



Lamprey & Steelhead Surveys in the Johnson Creek Watershed

Volunteer Logistics

Alexis Barton

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Johnson Creek Watershed Council

How Surveys Work

- Surveys will take place at 6 stream reaches across the watershed
- Reaches will be surveyed every Saturday, weather permitting between February 10th & May 26th
- Each person will complete at least three surveys

What will being a Surveyor be like?

- Week before survey:
 - Alexis will be in touch – communicate with your group
 - Coordinate to pick up gear
- Day of survey:
 - You'll spend a few hours walking the banks of the creek
 - Submit data
 - Pat yourself on the back and be proud!
- After survey:
 - Return your gear
 - In a few months we'll share results with you!

What will being a Surveyor be like?

- Week before survey:
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 - Coordinate to pick up gear
- Day of survey:
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 - In a few months we'll share results with you!

AWESOME.

Scientific Survey Protocol

- How to get lat/longs on phones
- How to submit data online
- Logistics & resources
- Safety
- What-Ifs

Reach J. Palmblad/SE 252nd to SE 262nd/Badger Creek Confluence (approx. SE 262nd) (ODFW 30858.7 #7)

Start at SE 252nd/Palmblad where it crosses Johnson Creek – you can park at the Springwater Trail crossing near the intersection with Telford. Begin at Se 252nd Ave and walk upstream on the banks.

There are a few options for where to end this survey, depending on water depth and beaver dams as the season progresses. You will reach the confluence with the North Fork tributary, which enters from the left when facing upstream; at that point, look upstream in the mainstem to see whether the stream or bank is still walkable farther up. If not, you may be able to follow the North Fork towards the Springwater Trail and bushwhack your way out at the trail, then walk up- or downstream along the trail until you reach an intersection that can lead you back to your car. If you continue up Johnson Creek past the North Fork confluence, you may end the survey where 262nd would cross Johnson Creek and where Badger Creek (a medium-sized stream) enters Johnson Creek on your right if you're facing upstream, just upstream of a driveway bridge over Johnson Creek. You may also find other ways out besides the two ways described—please let JCWC staff know what you do, as this will help others surveying this reach.



Reach:	Date:	Surveyors:	Start Time:	End Time:
Weather: Sun / Rain / Overcast / Partly cloudy / Snow Water level: Low, dry / Medium / High / Flood Creek visibility: 1 (Can see bottom of riffles and pools) 2 (Can see bottom of riffles) 3 (Cannot see bottom of riffles and pools)	Field notes: <i>Create one Data Letter Point for each sighting. Each fish or redd is a single sighting. For example, if you see two lamprey at one redd, that would be three Data Letter Points, and each would have the same GPS coordinates.</i>			

