

Wye Collaborative Monitoring Network_ Guidance on working with citizen science data



Information sheet 2: Interpreting cleaned citizen science data sets

This information sheet describes how to interpret cleaned citizen science data sets from each of the four citizen science group's involved in the Wye Catchment Collaborative Monitoring Network in 2021, including Friends of the Upper Wye, Friends of the Lugg, Campaign to Protect Rural England and Wye Salmon Association.

The guidance presented here is intended to enable data users to understand and interpret citizen science data sets that have been cleaned following the guidance set out in the accompanying document: **Information sheet 1_ Cleaning raw data downloads from Epicollect.**

Friends of the Upper Wye (FOUW)

Advice on interpreting FOUW's cleaned datasets

General advice – false zeros

- Where cells are blank in the cleaned dataset, no data was recorded by the volunteer for that question in the Epicollect form.
- Where cells read 'zero' in the cleaned dataset this is presumed to be a true zero measured by a volunteer using the field equipment specified. The exception to this is for sites in the master site log where it is stated that a phosphate checker has been used but that the start date for using the phosphate checker is unknown. These sites may contain some false zeros.
- Some false zeros may also still exist in the rest of the data set, however, this is expected to be rare as all citizen scientists have been instructed to record all data in the form during every sampling trip and where they do not answer a question to leave it blank.

General advice – methods of analysis

- The equipment used by citizen scientists to analyse water samples are detailed in Table 1 below. More information on the methods used to sample and analyse water are provided in documents on the resources page of the Wye Catchment Partnership website.
- Guidance on interpreting algal blooms and other signs of pollution made available to citizen scientists completing an Epicollect form, can also be found on the Wye Catchment Partnership website.

Field specific information

- Table 1 below describes the data contained within each field of FOUW's cleaned dataset.
- Field names in cleaned datasets are comparable across each of the four groups in the Wye Catchment Collaborative Monitoring Network, where the same data has been collected using the same methods.
- A comparison of the data collected by FOUW and other groups in the network is shown in Table 5.

Table 1. A description of the data recorded in each field of FOUW's cleaned dataset

Column	Field	Description of data
A	Sample_site_ID	ID developed by the citizen science group to identify a sampling site, including site number and description
B	Unique_site_ref	Unique reference developed by CU to identify a each citizen science sampling site across the Wye catchment, including information about which citizen science group the sampling site is monitored by
C	Lattitude	Latitude of sampling site
D	Longitude	Longitude of sampling site
E	Sample_date	Date sample was taken in dd/mm/yyyy
F	Sample_time	Time sample was time in hh:mm:ss
G	Turbidity_secchi_NTU	Turbidity reading from a custom designed citizen science Secchi tube* in NTU; *spec available online Additional information: readings of <12 are reported as 12; readings of >240 are reported as 240
H	EC_probe_HM3_uS	EC reading from a HM Digital EC-3 probe in $\mu\text{S}/\text{cm}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 9990 μS ($\mu\text{S}/\text{cm}$)
I	Water_temp_probe_HM3_C	Temperature reading from a HM Digital EC-3 probe in $^{\circ}\text{C}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 80 degrees Celsius
J	Nitrate_strips_hach_ppm	Nitrate reading from Hach Nitrate test strip in mg/L or ppm Product: https://uk.hach.com/test-strips-nitrate-0-50-mg-l-and-nitrite-0-3-mg-l-25-pieces/product?id=24758462518 Increments: 0, 1, 2, 5, 10, 20, 50 mg/L Additional information: values are discrete and not estimated between the increments stated above
K	Phosphate_strips_lamotte_ppb	Phosphate reading from la motte phosphate test strip in ppb or $\mu\text{g}/\text{l}$ Product: https://lamotte.com/products/pool-and-spa/pool-and-spa-professional-products/insta-test-test-strips/insta-test-pro/insta-test-phosphate-3021-h Increments: 0, 100, 200, 300, 500, 1000, 2500 ppb Additional information: values are discrete and not estimated between the increments stated above
L	Phosphate_checker_hanna_ppm	Phosphate reading from HI-713 Hanna handheld Low-range Phosphate Checker in ppm, if used, in ppm or mg/L

