



Sagebrush Creek Dam



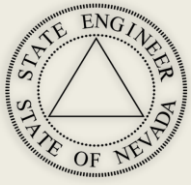
NEVADA DIVISION
OF WATER RESOURCES



Lawn Lake Dam Failure

Keith Johnson, P.E.
Staff Engineer II
Division of Water Resources

Exercising the Emergency Action Plan (EAP) Webinar



Adam Sullivan, P.E.
State Engineer

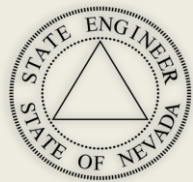
Chris Thorson, P.E.
Deputy Administrator

Micheline Fairbank, JD
Deputy Administrator

Bradley Crowell
Director



- **Lawn Lake Dam**
 - **26 Feet Tall**
 - **498 acre-feet**
 - **Remote (no road access)**
 - **Built in 1903**
 - **Crest elevation ~10,987 feet above sea level**
 - **Failed July 15, 1982**
 - **3 Lives Lost**
 - **Caused the subsequent failure of Cascade Dam**
 - **~\$31 Million in damages (1982 dollars)**
 - **~85.7 Million in damages (2021 dollars)**



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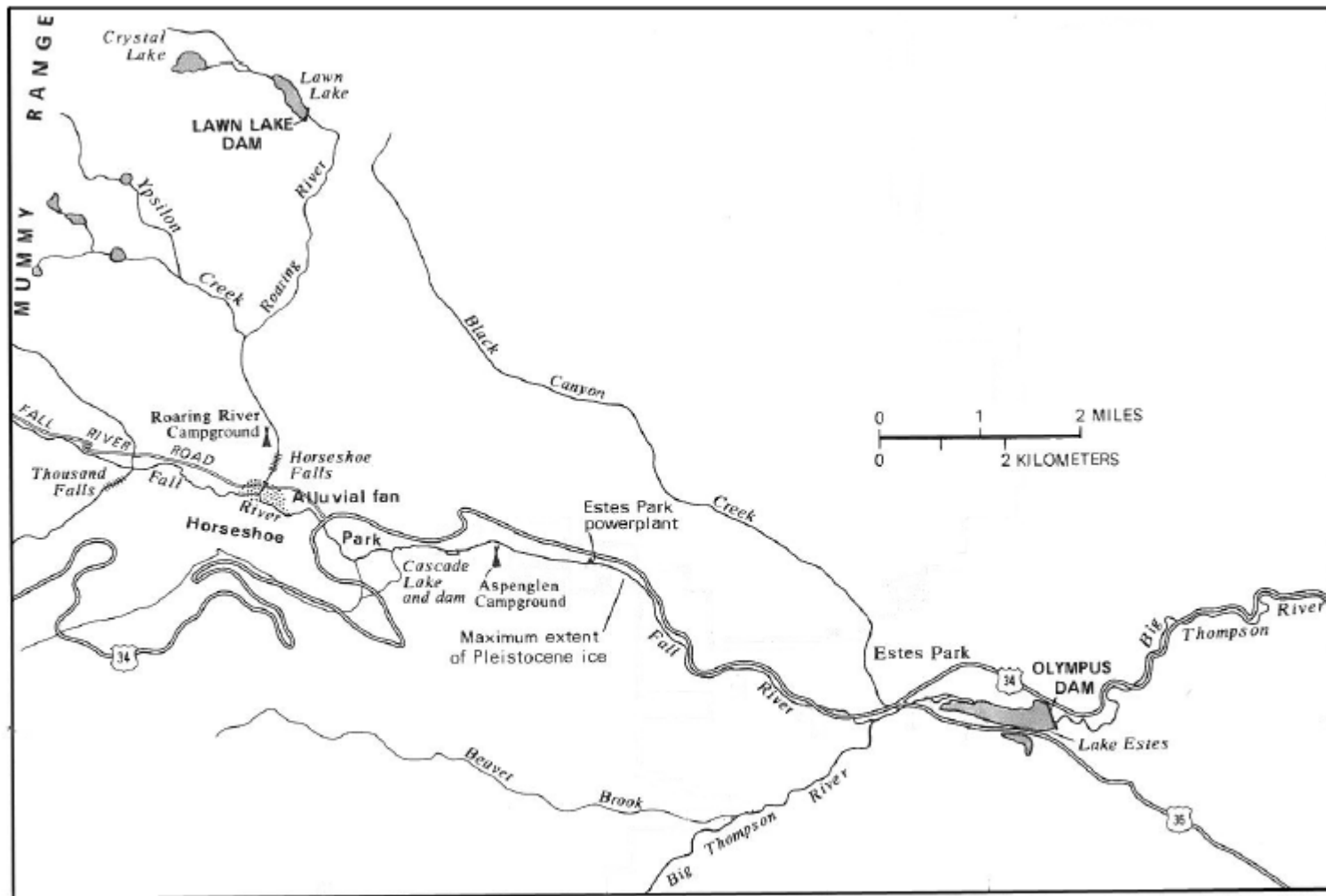
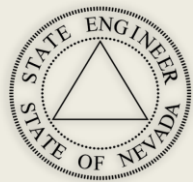


Figure 3: Map showing Lawn Lake Dam, Roaring River, Horseshoe Park, Cascade Dam, Fall River and Estes Park - [modified from p. 3 map in Costa/Jarrett Paleohydrology Report]



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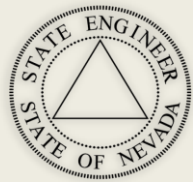
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Figure 4: Aerial view of the dam breach [USBR photo]



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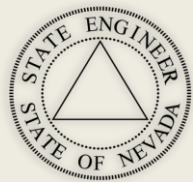
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Figure 7: Cascade Dam in process of breaching [J.D. George photo]



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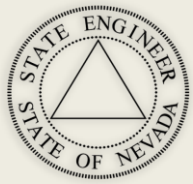
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Figure 8: The Dam failure flood moving through downtown Estes Park at depths of up to 5 feet. [USBR photo]



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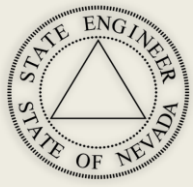
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What can be learned?

- **Would an EAP have made a Difference?**
 - Would the park worker have known what was in the EAP?
 - Would the people that responded be well rehearsed on how to implement the EAP?
- **What would happen if a failure like this happened at your dam/a dam you are involved with?**
 - Do the right entities have the EAP?
 - Has the EAP been exercised with all responsible parties?



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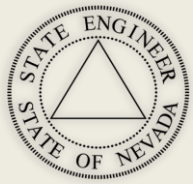
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References

- <https://damfailures.org/case-study/lawn-lake-dam-colorado-1982/>



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Cat Creek Dam

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