

# 2007 Redd Count Protocols

Failure to comply is not an option

As in years past, we will be conducting multiple-pass redd count and carcass collection surveys. In addition, we will be collecting DNA and aging data for Tim Copeland. We will be collecting and recording several data types and it is critical that care is taken to ensure consistent and accurate data collection. We will also be conducting the annual IDFG index trend redd counts which are a subset of the ISS redd counts. The trend counts are single pass surveys conducted on the same date each year. It is important that when doing the trend reach counts, that no data from outside the reach is included. For example, if you survey more than just the trend reach, make sure to put data from outside the reach on a separate survey data sheet.

The following items are required for spawning ground surveys:

Polarized sunglasses – if you do not have a pair we can provide them for you.

Sunscreen, Mosquito repellent, tape measure, scissors, knife, pencil, sharpie marker, flagging, data sheets, sample packets, snout bags, GPS unit, extra AA batteries, PIT-Tag scanner, extra AAA batteries, CWT Wand (or take all snouts), an extra 9V battery, and a positive attitude. If you are surveying in the Colt Killed or Crooked Fork drainage you are required to carry bear mace.

## General Redd Count Information

1. Flag all redds observed. Include redd number, date, fish present, and location of redd (mid-channel, bank right, etc.) For the redd number, use your first and last initial followed by the redd number (e.g. BB1). Everybody starts at number 1 and each person must keep track of what number they are on from day to day. For example, on Aug 5, I walked from point A to B and counted 5 redds. I would number them BB1-BB5. The next day I walked on a different stream in the same drainage and counted 5 redds. I would number them BB6-BB10. For example, if you count redds at Marsh creek and the next day count redds at Cape Horn creek you would continue your numbering system. However, if you count redds at Marsh creek and then go to Pahsimeroi you would use a new numbering system at Pahsimeroi because it is a different drainage. If there is more than one redd in the same location, write it on the flagging. An example would be if you walked up on a site that had two redds and some live fish present. Write it as: *2-redds; BB5 right bank & BB6 mid channel, 1-2oc wild female, 2-2oc hatchery males*. Be certain to record all of this information in your redd count book

2. For each section you walk, put the redd numbers you counted for that section on the “Redd” column of the redd count page in the data book. **Also record redd numbers from redds that had been flagged previously that year but put an asterisk (\*) next to it and include a note in the NOTE section at the bottom of the page.** When you reach the end of a transect, make sure to start a new data sheet. All of the transects have been defined and you will be given a list of their upper and lower boundaries. It is critical to start a new data sheet and page# when you come to weirs and screw traps.

3. Take a waypoint for every NEW redd and carcass you find. Do not take waypoints on previous redds. Take the few seconds to key in the redd number (initials and number) as the waypoint name. Record the associated waypoint in the waypoint column next to the Redd Column of your data sheet. When you are done with your survey download the waypoints from the GPS unit to the 2007 Redd Count Master Waypoint List (see instructions below). For all surveys after the 1<sup>st</sup> pass, upload the waypoints from the previous surveys from the laptop to your GPS unit. Take a PHOTOCOPY of the previous surveys with you or write down what previous redds are in the transect so that you know what previous redds you should find. Do not take the original survey data sheets with you because you may end up losing them. When you come across a redd that does not have a flag use the “navigate to closest” function on your GPS unit to ensure that the redd is new and not a previous redd that is missing a flag. If you determine it is a previous redd then flag it again with the original redd number and note that it was flagged again with the date and by whom. If it is a new redd then proceed as usual.

