Preparing The Project Detail Form

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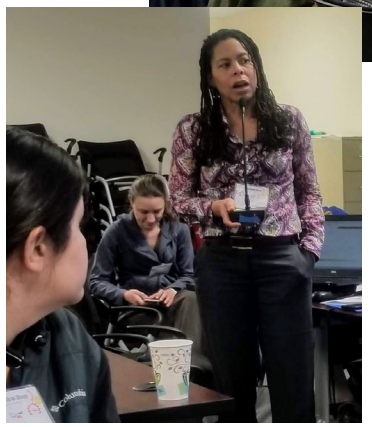
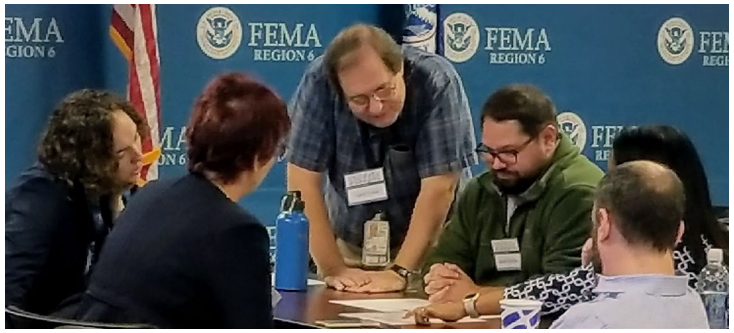
FEMA

RiskMAP
Increasing Resilience Together

2020 REGION 6 CTP WORKSHOP





2021 REGION 6 CTP WORKSHOP

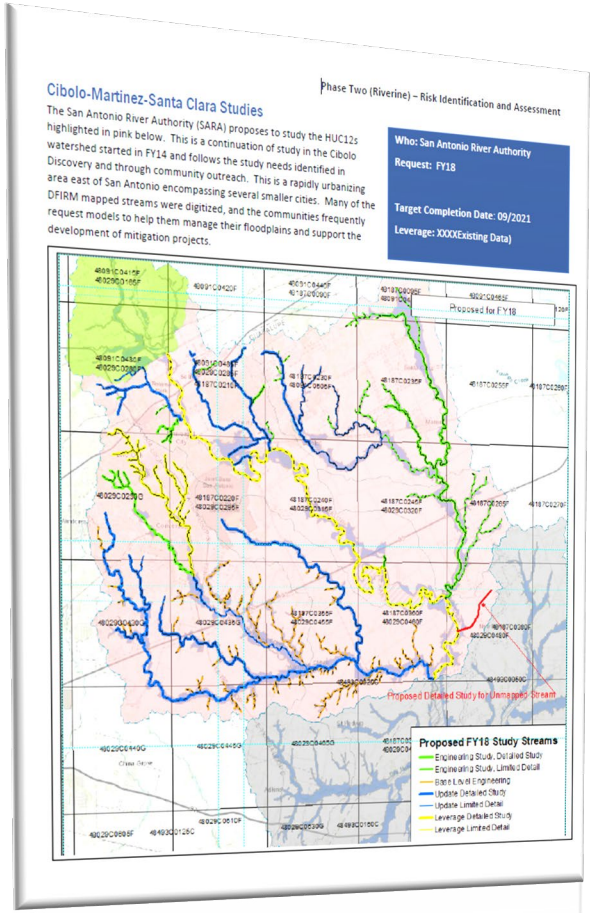
Preparing the Project Detail Form

Introduction

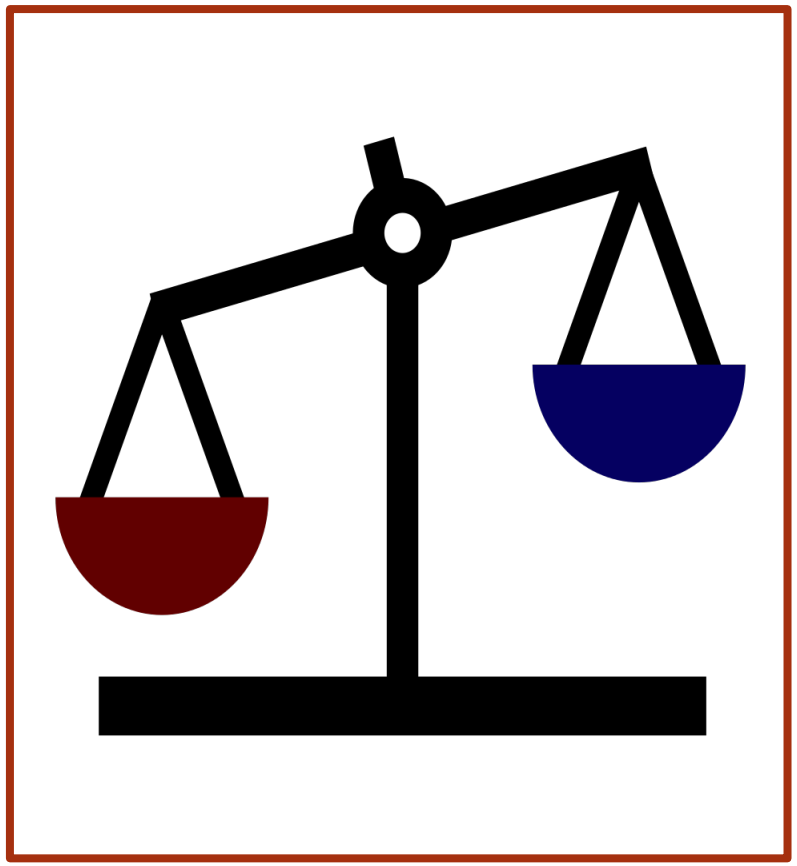
- What is the point of a Project Detail Form?
- When should CTPs be putting them together?
- When should they be provided to FEMA?
- Where are the PDF templates?
- Are there any examples to follow?
- What needs to be included on the PDF?
- Contacts

What's the Point of a Project Detail Form?

- Informs Region 6; used in project decision making
- Part of your State Business Plans or Priorities List
- Developing KDPs (Key Decision Points)
- Used in Communications:
  - Congressional & Media Briefings
  - Public Outreach
- Informs Metrics: NVUE gained
- Communication tool for Discovery Findings Meeting
- Informs Quantities and Baseline Schedule form (QBS)
- Informs FEMA's Project Purchasing and Planning Portal (P4)



Informs Project Decision Making

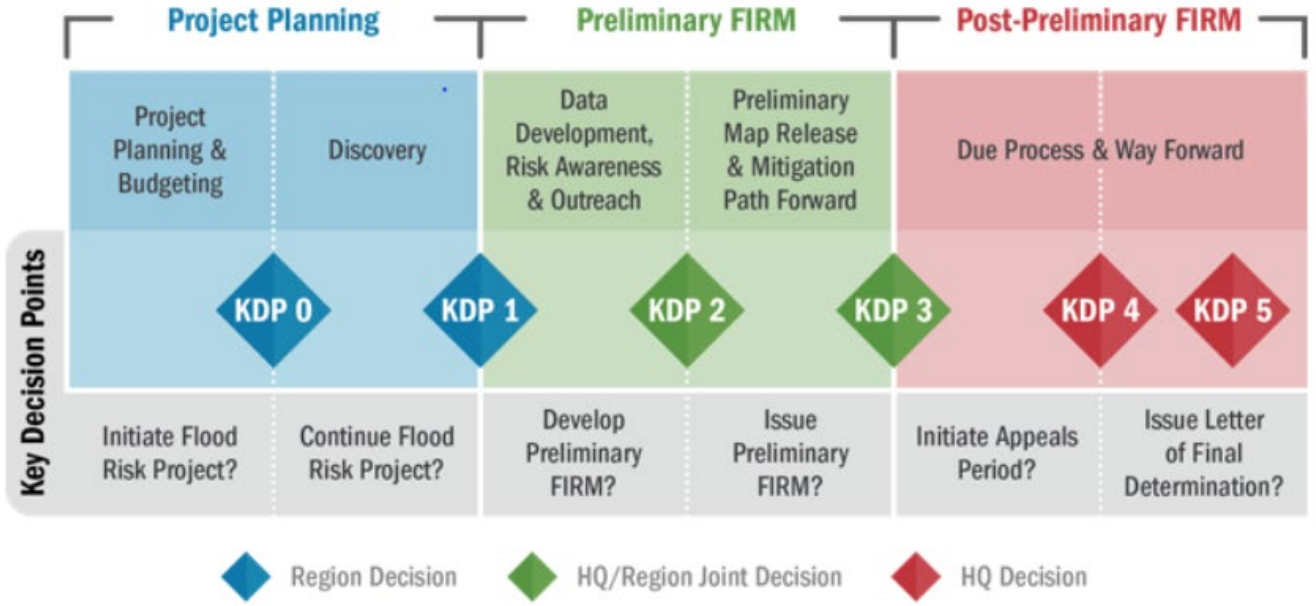


- What is the project?
- NVUE gain
- Leverage
- Development pressure/ increased claims
- Intent to adopt higher standards
- Not a LOMR
- Community/Political will
- Timing of project

- Available funding
- Partner past performance

Informing the KDP

The Key Decision Point (KDP) process is a formal method to document the decision to advance forward in a Flood Risk Project's lifecycle at six distinct points and to document the rationale behind these decisions.



When Should They Be Provided To FEMA?

A. December 31st - with the Business Plan or Project Priority List

B. Throughout the year, when they are identified

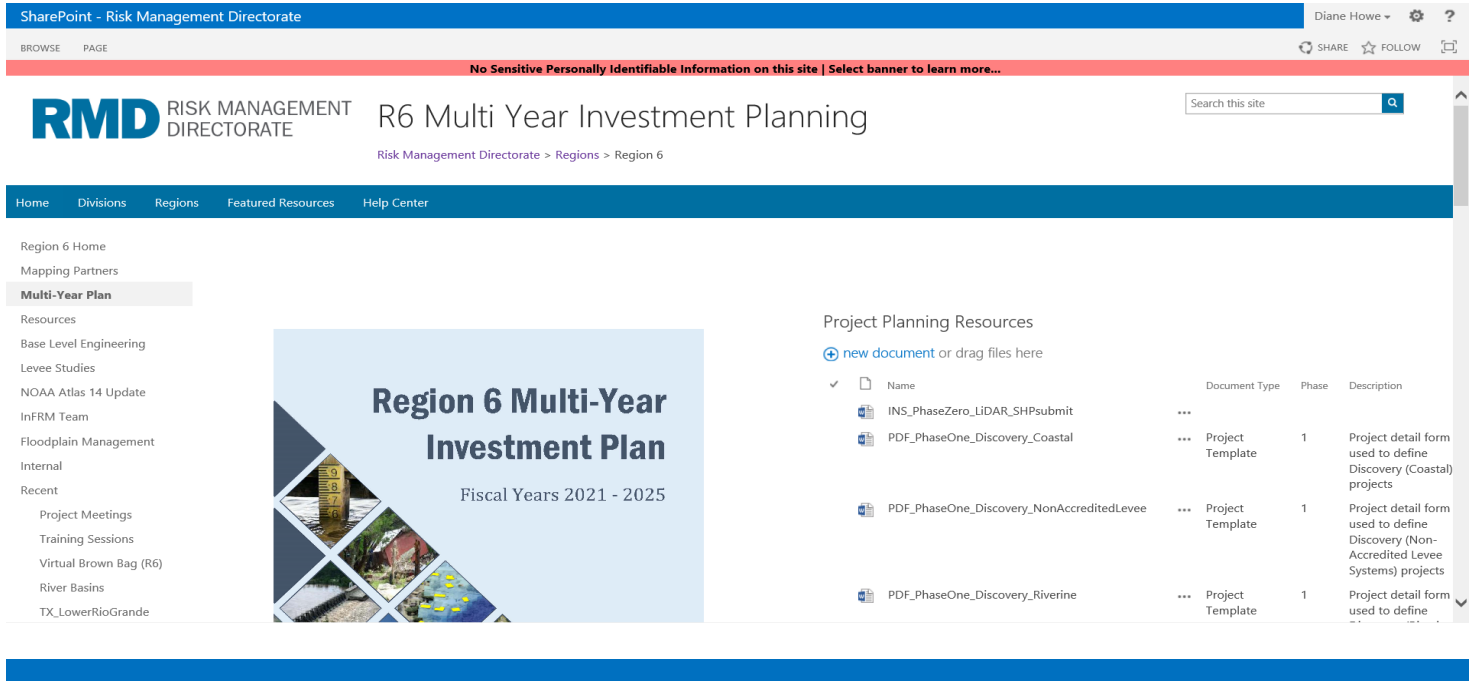
When Should We Put A Project Detail Form Together?

