

# Salmonwatchers



Vashon  Nature Center



Keta Legacy  
*foundation*

PRESERVE • INSPIRE • EDUCATE

*formerly Mountaineers Foundation*

Salmon are iconic species that integrate terrestrial and marine ecosystems in the Pacific Northwest. They have been valuable culturally, spiritually, economically, and ecologically for centuries.



Photo: Kelly Keenan, Judd Creek

# SALMONID LIFE CYCLE

CHUM, PINK, AND SOME CHINOOK FRY MIGRATE DIRECTLY TO SALT WATER WITHIN WEEKS OR MONTHS

**DEATH FROM**

- Habitat Destruction
- Predators
- Pollution

**DEATH FROM**

- Predators
- Disturbance of gravel
- Temperature changes
- Pollution

**DEATH FROM SPAWNING**

EGGS IN GRAVEL

SPAWNING

ALEVIN EMBRYOS EMERGE FROM GRAVEL

COHO, STEELHEAD, CUTTHROAT, SOCKEYE, AND SOME CHINOOK LIVE IN FRESH WATER AS JUVENILES

COURTSHIP

SPAWNING MIGRATION

SMOLTS ADAPT TO SALT WATER

ADULT SALMON

YOUNG ADULTS

**DEATH FROM**

- Predators
- Habitat Destruction
- Delays in downstream migration

**DEATH FROM**

- Delays in migration
- Predators
- Fishing

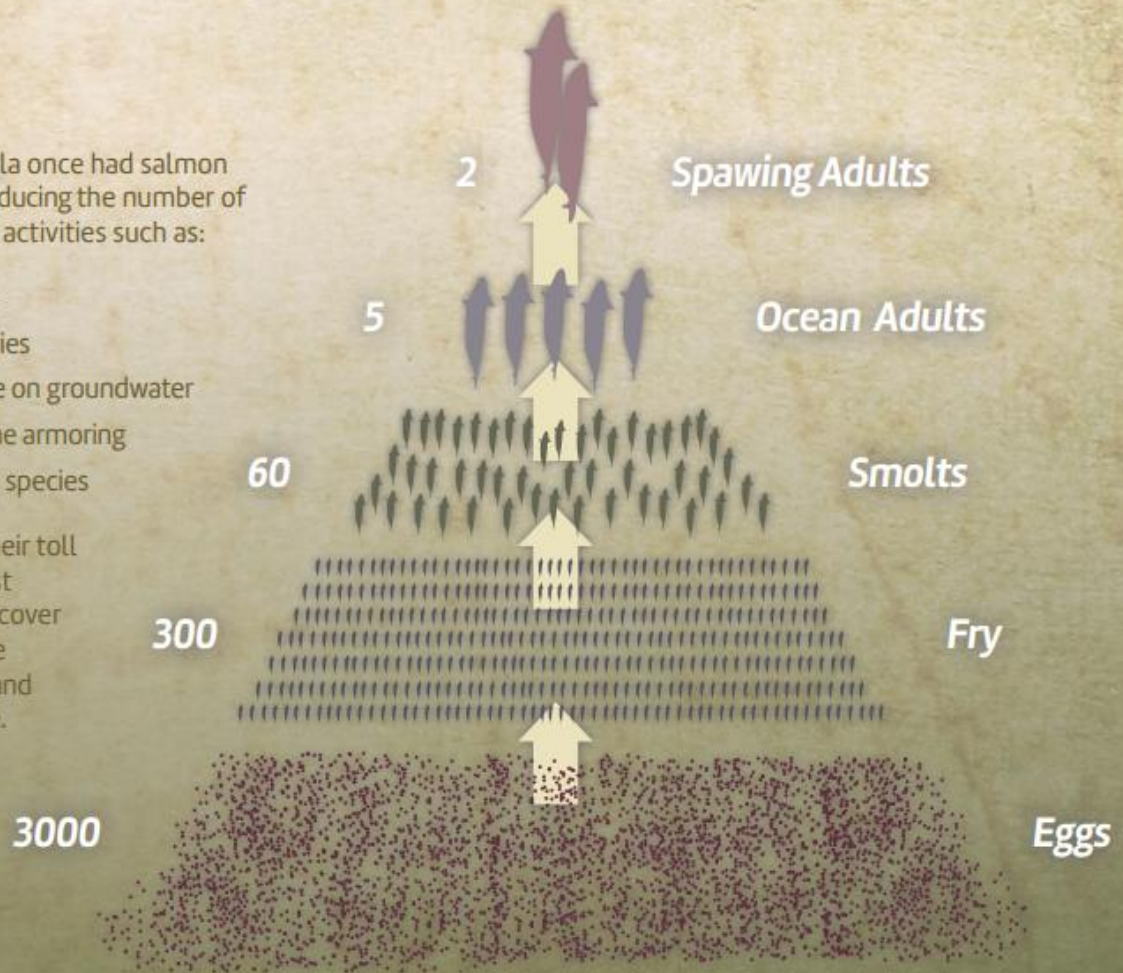
# How many salmon come back from each redd?

