



BALCOMB & GREEN

WATER LAW | REAL ESTATE | LITIGATION | BUSINESS ESTD 1953

Scott Grosscup
Office (970) 945-6546
Direct (970) 928-3468
sgrosscup@balcombgreen.com

May 19, 2023

Kelly Sheridan
843 County Road 6
Meeker, CO 81641

Benjamin J. Rogers
P.O. Box 1083
Meeker, CO 81641

Walter N. Proctor
P.O. Box 642
Meeker, CO 81641

David Smith, Jr.
P.O. Box 359
Meeker, CO 81641

Bailey Franklin
P.O. Box. 1236
Meeker, CO 81641

Shawn Welder
P.O. Box 2318
Meeker, Co 81641

Paul Neilson
P.O. Box 656
Meeker, CO 81641

Anthony R. Theos
P.O. Box 267
Meeker, CO 81641

Re: Board Meeting – May 24, 2022

Dear Directors:

Enclosed are materials for the Board meeting for the Yellow Jacket Water Conservancy District for Wednesday, may 24, 2023 at 2:00 p.m. at the Meeker Library.

Included in the materials is a request to fund a return flow study from the With River Conservation District. Callie Hendrickson will present. Technology willing, the Board will also hear a presentation from Craig Ullman and Tyler Desiderio from Applegate Group on their Hydrology Study and Hydrologic Hazard Analysis for an enlarged Lake Avery.

See you Wednesday.

Sincerely,



Scott Grosscup

ASPEN | BASALT | GLENWOOD SPRINGS | LAMAR

Post Office Box 790 | Glenwood Springs, Colorado 81602 | 800.836.5928 | 970.945.6546 |
BalcombGreen.com

**Meeting of the
Yellow Jacket Water Conservancy District
Wednesday May 24, 2023
2:00 to 4:00 p.m.**

**Meeker Library
490 Main Street, Meeker, CO 81641**

**Or Via Microsoft Teams
Meeting ID 258 035 903 284 Passcode 9FUAec**
[Click here to join the meeting](#)

Agenda

1. Call Meeting to Order
2. Approval of Minutes from December 8, 2022
3. Appointment of Officers
4. Public Comment
5. White River Conservation District Return Flow Study
6. Lake Avery Enlargement
7. Treasurer's Report and Approval of Accounts Payable
8. Wolf Creek Reservoir
9. Online Presence
10. New Business
11. Adjourn

**Meeting of the
Yellow Jacket Water Conservancy District
Thursday December 8, 2022
2:00 p.m. to 4:00 p.m.**

**Meeker Library
490 Main Street, Meeker, CO 81641**

Call to Order

The meeting was called to order at 2:05 p.m.

Roll Call

Directors Present
Kelly Sheridan
Ben Rodgers
Walter Proctor
Anthony Theos
David Smith
Shawn Welder
Bailey Franklin

Staff Present

Scott Grosscup, District's Attorney

Others Present

Erin Light, Division Engineer
Betty Kracht, Water Commissioner

Approval of Minutes from June 30, 2022

Director Proctor moved to approve the minutes from the June 30, 2022, meeting as presented, Director Franklin seconded, all in favor.

Public Comment

There were no members from the public wishing to discuss items not on the agenda.

Budget Hearing

Director Proctor moved to open the hearing on the 2023 Budget, Director Franklin seconded, all in favor.

Scott reported that a draft budget was circulated on October 13, 2022 and notice of the hearing was posted in the Craig Daily Press and the Rio Blanco Herald Times. He had not received any comments on the proposed budget. Scott stated that the budget had changed slightly since the previous budget to reflect more accurately anticipated 2022 expenses and to revise property tax revenues based on updated assessments. Discussion followed.

Director Proctor moved to approve the Resolution to Set Mill Levy 2023 as presented at 0.209 mills, Director Franklin seconded, all in favor.

Director Proctor moved to approve the Resolution to Adopt Budget, Director Theos seconded, all in favor.

Director Smith moved to approve the Resolution to Appropriate Sums of Money, Director Theos seconded, all in favor.

There being no further discussion, Director Proctor moved to close the 2023 Budget Hearing, Director Rogers seconded, all in favor.

Director Re-Appointments

Scott reported the court reappointed Directors Sheridan, Smith, and Theos to serve an additional term to expire in October of 2026. The terms for Directors Welder, Franklin and Proctor are set to expire in October of 2023.

Approval of Accounts Payable

Director Franklin presented the year-to-date budget expenses and balances. Director Proctor moved to pay Balcomb & Green its outstanding invoices and to pay for the December billing provided it does not exceed budgeted amounts to cover legal fees, and other expenses, and to approve payments to Applegate Group for services rendered through the year provided such amount remains within the previously authorized amount of \$15,000 director Smith seconded, all in favor.

Lake Avery Enlargement

Scott stated that Applegate Group is in the process of conducting its Dam Breach and Flood Hydrology Analysis. However, since the proposal was first presented to the Board, the state modified its hydrology guidelines expanding the scope of the project. This results in the project extending into 2023. Director Franklin reported that Colorado Parks and Wildlife has had several meetings concerning its willingness to allow for an expansion of Lake Avery. Current leadership has not been in full support. And the Director level position is currently vacant. He indicated that CPW is considering future options for the reservoir. Discussion followed about CPW's interest in the expansion of Lake Avery.

Director Welder raised potential options of acquiring water rights in the Buckles Ditch and Coal Creek Feeder Ditch to possibly serve an enlarged Lake Avery. Discussion followed regarding the acquisition of these rights and the availability of grant funding and partner agencies.

No further action was taken. The Board expects to discuss options at its next meetings after it receives the report from Applegate Group.

Water Measurement Display

Director Proctor discussed the original concept behind a water measurement display that was to be located in Circle Park in Meeker and would have been a gravity flow system with a number of water measurement devices for public display and learning. However, the adjacent landowner is not willing to grant an easement that would be necessary for the display as envisioned. There are other options being explored including a pump and piped system that would be more expensive, or possible locations in Rangely, which would be more limited. Project proponents are continuing to look at options and have not finalized a proposal. Discussion followed. The Board had previously approved up to \$10,000 to support the creation of a water measurement display in Circle Park subject to the White River Conservation District obtaining additional funding. Any final proposal will need to be presented to the Board for consideration.

Wolf Creek Reservoir

The Bureau of Land Management has presented the District with an invitation to participate as a cooperating agency in the preparation of an Environmental Impact Statement for the development of Wolf Creek Reservoir and a proposed memorandum of understanding presenting the parties' responsibilities in such a process. Discussion followed on the pros and cons of such participation, including whether participation amounts to support or only being able to participate in the process as well as provide an understanding of how this process may take shape in a future application for the District to construct or enlarge a reservoir.

Director Proctor moved to approve participation as a cooperating agency and to enter into the proposed MOU with the Bureau and authorize Balcomb & Green to serve as its representative, Franklin seconded. The motion carried with Director Smith voting in opposition.

Lower Yampa Augmentation Plan

Division Engineer Light stated Moffat County, with the assistance of Wilson Water Group is working on an area-wide umbrella augmentation plan that would use water stored in Elk Head Reservoir. Scott indicated that he had participated in a call with the various parties as portions of the plan would include lands within the boundaries of the Yellow Jacket Water Conservancy District. Moffatt County anticipates filing the water court application in the near future.

Administration of the White River

Division Engineer Light reported the Rio Blanco Water Conservancy District has placed a call for the Taylor Draw power right, a 1966 priority in the amount of 620 cfs, effective December 1, 2022. This is the first time the White River mainstem has been administered. RBWCD uses its turbines to measure flows and reports weekly to DWR. Ms. Light indicated she would not honor the call if the reservoir spills. Water stored in the reservoir cannot be used to meet the demand. Questions were raised whether this was a futile call as it does not generate more water and the impacts on livestock watering without a water right decreed for that use and irrigation rights. Ms. Light indicated the request by RBWCD is for a continuous call and will result in less water available in the ditches. Discussion followed about the impacts to water users on the White River.

New Business

Scott indicated the State and Division Engineer, Water Division 6, have submitted the proposed Rules and Regulations for the installation of water measurement devices to the water court for adoption and final approval. No action was taken.

The meeting adjourned at 4:24 p.m.

Read and approved this ____ day of _____ 2023.

Signed: _____

Attest: _____



Exhibit A.1 Scope of Work

Date: February 1, 2023
Awardee: White River Conservation District
Project Name: White River Water Supply Study – Return Flows

Project Summary:

The White River Water Supply Study (Project) is a priority for the White River Integrated Water Initiative (Initiative) to help identify the effects of flood irrigation to the river, aquifers, and local communities. Quality data will be collected in the middle reach (as defined by the Initiative) of the White River to facilitate the development and application of a hydrologic model for the White River. This data will be collected through measuring the stream flow at the upper end of the middle reach, the tributary contributions, the ditch diversions, the groundwater head at wells, and the stream flow at the lower end of the study area. These measurements will be used to determine the location and timing of return flows to the White River and the overall effects of existing irrigation practices to the health of the river.

Project Success and Deliverable:

The final deliverable of this project is a user-friendly return flow model for the middle reach of the White River. The Project deliverables for this specific funding will include the delivery of quality water measurement data to the CSU Dept. of Civil and Environmental Engineering for the development of the White River Middle Reach Return Flow Model. CSU Professor, Dr. Ryan Baily, is applying for grant funding through the Colorado Water Center to develop the model and to make the final model user friendly for decision makers.

Project success is three-fold:

1. The Initiative will utilize this information in the development of a future drought contingency planning effort.
2. Agriculture producers will use this model to make decisions regarding their irrigation practices and individual drought contingency planning efforts including if they could/should participate in any demand management program.
3. Determine how existing irrigation practice are supporting a healthy river and supporting base flows for downstream uses.

Exhibit A.1 Scope of Work

Task 1 Description: Well Loggers

Ten well loggers will be purchased for installation and monitoring in this project.

Task 2 Description: Logger installation and monitoring

The ten well loggers will be installed in current wells for the purpose of monitoring water levels. The water depth will be monitored throughout the year with the information being submitted to Dr. Bailey for use in verifying the accuracy of the model. Protocols will be identified and documented.

Task 3 Description: Tributary Measurement Installation and Monitoring

The specific stream gauging method will be determined through conversations between the Initiative, CSU, USGS, and CRD staff. The tributaries will be measured to account for “new” water into the system, giving a better understanding of the return flows from irrigated fields. Protocols will be identified and documented.

