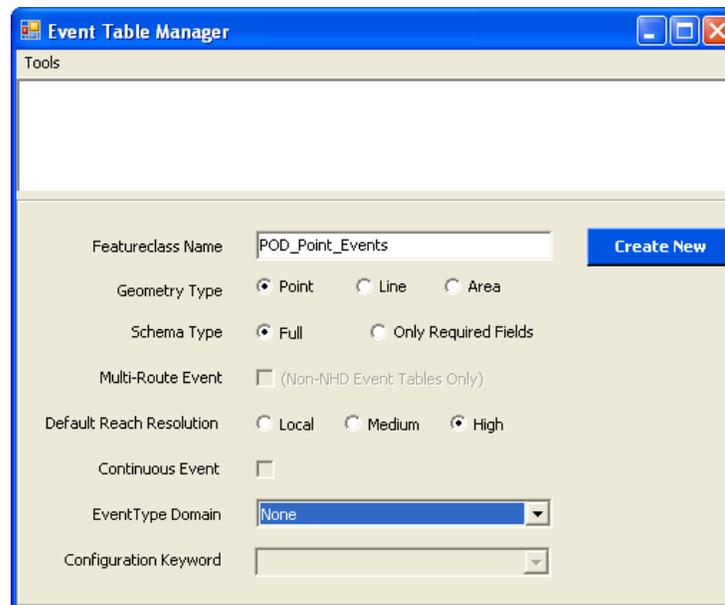


Proof of Concept: Referencing POD's to the NHD using HEM Tools

1. Install HEM Tools (...\\HEM_Tool_Training\\HEM_2_2a_Test_Version)
2. Start ArcCatalog.
3. Add the HEM Toolbar to ArcCatalog (View -> Toolbars -> Hydro Event Management Tools).

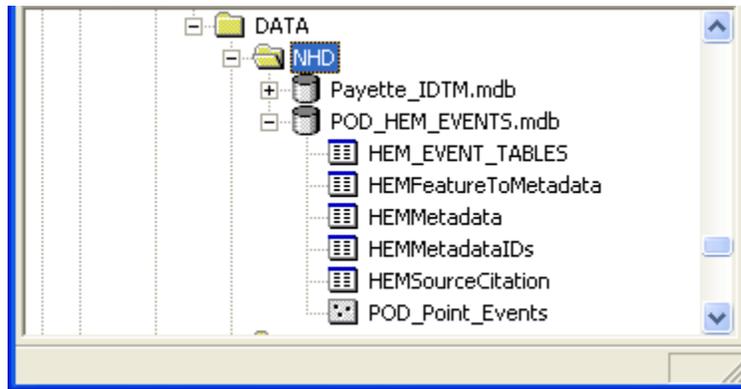


4. Create new empty personal geodatabase and call it POD_HEM_EVENTS (or you can pick a different name)
5. Single click the POD_HEM_EVENTS personal geodatabase you just created in the table of contents, and then click the Event Featureclass Manager button  on the HEM Toolbar
6. Using the Event Featureclass Manager (Tools -> Add New), create the following feature classes.
Note: Set Spatial Reference after clicking 'Create New'



