Editing Data: (we performed this section on test server at the workshop, please do not add test records to the live website)

~~1) Add a new Fish (Tip: use a tag that is not in the database, your name with NewTag at the end of it should work, ex. AmyNewTag)~~

~~2) Add several different Encounter types to your new Fish. Indicate you added a new tag. Indicate you transferred a fish. See how the attributes change.~~

~~3) Check out your Fish and review its Encounter history.~~

~~4) Add a new Encounter to an existing Fish, 3DD003BC3BEEA~~

Practicing Filters:

5) Copy in a list of tags *(file Filters_Num5_TagLists.xlsx, TagList2)*

a. How many times have these 50 fish been encountered?
b. What is the species composition?
c. In which rivers were they encountered?
d. How many fish were detected?
    i. How many detections per fish?
e. How many captures are there?
f. What is the most recent capture date?
g. What is the oldest stocking date?

6) Find out who is managing the lot associated with these tags:

3DD003BA1B7E2
3D9257C66D766
3D60015453ED0
3D91C2DE18DD7
3DD003BC17CD9

a. Which lot has the oldest ship date?
b. Which lot was purchased for bonytail stock?
    i. Who has permission to edit the lot data for the record identified in (b)?

7) How many times has the fish associated with tag 3843B2398388F been encountered?
    a. How has it been encountered?
    b. What was its most recent encounter?

8) How many encounters are associated with the FWS-GJ office?
    a. How are the records sorted by default in the list?
    b. How many encounters are associated with all FWS offices?
        i. What is the oldest capture?
        ii. Which Field Office captured it?

9) How many encounters are associated with the Hogback Weir Test Study?

a. How many of these are razorback suckers?
b. Investigate tag 3D91C2C65D22A
    i. Where did the larvae originate?
    ii. Where was the fish reared?
    iii. Which agency stocked the fish?
c. Who is the PI on this project?

10) How many encounters are captures by UDWR in the San Juan River basin?
    a. How many of these are Endangered fish?

11) Filter on fish that have been transferred.
    a. Where were these fish found?
    b. Where were they transferred to?
    c. Who would you talk to if you had questions about these transfers?

12) How many confirmed mortalities are from fish that have been stocked?
    a. For tag 3DD003BC2818A, when was it confirmed dead?
    b. What hatchery was it from?
    c. Where was it stocked (river and river mile)?
    d. Where was it found dead (river and river mile)?
    e. Which agency reported it dead?

13) How many encounters were documented through 2013?
    a. How many of these were detections?
    b. How many detections encounters are recorded in 2013?
    c. How many detections encounters are recorded after 2013?

14) How many Colorado pikeminnow have been captured between RM 0-35 on the Green River?
    a. What is the most recent capture date?
        i. Investigate tag 3843B23990906
            1. What study was this specific capture associated with?
            2. What person is associated with this Study?
            3. How many times has this fish been captured?

15) How many detections were made by the White River – Bonanza Bridge PIA between 2012 and 2014?
    a. The first tag in the list is an unidentified species. Why might that be?
    b. If you want to investigate this tag further, who would you contact?

16) How many bonytail chub from the 2005 year class have since been captured?
    a. What is the most recent capture date?
        i. What was the length and weight of this individual?
        ii. Which hatchery stocked it?
        iii. Where did they stock it?

iv. Which agency captured it?
v. Open the source file associated with the capture and find the raw data (tip: be sure to check all tabs in the xlsx)

17) Investigate the history of tag 447F307025.
    a. Enter this tag in both the Browse Encounters and Browse Fish page. Why are the number of records reported on each page different?
    b. What is significant about this fish?

18) How many encounters are documented in the Cataract Canyon critical habitat?
    a. How many of these encounters are bonytail?
    b. How many of these are humpback chub?

19) Investigate SNARCC.
    a. Filter on SNARCC on the Browse Fish page. How many fish have a SNARCC origin?
    b. Filter on SNARCC on the Browse Encounters page and document the number of encounters stocked by SNARCC.
    c. Why are these numbers different?

20) Who has permission to edit records associated with the Aspinall Monitoring Study?

21) How many studies are associated with the larval fish lab?

22) How many arrays are associated with the Green River Canal PIA?
    a. How many antennas are associated with each array?
    b. How current are the antenna data for this PIA in STReaMS?
    c. What is the purpose of this PIA?

Applications:

This section requires some MS Excel wizardry.

Tips:

-Be sure to set the Tag field as a Text field when you open your delimited text file in Excel. Otherwise some of the tag codes with the letter “E” will get translated to scientific numbers.

-To get a list of unique codes, copy the codes into a new worksheet. Click on the Data tab, highlight your column of tags and click Remove Duplicates.

-If your results are more than 700 tags, you will need to identify matching codes in Excel. STReaMS can only handle about 700 tag codes at a time. You can use this function to find matches in two tag lists:

```
=IF(ISERROR(MATCH(A2,$B:$B,0)),"",A2)
```

*Example A: Which Colorado Pikeminnow have been **captured** in the Gunnison River and the San Juan River? (file ExampleA_CPM_Captured_Gunnison.xlsx)*

*Example B. Which Colorado Pikeminnow have been **encountered** in the Gunnison River and the San Juan River? (file ExampleB_CPM_Encountered_GR_SJ.xlsx)*

Movement:

23) Which Colorado Pikeminnow have been encountered in the Colorado River mainstem and the Green River Basin at some time in their lives? *(file Movement_Num23_CPM.xlsx)*
Feed these tags back into STReaMS and review the encounter histories of these fish.

24) Which fish have been detected in the Green River Canal up through 2013 and captured elsewhere after 2013? *(file Movement_Num24_GRC_Detections.xlsx)*

25) Investigate fish identified in both San Juan and Colorado River Basins *(file STReaMS_Cross_Basin_2_3_2016_3_11_19_17.txt)*
    a. Which records seem suspicious? Pull a few of these tags up in STReaMS and read more about the fish and the encounter histories.

Stocking:

26) Investigate the bonytail stocking encounters from 2009 year class. How many are there?
    a. How many encounters of bonytail from this year class have been captured?
    b. How many encounters of bonytail from this year class have been detected?

27) Investigate the razorback sucker stocking encounters from 2009 year class. How many are there?
    a. How many encounters of razorbacks from this year class have been captured?
    b. How many encounters of razorbacks from this year class have been detected?

Comparing methods of encountering fish:

28) Investigate Colorado pikeminnow in the White River in 2013. *(file ComparingMethods_Num28_CPM_WR.xlsx*)
    a. In 2013, how many Colorado pikeminnow captures were encountered in the White River?
        i. How many unique individuals were captured?
    b. How many Colorado pikeminnow detections were made at the White River Bonanza Bridge PIA that same year?
    c. How many total detections were encountered in the White River that year? What explains the difference?
        i. How many unique individuals were detected?

d. Create a Venn Diagram of individuals that were captured only, detected only, or both.

When the next Bestgen et al. population estimate comes out in draft form, we can look at this information and compare it to those specific estimates for the White River.

29) Investigate Colorado pikeminnow in the Green River. *(file ComparingMethods_Num29_CPM_GR.xlsx*)
    a. In 2013, how many Colorado pikeminnow captures were encountered in the Green River?
        i. How many unique individuals were captured?
    b. How many Colorado pikeminnow detections were made at the Green River Canal PIA that same year? How many Colorado pikeminnow were detected in the Green River in 2013?
        i. How many individuals were detected?
    c. Create a Venn Diagram of individuals that were captured only, detected only, or both.