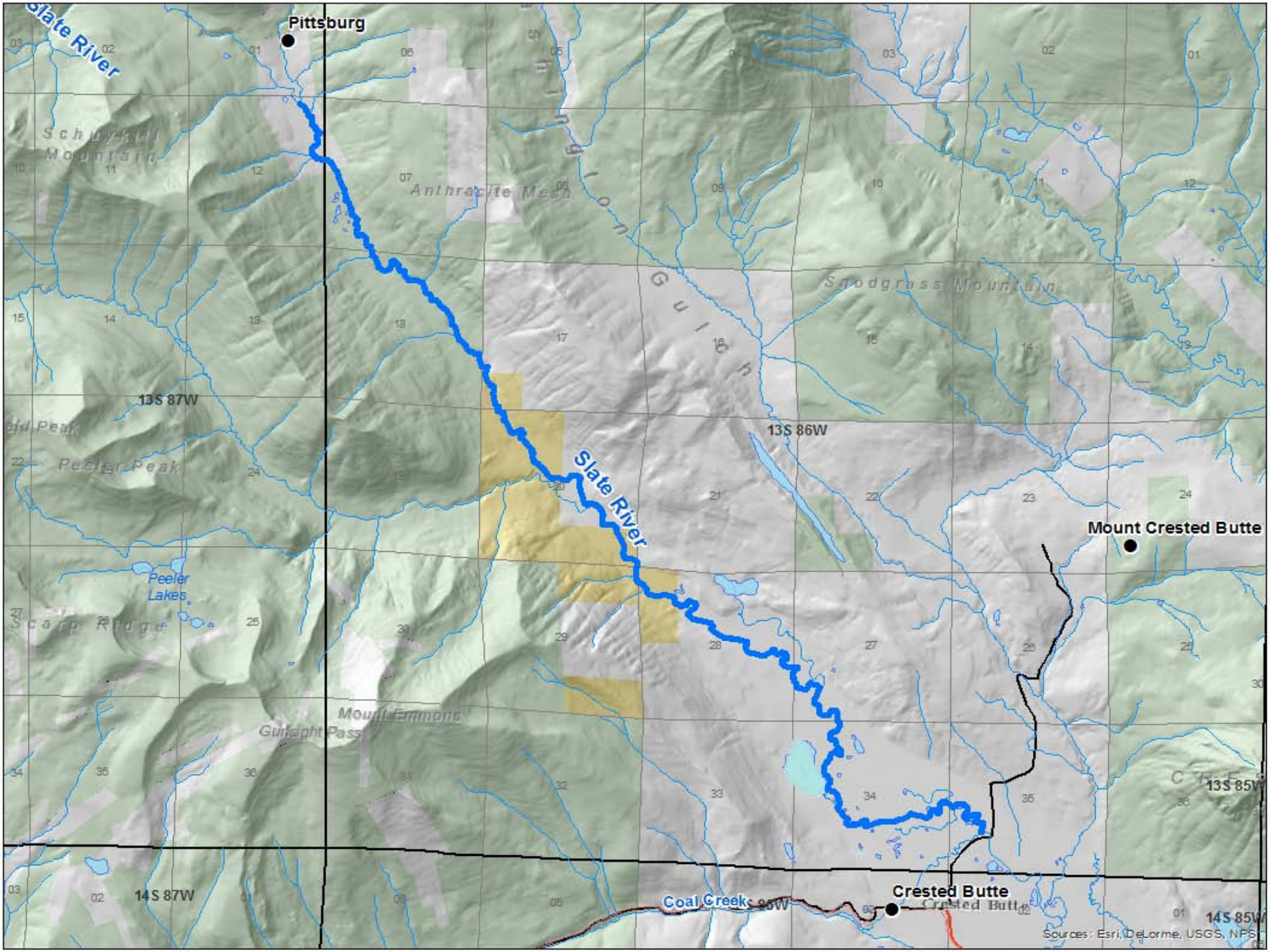
BLM Instream Flow Recommendations in Gunnison County

Blue Creek near Morrow Point Reservoir – 1984 and 2010 instream flow appropriations

Recommendations for 2014 Appropriations

- Slate River
- Oh Be Joyful Creek
- Hot Springs Creek

Slate River
Gunnison County


Slate River
Pittsburg
Schuylkill Mountain
Anthracite Mesa
Anthracite Gulch
Snodgrass Mountain
13S 87W
Peeler Peak
13S 86W
Slate River
Mount Crested Butte
Peeler Lakes
Scarp Ridge
Mount Emmons
Gunsight Pass
13S 85W
14S 87W
Coal Creek
Crested Butte
14S 85W
Sources: Esri, DeLorme, USGS, NPS

Why is BLM interested in flow protection for Slate River?

