

## Safety Requirements and Emergency Procedures

### Safety Requirements

- **ALWAYS** survey with a partner. If team members disagree about what to do, go with the more “conservative” course of action.
- Surveying is not worth risking life or limb over.
- **ALWAYS THINK!** Using your brain is the best way to stay safe. If an activity seems “wrong,” your brain is telling you: “Don’t do it.”
- **ALWAYS** wear your safety visibility vests.
- **Do NOT** survey when water is flowing fast and deep – if you can’t see into the water, it is probably too fast/deep for you to survey safely (and you wouldn’t see fish anyway).
- **Do NOT** survey during windy conditions because of falling tree branches.
- Be aware of and avoid hazards:
  - Slipping on vegetation and wet rocks
  - Falls on slopes/streambanks
  - Unstable footing as logs or rocks roll
  - Poke in the eye from branches
  - Scrapes from branches
  - Stinging nettles
  - Cuts from knife/gutting tool
  - Hypothermia from getting wet and cold
  - Bee stings – especially if allergic
- **Stop surveying if anyone is hurt, wet or too cold**

### Other good ideas:

- Carry a cell phone in a Ziploc or watertight bag.
- Keep your keys & other valuables in a zipped pocket so they don’t fall out.
- Contact your sampling partner and make arrangements on the time and place you will meet.
- Each team should decide on a lead. The lead is responsible for bringing the common equipment unless other arrangements are made.
- Take a CPR and/or Wilderness First Aid course

### Emergency Procedures

- **In case of emergency, call 911**
- **Know how to get to the nearest Emergency Room:**  
**Highline Medical Center**, (206) 431-5314  
16251 Sylvester Rd SW, Burien, WA 98166

## How To Survey

### 1. Equipment

- Use new or sanitized equipment for wading to prevent introducing invasive species.
- ALWAYS wear your visibility vests.
- Wear clothes that are warm when wet – fleece, wool, polypropylene, polyester, nylon. Cotton can cause hypothermia if it gets wet.
- Dress for the weather.
- Keep pockets zipped to reduce the likelihood of snagging clothing on branches.
- Wear hip waders or chest waders.
- Wear safety glasses if desired to minimize the risk of getting poked in the eye by branches. Polarized sunglasses will be useful on lighter days to see fish.
- Keep a set of dry clothing in the car so you can change if you get wet.

Program-provided equipment/supplies (return remaining at end of season):

- Data sheets – on rite-in-rain paper – at CSI bucket or website – download and print as needed
- Data collection instructions
- Site maps
- Fish ID cards
- Safety visibility vests
- Zip lock bags for fish heads
- Flagging for marking redds
- Folding knife
- “Zak knife” gutting tool
- Tape measure
- “Grippy gloves” for handling fish
- Nitrile gloves (12) for handling fish
- Permanent marker
- Pencil

Additional equipment/supplies that volunteers are responsible for:

- Shoulder bag, fishing vest, or backpack for equipment
- Clipboard or folder for papers/writing (if desired)
- Extra pencils (rite-in-rain paper is designed for use with pencils)
- Paper towels for cleanup
- Garbage bags (to carry out trash)
- Waders/boots
- Walking stick/pole
- Weather-appropriate clothing (rain gear, hat, fleece/wool/poly layers, etc.)
- Gloves to protect and keep your hands warm while surveying
- Cell phone

### 2. How to walk the streams

**Important!**

- Use dedicated boots for these creeks, or follow disinfecting methods for boots prior to and after leaving the creek to avoid transporting invasive “hitchhikers” like tiny New Zealand mudsnails or invisible fungi. See

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[Invasive Animal Species in King County: New Zealand Mudsnails](http://www.kingcounty.gov/environment/animalsAndPlants/biodiversity/threats/Invasives/Mudsnails.aspx) at

<http://www.kingcounty.gov/environment/animalsAndPlants/biodiversity/threats/Invasives/Mudsnails.aspx>

- **Stay out of the stream as much as possible while still keeping both banks in view.** This will reduce the likelihood of spooking the fish or stepping on redds, and you can see into the water better from up above.
- **Walk lightly** – only walk in the channel when necessary. Do not drag your feet – insects live in the gravel! Try not to trample plants.
- Walk downstream to upstream (reasons: fish flushed will pass by you as they flee downstream when spooked, and you can see better when the sediment you stir up is floating behind you).
- Team members should survey between 10 and 15 feet apart. This will maximize the chances that a fish spooked by the upstream surveyor will be seen by the downstream surveyor.
- Move slowly to avoid spooking the fish, especially the coho, and to reduce risk to yourself.
- Use your walking stick to investigate whether fish are holding under overhanging banks or deeper pools (obviously, doing so will flush the fish but will maximize accuracy).
- Take care in placing your feet to reduce risk of trips and falls. Keep in mind wet stones will be slippery.
- **Use your walking stick/pole for stability.**
- **Assume you will get soaked at some point so protect electronics and valuables in Ziploc or waterproof bags.**
- There is not a lot of garbage in these streams but if you can easily remove what you find, thank you!
- You are not the “salmon police.” It is not your job to correct any “bad behavior” you observe by others. Notify Elissa Ostergaard of any perceived problems so she can follow up as necessary.
- Please share your experiences with those you meet in the field. Remember to tell them that the web site will provide more information so they can follow along as the data are collected during the season.