Task 5 Description: Planning & Coordinating (Diversion Measurements)

Facilitation of the Planning Advisory Committee (PAC) will continue, keeping all the members involved in the process. A smaller water work group will convene on a regular basis, helping to ensure the process is well planned and executed. The Coordinator will stay in close contact and facilitate any necessary meetings with CSU and other partners to ensure the necessary communications for the development of protocols and evaluation of a successful model.



Budget Worksheet

Date: December 14, 2022

Project Name: White River Water Supply Study - Return Flows

Project Applicant: White River Conservation District

Matching Funds

| Funding Partner* | Cash | In-Kind | Total | Funds Committed (Y/N) |
|--|----------------------|--------------------|----------------------|-----------------------|
| WSRF Funds - YWG Basin Roundtable | \$ 99,500.00 | | \$ 99,500.00 | N |
| White River & Douglas Creek Conservation Districts | | \$ 9,000.00 | \$ 9,000.00 | Y |
| CSU CWCB Grant | \$ 98,440.00 | | \$ 98,440.00 | N |
| | | | \$ - | |
| | | | \$ - | |
| Total | \$ 197,940.00 | \$ 9,000.00 | \$ 206,940.00 | |

*Include applicant and additional partners

Project Budget

| Task No.* | Task Name | Units** | # of Units | Cost Per Unit | CRD Funds | Cash Match | In-kind Match | Total |
|---------------------------|--|-------------|------------|---------------|-----------------|------------------|----------------|------------------|
| 1 | Well Loggers | Loggers | 10.00 | \$ 500.00 | \$ 2,500.00 | \$ 2,500.00 | | \$ 5,000.00 |
| 2 | Logger installation and monitoring | Wells | 10.00 | \$ 5,000.00 | \$ 25,000.00 | \$ 25,000.00 | | \$ 50,000.00 |
| 3 | Tribuary Measurment Installation and Monitoring | Tributaries | 3.00 | \$ 16,000.00 | \$ 24,000.00 | \$ 24,000.00 | | \$ 48,000.00 |
| 4 | Ditch Diversion verifications (DCT) | Diversions | 40.00 | \$ 225.00 | | | \$ 9,000.00 | \$ 9,000.00 |
| 5 | Planning & Coordinating (Diversion Measurements) | Monthly | 24.00 | \$ 2,500.00 | \$ 12,000.00 | \$ 48,000.00 | | \$ 60,000.00 |
| 6 | Development of Model by CSU | | | | | | | |
| | CSU Faculty (including 28% fringe) | Yr | 2.00 | \$ 19,200.00 | | \$ 19,200.00 | | |
| | Grad Student 1/2 time (including 8% fringe + tuition and fees) | Yr | 2.00 | \$ 66,400.00 | | \$ 66,400.00 | | |
| | Indirect Costs | Yr | 2.00 | \$ 12,840.00 | | \$ 12,840.00 | | |
| | | | | | | | | |
| | Administration | | | 10% | \$ 6,350.00 | | | \$ 6,350.00 |
| Total Project Cost | | | | | \$69,850 | \$197,940 | \$9,000 | \$178,350 |

*Add sub-tasks, as-needed

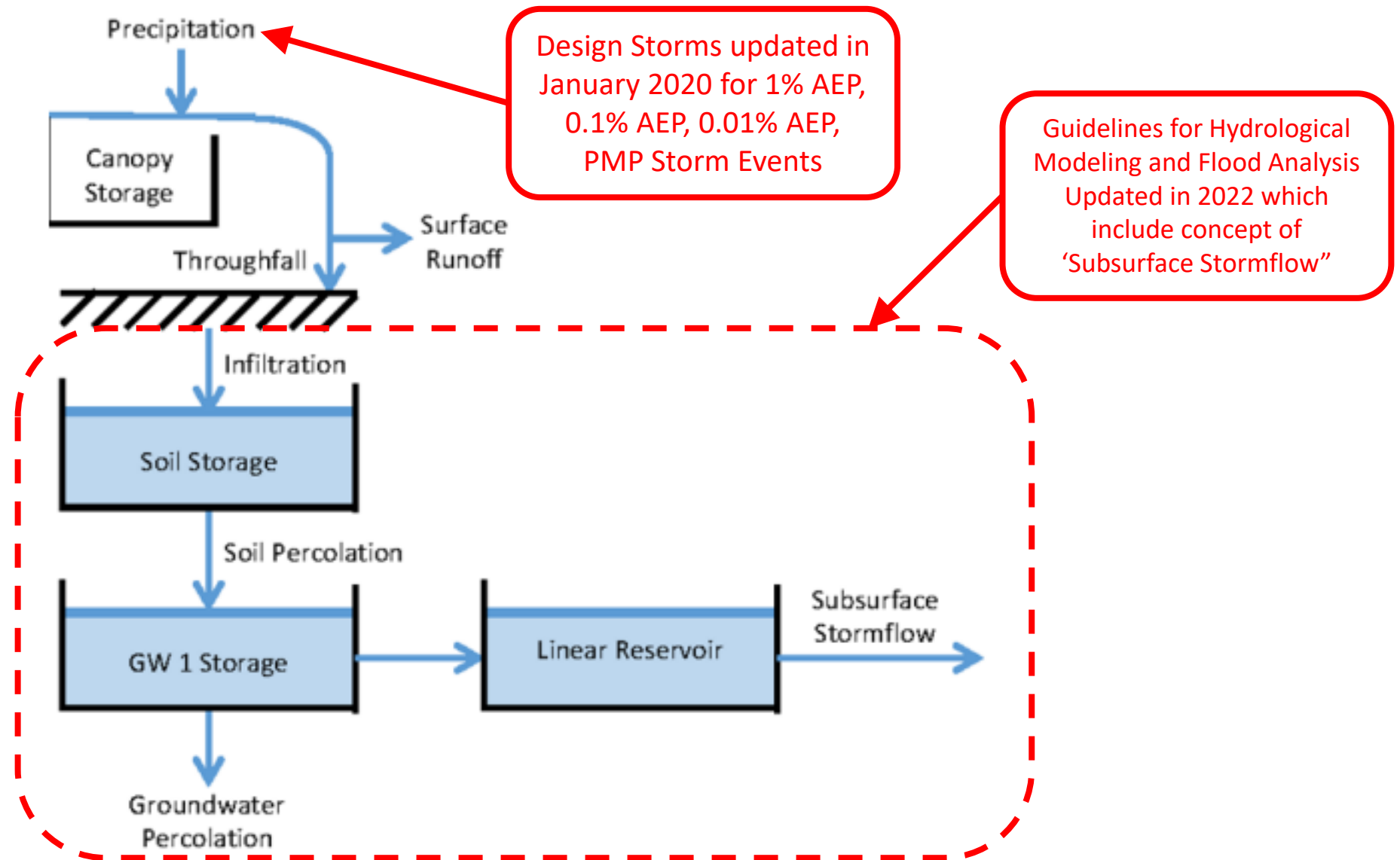
**I.e. hours (HRS), cubic yards (CY), square feet (SQFT), lump sum (LS) etc.

| | |
|---------------|-----------|
| CRD | \$69,850 |
| Cash Match | \$197,940 |
| In-Kind Match | \$9,000 |

Lake Avery Preliminary Site Studies

Hydrology Study and Hydrologic Hazard Analysis

Hydrology Study – Overview of New Hydrology Guidelines



Hydrology Study – Overview of New Hydrology Guidelines

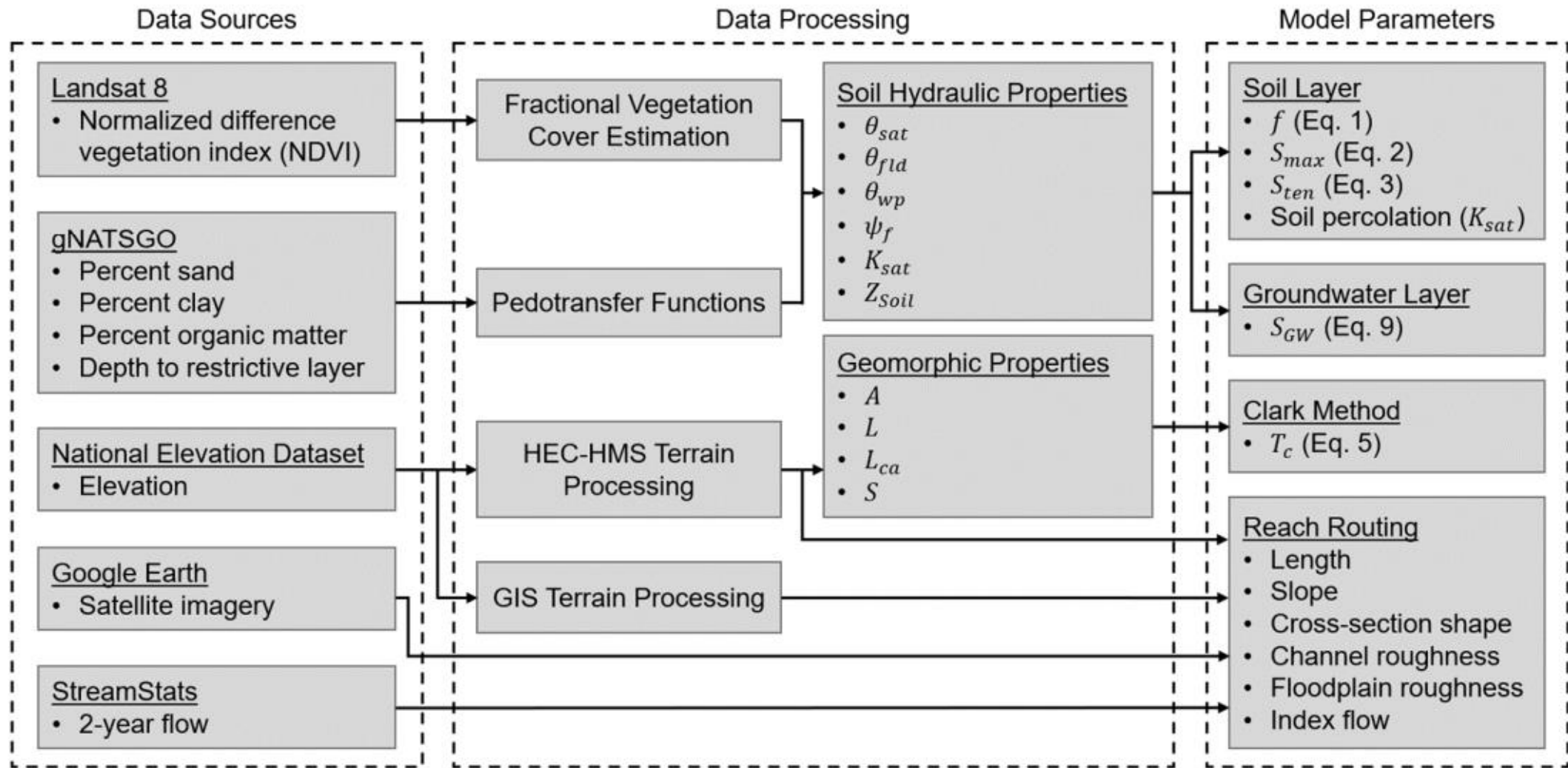


Figure 7: Overview of data sources, processing, and model parameters for the CSU-SMA modeling method (from Irvin et al, 2021, with permission).

