

A scenic landscape photograph showing a small stream flowing through a lush green valley. The stream is surrounded by dense vegetation, including tall grasses and shrubs. In the background, there are rolling hills and mountains, some with patches of bare earth or snow. The sky is overcast. The text is overlaid on the upper portion of the image.

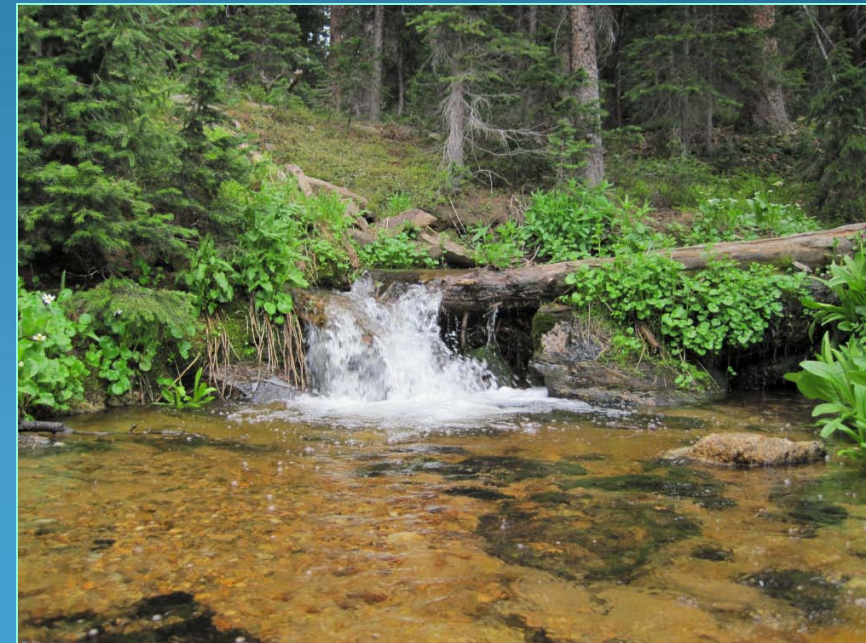
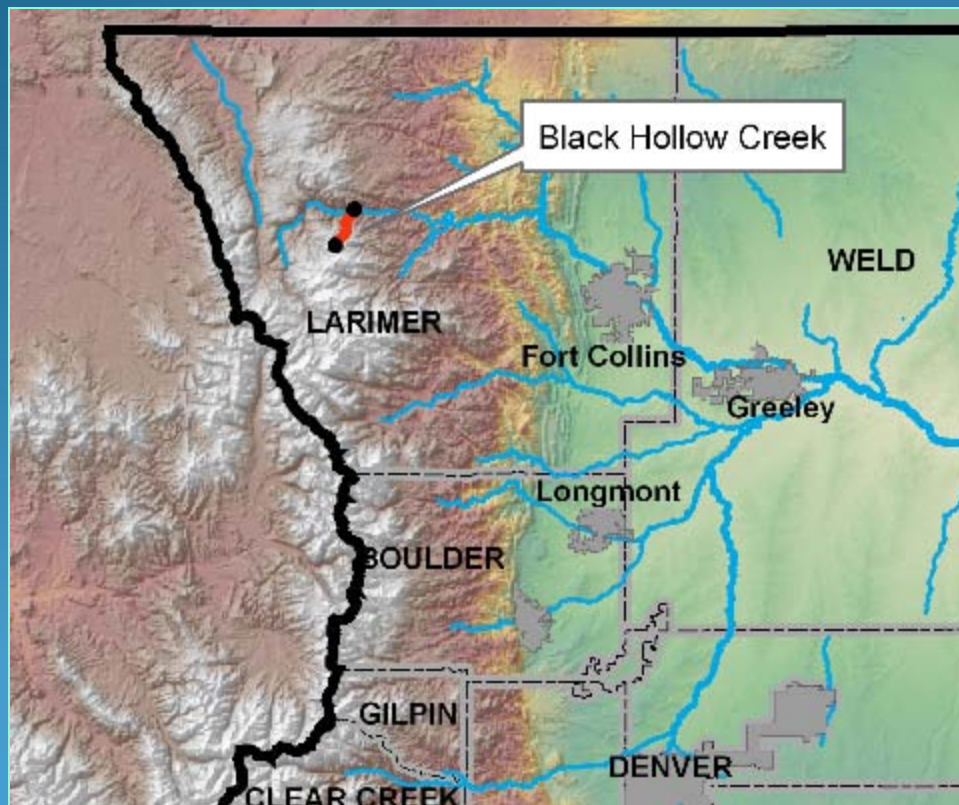
Agenda Item 11a

2010 ISF New Appropriation Recommendations

25 new stream segments in divisions 1, 2, 4, 6 and 7

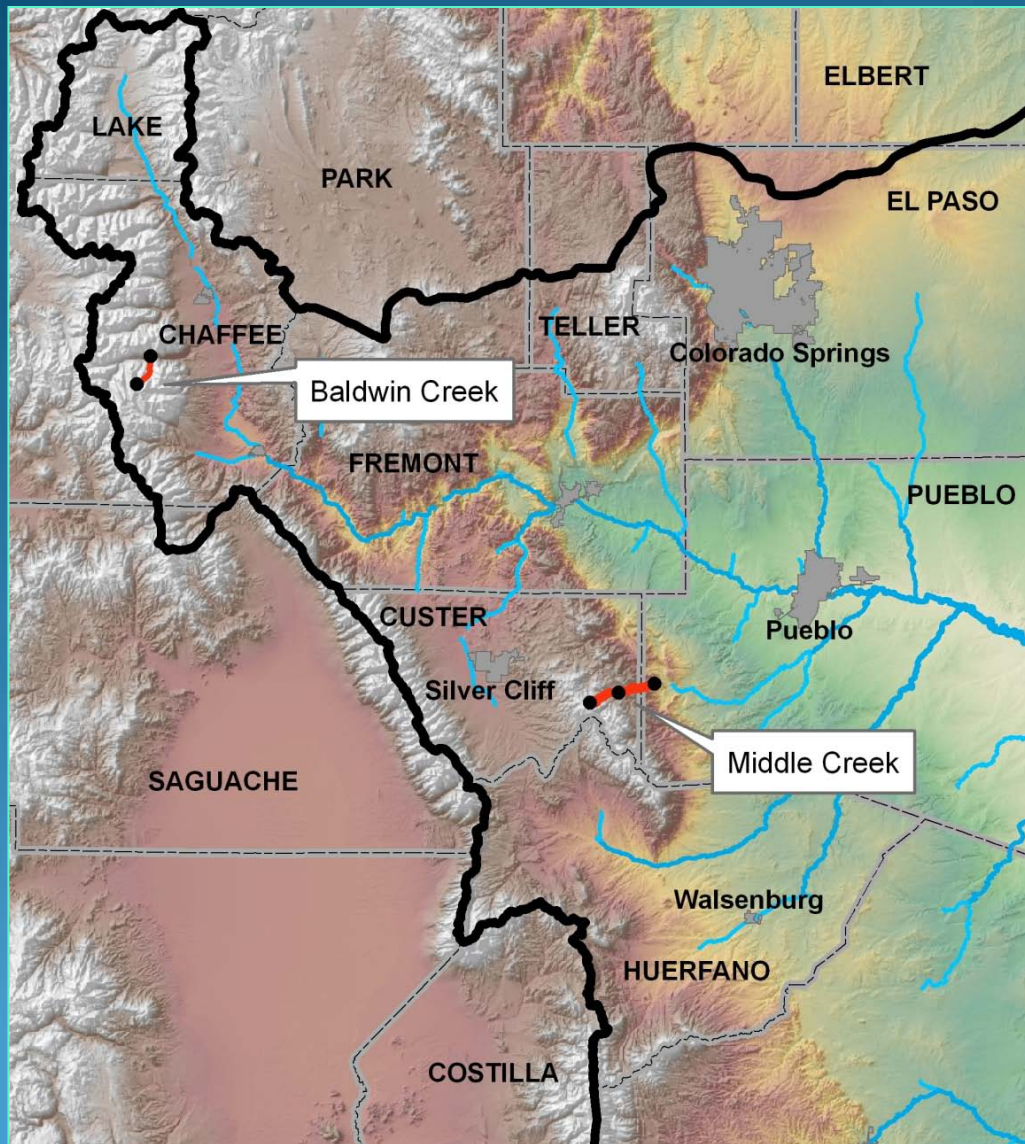
Division 1 Streams and Recommendation

Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
Black Hollow Creek <i>(Headwaters to confl Cache La Poudre River)</i>	Larimer	5.49	1.4 (10/1 - 11/15) 0.75 (11/16 - 4/30) 2.2 (5/1 - 9/30)	Greenback cutthroat



Black Hollow Creek near upper terminus

Water Division 2 Streams



Division 2 Recommendations

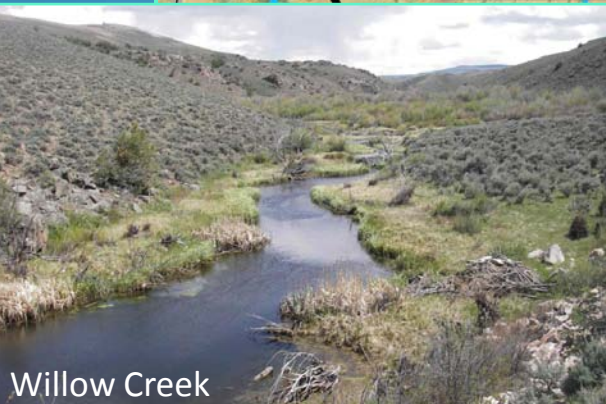
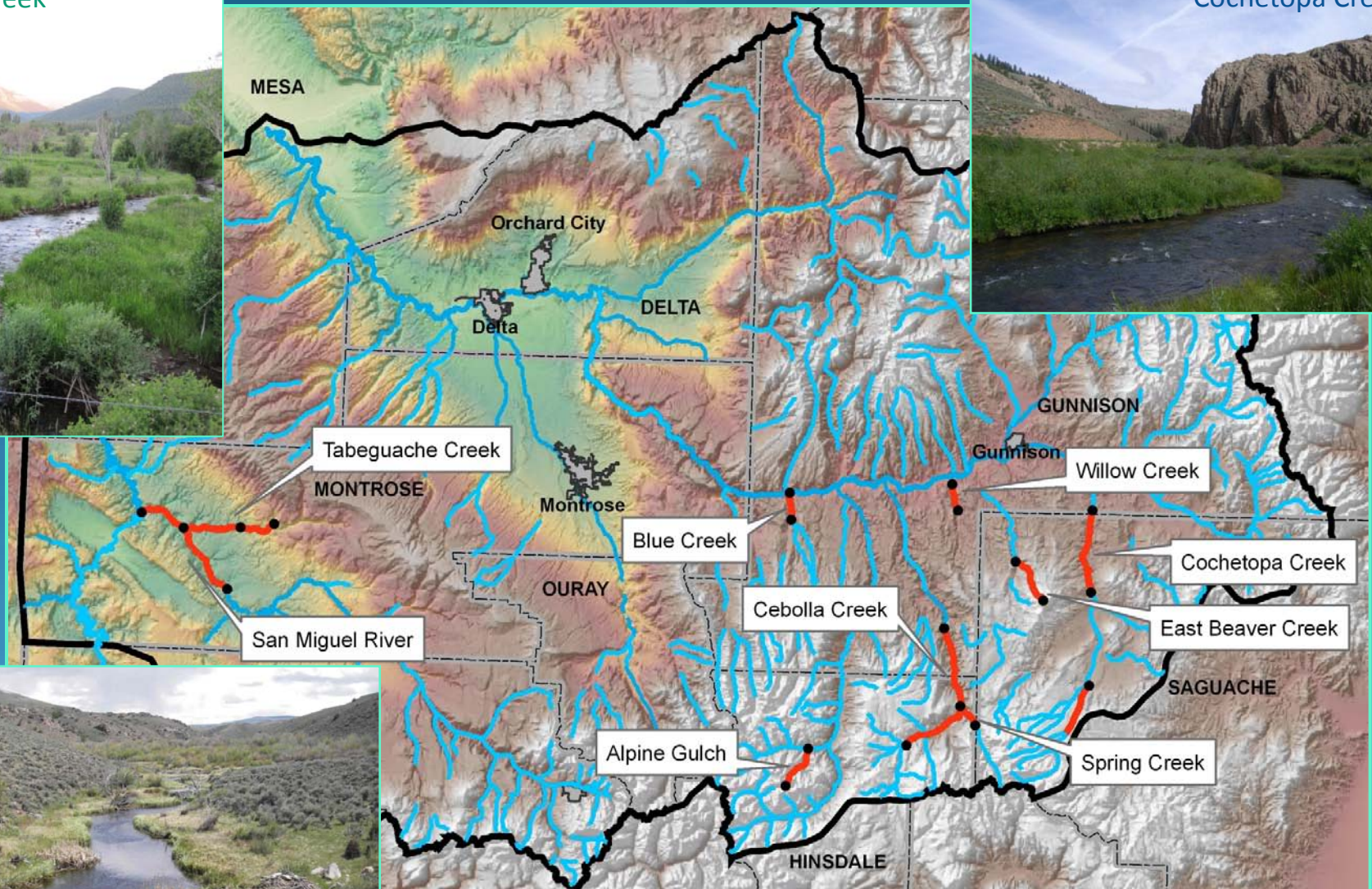
Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
Baldwin Creek <i>(Outlet of Baldwin Lake to confl Chalk Creek)</i>	Chaffee	5.04	1.8 (11/1 – 2/29) 0.9 (3/1 - 4/15) 1.8 (4/16 - 5/14) 6.5 (5/15 - 8/31) 3.2 (9/1 - 10/31)	Greenback cutthroat & brook trout
Middle Creek (Upper Segment) <i>(Headwaters to confl Ophir Creek)</i>	Custer	4.78	3.4 (4/15 – 6/30) 2.0 (7/1 - 8/31) 1.0 (9/1 – 4/14)	rainbow and brook trout
Middle Creek (Lower Segment) <i>(confl Ophir Creek to inlet of Beulah Water Works)</i>	Pueblo, Custer	6.72	5.1 (4/1 - 8/31) 2.8 (9/1 - 3/31)	rainbow and brook trout

