

## Authority Tells How Clear Lake Was Formed by Nature's Action

(By Captain George S. Edmundstone)  
Nestling at the foot of Mount Washington, at an altitude of three thousand feet above sea level lies Clear Lake, the focus of the run-off from one hundred square miles of sparsely-timbered, badly shattered lava terrain in the "Cascades," all within the U. S. Forest Reserve in Linn County.

The lake is one and one quarter miles in length, by an average of a quarter of a mile in width and attains its maximum depth of one hundred ninety-six feet at practically its mid length. Except for two small and unimportant creeks or rivulets, the source of water supply is solely sub-terranean, saving during a limited period of the early summer, when the melting snows discharge twelve hundred second feet of water through its outlet, then, and then only is there a surface discharge into the lake through a shattered water way leading from Fish Lake.

The greatest visible inflow is through the "Glant Spring," a lava basin sixty feet in diameter and sixteen feet in depth, floored with dazzling white volcanic sand and discharging in minimum, eighty-six second feet, which is equivalent to in excess of fifty-five million gallons of water during each twenty-four hours, supplemented by the "Pigmy," which flows eleven million gallons during a like period.

In ages long gone, before Clear Lake was; the head waters of the McKenzie river flowed through moderately steep mountain valleys; one branch, the north-westernmost, having its origin in "Iron Mountain," the next toward the north, in Crescent Mountain, the third, in the Pyramids and the last, the most easterly, had its origin in the glaciers of Three-fingered Jack. All of these streams flowed uninterruptedly to a union at a point about three quarters of a mile north of the present Clear Lake.

The second lava flow apparently raised the waters of the lake to an altitude of 2,925, but extended the base of the barrier well up-stream, but the third and last eruption was sudden and violent as is evidenced by the condition of some of the trees which still are standing in the lake, with their side toward Belknap Crater bearing fire marks. This flow effectively dammed the water and preserved the timber so flooded, so effectively that the wood fibers are practically unimpaired during the centuries of submersion.

The largest volume of water came from the glaciers of Three-fingered Jack and as the source of the lava flow came from a point "down-stream" and constantly met the waters of the partially melting glacier. The result was that the original water course was utterly obliterated as surface flow, and the present lake which covers an area of about forty acres was formed, with no apparent outlet. The approaches to the valley were precipitous, well wooded and difficult of access, save by the "forest-folk" and so it remained hidden until survivors invaded it during their preliminary reconnaissance for the "Corvallis & Eastern railroad" in 1881. In 1888 the railroad was located, communicating roads were cut, bridges were built and during the year following, actual construction of grading was instituted, access was made easy and so the valley was "found."

However, the actual work of construction of the railroad was terminated at its present location on the north fork of the Santiam river, the wind eroded the roadbed, the bridges rotted away, trees rotting fell across and blotted out the roadway; the forest reclaimed its own, the handiwork of man perished and again the valley was "hidden" and so it remained when the writer, under skilful guidance penetrated its fastnesses, through devious, tortuous paths and found the old construction camps rotting away, with only the gash far up the mountain barrier and had abandoned the enterprise, as superfluous for transportation needs.

Reconstructing the valley as originally constituted, and assuming a uniform hydraulic gradient, reveals that the valley was covered with lava to a depth of 250 feet for the distance of 10,000 feet down stream from the lake outlet. And then to a depth of in excess of 100 feet, for a distance of 34,000 feet, a point well below the third lowest falls, where the increased volume of water opposing the on-rushing lava flow, produced violent explosions but did not wholly prevent or rather check the flow of the molten mass which finally extended to mountain slopes on the right bank of the stream.

So much for the romance of the formation of Clear Lake and the beautiful waterfalls in the valley below it. It was born in violent travail and has left imperishable records of its birth, clear and distinct as when first made.