Hydrology Study – Overview of New Hydrology Guidelines

New guidelines incorporate “Reasonableness Checks” and extensive model calibration into the Hydrologic Flood Modeling process.

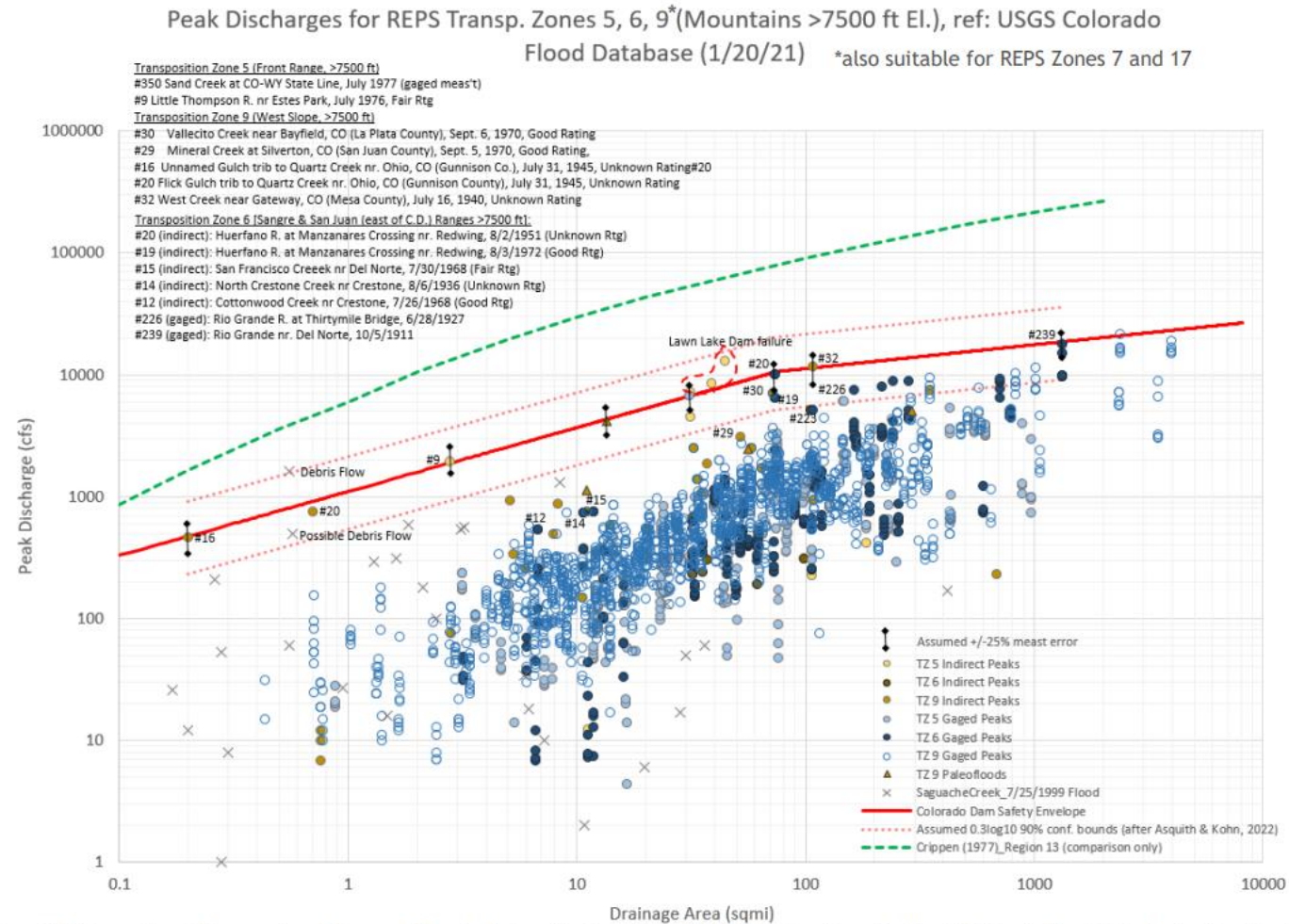
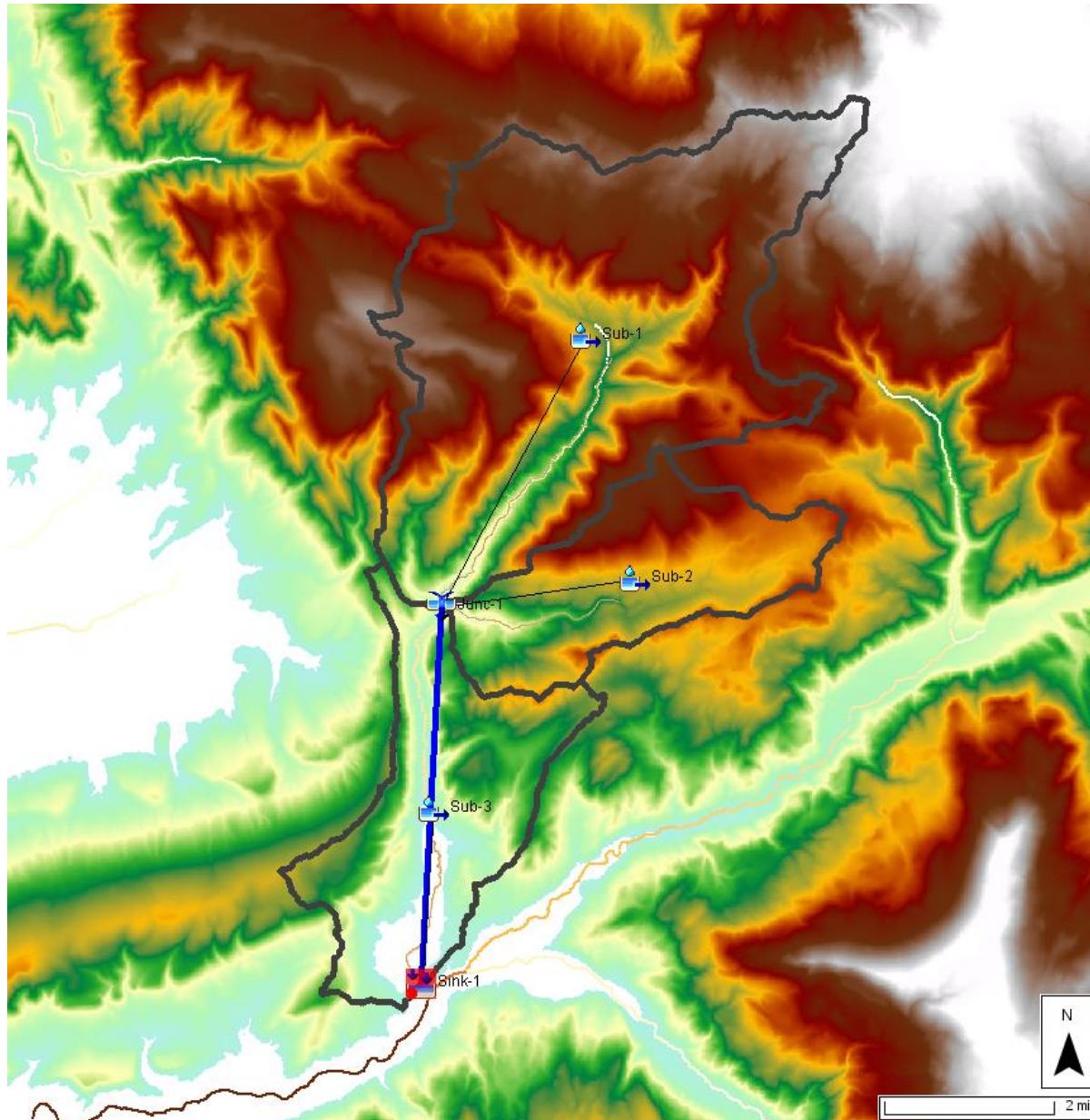


Figure 30: Observed peak flows and peak flow envelope for Colorado’s Mountains >7,500 feet elevation. Red line is Colorado Dam Safety’s visually estimated envelope; red dotted lines are conceptual 90% confidence bounds ($\pm 0.3 \log_{10}$ cycle).

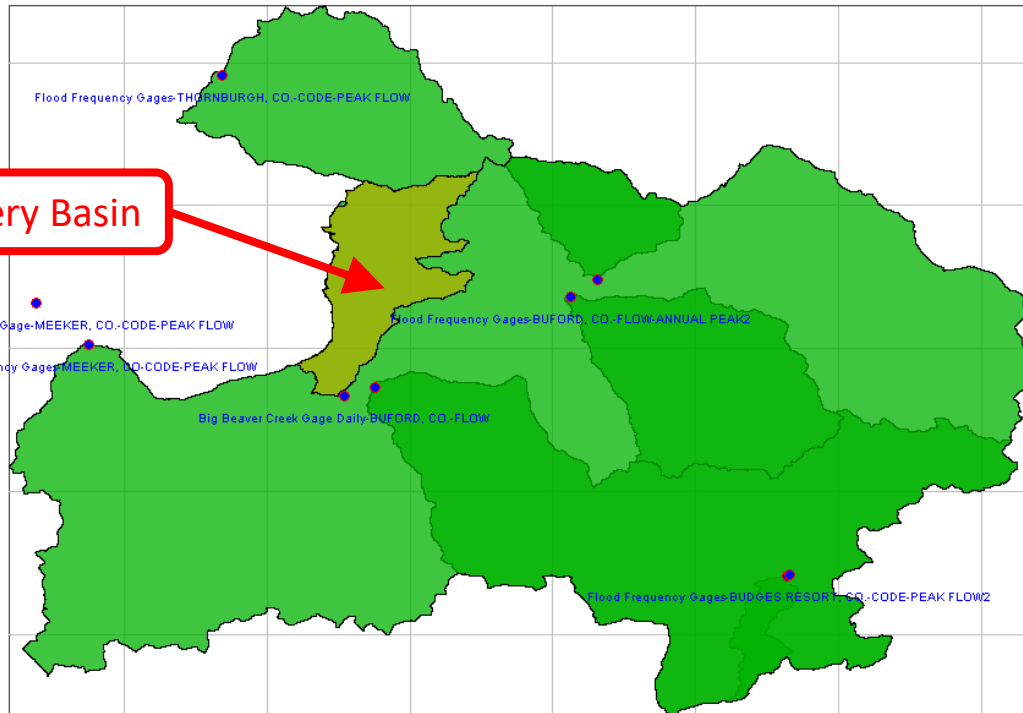
Hydrology Study – Lake Avery Drainage Basin Model