		Product: https://www.hannainstruments.co.uk/pocket-checker-for-phosphate-testing.html Range: 0.00 to 2.50 ppm
M	Fixed_point_photo_url	URL link to download fixed point photo of sampling site taken during the sample session as a jpeg.
N	Sample_comments	Any additional comments about the sampling session, such as sample treatment, type of analysis or issues with carrying out routine testing, in open text format
O	Rainfall_24hr_description	Description of the amount of rainfall in last 24 hours Categories: No rain/ Light rain or showers/ Heavy or persistent rain
P	Flow_description	Description of the river flow Categories: Slow (slower than walking pace)/ Steady (walking pace)/ Fast (faster than walking pace)
Q	Water_level_relative_description	Description of the river water level compared to previous sampling sessions/ knowledge of the site Categories: Very low/ Low/ Average/ High/ Very high (in flood)
R	Water_level_fixed_meters	Fixed point water level reading in meters, if available, based on local gauge board or similar
S	Algal_bloom_query	Assessment of whether an algal bloom has been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know
T	Algal_bloom_size	Description of the approximate size of an algal bloom, if present Categories: Door mat/ Car parking space/ Tennis court/ Bigger than a tennis court
U	Pollution_signs_query	Assessment of whether any signs of pollution have been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know
V	Pollution_signs_description	Description of any signs of pollution observed in open text format
W	Pollution_photo_url	URL link to download a photo of any signs of pollution observed as a jpeg.

Friends of the Lugg (FOL)

Advice on interpreting FOL's cleaned datasets

General advice – false zeros

- Where cells are blank in the cleaned dataset, no data was recorded by the volunteer for that question in the Epcollect form.
- Where cells read 'zero' in the cleaned dataset this is presumed to be a true zero measured by a volunteer using the field equipment specified.
- Some false zeros may also still exist in the data set, however, this is expected to be rare as all citizen scientists have been instructed to record all data in the form during every sampling trip and where they do not answer a question to leave it blank.

General advice – methods of analysis

- The equipment used by citizen scientists to analyse water samples are detailed in Table 2 below. More information on the methods used to sample and analyse water are provided in documents on the resources page of the Wye Catchment Partnership website.
- Guidance on interpreting algal blooms and other signs of pollution made available to citizen scientists completing an Epcollect form, can also be found on the Wye Catchment Partnership website.

Field specific information

- Table 2 below describes the data contained within each field of FOL's cleaned dataset.
- Field names in cleaned datasets are comparable across each of the four groups in the Wye Catchment Collaborative Monitoring Network, where the same data has been collected using the same methods.
- A comparison of the data collected by FOL and other groups in the network is shown in Table 5.

Table 2. A description of the data recorded in each field of FOL's cleaned dataset

Column	Field	Description of data
A	Sample_site_ID	ID developed by the citizen science group to identify a sampling site, including site number and description
B	Unique_site_ref	Unique reference developed by CU to identify a each citizen science sampling site across the Wye catchment, including information about which citizen science group the sampling site is monitored by
C	Lattitude	Latitude of sampling site
D	Longitude	Longitude of sampling site
E	Sample_date	Date sample was taken in dd/mm/yyyy
F	Sample_time	Time sample was time in hh:mm:ss
G	Turbidity_secchi_NTU	Turbidity reading from a custom designed Wye cit sci secchi tube* in NTU; *spec in attached document Additional information: readings of <12 are reported as 12; readings of >240 are reported as 240
H	EC_probe_HM3_uS	EC reading from a HM Digital EC-3 probe in $\mu\text{S}/\text{cm}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 9990 μS ($\mu\text{S}/\text{cm}$)
I	Water_temp_probe_HM3_C	Temperature reading from a HM Digital EC-3 probe in $^{\circ}\text{C}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 80 degrees Celsius
J	Nitrate_strips_hach_ppm	Nitrate reading from Hach Nitrate test strip in mg/L or ppm Product: https://uk.hach.com/test-strips-nitrate-0-50-mg-l-and-nitrite-0-3-mg-l-25-pieces/product?id=24758462518 Increments: 0, 1, 2, 5, 10, 20, 50 mg/L Additional information: values are discrete and not estimated between the increments stated above
K	Phosphate_strips_lamotte_ppb	Phosphate reading from la motte phosphate test strip in ppb or $\mu\text{g}/\text{l}$ Product: https://lamotte.com/products/pool-and-spa/pool-and-spa-professional-products/insta-test-test-strips/insta-test-pro/insta-test-phosphate-3021-h Increments: 0, 100, 200, 300, 500, 1000, 2500 ppb Additional information: values are discrete and not estimated between the increments stated above
L	Phosphate_checker_hanna_query	Information about whether a Hanna handheld Low-range phosphate checker has been used to assess this sample