Water Division 4 Streams

Spring Creek



Cochetopa Creek



Willow Creek

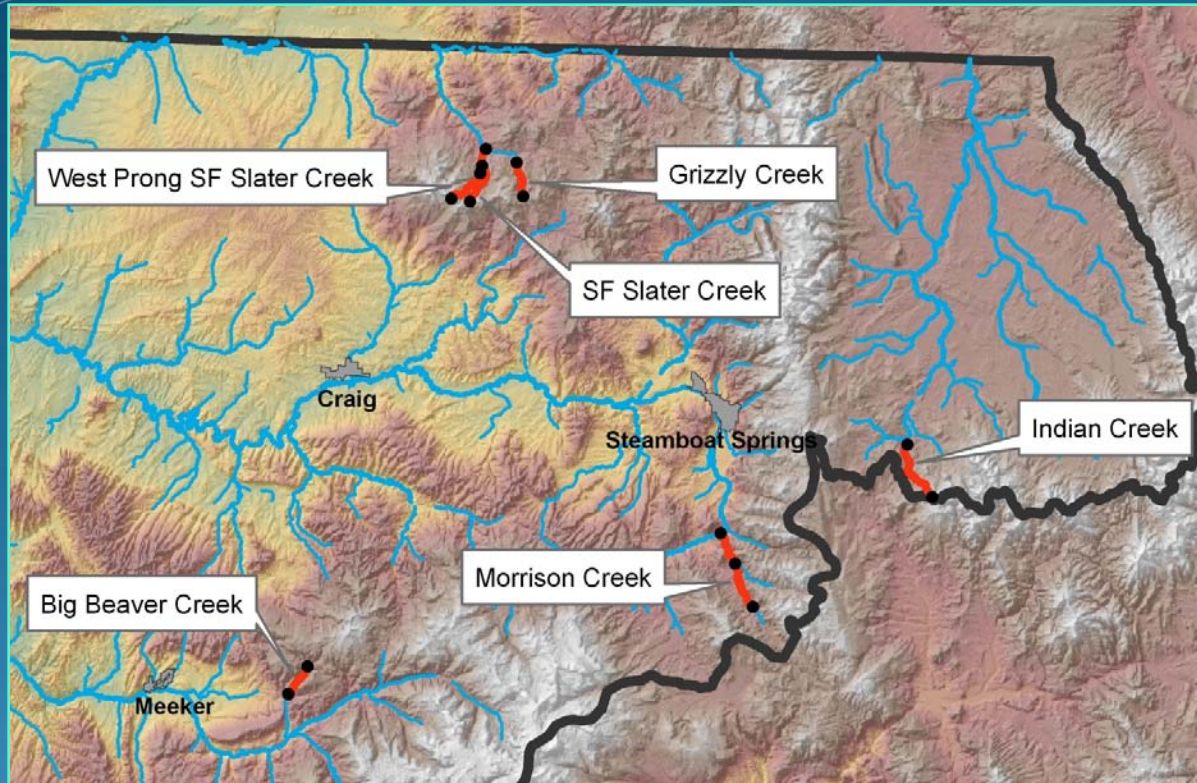
Division 4 Recommendations

Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
Alpine Gulch <i>(headwaters to confl Henson Creek)</i>	Hinsdale	5.69	5.0 (4/15 - 9/30) 1.0 (10/1 - 4/14)	brown trout, brook trout
Blue Creek <i>(confl big Blue Creek and Little Blue Creek to confl with Morrow Point Reservoir)</i>	Gunnison	3.53	4.5 (4/1 - 7/31) <i>(increase)</i>	rainbow , brook trout, speckled dace
Cebolla Creek (upper segment) <i>(confl of Brush Creek to confl Spring Creek)</i>	Hinsdale	10.1	23 (5/1 - 9/30) 12.5 (10/1 - 11/15) 7.5 (11/16 - 3/31) 16.5 (4/1 - 4/30)	brown trout
Cebolla Creek (lower segment) <i>(confl Spring Creek to confl Powderhorn USGS gage)</i>	Hinsdale, Gunnison	10.8	26 (4/1 - 9/30) 22 (10/1 - 11/15) 13.5 (11/16 - 3/31)	brown trout
Cochetopa Creek (upper segment) <i>(confl Nutras Creek to Mesa ditch headgate)</i>	Saguache	7.54	11.3 (5/16 - 8/16) 7.5 (8/16 - 9/30) 4.5 (10/1 - 11/15) 2.75 (11/16 - 3/15) 5 (4/16 - 5/15)	rainbow and brook trout

Division 4 Recommendations (cont.)

Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
Cochetopa Creek (lower segment) <i>(confl Alkali Creek to headgate South Krueger Ditch)</i>	Saguache	12.92	6.8 (5/1 - 11/15) <i>(increase)</i>	brown trout
East Beaver Creek <i>(confl Big Blue Creek and Little Blue Creek to confl with Morrow Point Reservoir)</i>	Saguache	6.26	5.8 (4/1 - 7/31) 3.7 (8/1 - 10/31) 2.4 (11/1 - 3/31)	Colorado River cutthroat trout
Spring Creek <i>(hdgt Creed Trail Ditch to confl Cebolla Creek)</i>	Hinsdale	3.25	5.0 (4/1 - 9/30) 3.3 (10/1 - 11/15) 2 (11/16 - 3/31)	brown trout, brook trout
Tabeguache Creek (upper segment) <i>(confl Fortyseven Creek to hdgt Templeton Ditch)</i>	Montrose	5.4	4.75 (4/1 - 6/30) 1.9 (7/1 - 11/30) 1.6 (12/1 - 3/31)	rainbow trout, speckled dace
Tabeguache Creek (lower segment) <i>(hdgt Templeton Ditch to confl San Miguel River)</i>	Montrose	9.7	4.75 (3/15 - 6/30)	flannelmouth sucker, roundtail chub
Willow Creek <i>(confl Sugar Creek to confl Blue Mesa Reservoir)</i>	Gunnison	3.59	2.3 (4/1 - 6/30) 0.5 (7/1 - 3/31)	white sucker

Water Division 6 Streams



West Prong SF Slater Creek



Grizzly Creek



Morrison Creek @ confl with Silver Creek

Division 6 Recommendations

Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
Big Beaver Creek <i>(confl Allen Creek to confl East Beaver Creek)</i>	Rio Blanco	3.94	2.1 (4/1 - 6/30) <i>(increase)</i>	<u>Colorado River cutthroat trout</u> , mottled sculpin
Grizzly Creek <i>(confl unnamed tributary to USFS boundary)</i>	Routt	2.9	1.3 (3/15 - 7/15) 0.5 (7/16 - 3/14)	brook trout, <u>Colorado River cutthroat trout</u>
Indian Creek <i>(headwaters to West Arapahoe Feeder ditch no. 2)</i>	Jackson	7.7	4.0 (4/1 - 7/15) 0.7 (7/16 - 3/31)	white sucker, brown trout, brook trout
Morrison Creek (upper segment) <i>(confl Muddy Creek to confl Silver Creek)</i>	Routt	8.99	3.1 (4/1 - 10/31) 1.4 (11/1 - 3/31)	brook trout
Morrison Creek (lower segment) <i>(confl Silver Creek to confl Yampa River)</i>	Routt	4.91	13.2 (4/1 - 8/15) 8.1 (8/16 - 3/31)	brook trout, rainbow trout, <u>Colorado River cutthroat trout</u>

Division 6 Recommendations (cont.)

Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
South Fork Slater Creek (upper segment) <i>(headwaters to confl West Prong South Fork Slater Creek)</i>	Routt, Moffat	4.55	4.1 (4/1 – 6/30) 1.25 (7/1 - 7/31) 0.65 (8/1 - 9/15) 1.25 (9/16 - 3/31)	<u>Colorado River</u> <u>cutthroat trout,</u> brook trout, mottled sculpin
South Fork Slater Creek (lower segment) <i>(confl West Prong South Fork Slater Creek to confl Slater Creek)</i>	Routt	1.98	9 (3/15 – 7/15) 2.0 (7/16 - 8/15) 0.8 (8/16 – 10/15) 5.25 (10/16 – 3/14)	
West Prong South Fork Slater Creek <i>(headwaters to hdgt Decker Ditch)</i>	Routt, Moffat	4.58	4.9 (3/1 - 7/31) 3.5 (8/1 - 10/31) 2.5 (11/1 – 2/29)	<u>Colorado River</u> <u>cutthroat trout</u>



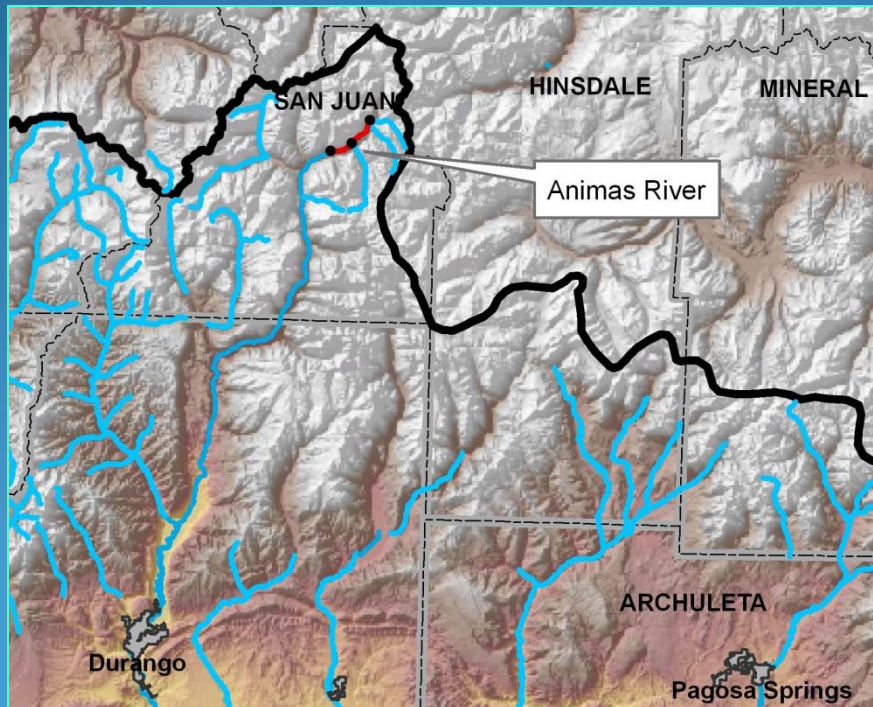
Big Beaver Creek



Morrison Creek

Division 7 Streams and Recommendation

Stream Segment	County	Length	Amounts (cfs) Dates	Natural Environment
Animas River (upper segment) (confl Minnie Gulch to confl Cunningham Creek)	San Juan	2.58	12.2 (5/1 - 10/31) 9.1 (11/1 - 4/30)	brook trout
Animas River (lower segment) (confl Cunningham Creek to confl Arrastra Creek)	San Juan	1.94	25 (5/1 – 10/31) 13 (11/1 - 4/30)	brook trout



Animas River

Staff Investigations

Goal: *Provide sufficient analyses and information so that the Board can declare its intent to appropriate*

Technical analyses related to the required statutory findings

Natural Environment

Water Availability

No Material Injury

Stakeholder outreach

Collaborate on technical analyses

Identify and resolve issues when possible

Provide education on the ISF program

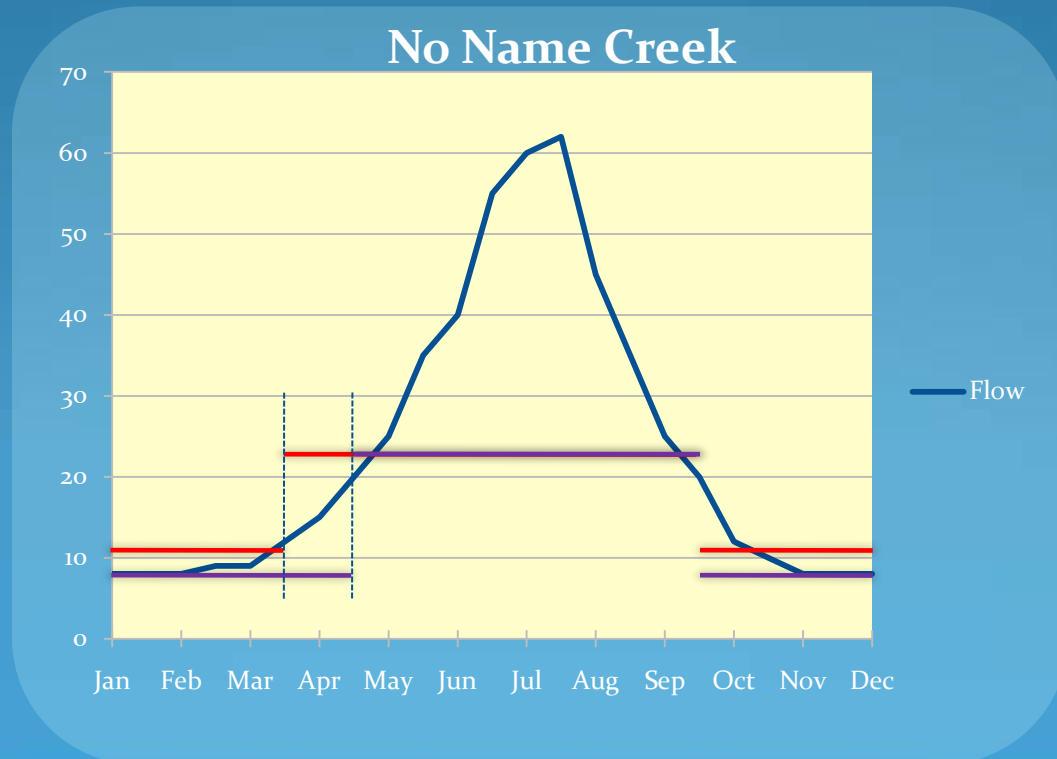
Basis for recommendations regarding the amount of water necessary to preserve the natural environment

Quantification Models such as R2Cross, PHABSIM

- *R2Cross relates hydraulic parameters $\bar{x}_d$, $\bar{x}_v$, and %wp to species needs*
- *Provides a level of assurance that most life stages will be maintained*
- *Use of habitat suitability curves*

Water Availability Analyses

- *A necessary refinement which may impose a limitation on the quantification model findings*



Natural Environment

Typically based on the presence of one or more indicator species.