| Method | Parameter (units) | Parameter estimation method | Parameter value by Sub-basin | | |
|------------------------------------|---|---|------------------------------|-----------|-----------|
| | | | sub-1 | sub-2 | sub-3 |
| Meteorological Model | | | | | |
| Precipitation Specified Hyetograph | Specified Hyetograph | See REPS Guidance document for creating REPS design storms and entering as HEC-HMS Time Series -> Precipitation gages | see hyetograph Figures X - Y | | |
| Annual Evapotranspiration | Rate (in/day) (NOTE: include subbasins=yes) | Use uniform 2-2.5 mm/day (0.079 - 0.098 in/day), per CSU research (ref: Sujana Timilsina) | 0.098 | 0.098 | 0.098 |
| Basin Model | | | | | |
| Simple Canopy | Initial Storage (%) | parsimony | 0 | 0 | 0 |
| | Max Storage (in) | Use uniform 4.3 mm (0.169 inch), avg of NFS & SFS from Cache La Poudre site | 0.169 | 0.169 | 0.169 |
| SMA Loss | Soil (%) | For design storms, base AMC on seasonality | 50.31 | 50.33 | 50.04 |
| | GW1 (%) | Parsimony | 0 | 0 | 0 |
| | GW2 (%) | Parsimony | 0 | 0 | 0 |
| | Max Infiltration (in/hr) | Green & Ampt infiltration rate using 1/2 Ksat and delta = 75mm (-3 in) | 1.68 | 1.64 | 1.34 |
| | Impervious (%) | Uniform, based on CSU calibrations/verifications | 5 | 5 | 5 |
| | Soil Storage (in) | Allocate 85-95% of total soil water storage to soil storage, per CSU recommendation | 18.09 | 18.32 | 17.86 |
| | Tension Storage (in) | Soil water storage between field capacity and wilting point | 10.11 | 10.24 | 9.94 |
| | Soil Percolation (in/hr) | Use 1/4* Ksat, calculated by Saxton & Rawls pedotransfer functions | 0.097 | 0.095 | 0.079 |
| | GW 1 Storage (in) | Allocate 5-15% of total soil storage to GW1 layer, per CSU recommendation | 2.01 | 2.04 | 1.98 |
| | GW1 Percolation (in/hr) | Uniform try 2.5mm/hr (0.1 in/hr), based on CSU calibrations/verifications | 0.02 | 0.02 | 0.02 |
| | GW1 Coefficient (hr) | Use 3 x Clark UH storage coefficient (i.e., | 21.00 | 18.00 | 20.10 |
| | GW2 Storage (in) | Parsimony | 0 | 0 | 0 |
| | GW2 Percolation (in/hr) | Parsimony | 0 | 0 | 0 |
| | GW2 Coefficient (hr) | parsimony | 0 | 0 | 0 |
| Clark Unit Hydrograph Transform | Method | See Guidelines Section 5.6 or Section 9 | Standard | Standard | Standard |
| | Time of Concentration, Tc (hr) | Use Tc from Sabol (2008) HBRPEG (pg. 7) for | 2.60 | 1.99 | 2.23 |
| | Storage Coefficient, R (hr) | Calculate R using R/(Tc+R)=0.6 to 0.8 for | 7.00 | 6.00 | 6.70 |
| | Time-area Method | Use default | Default | Default | Default |
| Linear Reservoir Baseflow | Reservoirs (#) | | 1 | 1 | 1 |
| | Initial Type | | Discharge | Discharge | Discharge |
| | GW1 Initial (cfs) | | 0 | 0 | 0 |
| | GW1 Fraction | | | | |
| | GW Coefficient | Use 3 x Clark UH storage coefficient (i.e., | 21.00 | 18.00 | 20.10 |
| | GW1 Steps | | 1 | 1 | 1 |
| Muskingum-Cunge Reach Routing | | | Reach-1 | | |
| | Length (ft) | | 22,820 | | |
| | Slope (ft/ft) | | 0.013 | | |
| | Initial Type | | inflow | | |
| | Mannings n | Use acceptable reference | 0.03 | | |
| | Index Method | | Flow | | |
| | Index Flow (cfs) | Use Q-2yr (50% AEP) estimate from | 213.00 | | |
| Shape | Trapazoid or 8-point, etc., depending on | 8-point | | | |

Hydrology Study – Lake Avery Reasonableness Checks

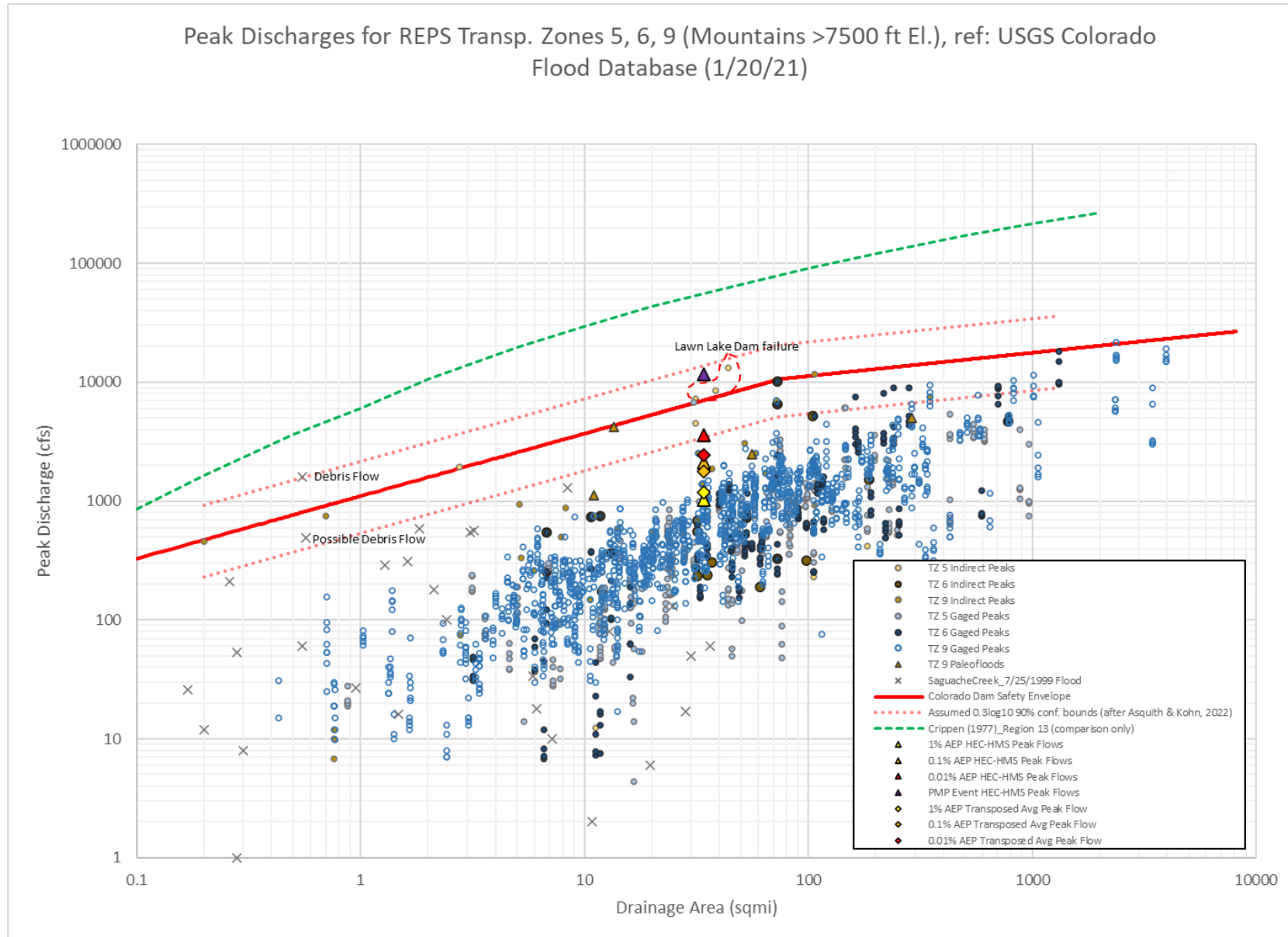
Map of USGS Stream Gages Considered in Analysis



