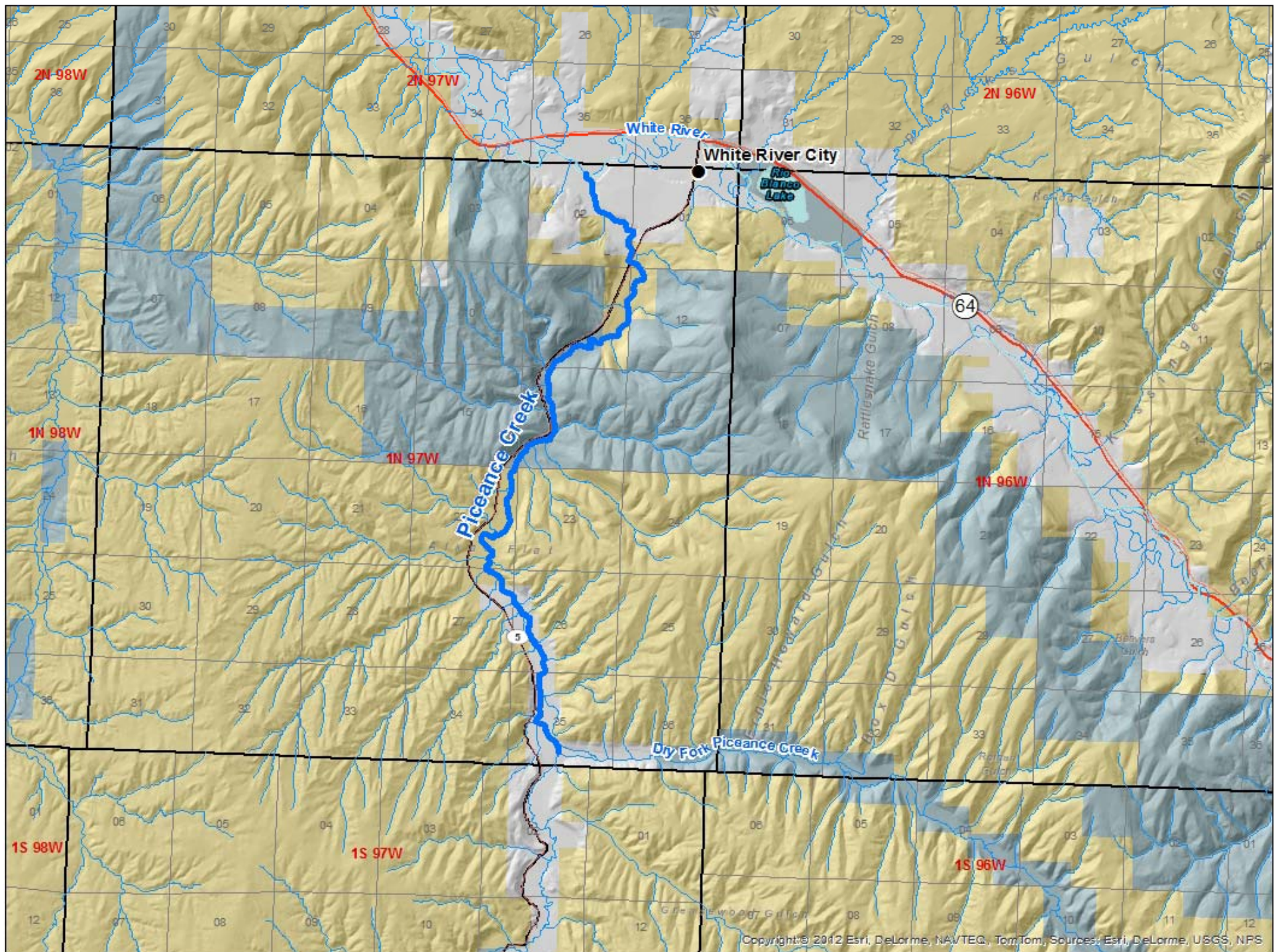
Streams in Water Division 6



Yampa River near Maybell

Piceance Creek Rio Blanco County





Piceance Creek



Natural Environment:

- Native Fishery: Flannelmouth Sucker, Speckled Dace, Mountain Sucker – important tributary to White River
- Amphibians: Leopard Frog
- Riparian: Willow-Sedges-Rushes
- Moderate gradient stream; confined by bedrock in some locations and meandering in other locations



Piceance Creek



Proposed Flow Rates:

- 4.0 cfs January 1 to December 31
- R2Cross modeling shows flow rates that meet wetted perimeter, average depth, and average velocity criteria are very close to one another



Piceance Creek



Water Availability:

- Segment is at bottom of watershed below numerous diversions
- Excellent gage data available to support water availability
- Recommended flows available 50% of the time June-July; available at least 75% of the time August through May

Water Rights:

- Two rights within reach
- More than 100 rights upstream

Piceance Creek

Stakeholders:

- Rio Blanco County
- Owners of working ranches
- Numerous energy companies, including ExxonMobil, Williams, Barrett, Occidental, Encana



Questions for BLM?

Contact Roy Smith at r20smith@blm.gov or 303-239-3940



Granite Creek at Colorado-Utah border