Business Plan Development
or Priorities List
Due Dec. 31st

Post-Discovery as a
Discovery Findings Meeting Handout

Follow up to
State Floodplain Management Meetings

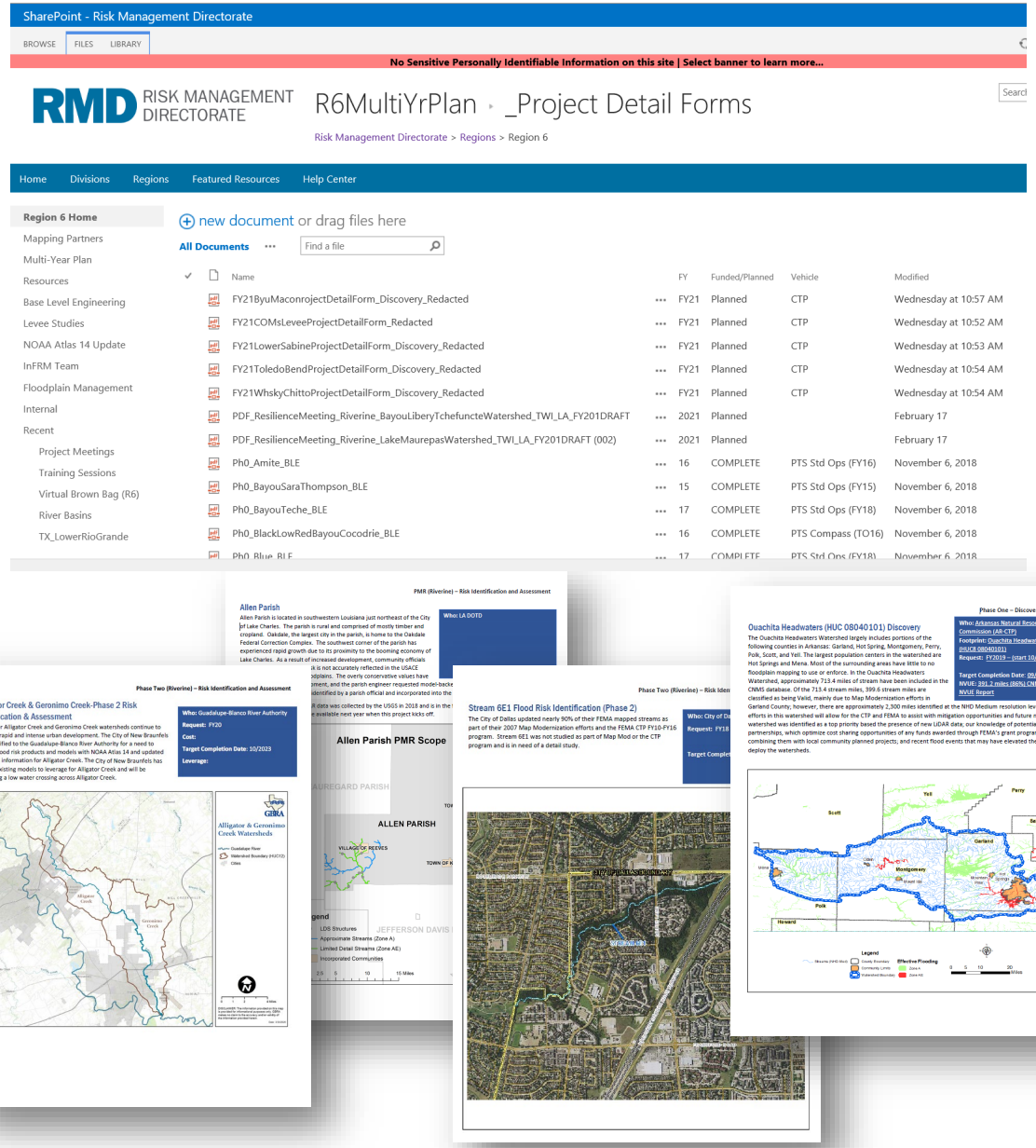
When you hear a
need from a community



Ph0 – Riverine Base Level Engineering
Ph1 – Discovery_Coastal
Ph1 – Discovery_NonAccredited Levee
Ph1 – Discovery_Riverine
Ph2 - Levee LAMP_Analysis
Ph2 - Riverine_EngDatasets

Where Are The Templates Located?

https://rmd.msc.fema.gov/regions/vi/sitepages/r6%20multi%20year%20investment%20planning.aspx



Examples to Follow

- Region 6 -> Resources -> Multi-Year Plan -> Project Detail Forms

- https://rmd.msc.fema.gov/Regions/VI/R6MultiYrPlan/Forms/AllItems.aspx?RootFolder=%2FRegions%2FVI%2FR6MultiYrPlan%2F%5FProject%20Detail%20Forms&FolderCTID=0x012000144AFF91156D2B4B87EF0BE8ED7C6A1A&View=%7BCDB35F5F%2D6305%2D4006%2DB93F%2D250B5AA8E5F7%7D

Project Name Here

Include project narrative description here – What is the objective of this project? How was this project identified? What will be done with the Base Level Engineering Data? Used for Discovery? Used to engage unmapped counties/communities for use as local adopted flood data? Units of measure are unnecessary here as they are defined in the table that follows the exhibit.

Who: Add Organization Here (if CTP) or Note TBD

Request: Add MM/YYYY or Fiscal Year

Cost: Add Total $$$

Target Completion Date: Add MM/YYYY

BLE Miles: XX miles

Add Project Overview Exhibit Here

(show HUC8, CNMS and study stream lines, for inclusion in this exhibit)

NVUE initiation

Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped						
Zone A						
Zone AE						
Zone AE w/FW						

Project Scope Elements & Units (QA/QC costs should be included)

Task	Y/N	Description	Quantity	Unit	Cost
Terrain		Composite Digital Elevation Model (DEM) from LiDAR		Sq. Miles	
Hydrology		1D – Rural/Urban Regression w/ Gage Analysis (10%, 4%, 2%, 1%,, 1%-, 1%, 0.2% events, min)		Sq. Miles	
		2D – Rain-On Grid Analysis (10%, 4%, 2%, 1%,, 1%-, 1%, 0.2% events, min)		Sq. Miles	
Hydraulics		1D Modeling – Manual review of XS, add structure XS (10%, 4%, 2%, 1%,, 1%-, 1%, 0.2% events, min)		Miles	
		2D Modeling – Manual grid manipulation for Zone A (10%, 4%, 2%, 1%,, 1%-, 1%, 0.2% events, min)		Sq. Miles	
Flood Risk Datasets	X	Seamless Floodplains (10%, 1% and 0.2% events, min)		Watershed	
	X	WSEL grids – 1% and 0.2% (min)		Watershed	
	X	Estimated Flood Depth grid – 1% and 0.2% (min)		Watershed	
	X	BLE Hazus Analysis (min)		Watershed	
	X	Point/Polygon File – Model Refinement Areas (min)		Watershed	
	X	Line/Polygon File – Detailed Study Areas (min)		Watershed	
	X	Base Level Engineering Report (min)			
		Other Flood Risk Dataset – DEFINE		DEFINE	
				Total Project Cost	

Additional Project Information

Include any additional pertinent information, data availability, follow up POCs for future data/leverage collection, etc....

Project Name Here

Include project narrative description here – What is the objective of this project? How was this project identified? Is there community support (or data/monetary leverage) for this project? Units of measure are unnecessary here as they are defined in the table that follows the exhibit.

FEMA + leverage

Who: Add Organization Here (if CTP) or Note TBD

Request: Add MM/YYYY or Fiscal Year

Cost: Add Total $$$

Target Completion Date: Add MM/YYYY

Leverage: Add $$$

Add Project Overview Exhibit Here

(show stream lines, structures, etc. included in study)

Additional Project Information

Include any additional pertinent information, data availability, follow up POCs for future data/leverage collection, etc.

NVUE gain

Study Type	Effective (miles) Valid	Effective (miles) Unk/Unv	At Completion (miles) Valid	At Completion (miles) Unk/Unv	Delta (miles) Valid	Delta (miles) Unk/Unv
Not Mapped						
Zone A						
Zone AE						
Zone AE w/FW						

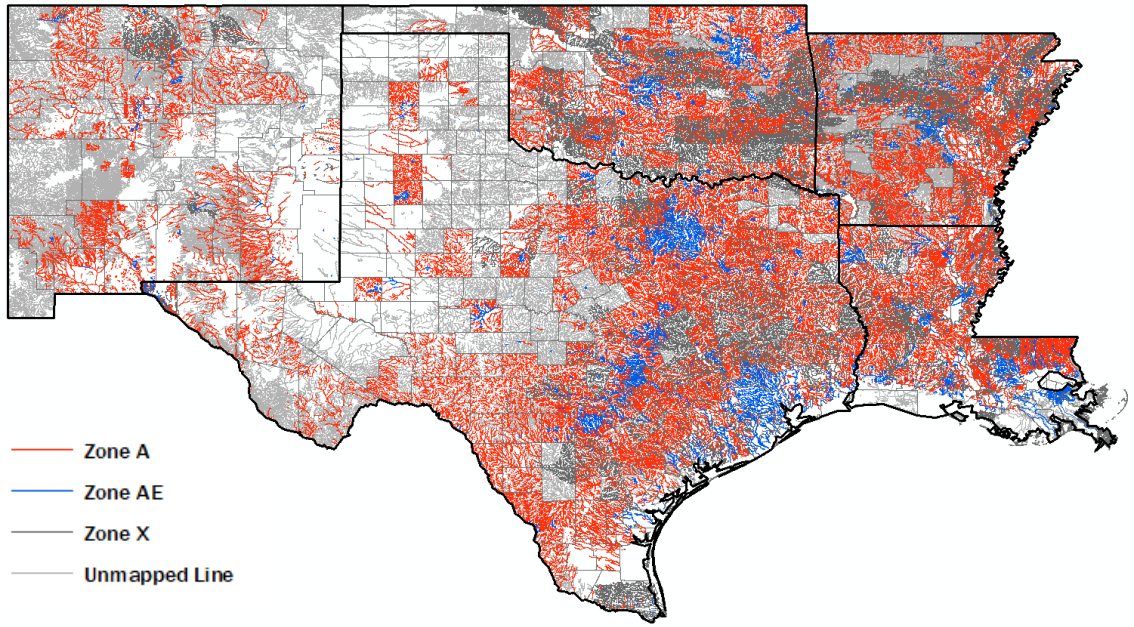
Project Scope Elements & Units (QA/QC costs should be included)