Drainage Basin Comparison for Reasonableness Check

| | | HEC-HMS Model Results | | Milk Creek near | South Fork White | Lost Creek |
|---|-------------------------------|-----------------------|------------------|-----------------|------------------------|---------------|
| | | Base Model | Calibrated Model | Thornburgh | River at Budges Resort | near Buford |
| HEC-HMS CSU-SMA Output | | | | | | |
| | 1% AEP LS 2-hr | cfs | 1,388 | 1,031 | N/A | N/A |
| | 0.1% AEP LS 2-hr | cfs | 2,762 | 2,129 | N/A | N/A |
| | 0.01% AEP LS 2-hr | cfs | 4,521 | 3,591 | N/A | N/A |
| | PMP LS 2-hr Stacked | cfs | 14,150 | 11,730 | N/A | N/A |
| StreamStats Peak-Flow Statistics | | | | | | |
| Peak Flow Statistics | 1% AEP | cfs | 621 | 1010 | 1610 | 532 |
| | 1% AEP 5% Confidence Limit | cfs | 940 | | | |
| | 1% AEP 95% Confidence Limit | cfs | 410 | | | |
| Extrapolated Values | 0.5% AEP | cfs | 683 | 1140 | 1690 | 575 |
| | 0.2% AEP | cfs | 798 | 1350 | 1830 | 653 |
| | 0.1% AEP | cfs | 900 | 1500 | 1950 | 700 |
| | 0.1% AEP 5% Confidence Limit | cfs | 1331 | | | |
| | 0.1% AEP 95% Confidence Limit | cfs | 608 | | | |
| | | | | | | |
| Bulletin 17C Flood Frequency Analysis | | | | | | |
| | USGS Streamgage | | 9304100 | 09250000 | 0903300 | 09302450 |
| | Period of Record | yr | 1956-1964 | 1953-1986 | 1976-1995 | 1965-1989 |
| | Typical Month of Peak Events | month | May-June | May | May - June | April-May |
| 1% AEP | Computed Curve Flow | cfs | N/A | 1770.4 | 2783.7 | 1093 |
| | 5% Confidence Limit Flow | cfs | N/A | 4334.5 | 6012 | 1743.4 |
| | 95% Confident Limit Flow | cfs | N/A | 1231.2 | 2076.4 | 927 |
| 0.1% AEP | Computed Curve Flow | cfs | N/A | 3050.1 | 3865 | 1315.1 |
| | 5% Confidence Limit Flow | cfs | N/A | 15378.8 | 14024.8 | 2642.6 |
| | 95% Confident Limit Flow | cfs | N/A | 1769.5 | 2532.5 | 1053.1 |
| 0.01% AEP | Computed Curve Flow | cfs | N/A | 4796.3 | 4999.4 | 1514.1 |
| | 5% Confidence Limit Flow | cfs | N/A | 47085.4 | 29192.4 | 3718.1 |
| | 95% Confident Limit Flow | cfs | N/A | 2282.5 | 2855.6 | 1143.7 |
| Transposition Analysis | | | | | | |
| | Area Ratio | | 1 | 0.54 | 0.66 | 1.58 |
| Transposition of Bulletin 17C flows based on StreamStats parameters for various AEP per the following equation... | | | | | | |
| $Q_{T(u)} = Q_{T(g)} (A_u/A_g)^x (P_u/P_g)^y (S_u/S_g)^z$ | | | | | | |
| 1% AEP | 1% AEP Peak Flow | cfs | 1,388 | 1,031 | 1,237 | 1,066 |
| | 5% Confidence Limit Flow | cfs | | | 3,029 | 2,301 |
| | 95% Confident Limit Flow | cfs | | | 860 | 795 |
| 0.1% AEP | 0.1% AEP Peak Flow | cfs | 2,762 | 2,129 | 2,122 | 1,651 |
| | 5% Confidence Limit Flow | cfs | | | 10,698 | 5,992 |
| | 95% Confident Limit Flow | cfs | | | 1,231 | 1,082 |
| 0.01% AEP | 0.01% AEP Peak Flow | cfs | 4,521 | 3,591 | 3,336 | 2,136 |
| | 5% Confidence Limit Flow | cfs | | | 32,753 | 12,472 |
| | 95% Confident Limit Flow | cfs | | | 1,588 | 1,220 |

Hydrology Study – Lake Avery Reasonableness Checks

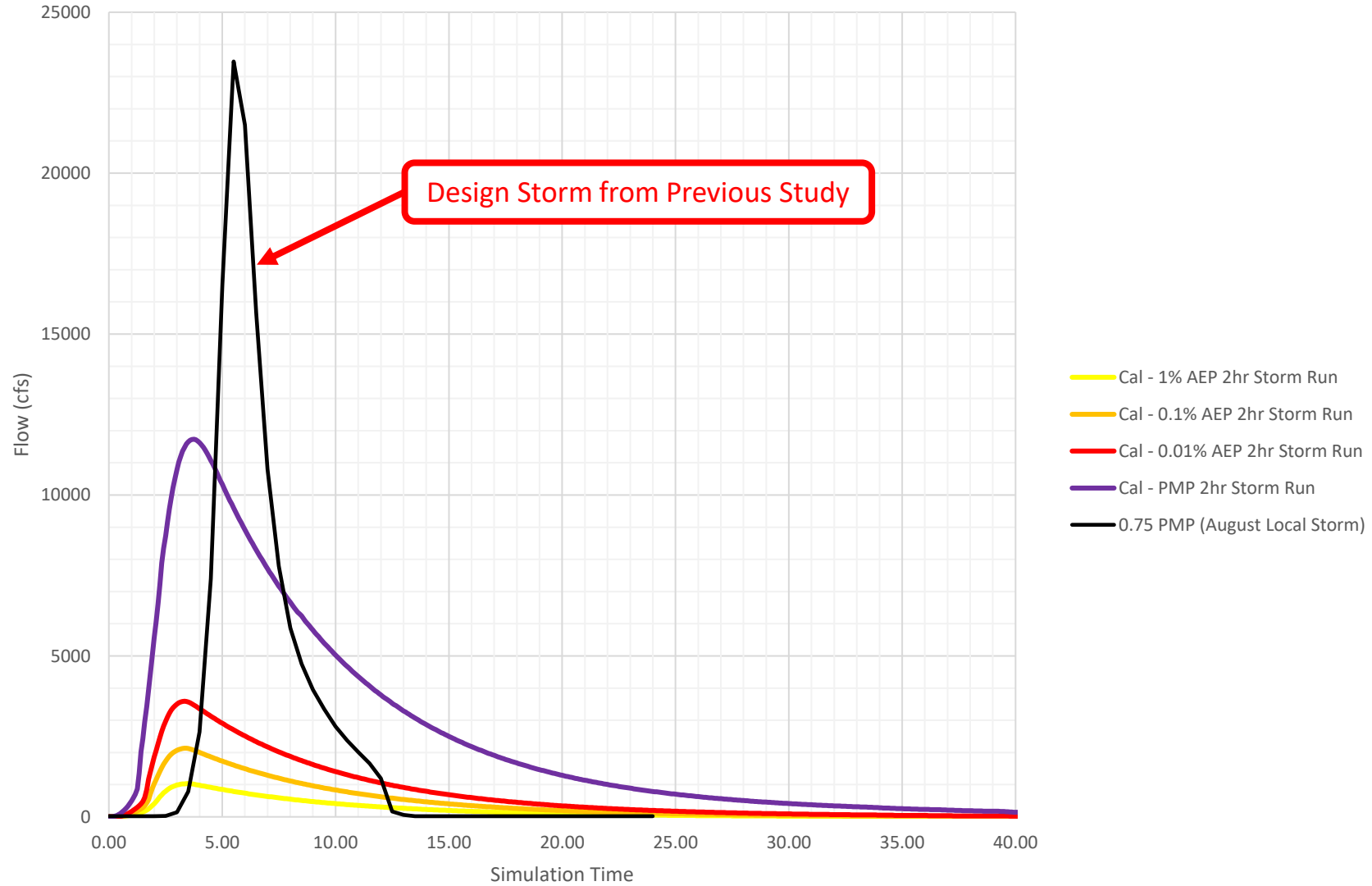


Hydrology Study – Lake Avery Hydrology Results

| Storm | Return Interval | Precip Depth (in) | Base Model Results | | | Calibrated Model Run | | | | |
|-----------------|-----------------|-------------------|--------------------|-----------------------|---------------------------|----------------------|-----------------------|---------------------------|-------------------|-----------------------------|
| | | | Peak IDF Q (cfs) | Runoff Volume (ac-ft) | Peak Reservoir Stage (ft) | Peak IDF Q (cfs) | Runoff Volume (ac-ft) | Peak Reservoir Stage (ft) | | |
| | | | | | | | | Existing Spillway | Proposed Spillway | |
| LS 2-hr | 1% | 1.27 | 1388 | 830 | 6997.09 | 1031 | 717 | 6996.85 | 7000.52 | <--- 1% AEP Design Storm |
| | 0.1% | 1.84 | 2762 | 1645 | 6998.15 | 2129 | 1473 | 6997.83 | 7000.86 | <--- 0.1% AEP Design Storm |
| | 0.01% | 2.52 | 4521 | 2690 | 6999.22 | 3591 | 2511 | 6998.83 | 7001.25 | <--- 0.01% AEP Design Storm |
| MEC 6-hr | 1% | 1.5 | 1194 | 734 | 6996.93 | | | | | |
| | 0.1% | 2.11 | 2255 | 1638 | 6997.86 | | | | | |
| | 0.01% | 2.83 | 3651 | 2755 | 6998.77 | | | | | |
| MLC/TSR 48-hr | 1% | 3.76 | 661 | 4146 | 6997.66 | | | | | |
| | 0.1% | 5.16 | 725 | 6231 | 6997.75 | | | | | |
| | 0.01% | 6.72 | 837 | 8546 | 6997.82 | | | | | |
| LS 2-hr Stacked | PMP | 6.26 | 14150 | 9199 | 7004 | 11730 | 8862 | 7003.11 | 7003.34 | <--- PMP Design Storm |
| LS 6-hr | | 6.31 | 11087 | 8190 | 7002.61 | | | | | |
| GS 72-hr | | 13.5 | 7044 | 19854 | 7002.22 | | | | | |

Lake Avery Design Inflow Design Flood

Lake Avery Design IDF Comparison



Hydrologic Hazard Analysis – Overview of New Rules

The *Rules and Regulations for Dam Safety and Construction* were updated in 2020 to include the concept of Hydrologic Hazard which determines the spillway sizing criteria for dams and reservoir in Colorado. This concept classifies dams into either Low, Significant, High, or Extreme Hydrologic Hazard groups based on the expected loss of life and significant damage resulting from an overtopping dam failure initiated by a storm event. Please note that Hydrologic Hazard Analysis is an iterative process started by assuming a low Hydrologic Hazard designation and then repeating the analysis as necessary by increasing the Hydrologic Hazard rating assumption, and thus design Inflow Design Flood, until the consequences match the criteria for the initial Hydrologic Hazard rating assumption.

| Hydrologic Hazard | Consequence Criteria | Critical Rainfall |
|--------------------------|--|--------------------------------|
| Extreme | Life loss potential greater than 1 | Probable Maximum Precipitation |
| High | Life loss potential less than 1 | 0.01% AEP Storm Event |
| Significant | No life loss potential but significant damage expected | 0.1% AEP Storm Event |
| Low | No life loss potential or significant damage expected | 1% AEP Storm Event |