Fish sampling provides information on the type and extent of the species

Natural Environment – Indicator Species



State and Federal threatened species
greenback cutthroat trout
(*oncorhynchus clarki stomias*)



DOW species of special concern
Colorado River cutthroat trout
(*oncorhynchus clarki pleuriticus*)



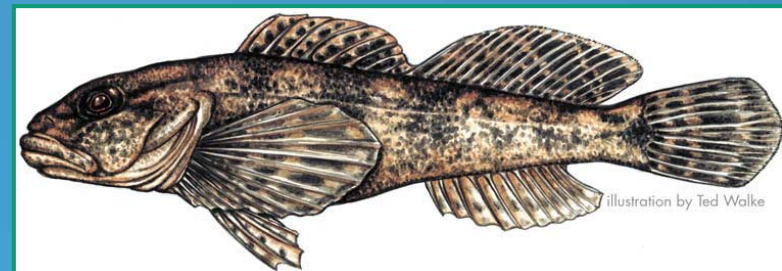
brook trout (*salvelinus fontinalis*)



rainbow trout (*oncorhynchus mykiss*)



brown trout (*salmo trutta*)



mottled sculpin (*cottus bairdi*)

San Miguel River

Natural Environment – Indicator Species



State Species of Special Concern
BLM Sensitive Species

bluehead sucker (*Catostomus discobolus*)



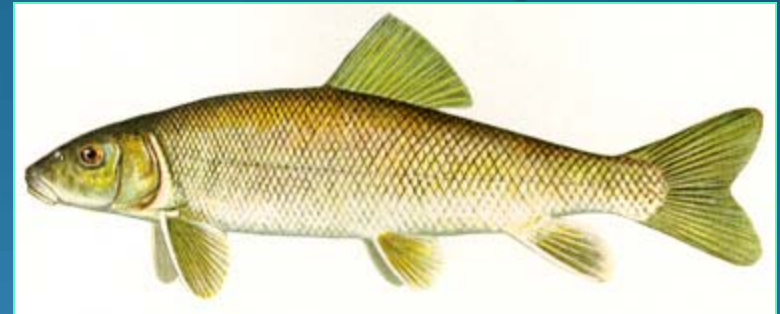
State Species of Special Concern
BLM Sensitive Species

flannelmouth sucker (*Catostomus latipinnis*)

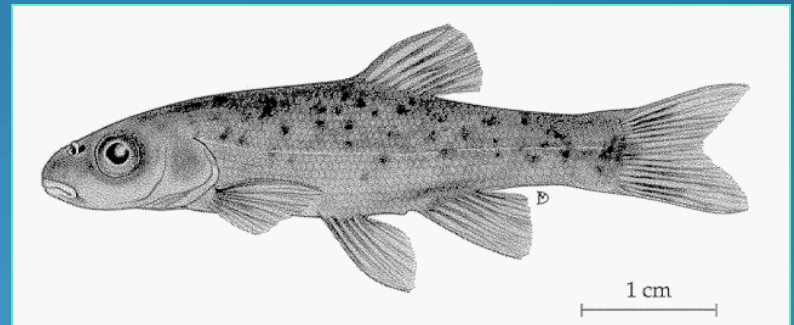


State Species of Special Concern
BLM Sensitive Species

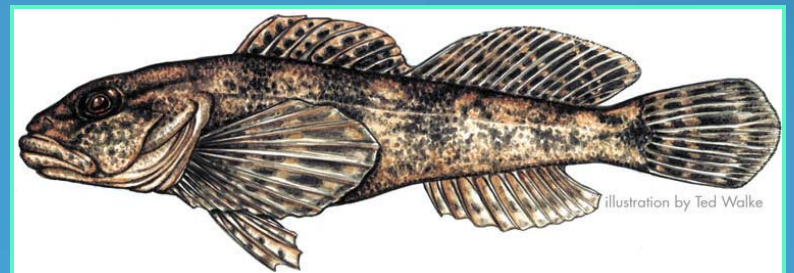
roundtail chub (*Gila robusta*)



White sucker (*Catostomus commersoni*)



speckled dace (*Rhinichthys osculus*)



mottled sculpin (*Cottus bairdi*)

Field Investigations & Stakeholder Outreach



Slater Creek Pressure Transducer Installation



Tabeguache Ck discussion with the Templetons



Investigation of indicator species

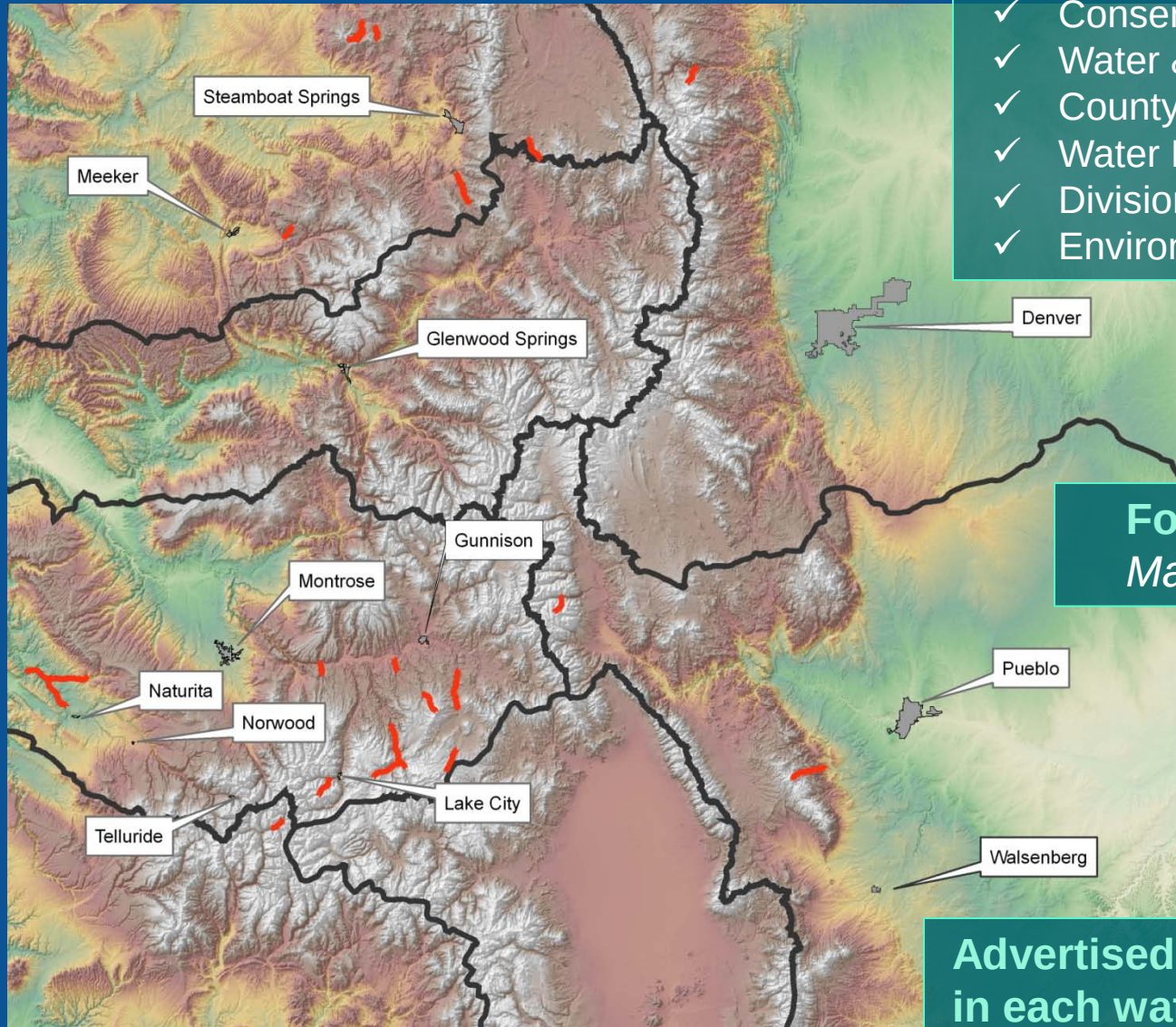


Morrison Creek investigations

Stakeholder Coordination & Collaboration

Stakeholder Discussions

- ✓ Conservancy Districts
- ✓ Water & Sanitation Districts
- ✓ County Commissioners
- ✓ Water Right Holders
- ✓ Division Engineers
- ✓ Environmental groups



Formal Notice
March & November

Advertised public meetings
in each water division

Stakeholder Comments

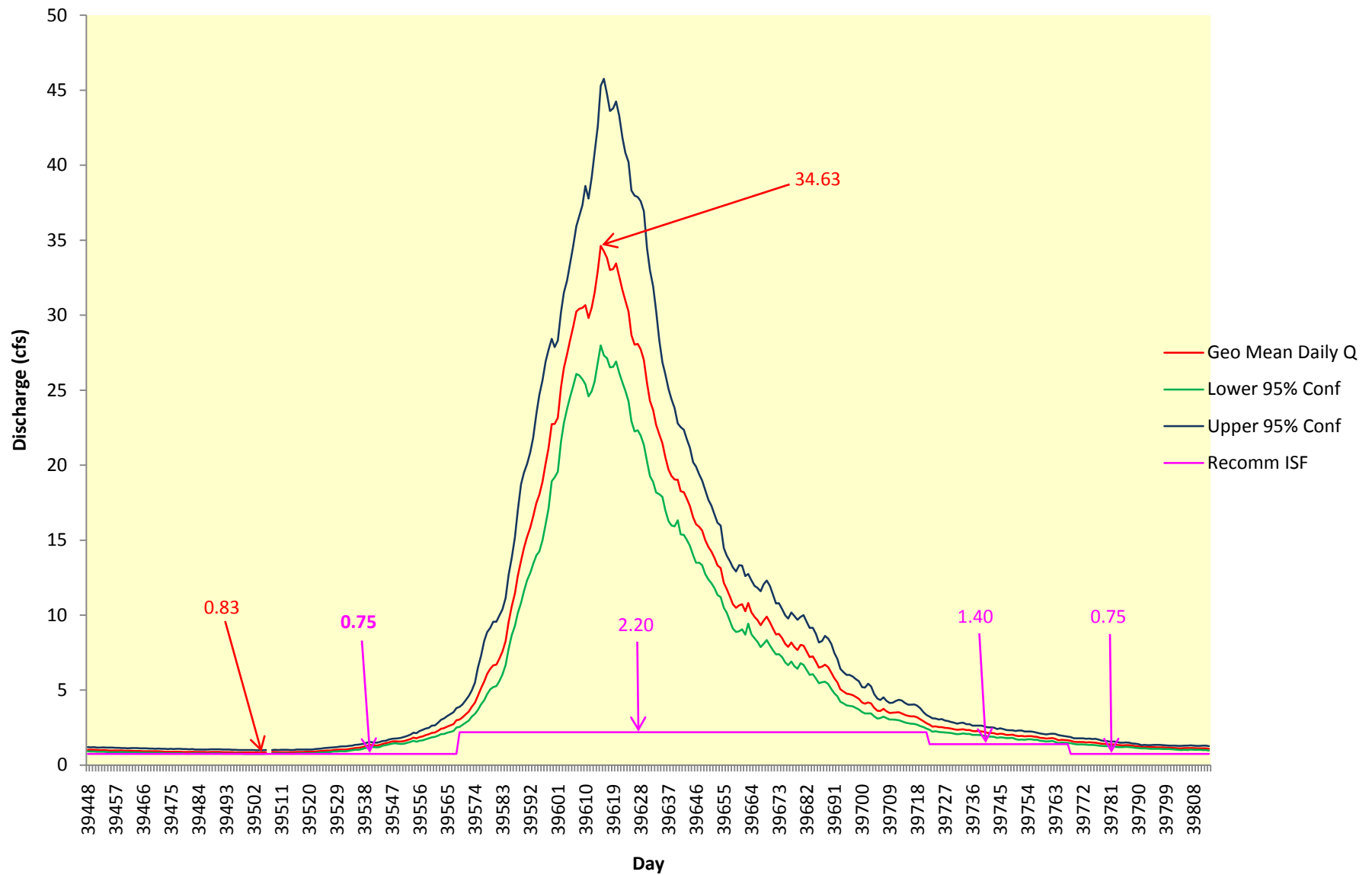
Stakeholders	Stream / Comments
Arkansas Valley Audubon Society	Supportive of all division 2 recommendations
Black Canyon Audubon Society	Support for all division 4 recommendations
Southwestern Water Conservation District	Animas River Acknowledge seniority of conditional rights
Trout Unlimited – Durango San Juan Citizens Alliance	Support for both segments
Friends of the Yampa Colorado Environmental Coalition John Adams – land owner Lou and Lydia Dequine – land owner Robert and Elaine Gay Ltd. Partnership	Morrison Creek Support for both segments
Sharp, Steinke, Sherman & Engle Morrison Ck Metro Water & San. Upper Yampa WCD	Withdrawal or delay recommendation to allow for future water development

Staff Recommends:

- 1) That the Board form its intent to appropriate ISF rights on the 25 stream segments identified in the agenda 11a memorandum, and the instream flow recommendation notebook.
- 2) That the Board direct staff to publicly notice the Board's declaration of its intent to appropriate in accordance with ISF Rule 5d.

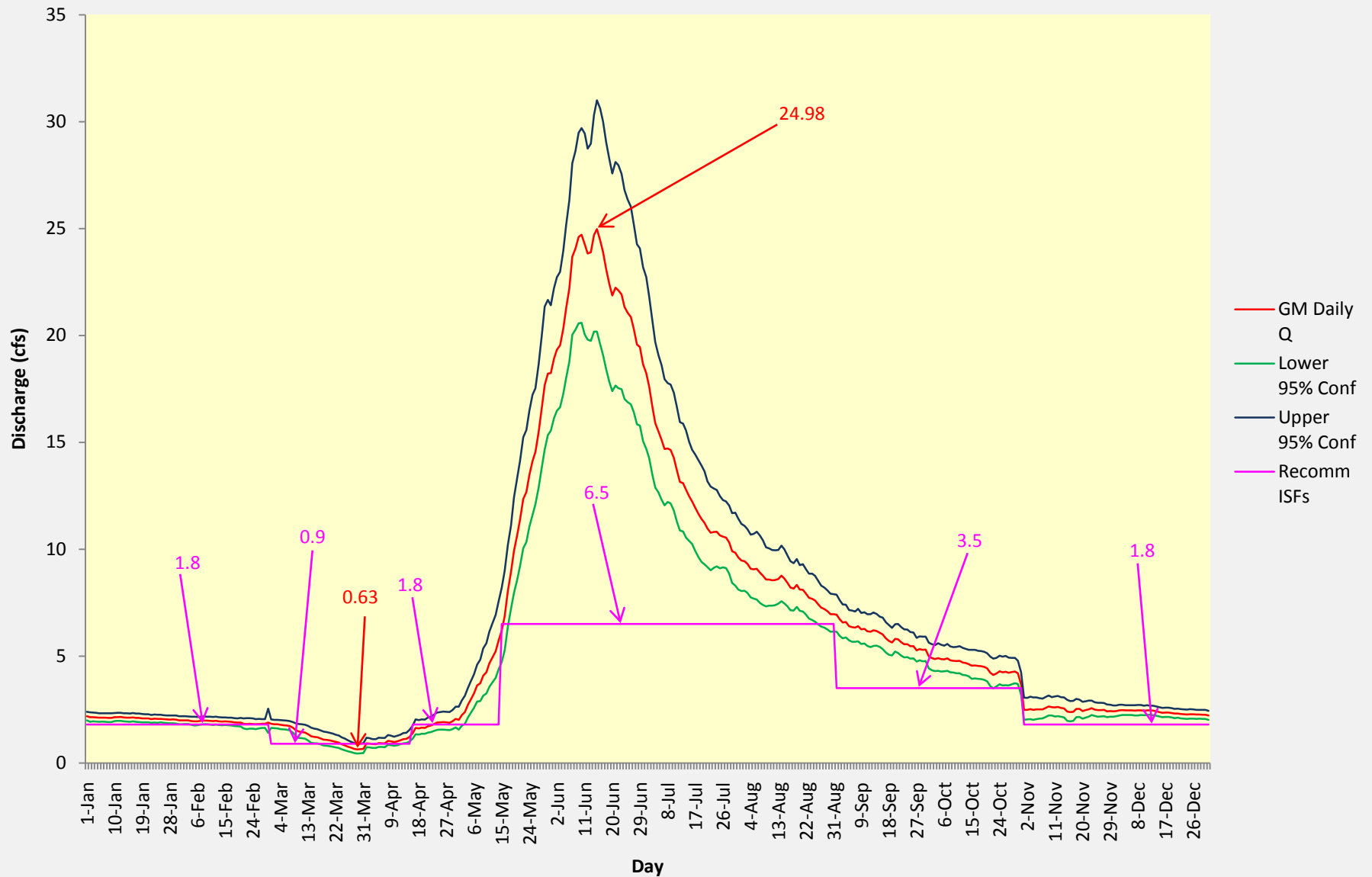
Division 1 Hydrographs

Black Hollow Creek



Division 2 Hydrographs

Baldwin Creek



Middle Creek (Upper Segment)