## PYRAMID

Almost all of the streams on the Kitsap Peninsula once had salmon in them. Humans can effect salmon mortality, reducing the number of spawning adults that return to streams through activities such as:

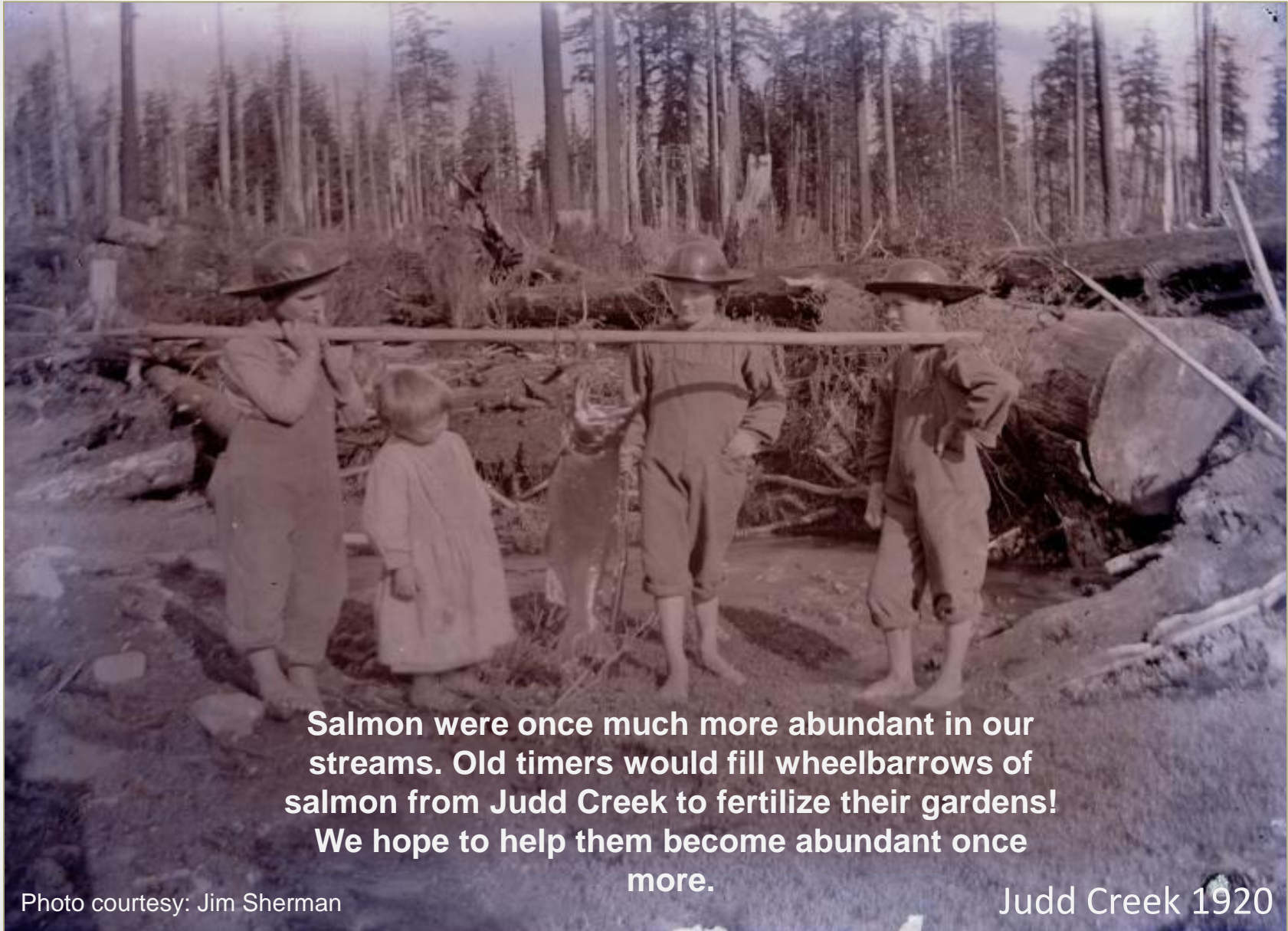
- » Land clearing and development
- » Road culverts
- » Construction erosion
- » Agriculture
- » Dams
- » Harvest
- » Hatcheries
- » Reliance on groundwater
- » Shoreline armoring
- » Invasive species

Although these types of activities have taken their toll on wild Pacific Salmon populations over the past 200 years, we are taking steps to protect and recover salmon populations and are making measurable progress on recovery goals. Salmon are resilient and can return to Kitsap streams if given the chance.