		Categories: Yes/No
M	Phosphate_checker_hanna_ppm	Phosphate reading from HI-713 Hanna handheld Low-range Phosphate Checker in ppm, if used, in ppm or mg/L Product: https://www.hannainstruments.co.uk/pocket-checker-for-phosphate-testing.html Range: 0.00 to 2.50 ppm
N	Fixed_point_photo_url	URL link to download fixed point photo of sampling site taken during the sample session as a jpeg.
O	Sample_comments	Any additional comments about the sampling session, such as sample treatment, type of analysis or issues with carrying out routine testing, in open text format
P	Rainfall_24hr_description	Description of the amount of rainfall in last 24 hours Categories: No rain/ Light rain or showers/ Heavy or persistent rain
Q	Flow_description	Description of the river flow Categories: Slow (slower than walking pace)/ Steady (walking pace)/ Fast (faster than walking pace)
R	Water_level_relative_description	Description of the river water level compared to previous sampling sessions/ knowledge of the site Categories: Very low/ Low/ Average/ High/ Very high (in flood)
S	Water_level_fixed_meters	Fixed point water level reading in meters, if available, based on local gauge board or similar
T	Algal_bloom_query	Assessment of whether an algal bloom has been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know
U	Algal_bloom_size	Description of the approximate size of an algal bloom, if present Categories: Door mat/ Car parking space/ Tennis court/ Bigger than a tennis court
V	Pollution_signs_query	Assessment of whether any signs of pollution have been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know
W	Pollution_signs_description	Description of any signs of pollution observed in open text format
X	Pollution_photo_url	URL link to download a photo of any signs of pollution observed as a jpeg.

Campaign to Protect Rural England Herefordshire (CPRE)

Advice on interpreting CPRE's cleaned datasets

General advice – false zeros

- Where cells are blank in the cleaned dataset, no data was recorded by the volunteer for that question in the Epciollect form.
- Where cells read 'zero' in the cleaned dataset this is presumed to be a true zero measured by a volunteer using the field equipment specified.
- Some false zeros may also still exist in the data set, however, this is expected to be rare as all citizen scientists have been instructed to record all data in the form during every sampling trip and where they do not answer a question to leave it blank.

General advice – methods of analysis

- The equipment used by citizen scientists to analyse water samples are detailed in Table 3 below. More information on the methods used to sample and analyse water are provided in documents on the resources page of the Wye Catchment Partnership website.
- Guidance on interpreting algal blooms and other signs of pollution made available to citizen scientists completing an Epicollect form can also be found on the Wye Catchment Partnership website.

Field specific information

- Table 3 below describes the data contained within each field of CPRE's cleaned dataset.
- Field names in cleaned datasets are comparable across each of the four groups in the Wye Catchment Collaborative Monitoring Network, where the same data has been collected using the same methods.
- A comparison of the data collected by CPRE and other groups in the network is shown in Table 5.