LOCATION LETTER	If flag present, is the redd...	REDD, or FISH, present?	IF REDD: Type of Redd (see clipboard redd-ID page for reference)	IF FISH: Live or Carcass	Type of Fish	Wild, Hatchery, or Unknown?
A	Visible / Not visible / Too turbid to confirm / (No flag)	Redd / Fish	Brook L. / Pacific L. / Steelhead / Unkwn	Live / Carcass	Brook L. / Pacific L. / Steelhead / Unkwn	Wild / Hatchery / Unkwn
	Lat: 4 _ . _ _ _ _ _ Long: -12 _ . _ _ _ _ _ If flag, flag code: _ _ _ _ _					
	Location Description (intersection, identifying features, etc.) & Notes (if live fish sighting, what was it doing?):					
B	Visible / Not visible / Too turbid to confirm / (No flag)	Redd / Fish	Brook L. / Pacific L. / Steelhead / Unkwn	Live / Carcass	Brook L. / Pacific L. / Steelhead / Unkwn	Wild / Hatchery / Unkwn
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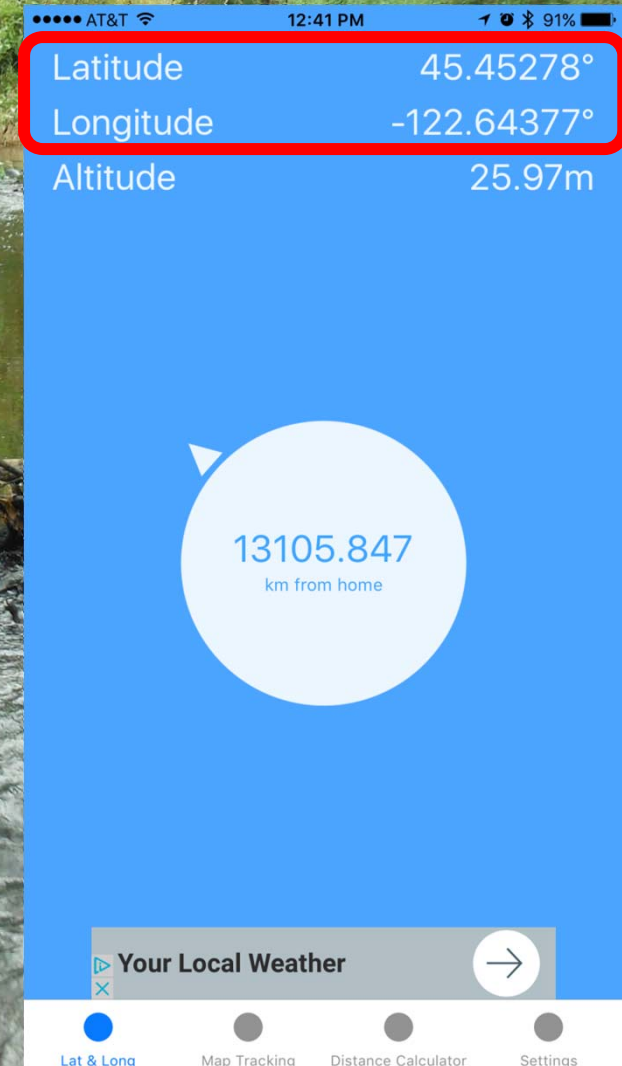


Reach F: ~~Palmblad~~ 252nd to Badger Creek Confluence

Remember to add the Letter of the Data Letter Points when you draw them here

How to get lat/long on phones

- There's an app for that:
"Latitude and Longitude Plus"



Surveyor Checklist

Week before survey:

Communicate with your group to determine...

- Gear pick-up
- Timing & transportation
- Data upload & gear return

Contact Alexis
(communityscience@jcwc.org) to
arrange gear pick-up & return.

Pick-up: Wed-Fri
Return: Mon-Tues

Day of your survey:

- Make sure you're in good physical health
- Bring gear, be safe, have fun!

After your survey:

- Upload data
- Return gear & data sheets to JCWC
- Stay tuned

Last edit was 13 days ago

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Surveyor Gear Checklist

Provided by JCWC:

