

Bioavailable nutrients from sediment data (BAN data) - Queensland Government

This document details the metadata used to describe the Bioavailable nutrients from sediment data (BAN data) dataset.

Field	Description	Unit	ALHS ¹	Uncertainty ±%	PQL	Method Description	Reporting Basis	Method Notes	Fraction associated to
LIMS id	Chemistry Centre identification number (DETSI)	N/A							Parent soil, sediment
SCRP id	Soil Catchment Riverine Processes team ID	N/A							Parent soil, sediment
Project	Project in which the data was collected	N/A							
Latitude		deg.dec							Parent soil, sediment
Longitude		deg.dec							Parent soil, sediment
Soil depth	Soil depth the parent soil sample was taken from	meter (m)							Parent soil, sediment
Sampling date		N/A							
Catchment	Catchment name as name of the Queensland Drainage Basins sub area as defined by the Australian Water Resources Management Committee (WRMC).	N/A							Parent soil, sediment
Subcatchment	A sub-catchment drains directly into the main river that defines a catchment.	N/A							Parent soil, sediment
Land use	Soil land use as per the Queensland Spatial Catalogue and verified in the field	N/A							Parent soil, sediment
Soil type	Soil type as per the Australian Soil Classification System (Isbell, 2021)	N/A							Parent soil, sediment
Erosion process	Type of erosion process: surface or subsurface	N/A							Parent soil, sediment
Gully	Gully name	N/A							
Erodibility	Erodibility as per the Burdekin basin soil erodibility mapping Queensland Government	N/A							Parent soil, sediment
Geology	Geology as per Queensland Spatial Catalogue.	N/A							Parent soil, sediment
Fractionation method	Method to fractionate soil in different particle sizes	N/A				See detailed methods in Methods sheet			Parent soil, sediment
Replicate	Number of field sampling replicate if it applies	N/A							
S_COLWELL P	Phosphorus (Colwell)	mg/kg	9B2	10	2	Soil: P extractable 0.5M NaHCO3 AA	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_PBI col	Phosphorus buffer index (adjusted using Colwell P)\	N/A	9I2	15	1	Soil: Phosphorus Single Point Buffer Index	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_PBI unadj	Phosphorus buffer index (unadjusted)	N/A	9I4	15	1	Soil: Phosphorus Single Point Buffer Index	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_BSES P	Phosphorus	mg/kg	9G2	12	2	Soil: P extractable 0.005M H2SO4 AA	Oven dry (48 hours at 40°C)		Parent soil, sediment
Mineral P	calculated	mg/kg				S_BSES P - S_COLWELL P			Parent soil, sediment
DRP (dissolved reactive P)	calculated	mg/kg				S_COLWELL P / S_PBI col			Parent soil, sediment
S_DUM_TC	Total carbon	%	6B2a	5	0.05	Soil: C N total Dumas	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_DUM_TOC	Organic Carbon	%	6B5	10	0.05	Soil: Total Organic Carbon; Combustion	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_DUM_IC	Inorganic Carbon	%		5	0.1	Soil: Carbon Inorganic (Total - Organic) Combustion; Calculation	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_DUM_TN	Total nitrogen	%	7A5	10	0.05	Soil: C N total Dumas	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KJNP_TKN	Kjeldahl nitrogen	%	7A2	10	0.013	Soil: Total N and P Kjeldahl digest AA	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KJNP_TKP	Kjeldahl phosphorus	%	9A3a	10	0.013	Soil: Total N and P Kjeldahl digest AA	Oven dry (48 hours at 40°C)		Parent soil, sediment