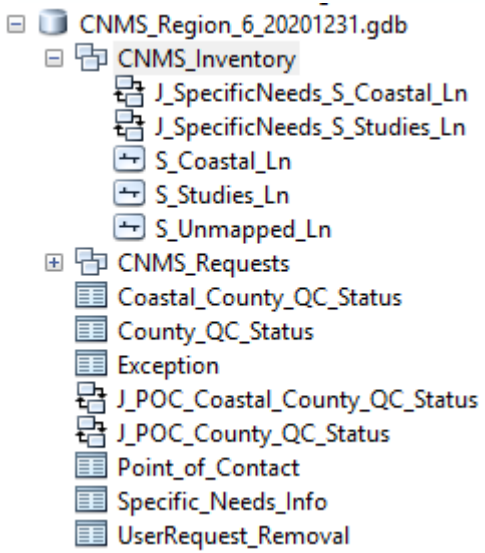
Task	Y/N	Description	Quantity	Unit	Cost
Field Survey		to Collection from As-Built Drawings		Structures	
		Field Data Recon [illegible]		Structures	
		Field Data Collection – Stream Channel XS		XS	
		Field Data Collection – Floodplain XS		XS	
		Field Data Collection – Structure (Culvert)		Structures	
		Field Data Collection – Structure (Bridge)		Structures	
Hydrology		Rural/Urban Regression w/ Gage Analysis		Sq. Miles	
		Rain-On Grid Analysis		Sq. Miles	
		Rainfall Run-off Analysis (Rational)		Sq. Miles	
Hydraulics		1D Model Refinement – BLE to Limited Detail		Linear Miles	
		1D Model Refinement – BLE to Detailed		Linear Miles	
		1D Model Refinement – New Floodway		Linear Miles	
		1D Model Refinement – Refine Existing Floodway		Linear Miles	
		2D Model Refinement – BLE to Limited Detail		Linear Miles	
		2D Model Refinement – BLE to Detailed		Linear Miles	
		2D Model Refinement – Floodway Analysis		Linear Miles	
		1D Model Preparation – Zone A		Linear Miles	
Floodplain Mapping		Floodplain Preparation – 1% ONLY		Linear Miles	
		Floodplain Preparation – 1% and 0.2%		Linear Miles	
		Seamless Floodplain Boundary		County	
Flood Risk Datasets		Changes Since Last FIRM		LUMP	
		WSEL grid – 1% ONLY		Study Area	
		WSEL grid – 1% and 0.2% ONLY		Study Area	
		WSEL grid – Multiple (Specify Events)		Study Area	
		Flood Depth grid – 1% ONLY		Study Area	
		Flood Depth grid – 1% and 0.2% ONLY		Study Area	
		Flood Depth grid – Multiple (Specify Events)		Study Area	
		Freeboard grid – 1% ONLY		Study Area	
		Freeboard grid – 1% and 0.2% events		Study Area	
		Percent Annual Chance Grid		Study Area	
		30 Year Chance Grid		Study Area	
		Hazus (Composite) – BLE & Refined Study areas		Study Area	
		Other Flood Risk Dataset - DEFINE		DEFINE	
Accessory Elements		CNMS Submittal – Scoped Streams		LUMP	
		FIS Text Sections (Hydrology & Hydraulics)		County	
		WSEL Profile (Partial) – 1% ONLY		Linear Miles	
		WSEL Profile (Full) – 10%, 4%, 2%, 1%, and 0.2%		Linear Miles	
		Flood Risk Report – including Exhibits & Tables		Study Area	
		Flood Risk Map		Map	
		Project Management (Not to exceed 10% of total)		LUMP	
				Total Project Cost	

FEMA $total

NVUE Initiation

- What do I need to gather NVUE Initiation / Where is the information located?
- How do I get the CNMS database?
- Determining NVUE mileages from CNMS



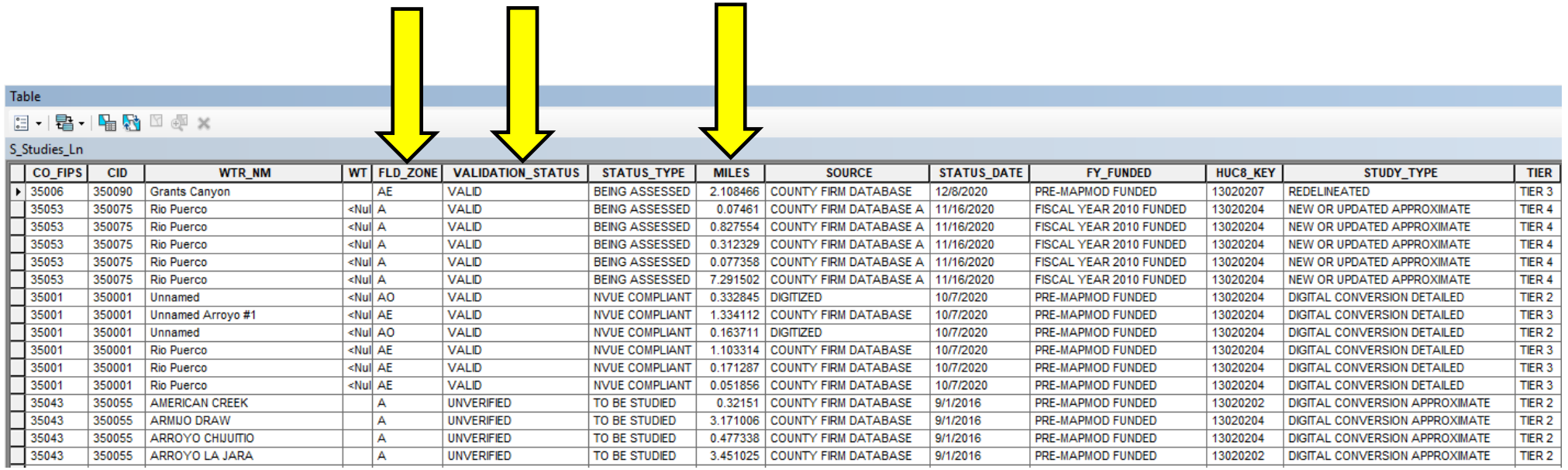


WHAT DO I NEED TO GATHER NVUE INITIATION? / WHERE IS THE INFORMATION LOCATED?

- To gather NVUE initiation mileages you will first need the Coordinated Needs Management Strategy (CNMS) database.
- CNMS is an inventory of FEMA's riverine and coastal mapped special flood hazard areas
- A Geospatial Database that tracks:
  - New, Validated or Updated Engineering (NVUE)
  - Unverified study reaches (need of restudy)
  - Flood mapping requests

CNMS DATA

- Each reach in CNMS has large amounts of information associated with it such as CO_FIPS, CID, Water name, Flood Zone, Validation Status, Miles, HUC8 and more. This will be important for helping to select which mileages you will utilize for the NVUE initiation table. The FLD_ZONE, VALIDATION_STATUS, and MILES columns will be the most important data columns when filling out the NVUE table



Table

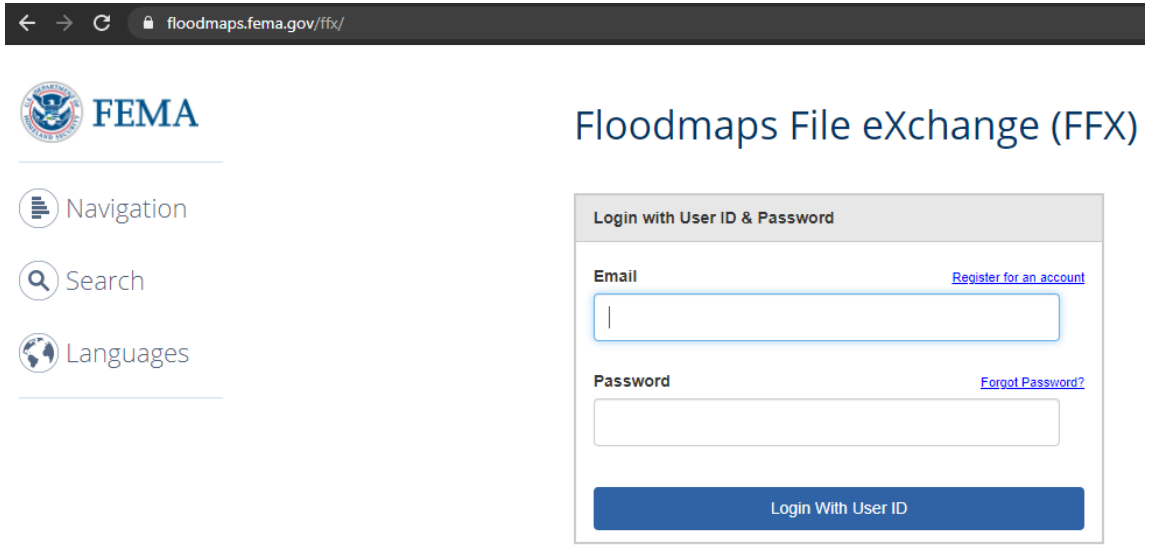
S_Studies_Ln

CO_FIPS	CID	WTR_NM	WT	FLD_ZONE	VALIDATION_STATUS	STATUS_TYPE	MILES	SOURCE	STATUS_DATE	FY_FUNDED	HUC8_KEY	STUDY_TYPE	TIER
35006	350090	Grants Canyon		AE	VALID	BEING ASSESSED	2.108466	COUNTY FIRM DATABASE	12/8/2020	PRE-MAPMOD FUNDED	13020207	REDELINEATED	TIER 3
35053	350075	Rio Puerco	<Nul	A	VALID	BEING ASSESSED	0.07461	COUNTY FIRM DATABASE A	11/16/2020	FISCAL YEAR 2010 FUNDED	13020204	NEW OR UPDATED APPROXIMATE	TIER 4
35053	350075	Rio Puerco	<Nul	A	VALID	BEING ASSESSED	0.827554	COUNTY FIRM DATABASE A	11/16/2020	FISCAL YEAR 2010 FUNDED	13020204	NEW OR UPDATED APPROXIMATE	TIER 4
35053	350075	Rio Puerco	<Nul	A	VALID	BEING ASSESSED	0.312329	COUNTY FIRM DATABASE A	11/16/2020	FISCAL YEAR 2010 FUNDED	13020204	NEW OR UPDATED APPROXIMATE	TIER 4
35053	350075	Rio Puerco	<Nul	A	VALID	BEING ASSESSED	0.077358	COUNTY FIRM DATABASE A	11/16/2020	FISCAL YEAR 2010 FUNDED	13020204	NEW OR UPDATED APPROXIMATE	TIER 4
35053	350075	Rio Puerco	<Nul	A	VALID	BEING ASSESSED	7.291502	COUNTY FIRM DATABASE A	11/16/2020	FISCAL YEAR 2010 FUNDED	13020204	NEW OR UPDATED APPROXIMATE	TIER 4
35001	350001	Unnamed	<Nul	AO	VALID	NVUE COMPLIANT	0.332845	DIGITIZED	10/7/2020	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION DETAILED	TIER 2
35001	350001	Unnamed Arroyo #1	<Nul	AE	VALID	NVUE COMPLIANT	1.334112	COUNTY FIRM DATABASE	10/7/2020	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION DETAILED	TIER 3
35001	350001	Unnamed	<Nul	AO	VALID	NVUE COMPLIANT	0.163711	DIGITIZED	10/7/2020	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION DETAILED	TIER 2
35001	350001	Rio Puerco	<Nul	AE	VALID	NVUE COMPLIANT	1.103314	COUNTY FIRM DATABASE	10/7/2020	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION DETAILED	TIER 3
35001	350001	Rio Puerco	<Nul	AE	VALID	NVUE COMPLIANT	0.171287	COUNTY FIRM DATABASE	10/7/2020	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION DETAILED	TIER 3
35001	350001	Rio Puerco	<Nul	AE	VALID	NVUE COMPLIANT	0.051856	COUNTY FIRM DATABASE	10/7/2020	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION DETAILED	TIER 3
35043	350055	AMERICAN CREEK		A	UNVERIFIED	TO BE STUDIED	0.32151	COUNTY FIRM DATABASE	9/1/2016	PRE-MAPMOD FUNDED	13020202	DIGITAL CONVERSION APPROXIMATE	TIER 2
35043	350055	ARMIJO DRAW		A	UNVERIFIED	TO BE STUDIED	3.171006	COUNTY FIRM DATABASE	9/1/2016	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION APPROXIMATE	TIER 2
35043	350055	ARROYO CHIJUITIO		A	UNVERIFIED	TO BE STUDIED	0.477338	COUNTY FIRM DATABASE	9/1/2016	PRE-MAPMOD FUNDED	13020204	DIGITAL CONVERSION APPROXIMATE	TIER 2
35043	350055	ARROYO LA JARA		A	UNVERIFIED	TO BE STUDIED	3.451025	COUNTY FIRM DATABASE	9/1/2016	PRE-MAPMOD FUNDED	13020202	DIGITAL CONVERSION APPROXIMATE	TIER 2

HOW DO I GET THE CNMS DATABASE ?