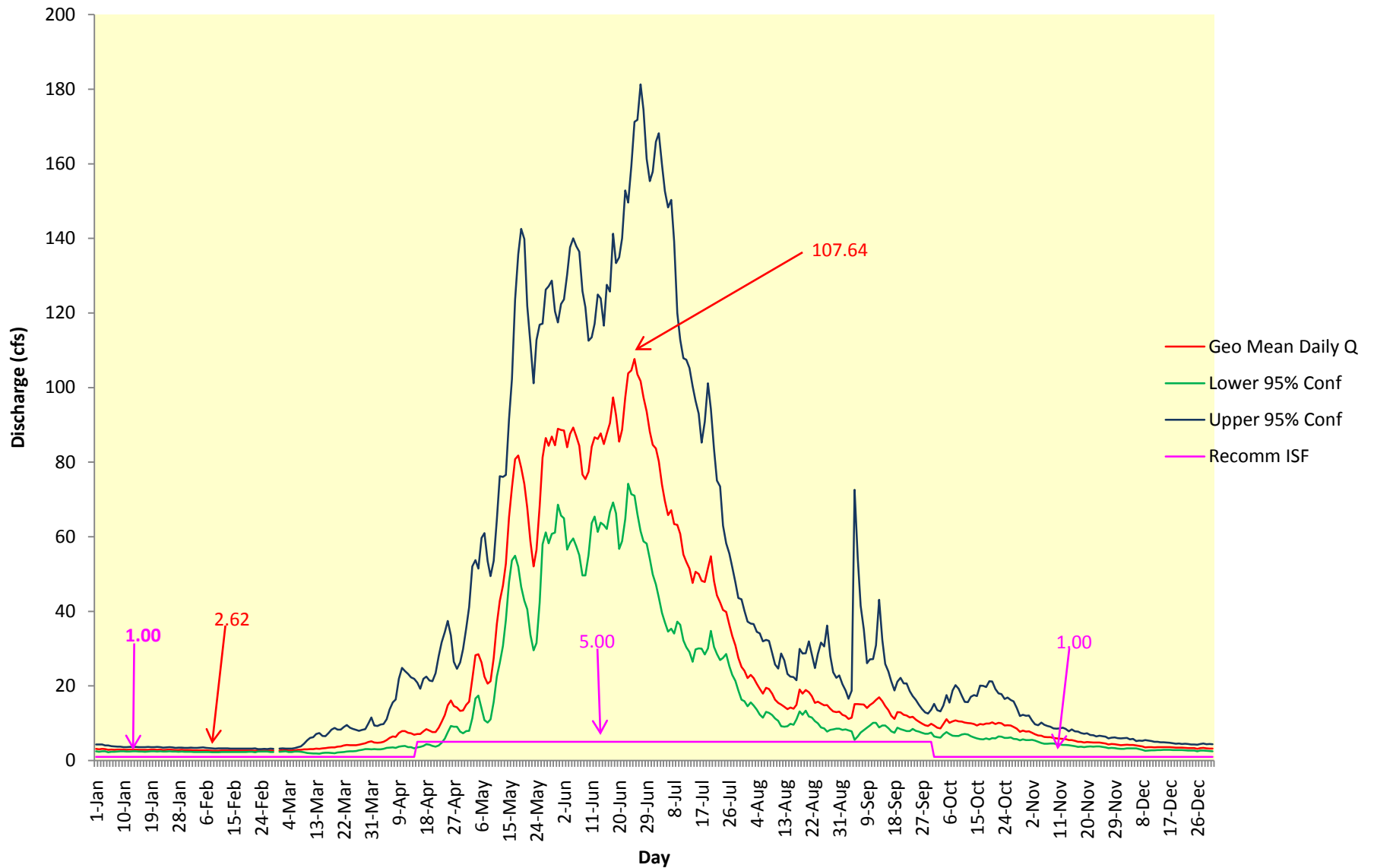


Middle Creek (Lower Segment)