ADMC	Air dry moisture content (105°C)	%	2A1	8	1.5	Soil: Moisture air dry	Oven dry (48 hours at 105°C)		Parent soil, sediment
S_LOI_600	Loss on Ignition at 600 degrees C	%				Soil: Loss on ignition at 600 degrees Celcius.			Parent soil, sediment
S_03_BAR	Field capacity moisture (1/3 Bar)	%	2E2	15	1.5	Soil: Moisture 1/3 Bar pressure plate	Oven dry (24 hours at 105°C)		Parent soil, sediment
TOC/TN	Ratio of total organic carbon to total nitrogen (calculated)	N/A				S_DUM_TOC / S_DUM_TN			Parent soil, sediment
TKN/TKP	ratio of total Kjeldahl nitrogen to total Kjeldahl phosphorus (calculated)	N/A				S_KJNP_TKN / S_KJNP_TKP			Parent soil, sediment
S_KC2_NH4_N	Ammonium nitrogen air dry	mg/kg	7C2_NH4	10	2	Soil: NO3-N NH4-N 2M KCl extractable AA	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KC2_NO3_N	Nitrate nitrogen air dry	mg/kg	7C2_NO3	10	2	Soil: NO3-N NH4-N 2M KCl extractable AA	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KC2_mineralN_N	Mineral nitrogen air dry (calc)	mg/kg				S_KC2_NH4_N + S_KC2_NO3_N	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_NH4_N	Ammonium nitrogen air dry	mg/kg		11	1	Soil: NO3-N NH4-N extractable 0.5M K2SO4; AA * See methods for /wet fractionation	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_NO3_N	Nitrate nitrogen air dry	mg/kg		11	1	Soil: NO3-N NH4-N extractable 0.5M K2SO4; AA * See methods for /wet fractionation	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_mineralN_N	Mineral nitrogen air dry (calc)	mg/kg				S_POTSN_NH4_N + S_POTSN_NO3_N	Oven dry (48 hours at 40°C)		Parent soil, sediment
W_DNOC_DOC	Water extractable soluble organic carbon	mg/kg		10		See detailed method in Methods sheet	Oven dry (48 hours at 40°C)	Water: Dissolved Nitrogen	Parent soil, sediment
W_FIL_AA_NH4-N	Water extractable soluble ammonium-N	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		sediment
W_FIL_AA_NOx-N	Water extractable NOx-N	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		sediment
W_FIL_AA_PO4_P	Water extractable PO4_P	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		sediment
W_KJD_AA_DKN	Water extractable dissolved kjeldahl nitrogen	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		sediment
W_KJD_AA_DKP	Water extractable dissolved kjeldahl phosphorus	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		sediment
W_DNOC_DN	Water extractable soluble nitrogen	mg/kg		10		See detailed method in Methods sheet	Oven dry (48 hours at 40°C)	Water: Dissolved Nitrogen	Parent soil, sediment
S_KC2_SON	Soluble organic nitrogen (calculated)	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KC2_PON	Particulate organic nitrogen (calculated)	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_SON	Soluble organic nitrogen (calculated)	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_PON	Particulate organic nitrogen (calculated)	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KC2_PMN1	Potential mineralisable nitrogen in soils at day 1	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KC2_PMN3	Potential mineralisable nitrogen in soils at day 3	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_KC2_PMN7	Potential mineralisable nitrogen in soils at day 7	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_PMN1	Potential mineralisable nitrogen in soils at day 1	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_PMN3	Potential mineralisable