# Why do we care about counting salmon?



**Salmon were once much more abundant in our streams. Old timers would fill wheelbarrows of salmon from Judd Creek to fertilize their gardens! We hope to help them become abundant once more.**

Photo courtesy: Jim Sherman

Judd Creek 1920



# You are part of an amazing team!

- Salmonwatcher program started in 1996! Since then Salmonwatchers have:
- Confirmed spawning salmon in Judd, Shinglemill, Fisher, Christensen creeks and presence of adult and juvenile salmon in Ellis Creek and Raab's lagoon.
- Extended known spawning habitat ranges for coho in Shinglemill and chum in Judd.
- Found first record of pink salmon in Judd Creek.
- Uncovering cyclical trends for fish populations in major creeks, and a slight overall decline in coho salmon populations.

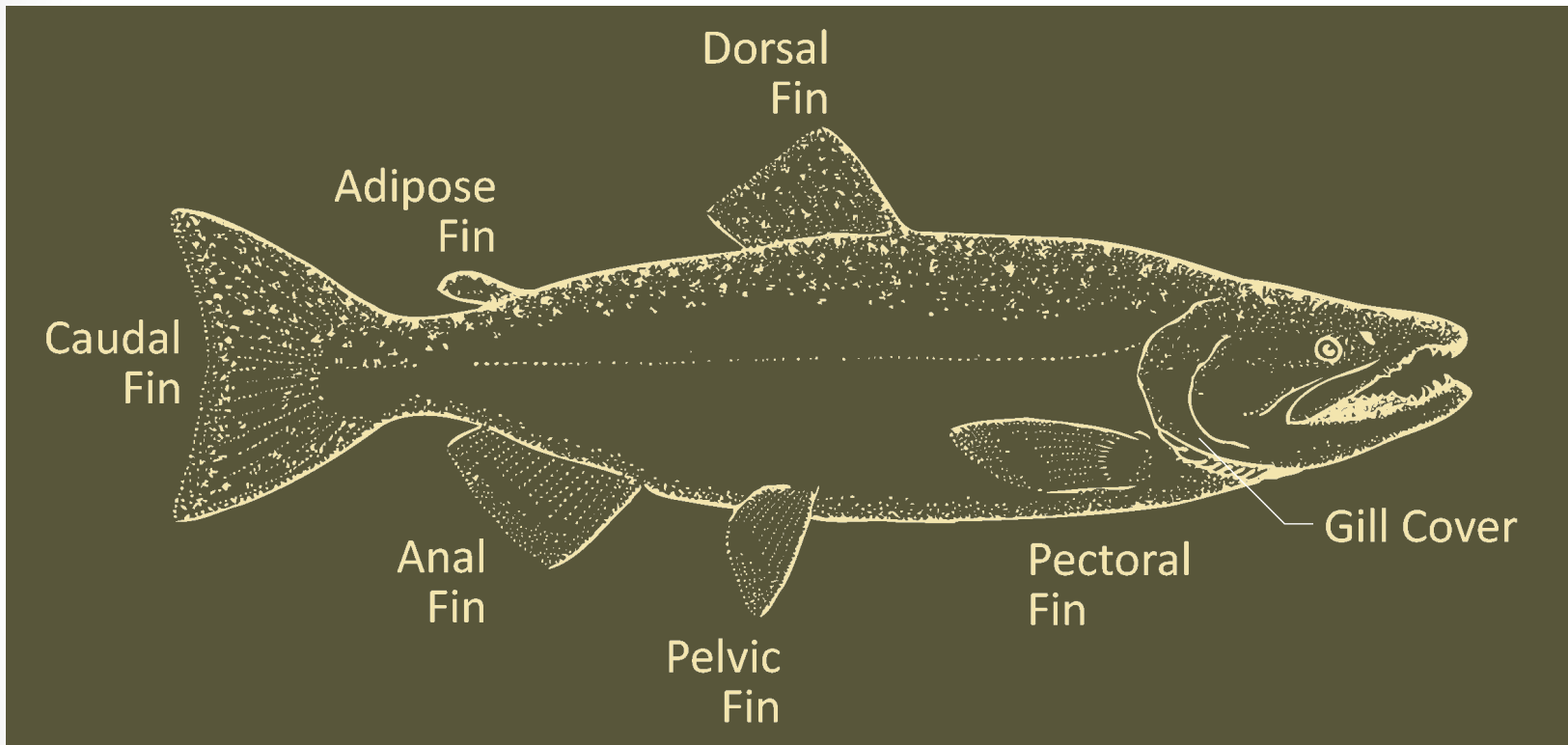
# 4 Major Questions you are helping us answer:

- Which salmonids use which island creeks and when?---Salmon Sit Spots– 15 minute sit-spots, 2 times a week.
- How do fish numbers and spawning effort change from year to year on Shinglemill and Judd Creeks?—Salmon Reach Walks—once per week.
- How far up our creeks do salmon go?—Furthest Limit check points—after hard rains.
- Are our salmon/trout unique? –DNA off Fin Clips—anytime anyone finds a dead fish.