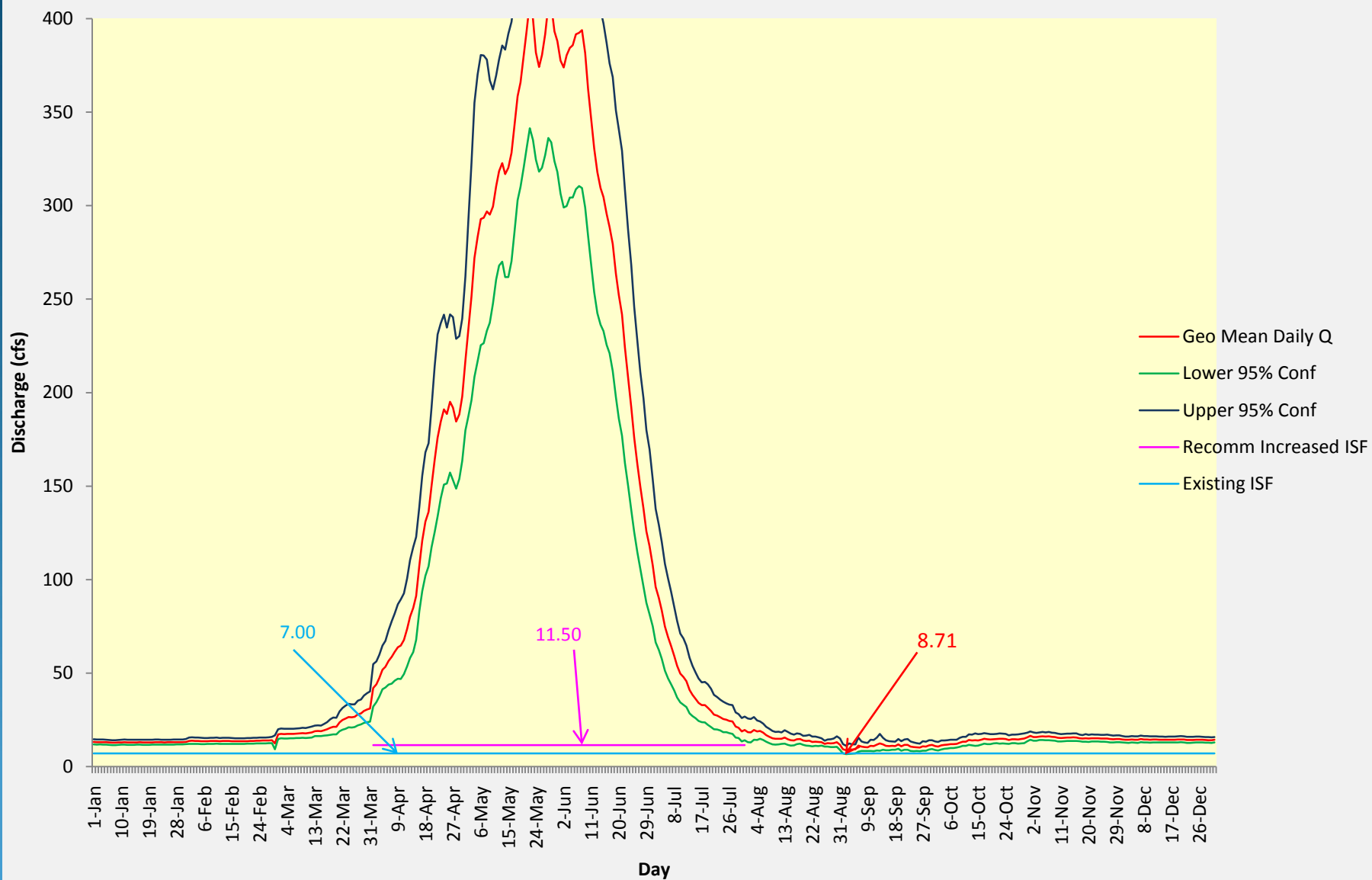


Division 4 Hydrographs

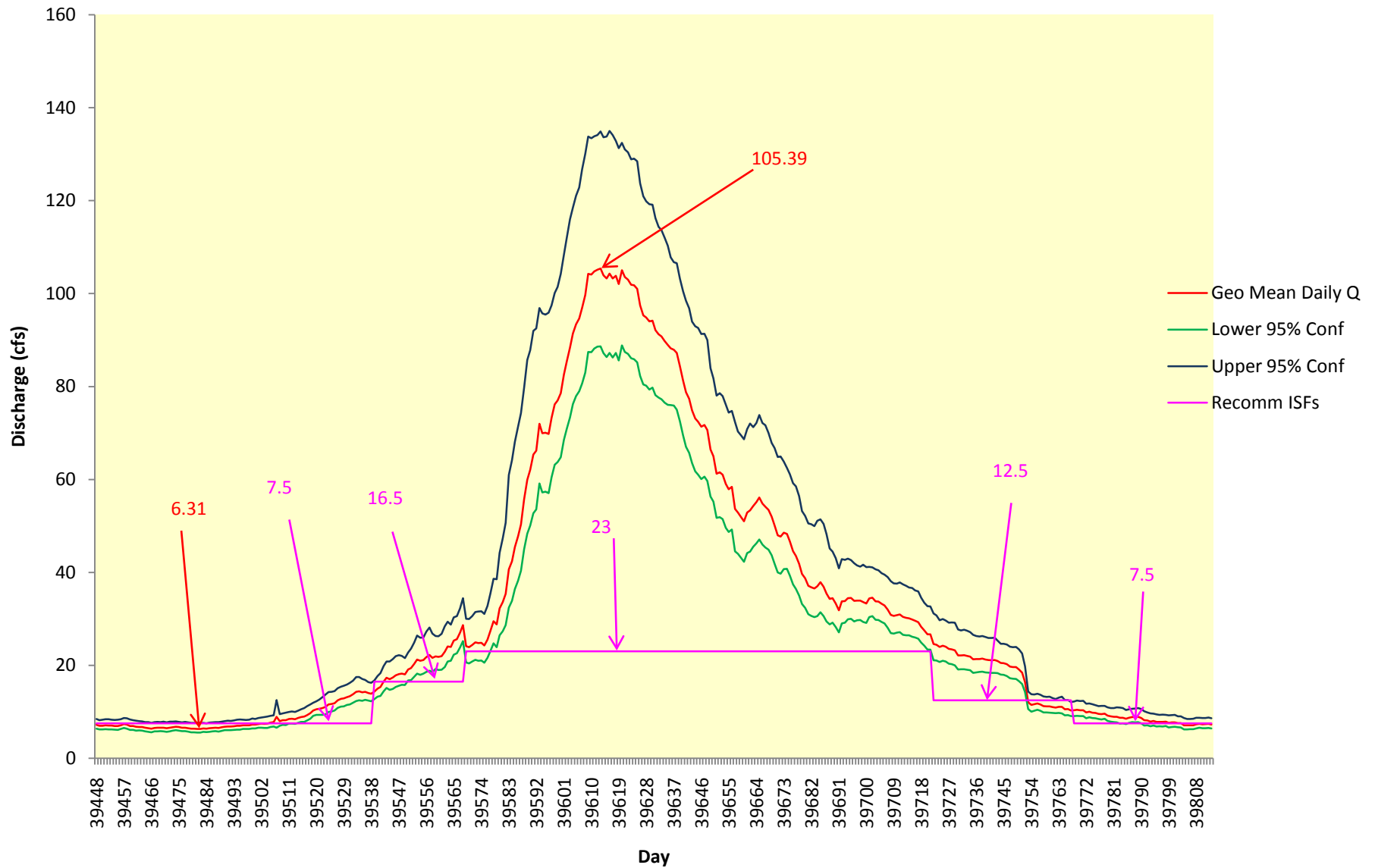
Alpine Gulch



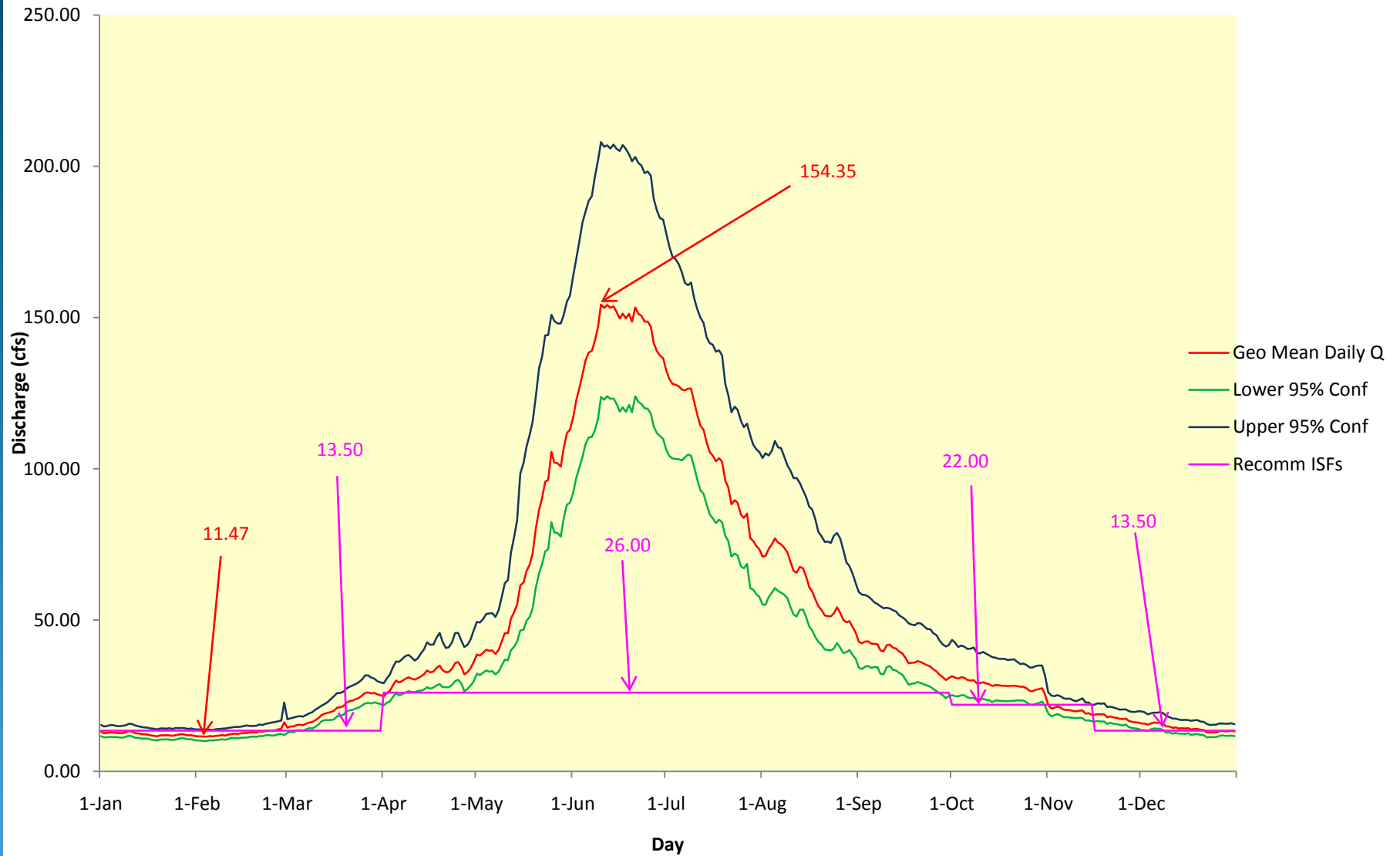
Blue Creek



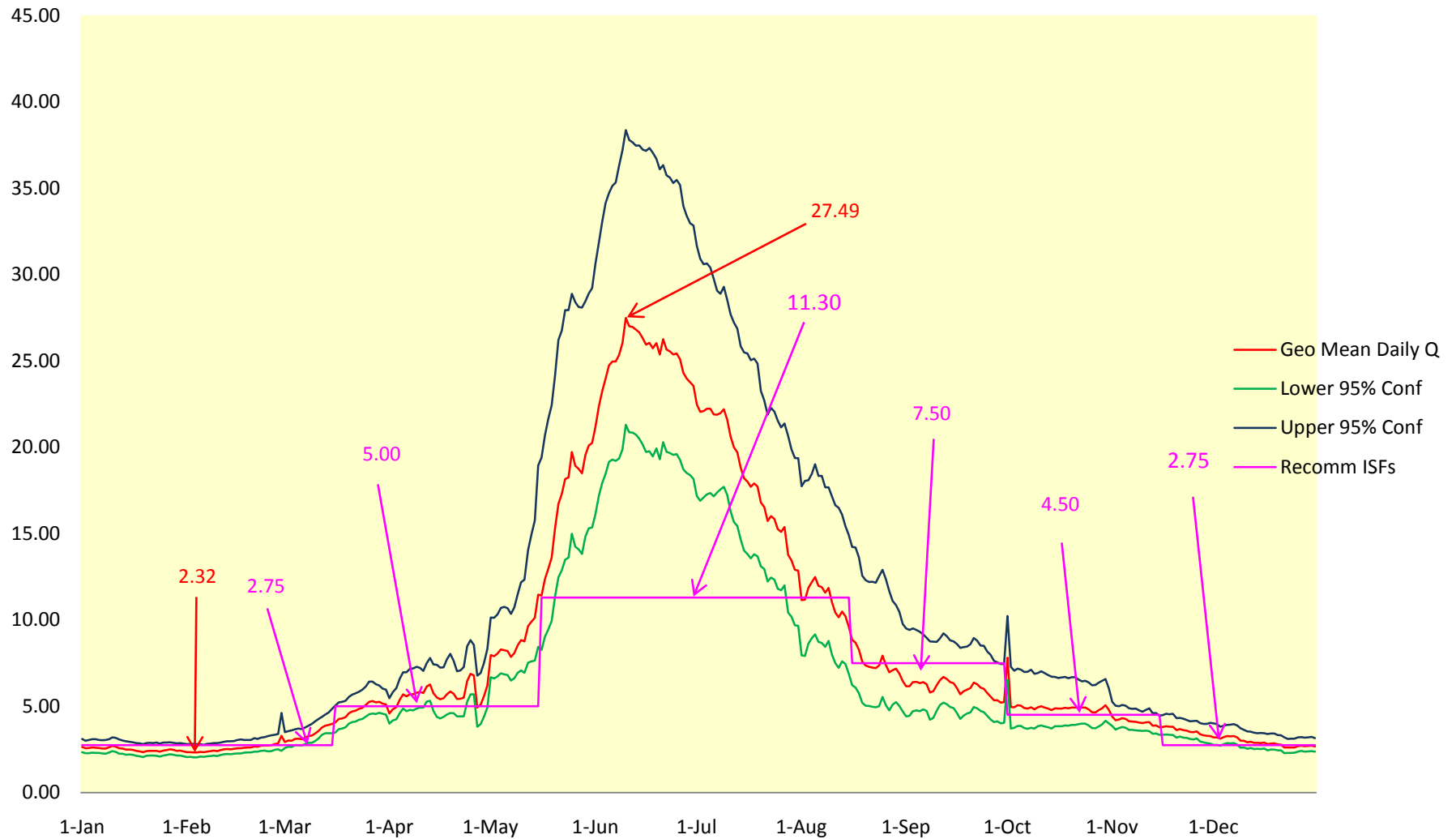
Cebolla Creek (Upper Segment)



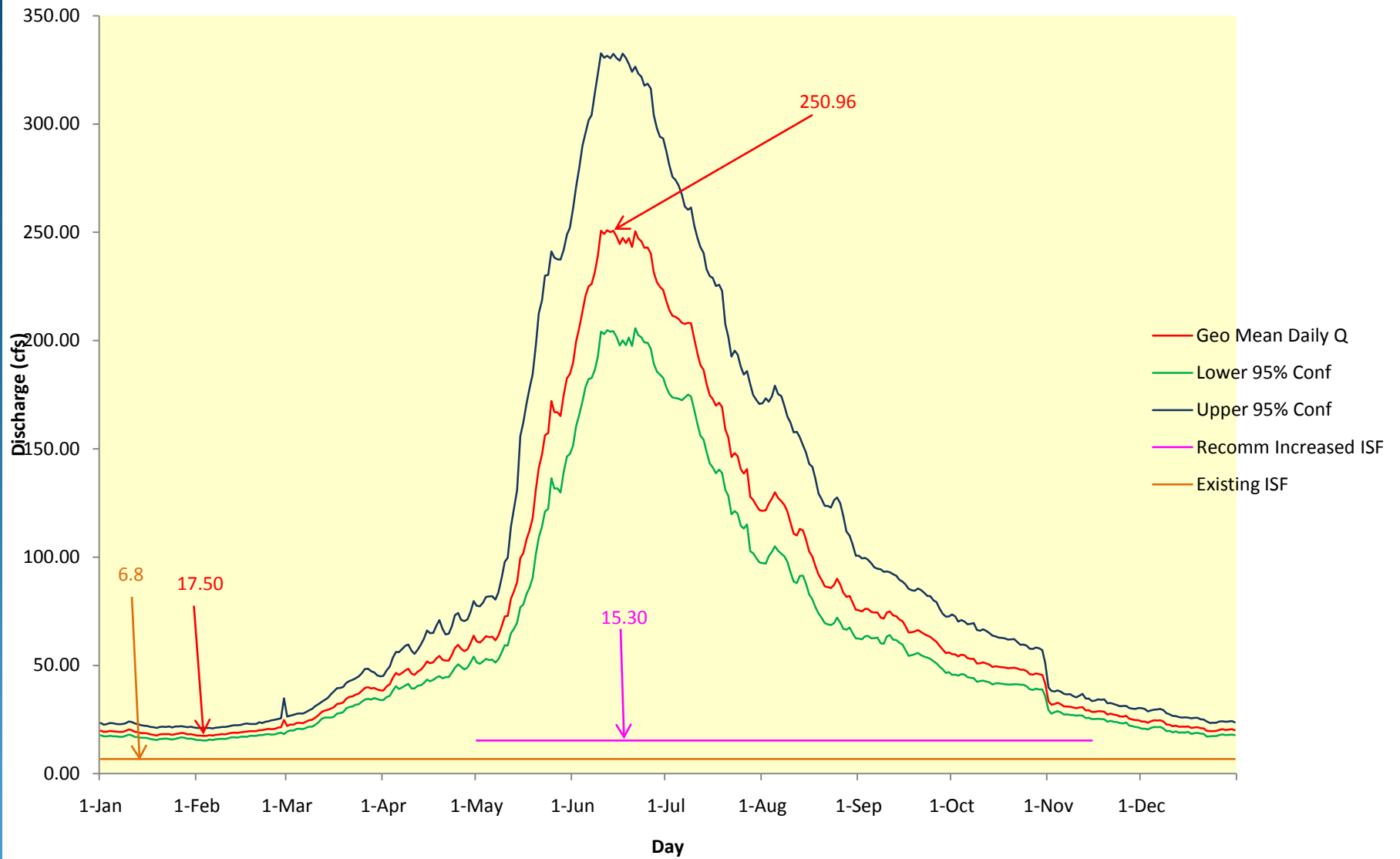
Cebolla Creek (Lower Segment)



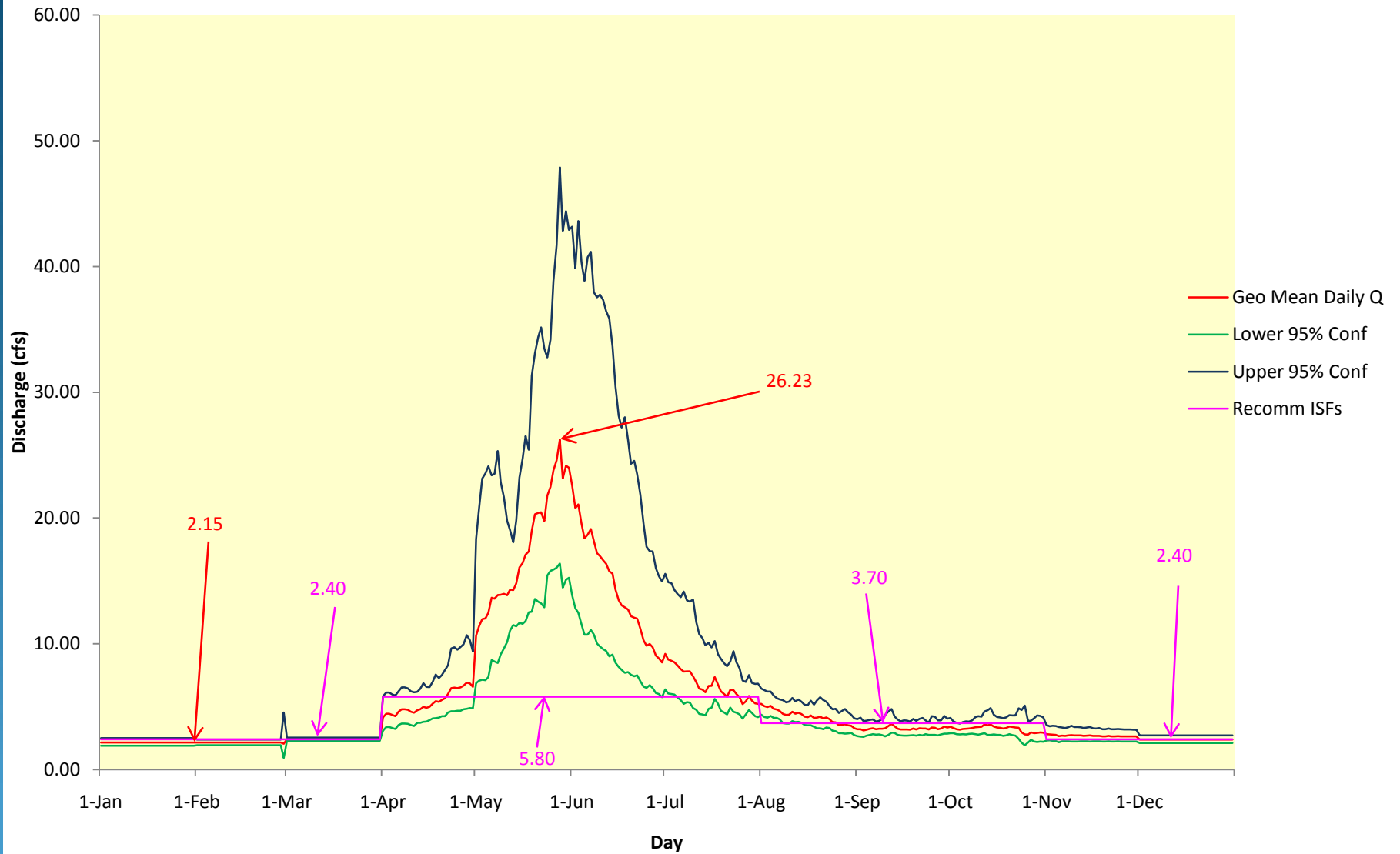
Cochetopa (Upper Segment)



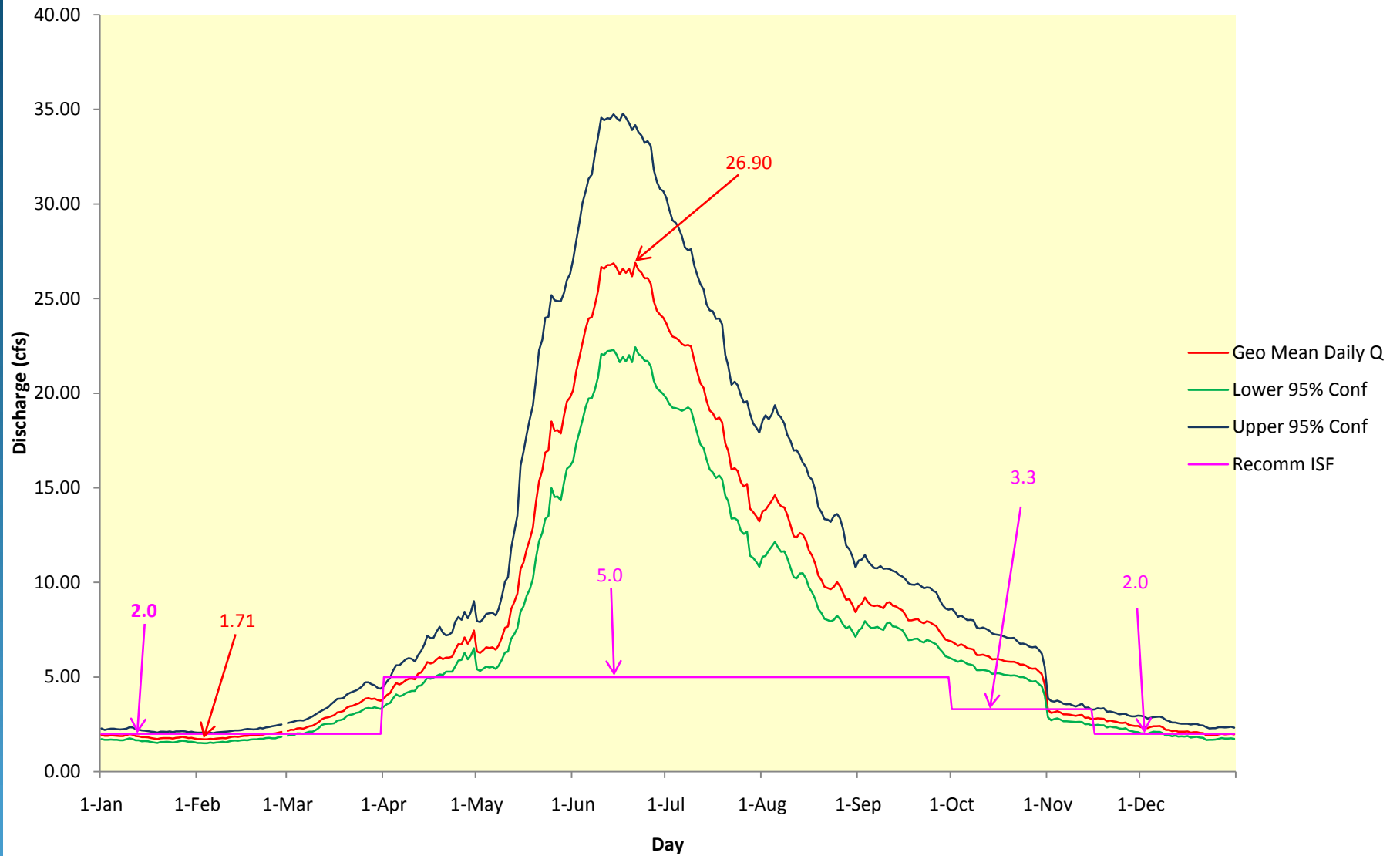
Cochetopa (Lower Segment)