- You can obtain the latest CNMS database from the Region 6 CNMS Lead by request
- Send an email request either for a particular state or the entirety of Region 6.
- It is important to make sure you are utilizing the most recent CNMS database
  - CNMS database are released quarterly with static dates of 3/31, 6/30, 9/30, and 12/31
  - CNMS Fiscal Years Begin 10/1 – FY21Q1 began on 10/1/2020 and ended 12/31/2020 (Most current database)
  - Due to nature of database any data updated in 'live' CNMS after the quarter end will not be reflected until the next rollup
  - CNMS database are released for distribution usually 10-14 days after the previous quarter ends

CNMS DATABASE DELIVERY



- After your request, the CNMS Lead will send a FEMA FFX link for you to download the most recent database
- You have 7 days from receipt of the link to download the data

[EXTERNAL] Floodmaps File eXchange (FFX): CNMS_R6_FY21Q1_20201231

D

DO-NOT-REPLY@riskmapcds.com
To Johnson, Michael (Austin)

Reply | Reply All | Forward | ...

Sun 3/7/2021 2:23 PM

A file has been uploaded to the Floodmaps File eXchange (FFX) site for you by michael.johnson@aecom.com. To download, select the link below. You have 7 days to download the file before it's deleted from the server. NOTE: .ZZZ files must have their extensions changed to .ZIP, and .z must be changed to .7z before opening. Filenames with the character # will have it removed before opening.

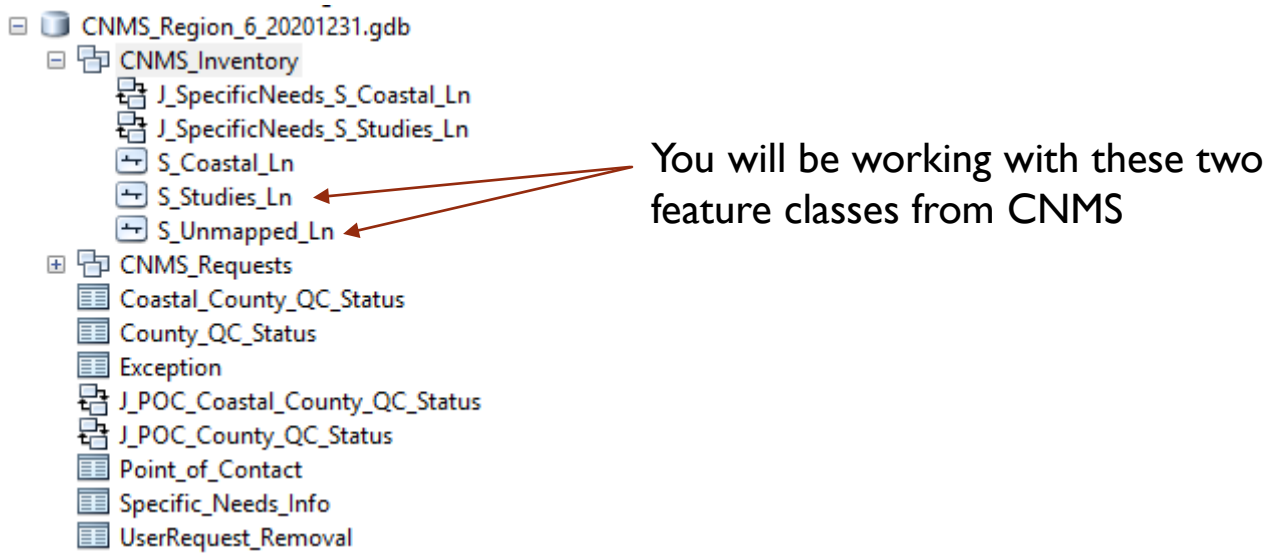
Select this link to download the file.

If the above link does not work, go to https://floodmaps.fema.gov/ffx/download.php and enter the following filename:

56302_CNMS_Region_6_20201231.gdb.zzz
Message from the user: This is the most recent CNMS database for Region 6. It has a static date of 12/31/2020. Any updates which have occurred after this date will not be reflected.

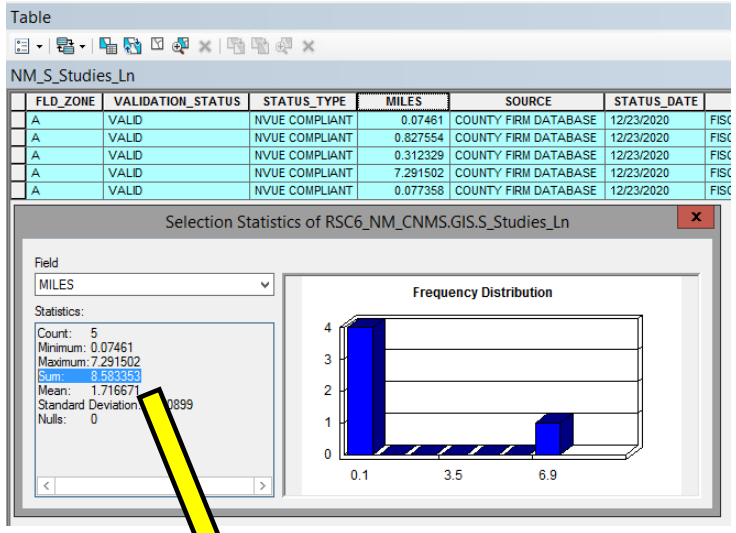
DETERMINING NVUE MILEAGES FROM CNMS

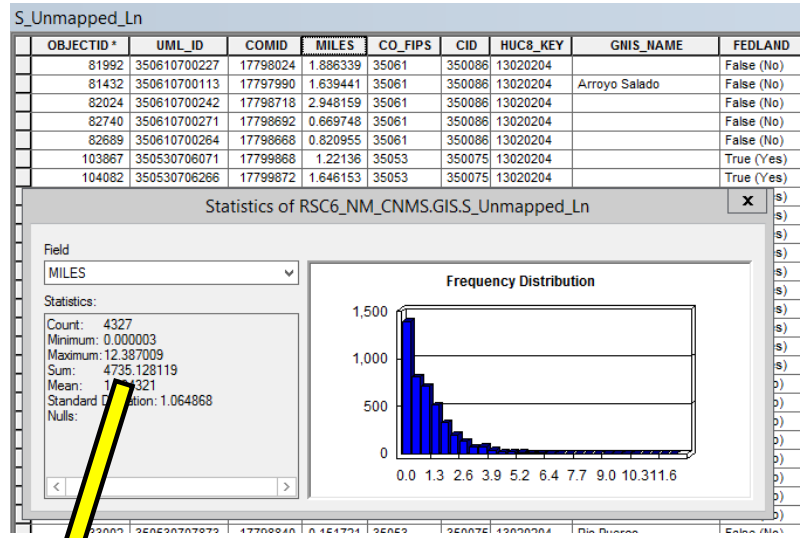
- The CNMS database contains feature classes necessary to gather NVUE Mileages for the NVUE initiated table
  - The S_Studies_Ln and S_Unmapped_Ln feature classes contain the mileages needed
  - Once the CNMS database has been downloaded it can be opened in GIS and the "CNMS Inventory" feature dataset expanded to how the following:



NVUE INITIATED TABLE

- Mileage totals for the NVUE table will come directly from S_Studies_Ln and S_Unmapped_Ln feature classes in the "MILES" column
- Select the reaches for each Zone listed in the table in your project area, and then utilize statistics to gather the sum of miles for each selection based on the MILES column
- Multiple selections will be required based on Valid / Unknown / Unverified status



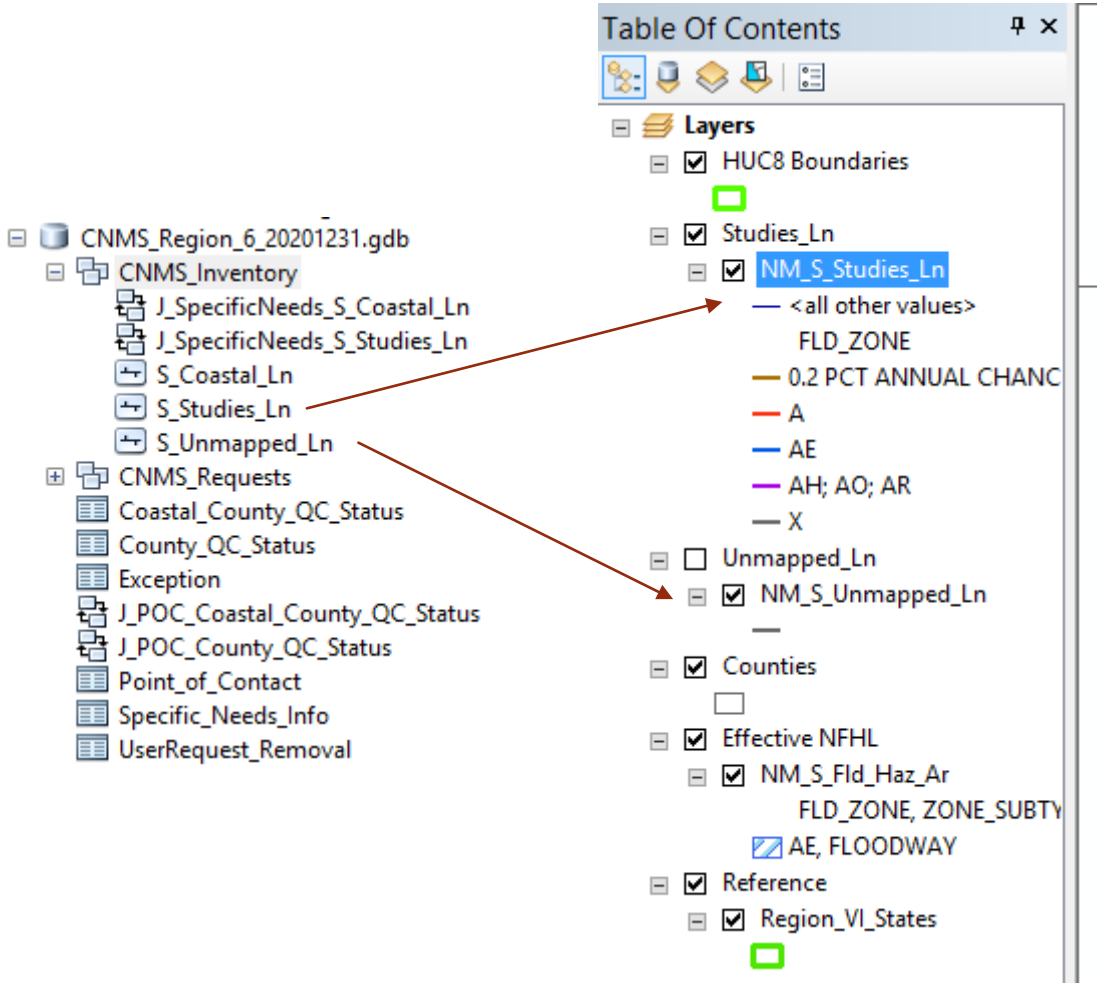


NVUE initiation

Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1		+4735.1	
Zone A	8.6	1317.5	1326.1		+1317.5	
Zone AE	0	21.7	21.7		+21.7	
Zone AE w/FW	4.8	7.9	12.7		+7.9	