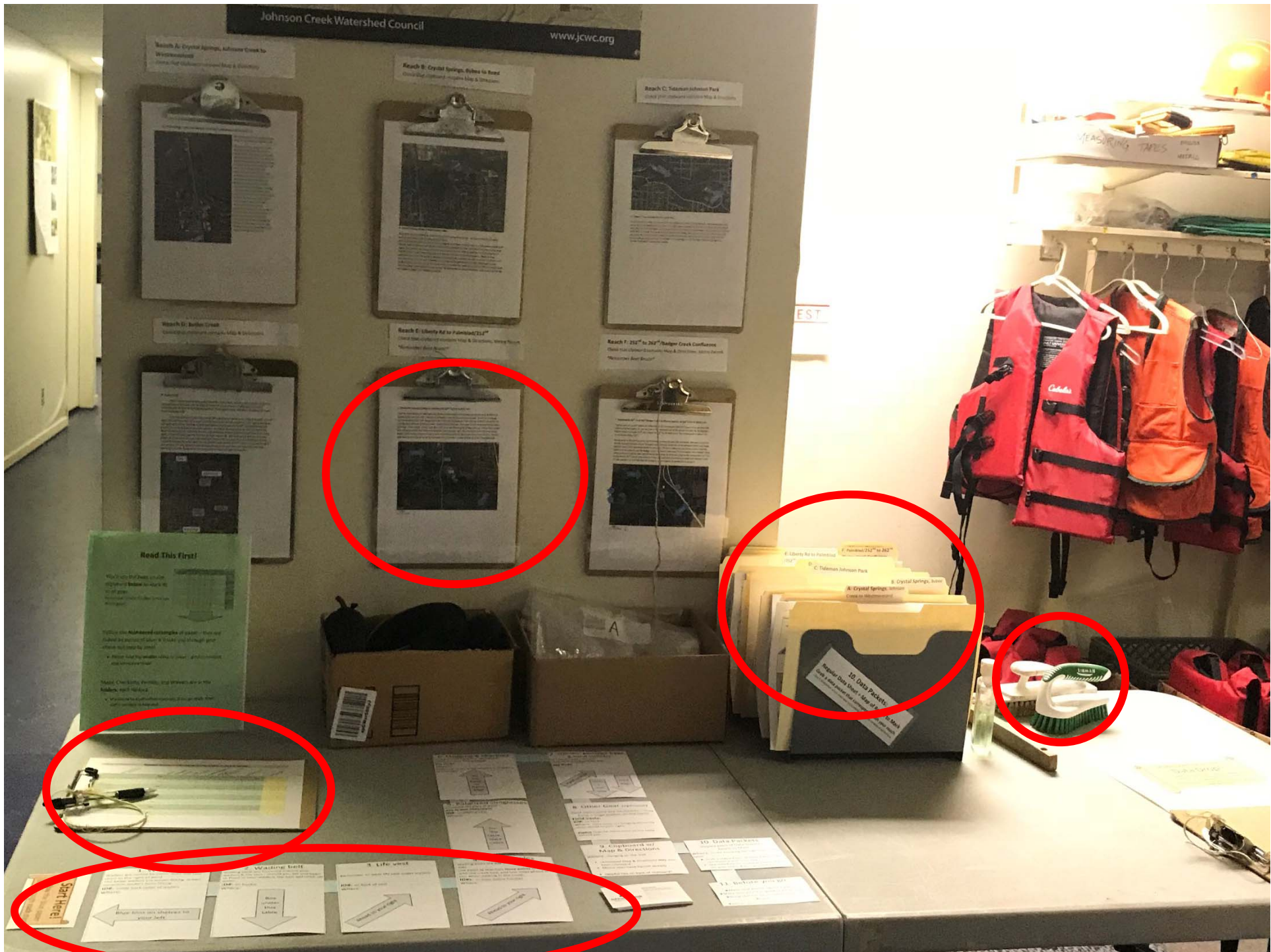
1. Waders
2. Wading Belt
3. Wading Poles
4. Life Vest
5. Field Vests
6. Polarized Sunglasses
7. Flagging & sharpies
8. Gloves
9. Hand sanitizer
10. Garbage bags

Bring Your Own:

1. Phone for camera, GPS
2. Water bottle & snack
3. Weather-appropriate gear (hat, etc.)
4. Backpack
5. Change of clothes for after survey (optional)

11. Data Sheet
12. Reach Marking Data Sheet
13. Map & Directions to reach
14. FAQs & Checklist





Lamprey & Steelhead Surveyors! Equipment Check-Out, Check-In Sheet

[illegible]

Lamprey & Steelhead Surveyors! Equipment Check-Out, Check-In Sheet

[illegible]

Picking Up Gear

Other gear hub things:

- Shoe size chart
- Waders drying



- Laundry basket!

Women's shoe size:		Men's shoe size:		Grab waders in size...
Under 8	→	Under 6	→	6
8	→	6	→	6
9	→	7	→	7
10	→	8	→	8
11	→	9	→	9
12	→	10	→	10
13	→	11	→	11

*I recommend that everyone bring a pair of rubber boots or waders

LAMPREY & STEELHEAD

SURVEYOR CHEAT SHEET



* It is absolutely not cheating to use this but you may find it helpful!