Table 3. A description of the data recorded in each field of CPRE's cleaned dataset

Column	Field	Description of data
A	Sample_site_ID	ID developed by the citizen science group to identify a sampling site, including site number
B	Unique_site_ref	Unique reference developed by CU to identify a each citizen science sampling site across the Wye catchment, including information about which citizen science group the sampling site is monitored by
C	Lattitude	Latitude of sampling site
D	Longitude	Longitude of sampling site
E	Sample_date	Date sample was taken in dd/mm/yyyy
F	Sample_time	Time sample was time in hh:mm:ss
G	Sample_position	Description of where the sample was taken from in relation to the river Categories: Above watercourse from bridge/ On left bank of watercourse/ On right bank of watercourse
H	Phosphate_strips_lamotte_ppb	Phosphate reading from la motte phosphate test strip in ppb or µg/l Product: https://lamotte.com/products/pool-and-spa/pool-and-spa-professional-products/insta-test-test-strips/insta-test-pro/insta-test-phosphate-3021-h Increments: 0, 100, 200, 300, 500, 1000, 2500 ppb Additional information: values are discrete and not estimated between the increments stated above
I	Nitrate_strips_hach_ppm	Nitrate reading from Hach Nitrate test strip in mg/L or ppm Product: https://uk.hach.com/test-strips-nitrate-0-50-mg-l-and-nitrite-0-3-mg-l-25-pieces/product?id=24758462518 Increments: 0, 1, 2, 5, 10, 20, 50 mg/L Additional information: values are discrete and not estimated between the increments stated above
J	Other_parameters_query	Information about whether other parameters are being measured in addition to phosphate and nitrate (via test strips) Categories: No other parameters, P & N Test strips only/ Yes, I am measuring other parameters
K	Phosphate_checker_hanna_ppm	Phosphate reading from HI-713 Hanna handheld Low-range Phosphate Checker in ppm, if used, in ppm or mg/L Product: https://www.hannainstruments.co.uk/pocket-checker-for-phosphate-testing.html

		Range: 0.00 to 2.50 ppm
L	EC_probe_HM3_uS	EC reading from a HM Digital EC-3 probe in $\mu\text{S}/\text{cm}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 9990 μS ($\mu\text{S}/\text{cm}$)
M	Water_temp_probe_HM3_C	Temperature reading from a HM Digital EC-3 probe in $^{\circ}\text{C}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 80 degrees Celsius
N	Turbidity_secchi_NTU	Turbidity reading from a custom designed Wye cit sci secchi tube* in NTU; *spec in attached document Additional information: readings of <12 are reported as 12; readings of >240 are reported as 240
O	Water_level_fixed_method	Information about which method, if any, was used to measure fixed point water level Categories: Dip reading of W/L in metres as distance to water surface below Datum (mBD)/ Gaugeboard reading in metres above Gauge Zero (mAGZ)
P	Water_level_fixed_meters	Fixed point water level reading in meters, if available, based on local gauge board or similar
Q	Gaugeboard_photo_url	URL link to download photo of gaugeboard at sampling site, if present, taken during the sample session, as a jpeg
R	Rainfall_24hr_description	Description of the amount of rainfall in last 24 hours Categories: No rain/ Light rain or showers/ Heavy or persistent rain
S	Flow_description	Description of the river flow Categories: Slow (slower than walking pace)/ Steady (walking pace)/ Fast (faster than walking pace)
T	Water_level_relative_description	Description of the river water level compared to previous sampling sessions/ knowledge of the site Categories: Very low/ Low/ Average/ High/ Very high (in flood)
U	Algal_bloom_query	Assessment of whether an algal bloom has been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know
V	Algal_bloom_size	Description of the approximate size of an algal bloom, if present Categories: Door mat/ Car parking space/ Tennis court/ Bigger than a tennis court

W	Pollution_signs_query	Assessment of whether any signs of pollution have been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know
X	Pollution_signs_description	Description of any signs of pollution observed in open text format
Y	Pollution_photo_url	URL link to download a photo of any signs of pollution observed as a jpeg.
Z	Sample_comments	Any additional comments about the sampling session, such as sample treatment, type of analysis or issues with carrying out routine testing, in open text format
AA	Fixed_point_photo_url	URL link to download fixed point photo of sampling site taken during the sample session, as a jpeg

