

Nontidal Network Water Quality Data Processing

Decision rules for water quality parameters

July 19, 2023

Data Integrity Workgroup

NTN Water Quality Parameters

600
Total Nitrogen

631
Nitrate

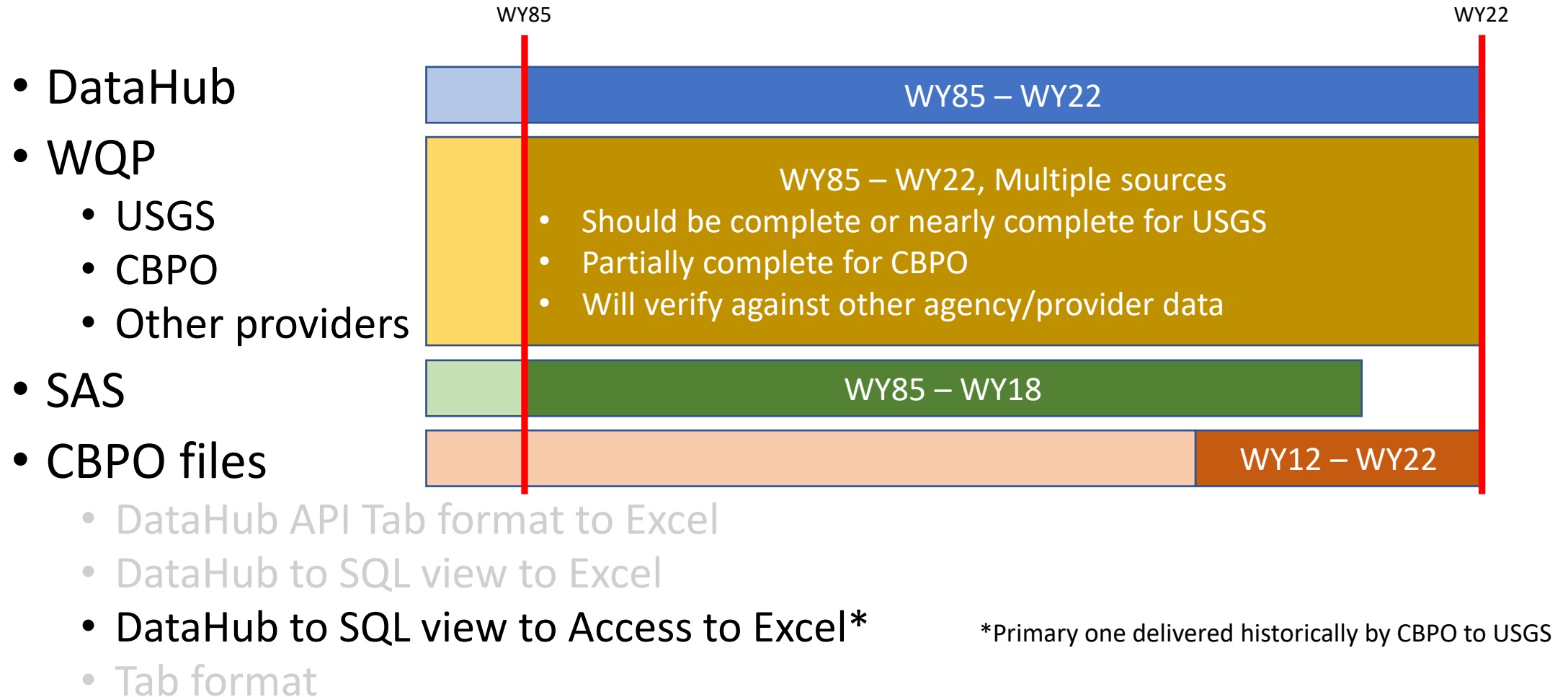
665
Total Phosphorous

671
Orthophosphate

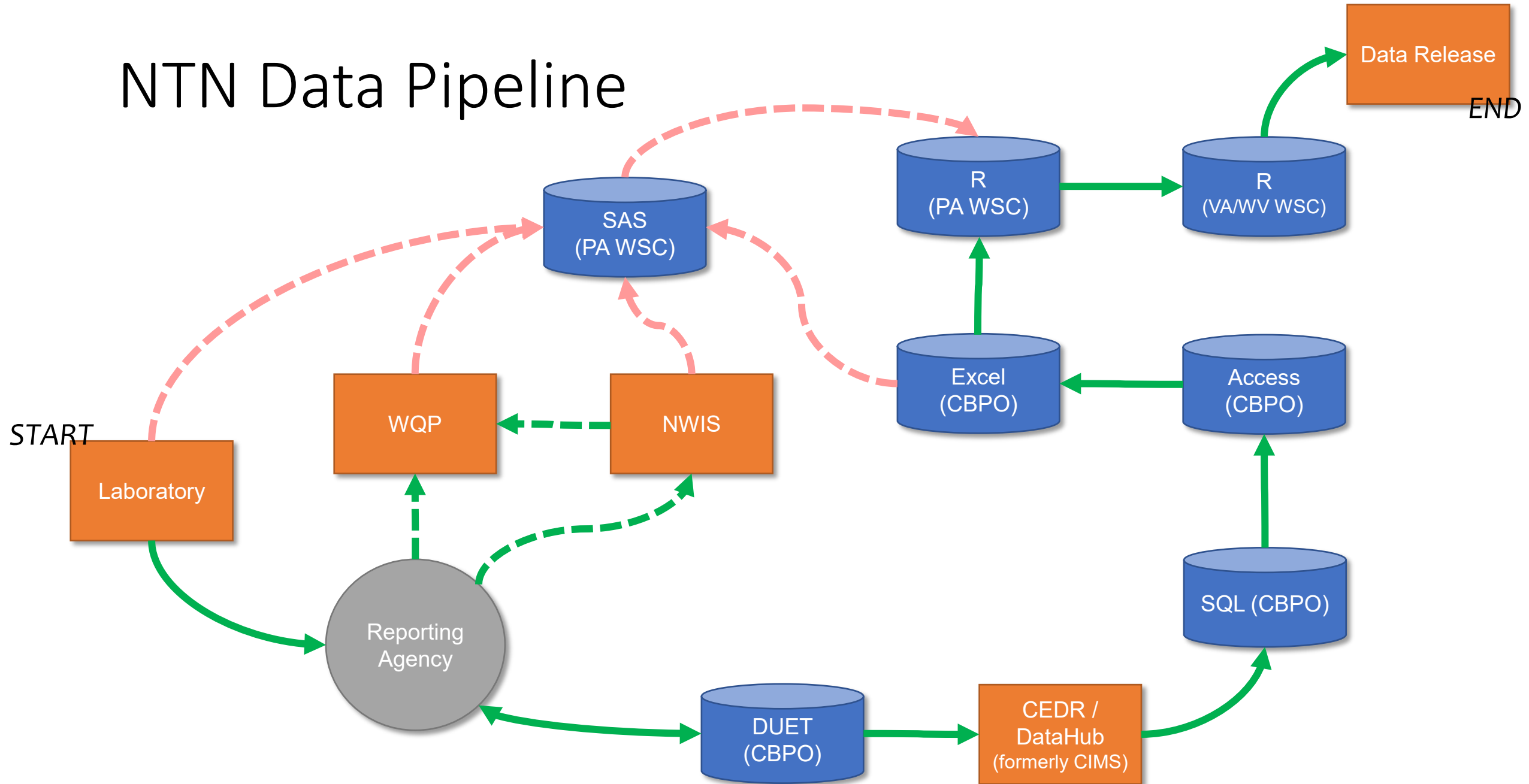
80154
Suspended Sediment
Concentration

Parameter Code Definition						
Parameter Code	Group Name	Parameter Name/Description	EPA equivalence	Result Sample Fraction	SRSName	Parameter Unit
600	Nutrient	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, milligrams per liter	Agree	Total	Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	mg/l
631	Nutrient	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen	Agree	Dissolved	Inorganic nitrogen (nitrate and nitrite)	mg/l as N
665	Nutrient	Phosphorus, water, unfiltered, milligrams per liter as phosphorus	Agree	Total	Phosphorus	mg/l as P
671	Nutrient	Orthophosphate, water, filtered, milligrams per liter as phosphorus	Agree	Dissolved	Phosphate	mg/l as P
80154	Sediment	Suspended sediment concentration, milligrams per liter	Not checked	Suspended	Suspended sediment concentration (SSC)	mg/l