You found a redd!

First, ID it

Pacific Lamprey or
Brook Lamprey



Steelhead or
Unknown



Count how many
redds

(One data point per redd;
there may only be one)

Take photos &
Record data point!

Create flagging
(unless flagged already)

Take photos &
Record data point!

"ID Me!" -Redd

Round or oval?	Approximate size	Species	Flag it?	Take a photo?
Round	Softball size	Brook Lamprey	No	Always😊
Round	Dinner plate size	Pacific Lamprey	No	Always😊
Oval	1 m ² / 10 ft ²	Steelhead	Yes!	Always😊
Unknown	Unknown	Unknown	Yes!	Always😊

How to label flagging:

[Date] + [Redd letter] + [Redd location] + [Your Last Name]

Come across
an already-
flagged redd?
Leave the flag
in place.

Record the
data point
with fresh
pictures!

Today's date

Location of redd, relative to flagging

(US = upstream DS = downstream)

2/8/2018 - A - 10ft US - Barton

Redd letter

Last name

"A" if it's the first steelhead/unknown
redd you've flagged, "B" if it's the second, etc.

Order for taking photos of a flagged redd



- 1 A picture of the **flagging** so others can find it (identifying features: distinctive trees, buildings, etc.)
- 2 If possible, a picture of the **flagging with the redd** in the background
- 3 One or more pictures of **the redd**. Try to show as much detail as possible!

Try to capture
photos with minimal glare.
Using the polarized
sunglasses in front of your
camera or phone may help.



ALSO...
**TAKE
A
SELFIE**

Why does the order matter?
I'll tell you! If you see multiple
redds, the pictures' order will
help us know which flag
pictures correspond to which
redd pictures

Safety!



Safety: On the banks

- Traverse blackberries and log jams carefully. They can damage waders as well as body parts.
- Be alert to beaver chews



Safety: Water depth

- Survey from banks whenever possible
- Do not enter water at/above chest
- Use your wading poles
- If it doesn't look safe, don't do it



**KEEP
CALM**

AND

**USE YOUR
BEST JUDGEMENT**

- Sur
- Do
- Us
- If i

Safety: Water and Waders

- Falling in waders can be very dangerous
- Life jacket **under** waders & belt
- If you're flooding:
 - Slip off the shoulder straps
 - Face downstream feet-first
 - Move or swim to the bank
 - If you're dangerously wet (& cold) do not continue

Safety: When to call it off

- Water at chest
- Fast moving water – unstable footing
- Hard & sudden rain
- Cold, wet, ill, or uncomfortable
- Temperatures below 40 F
- Lightning





You've finished your survey!

Great work, thank you for being safe!



AM



PM

Data Entry

- Link on website & via email
- By Monday morning



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VOLUNTEER WITH US

There are many fun ways to get involved!

[Learn More](#)



Volunteer



Science



Restoration



About Us

Events

Work party with Friends of Tideman Johnson

June 3 @ 9:00 am - 12:00 pm

Dragonfly Survey Orientation

June 3 @ 9:30 am - 4:30 pm

Wild Flower Hike on Powell Butte

June 4 @ 9:00 am - 11:00 am



JOHNSON CREEK
WATERSHED COUNCIL

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Upcoming Events

Community Science

Stewardship
Programs

Outreach Task Force

Internships

Board Service

Beaver Surveyors

Dragonfly Surveyors

**Lamprey and
Steelhead Surveyors**

Salmon Surveyors

[Learn More](#)

UPCOMING EVENT

once talks, walking &
watershed

Johnson Creek



Watershed wide Event



Volunteer



Science



Restoration



About Us

Events

Salmon Surveyor Orientation!

October 12 @ 6:00 pm - 8:00 pm

3rd Annual Johnson Creek Science Symposium

October 17 @ 1:00 pm - 5:00 pm

Wildflower Planting on Powell Butte

October 27 @ 9:00 am - 12:00 pm

fish breeding activity. JCWC hopes that these surveys will provide information on the distribution and abundance of these species. This invaluable data may allow us to prioritize restoration projects that aid the recovery of these little known species. Thank you volunteer surveyors for your important work!