### 3. Where to Survey & Property Access

- **POST YOUR “CSI: Highline” PLACARD ON THE DASH SO NEIGHBORS KNOW THAT THEY SHOULD NOT CALL IN A COMPLAINT AND POLICE WILL KNOW WHY YOU ARE PARKED AT A LOCATION.**
- **ALWAYS respect private property boundaries.** If in doubt about whether you are on property participating in the CSI program, return to public or known private property partners.
- Follow the guidelines for access each of the survey locations. The private and public owners have graciously given us permission to access their property. Respectful use maximizes the likelihood that we will be granted permission for access in future years.

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- “Right bank” and “left bank” refer to direction with facing downstream. On Miller and Walker Creeks, the right bank is almost always on the north side of the stream and the left bank is almost always on the south side.
- Acronyms we will use throughout the program:
  - RB = right bank
  - LB = left bank
  - US = upstream
  - DS = downstream

**IMPORTANT POINT: Always visit the survey locations in the order shown below unless safety or logistical reasons require otherwise.**

### Survey Area 1: Lower Miller Creek

This survey location is on three properties: Longridge (house is for sale), the Normandy Park Community Club (“the Cove”), and Adams.

**Before surveying, call the owners upstream of the Cove property (Clint and Catherine Adams) (17529 13TH AVE SW) behind the Swim Club to let them know you will be walking through soon. They have big dogs, which they will bring inside. Phone: h-206-588-1776; c-206-818-6793**

Important!

Survey the following locations:

- Survey from the LB at the mouth between the two foot bridges (the upstream bridge is owned by the Cove; the downstream bridge is owned by the landowner on the RB). Fish pool here during high tides. You may or may not be able to see fish given water depth and overhanging banks. Do not enter the stream because it is too deep.
- If conditions seem safe, you may be able to enter the creek at the lower confluence of Miller and Walker, and walk up Miller Creek to the third footbridge.
- If not, go around and walk in Miller Creek from the third footbridge from the mouth (the second Cove-owned footbridge, located in the forest) upstream to the fifth footbridge (the fourth bridge owned by the Cove) from the mouth.
- At the fifth footbridge, proceed on the short boardwalk and trail on the left bank 50 feet farther upstream to a large gravel bar. Survey *downstream* to the top of the jam located just upstream from bridge #5.
  - Finally, proceed upstream from the gravel bar to the road, turn right onto the side of the road, and walk back to the Cove.

### Survey Area 2: Lower Walker Creek

This survey location is on two properties, Normandy Park Community Club (“the Cove”) and the Normandy Park Swim Club.

At the Cove, survey the following locations:

- South branch: Survey from the RB from the footbridge over the weir (toward the beach parking lot) at the downstream end of the “beaver pond” upstream to the culvert. Adults swimming in the beaver pond will occasionally break the surface but will be harder to see than in the stream. You may wish to observe for several minutes. Also look downstream (north, parallel to the beach) from the bridge over the weir.
- North branch: Survey from either bank from confluence with Miller to upstream split (culvert to south branch).

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- Walker mainstem: Survey from the LB upstream from split to thick bushes behind tennis courts. You will only be able to peer into the stream at certain locations.

The Normandy Park Swim Club is fenced. There is a combination padlock on the gate to the northeast of the building (Elissa Ostergaard has provided the combination to team leads; the combination may be changed periodically during the survey period). **The Swim Club will serve as the location for distributing materials –look for an orange bucket on the north side of the building next to the roll up door.** Survey the following locations:

- Survey from the LB moving upstream from west to east fences. You will hopefully be able to view both banks without entering the stream. Please avoid trampling the native plants planted by the Swim Club in 2009 to improve riparian habitat. Look for redds in the gravel at the upstream end. **WHEN LEAVING, BE SURE TO LOCK THE PADLOCK ON THE GATE BY CLOSING IT, THEN TURNING THE COMBINATION WHEELS.**
- Check the stream between the east fence and the culverts under 13<sup>th</sup> Ave. S.W. Both coho and chum like to congregate in the pool below the culverts. The twin northern culverts carry Walker Creek under the road. The single southern culvert carries Sequoia Creek, the major tributary to Walker Creek.

### Survey Area 3: Upper Walker Creek

This survey is on four properties: Henry, Beffa, Backstrom, and Gabrielson. Eastbrook is a private road owned by Dubois and Klein.

Park at the Swim Club and walk up Eastbrook Road S.W. (between Miller and Walker Creeks) to just before 1100 Eastbrook Road, located on the north (left) side of the road. Walker Creek is to the south of the road (right side). Before (west of) and across from the driveway, make your way down to the stream where flagging is tied to a tree. Proceed upstream approximately 300 feet on either bank. **Watch for redds in this survey area!** Exit to Eastbrook at the upper end – a rope tied to a tree will help you up the steep bank.

### Survey Area 4: Upper Miller Creek

This survey location is on two properties, the Southwest Suburban Sewer District, Miller Creek plant, and Brett Fish's property.