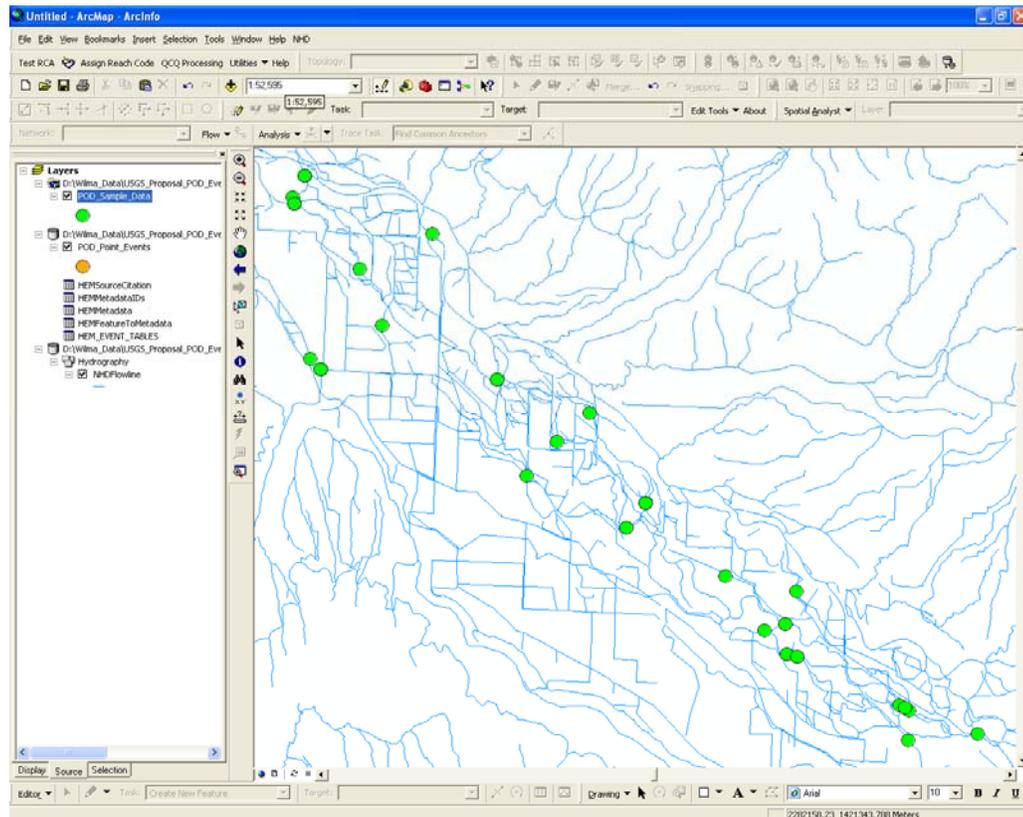
7. Click "Create New". Select IDTM83, for example by importing the coordinate system of the POD_Sample_Data shapefile.
8. Close the Event Table Manager

9. Refresh and look at what you just created:

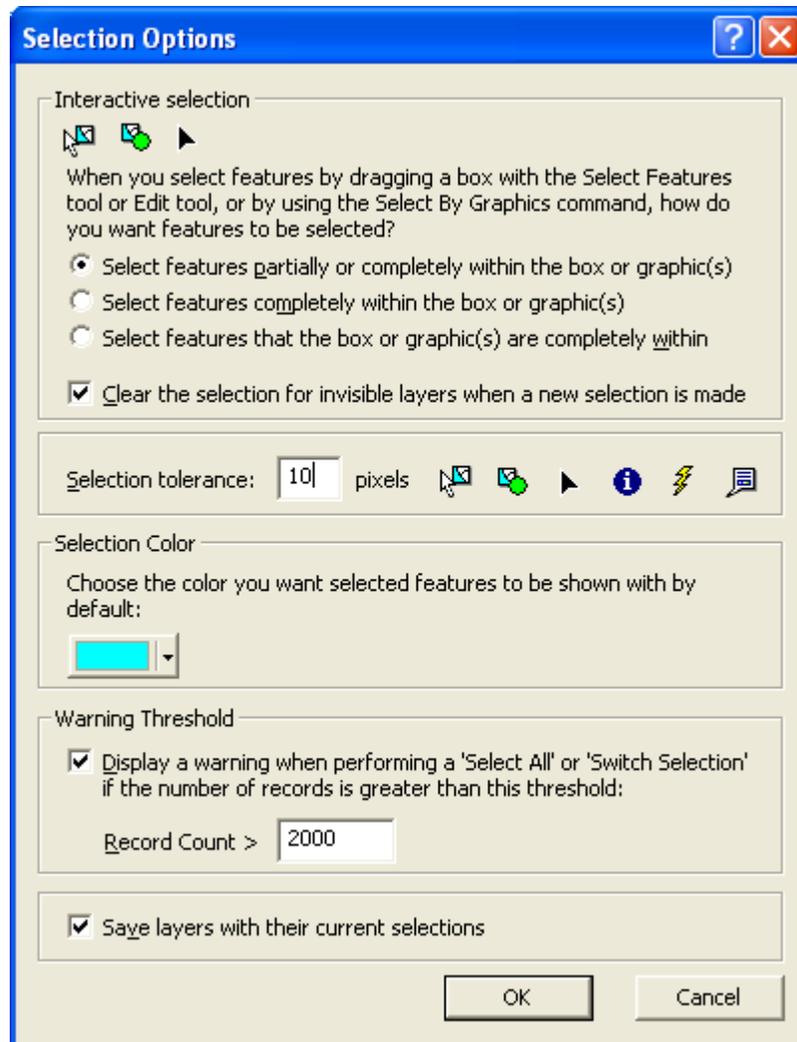


10. Close ArcCatalog and Start ArcMap and add POD_Sample_Data, POD_Point_Events and entire NHD Database. Note that the NHD database **must have a geometric network**.