Can't find what you're looking for? Email us at info@jcwc.org or call 503-652-7477 ext 107.

Training materials:

[Survey Schedule \(Updated 4/17\)](#)

[Paper Data Form](#)

[FAQs and Checklist](#)

[Volunteer Logistics Powerpoint](#)

[Identification Presentation](#)

[Survey Reach Maps](#)

[Survey Orientation Quiz](#)

[Survey Orientation Quiz with Answers](#)

Data Entry:

[Lamprey-Steelhead Survey Form](#)

(online form; ENTER DATA HERE)

April 7 @ 9:00 am - 12:00 pm

[View All Events](#)

E-Bulletin

Sign up for our E-bulletin:

[Join Now](#)

Donate

Become a Friend of Johnson Creek.
The most important way you can support the work of the Johnson Creek Watershed Council is by becoming a Friend of Johnson Creek
[READ MORE](#)

Translate

Translate to:

Reach: <i>D. Butler Creek</i>	Date: <i>2/8/18</i>	Surveyors: <i>Adrienne Moat, Griffin Hay</i>	Start Time: <i>10am</i>	End Time: <i>11:45</i>
Weather: Sun / Rain / Overcast <i>(Partly cloudy)</i> Snow Water level: Low, dry / Medium <i>(High / Flood)</i> Creek visibility: 1 (Can see bottom of riffles and pools) 2 <i>(Can see bottom of riffles)</i> 3 (Cannot see bottom of riffles and pools)		Field notes: <i>We saw a deer during this reach! Water was fairly clear despite heavy rain preceding the survey. We walked on the banks for most of the time.</i> <i>Create one Data Letter Point for each sighting. Each fish or redd is a single sighting. For example, if you see two lamprey at one redd, that would be three Data Letter Points, and each would have the same GPS coordinates.</i>		

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Salmon Survey Form

2017 Salmon Survey Form

Online form for data entry from the field form used by salmon surveyors

Reach *

Enter the name of the reach surveyed here

Date *

Enter date of survey

Surveyor 1 *

name of surveyor 1

Surveyor 2 *

Start time

Enter the time you began survey

End time

Enter the time you ended your survey

Weather *

- ☐ Sun
- ☐ Rain
- ☐ Overcast
- ☐ Snow
- ☐ Other

What was the weather like during your survey?

Water level *

- ☐ Low, dry
- ☐ Medium
- ☐ High, flood

Choose the description that best defines the level of the creek during your survey

Creek visibility

- ☐ 1
- ☐ 2
- ☐ 3

Choose the description that best identifies visibility in the water

Field Notes

SIGHTING A

Latitude *

Latitude of sighting

Longitude *

Longitude of sighting

REDD or Fish present? *

☐ **Redd**

☐ **Fish**

Did you find a Redd, or a fish?

Live fish or carcass? *

☐ **Live**

☐ **Carcass**

If you found a fish, was it alive or did you find a carcass?

Coho, Chinook, or unknown? *

- ☐ Coho
- ☐ Chinook
- ☐ Unknown

Did you find a coho, a chinook or is the fish species unknown?

Wild, hatchery or unknown? *

- ☐ Wild
- ☐ Hatchery
- ☐ Unknown

Was the fish a wild fish, hatchery fish, or unknown?

Location description

Intersection, identifying features, notes? If you saw a live fish, what was it doing? etc

Returning Gear

- Your clipboard!
- Wet waders hang up; dry waders back in bins
- Life vests fit in the boxes, we promise!



