

# CDI Stream Summarization Face to Face Meeting (August 3-5th)

## Objectives of Meeting:

- Get feedback on existing summarization workflows, highlighting both similarities and differences
- Based on feedback and past experiences, set guidelines for summarization workflow
- Determine list of high priority variables for all participating collaborators
- Discuss and determine best options for code and data dissemination to make it most valuable to users and collaborators. For example, discuss appropriate data type of released summary information (e.g. shapefile vs. hdf vs. .csv)

## Meeting Agenda



## Summary of Meeting Outcomes

- Current stream summarization efforts were discussed and findings were documented in the charts below.

Local Catchment Summaries Comparison Chart  
Current Efforts August 2016

	EPA StreamCat	USGS NAQWA	Michigan State University	CA3TV2 - NHDPlus	EPA Office of Pesticide Programs (OPP)
<b>Term</b>	Allocation	Attribution	Attribution	Allocation	
<b>Program/Language</b>	ArcPy	Python - Arcpy	Python - Arcpy	Microsoft .NET, Microsoft SQL Server 2012 Express LocalDB	Python - Open Source (e.g. Numpy, gdal)
<b>Handles Missing Data</b>	Yes	Yes	Yes	Yes	
<b>Other</b>				Super Catchment (e.g. Great Lakes, overlapping catchments that need special handling) Automatically handles categorical rasters and creates multi attribute output for each statistic.	
<b>Availability of User Interface</b>	No	No	No	Yes, gives user choice of statistics to be computed.	No

Network Catchment Summaries Comparison Chart  
Current Efforts August 2016

	EPA StreamCat - (EPA OPP Similar)	USGS NAQWA	Michigan State University	CA3TV2 - NHDPlus	RivTool
<b>Term</b>	Accumulation	Aggregation	Aggregation	Accumulation	
<b>Program/Software or dependencies</b>	Python - numpy	SAS	Initially Ruby + MySQL, now Python with MySQL or csv	Microsoft .NET, Microsoft SQL Server 2012 Express LocalDB	RivTool (.EXE, works only on windows)
<b>Includes Local Catchment in Calculation</b>	Both Available	Yes	Yes	Yes?	User defined
<b>Treats No Data</b>	Yes	Yes	Not calculated but capability is there	Yes	Warnings and errors for input data
<b>Divergence Routed Option</b>	No	Yes	No - But Possible	Yes	No
<b>Other</b>		Flow Correction incorporated into stream network from Regional Experts	EcoReach Correction to stream Network: <a href="http://gis.sdsu.edu/gis483/S0667253/35VV/">http://gis.sdsu.edu/gis483/S0667253/35VV/</a>	divergence routed accumulation honors the NHDPlusV2 DnetFragMP table includes accumulation of Super Catchment Handles national input tables, multiple attributes in single run.	
<b>Assigns values to flowlines with no catchments</b>	No	Yes - next downstream	Yes - next upstream	Yes - Sum of inflows	
<b>Network Build Direction</b>	Works Outflow to Headwater but algorithms can work headwater to outflow	Works Headwater to Outflow	Works Headwater to Outflow	Works Headwater to Outflow, then upstream w/ tributaries at returning Divergences	Works Outflow to Headwater (calculations can go both directions)
<b>Deals with Braids</b>	Yes	Yes	Yes	Yes	No
<b>Transferable to other stream networks</b>	Yes - anything with FromTo table	Yes?	Yes? If network is defined	In general, No, it uses VAA to navigate. But it will work with HR NHDPlus with virtually no change.	Yes, if network is defined
<b>UI</b>	No	No	No	Yes, gives user choice of statistics to be computed.	Yes

- Outlined need for internal and external communication strategies and outreach tools including this site, and having a central repository for future development work
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- Landscape variables of interest for summarization include:

- NFHP: <http://assessment.fishhabitat.org/#578a9a48e4b0c1aacab8976c/578a99a6e4b0c1aacab895dd>
- EPA StreamCat: <ftp://newftp.epa.gov/EPADDataCommons/ORD/NHDPlusLandscapeAttributes/StreamCat/Documentation/VariableList-QuickReference.html>
- USGS NAQWA: <https://my.usgs.gov/confluence/pages/viewpage.action?spaceKey=NAWQAHST&title=Processing+Landscape+Variables+to+NHDPlus+Version+2.1>
- Other Potential Data Users: Coming Soon