Wye Salmon Association (WSA)

Advice on interpreting WSA's cleaned datasets

General advice – false zeros

- Where cells are blank in the cleaned dataset, no data was recorded by the volunteer for that question in the Epcicollect form.
- Where cells read 'zero' in the cleaned dataset this is presumed to be a true zero measured by a volunteer using the field equipment specified.
- Some false zeros may also still exist in the data set, however, this is expected to be rare as all citizen scientists have been instructed to record all data in the form during every sampling trip and where they do not answer a question to leave it blank.

General advice – methods of analysis

- The equipment used by citizen scientists to analyse water samples are detailed in Table 4 below. More information on the methods used to sample and analyse water are provided in documents on the resources page of the Wye Catchment Partnership website.
- Guidance on interpreting algal blooms and other signs of pollution made available to citizen scientists completing an Epicollect form can also be found on the Wye Catchment Partnership website.

Field specific information

- Table 4 below describes the data contained within each field of WSA's cleaned dataset.
- Field names in cleaned datasets are comparable across each of the four groups in the Wye Catchment Collaborative Monitoring Network, where the same data has been collected using the same methods.
- A comparison of the data collected by WSA and other groups in the network is shown in Table 5.

Table 4. A description of the data recorded in each field of WSA's cleaned dataset

Column	Field	Description of data
A	Sample_site_name	Name developed by the citizen science group to identify a sampling site
B	Unique_site_ref	Unique reference developed by CU to identify a each citizen science sampling site across the Wye catchment, including information about which citizen science group the sampling site is monitored by
C	Lattitude	Latitude of sampling site
D	Longitude	Longitude of sampling site
E	County	County sampling site is location in Categories: Gloucestershire/ Herefordshire/ Monmouthshire/ Powys
F	River	Name of river sample was taken from Categories: Multiple
G	Sample_date	Date sample was taken in dd/mm/yyyy
H	Sample_time	Time sample was time in hh:mm:ss
I	Phosphate_checker_hanna_ppm	Phosphate reading from HI-713 Hanna handheld Low-range Phosphate Checker in ppm, if used, in ppm or mg/L Product: https://www.hannainstruments.co.uk/pocket-checker-for-phosphate-testing.html Range: 0.00 to 2.50 ppm
J	Nitrate_strips_hach_ppm	Nitrate reading from Hach Nitrate test strip in mg/L or ppm Product: https://uk.hach.com/test-strips-nitrate-0-50-mg-l-and-nitrite-0-3-mg-l-25-pieces/product?id=24758462518 Increments: 0, 1, 2, 5, 10, 20, 50 mg/L Additional information: values are discrete and not estimated between the increments stated above
K	TDS_probe_HM3_uS	TDS reading from a HM Digital TDS-3 probe in ppm or mg/L Product: http://hmdigital.com/product/tds-3/ Range: 0 – 9990 ppm (mg/L)

L	pH_probe_HM80	pH reading from a HM Digital PH-80 meter Product: http://hmdigital.com/product/ph-80/ Range: pH 0-14
M	Ammonia_strips_hach_ppm	Ammonia (as NH ₃ -N) reading from Hach Ammonia test strips in mg/L or ppm Product: https://uk.hach.com/ammonia-test-strips-0-6-0-mg-l-25-tests/product-details?id=24758462522 Increments: 0, 0.25, 0.5, 1.0, 3.0, 6.0 ppm Additional information: values are discrete and not estimated between the increments stated above
N	Water_temp_probe_HM3_C	Temperature reading from a HM Digital TDS-3 probe in °C Product: http://hmdigital.com/product/ec-3/ Range: 0 – 80 degrees Celsius
O	Water_colour_description	Description of river water colour at time of sampling Categories: Multiple
P	Gauge_board_location	Location of EA or NRW gauge board used to take fixed point water level reading Categories: Multiple
Q	Water_level_fixed_meters	Fixed point water level reading in meters, if available, based on local gauge board or similar
R	Water_level_relative_description_alt	Description of the river water level compared to previous sampling sessions/ knowledge of the site Categories: Low/ Normal/ High
S	Weather_condition	Description of weather at time of sampling Categories: Multiple
T	Livestock_query	Assessment of whether livestock are present in the watercourse at the time of sampling Categories: Yes/ No
U	Comments_misc	Any additional comments about the sampling session
V	Photo_misc	URL link to download fixed photo taken during the sampling session in jpeg.