Lamprey & Steelhead Surveyors! Equipment Check-Out, Check-In Sheet

[illegible]

$$\sqrt{1+\sinh^2 x}$$

$$\sinh(-x) = -\sinh x; \cosh(-x) = \cosh x$$

$$\tanh(-x) = -\tanh x$$

$$\operatorname{cosech}(-x) = -\operatorname{cosech} x$$

$$\operatorname{cth}(-x) = -\operatorname{cth} x$$

$$\int \frac{1}{\sinh x} dx = \log \left| \tanh \frac{x}{2} \right| + C$$

$$\int \frac{1}{x} dx = \log |x| + C$$

$$\int \cos x dx = \sin x + C$$

$$\int (1 + \tanh^2 x) dx = \int \frac{1}{\cosh^2 x} dx = \tanh x + C$$

$$\sqrt{1 - \tanh^2 x}$$

$$-\sqrt{1 + \cosh^2 x}$$

$$\csc \operatorname{sech} x$$

$$\operatorname{arcsh} x$$

$$o(x)^n = \sinh 2x = 2 \sinh x \cosh x$$

$$+ \frac{1}{16} x^3 + o(x^3)$$

$$\sqrt{1 - \tanh^2 x}$$

What if?

$$f(x) = f(x)$$

$$x^2 - y^2 = a^2$$



$$\operatorname{sh} r = \frac{y}{a}; \operatorname{ch} r = \frac{x}{a}; \operatorname{th} r = \frac{y}{x}$$



what if?



A photograph of a stream with a wooden sculpture of the words "What if?" in the background. The sculpture is made of reddish-brown wood and is placed on a grassy bank. The stream is in the foreground, and there are trees and foliage in the background. A semi-transparent white box with a grid pattern is overlaid on the right side of the image, containing the text "I need to cancel!".


I need to
cancel!

- We're counting on you!
- If something comes up, contact your substitute, **then** update Alexis



My partner
isn't here

- Do not survey in the water by yourself!
- Call your substitute
- If they do not respond, send Alexis an email and she will ensure you can survey again

A photograph of a stream bed with a wooden sign that reads "What if?". The sign is made of several wooden planks and is placed in the middle of the stream. The water is flowing over the sign, and the surrounding area is lush with green vegetation. The sign is tilted slightly to the right.

Someone's
asking me
what I'm doing

- Take a moment to help do some valuable community outreach!
- Explain that you're a volunteer with JCWC & ODFW, looking for spawning lamprey & steelhead.
- Direct them to JCWC
 - You can hand out Alexis' business card
 - We want to hear reports on conditions and fish sightings from residents!