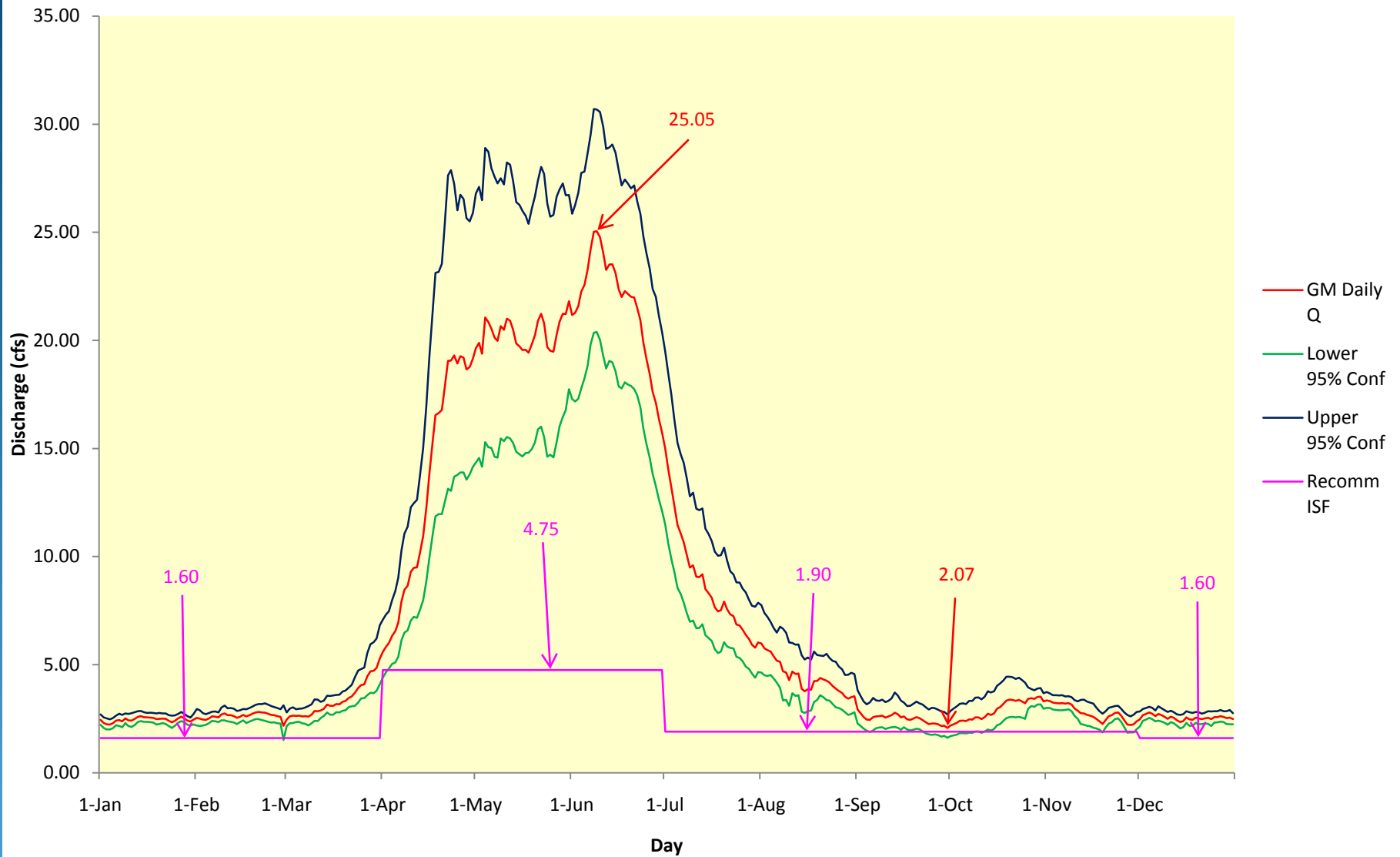
East Beaver Creek



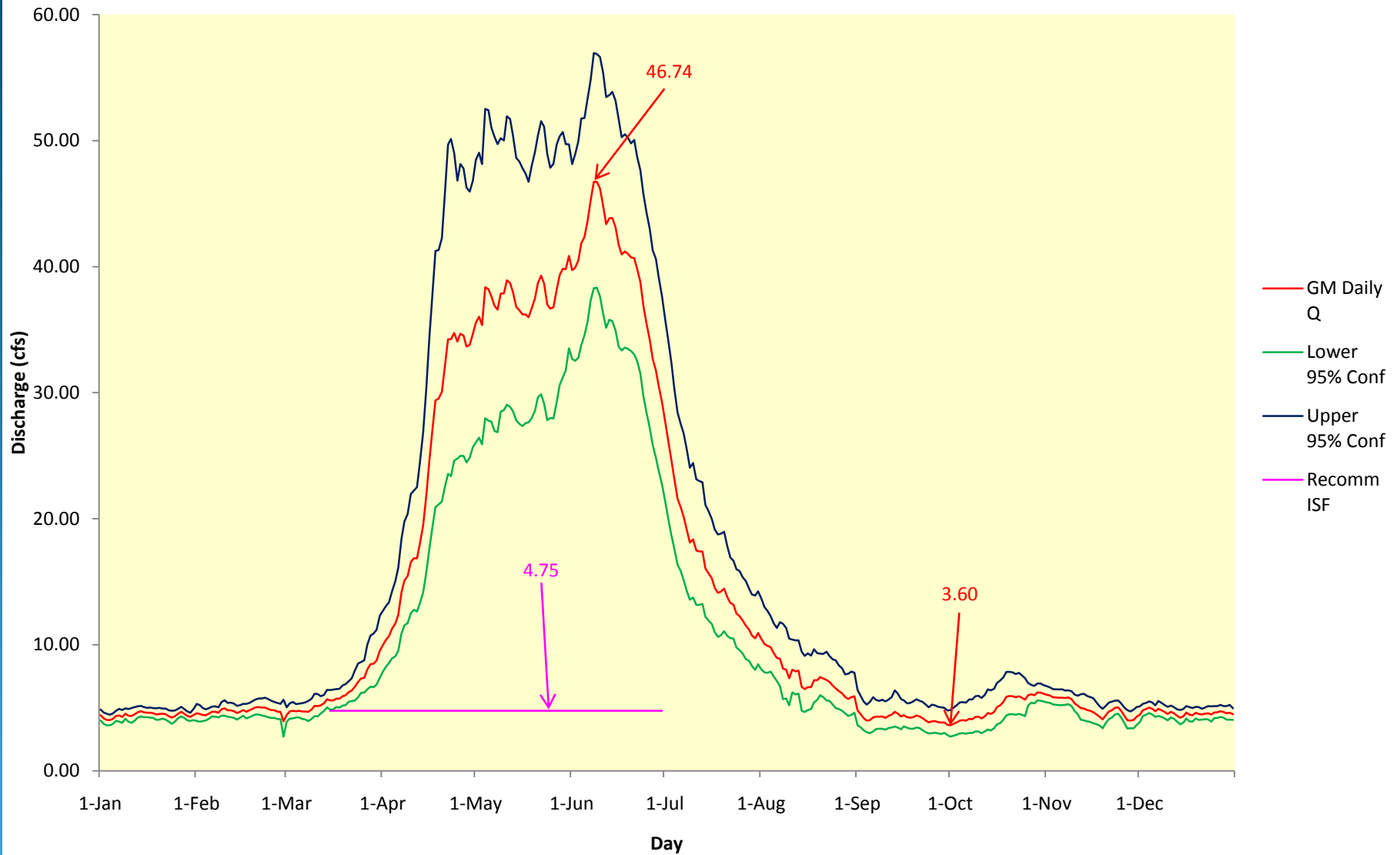
Spring Creek



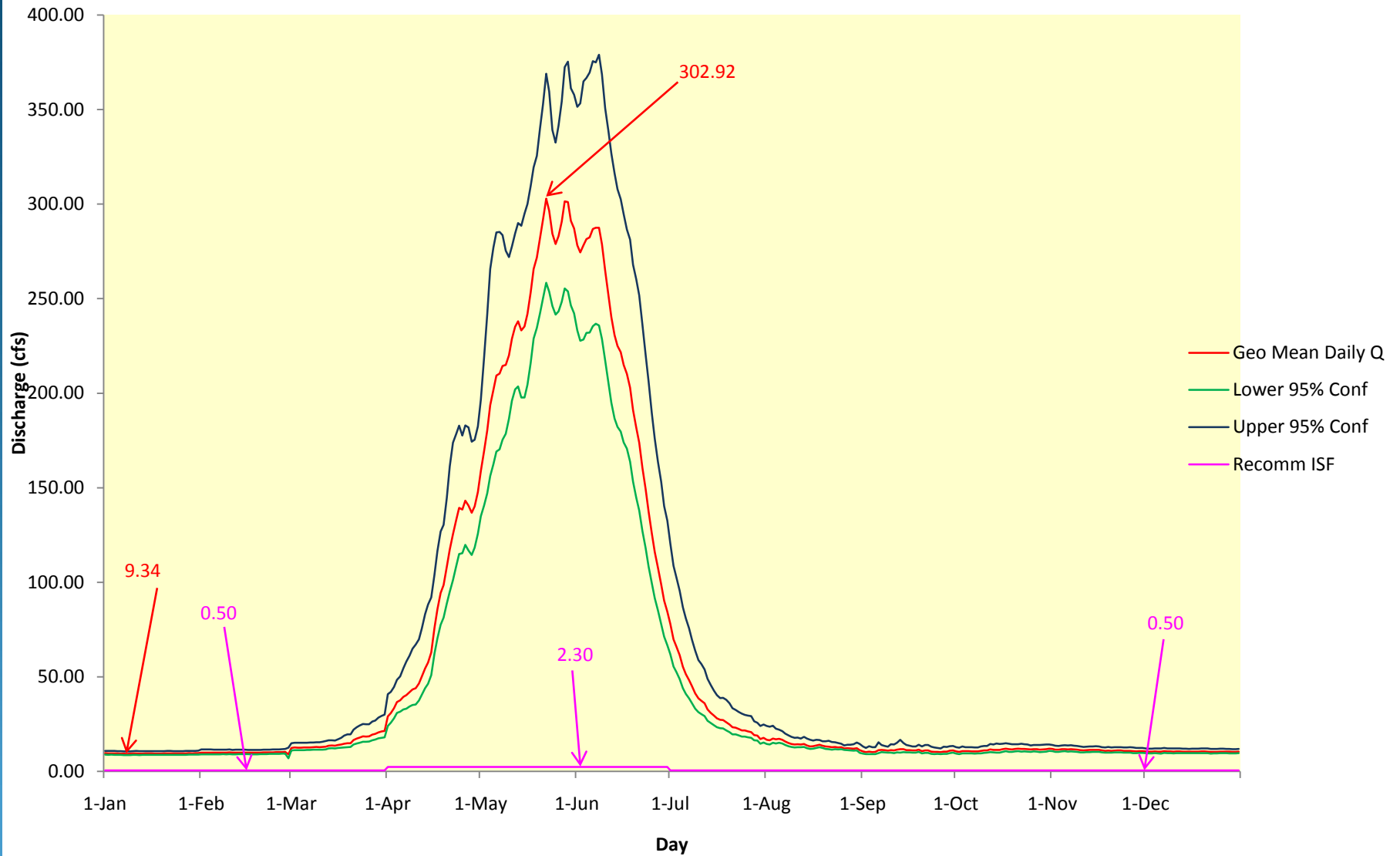
Tabeguache Creek (Upper Segment)



Tabeguache Creek (Lower Segment)

