

Alaska Salmon Culture I – Fall, 2016

Exam 2

11/2/16

Due: 11/8/15 by 5pm

1. We talked a little bit about fish weirs as a means of collecting broodstock at remote locations. Find two examples of fish weirs on salmon streams and describe: location, reason for the weir, the basic setup (there are different types of weirs). Try to find two very different examples. They need not be in Alaska but that is preferable. **15pts**

2.. Use the following information to find: date to visible eye, date to eyed egg(silver ring), date to hatch and date to ponding:

- a. 9.2C average temp from September 1 to 15
- b. 8.8C avg temp from September 16 to 30
- c. 8.4C avg temp from October 1 to 15
- d. 7.7C avg temp from October 16 to 31
- e. 6.0C avg temp from Nov 1 to 15
- f. 5.3C avg temp from Nov 16 to 30
- g. 4.6C avg temp from Dec 1 to 15
- h. 4.0C avg temp from Dec 16 to time of ponding (emergence)

Note: use the developmental table used in the “egg incubation” lesson. Show your work. **20pts**

3. Compare three incubator types: NOPAD, Heath Tray and R48. Describe why you might choose one type of incubator or another for different circumstances. Pick an incubator and relate what it would be best used for and explain why. **10pts**

4. In the Remote Eggtake sessions I mentioned quite a few variables which could make or break a successful eggtake. List at least 5 of these items: **10pts**

5. Make the following fungus treatment calculations:

- a. 1:750 hydrogen peroxide delivered over 15 minutes with a flow of 15gpm. How much hydrogen peroxide will you need?
- b. 1:600 formalin delivered over 15 minutes with a flow of 18gpm. How much formalin will you need?
- c. 1:600 formalin delivered over 15 minutes with a flow of 15gpm. How much formalin will you need?
- d. 1:1000 hydrogen peroxide over 15 minutes with a flow of 16gpm. How much hydrogen peroxide will you need?

Note: all answers in Liters; show all of your work; use a conversion chart if necessary (can be found on internet) **15pts**

6. Describe what a spawning channel is. Using an internet search, locate 3 different spawning channels and give a brief (no more than one paragraph) description of each. State the location, species targeted, and goal of the program if possible. Both AK and BC have developed spawning channels. **10pts**

7. Why is it important to weight sample eggs throughout an eggtake? What would change? **10pts**

8. Describe the different steps you would take when taking remote eggs as separate gametes versus those taken and water-hardened in the field. Why would you choose one method over the other? **10pts**