# How to identify salmon

## Key Identification Features



# Questions to Ask When Identifying Salmon

1. Size
2. Spots
3. Color
4. Behavioral characteristics

Chinook



**Size**

24-60"

Chum



30-42"

Coho



17-38"

Sockeye



20-28"

Pink



16-30"

Kokanee



8-22"

Cutthroat



up to 30"

# Spots

Chinook



Large, splotchy, on top and bottom of tail fin

Chum



No defined spots

Coho



Small and distinct, only on top half of tail

Sockeye



No defined spots

Pink



Large, oval

Kokanee



May have small spots

Cutthroat



Numerous small spots, top & bottom

# Color

Chinook



Wide color range from red to green to brown

Chum



Red/purple flame like markings

Coho



Red on belly and gill covers, green back

Sockeye



Red body, green head and tail

Pink



Green back, white belly

Kokanee



Varies red to brown

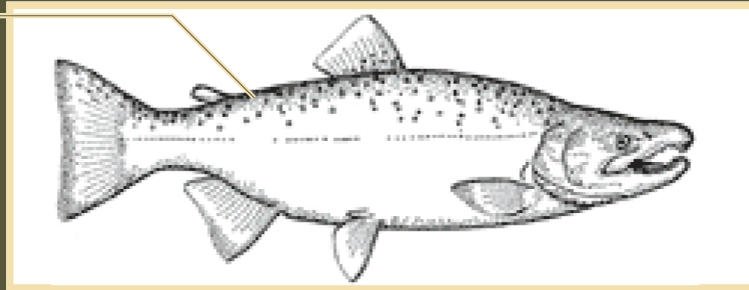
Cutthroat



Silvery

# Coho ("Silvers")

Round black spots



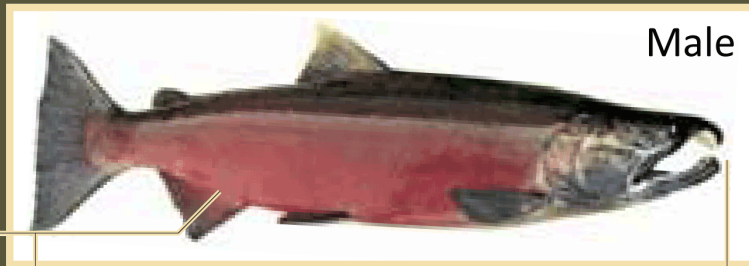
Spots on back and UPPER lobe of tail fin only



Female

Back and head dark blue-green

Lower sides red-purple



Male

18-30 inches  
(averages 24 inches in length)

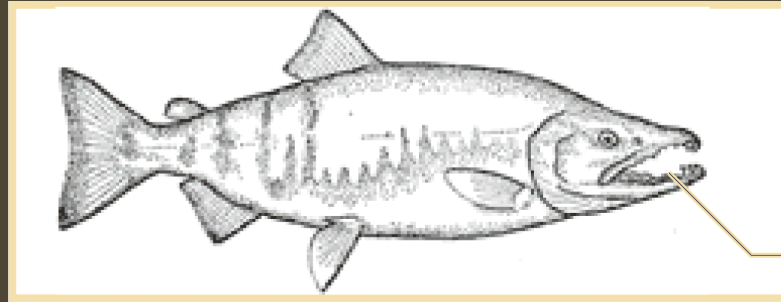
Behavior: skittish and acrobatic

# Coho



Photo by Kollin Higgins

# Chum ("Dog", "Keta")



Well developed teeth

No distinct black spots



Female

Dark blue above with reddish-purple vertical markings



Male

22-38 inches  
(averages 24 inches in length)

Behavior: calm, slow, bumbly



# Chum



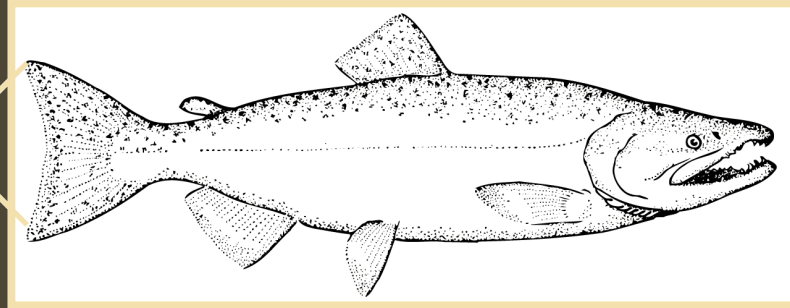
Photo by E.R. Keeley



Photo by Catherine Ansett

# Chinook ("King," "Tye," "Blackmouth")

Spots on BOTH  
upper and lower  
lobe of tail



Female



Olive brown  
to dark brown  
to red

Male



18-44 inches  
(averages 27 inches in length)