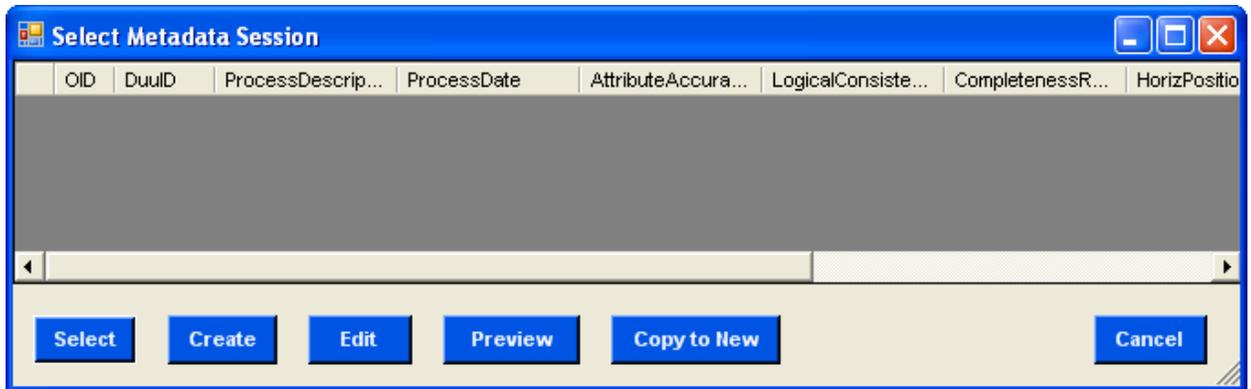
11. Label the NHD with the GNIS name and the POD_Sample_Data with the Source Name



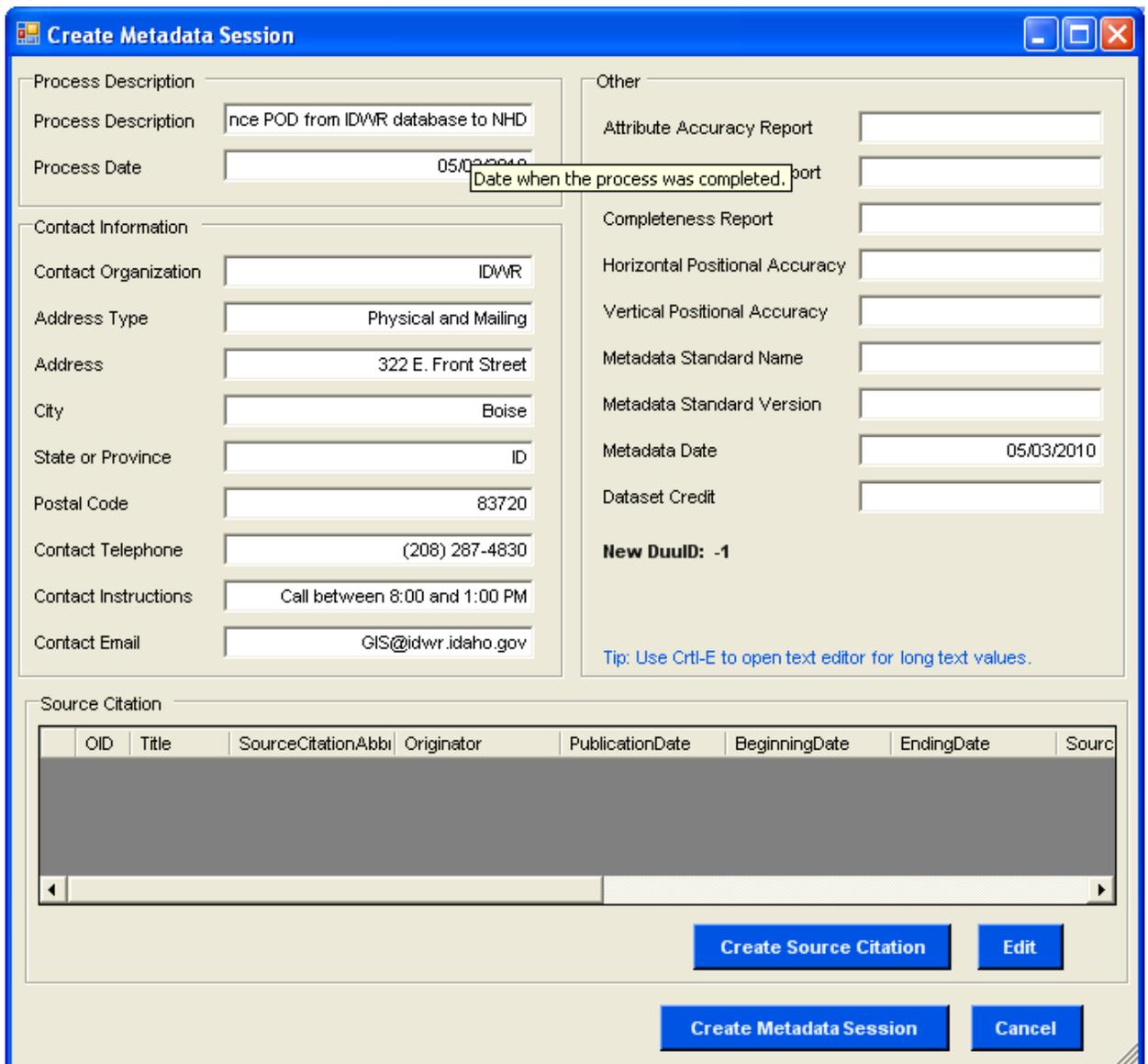
12. Go to Selection (on main menu near the top of your screen) and set Selection Tolerance. This is the distance a point feature is allowed to move to snap to the NHD. We will use this later on to go through different iterations: first points that only move 10 pixels, then 20 pixels, etc.