Hydrologic Hazard Analysis – Overview of Fatality Rate Curve

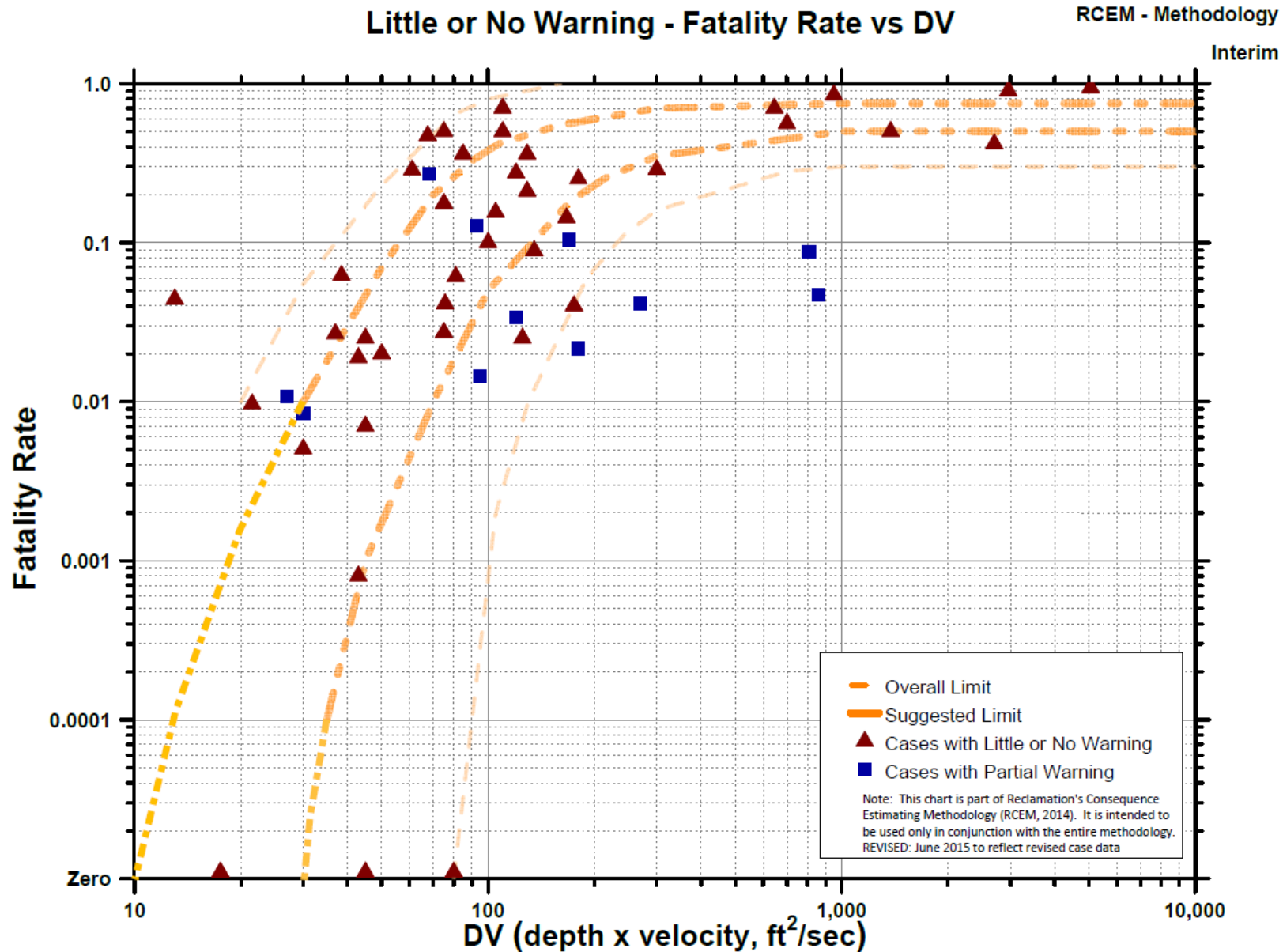
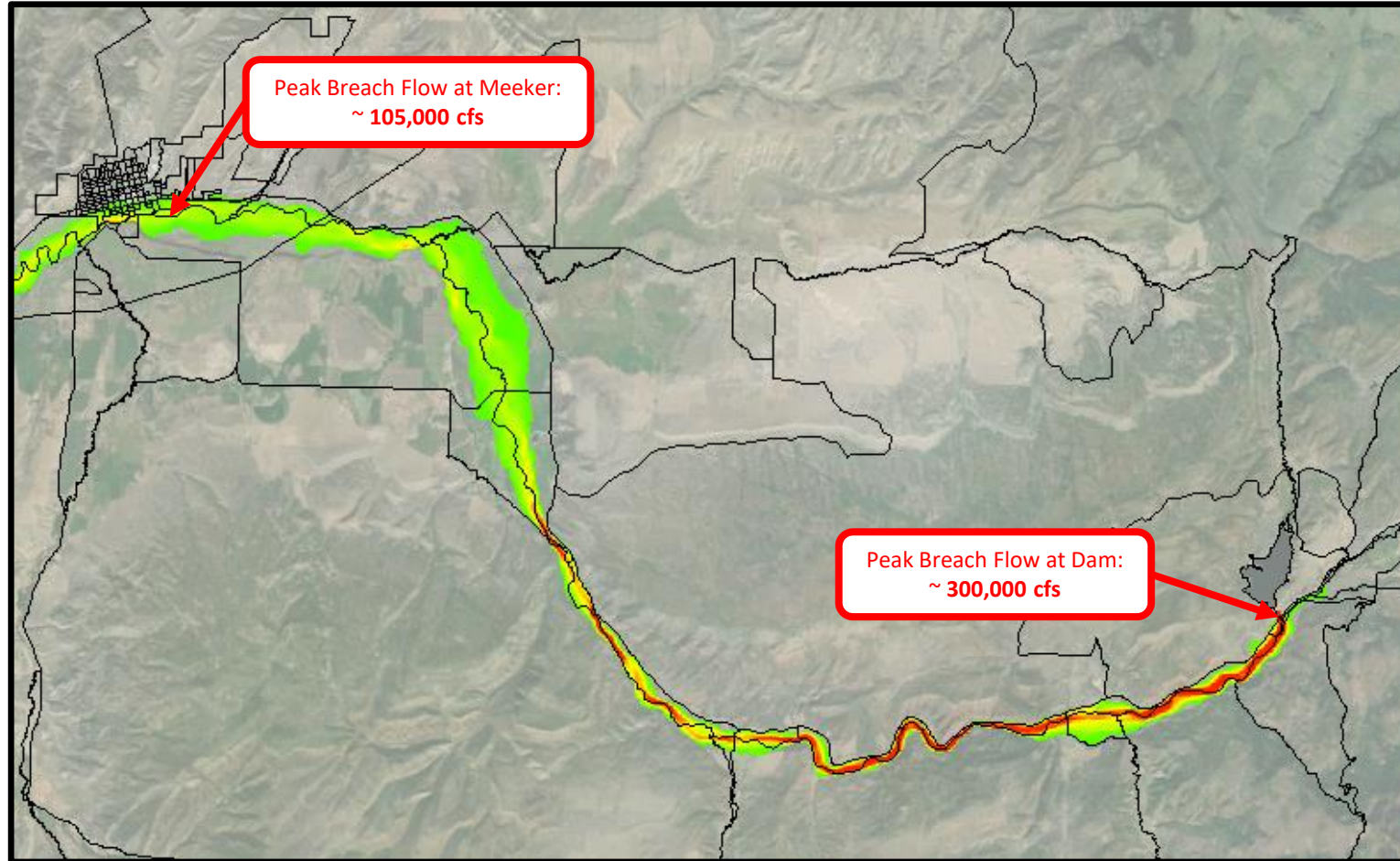
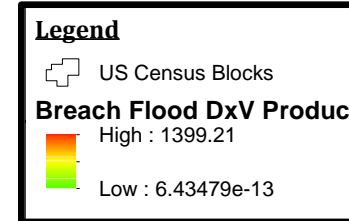