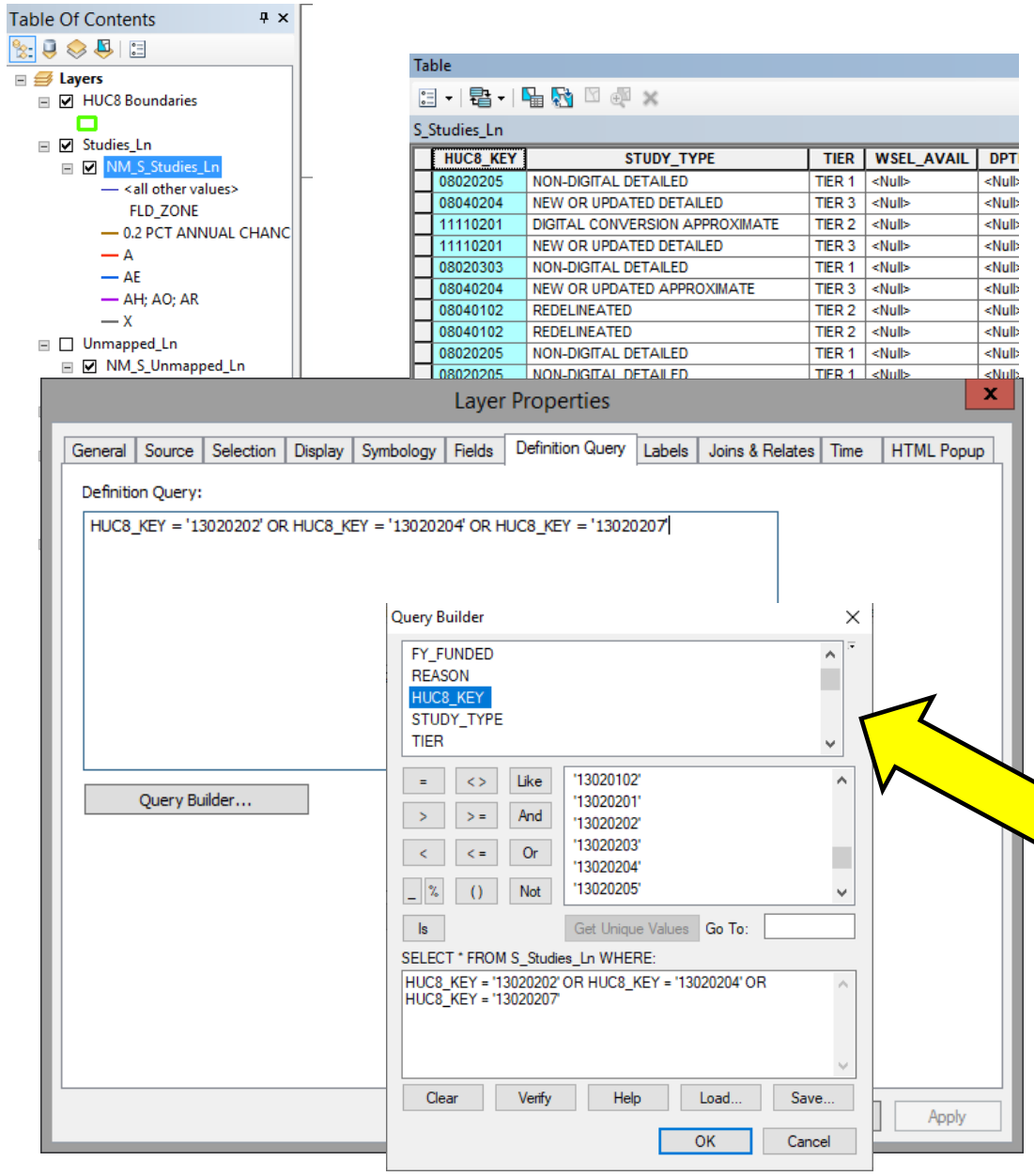
PHASE 0 BLE NVUE MILEAGE EXAMPLE

- The example in this training is specific to a HUC8 wide (3 HUC8s total) Phase 0 BLE project
- HUC8 wide Phase 0 BLEs are assumed to initiate all miles within a HUC or HUCs
- Projects will vary so selection of your project specific reaches may be necessary and can be performed through definition queries on the data stored within the CNMS database
- In this example I take the overall total of Zone A/AE Miles and subtract the Valid miles of each to determine Unknown / Unverified totals. This limits the number of selections and calculations required



CNMS DATA LOAD

- Pull the S_Studies_Ln and S_Unmapped_Ln feature classes into GIS
- It is helpful to include other reference datasets to help you such as:
  - HUC 8 Boundaries (This will help you gather HUC8 Codes and give reference to make sure you have the correct information with Phase 0)
  - County Boundaries
  - NFHL data (this is important for gather Zone AE with Floodway mileages)

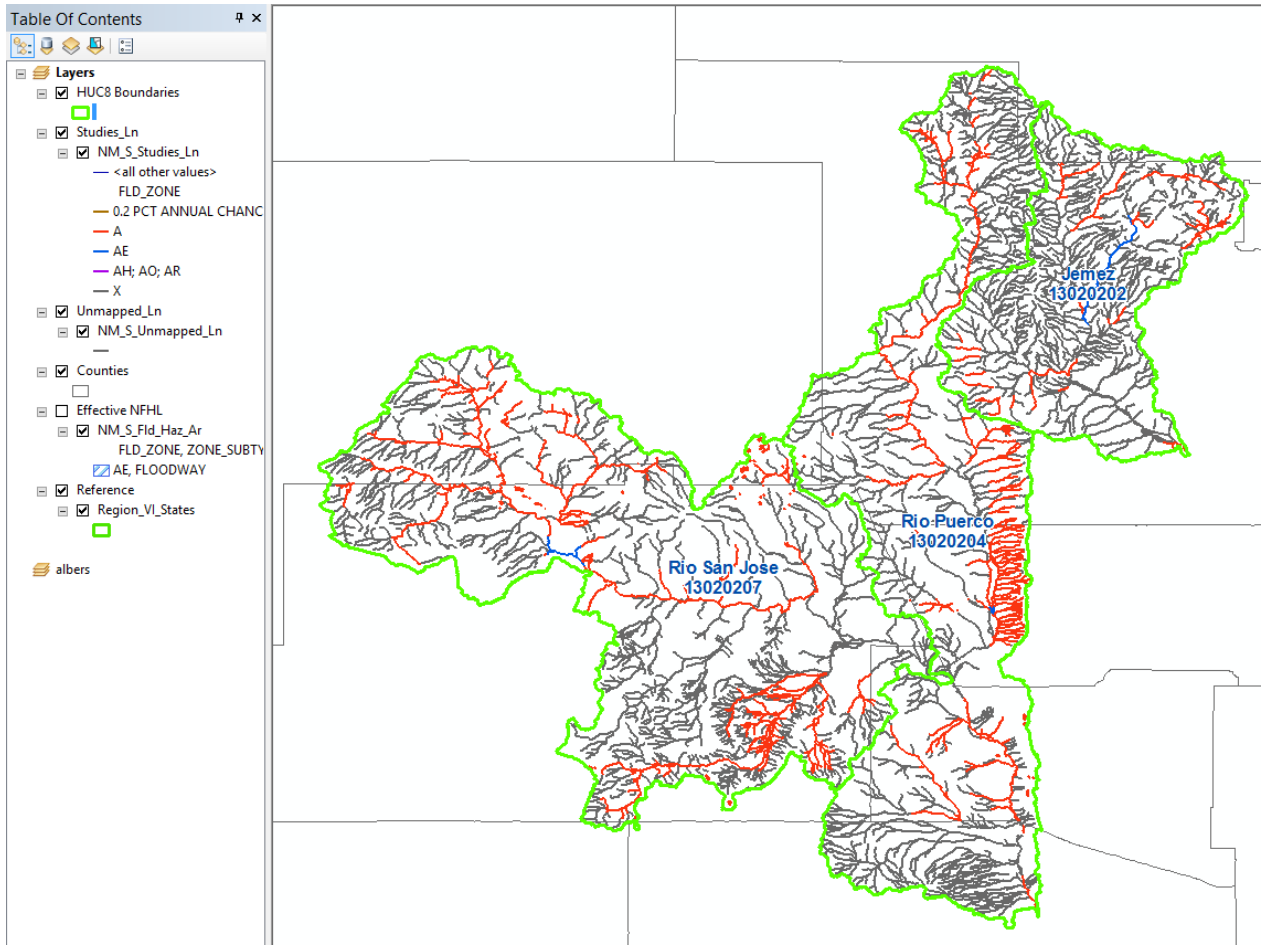


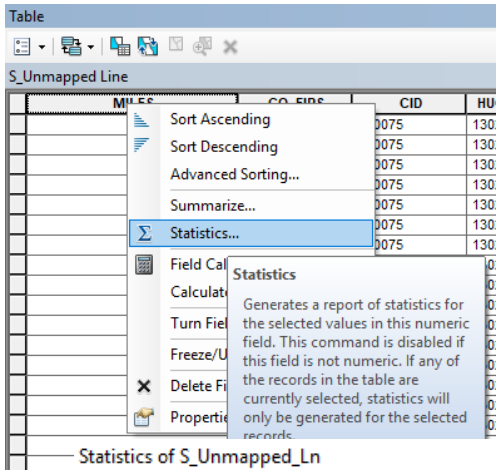
CNMS DATA DEFINITION QUERY

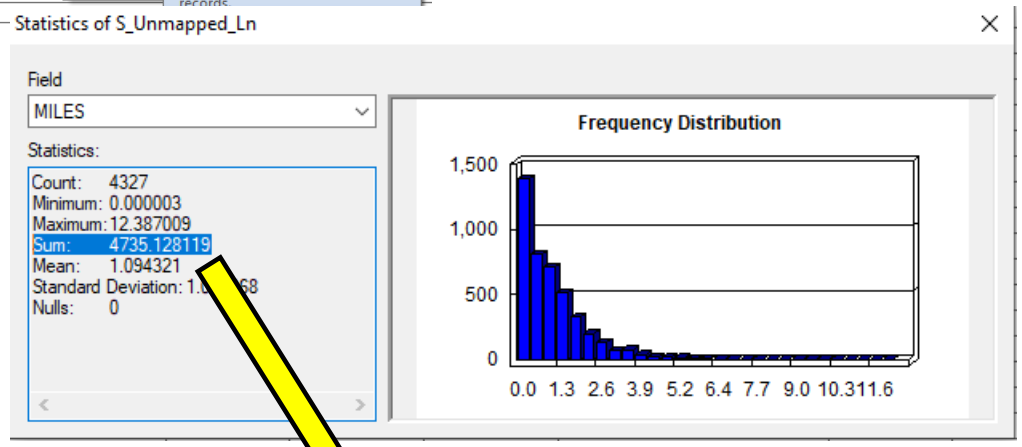
- Once the CNMS feature classes are loaded you will need to perform a definition query for the area or HUCs that you need mileages from on both S_Studies_Ln and S_Unmapped_Ln
- A definition query will leave only the reaches you specify. It can be performed by right clicking the feature classes in GIS, and going to 'Properties' and then the "Definition Query" tab. You can utilize the "Query Builder…" to use an SQL calculator for building your query.
- In this training example a definition query for 3 HUC8s where miles in those specific HUCs are needed
- The "HUC8_KEY" field in the CNMS feature classes is utilized as the basis of what to search for. This stores the HUC code each reach lies within. This can also be done by State, County FIPS, and more.