Behavior: Calm but powerful

Photo by Carla Milesi



# Chinook

Large leopard spots

Large body size

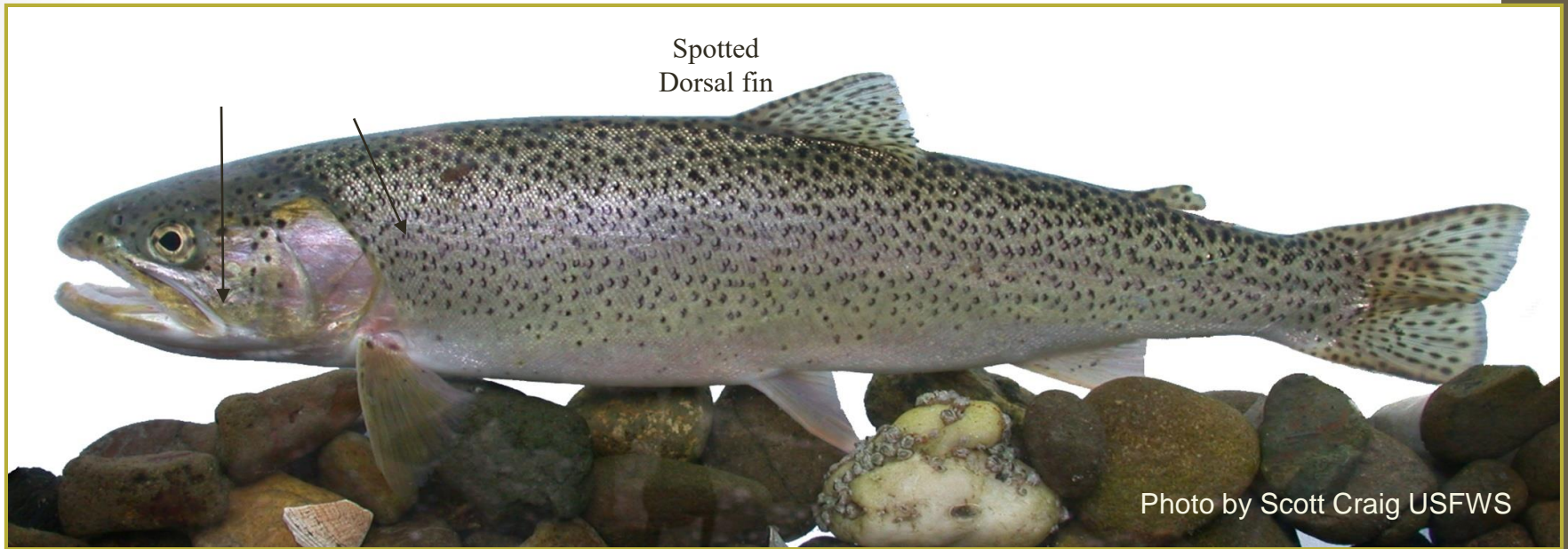
Thick and muscular

Spots on top and bottom of tail



Photo by Geoff Clayton

# Cutthroat Trout



You will likely only see *juvenile* cutthroat trout. Coastal streams may see sea-run coastal cutthroat late in the season.

Length = 6-8"

Behavior: likely trying to eat salmon eggs!!!



# Pink Salmon



Photo E.R. Keeley

Only in odd years (very rare on

Vashon only one record):

Small body size (see boot)