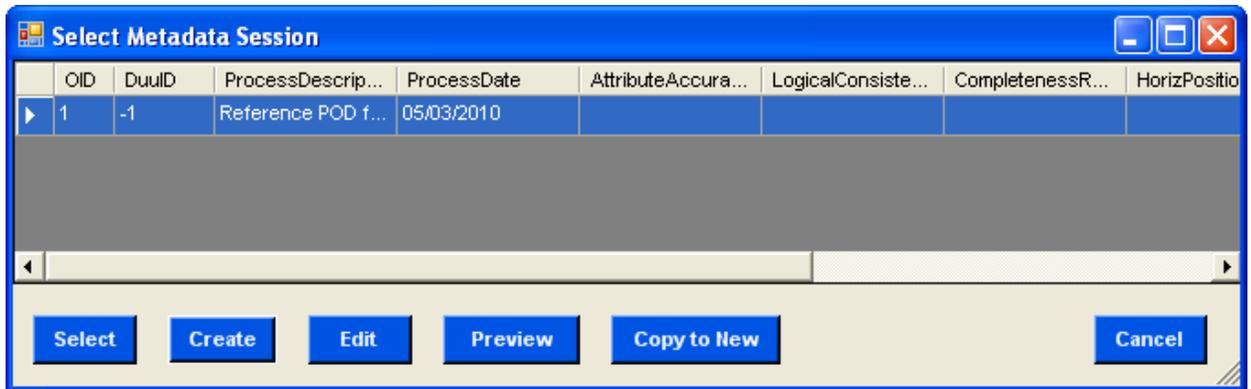
13. Go to Editor > Options. Set Snapping Tolerance to 10 pixels on the General tab. You do not need to change this value during different iterations as described above.
14. You are able to transfer one attribute from the point shapefile to the event database. Looking at the sample data I judged that "SHAPE_fid" has unique values. Open POD_Point_Events attribute table and add a field called "SHAPE_FID".
15. Add a field called "SelectTol" to the POD_Point_Events table. Here we will record the minimum selection tolerance needed to snap each individual POD. Close the attribute table.
16. Editor > Start Editing. Select the Personal Geodatabase that contains the Event tables you set up earlier in ArcCatalog.
17. The Select Metadata Session appears:



18. Type in metadata information:



19. Optional: create Source Citation. Otherwise click Create Metadata Session.

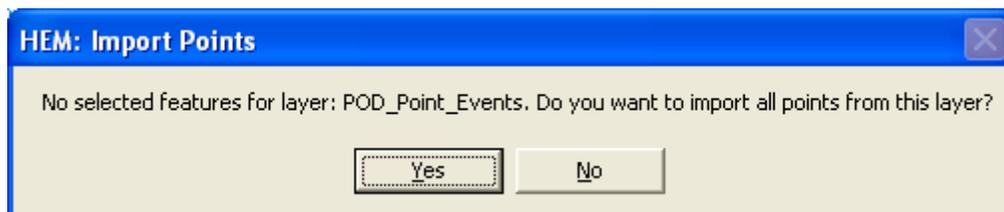
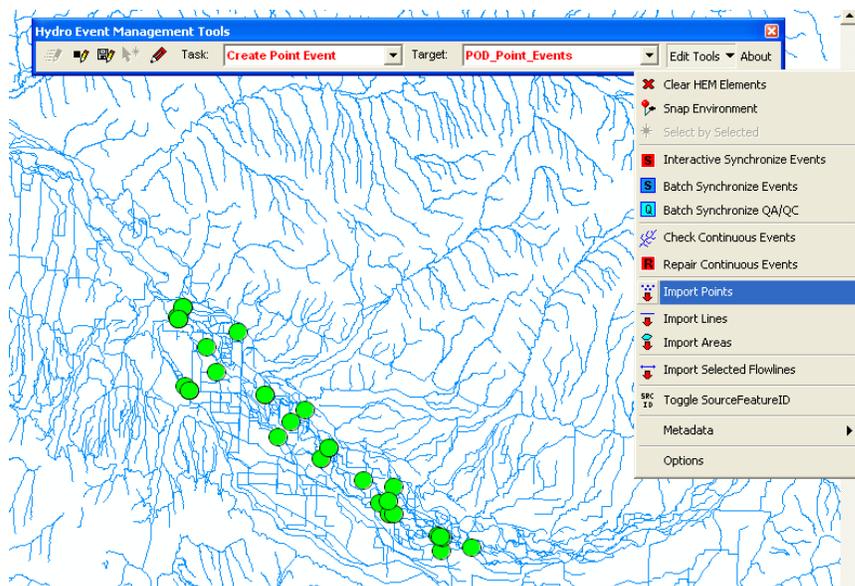


20. Set Task to Create Point Event and the Target to POD_Point_Events:



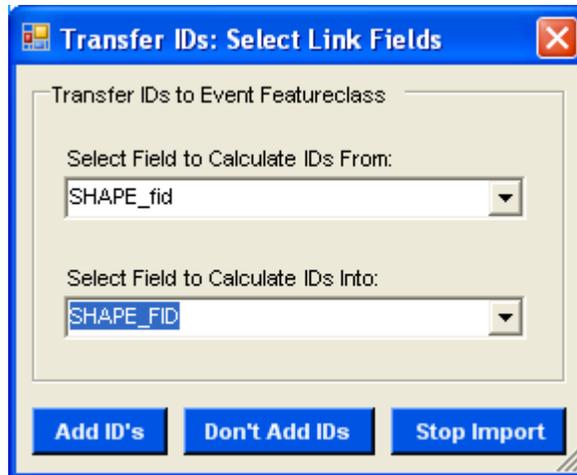
21. In the table of contents click once on POD_Sample_Data to highlight it.

