



ENFIA Interpreter

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A Message from the President

By Larry Moore

Biophilia.

While awaiting for the return of winter and moisture for our beleaguered forest, I have been thinking of the concept of Biophilia, explored by noted Naturalist E.O. Wilson, who passed away in December, 2021.

There term is variously described as the urge to affiliate with other forms of life, or the connections that human beings subconsciously seek with the rest of life, or the innate human instinct to connect with nature and other living things.

The latter description aptly describes ENFIA's role in greeting the public to the National Forest and the joy it

brings for those of us who choose to volunteer. I look forward to another season outside.

Board changes for 2022:

Board members serve for 2 year terms and this past December we saw 2 members step down, but whom will continue to help the organization in other capacities

Frank Tortorich, our beloved Amador Ranger/Historian and ENFIA member, has volunteered his time since the establishment of ENFIA in 1987. Frank has been the Vice President for 2 years and been a valuable contributor to our meetings. We will miss his wise counsel.

Keli Gwyn has served as Treasurer for 2 years and also the Retail Coordinator. During this time she has completely revamped our retail operations and overseen the financial aspects of ENFIA. Keli will continue

to devote her time as the Retail Coordinator.

We are fortunate that 2 ENFIA members have volunteered to serve on the Board

Lisa Irving-Peterson will become Treasurer and will continue her work on the Carson Pass Management Team overseeing retail at the Pass. Lisa was a middle school science teacher, most recently in Douglas County Nevada before retiring , and an all season outdoor person.

Phil Hartvig will become Secretary and continue his work with the Carson Pass Management Team overseeing maintenance for the Station and the Cabin. Phil was a high school science teacher in El Dorado County before retiring, and also an all season outdoor person.

I will continue to serve as President for the next year, Karen Heine will become Vice President and Bruce Odelberg remains as Member at large.

Thank you and please try to interest folks you know to volunteer and become part of our organization. Carson Pass may be in jeopardy to be fully staffed this season without more volunteers.

“Lakes” Across the Eldorado Forest

By Lester Lubetkin



Caples Lake, a part of EID's hydroelectric project.

Water-based recreation is one of the biggest attractions for the Eldorado National Forest. So many of us have enjoyed fishing, swimming, boating and camping at the beautiful lakes across the Forest, from Bear River and Salt Springs on the south to Ice House, Union Valley and Loon in the Crystal Basin to Hell Hole and Stumpy Meadows on the north. But did you know that nearly all of the large lakes on the Eldorado Forest are actually man-made; natural lakes do not form in the Sierra Nevada except at higher elevations! Most of these lakes were originally constructed to provide electric power, water for drinking and agriculture and for flood control. A few were started to provide water for gold mining, but nowadays, they are used for electric generation and “consumptive” water. Without these reservoirs and the modified flows in the rivers, the season for rafting and kayaking would be much different (very few summer days on the South Fork American

River) and the swimming and fishing would be restricted to only a few water courses across the Forest.

The reservoirs and power plants in the Eldorado Forest provide a whopping 1,138 megawatts of electricity, enough power to serve about 1 million homes each year. And the partnership between the Eldorado National Forest and the various utility companies and agencies, along with a slew of interest groups and concerned citizens does more than provide electricity. The licenses that set how the reservoirs and power plants are operated also requires the utilities to protect and enhance wildlife and fisheries, recreation, and other resources.

The negotiations for creating the licenses that control how these hydroelectric projects operate often started with looking to balance water between mimicking the natural pattern of flow in streams (peak flows in the Spring, decreasing over the Summer and flashy storm flows in the Winter), having enough water to generate electricity when it is needed and meeting recreation opportunities (be it higher reservoir levels or river flows for whitewater fun). And then there is the monitoring, to make sure all of the rules are working to meet the desired outcomes.

Let's look a little deeper into all of the "services" provided by these hydroelectric projects.

Starting in the south, the Mokelumne River Hydroelectric project, run by PG&E includes Blue Lakes, Bear River Reservoir, Salt Springs Reservoir, Lake Tabou and more. This project generates 206 megawatts of electricity while also providing camping at most of the reservoirs, flows for whitewater rafting and kayaking on the Mokelumne River, along with flows for fish, frogs and stream health.

