

Activity 1: Salmon Rescue Card

**Ages:**

4th grade and up

Time:

50 minutes

State Essential Learning Requirements

Science: 1.2

**Display option:**

Set up display posters including "Salmon Life Cycle" and have pairs of students or individuals find or select responses on the "Salmon Rescue Card". Provide at least 15 minutes for students to explore the displays and complete their cards. Regroup and ask the whole class for responses on their favorite salmon, what salmon are endangered where they live, and what they will do for salmon (get ideas from "Your Impact on Salmon*"). Point out where and when students can see salmon in streams in Washington (other side of Salmon Rescue Card).

Overview:

10 minutes: Introduce this activity by asking students to look at the egg stages, and describe what they see changing with each egg picture. Have the students write the number of days of growth and name of stage next to each egg.

Objective:

To describe salmon life history, why salmon are endangered and what we can do to conserve salmon

Critical Questions Answered

1. Value
2. Endangered
3. Recovery

Materials:

Illustrated Salmon Rescue Card available from WDFW Education and Outreach. Salmon Rescue Card Master provided for copying.

Preparation:

Set up Salmon Display Materials. All materials provided in the trunk.

Presentation option:

Presenter follows the outline of the Salmon Rescue card and describes the Salmon Crisis using the poster displays. Learners fill out the salmon rescue card as the presenter addresses each question and pledge what changes they will make for salmon. Presenter signs their card and offers a prize - e.g. WDFW Ruler "You can make a measurable difference".

* "Your Impact On Salmon" Master included in Appendix Activity 23 or available of WDFW website: <http://www.wa.gov/wdfw>

Salmon Rescue Card:





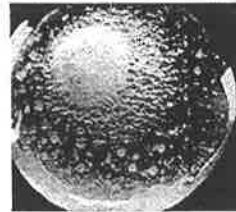
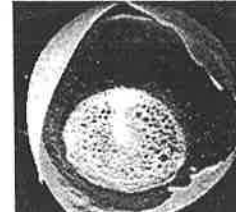






Approximate Salmon development in Days and Weeks. Time varies depending on temperature of water.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Key to Photos of Salmon Development on the Salmon Rescue Cards

Prepared by: Dr. Steve Schroder of Fish Management

Photos from top to bottom. Assume 7° Incubation Water Temperature

1.  Half day old
Unsegmented blastodisc- showing protoplasm with a regular shape ~ 1/2 day old
2.  About 1 day old
Four-cell stage
3.  About 7 days old
Probably a blastula
4.  Less than 10 days old
Shows blastula
5.  Around 10 days old
Shows blastula developing germ ring
6.  About 10-11 days old
Early embryo formation - shows blastoderm on top and embryo probably ~ 1mm long
7.  About 17 days old
Shows to the left, the oval opening of the blastopore - formed by the germ ring-long white material is the developing embryo
8.  About 20 days old
Embryo after blastopore closure (At this point the embryo is fairly immune to mechanical shock) - the head region appears to be developing (upper left)
9.  About 28 days old
Shows embryo with well developed head, eyes will start getting pigment soon - in this photo the chorion (shell) is intact. ~ 28 days
- 10 & 11.  About 57-60 days old
A more developed embryo in 10, note the pigment on the eye and prominent optic lobes, it looks about 57-60 days old like # 11, is another view of this stage - you can see the embryo developing on top of the yolk - the entire chorion has been removed
12.  About 60 to 70 days old
Close-up of head and yolk material - at this point the developing embryo referred to as an alevin ~ 60 to 70 days (called an alevin after hatching)
13.  Over 70 days old
Newly emerged fry - looks like one of the fry has a fairly large yolk sac - normally fry will not (10 weeks) emerge with this much yolk.

Eggs mature based on temperature of the water. If water is warmer the eggs mature faster, if the water is cooler the eggs mature more slowly.

Salmon Rescue Card

Salmon are Essential Panel

Check the Salmon Life Cycle:

Name 5 stages of salmon growth.

-
-
-
-
-

Look at the migration map

Name one place that salmon migrate to:

-

Choose your favorite fish: _____

-

How many years does it live?

Which salmon lives the longest?

-

Are all salmon in danger? Circle Yes or No.

Salmon Are Endangered Panel

What salmonids are in danger where you live
(Check map of Salmon Recovery Regions)

What are the 4 C's that salmon need.
(Look behind the puzzle)

-
-
-
-

Salmon Recovery Panel

List the 4 H's the Washington
Department of Fish and Wildlife are focusing on to
recover salmon.

-
-
-
-

What is one way people who fish can help salmon?
(Look under the harvest panel)

-

Salmon Rescue Card

Did you know . . .

. . . salmon are born in Washington's freshwater rivers,
(where some stay for up to two years;)

. . . then move to the salty ocean, feeding and growing
rapidly as they mature into teenagers and adults (two to
six-year-olds in salmon years), traveling as far away as
Alaska and Japan;

. . . then come back to their Washington home river in
the fall, to spawn then die;

. . . and if you live in Western Washington, there is a
stream near you where you can go see salmon returning
home, right now?

Did you also know . . .

. . . salmon need cold, clear and clean water for the eggs
and young salmon to live?

. . . that to save wild salmon, we must all help - by using
less water and electricity (to keep the water in the
streams for the fish), and by telling our parents to recycle
used oil and paints (dumping chemicals into the ground
or drains pollutes the streams where salmon live.)*

Places to See

Salmon Return Home

Bellingham Area - Maritime Heritage Center, Arroyo Park,
Oyster Creek.

Seattle Area - Seattle Aquarium, Ballard Locks, Issaquah
Hatchery, Cedar River (Renton Library - Maple Valley).

Olympic Peninsula Area - Olympia Fifth Ave. Bridge,
Kennedy Creek, Hoodspout Hatchery.

SW Washington - Kalama Fallert Creek Hatchery, Naselle
River, Willapa River, Washougal Hatchery.

Eastern Washington - Upper Yakima River (Lake Easton
State Park, Cle Elum), Wenatchee River (Tumwater Canyon),
American River, Chinook Pass ... Most WDFW hatcheries*

Other Ways to Help Salmon*

- Plant trees and shrubs near creeks (with adult supervision and the land-owner's permission).
- Turn off lights.
- Take shorter showers. Hey kids, next time you don't want to take a bath, say "I'm trying to save salmon!"

**Teachers and parents: For a thorough understanding of the importance of individual actions on salmon, see "Your Impact on Salmon - a Self Assessment" on the Internet at www.wa.gov/wdfw. Also on this site are many additional materials on salmon, and a complete listing of WDFW Hatchery locations to visit.*