CNMS DEFINITION QUERY OUTCOME

- After entering the definition query for the 3 HUC8s in both S_Studies_Ln and S_Unmapped_Ln where mileage is to be gathered only the reaches within the HUCs queried will remain for both feature classes
- Your project may require more or less of a definition query to select only the reaches you need





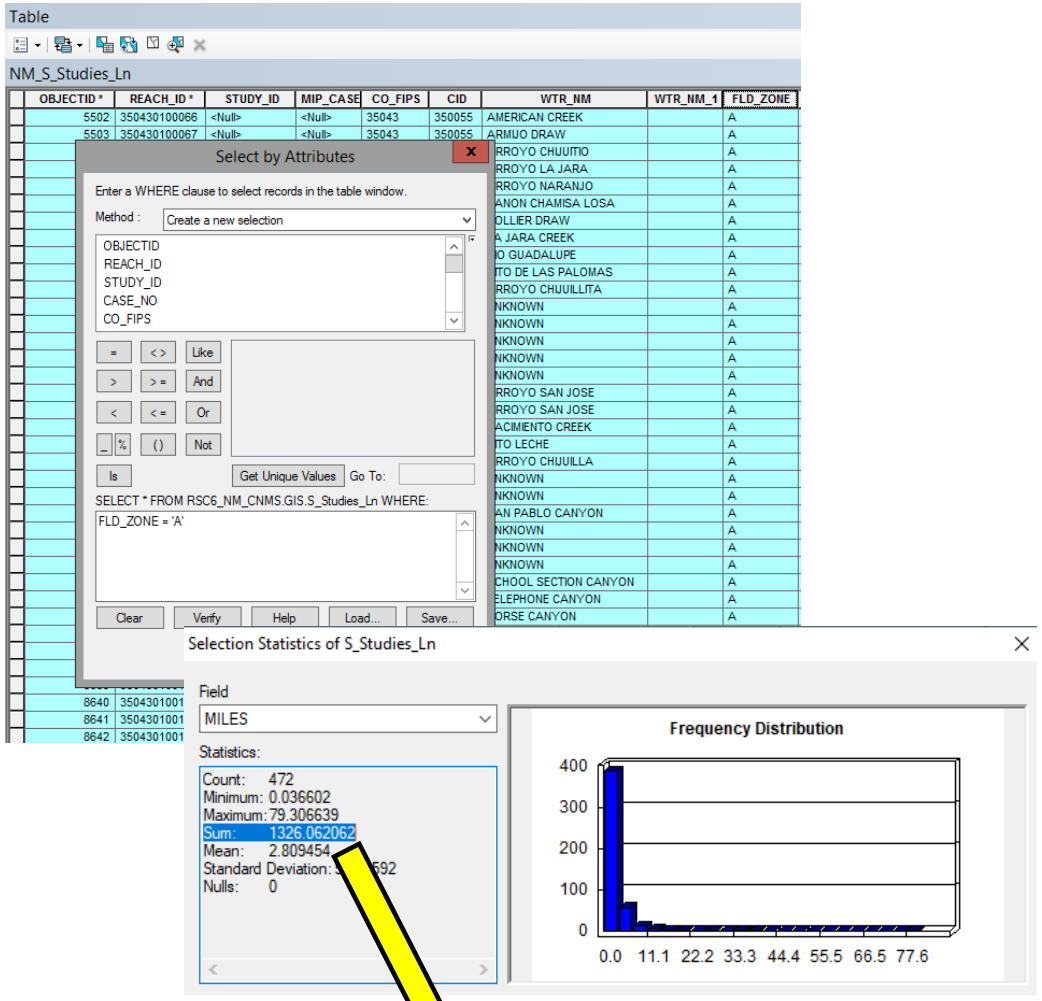


NVUE initiation

Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1			
Zone A						
Zone AE						
Zone AE w/FW						

NVUE MILEAGE CALCULATION – NOT MAPPED

- Open the S_Unmapped_Ln feature class attribute table by right clicking and selecting "Open Attribute Table"
- Once the table opens locate the "MILES" column, right click the heading and select "STATISTICS"
- A window will open showing various statistics about the field selected in this case "MILES"
- The "SUM" row will give you a total count of all miles in your 3 HUCs. This number rounded to the tenths place will be placed in your NVUE table under the 'Valid' column under "At Completion (miles)" for Not Mapped. Be sure that no reaches are selected when checking the SUM. Any selections will only give the SUM of the selected reaches
- This total is placed in the At Completion section since any miles which are currently unmapped / not mapped are assumed to be Valid once the Phase 0 BLE project is complete. Sometimes referred to as "NVUE New"



NVUE initiation

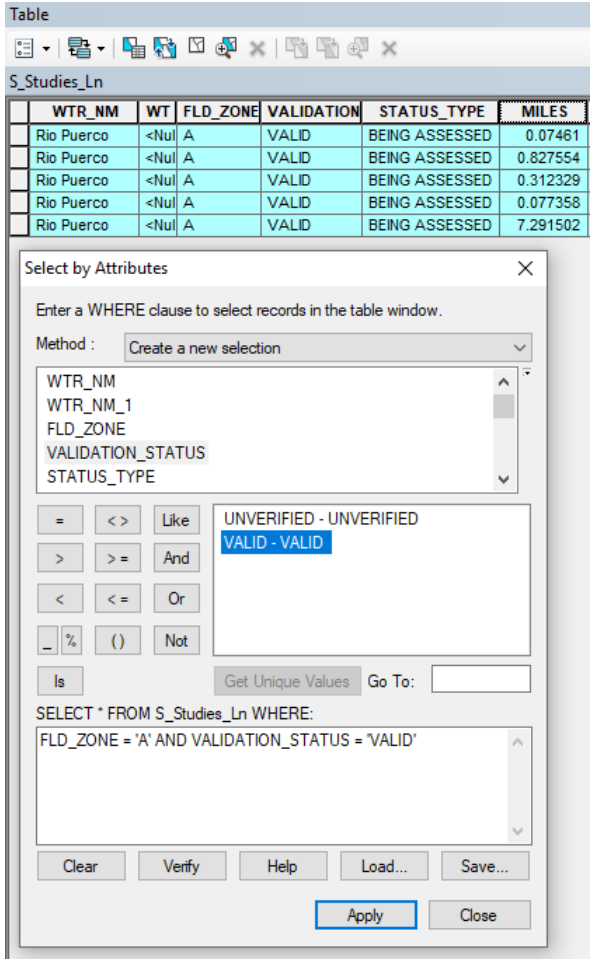
Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Un	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1			
Zone A			1326.1			
Zone AE						
Zone AE w/FW						

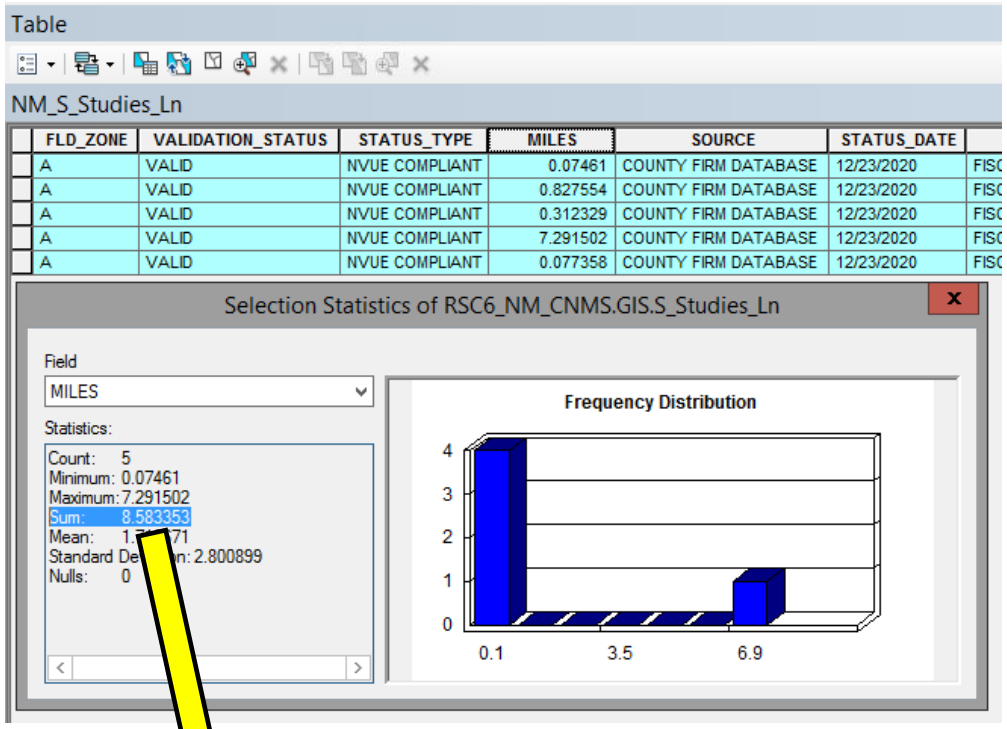
NVUE MILEAGE CALCULATION – ZONE A

- Open the S_Studies_Ln feature class attribute table
- Click the table options button in the upper left of the table and click "Select by attributes"
- Enter FLD_ZONE = 'A' in the bottom box and hit apply. This selects all Zone A miles in your queried area. Verify this is true.
- Right click the "MILES" column and then statistics as you did during the Not mapped set.
- Take the SUM and round to the tenths then and place the total under At Completion (miles) "Valid" column

NVUE MILEAGE- ZONE A - VALID

- Next you will calculate the Zone A Miles which are currently "VALID" based on the "VALIDATION_STATUS" field in S_Studies_Ln
- Open "Select by attributes" under table options
- Append to the previous calculation for Zone A by clicking the "AND" button and then in the top box scrolling to VALIDATION_STATUS and double clicking to add it to the bottom box. Then click "Get Unique Values" once values populate in the middle field then hit the '=' button and finally double click on "VALID" in the middle box to select it and add to the formula
- The bottom box should have the following entered: FLD_ZONE = 'A' AND VALIDATION_STATUS = 'VALID' Click Apply





NVUE initiation

Study Type	Effective (miles) Valid	Effective (miles) Unk/Unv	At Completion (miles) Valid	At Completion (miles) Unk/Unv	Delta (miles) Valid	Delta (miles) Unk/Unv
Not Mapped			4735.1			
Zone A	8.6		1326.1			
Zone AE						
Zone AE w/FW						

NVUE MILEAGE CALCULATION – ZONE A VALID

- After hitting apply you should be left with only Zone A miles that have a "VALIDATION_STATUS" of "VALID" Verify this is true
- Right click the "MILES" column and then statistics
- Take the SUM and round to the tenths then and place the total under Effective (miles) "Valid" column

NVUE MILEAGE- ZONE A UNK/UNV

- To obtain the Zone A Unk/Unv mile total for the Effective (miles) section subtract the sum of Zone A Valid Effective (miles) [8.6] from the sum of Zone A Valid At Completion (miles) [1326.1] to get **1317.5**

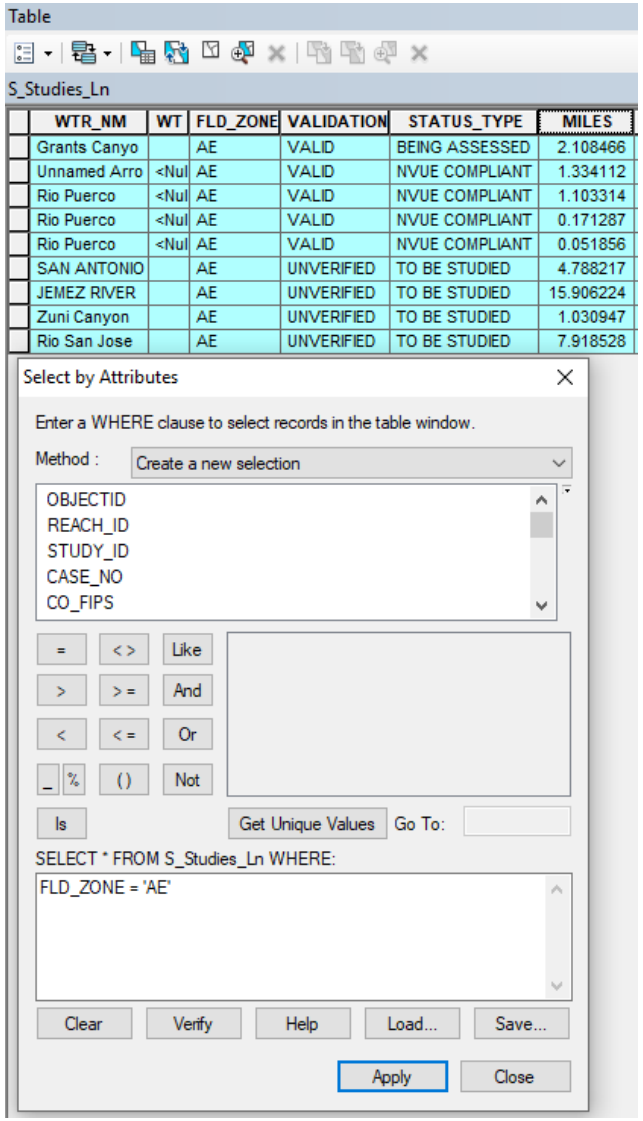
NVUE initiation

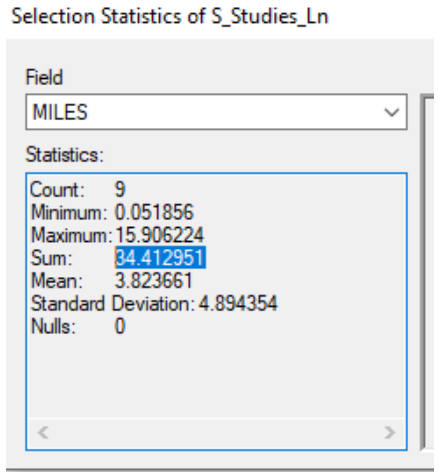
Study Type	Effective (miles)		At Completion (mi		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			473			
Zone A	8.6	1317.5	1326.1			
Zone AE						
Zone AE w/FW						

NVUE MILEAGE ZONE AE

- Zone AE mileage calculation is similar to gathering the information for Zone A however requires a few more steps for calculation of the miles with Floodway.
- To start you will calculate the total of all Zone AE miles in your project. You will calculate the overall total, Valid, and then Unk/Unv miles for all Zone AE.
- The totals for overall Zone AE will be used to calculate Zone AE with floodway and without.