Table 5. A comparison between data fields recorded by each citizen science group in the Wye Collaborative Monitoring Network

Field	Description of data	FOUW	FOL	CPRE	WSA
Sample_site_ID	ID developed by the citizen science group to identify a sampling site, including site number and description	YES	YES	YES	NO
Sample_site_name	Name developed by the citizen science group to identify a sampling site	NO	NO	NO	YES
Unique_site_ref	Unique reference developed by CU to identify a each citizen science sampling site across the Wye catchment, including information about which citizen science group the sampling site is monitored by	YES	YES	YES	YES
Lattitude	Latitude of sampling site	YES	YES	YES	YES
Longitude	Longitude of sampling site	YES	YES	YES	YES
Sample_date	Date sample was taken in dd/mm/yyyy	YES	YES	YES	YES
Sample_time	Time sample was time in hh:mm:ss	YES	YES	YES	YES
Sample_position	Description of where the sample was taken from in relation to the river Categories: Above watercourse from bridge/ On left bank of watercourse/ On right bank of watercourse	NO	NO	YES	NO
Turbidity_secchi_NTU	Turbidity reading from a custom designed citizen science Secchi tube* in NTU; Additional information: readings of <12 are reported as 12; readings of >240 are reported as 240	YES	YES	YES	NO
EC_probe_HM3_uS	EC reading from a HM Digital EC-3 probe in $\mu\text{S}/\text{cm}$ Product: http://hmdigital.com/product/ec-3/ Range: 0 – 9990 μS ($\mu\text{S}/\text{cm}$)	YES	YES	YES	NO
TDS_probe_HM3_uS	TDS reading from a HM Digital TDS-3 probe in ppm or mg/L Product: http://hmdigital.com/product/tds-3/ Range: 0 – 9990 ppm (mg/L) NB. This reading can be approximately converted to EC using the following formula: $\text{EC} = \text{TDS} * 2$	NO	NO	NO	YES

Table 5. A comparison between data fields recorded by each citizen science group in the Wye Collaborative Monitoring Network

Field	Description of data	FOUW	FOL	CPRE	WSA
Water_temp_probe_HM3_C	Temperature reading from a HM Digital TDS-3 or EC-3 probe in °C Product: http://hmdigital.com/product/ec-3/ http://hmdigital.com/product/tds-3/ Range: 0 – 80 degrees Celsius	YES	YES	YES	YES
Nitrate_strips_hach_ppm	Nitrate reading from Hach Nitrate test strip in mg/L or ppm Product: https://uk.hach.com/test-strips-nitrate-0-50-mg-l-and-nitrite-0-3-mg-l-25-pieces/product?id=24758462518 Increments: 0, 1, 2, 5, 10, 20, 50 mg/L Additional information: values are discrete and not estimated between the increments stated above	YES	YES	YES	YES
Phosphate_strips_lamotte_ppb	Phosphate reading from la motte phosphate test strip in ppb or µg/l Product: https://lamotte.com/products/pool-and-spa/pool-and-spa-professional-products/insta-test-test-strips/insta-test-pro/insta-test-phosphate-3021-h Increments: 0, 100, 200, 300, 500, 1000, 2500 ppb Additional information: values are discrete and not estimated between the increments stated above	YES	YES	YES	NO
Phosphate_checker_hanna_query	Information about whether a Hanna handheld Low-range phosphate checker has been used to assess this sample Categories: Yes/No	NO	YES	NO	NO
Phosphate_checker_hanna_ppm	Phosphate reading from HI-713 Hanna handheld Low-range Phosphate Checker in ppm, if used, in ppm or mg/L Product: https://www.hannainstruments.co.uk/pocket-checker-for-phosphate-testing.html Range: 0.00 to 2.50 ppm	YES	YES	YES	YES
pH_probe_HM80	pH reading from a HM Digital PH-80 meter Product: http://hmdigital.com/product/ph-80/ Range: pH 0-14	NO	NO	NO	YES