Moving north, the next hydroelectric project is known as Project 184, operated by the El Dorado Irrigation District (EID). Caples Lake consisted of two smaller lakes known as Twin Lakes before the dam was built in 1922. And while Silver Lake was an attraction for indigenous people and early immigrants, it was only about 1/2 the size it is now. Echo Lakes are also much larger than natural due to the dam. In fact, the water from Echo Lakes naturally flows to Lake Tahoe, but through the operation of Project 184, some of the water flows into the South Fork American River, into Jenkinson Reservoir and feeds homes in the western side of El Dorado County. Lake Aloha is another



example of a large man-made reservoir. This area originally consisted of a number of smaller ponds and lakes known as Medley Lakes, before the dam was built in about 1875. While Project 184 is not a major power generator (the powerhouse below Pollock Pines produces up to 20 megawatts of power), this project is important for domestic and agricultural water and is a major source of recreation opportunities in the higher elevations of the Forest. And again, stream flows that help to provide quality habitat for fish and frogs is an important part of this project.

The biggest power generating project on the Eldorado Forest is the Upper American River Project (UARP), run by the Sacramento Metropolitan Utility District. This project produces over 668 megawatts of electricity and is very important for flood control in the Sacramento region. The UARP is known as “the stairway of power” since the power plants and reservoirs form a stair step series all the way from Rubicon and Rockbound reservoirs in the northern portion of Desolation Wilderness down to Slab Creek Reservoir and Chili Bar Reservoir on the South Fork American River. Without the coordinated releases of water from this project into the South Fork, summer rafting in the Coloma region would not be anywhere near as popular as it is now. And SMUD has provided over 20

campgrounds in the Crystal Basin as a part of their commitment to operating this hydroelectric project. Oh, and don’t forget, because SMUD needs to access the reservoirs and powerhouses, they keep the Ice House Road plowed in the winter, which opens up this amazing high-country to some spectacular winter recreation that would not be accessible without SMUD.

Placer County Water Agency operates the Middle Fork American River Project, which includes Hell Hole Reservoir, Frenchman Meadow Reservoir (on the Tahoe NF) and Oxbow Reservoir, along with five powerhouses generating 224 megawatts. This hydroelectric project also provides needed domestic and agricultural water for Placer County. And the rafting through Tunnel Chute and Last Chance rapid and a number of other rapids on the Middle Fork is possible because of the scheduled water releases PCWA provides. For those looking for a special camping



Turbine for generating electricity. Photo from Hydro Review.

opportunity, try the remote Big Meadows or Middle Meadows

campgrounds the next time you want to get away!

One interesting way that some of the hydroelectric projects work to protect the environment is through what are known as “flushing” flows.

Stormflow events are often lost downstream of the dams since water from many of the storms is held in the reservoirs. So, power companies schedule releasing water back into certain rivers and streams during some storms to mimic large storm events. These high flows move sediment and woody material around within these streams, creating healthy channel conditions.

Another requirement for protecting aquatic plants and animals is through ensuring that water temperatures don't get too hot or too cold at critical times in the life-cycle of fish and frogs.

While fish need colder water temperatures, frogs use slightly warmer water temperatures to trigger laying egg masses. So, it isn't just striving for one temperature setting, but rather adjusting temperatures throughout the year. This is done by releasing different volumes of water at different times of the year and by controlling where the water comes from in the reservoir (the deeper water is colder than the water closer to the surface).

The partnership between the public, the Eldorado Forest and the hydroelectric projects is a fantastic example of meeting the diverse needs of Forest visitors, the water and

electrical needs of the public and the forest resources we all depend on.

Short and Sweet

By Robyn Sandperl

You may notice that this newsletter is much shorter than usual. A lot of you have interesting stories to share about the Eldorado National Forest. If you have been out there hiking, snowshoeing, skiing, camping etc. we'd love to hear from you. This newsletter is all based on volunteer articles. We'd love to have your contributions.

Simply type up your story in Word or Google Doc. If you have pictures to go along with it, Great! Please include them in a separate document so I can format them correctly into the newsletter. Let me know where the pictures go in the article. Email your story to:

Robyn Sandperl
rsandperl@gmail.com

The newsletter comes out quarterly in February, May, August, and November; but you can submit an article at any time and I'll hold onto it for the next newsletter.

Thanks! I look forward to sharing your adventures!