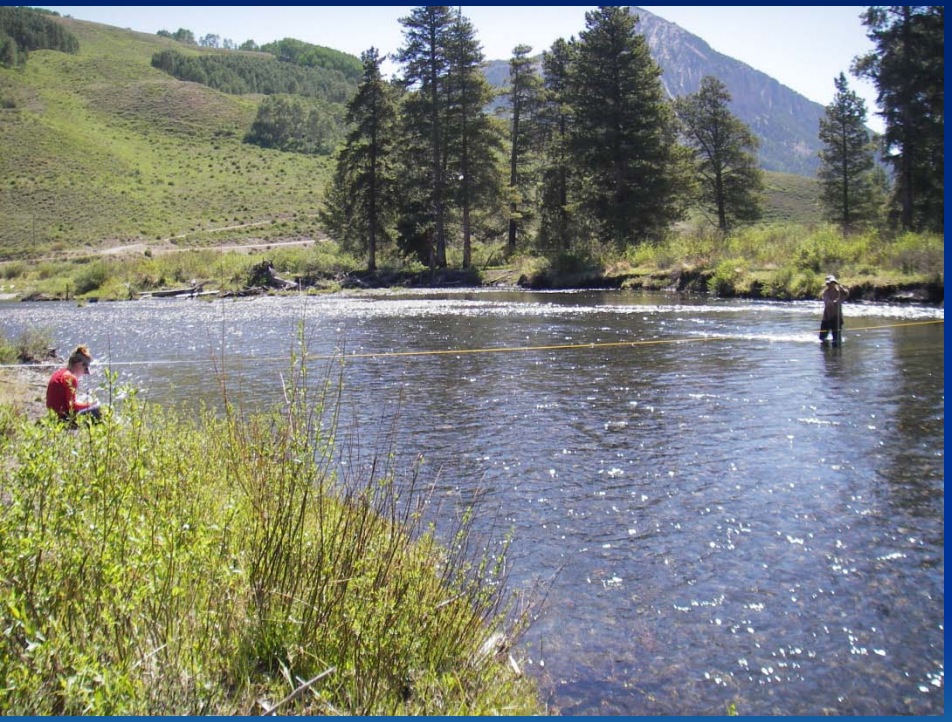
- BLM is making investments in the watershed to improve water quality
- BLM is making recreational investments
- BLM is committed to working with stakeholder groups; strong local support
- Current protected flows are too low to fully support biologic functions during runoff months
- No apparent conflicts with existing water rights, future supplies, or exchange needs

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 bed load
- 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

Study Methodology:

R2Cross Modeling

- Multiple cross sections analyzed

What flow rate meets these criteria?

- 50% wetted perimeter
- 1 foot per second average velocity
- Depth = 1% of channel width

Slate River

Proposed ISF increases:

Poverty Gulch to Oh-Be-Joyful Creek

30.3 cfs May 1 to July 15

(45.3 cfs total after increase)

Oh-Be-Joyful Creek to Coal Creek

45.9 cfs May 1 to July 15

(65.9 cfs total after increase

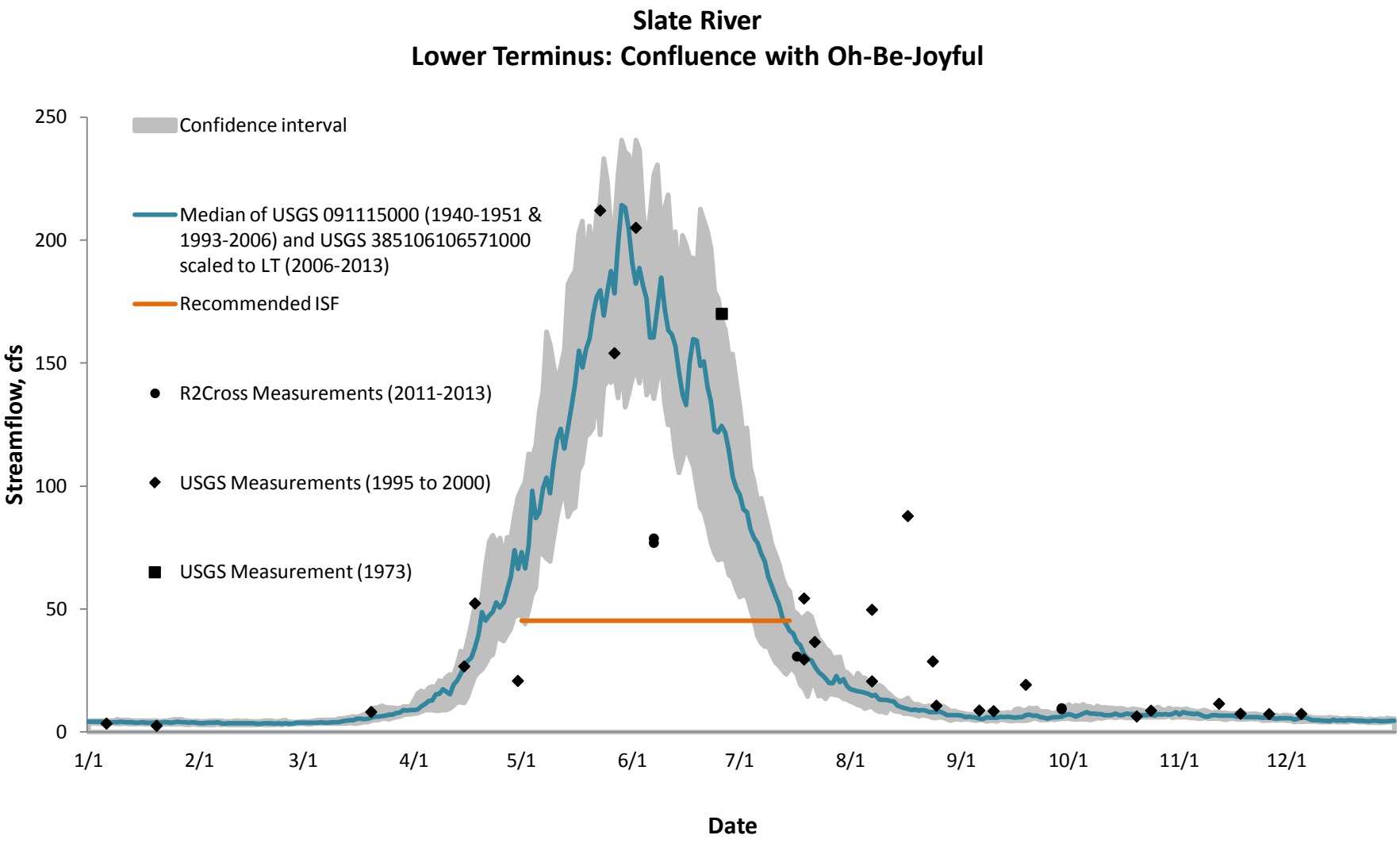
Slate River

Preliminary Water Availability Analysis:

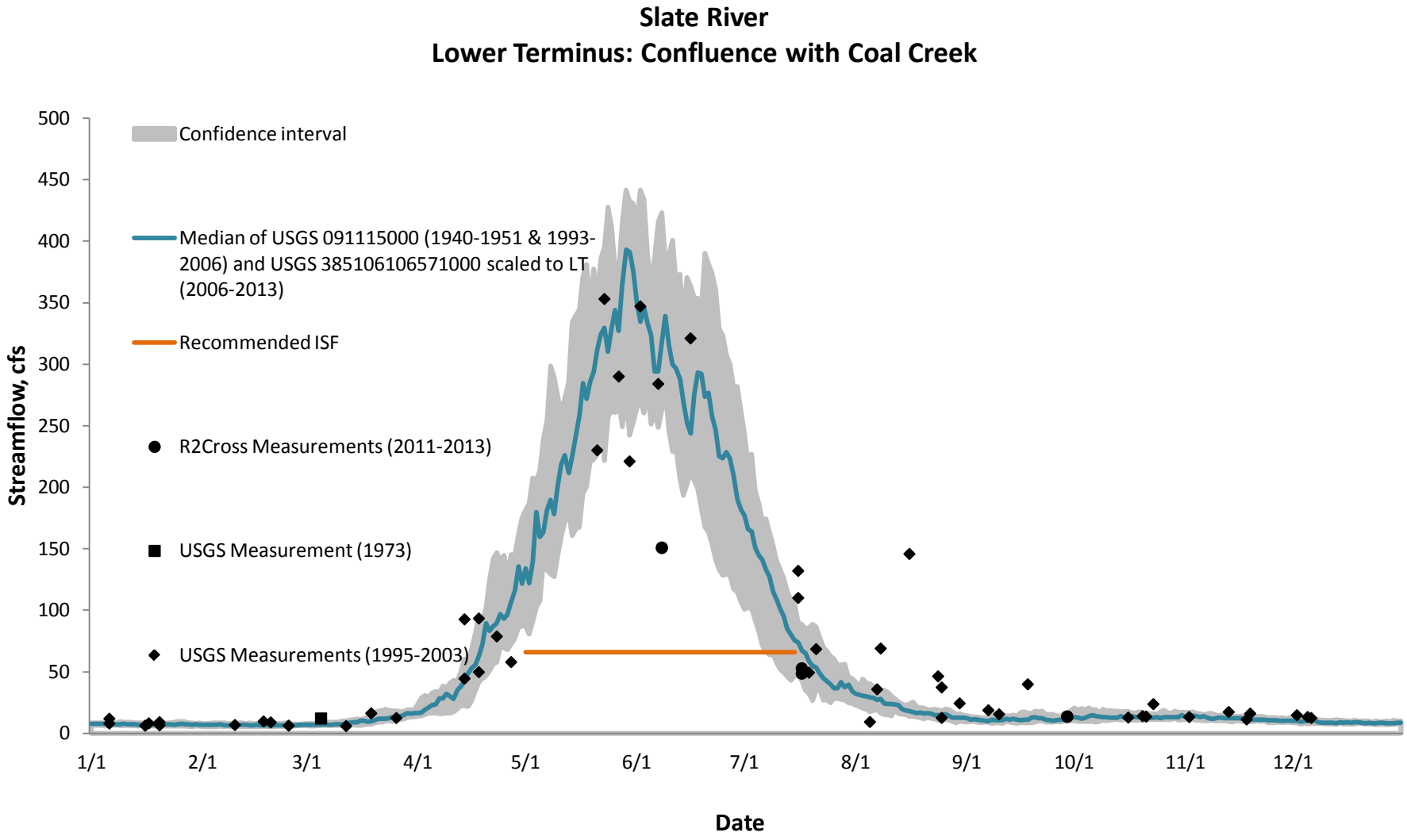
CWCB Standard: Flow rate is available 50% of the time

- Estimates are based upon apportionment (area-precipitation and drainage area) of two Slate River gages near Crested Butte
- Lower reach is 48.5% of watershed; Upper reach is 24.5% of watershed