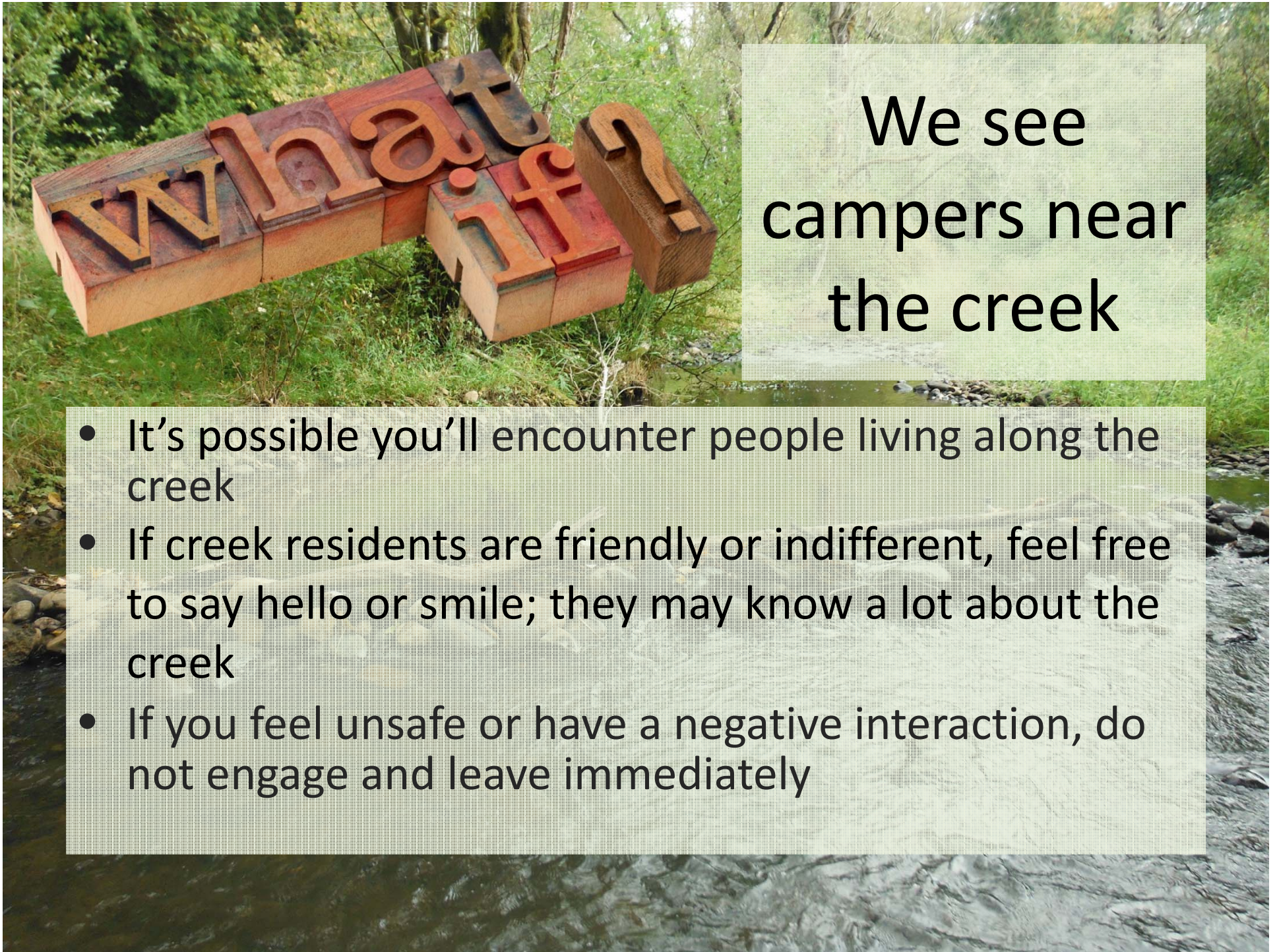
There's an
injury during
our survey

- If the person is responsive and able to communicate, they decide their own course of treatment
- If a person is unconscious, call 911
- When you are able, notify Alexis

A wooden sign made of several pieces of wood, spelling out 'Wild at Heart' in a stylized, carved font. The sign is placed in a creek bed, surrounded by green grass and trees. The water is flowing over rocks in the foreground.