nitrogen in soils at day 3	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_POTSN_PMN7	Potential mineralisable nitrogen in soils at day 7	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_W_PPOC1d	Potential production of soluble organic carbon at day 1	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_W_PPOC3d	Potential production of soluble organic carbon at day 3	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_W_PPOC7d	Potential production of soluble organic carbon at day 7	mg/kg				See detailed method in Methods sheet	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_PSA Coarse sand	Coarse sand: Sieve 0.2 – 2.0 mm	%	2Z2_CS	10	1	Soil: Particle size analysis	Oven dry (48 hours at 105°C)		Parent soil
S_PSA_Fine sand	Fine sand: Sieve 0.02 – 0.2 mm	%	2Z2_FS	8	1	Soil: Particle size analysis	Oven dry (48 hours at 105°C)		Parent soil
S_PSA_Silt	Silt: hydrometer 2 – 20 µm	%	2Z2_Silt	8	1	Soil: Particle size analysis	Oven dry (48 hours at 105°C)		Parent soil
S_PSA_Clay	Clay: hydrometer <2 µm	%	2Z2_Clay	5	1	Soil: Particle size analysis	Oven dry (48 hours at 105°C)		Parent soil
S_PSA_Silt+Clay	Silt + Clay (calculated)	%		0	1	S_PSA_Silt + S_PSA_Clay	Oven dry (48 hours at 105°C)		Parent soil
S_PSD_ULTD_<62.5 um	<62.5 µm (Silt and Clay)	%		0	1	Sediment: Particle Size (ultrasound dispersed)	As received		Parent soil
S_PSD_ULTD_<16 um	<16 µm (Fine Silt and Clay)	%		0	1	Sediment: Particle Size (ultrasound dispersed)	As received		Parent soil
S_PSD_ULTD_<4 um	<4 µm (Clay)	%		0	1	Sediment: Particle Size (ultrasound dispersed)	As received		Parent soil
S_AQ4_pH	pH		4A1	5	0.1	Soil: pH EC Aqueous (1:5)	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_AQ4_EC	Electrical conductivity	dS/m	3A1	10	0.01	Soil: pH EC Aqueous (1:5)	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_AQ4_Cl	Chloride	mg/kg	5A2	10	20	Soil: Cl NO3-N Aqueous (1:5)	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_AQ4_NO3-N	Nitrate nitrogen	mg/kg	7B1	15	1	Soil: Cl NO3-N Aqueous (1:5)	Oven dry (48 hours at 40°C)		Parent soil, sediment
S_CC1_P	Phosphorus	ug/kg	9F2	15	50	Soil: P 0.005M CaCl2 AA	Oven dry (48 hours at 40°C)		Parent soil
S_R1_R2_R1	Dispersion Ratio (R1)		2Z1_R1	8	0.1	Soil: R1-R2 Dispersion Ratios	Oven dry (48 hours at 40°C)		Parent soil
S_R1_R2_R2	Dispersion Ratio (R2)		2Z1_R2	10	0.1	Soil: R1-R2 Dispersion Ratios	Oven dry (48 hours at 40°C)		Parent soil
R1/R2	Ratio of dispersion ratios (calculated)					R1 / R2	Oven dry (48 hours at 40°C)		Parent soil
WDSC	Water dispersable silt and clay (calculated)	%				R1 * S_PSA_Silt+Clay	Oven dry (48 hours at 40°C)		Parent soil

WDC	Water dispersable clay (calculated)	%				R2 * S_PSA_Clay	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_EQ_Ca	Calcium	cmol_c/kg	15A1_Ca	10	0.14	Soil: Cations extractable NH4Cl pH 7 ICP	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_EQ_Mg	Magnesium	cmol_c/kg	15A1_Mg	10	0.03	Soil: Cations extractable NH4Cl pH 7 ICP	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_EQ_K	Potassium	cmol_c/kg	15A1_K	10	0.03	Soil: Cations extractable NH4Cl pH 7 ICP	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_EQ_Na	Sodium	cmol_c/kg	15A1_Na	10	0.08	Soil: Cations extractable NH4Cl pH 7 ICP	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_EQ_Nacorr	Exchangeable Sodium	cmol_c/kg	15A3_Na	0	0.08	Soil: Cations extractable NH4Cl pH 7 ICP	