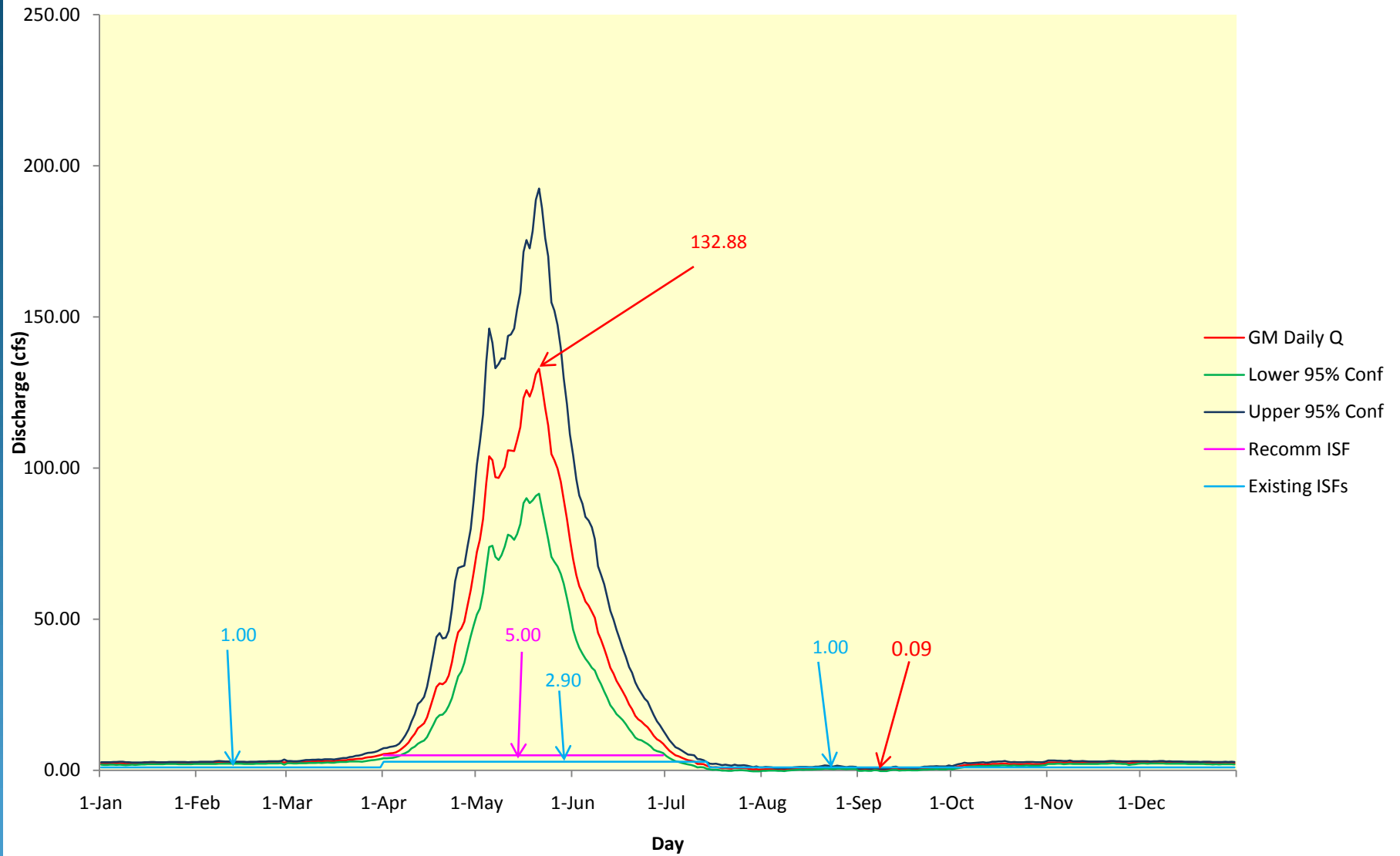


Willow Creek

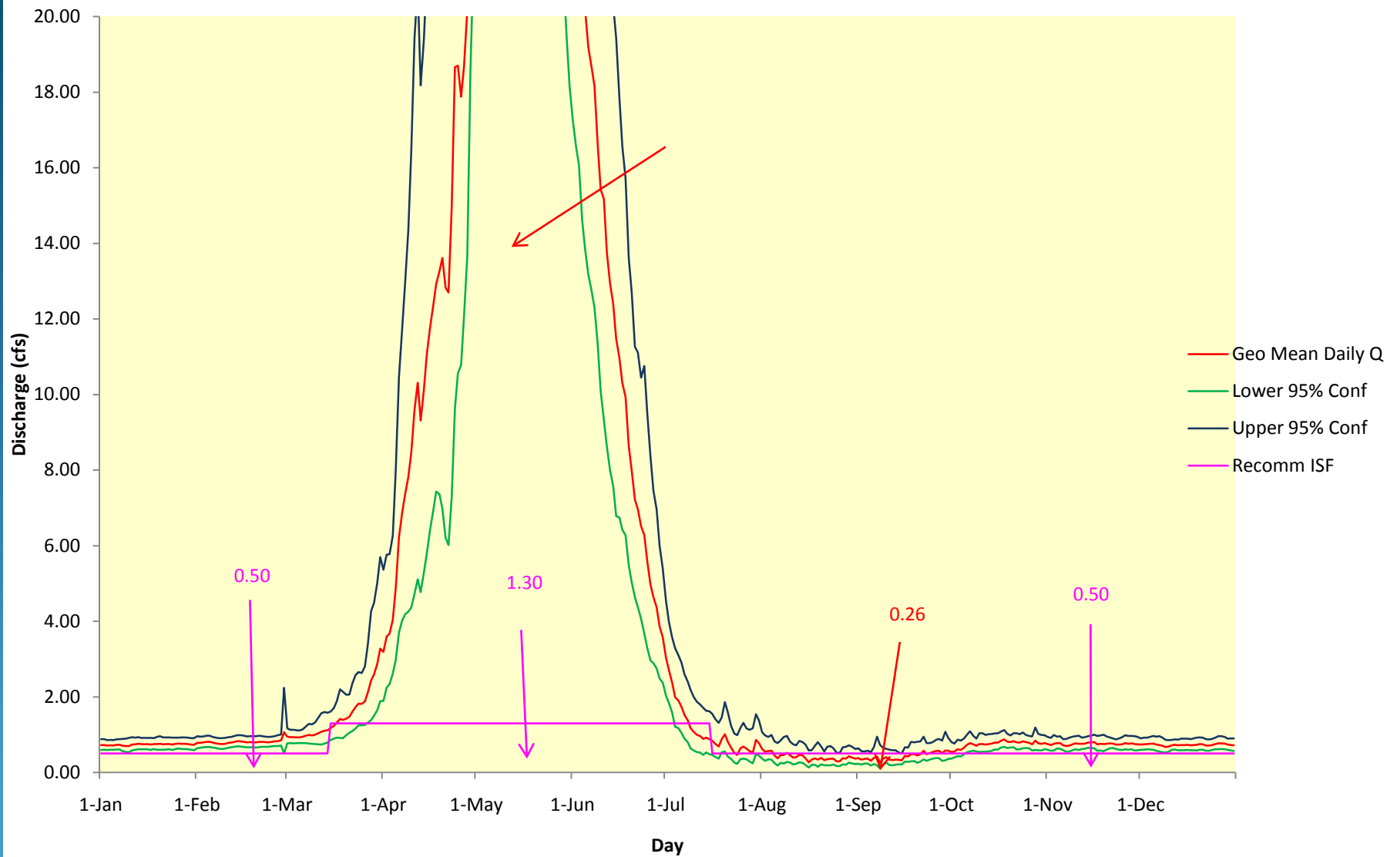


Division 6 Hydrographs

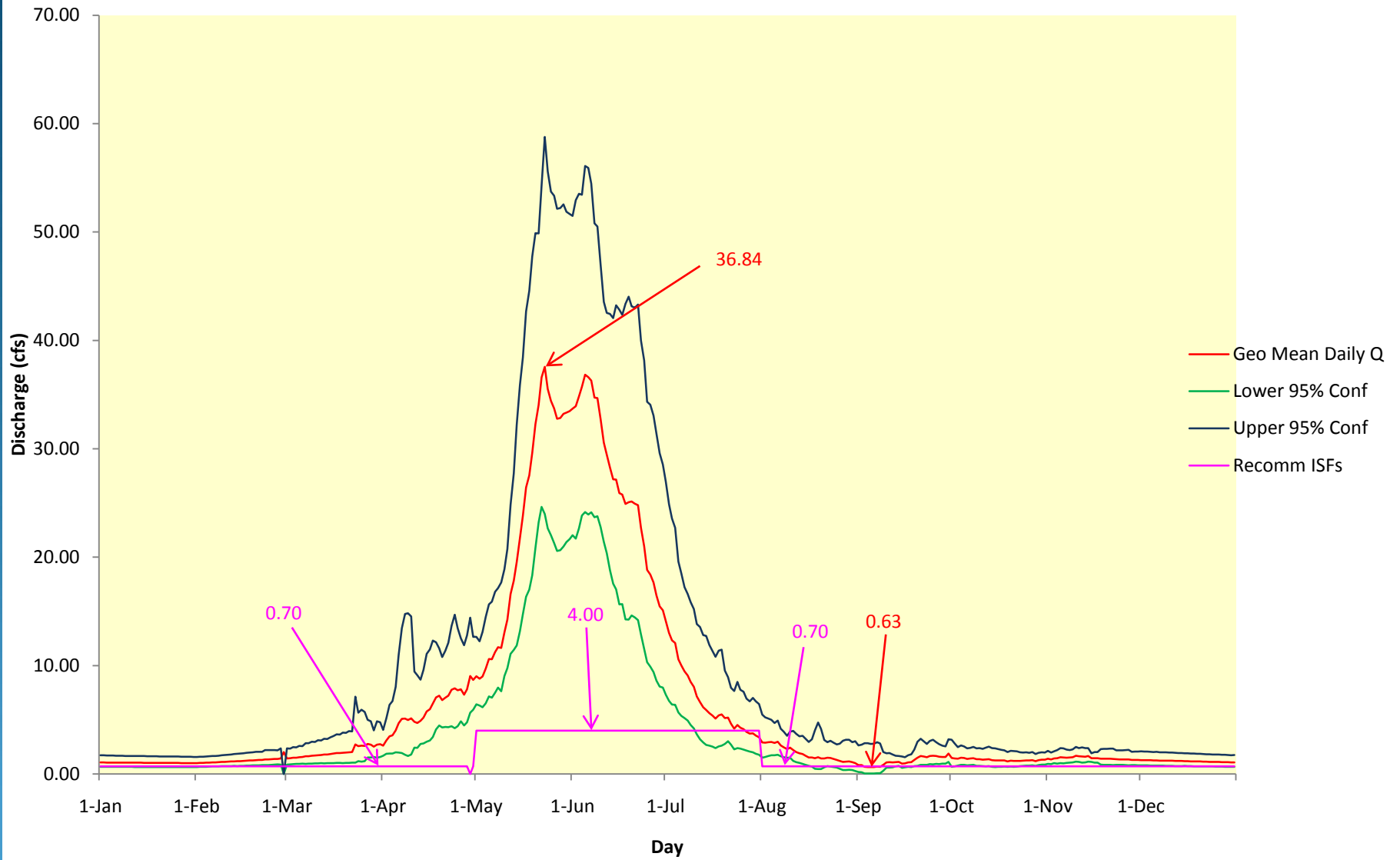
Big Beaver Creek



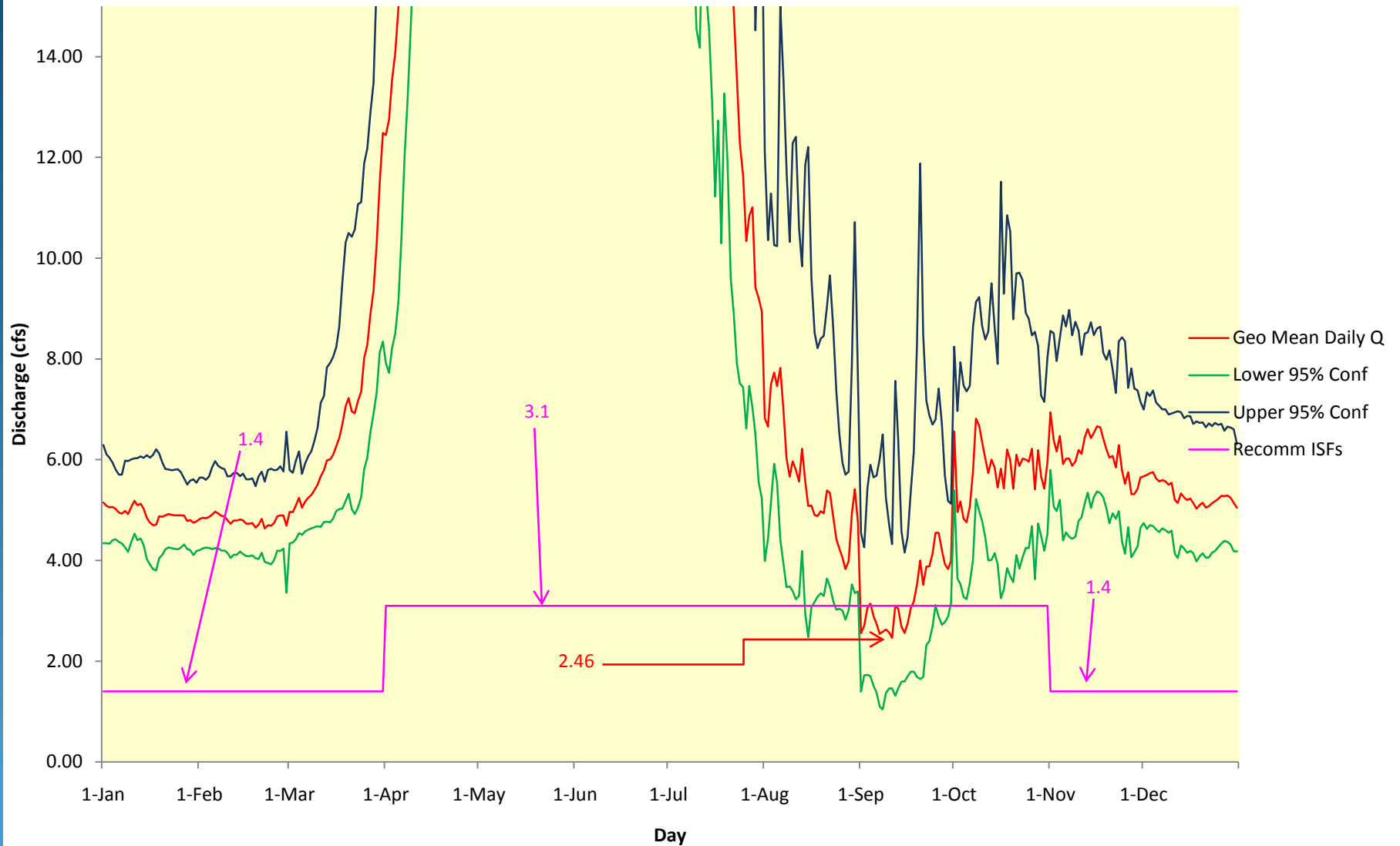
Grizzly Creek



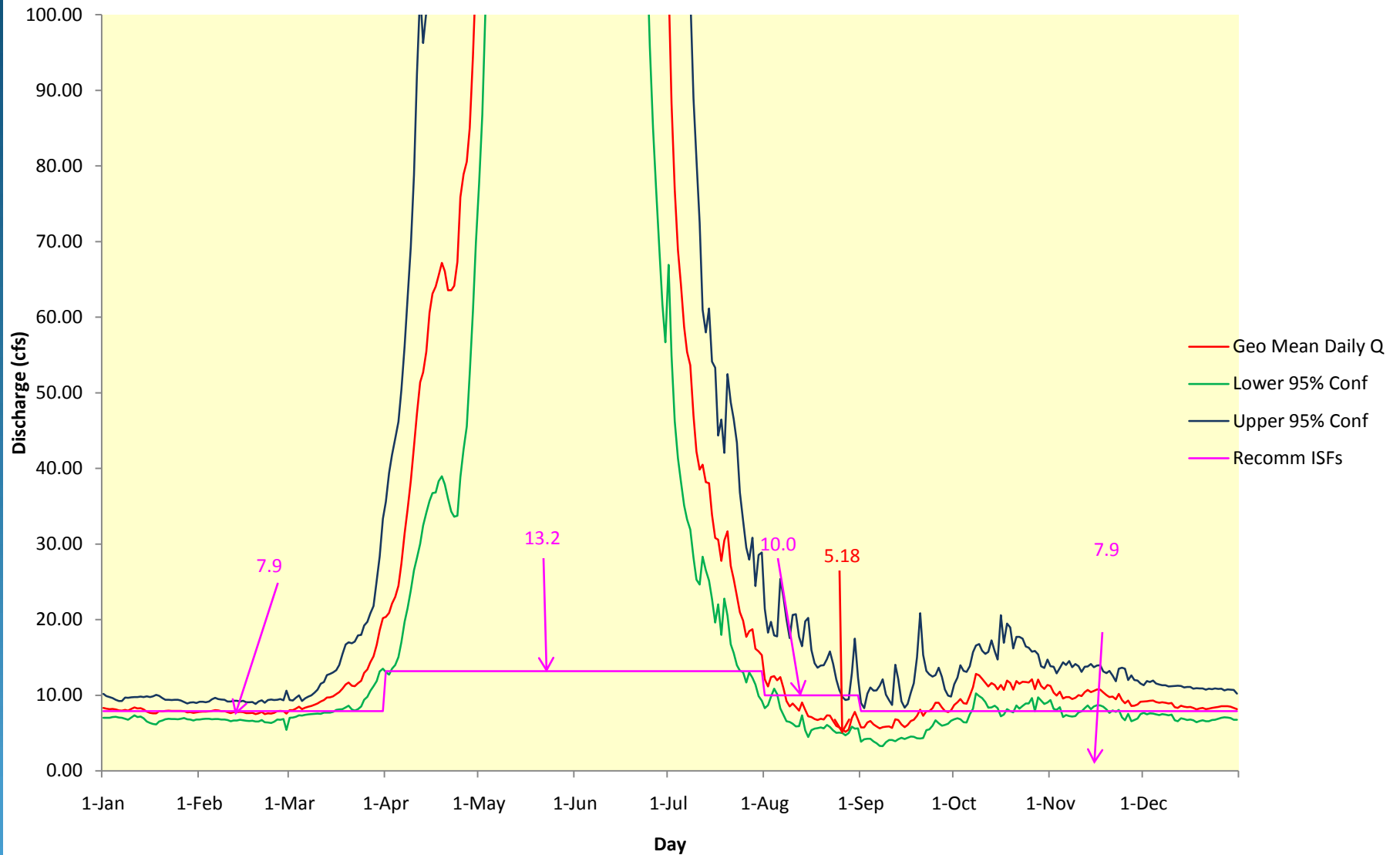
Indian Creek



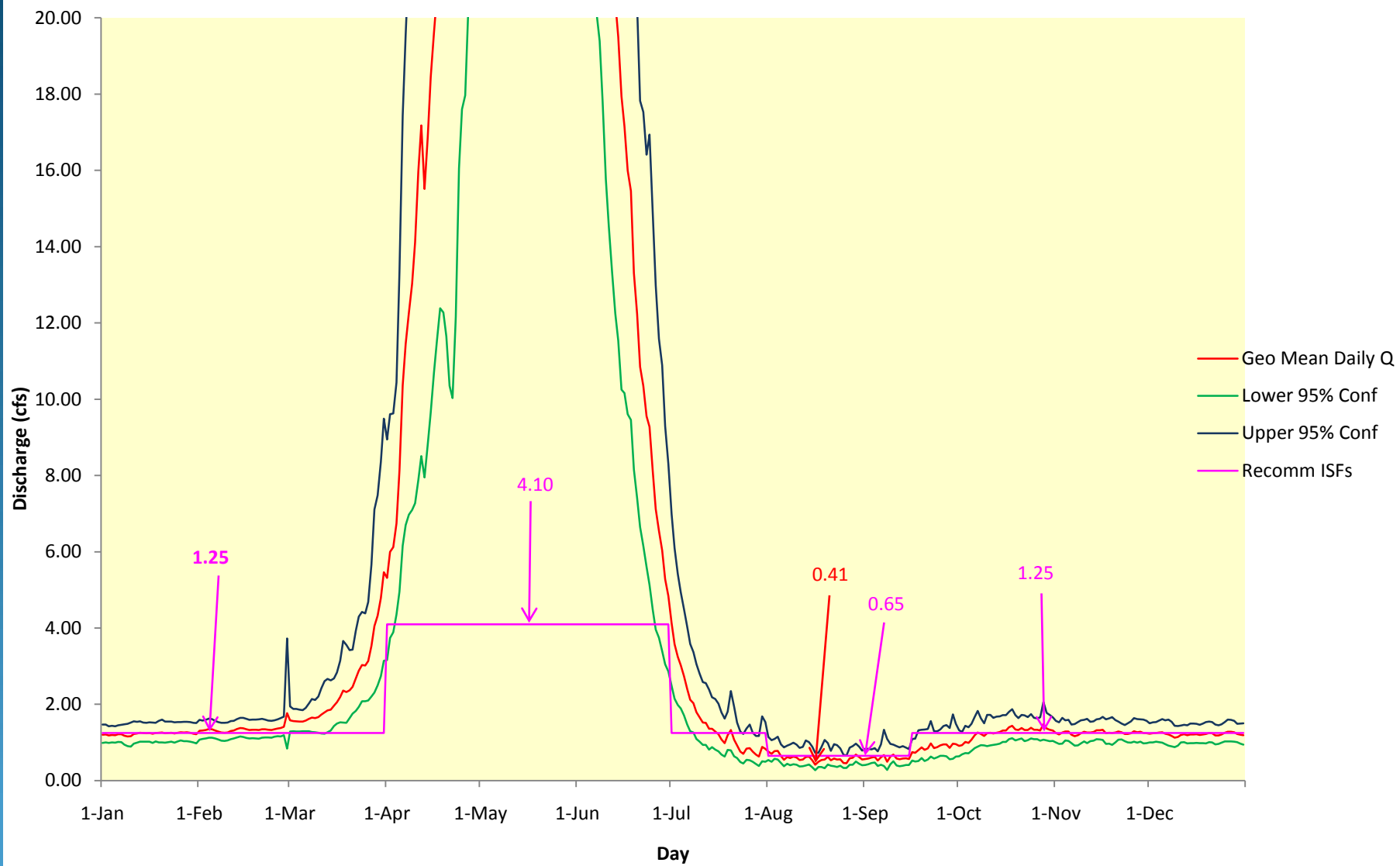
Morrison Creek (Upper Segment)