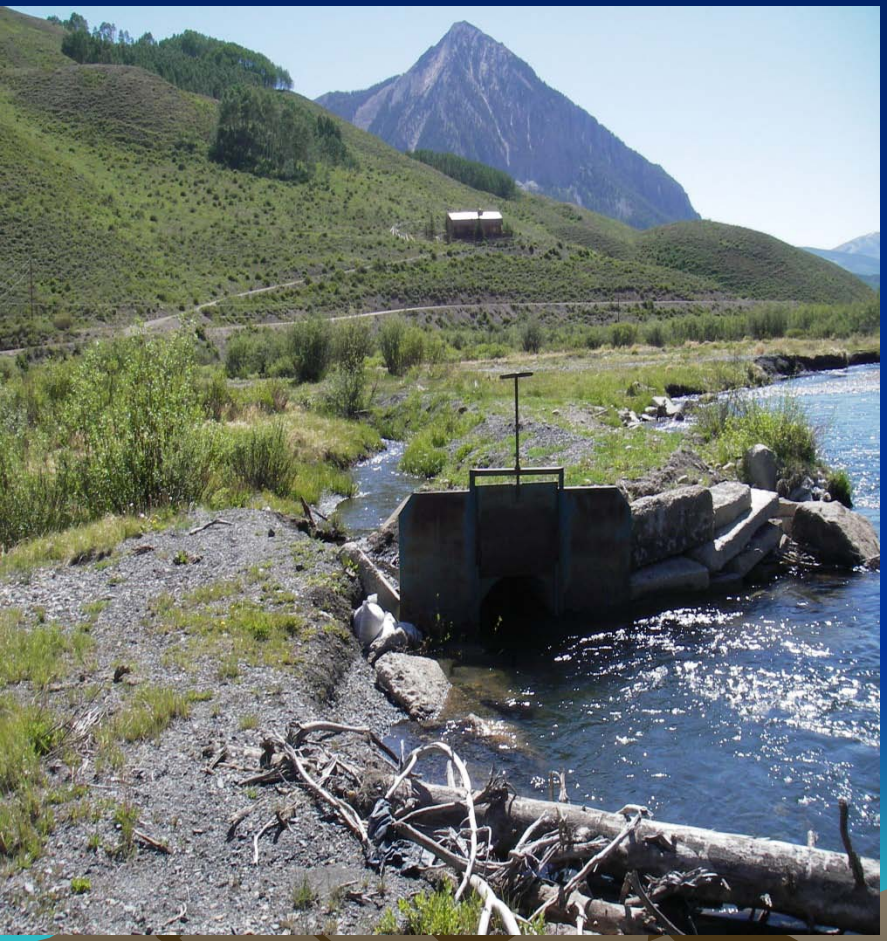
Preliminary Water Availability - Slate River (Upper)



Preliminary Water Availability - Slate River (Lower)



Slate River



Water Rights:

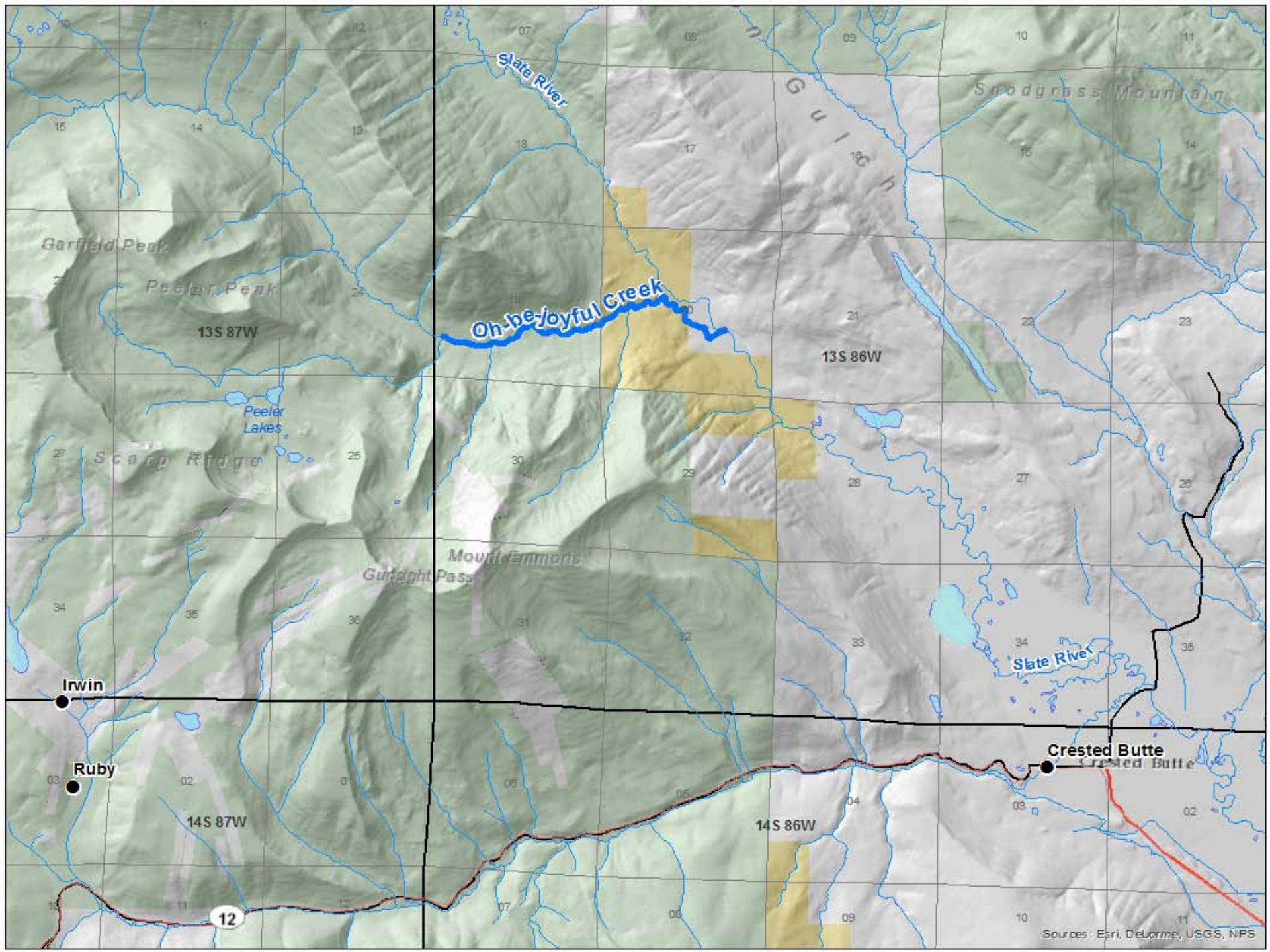
- Berg Irrigation Ditch – 1.5 cfs in upper reach
- Peanut 1 and 2 Ditch – 2.67 cfs in lower reach
- George Kapushion Ditch – 9.00 cfs
- Conditional mining rights – 30 cfs