Figure 3 - Fatality Rate vs. DV for Little or No Warning

Hydrologic Hazard Analysis – Lake Avery Results

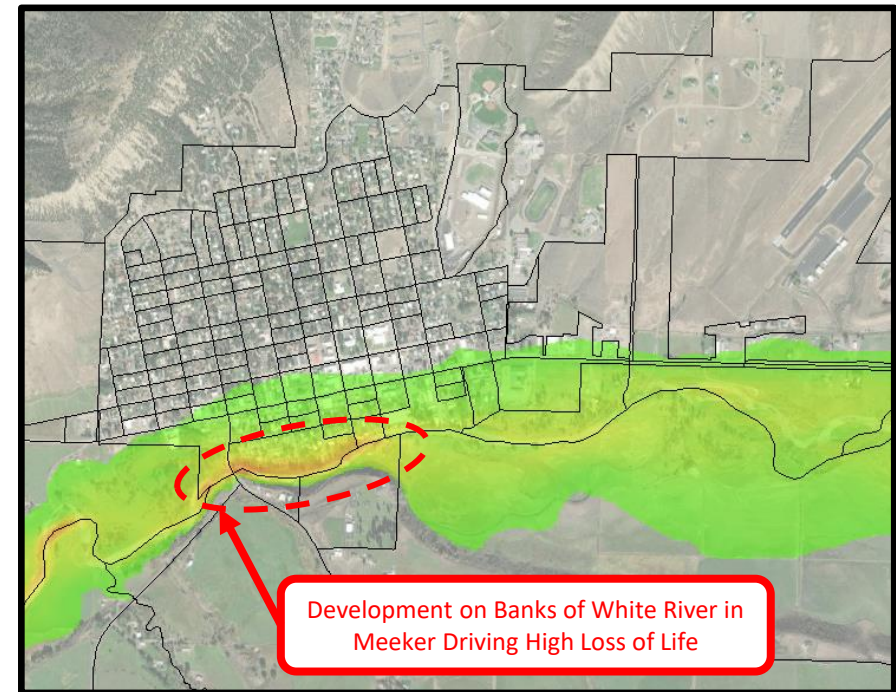


Overview Map of Overtopping Breach Flood



Expected Loss of Life:
~76.6 people
Extreme Hydrologic Hazard

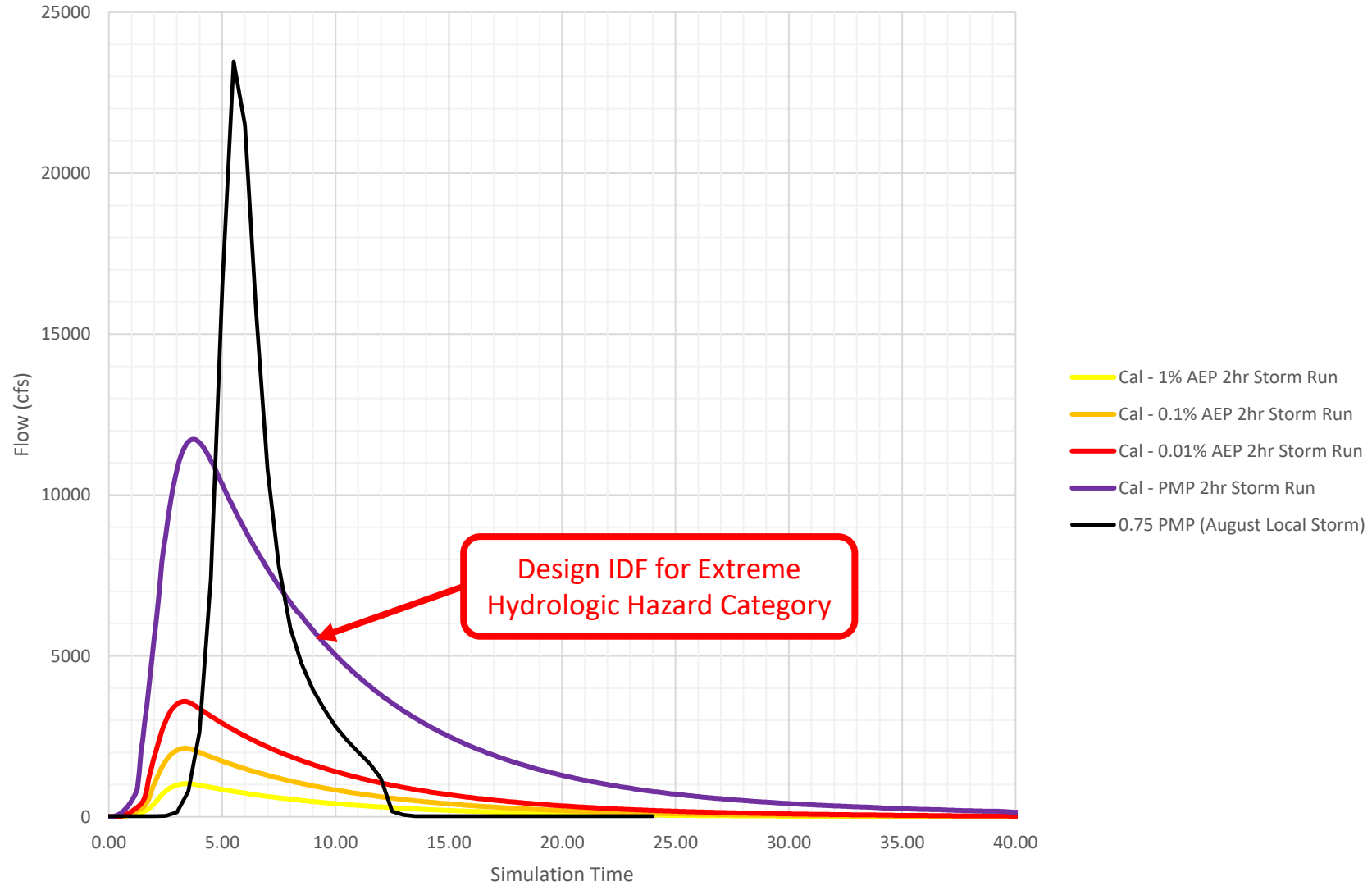
This text is presented in a black-bordered box, summarizing the human impact of the breach. It states that approximately 76.6 people are expected to lose their lives, and that the event is classified as an extreme hydrologic hazard.



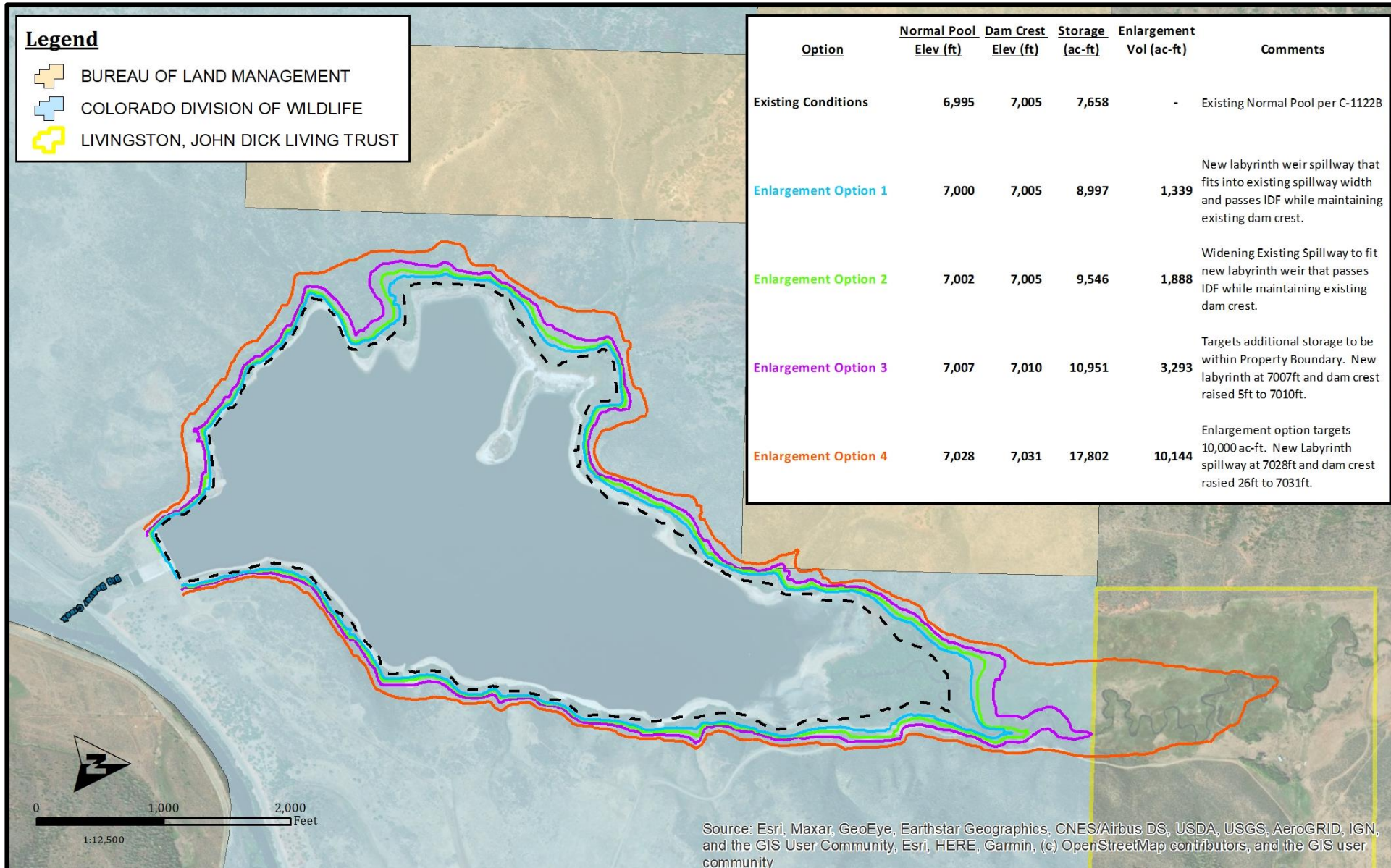
Blowup of Results at Meeker

Lake Avery Design Inflow Design Flood

Lake Avery Design IDF Comparison



Lake Avery Storage Options





M E M O R A N D U M

To: Yellow Jacket Water Conservancy District Board of Directors
From: Andie Hall
Date: May 19, 2023
Re: Wolf Creek Reservoir Environmental Impact Statement

The Rio Blanco Water Conservancy District (“RBWCD”) proposed constructing the Wolf Creek Reservoir for water storage and recreation. The project is primarily on Bureau of Land Management (“BLM”) land, which triggers National Environmental Policy Act (“NEPA”) compliance. BLM will assess the impact of the proposed project on the physical, cultural, and human environments through an Environmental Impact Statement (“EIS”). Cooperating Agencies (“CA”) provide additional expertise to assess potential impacts. The Yellow Jacket Water Conservancy District (“District”) is a CA.

BLM has held two CA meetings, most recently on May 9, and scheduled monthly meetings and technical working groups for recreation and water modeling. Balcomb & Green will attend as appropriate. At the May 9 meeting, BLM and the CAs discussed project alternatives, which are analyzed in the NEPA process, including constructing a smaller reservoir and expanding Lake Avery. BLM referenced the District’s recent decree in Case No. 19CW3017 in the discussion about expanding Lake Avery. Alternatives for recreation were also discussed and range from developed recreation sites on the west and east sides of the reservoir to no developed sites. BLM is coordinating this project with others to streamline analysis of Greater Sage Grouse habitat.

BLM distributed preliminary issue statements that describe why the project is needed. Balcomb & Green will review and submit comments by the deadline on May 31. Next steps include: (1) the Army Corps of Engineers reviewing RBWCD’s purpose and need statement to develop its own; (2) BLM developing the Analysis of the Management Situation; and (3) RBWCD revising the Plan of Development and creating a plan of operations. Although RBWCD has a conditional water right for the reservoir, the Army Corps must develop a Purpose and Need statement for water supplies because the conditional right shows potential demand, whereas the Army Corps needs to show water need in and around the RBWCD.

Balcomb & Green will continue to participate and monitor the process overall, paying particular attention to the intersection of the federal requirements and state water rights. As a CA, the District has access to the draft documents before they are made public; we are happy to share any document of interest with you.

BLIZZARD [p r e s s]

Website Design, Hosting and Maintenance
Yellow Jacket Water Conservancy District

February 28, 2023 | *Prepared by:* Trent Blizzard

Prepared for: Britt Choate

What is Included in Website Design?

Your website will be designed to match your brand and your homepage will be clean, intuitive and easy to use. The site might include:

10 Pages of Content

We will incorporate up to 10 pages of content in your website. The types of pages you might include:

- Contact page with contact info and contact forms
- About Us page
- Agendas & Documents (for uploaded agenda and relevant documents)
- General Info
- Map of district

Homepage Hero Image

We recommend the use of a "hero image" on your homepage featuring compelling and emotionally appealing photography. If you don't own great photos we can easily acquire professional stock photography to brighten up your website. Typically, we would expect to use a photo of either Rico Blanco county, Meeker, or something relating to water management.

Analytics

We will setup analytics to measure important activities for your reporting activities.

Video Integrations

Placing videos on your website can increase conversion rates and help you get better search engine rankings. We will incorporate videos strategically into your website (based upon availability.)

Social Media Integrations

We can incorporate social media, notably YouTube videos, Facebook and Instagram.

Staff Log-ins

Staff members can be setup with personal logins so that they can add or update the content on your website. You can easily see who does what and if you want even "roll-back" changes. This makes it easy for you to manage multiple people who have the ability to update your website.

Mobile-Friendly Design

Up to 50% of your visitors will view your website on a mobile device like a cell-phone or tablet. Your website will be mobile compatible and responsive: it will scale up to a large screen or down to an iPhone screen.

