

Elk River Hydrologic Stations
Data Validation Summary

Hydro Year 2003

Station	Discharge Measurement	Continuous Depth Measurement	Physical Sediment Samples	Continuous Turbidity Measurement	Seasonal Total Calculations
183	POOR -Significant cross-section change and few points.	FAIR -Lost depth data for January.	FAIR --Good relationships but low range on samples.	GOOD -Reasonably complete record.	LOW to Moderate --Lack of physical sediment samples.
188	FAIR - Change in stage relationship w/ 12/27 storm. Good fit in both periods	FAIR - Machine down during maj. Storm event. Relationship changed after storm to fix instruments	POOR - Too few measured points, especially for SSC. Good relationships betw. Turbidity and SSC	FAIR - Reasonably continuous record, but data problems. Relatively low data range recorded	FAIR - Total annual Q calc. is high. Mod. confidence . Low confidence in Susp. Sed. Few lg. values
509	EXCELLENT -Good stage/Q relationship	POOR/FAIR - Virtually all of the record is missing. Good reconstruct	FAIR -Relatively few samples to construct relationship.	GOOD -Reasonably complete record.	FAIR/POOR - Calculated with reconstructed flow record.
510	EXCELLENT - Good range of Q measured. Good tight fit.	EXCELLENT - Not many gaps. No storms missed.	EXCELLENT - Many samples across full range. Good turb/SSC relationship	GOOD - Good range of turb. Measurement. No major gaps during storms	EXCELLENT - High Confidence. Complete sampling record
511	GOOD - Reasonable fit. Appears that relationship overpredicts.	GOOD - Record complete for most part. Storms measured	EXCELLENT - Many ISCO samples over a range of sediment concentration	FAIR - Many turbidity measurements adjusted because of machine calibration errors.	GOOD - Q predicting a little high, sediment relationships good w/ moderate confidence
512	GOOD - Stage/Q relationship is good fit. Range of measured Q about 50% bankfull	POOR - Most of record is missing, depth estimated from site 517	GOOD - Moderate number of samples	GOOD/EXCELLENT - A number of gaps in the record but major storms well covered. Good turb. range observed	FAIR - Low confidence in Q. Total sediment looks reasonable but low confidence due to Q interpolation
517	FAIR/POOR - Excellent individual Q measures. Upper of stage/Q constrained to est. Q based on regional relationship	EXCELLENT - Depth readings very complete. Good relationship betw. Machine and staff plate	GOOD - Many manual samples. Good range of turbidity and SSC measured	EXCELLENT - Good complete record	GOOD - Moderate confidence in Q calc. because max Q measured not very high. Mod. Confidence in sed. load calculation
522	GOOD - Good fit in points, constrained upper estimate by using regional Q/bankfull as a data value	GOOD - Gap in data during Jan. due to equip. malfunction. Major storms measured.	POOR - No moderate or high sediment concentration samples collected. Good fit in points at lower end.	GOOD - Gap during the month of Jan., otherwise record good. Caught most of the storms	GOOD - Reasonable results, moderate confidence

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513/525	POOR - Maj. infilling of sediment. Station moved mid-winter, new site very good but few measures. none at high flow	NA - No instrument	FAIR/POOR - Using station 525, few points at either site at higher flows	NA - No instrument	NA
514	POOR - Considerable filling of channel. Bad location for measurement. Reconstructed staff/Q to fair relationship	NA - No instrument	FAIR - Measurements of sediment	NA - No instrument	NA
515	EXCELLENT - Good range of depth measured. Good relationships between stage/Q	NA - No instrument	FAIR - No SSC data for a couple of high turbidity points, relatively few data points	NA - No instrument	NA
516	POOR - Velocity measurements during Q measurement very low. Q calc low even though stage high. Backwater effects are perhaps affecting this site	NA - No instrument	FAIR - Samples were collected over a range of flow and a number were taken. Several odd outliers	NA - No instrument	NA
518	GOOD/EXCELLENT - Good range of Q measured, though not to bankfull. Good fit of points on line	NA - No instrument	GOOD/FAIR - Good relationships although only one measure in upper ranges	NA - No instrument	NA
519	FAIR - Staff bent after Dec. storm not fixed until Feb. 4. Measures only to 0.64 depth.	NA - No instrument	POOR - A lot of scatter in higher end measurements. Not many points measured at higher flows	NA - No instrument	NA
520	FAIR - Inadequate amount of measurements at high flow. Max stage was 0.43	NA - No instrument	POOR - Not adequate range or samples, data is good in range	NA - No instrument	NA

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521	FAIR - Relationship is tight. Only measured up to 80% of bankfull depth. Major shift in channel during 12/27 storm	NA - No instrument	FAIR - Sampled through 0.7 bankfull depth. Not enough samples at higher Q to be confident in sed/Q relationships. Turb/SSC are tight	NA - No instrument	NA