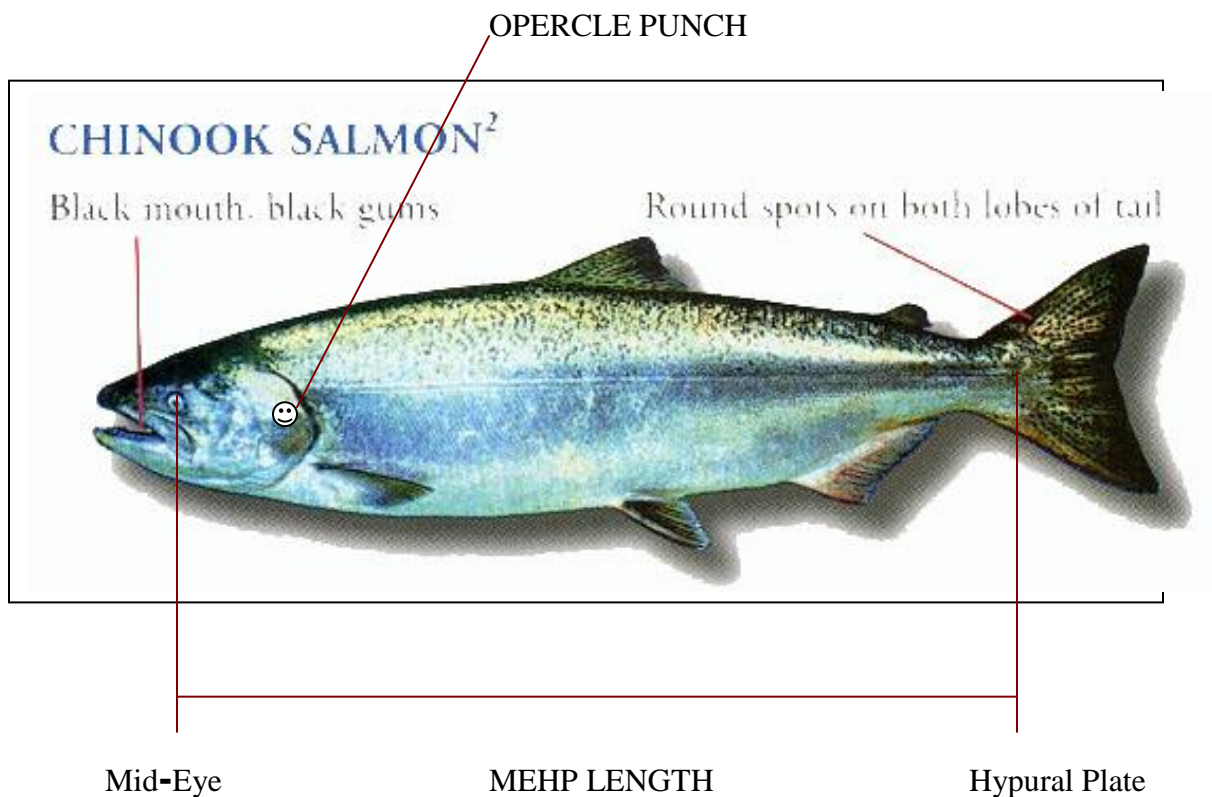
## General Carcass Information

Carcass recoveries are an integral part of ISS production evaluation and it is very important to count and sample as many carcasses as possible. You will be walking and looking for carcasses between redd count surveys. It is best to schedule your carcass recovery surveys based on the observation of carcasses and completed redds while you are conducting redd counts. It is important to be collecting carcass data at the time fish are dying because predators will quickly remove carcasses from the stream and DNA degrades quickly after death. You can plan on walking either a redd count or a carcass recovery on a stream every day during the spawning season.

## Carcass Samples and Data

1. Look for an opercle punch.
2. Take a Waypoint on EVERY carcass that you work up and record it on the carcass data page.
3. Look for an opercle punch.
4. Record Fork Length and MEHP Length.
5. Look for an opercle punch.
6. **Carefully examine the fish for marks, opercle punches, fin clips (AD, LV, RV) and tags and record all marks and clips in your redd count book. It is imperative to record whether or NOT (“NO OP”) there is an opercle punch so that we may estimate how many fish escaped above the weir before it was installed. Do not leave it blank if the fish doesn’t have an operculum punch, write “No OP” on the data sheet.**
7. Look for an opercle punch.
8. On natural fish only (with adipose fin, no CWT) take a dorsal fin for aging and DNA sample (fin clip) for Tim Copeland’s sample packets. Record the sample packet number on the data sheet (“sample #”).

9. Look for an opercle punch.
10. Scan the carcass for a Coded Wire Tag. If the carcass has a CWT then cut off the snout at the eye sockets and place in the snout bags provided. Record the snout bag number on the carcass data sheet. Fill out the data slip with a sharpie marker and place it inside the corresponding snout bag. Update the electronic *Snout Recovery Form* on the laptop. If the carcass does not have a CWT then don't take the snout. If you don't have a scanner and can't scan the carcass then take the snout.
11. Look for an opercle punch.
12. Use your hand-held PIT-tag scanner to scan the carcass for a PIT-tag. If you detect a PIT-tag then record the PIT-tag code in the comments section of the carcass data page. Look for an opercle punch.
13. If you have comments that do not fit in the Comments field of the carcass data page, then make a reference number in the comment sections and write the note on blank rite-in-rain pages included.
14. Look for an opercle punch.
15. Cut open the belly of the carcass and inspect the gonads to verify sex and percent spawned.
16. When done taking samples from the carcass, cut the tail off and return carcass to the stream.
17. If you forgot to look for an operculum punch then retrieve the carcass and look for an opercle punch.
18. If you get to your next carcass and realize you forgot to look for an opercle punch on the previous carcass then go back to the previous carcass and look for an opercle punch.