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


Slate River
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Snodgrass Mountain
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Peeler Peak
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Peeler Lakes
Scarp Ridge
Mount Emmons
Gunsight Pass
Slate River
Irwin
Ruby
Crested Butte
Crested Butte
14S 87W
14S 86W
12
Sources: Esri, DeLorme, USGS, NPS

Why is BLM interested in flow protection for Oh Be Joyful Creek?

- BLM is making investments in the watershed to improve water quality
- BLM is making recreational investments
- BLM is committed to working with stakeholder groups; strong local support
- Current protected flows are too low to fully support biologic functions during runoff months
- No apparent conflicts with existing water rights, future supplies, or exchange needs

Oh-Be-Joyful Creek

Natural Environment:

- Fishery – Brook Trout
- Above average macro-invertebrate abundance
- Blue Spruce – Willow Riparian Community
- Highly armored canyon environment (bedrock) with high bed load
- 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

Study Methodology:

- Same as Slate River

Oh-Be-Joyful Creek

Proposed Enlargement:

Unnamed tributary to Slate River confluence–

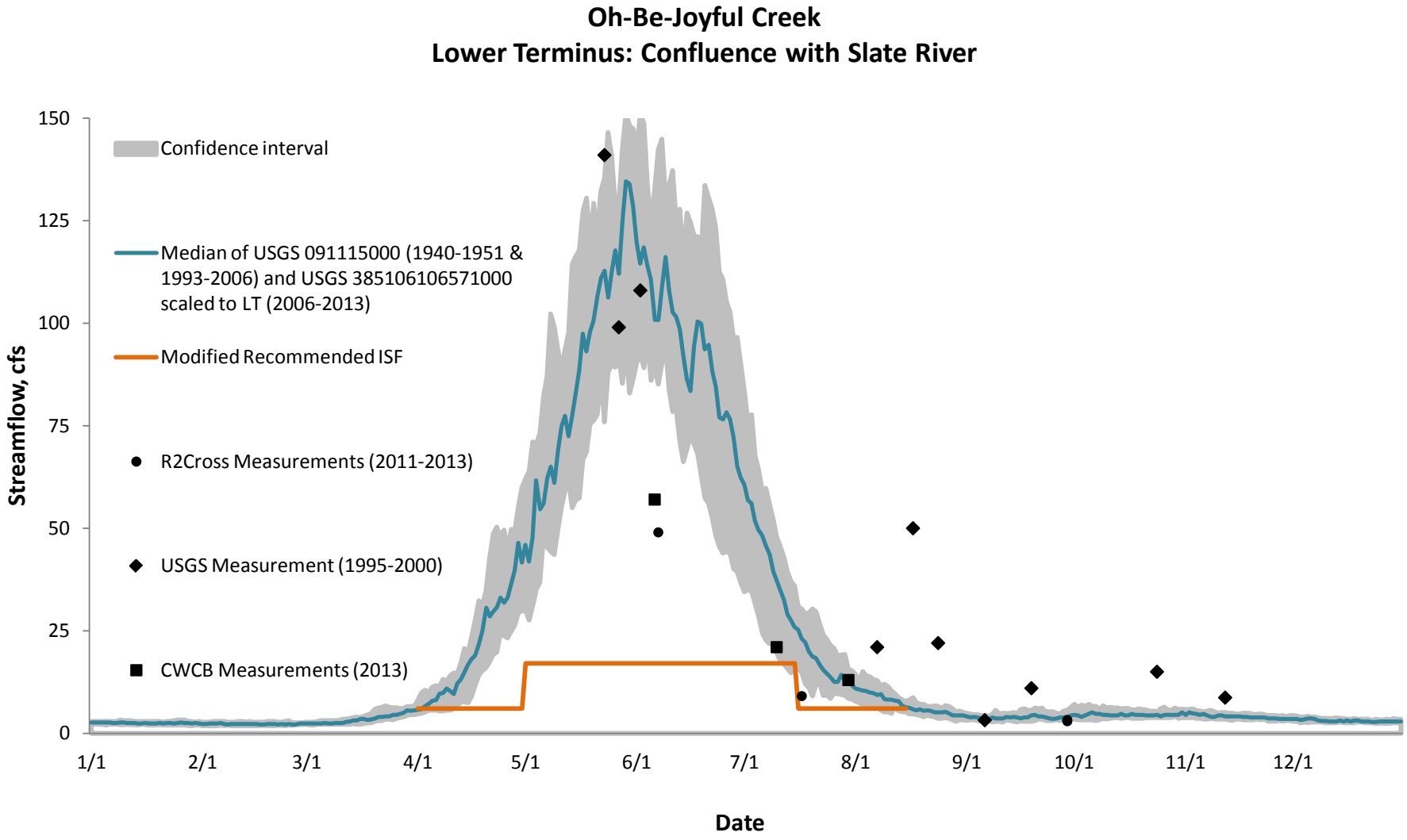
- 3.05 cfs Apr 1 to Apr 30 (6.05 cfs total ISF right)
- 14.1 cfs May 1 to July 15 (17.1 cfs total ISF right)
- 3.05 cfs Jul 16 to Aug 15 (5.45 cfs total ISF right)