Please note: This proposal does not include customizing the mobile version of the website so its content is different than the desktop version. We can do that (essentially hiding some content from mobile users to improve their experience) but that would potentially cost extra and require an additional conversation.

Search Engine Optimization

Every page on your website can be optimized for specific keywords. BlizzardPress will implement the keywords in:

- Page Title
- Page Description
- H1 and H2 tags
- Within the Text Content of the pages
- Image Tags and Titles
- Linking Text
- Page URLs

Website Elements

There are a number of important elements to setup within your website that help garner better rankings:

- A 404 Page is the page people see when they land on a nonexistent or broken page in your website. This is the “oops” page. These pages are important to setup in order to capture visitors who may otherwise be lost
- An XML Sitemap is a special page prepared for Google that lists all of the pages within your website in order to help Google discover and index those pages.
- 301 Redirects are setup to forward people automatically from a webpage that doesn't exist anymore to a relevant landing page. These are critical to setup on any new website, allowing you to capture traffic that might still be going to your old website. A 301 will redirect that visitor to the right page in your new website.
- Clean URLs mean that your webpages have commonsense names with keywords in the URL. Google rewards this behavior and your visitors appreciate it. Your page URL will be www.yourdomain.com/service/product instead of www.yourdomain.com/data/?pageID=?138ff
- Installation of Google Analytics code on each page of website.
- Installation of Google Search Console

Management of Website and Security updates

After your new website is designed, it will require regular care and feeding! Just like your computer and its programs, or your phone and its apps, WordPress and its themes and plugins need updated regularly:

- Some updates are "security" updates and are critical
- Some updates are "fixes and improvements" which fix broken items or add new features
- It is smart to stay on top of these update

Also, you may want new pages added, changed or deleted. Or, you may want some new features added? Whatever the case, you will want to have Kristen and Trent available to you when you need them!

We include 6 hours and estimate the average client uses 30 minutes a month keeping their site maintained. When the six hours is used up, we will rebill for the next six hours.

Website Hosting

Website Hosting is included for \$360 per year. We use www.wpengine.com servers to host your website; they are the leading WordPress host worldwide.

Additional Fees

The registration of any themes or plugins to run your website are not included. We bill those out at cost. Please budget \$100 for those.

Fee Summary

| | |
|------------------------|--------------|
| Website Hosting | \$360 |
|------------------------|--------------|

Annual fee, begins when the website development starts.

| | |
|-----------------------------------|----------------|
| Website Design (Fixed Fee) | \$2,500 |
|-----------------------------------|----------------|

One-time fee to design a custom website. Details of website designed in this proposal. Includes 30 day maintenance guarantee (any changes or fixes within 30 days of go-live are included). Does not include ongoing maintenance & WordPress theme/plugin updates after 30 days. Does not include the purchase of any themes or plugins necessary to complete the website design.

Ongoing Website Maintenance - 6 hours

\$540

Trent and Kristen are always available to provide on-going website maintenance. Pre-purchase 6 hours of ongoing maintenance for \$540. We will some of this time, proactively, to keep all the theme/plugin security updates on a monthly basis. This begins 30 days after website go-live and is re-billed after 6 hours is used up. 15 minute billing increments.

Project Total

\$3,400

About BlizzardPress and Trent and Kristen Blizzard

Trent and Kristen Blizzard each have 15+ years of professional website marketing and design experience. They have lived in the Roaring Fork Valley and the Vail Valley for over 15 years and currently live in Glenwood Springs.

Are you looking for an experienced person to help make your website more successful? Would you rather work with individuals rather than an agency? We provide consulting to clients who are looking for:

- Personal and High-Level Attention
- Long-Term Relationships
- Advanced Staff Training
- ProActive Marketing Strategies
- Great Reporting focused on ROI

What do we look for in a client? We look for a client interested in a long-term relationship as opposed to a quick fix. Marketing is a marathon...

Trent Blizzard

Trent Blizzard is an Internet Marketing expert with over 15 years of professional experience.

In 1997 Trent founded a successful web-marketing agency that worked with large clients nationwide. In 2013 Trent sold his agency and started BlizzardPress which specializes in helping small business in Western Colorado.

During the last 15 years Trent has:



- Built over 1000 websites totaling more than \$10M worth of design work
- Provided Search Engine Marketing services totaling more than \$20M
- Managed over \$10M in PPC spending in Google and Bing
- Webmaster for E-commerce sites in 2012 totalling over \$100M in online revenue

Beyond providing strategic and thought leadership in the delivery of design and marketing services, I specialized in a few areas:

- WordPress design of highly usable websites
- Search engine optimization including link building, on-page SEO and social media optimization
- Analytics and analysis, using several tools, most recently Google Analytics
- Blogging, email marketing, PPC advertising and social media
- Strategic implementation of SEO, Analytics and Social Media within the WordPress platform.

Kristen Blizzard

Kristen Blizzard is an expert with over 15 years of professional experience in marketing and design. Her professional experience has allowed her to touch every part of the online marketing process from development and design to analytics. Kristen joins Trent at BlizzardPress to further the goal of helping small businesses succeed and thrive in Western Colorado.



In 2006 Kristen co-founded Kinetic Knowledge, a web-marketing agency which focused on WordPress solutions and organic search engine optimization. She also spent 12 years in the Eagle Valley as a hands-on Marketing Director for both a successful real estate agency and a medium-sized nonprofit.

During these years:

- Kristen built a successful agency and pioneered the use of blogs for organic SEO within the real estate industry
- She built and helped launch hundreds of customized WordPress websites
- Kristen spoke on panels alongside Google, Trulia and Zillow experts
- She helped an Eagle Valley nonprofit grow from a \$1M to a \$2M+ budget

Portfolio

Sample Designs

Non-Profits & Government

[RiverBridge](#) (non-profit child advocacy center)

[Mountain Valley Development](#) (Supports adults and children with developmental disabilities)

[Ascendigo](#) (Supports adults on the spectrum)

[Colorado Animal Rescue](#) (Animal rescue)

[Visit Glenwood Springs](#) (Tourism site)

[Glenwood Springs DDA](#) (Development Authority)

Miscellaneous

[St Elias Guides](#)

[Glenwood Caverns](#)

[Iron Mountain Hot Springs](#)

[Aspen Whitewater Rafting](#)

[Modern Forager](#)

[Epic Yacht Charters](#)

[Bumps for Boomers](#)

[New Castle Liquors](#)

[The Adventure Company](#)

[Rescue Your Health](#)

Service Agreement

SERVICE AGREEMENT

CONSULTING AGREEMENT dated as of **February 28, 2023** (the "Agreement") by and between **Yellow Jacket Water Conservancy District** (the "Company") and BlizzardPress, (the "Consultant"), having its principal office 46775 Tri-Lakes Rd, Drummond, WI 54832. WHEREAS, the Company desires to obtain the independent consulting services of the Consultant and the Consultant is willing to provide independent consulting services to the Company, on the terms and conditions set forth in this Agreement;

NOW THEREFORE, in consideration of the foregoing, the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto, intending to be legally bound, hereby agree as follows:

Independent Consulting Services.

The Company hereby retains the Consultant, and the Consultant hereby agrees, upon the terms and conditions contained herein, to perform consulting services described on the Consulting Services Schedule attached hereto and made a part hereof, as the same may be modified or amended from time to time by written agreement of the parties, and at consulting fees as set forth on the Fee Schedule attached hereto and made a part hereof, as the same may be modified or amended from time to time by written agreement of the parties. This Agreement shall commence on the date hereof and shall continue for one year. Agreement may be terminated after one year by either party upon not less than 30 (30) days prior written notice.

Independent Contractor.

The Consultant acknowledges that he is solely an independent contractor and consultant. The Consultant further acknowledges that he does not consider himself to be an employee of the Company, and that he is not entitled to any Company employment rights or benefits. The Consultant shall not be supervised by the Company.

The Company will pay (or cause to be paid) invoices from the Consultant within thirty (30) days following receipt of such invoice and the documentation requested in connection therewith.

Confidentiality.

The Consultant recognizes and acknowledges that the services the Company performs for its clients are confidential and to enable the Company to perform these services, its clients furnish to the Company confidential information concerning their business affairs, finances, properties, methods of operation and other data; that the good will of the Company depends, among other things, upon its keeping such services and information confidential and that the unauthorized disclosure of the same would irreparably damage the Company; and that by reason of his duties hereunder, the Consultant may come into possession of information concerning the services performed by the Company for its clients or information furnished by its clients to the Company, even though the Consultant does not himself take any direct part in or furnish the services performed for those clients. All such information concerning clients of the Company and services rendered by the Company to such clients is hereinafter collectively referred to as "Confidential Information."

BlizzardPress retains the right to display graphics and other web content elements as examples of their work in their portfolio and as content features in other projects.

Non-Disclosure.

The Consultant agrees that, except as directed by the Company or as required by law, he will not at any time during or after the term of this Agreement disclose any Confidential Information to any person whatsoever, or permit any person whatsoever to examine and/or make copies of any reports or any documents prepared by him or that come into his possession or under his control by reason of his

consulting services, and that upon termination of this Agreement he will turn over to the Company all documents, papers and other matter in his possession or under his control that relate to the Clients of the Company, without retaining any copies thereof.

Data and Backup

The Consultant is in not responsible for data or data backups. The Consultant recommends a hosting platform, to Company, that provides rigorous backup, but the Consultant will take no liability, responsibility, or ownership of data. The Consultant is not responsible for backing up, archiving or restoring any data of any kind.

Ownership of Work Product.

The Company and the Consultant hereby agree that the work product being prepared and delivered by the Consultant constitutes "Work for Hire" as that term is understood under the Copyright Act of 1976, as amended, and that the Company shall be the sole owner of all work product prepared and/or delivered by the Consultant.

Enforceable.

The provisions of this Agreement shall be enforceable notwithstanding the existence of any claim or cause of action of the Consultant against the Company whether predicated on this Agreement or otherwise.

Governing Law.

This Agreement shall be construed in accordance with and governed by the laws of The State of Colorado without regard to its conflict of law provisions.

Entire Agreement; Notice; Counterparts.

This Agreement constitutes the entire agreement of the parties relating to the subject matter hereof. Any notice to be given under this Agreement shall be sufficient if it is in writing and is sent by certified or registered mail, or by courier or telecopier or facsimile, to the consultant at his as the same appears on the books and records of the Company or to the Company at its principal office, attention of the President, or as otherwise directed by the Company , from time to time. This Agreement may be executed in counterparts, all of which shall be originals and all of which shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the Company and the Consultant have duly executed this Agreement as of the date first written above.