Males have large humps

Silver, shinier than other fish

Large spots all throughout tail



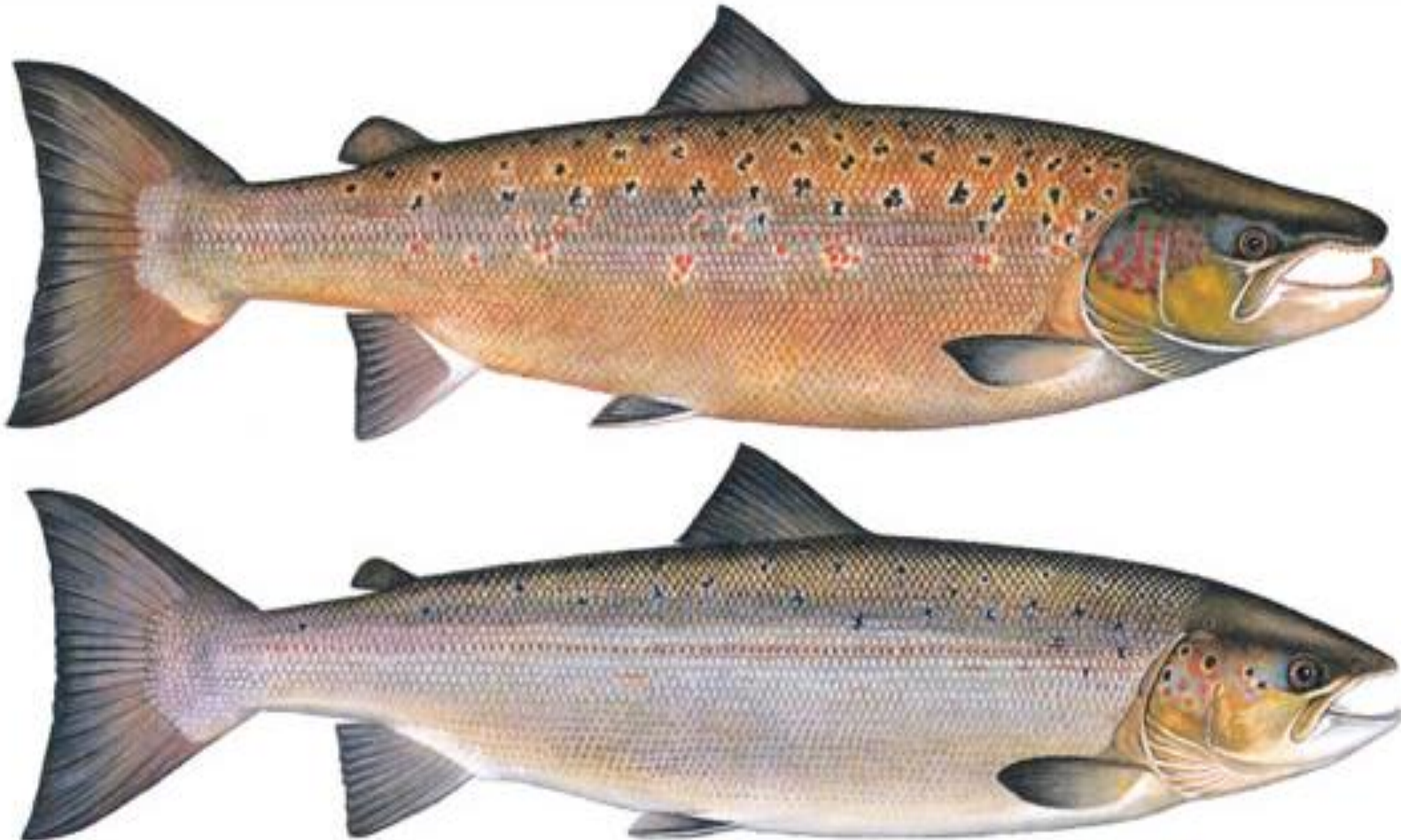
Photo by Kirk Anderson

## ATLANTIC SALMON IDENTIFICATION (08/21/2017)



Washington  
Department of  
**FISH and  
WILDLIFE**

- Large spots on gill cover
- Dorsal/ventricle/tail fins are likely eroded from containment pens
- No silver on tail, end is more flat (less notched like salmon)
- Not clipped, 7-14 pounds



There is a slight chance that we could record escaped Atlantic salmon. Possibility is low.

## Is it a Coho?



- Small distinct spots
- Spots on top half of tail
- Red on belly and gill cover
- Spawns end of September through end of December
- Very skittish and acrobatic
- Thinner in body
- Can be very high in watersheds

## OR a Chum?



- Flame markings and/or thick black line
- No spots even on tail
- Sharp teeth
- Spawns end of October through mid-January
- Calm and slow
- Thick body
- Spawns in lower parts of watersheds.

## Is it a Chinook?



Large splotchy spots

Spots on top & bottom of tail

May have red over entire body

Spawns September through mid  
December

Calmer

## Or a Coho?



Small distinct spots

Spots only on top half of tail

Red on belly & gill cover

Spawns end of September  
through end of December

Very skittish



# **Review: Test yourself!**

**Answers on the last slide**

# Slide 1



*Photo by: Kelly Keenan*



Slide 2

*Photo by: Kelly Keenan*



Slide 3

12 8 99

# Slide 4



Photo by Catherine Anstett

# Slide 5



Photo by Chris Carrel, Friends of Hylebos Wetlands



Slide 6

**Slide 1:** Coho—notice small spots and red color.

**Slide 2:** Coho- this is a tough one. Looks like chinook because it is large and has large splotchy spots. Kelly was brought in on this one to take photos and the only reason we know it is coho is that the spots are only on the top of the tail. If you couldn't see this, you would put unknown on your datasheet.