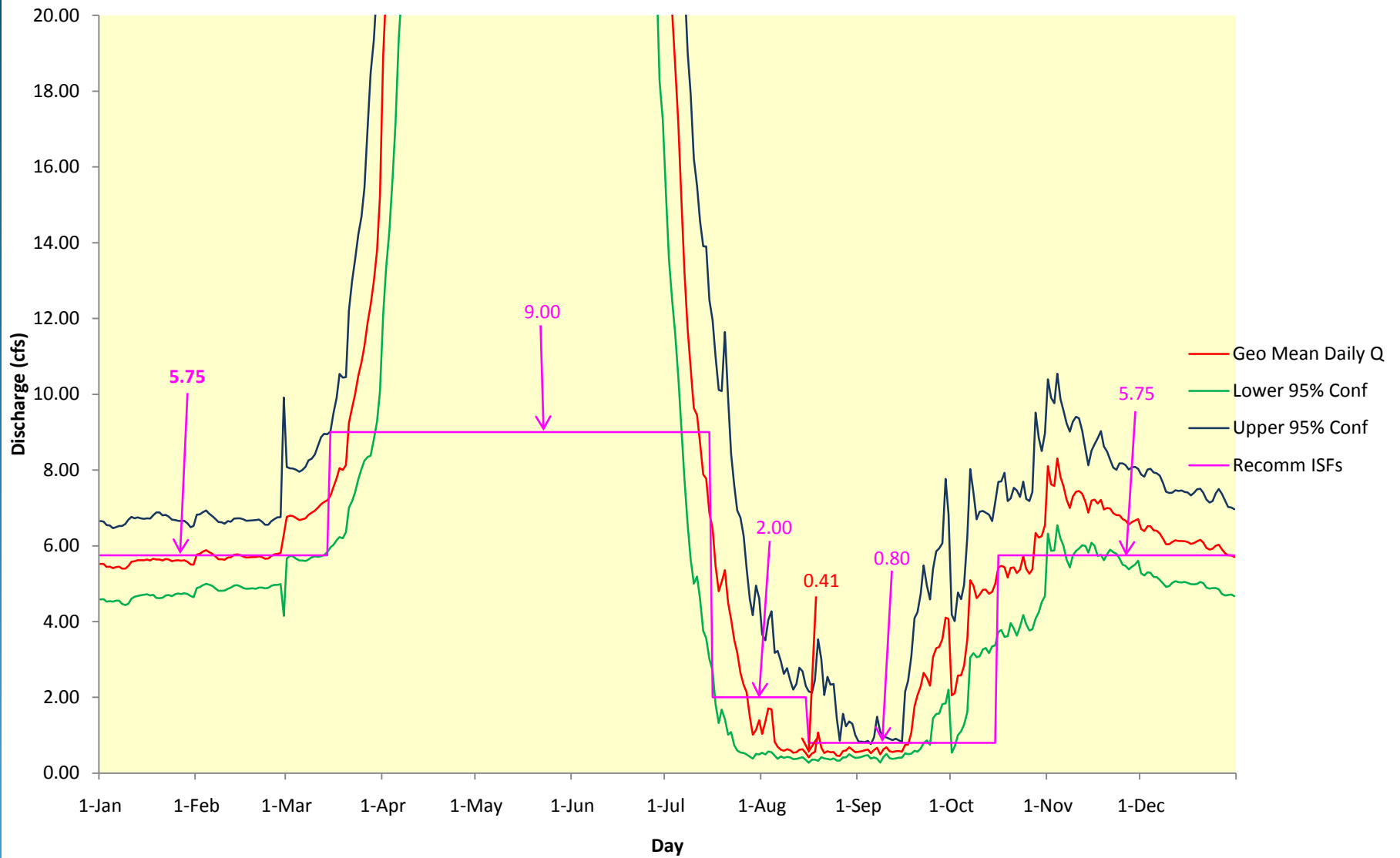
Morrison Creek (Lower Segment)



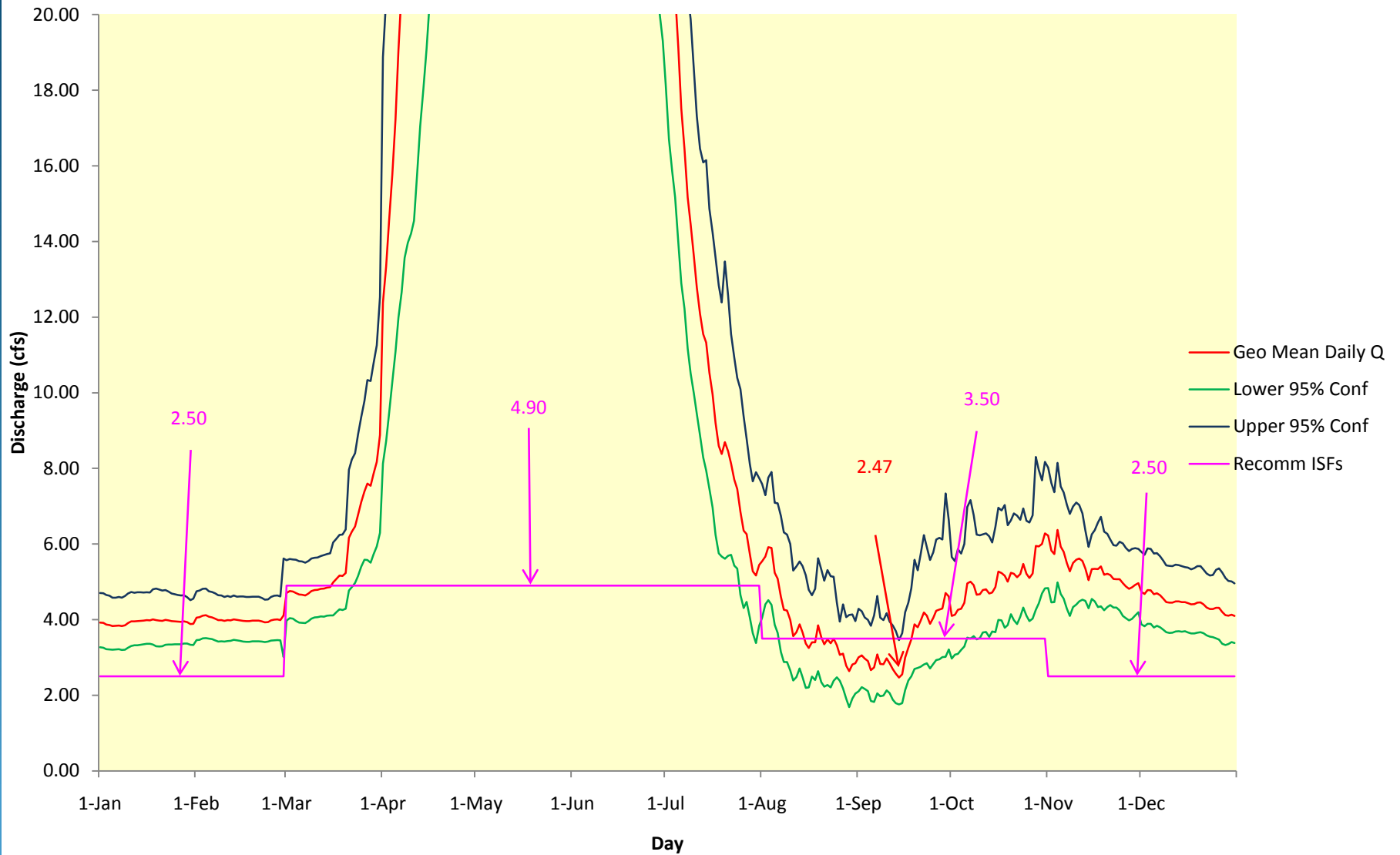
South Fork Slater Creek (Upper Segment)



South Fork Slater Creek (Lower Segment)

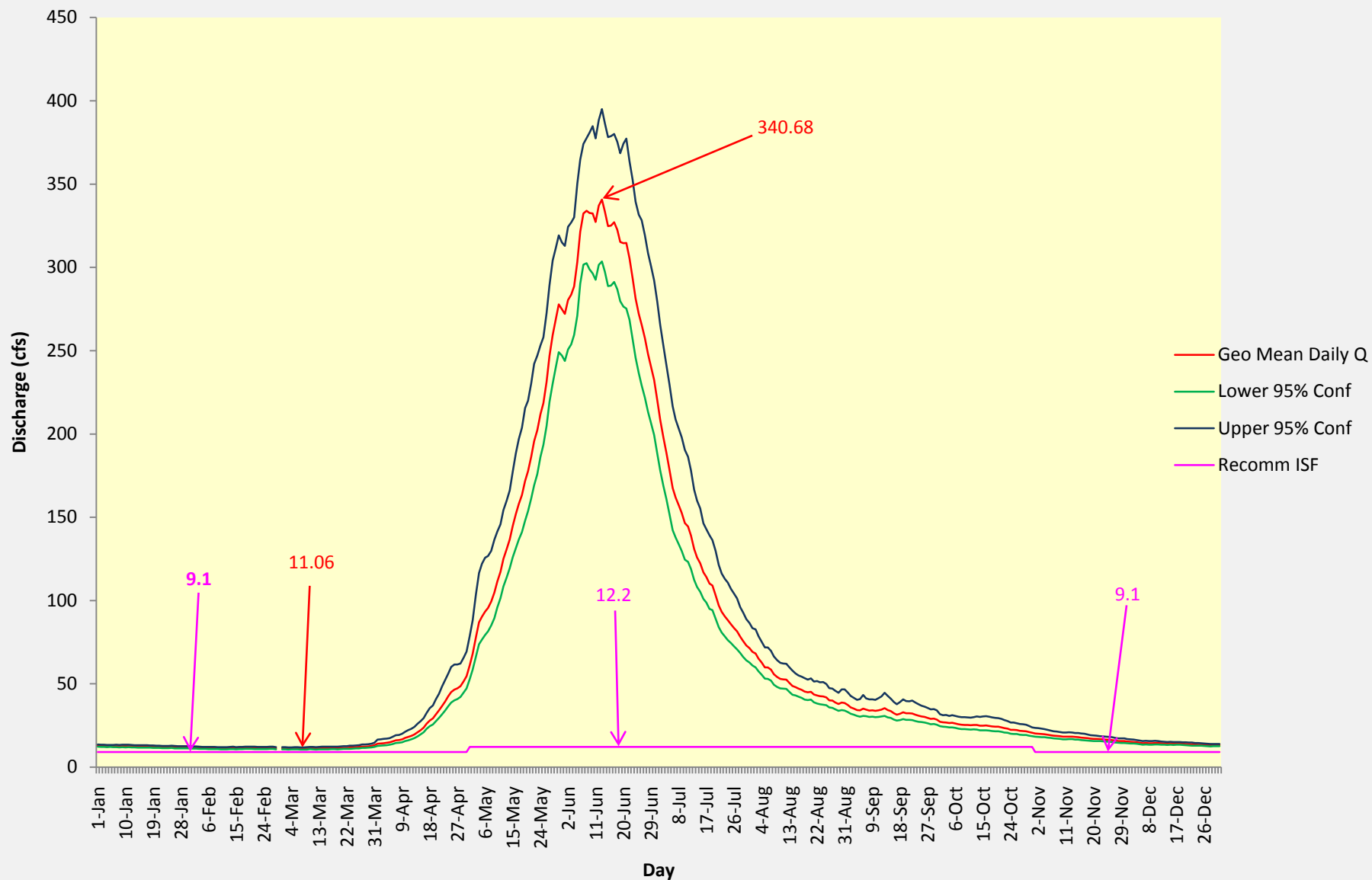


West Prong South Fork Slater Creek



Division 7 Hydrographs

Animas River (upper segment)



Animas River (Lower Segment)