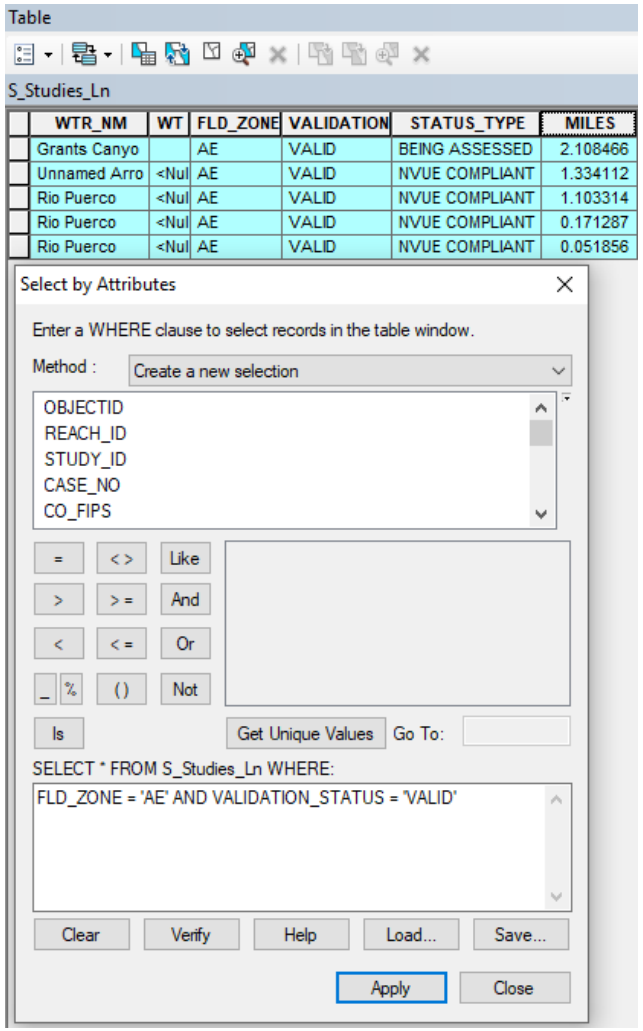
NVUE MILEAGE CALCULATION – TOTAL ZONE AE

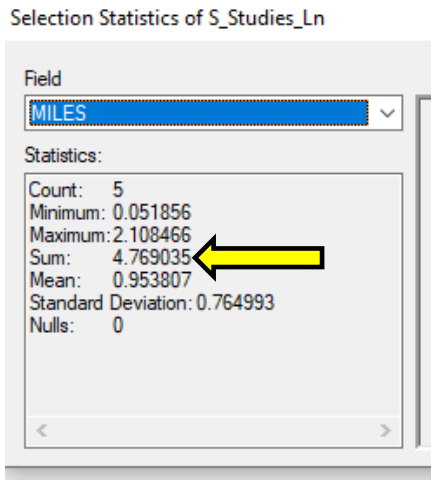




- Open the S_Studies_Ln feature class attribute table
- Click the table options button in the upper left of the table and click "Select by attributes"
- Clear any Zone A queries that remain and enter FLD_ZONE = 'AE' in the bottom box and hit apply. This selects all Zone AE miles in your queried area. Verify this is true
- Right click the "MILES" column and then statistics as you did for Not mapped and Zone A.
- Take the SUM and round to the tenths. Instead of entering this total in the table keep the numbers separate for further calculations once you determine AE with floodway miles. Total miles = **34.4**

NVUE MILEAGE CALCULATION – TOTAL ZONE AE - VALID





- Similar to Zone A Valid calculations Enter FLD_ZONE = 'AE' AND VALIDATION_STATUS = 'VALID' in the bottom box and hit apply. This selects all Zone AE- VALID miles in your queried area. Verify this is true
- Right click the "MILES" column and then statistics.
- Take the SUM and round to the tenths. Instead of entering this total in the table keep the numbers separate as you did for Total AE miles; for further calculations once you determine AE with floodway miles. Total AE miles = 34.4 and Total AE Valid = 4.8

NVUE MILEAGE- ZONE AE TOTAL UNK/UNV

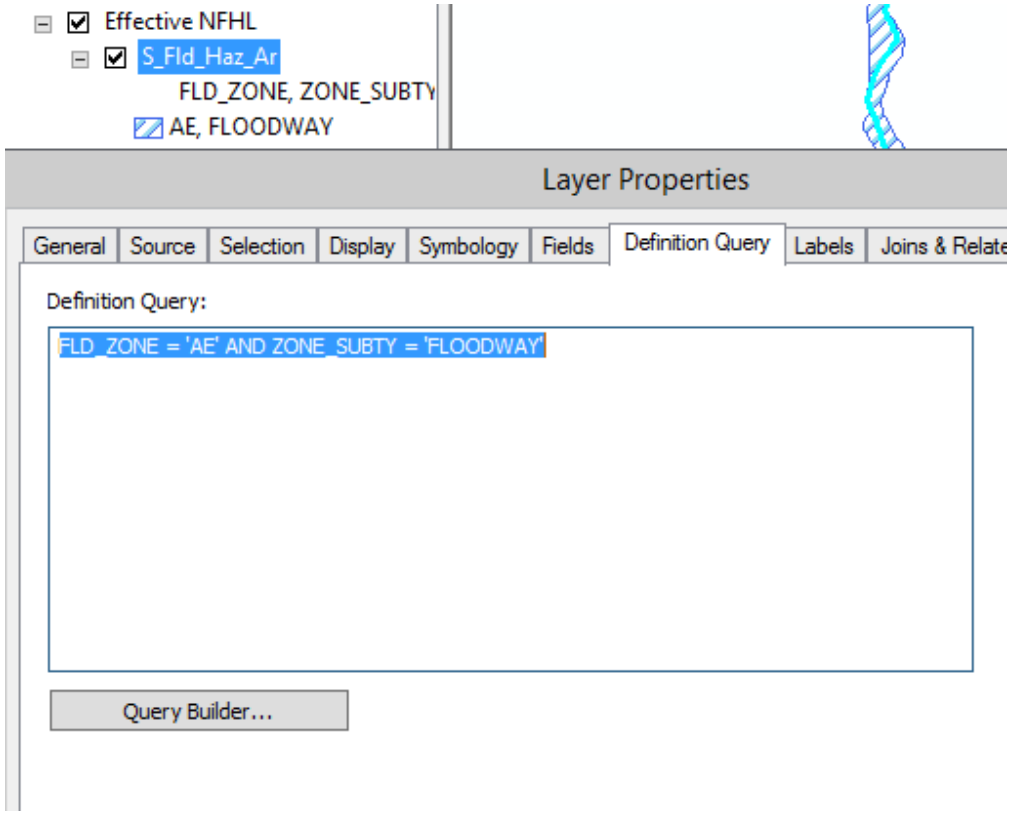
- To obtain the Unk/Unv mile total for total Zone AE miles subtract the Valid miles from the Total Zone AE miles as previously calculated: Total AE miles = 34.4 - Total AE Valid = 4.8

34.4 – 4.8 = 29.6 Total AE Unk/Unv

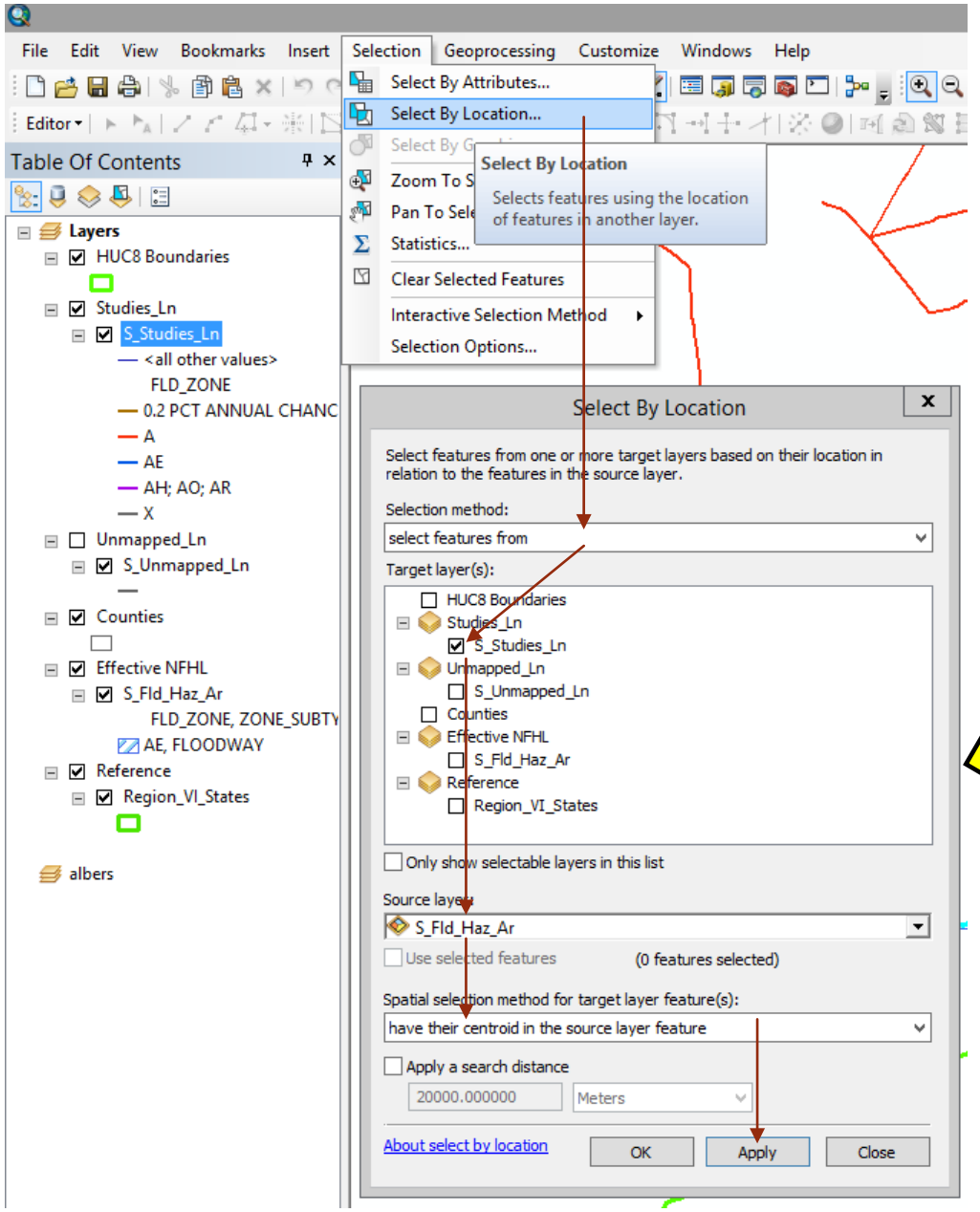
- You will utilize these overall Zone AE mileage totals to determine Zone AE Valid and Unk/Unv by subtracting Zone AE miles that have floodway which you will determine last.

