

# Salmon Ecosystem Answer Key



# Eggs/Alevin Ecosystem Requirements

## Water Quality

Search: Water type of water do salmon [insert life stage] need

- Little to no silt
- Flowing water
- Oxygen rich
- Clean and cold

## Physical Features

Search: What do salmon [insert life stage] need for survival

Search: Why do salmon [insert life stage] need [insert physical feature]

- Soil and roots for filtering rainwater and runoff
- Pools with deep still water for habitat and riffles for adding oxygen to the water
- Vegetation for... shade or to hide
- Gravel and rocks to... nest in, grow/hatch and hide from predators

## Threats to Egg/Alevin Survival

Search: Threats to salmon [insert life stage] survival

Note: Student worksheet only requires students to list a minimum of 3 threats

- Predators (birds or other fish)
- Excessive silt or sediment that buries the eggs and alevin or cause disease
- Gravel disturbances (example: floods or human activity)
- Low oxygen
- Pollution
- Low water levels
- Climate change



# Fry

## Ecosystem Requirements

### Water Quality

Search: Water type of water do salmon [insert life stage] need

- Little to no silt
- Flowing water
- Oxygen rich
- Clean and cold

### Physical Features

Search: What do salmon [insert life stage] need for survival

Search: Why do salmon [insert life stage] need [insert physical feature]

- Soil and roots for filtering rainwater and runoff
- Pools with deep still water for habitat and riffles for adding oxygen to the water
- Fallen leaves and vegetation to feed aquatic insects that in turn, feed fry
- Fallen logs to... hide and rest behind and/or find food
- Macroinvertebrates to... eat

### Threats to Fry Survival

Search: Threats to salmon [insert life stage] survival

Note: Student worksheet only requires students to list a minimum of 3 threats

- Predators (birds or other fish)
- Low oxygen in the water
- Pollution
- Low water levels
- Climate change



# Smolt

## Ecosystem Requirements

### Water Quality

Search: Water type of water do salmon [insert life stage] need

- **Brackish water (mix of freshwater and saltwater)**
- Flowing water
- Oxygen rich
- Clean and cold

### Physical Features

Search: What do salmon [insert life stage] need for survival

Search: Why do salmon [insert life stage] need [insert physical feature]

- Soil and roots for filtering rainwater and runoff
- Fallen leaves and vegetation to feed aquatic insects that in turn, feed smolt
- Fallen logs to... **hide and rest behind and/or find food**
- Macroinvertebrates, small fish and crustaceans to... **eat**

### Threats to Smolt Survival

Search: Threats to salmon [insert life stage] survival

Note: Student worksheet only requires students to list a minimum of 3 threats

- Predators (example: birds, seals, sea lions, snakes, orcas)
- Pollution
- Dams or other fish passage inhibitors
- Habitat destruction (loss of estuaries due to human development)
- Climate change



# Ocean Adult Ecosystem Requirements

## Water Quality

Search: Water type of water do salmon [insert life stage] need

- Saltwater
- Oxygen rich
- Clean and cold

## Physical Features

Search: What do salmon need to survive in the ocean

- (Hint: What do they eat? List 3 animals) **Small fish, crustaceans, and squid for food**

## Threats to Ocean Adult Survival

Search: Threats to salmon in the ocean

Note: Student worksheet only requires students to list a minimum of 3 threats

- Climate change
- Predators (example: orcas, seals, sea lions)
- Overfishing



# Spawning Adult Ecosystem Requirements

## Water Quality

Search: Water type of water do salmon [insert life stage] need

- Freshwater
- Oxygen rich
- Clean and cold

## Physical Features

Search: What do spawning salmon need

Search: Why do spawning salmon need [insert feature]

- Deep enough water to swim through
- Fish ladders to ... pass over dams
- Gravel beds to....make a redd and lay eggs

## Threats to Spawning Adult Survival

Search: Threats to salmon in the ocean

Note: Student worksheet only requires students to list a minimum of 3 threats

- Climate change
- Shallow water in small streams
- Predators (example: orcas, bears, otters, birds)
- Dams, culverts or other fish passage inhibitors
- Habitat loss