Data Sources



NTN Data Pipeline



Parameter Decision Rules

600
TN

631
NO₃

665
TP

671
PO₄

80154
SSC

(first choice) → 600

601 + 602

62855

62854 + 49570

630 + 625

631 + 625

620 + 615 + 625

620 + 613 + 625

618 + 615 + 625

618 + 613 + 625

630 + 623

631 + 623

620 + 615 + 623

620 + 613 + 623

618 + 615 + 623

618 + 613 + 623

620 + 625

618 + 625

620 + 623

618 + 623

62854

631

630

618 + 613

618 + 615

620 + 613

620 + 615

618

620

665

666 + 667

671

672

80154

530

Parameter Decision

600
TN

631
NO3

671
PO4

80154
SSC

(first choice) → 600

601 + 602

62855

62854 + 49570

630 + 625

631 + 625

620 + 615 + 625

620 + 613 + 625

618 + 615 + 625

618 + 613 + 625

630 + 623

631 + 623

620 + 615 + 623

620 + 613 + 623

618 + 615 + 623

618 + 613 + 623

620 + 625

618 + 625

620 + 623

618 + 623

62854

631

630

618 + 613

618 + 615

620 + 613

620 + 615

618

620

671

672

80154

530

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Parameter Code Definition						
Parameter Code	Group Name	Parameter Name/Description	EPA equivalence	Result Sample Fraction	SRSName	Parameter Unit
530	Physical	Suspended solids, water, unfiltered, milligrams per liter	Not checked	Non-filterable	Total suspended solids	mg/l
600	Nutrient	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, milligrams per liter	Agree	Total	Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	mg/l
601	Nutrient	Total nitrogen [nitrate + nitrite + ammonia + organic-N], suspended sediment, total, milligrams per liter	Not checked	Suspended	Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	mg/l
602	Nutrient	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, filtered, milligrams per liter	Agree	Dissolved	Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	mg/l
613	Nutrient	Nitrite, water, filtered, milligrams per liter as nitrogen	Agree	Dissolved	Nitrite	mg/l as N
615	Nutrient	Nitrite, water, unfiltered, milligrams per liter as nitrogen	Agree	Total	Nitrite	mg/l as N
618	Nutrient	Nitrate, water, filtered, milligrams per liter as nitrogen	Agree	Dissolved	Nitrate	mg/l as N
620	Nutrient	Nitrate, water, unfiltered, milligrams per liter as nitrogen	Agree	Total	Nitrate	mg/l as N
623	Nutrient	Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen	Agree	Dissolved	Kjeldahl nitrogen	mg/l as N
625	Nutrient	Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as nitrogen	Agree	Total	Kjeldahl nitrogen	mg/l as N
630	Nutrient	Nitrate plus nitrite, water, unfiltered, milligrams per liter as nitrogen	Agree	Total	Inorganic nitrogen (nitrate and nitrite)	mg/l as N
631	Nutrient	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen	Agree	Dissolved	Inorganic nitrogen (nitrate and nitrite)	mg/l as N
665	Nutrient	Phosphorus, water, unfiltered, milligrams per liter as phosphorus	Agree	Total	Phosphorus	mg/l as P
666	Nutrient	Phosphorus, water, filtered, milligrams per liter as phosphorus	Agree	Dissolved	Phosphorus	mg/l as P
667	Nutrient	Phosphorus, suspended sediment, total, milligrams per liter as phosphorus	Agree	Suspended	Phosphorus	mg/l as P
671	Nutrient	Orthophosphate, water, filtered, milligrams per liter as phosphorus	Agree	Dissolved	Phosphate	mg/l as P
672	Nutrient	Hydrolyzable phosphorus, water, filtered, milligrams per liter as phosphorus	Agree	Dissolved		mg/l as P
49570	Nutrient	Particulate nitrogen, suspended in water, milligrams per liter	Not checked	Suspended	Nitrogen	mg/l
62854	Nutrient	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, filtered, analytically determined, milligrams per liter	USGS use and no use by EPA	Dissolved	Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	mg/l
62855	Nutrient	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, analytically determined, milligrams per liter	USGS use and no use by EPA	Total	Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	mg/l
80154	Sediment	Suspended sediment concentration, milligrams per liter	Not checked	Suspended	Suspended sediment concentration (SSC)	mg/l

NTN Data Validation

- What are the differences between data sources:
 - Number of observations
 - Sample dates/times
 - Measure values
 - Laboratory qualifiers/remarks/comments
 - Other attributes: method codes, measured vs. calculated, etc.
- Are we missing any data?

Timeline

Fiscal Year 23							Fiscal Year 24						
Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
	Extract web data												
	Modify scripts												
		Identify data discrepancies											
		Resolve pcode hierarchy											
		Resolve data discrepancies											
					QAPP								
					Data Release								
							OFR						
							Prep data						
								Loads/trends computation and analysis					