**Slide 3:** Chum- no spots, flames on the side.

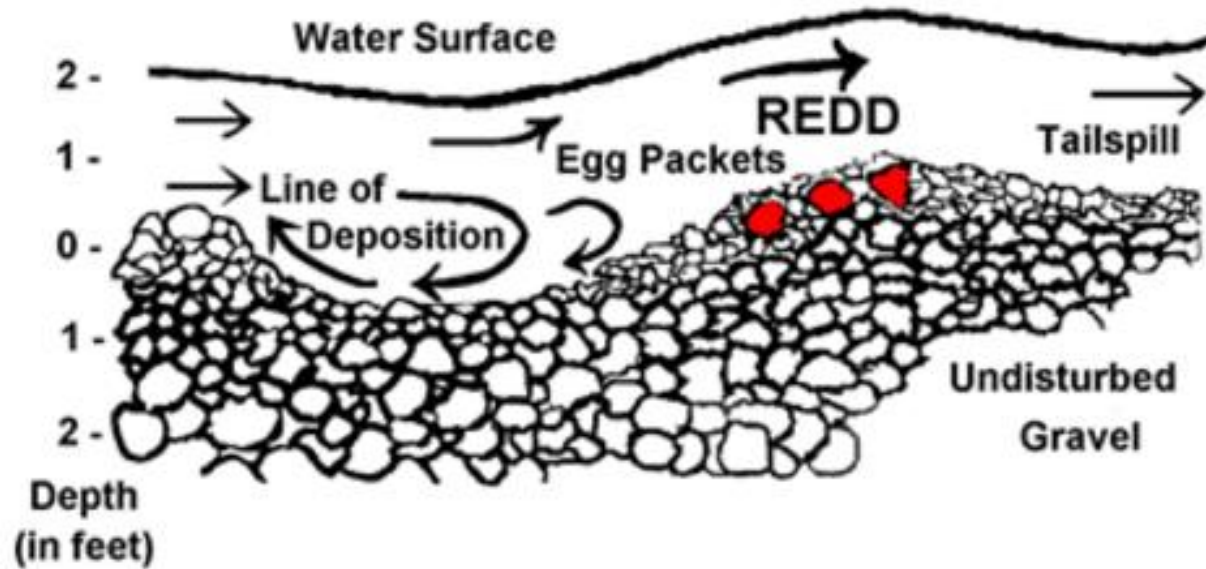
**Slide 4:** Chum- only chum have black stripes. Not all chum have this, usually only females or sub-dominant males have a stripe.

**Slide 5:** Coho- red cheek, acrobatic, small spots.

**Slide 6:** Chum- black stripe, no spots.



# Redds:



## Where to look and what to look for:

- To the side, just upstream, or just downstream of a riffle
- Near a pool or cover
- In gravel marble size to fist sized (chum).
- In fresh redds gravel will be lighter colored than surroundings

# Example of a large redd



Redds have overturned rocks that lack algae thus the color change at a redd site.

# Surveying in the Field

Your go to for all  
Salmonwatching materials:

[vashonnaturecenter.org/salmonwatchers](http://vashonnaturecenter.org/salmonwatchers)

# Salmon Watching Basics

When do we start watching?

Right now!!

How often do we watch?

Sit Spots: Twice a week

Reach Walks: Once a week

Furthest Limit: 1-2 days after each hard rain

How long do we watch for?

15 minutes.

When do we stop watching?

January 1.

January-February anyone?

Where do we watch from?