Oh-Be-Joyful Creek

Preliminary Water Availability Analysis:

- *CWCB Standard: Flow rate is available 50% of the time*
- Estimate: Watershed comprises 16.4% of Slate River gage

Preliminary Water Availability - Oh-Be-Joyful Creek

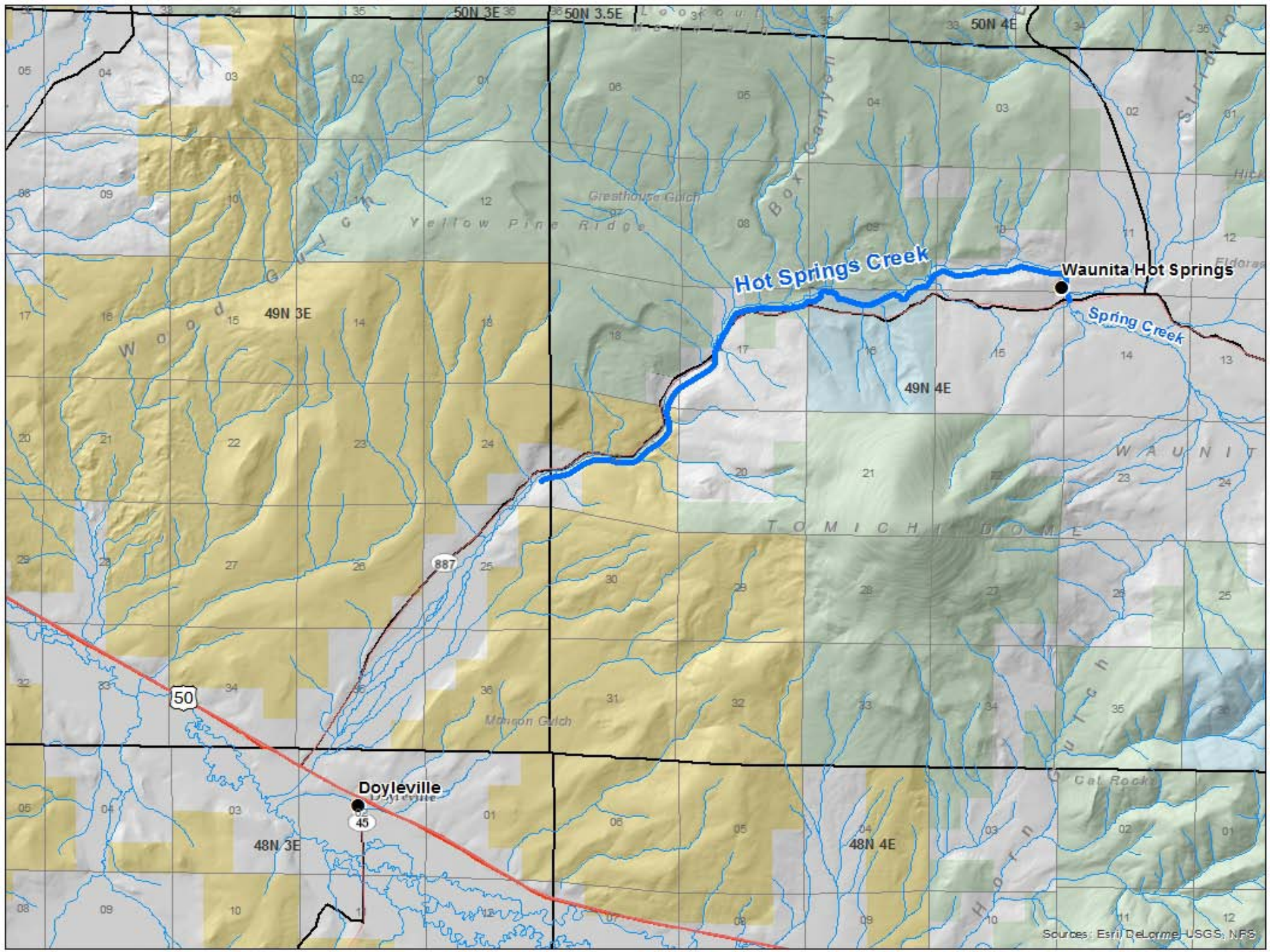


Oh-Be-Joyful Creek

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

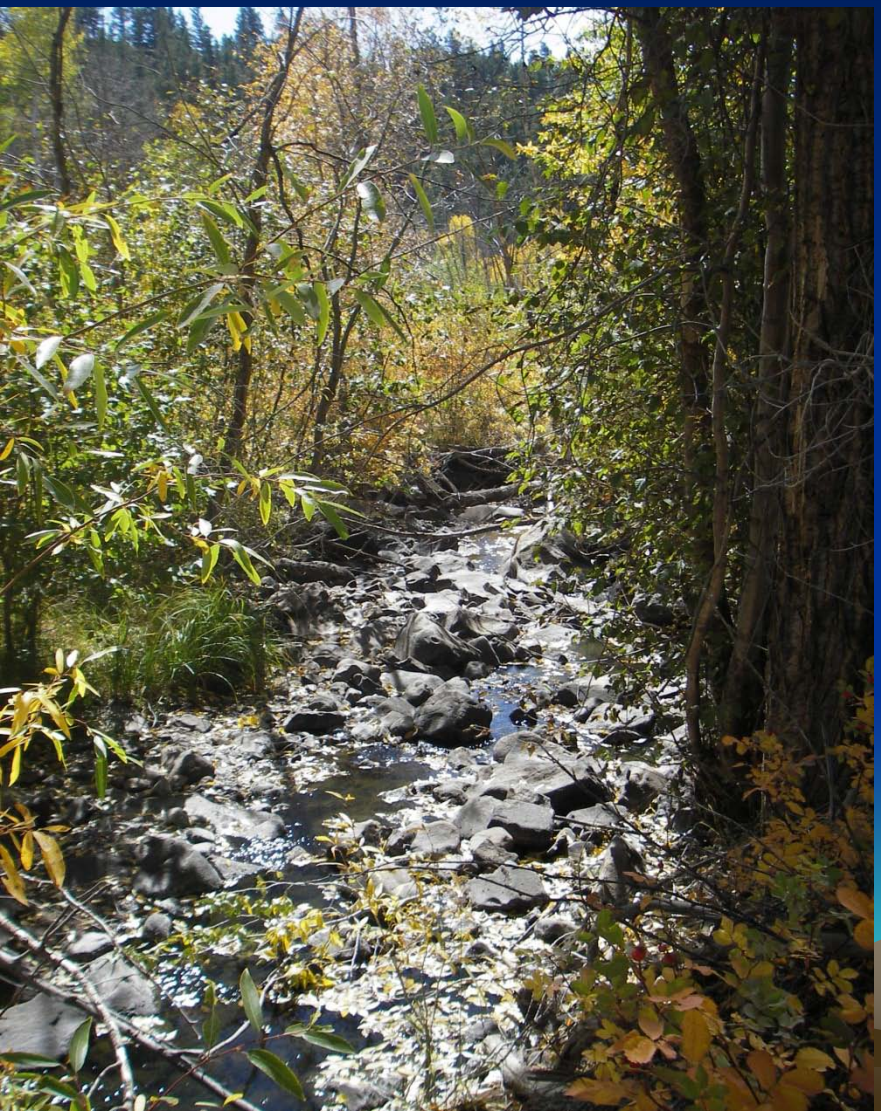
Hot Springs Creek
Gunnison County


50N 3E
50N 3.5E
50N 4E
Hot Springs Creek
Waunita Hot Springs
Spring Creek
49N 3E
49N 4E
Greenhouse Gulch
Box Canyon
Yellow Pine Ridge
Wood Gulch
TOMICHI DOME
WAUNITA
887
50
Mangon Gulch
Doyleville
45
48N 3E
48N 4E
Horn Gulch
Cal Rocky
Sources: Esri, DeLorme, USGS, NPS

Why is BLM interested in flow protection for Hot Springs Creek?

- Stream conditions are gradually improving, in terms of vegetative cover and sediment load.
- Many people are surprised to learn that the creek supports brown trout and dace. These species could be adversely affected by high summer water temperatures
- Current protected flows are too low to fully support biologic functions during warm months
- No apparent conflicts with the operation of existing diversions and reservoirs.

Hot Springs Creek



Natural Environment:

- Fishery – long nose 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:

- Hot Springs Reservoir Outlet to LL Bush Ditch #4:
- 2.4 cfs May 1 to July 21

  (3.9 cfs total after increase)
- Still evaluating proposed increase above reservoir

Hot Springs Creek

Water Availability:

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

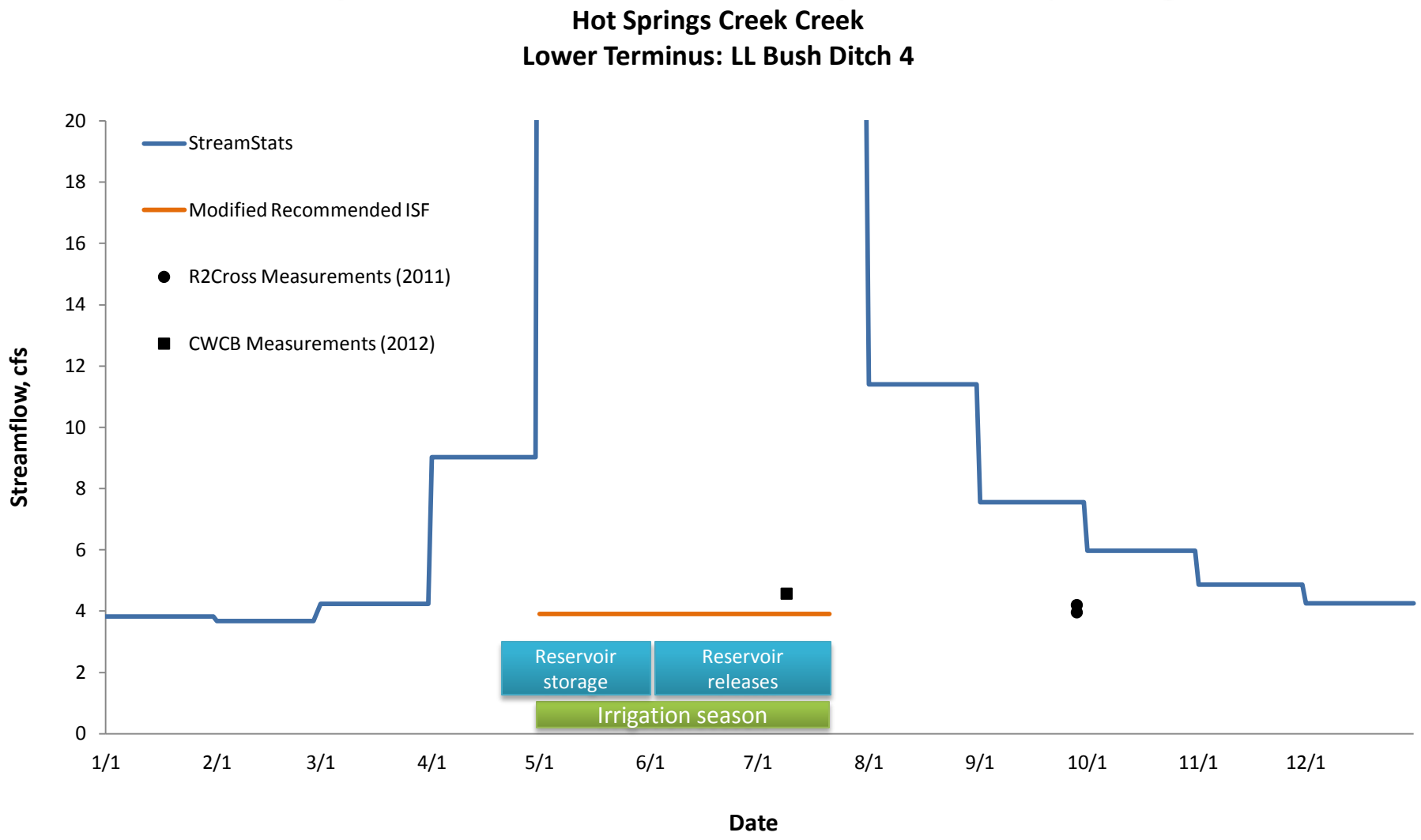
Water Rights:

8 ditches upstream – 15.6 cfs

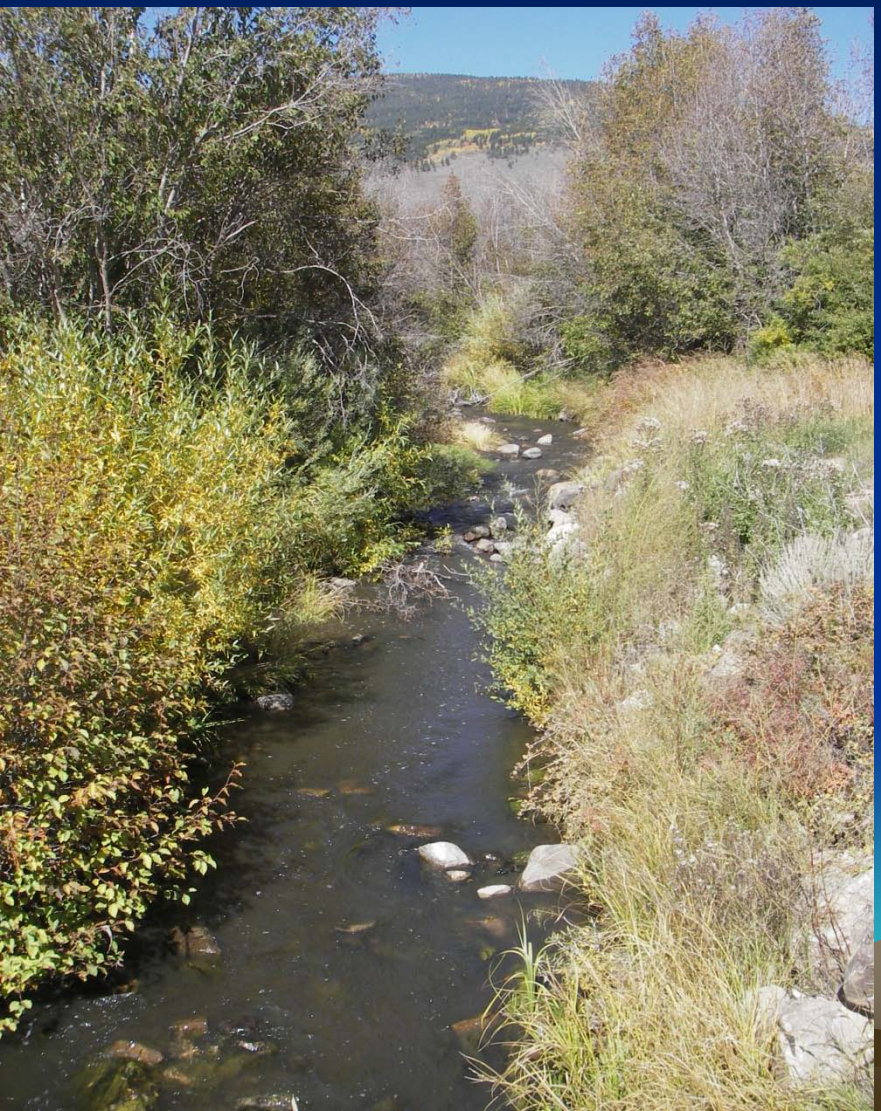
The most senior rights are below proposed enlargement

Hot Springs Reservoir – 603 AF; exclude from ISF reach

Preliminary Water Availability -Hot Springs Creek



Hot Springs Creek



Stakeholders:

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

Questions for BLM?

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