The Southwest Suburban Sewer District is located at 1015 S.W. 174<sup>th</sup> St. and has a second entrance off 8<sup>th</sup> Ave. S.W. from Sylvester Road. The site contact is operations supervisor Tim Berge, [timb@swssd.com](mailto:timb@swssd.com), office 206-432-3518, cell 206-786-9572. Note the following:

- **Monday – Friday teams:** Park on site at office (by flagpole). Weekday gate hours: 6:00 a.m. – 4:30 p.m. These are also the hours we are allowed on the property. Don't get caught inside the gate – leave by 4:00 p.m. or park beyond BOTH fences/gates on the 8<sup>th</sup> Ave. S.W. access. **BE SURE TO PUT YOUR “CSI: Highline” PLACARD on the dash.**
- **Saturday – Sunday teams:** The office is open only 6:30-8:30 am, so don't park inside. Park at the end of 8<sup>th</sup> Ave. in front of the *wooden* gates next to the metal gate, or at Brett Fish's property if the gate is open. **BE SURE TO DISPLAY YOUR “CSI: Highline” PLACARD SO THE NEIGHBORS KNOW THAT THEY SHOULD NOT CALL IN A COMPLAINT.** Don't block the metal gate in case there is traffic on the weekend. Walk down the road to Brett's driveway and walk down to the creek from there. **The path from Brett's driveway to the stream can be slippery!** The giant culvert is your access to SWSSD downstream when the fence to the District property is closed.

Survey the following location:

- Walk downstream along paved walkway between plant equipment and the stream to the DS fence. Proceed upstream on the bank and then eventually the stream. If conditions allow, walk in the stream up through the “fish ladder” structure to make sure you see any fish holding. Team members should stay 15-20 feet apart so the downstream person has a chance to see any fish flushed. If you do not walk in the stream, one person should walk on either bank upstream from the bridge to the upper end of the “fish ladder” before returning to the stream. If you need to walk on the ivy to better view the stream, that’s fine. Proceed through the enormous culvert. Pass under the fence marking the US boundary of the Sewer District with Brett Fish’s property. Continuing on the RB and in the stream, proceed US to the large, old fir log that has fallen across the stream, making passage difficult. Do not proceed farther. (Note, the next property US is owned by the City of Normandy Park so there are no trespassing concerns.)

#### 4. Identifying and marking redds

Salmon redds are egg nests in the gravel in the flowing part of the stream. The gravels look lighter than the surrounding area from being exposed when the female digs in the gravel. They usually are oval with the longer orientation pointed upstream/downstream. Redds may be three to six feet long. There is often a noticeable pit at the upstream end of the redd. Over time, the redd will become less obvious as algae grows on the rocks or sediment covers them, but the eggs will still be buried in the gravel and the redd should be avoided.



Important!

To avoid stepping on redds during the survey season, you should mark redds when you see or suspect their presence. Flag any new redds with flagging tape. **Write “REDD the DATE and SPECIES” (if you know) clearly on the flagging tape and tie it on a branch above the redd so that surveyors will not walk on the redd during future surveys.** If there is no convenient branch overhead, find a large rock to tie flagging to and drop it in the pit of the red at the upstream end, not on the mound.

Redd flagging will be removed at the end of the season.

#### 5. Recording data

See “Survey Plan for Coho Prespawn Mortality in Miller and Walker Creeks.” Record all field observations on a field form – even messy forms are great.

#### 6. Submitting data

Following each survey, the data lead enters the data into the web form online: <https://green2.kingcounty.gov/SalmonCSI>



New!

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To set up your account, give Elissa a username and password with 8 digits minimum, at least one uppercase and one lowercase letter, and a number or symbol. Acceptable symbols: ! @ # \$ % ^ & \* ? + = -

If you already have an account, you can reset your own password, as long as you have a current email in the system.

KEEP ALL HARD COPIES of data sheets with field notes (no matter how messy) and give all to Elissa (206-477-4792) at the end of the season.

These are very valuable for answering questions that come up later.

E-mail: [elissa.ostergaard@kingcounty.gov](mailto:elissa.ostergaard@kingcounty.gov)

Fax: 206-296-0192 (write “Elissa Ostergaard” in large letters on the edge of the page)

Mail: Elissa Ostergaard; King County WLRD; 201 S. Jackson St., #600; Seattle, WA 98104-3855

## Teams and Scheduling

1. Preliminary teams and day assignments –everyone should already know their day assignment. Surveys start Thursday, October 8, 2015, and go until 10 days after the last live adult fish is seen.
2. How to request “backups”  
Each team has primary responsibility for being fully staffed. When you know that one or the other of you will be unavailable to survey for a given day, contact back-ups listed on the CSI roster. If you cannot find a replacement, contact Elissa Ostergaard ([elissa.ostergaard@kingcounty.gov](mailto:elissa.ostergaard@kingcounty.gov)), who is the ultimate backup!
3. Liability waivers  
Everyone must sign and turn in a waiver before they can survey. This includes guests! The waiver is posted at the web site, and extras will be in the orange bucket at the Swim Club.