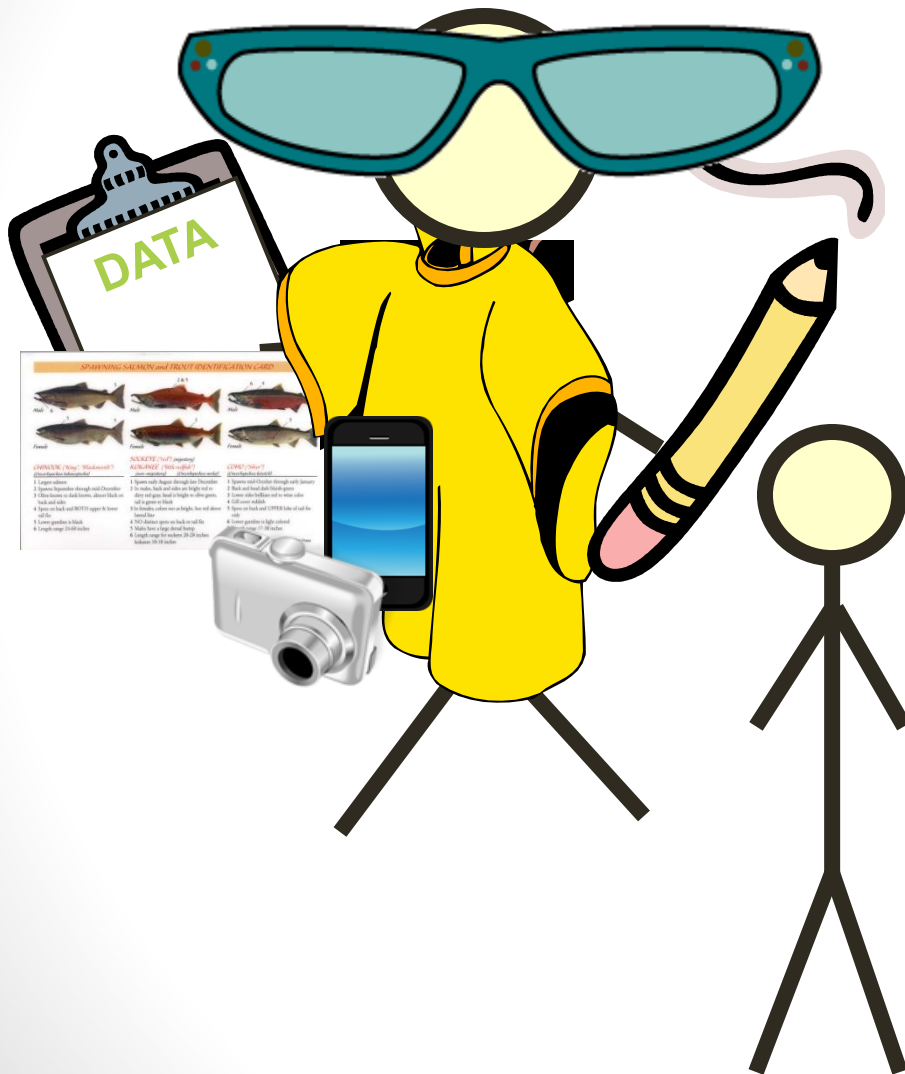
The SIDE of the stream.

What are we looking for?

Sit Spots: Number and identity of salmon swimming by.

Reach walks: Number and identity of salmon, number of redds.

# What You Should Bring



- Notebook/phone for data entry
- Salmon ID materials
- Digital Camera /mobile
- Pencils
- Polarized glasses
- Raingear
- Clipboard
- A Buddy! (for fun & safety)
- Orange vest (optional for safety)
- Flagging for salmon reach walks



# CATCH-CLIP-RELEASE

*Community driven Salmon conservation*

## IF YOU FIND A CARCASS:

**Protocol:** Call Kelly if you do not have a kit. Clip adipose fin with a hole punch, dry on Whatman filter paper, put in envelope with date, stream, species and your name. Give to Kelly.

Filling in the gaps of the salmon genetics database

Non-invasive, Community science, Transboundary Salish Sea wide study

# Entering data

MAKE SURE YOU WRITE DOWN YOUR SITE CODE OR REACH CODE AND KEEP IT WITH YOU. WE HAVE REDONE THESE SO YOUR REACH NUMBER MAY HAVE CHANGED SINCE LAST YEAR.

Go to: [vashonnaturecenter.org/salmonwatchers](http://vashonnaturecenter.org/salmonwatchers)

Scroll down and click appropriate link:

[Data Entry Portal- Sit spot](#) or  
[Data Entry Portal-Reach walk](#)

Answer all the questions. Enter 0 or unknown if appropriate.

If you see a fish or a redd or have questions  
call or email Kelly Keenan:

[kellykeenan.vnc@gmail.com](mailto:kellykeenan.vnc@gmail.com), 281-222-8282



# Can I fish for salmon?

- Fishing for salmon in Vashon creeks is illegal. You CAN fish from the beach with a fishing license and you can fish for trout in Vashon streams.
- 1-877-WDFW-TIP or  
REPORTPOACHING@DFW.WA.GOV
- TEXT to: TIP411 keyword: WDFWTIP

Source: Washington Sport Fishing Rules pamphlet p. 13

<https://wdfw.wa.gov/sites/default/files/publications/02077/wdfw02077.pdf>

# Important Tips

- Call or email Kelly Keenan with any questions: 281-222-8282-cell, [kellykeenavnc@gmail.com](mailto:kellykeenavnc@gmail.com)
- Take lots of photos !!!
- Stay on public property at all times unless you have permission from the property owner (or you are the property owner).
- Remember that you are ambassadors for salmon! Share what you know with your community and guide people to appropriate behaviors while watching these iconic fish.



Thank you! We couldn't do it without you.