Science says that the effect of volcanic conditions may have on

the welfare and health of the population of the Willamette river valley. As has been stated, the watershed of the left bank of the McKenzie river is almost wholly covered with shattered lava flow, sustaining but stunted timber, wholly unfit for the needs of commercial lumber, forming a pervious, protected water storage, which need not be encroached upon by commercialized interests, and which, doubtless, the federal and state governments may be induced to preserve from pollution for the health and well-being of inhabitants of the agricultural section. This lava terrain and scattering timber extends from the lake to the junction of the Smith and McKenzie rivers.

Regarding Clear Lake as the source and with no dependence upon the run-off of the stream from the lake outlet to Smith river, it is perfectly feasible to develop a minimum daily supply of water in the neighborhood of two hundred million gallons, amply sufficient for the needs of a population of a million and three-quarters of inhabitants, served with water whose purity can not be excelled at any place in the entire world.

Of course it would be uneconomical to consider such development at the present time, and conducting water sufficient for the needs of one hundred forty thousand people is all that should be undertaken at this time, but, with adequate supply of pure, wholesome water, it is but reasonable to assume a material growth in population, and by setting this water supply aside for the use of the people of future generations a far-sighted policy will be inaugurated which will assure the welfare of our children who will follow after us.

In addition, it has been definitely demonstrated that Clear Lake is susceptible of producing energy to the amount of two hundred ten million kilowatt hours delivered annually to low tension bus-bars of a sub-station to be located in the immediate vicinity of the city of Eugene, which if all power produced were sold at one cent per kilowatt hour, would produce a revenue of two million one hundred

thousand dollars per annum. This installation may be made at lower unit cost than is possible for any project of equal capacity in this section, and that with its water-way constructed entirely, or practically entirely in tunnel, on which maintenance costs would be practically nil.

Now is the opportunity for Willamette valley to grasp the substance and become one of the healthiest, wealthiest and most-to-be-desired habitations within the borders of the United States.—Albany Democrat.

## Personals

M. D. Hodge of Newport was a Springfield visitor Thursday.

T. L. Harkins, of Oakridge, was in Springfield on Thursday.

William M. Hunter, miller of the feed plant of the Springfield Mill and Grain company, quit work for a few days this week taking care of his sick wife.

Mrs. P. A. Hodges was here from Marcola Thursday.

Arthur Bushman returned Friday night from a two-day trip to Coquille and Powers on business.

L. Hixon of Wendling was in Springfield Thursday.

R. E. Hill, road supervisor from the Mohawk valley, was in on business Saturday.

Walter Platt of Thurston was in town on business Saturday.

Charles Grant was here from Thurston Saturday.

Charles Taylor of Thurston was a Saturday.

Jess Gates of Camp Creek was here Saturday.

Nick Miers was in from Camp Creek Saturday.

G. A. Roberts of Marcola was a Springfield visitor Saturday.

William Hucka was in from Walterville Saturday as was also M. J. Wearin of that city.

Morrison and Clingan unloaded a carload of cement from Gold Hill and a carload of corn from Nebraska on Saturday.

The Lane Coastly Auto company had an automobile parade of Star cars through Springfield on Saturday. Nineteen cars were included in the

line, from many surrounding towns. A band furnished music.

T. J. Littlejohn, merchant of Meadowview, was in Saturday for a truckload of flour.

Jack Pullen, truck driver for Frank E. Blair, Lowell merchant, was in town Saturday for supplies.

The Anderson Manufacturing company shipped a carload of lumber to California Friday.

The Springfield Mill and Grain company shipped a carload of flour and feed to Coquille Saturday.

Joe Clark came home from Portland to spend the week-end. He is an instructor in the Hill Military academy.

CALL AND SEE Dr. N. W. Emery on prices on plate and other work, if


To Visit Here Soon—Mr. and Mrs. R. E. Yoder and baby Martha are expected to arrive in Springfield Saturday to visit Mrs. Yoder's parents, Mr. and Mrs. W. M. Green.

G. M. Spague, Mutual Life Insurance Co., Eugene, Ore., Phone 877 if

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has been requested to present facts regarding County affairs under administration of these men.  
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Chas. M. Emery, Secretary.