Table 5. A comparison between data fields recorded by each citizen science group in the Wye Collaborative Monitoring Network

Field	Description of data	FOUW	FOL	CPRE	WSA
Ammonia_strips_hach_ppm	Ammonia (as NH ₃ -N) reading from Hach Ammonia test strips in mg/L or ppm Product: https://uk.hach.com/ammonia-test-strips-0-6-0-mg-l-25-tests/product-details?id=24758462522 Increments: 0, 0.25, 0.5, 1.0, 3.0, 6.0 ppm Additional information: values are discrete and not estimated between the increments stated above	NO	NO	NO	YES
Fixed_point_photo_url	URL link to download fixed point photo of sampling site taken during the sample session as a jpeg.	YES	YES	YES	NO
Sample_comments	Any additional comments about the sampling session, such as sample treatment, type of analysis or issues with carrying out routine testing, in open text format	YES	YES	YES	NO
Rainfall_24hr_description	Description of the amount of rainfall in last 24 hours Categories: No rain/ Light rain or showers/ Heavy of persistent rain	YES	YES	YES	NO
Flow_description	Description of the river flow Categories: Slow (slower than walking pace)/ Steady (walking pace)/ Fast (faster than walking pace)	YES	YES	YES	NO
Water_level_relative_description	Description of the river water level compared to previous sampling sessions/ knowledge of the site Categories: Very low/ Low/ Average/ High/ Very high (in flood) Alt. categories: Low/ Normal/ High	YES	YES	YES	ALT
Water_level_fixed_meters	Fixed point water level reading in meters, if available, based on local gauge board or similar	YES	YES	YES	YES
Water_level_fixed_method	Information about which method, if any, was used to measure fixed point water level Categories: Dip reading of W/L in metres as distance to water surface below Datum (mBD)/ Gaugeboard reading in metres above Gauge Zero (mAGZ)	NO	NO	YES	NO

Table 5. A comparison between data fields recorded by each citizen science group in the Wye Collaborative Monitoring Network

Field	Description of data	FOUW	FOL	CPRE	WSA
Gauge_board_location	Location of EA or NRW gauge board used to take fixed point water level reading Categories: Multiple	NO	NO	NO	YES
Gaugeboard_photo_url	URL link to download photo of gaugeboard at sampling site, if present, taken during the sample session, as a jpeg	NO	NO	YES	NO
Algal_bloom_query	Assessment of whether an algal bloom has been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know	YES	YES	YES	NO
Algal_bloom_size	Description of the approximate size of an algal bloom, if present Categories: Door mat/ Car parking space/ Tennis court/ Bigger than a tennis court	YES	YES	YES	NO
Pollution_signs_query	Assessment of whether any signs of pollution have been observed at the site during the sampling session, based on information provided in the FOL field guide Categories: Yes/ No/ Don't know	YES	YES	YES	NO
Pollution_signs_description	Description of any signs of pollution observed in open text format	YES	YES	YES	NO
Pollution_photo_url	URL link to download a photo of any signs of pollution observed as a jpeg.	YES	YES	YES	NO
Weather_condition	Description of weather at time of sampling Categories: Multiple	NO	NO	NO	YES
Livestock_query	Assessment of whether livestock are present in the watercourse at the time of sampling Categories: Yes/ No	NO	NO	NO	YES
Comments_misc	Any additional comments about the sampling session	NO	NO	NO	YES
Photo_misc	URL link to download fixed photo taken during the sampling session in jpeg.	NO	NO	NO	YES