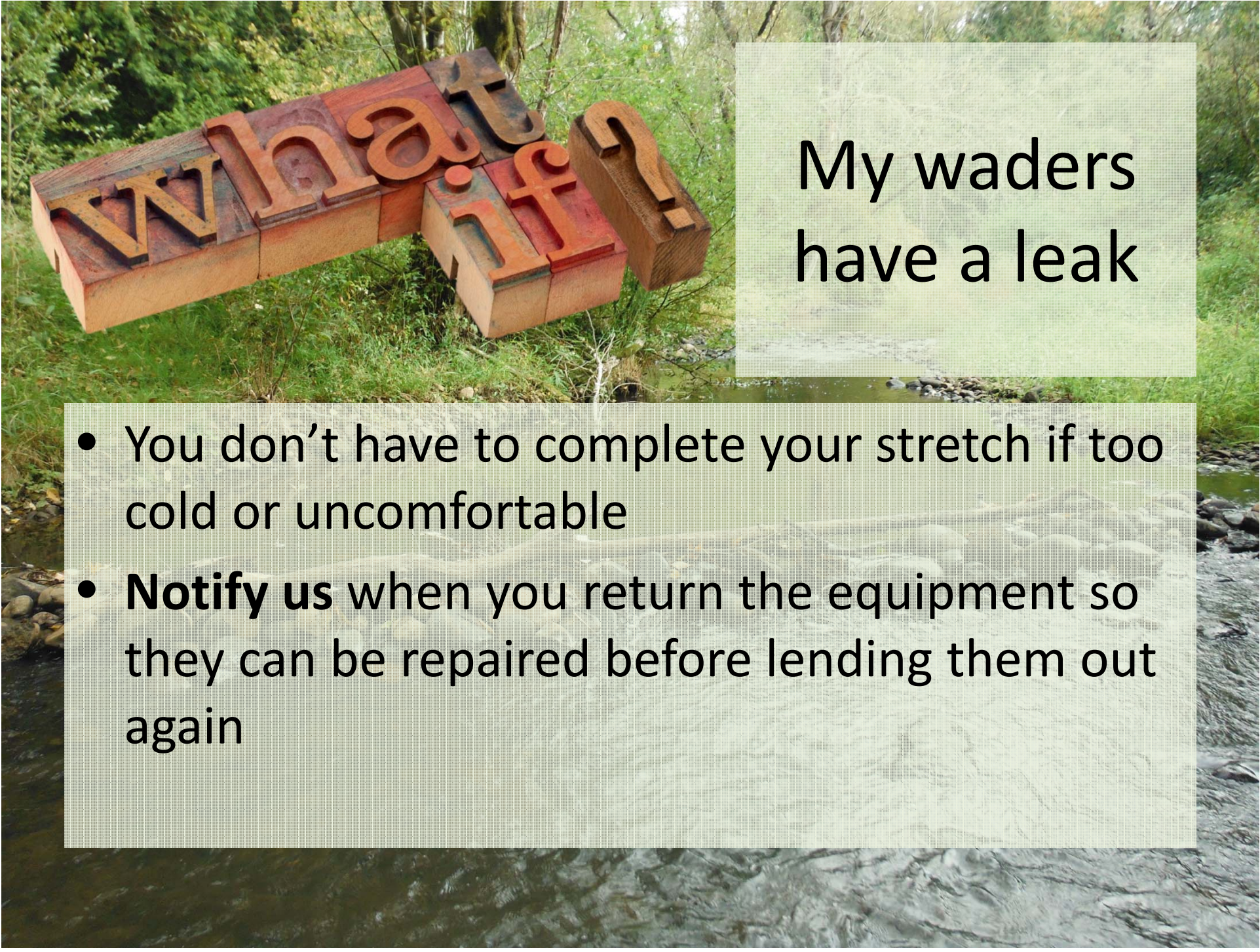
We meet an upset landowner

- Reaches of the creek are owned by adjacent landowners
- Landowners have been notified
- If you encounter someone who accuses you of trespassing, simply apologize, tell them to contact JCWC, and leave



We see
campers near
the creek

- It's possible you'll encounter people living along the creek
- If creek residents are friendly or indifferent, feel free to say hello or smile; they may know a lot about the creek
- If you feel unsafe or have a negative interaction, do not engage and leave immediately



My waders
have a leak

- You don't have to complete your stretch if too cold or uncomfortable
- **Notify us** when you return the equipment so they can be repaired before lending them out again



We find a carcass?

- Take a photo!
- Carefully put it into two plastic bags
- Carry to vehicle
- Purchase a bag of ice, & keep the receipt
- Take the carcass to JCWC, & place in the cooler with ice.





Stay connected & tuned in

- Stay connected:
 - Happy Hour
 - Data updates & photos
- Stay tuned:
 - New person!
 - 20th Annual Watershed Wide Event

jcwc.org/20th-wwe



Are we really ending this early?!

- No 😊
 - There's one last thing...
- Make sure you've...
 - Signed the waiver
 - Signed up for survey dates (fill in any blanks!)
- Take copies of handouts
 - FAQ's & Checklist
 - Lamprey & Steelhead Quiz
 - We can print more right now

Before you go...

- Mock survey!
 - The hallway has become the creek!
 - No waders needed to practice recording different types of data in small groups
 - Clipboards, data sheets, and fake flagging.
 - Answer key at the end of the hall near office entrance!
- Lend a helping hand
 - Chairs, dishes, etc.