NVUE MILEAGE - ZONE AE W/ FLOODWAY

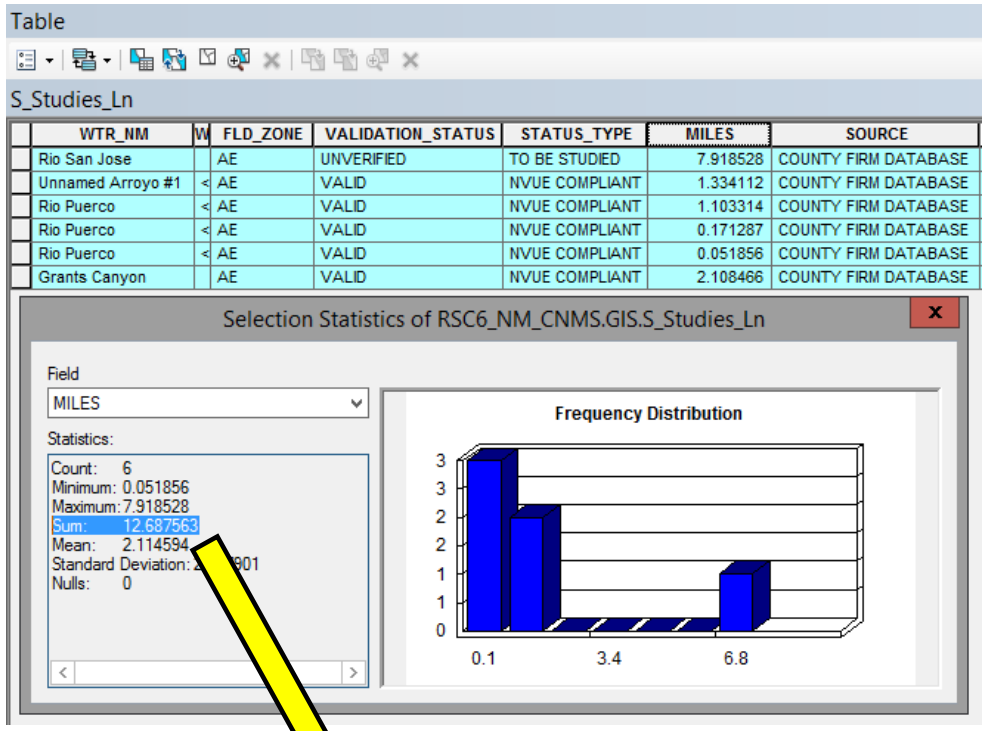
- To determine Zone AE miles with floodway you will need to utilize the S_Fld_Haz_Ar features class from NFHL and ensure you have proper coverage for your project area
- Load the S_Fld_Haz_Ar for your project area in the same GIS session as you have been utilizing to calculate mileages from S_Studies_Ln and S_Unmapped_Ln.
- Place the following formula under the S_Fld_Haz_Ar properties in the Definition Query Tab: FLD_ZONE = 'AE' AND ZONE_SUBTY = 'FLOODWAY'
- Click Apply to make sure the Definition Query occurs
- This will show only Zone AE with Floodway from S_Fld_Haz_Ar



NVUE MILEAGE CALCULATION – TOTAL ZONE AE W/ FLOODWAY



- CNMS does not store the floodway designation of Zone AE reaches so some manual mapping steps will be required to obtain Zone AE with floodway mileage.
- Be sure to clear any previous selections within S_Studies_Ln
- Since you placed a definition query on S_Fld_Haz_Ar you may utilize the GIS "Select by Location" feature to select reaches from S_Studies_Ln that "have their centroid in the source layer feature" within S_Fld_Haz_Ar. Hit Apply.
- You may also do a manual selection by simply panning your project area and selecting only Zone AE reaches inside floodway. This is also a good check to be sure that the 'select by location' tool did not select any errant reaches.

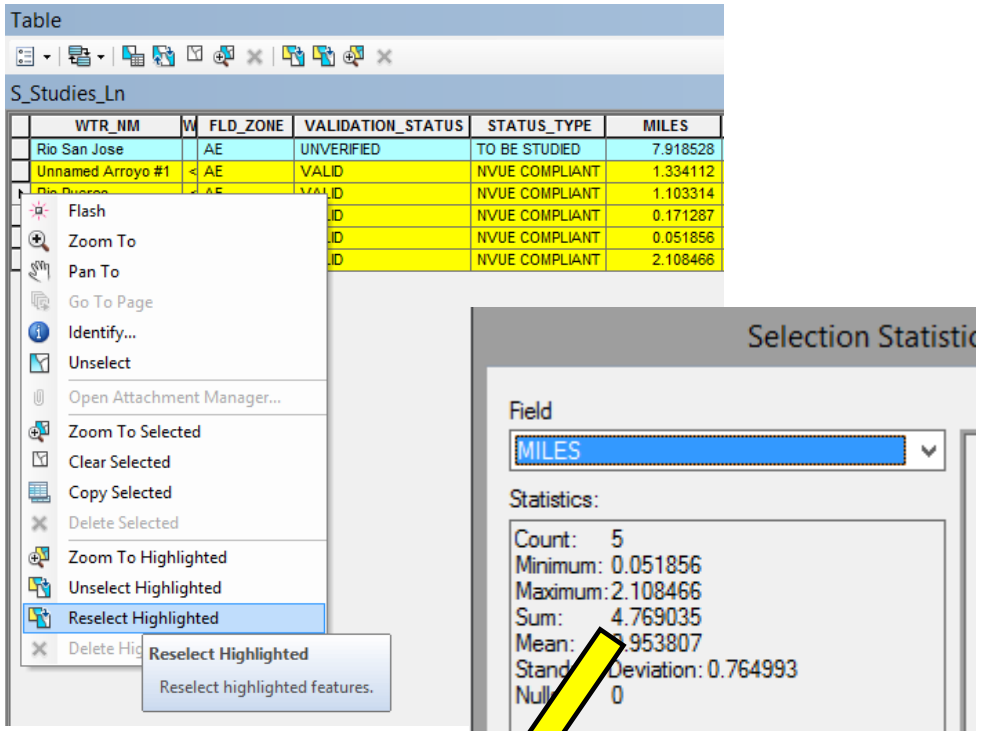


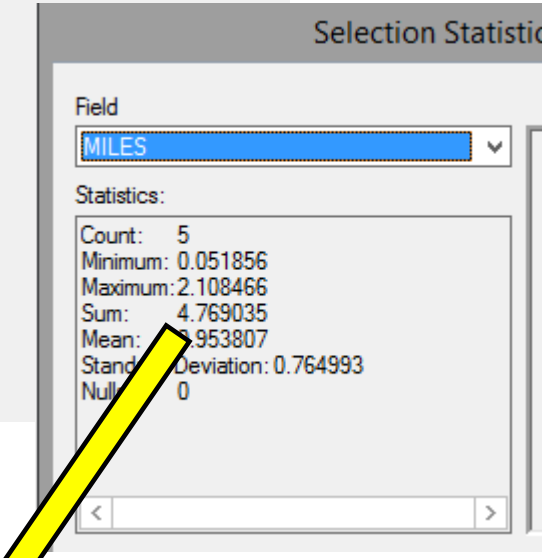
NVUE initiation

Study Type	Effective (mi… Valid	Unk/…v	At Completion (miles) Valid	Unk/Unv	Delta (miles) Valid	Unk/Unv
Not Mapped			4735.1			
Zone A	8.6	1317.5	1326.1			
Zone AE						
Zone AE w/FW			12.7			

NVUE MILEAGE CALCULATION – ZONE AE W/ FLOODWAY

- After hitting apply you should be left with only Zone AE reaches that have a floodway. (or if doing a manual select you should have only Zone AE within floodway). Verify this is true
- Open the S_Studies_Ln Attribute table, verify only Zone AE reaches are selected and Right click the "MILES" column and then statistics
- Take the SUM and round to the tenths then and place the total under At Completion (miles) "Valid" column for Zone AE w/FW
- Do not clear the selection





NVUE initiation

Study Type	Effective (miles) Valid	Effective (miles) Unk/Unv	At Completion (miles) Valid	At Completion (miles) Unk/Unv	Delta (miles) Valid	Delta (miles) Unk/Unv
Not Mapped			4735.1			
Zone A	8.6	1317.5	1326.1			
Zone AE						
Zone AE w/FW	4.8		12.7			

NVUE MILEAGE CALCULATION – ZONE AE W/ FLOODWAY - VALID

- To obtain Valid Miles from the previous selection, click the "show selected records" button at the bottom of the attribute table. This should show only the selected reaches. Right click and sort the VALIDATION_STATUS column as desired This should place all the VALID reaches toward the top or bottom of the selected list. Highlight the VALID reaches by selecting them manually, right click any highlighted row and then select "Reselect Highlighted"
- This will select only the VALID reaches with floodway which you can then right click MILES and select statistics to get the sum of miles.
- Take the SUM and round to the tenths then and place the total under Effective (miles) "Valid" column for Zone AE w/FW

NVUE MILEAGE- ZONE AE W/ FW UNK/UNV

- To obtain the Unk/Unv mile total for the Effective (miles) section subtract the sum of Valid Effective (miles) [4.8] from the sum of Valid At Completion (miles) [12.7] to get 7.9

NVUE initiation

Study Type	Effective (miles)		t Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1			
Zone A	8.6	1317.5	1326.1			
Zone AE						
Zone AE w/FW	4.8	7.9	12.7			

NVUE MILEAGE- ZONE AE TOTALS

- To now obtain the Zone AE miles for reaches which do not have floodway we will utilize the Total AE mileages we calculated earlier and subtract the miles of the Zone AE with floodway.
- The total AE mileages calculated earlier are:
  - 4.8 Effective (miles) Valid
  - 29.6 Effective (miles) Unk/Unv
  - 34.4 At Completion (miles) Valid
- You will subtract Zone AE miles that have floodway from these overall Zone AE mileage totals to fill in the Zone AE miles without floodway in the table.

- The total AE mileages calculated earlier are:
  - 4.8 Effective (miles) Valid
  - 29.6 Effective (miles) Unk/Unv
  - 34.4 At Completion (miles) Valid

NVUE initiation

Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1			
Zone A	8.6	1317.5	1326.1			
Zone AE	0	21.7	21.7			
Zone AE w/FW	4.8	7.9	12.7			

NVUE MILEAGE- ZONE AE

- For Zone AE Effective(miles) Valid: Subtract AE Miles w/ FW Valid [4.8] from Total Zone AE Valid Miles [4.8] to = 0 Zone AE Effective (miles) Valid
- For Zone AE Effective (miles) Unk/Unv: Subtract AE Miles w/ FW Unk/Unv [7.9] from Total Zone AE Unk/Unv Miles [29.6] to = 21.7 Zone Ae Effective (miles) Unk/ Unv
- For Zone AE At Completion(miles) Valid: Subtract AE w/ FW At Completion (miles) Valid [12.7] from Total Zone AE Miles [34.4] to = 21.7 Zone AE At Completion (miles) Valid

NVUE MILEAGE- DELTA MILES

- Finally, to obtain the Delta (miles) total for Study Types except Not Mapped you will take the Unk/Unv Mileages and place them into the Valid Delta (miles) field. For Not Mapped you will take the value placed in the At Completion (miles) Valid field.
- In this example once a Phase 0 BLE project is completed it is expected that all Unk/Unv and Not Mapped Miles will become Valid, so the Delta miles represent the new Valid mileages your project will be adding. Already valid mileages will remain valid. Your project may vary, and calculations should be adjusted accordingly.

NVUE initiation

Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1		+4735.1	
Zone A	8.6	1317.5	~~1326.1~~		+1317.5	
Zone AE	0	21.7	~~21.7~~		+21.7	
Zone AE w/FW	4.8	7.9	~~12.7~~		+7.9	

NVUE initiation

Study Type	Effective (miles)		At Completion (miles)		Delta (miles)	
	Valid	Unk/Unv	Valid	Unk/Unv	Valid	Unk/Unv
Not Mapped			4735.1		+4735.1	
Zone A	8.6	1317.5	1326.1		+1317.5	
Zone AE	0	21.7	21.7		+21.7	
Zone AE w/FW	4.8	7.9	12.7		+7.9	

WRAP UP

- Effective (Miles) column should contain what mileages currently exist in CNMS as Valid or Unknown / Unverified for each designated Zone type
- At Completion (Miles) will be the totals for your project which are assumed to be Valid or Unknown / Unverified for each Zone type. It is assumed new studies will be Valid at completion
- Delta (Miles) will always be the gain in Valid miles once a project is complete. Already Valid miles are not included in this total since they are already Valid

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Questions?