## GPS Waypoints

We will be recording GPS waypoints for new redds and carcasses each time we survey a section. Record the GPS waypoint number in the “WPT” column of the Redd Count page in the data book for redds and in the WPT column of the carcass page for carcasses. At the end of each count download the GPS waypoints onto the *2007 Redd count Master Waypoint List.xls* on your laptop.

### Downloading data from a GPS unit to an Excel spreadsheet.

Before starting your first download, create a directory on your laptop computer named *C:\2007ReddCounts*. Copy the file: *2007 Redd count Master Waypoint List.xls* from the disc provided, to the *C:\2007ReddCounts* directory on your laptop. You may also need to install the GPS transfer program to your laptop if it is not already loaded (this program is also on the disc provided to you).

- a. Power up the GPS unit. Connect the serial cable to your laptop and GPS Unit. Open the GPS Transfer program and go to FILE menu. Select Configuration and verify that Degree Display Mode is set to UTM and Select GPS is set to Garmin. Click on OK.
- b. Go to the FILE menu and select Datum and set to NAD27 conus (double click) Select Save Configuration under FILE menu.
- c. Go to the WAYPOINT menu and select Download from GPS. To view the waypoint data, select List from the WAYPOINT menu.
- d. Go to FILE menu and save to *C:\2007ReddCounts* directory as a *CSV (comma separated value) list* You have to actually type the extension on the file name. The naming convention should be as follows:
  1. For Crooked Fork: If you are downloading data from three sections you did (CF1 through CF3, using the page numbers from your data sheets) on August 16<sup>th</sup>, then the file name should be: 8\_16\_CF1\_CF3.csv.
  2. For Pahsimeroi: use the acronym PR, otherwise use the same naming convention.
  3. For Marsh Creek use the acronym MC, otherwise use the same naming convention.
- e. Open this csv list in Excel (bring up excel and choose the file to open). Delete all reference waypoints (locations) that were not recorded during the specific spawning survey you are downloading and then save it as an Excel file with the same name (8\_16\_CF1\_CF3.xls). Copy the contents from the excel file (excluding the column header row), and paste it into the first blank row of the *2005 Redd count Master Waypoint List* Excel file. It is important to note that the master Excel file has 7 additional columns (A through G) not present in the GPS download file. So, make sure when you paste in the new data that the columns match up with the columns in the Master Waypoint List file (paste the data into the Column which is labeled “Type”).
- f. Next you will need to fill in data for the columns A through G. Note: not all data types (carc and redd) use all ten fields.

1. **Stream** - stream data was collected on (Crooked Fork Creek or Brushy Fork Creek, etc)
  2. **Date** - date the data was collected
  3. **Page Number** - survey number (eg. CF1)
  4. **Loc Types**:
    - a. Redd- a completed redd
    - b. Carc- carcass
  5. **Sample #** - from the sample packet
  6. **Snout #** - from the snout bag
  7. **Redd #** - the number you assigned the redd (e.g. BB14)
- g. When you are done entering the data into the *2005 Redd Count Master waypoint List*, make sure to save the file and back up all three (daily csv, daily xls, and master xls) files to the thumb drive. Do not delete the csv files as you will need them later to upload waypoints to your GPS unit.

Once you have successfully downloaded the GPS data, you may delete all stored waypoints from the unit. Because you have just delegated ALL waypoints, you will need to re-upload the location waypoints (see instructions below). Now the next time you go out to do a survey your GPS unit will be empty of data (except for locations)

## Uploading Location Waypoints to GPS unit

1. Power up the GPS
2. Connect the serial cable to you laptop and GPS Unit
3. Open the GPS Transfer program
4. Go to the FILE menu and select OPEN.
5. Open the *REDD COUNT LOCATION WPTS.csv* file. If you wish to view the waypoints, select List under the WAYPOINT menu
6. Select Upload Waypoints to GPS under the WAYPOINT menu. The waypoints should now be visible on the GPS unit.
7. Use the same procedure to upload redd waypoints from previous surveys. Select the .csv files that were created from the previous survey downloads. You will not be able to upload from excel files or from the Master waypoint list.

*Note: When taking waypoints, always use the NAD27 CONUS datum and UTM units.*

## Entering Data

It is not critical to enter data into the ISS Spawn Database (redd counts) until the end of the redd count season. You will have plenty of time then to enter the data. However, it is important that you download waypoints and fill in the Master Waypoint lists daily. Most of the data to be filled in can be copied and pasted so it should not take more than 15 minutes. The Snout Collection Form is to be kept up daily as well.