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALC_Ca	Calcium	cmol_c/kg	15C1_Ca	10	0.6	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALC_Mg	Magnesium	cmol_c/kg	15C1_Mg	8	0.07	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALC_K	Potassium	cmol_c/kg	15C1_K	12	0.05	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALC_Na	Sodium	cmol_c/kg	15C1_Na	10	0.07	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Base_sat	Base saturation	%	15L1	10	1	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_CEC_Clay	Cation exchange capacity:clay		15Z1_CEC/clay	0	0.1	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Ca_CEC	Calcium to cation exchange capacity ratio		15M1_Ca/CEC	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_ESP	Exchangable sodium percentage	%	15N1	0	0.1	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Ca_Mg	Calcium to magnesium ratio		15M1_Ca/Mg	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_K_CEC	Potassium to cation exchange capacity ratio		15M1_K/CEC	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Mg_CEC	Magnesium to cation exchange capacity ratio		15M1_Mg/CEC	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Mg_Ca	Magnesium to calcium ratio		15M1_Mg/Ca	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Mg_K	Magnesium to potassium ratio		15M1_Mg/K	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CAT_ALCC_Na_K	Sodium to potassium ratio		15M1_Na/K	10	0	Soil: Cations exchangeable alcoholic NH4Cl pH 8.5 calculations	Oven dry (48 hours at 40°C)	Parent soil
S_CEC	Cation exchange capacity	cmol/kg	15C1_CEC	15	2	Soil: CEC alcoholic NH4Cl pH 8.5 AA	Oven dry (48 hours at 40°C)	Parent soil
S_EX_ALAC_Al	Exchangeable aluminium	cmol_c/kg	15G1_Al	10	0.03	Soil: Al Acidity exchangeable	Oven dry (48 hours at 40°C)	Parent soil
S_EX_ALAC_Al_sat	Aluminium saturation percentage	%	15G2	10	0.1	Soil: Al Acidity exchangeable	Oven dry (48 hours at 40°C)	Parent soil
S_EX_ALAC_acidity	Exchangeable acidity	cmol_c/kg	15G1_H	10	0.03	Soil: Al Acidity exchangeable	Oven dry (48 hours at 40°C)	Parent soil
S_EX_ALAC_ECEC	Effective cation exchange capacity	cmol_c/kg	15J1	0	0.03	Soil: Al Acidity exchangeable	Oven dry (48 hours at 40°C)	Parent soil
S_EX_ALAC_ESP	Exchangable sodium percentage	%	15N1	10	0.01	Soil: Al Acidity exchangeable	Oven dry (48 hours at 40°C)	Parent soil
CEC	Cation exchange capacity (calc)	cmol_c/kg				S_CAT_EQ_Ca + S_CAT_EQ_Mg + S_CAT_EQ_K + S_CAT_EQ_Nacorr	Oven dry (48 hours at 40°C)	Parent soil
CEC:Clay	Cation exchange capacity:clay (calc)	cmol_c/kg				CEC / S_PSA_Clay		Parent soil
CEC:Siltclay	Cation exchange capacity: silt + clay (calc)	cmol_c/kg				CEC / S_PSA_Silt+Clay		Parent soil
ESP_fraction	Exchangable sodium fraction					S_CAT_EQ_Nacorr / CEC	Oven dry (48 hours at 40°C)	Parent soil
ESP_perc	Exchangable sodium percentage (calc)	%				ESP_fraction*100	Oven dry (48 hours at 40°C)	Parent soil
Mg:Ca	Magnesium to calcium ratio					S_CAT_EQ_Mg / S_CAT_EQ_Ca	Oven dry (48 hours at 40°C)	Parent soil
Elec_Stab_In	Electrical stability index (calc)	dS/m				S_AQ4_EC / ESP_perc	Oven dry (48 hours at 40°C)	Parent soil
(Na+Mg):Ca	Sodium + Magnesium to Calcium ratio (calc)					(S_CAT_EQ_Na + S_CAT_EQ_Mg) / S_CAT_EQ_Ca	Oven dry (48 hours at 40°C)	Parent soil

Abbreviation meanings

ND	Not detectable
IS	Insufficient sample
ALHS ¹	Method code as per the Soil Chemical Methods - Australasia (Rayment and Lyons, 2011)