22. Click Edit Tools > Import Points

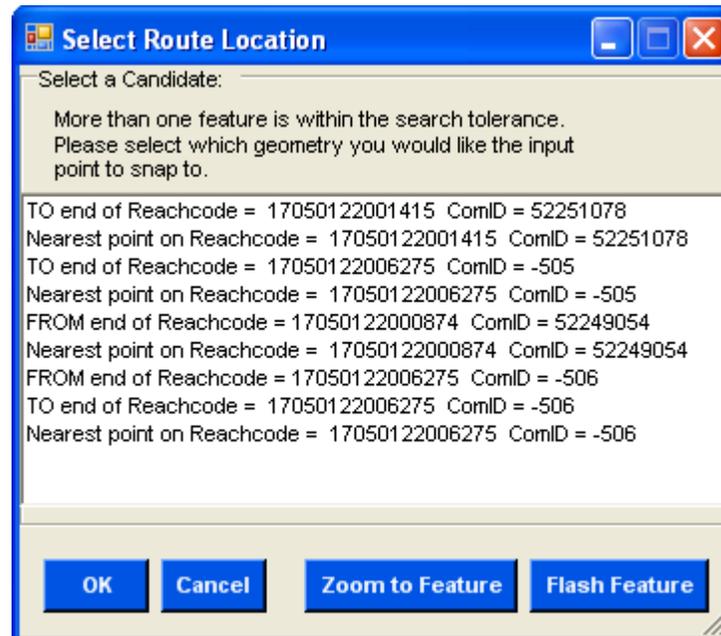


23. Click Yes

24. Transfer the SHAPE_fid attributes from your shapefile to the POD_Point_Events Database:



25. Click “Add ID’s”. A dialog box will pop up to show the results of the import:

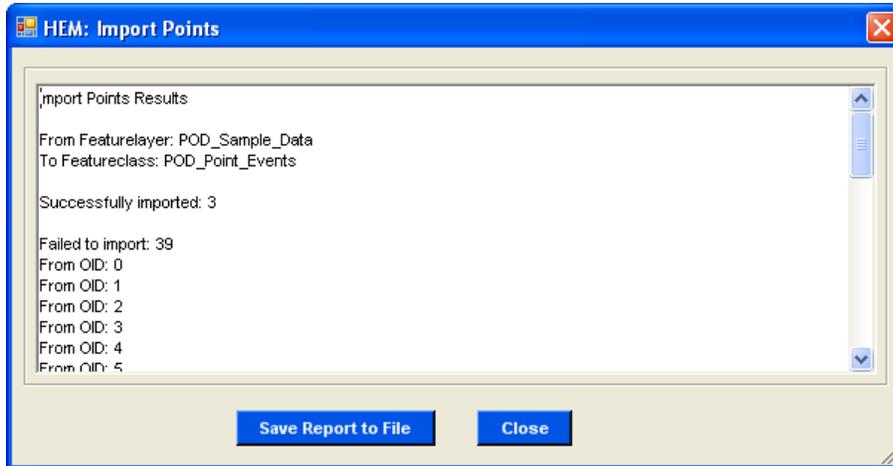


26. The dialog box above appears and ask you to select where you want to reference your point event. Notice that a point can referenced to:

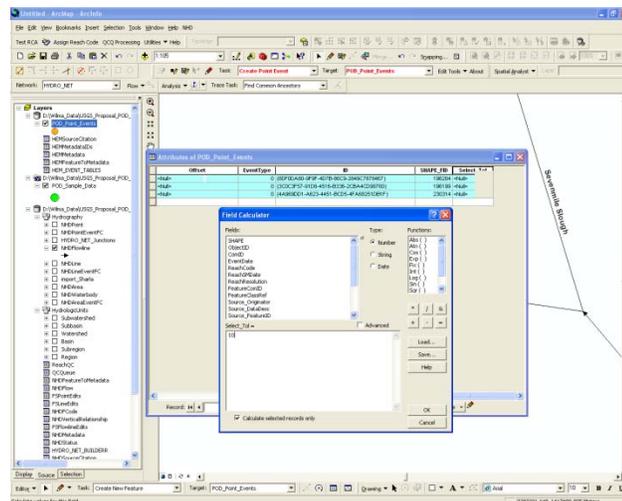
- a. The “TO” end of a reachcode
- b. The “FROM” end of a reachcode
- c. The nearest point on a reachcode.

27. Select the top record and click “Zoom to Feature”:

- Highlight the different options in the “Select Route Location” dialog box and select the one you wish to reference to.



- A report will be generated showing how many point features have successfully been transformed into events.
- Open the POD_Point_Events attribute table and field calculate the Select_Tol to 10 pixels.



- Go to selection > options and change Selection Tolerance to 20 pixels. Repeat “Import Point Events”. Once done field calculate the added records in the POD_Point_Events table to 20. Repeat process with increasing Selection Tolerance levels.
- Save edits. Optional: use SHAPE_FID to join with original POD shapefile to bring in more attributes