



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

August 16, 1993

Bob Deisher
Rangen, Inc.
P.O. Box 264
Hagerman, ID 83332

Re: Weir Discharge Tables

Dear Mr. Deisher:

As we discussed during my recent visit with you and the Billingsley Creek watermaster at the Rangen hatchery, I have completed some discharge tables for irregular size rectangular weirs which can be used to determine flows over the stoplog dams in your raceways.

I have included tables for both the 44 inch and 58 inch weir crest lengths, as well as tables for both standard suppressed and standard contracted rectangular weirs. Based on the weir conditions which I observed during my visit, I would recommend using the standard suppressed rectangular weir formula and tables to obtain the most accurate measure of discharge. Since the formulas contain head values measured in feet instead of inches, I constructed the tables to provide discharge for every 1/8 inch increment of head, instead of every 1/16 inch increment as you requested. The 1/8 inch increment was easier to use and was consistent with the tables you had been using. Using the 1/16 inch increments would have forced me to carry the head in feet values to three decimal places, rather than two decimal places which is conventionally used. Since water measurement is not a precise or exacting procedure, I don't think you will lose any accuracy by measuring at the nearest 1/8 inch.

I hope the attached tables will be of use to you or others at the hatchery. If you have any additional questions or would like further assistance, you may call me directly at 327-7864.

Sincerely,

A handwritten signature in cursive script that reads "Tim Luke".

Tim Luke
Hydrologist
Water Allocations

cc: George Lemmon, District 36-A Watermaster