

**GWIS** Generalized Water Information System  
Database Utilities

Recon Tracking

Existing Station

New SW Station

New GW Station

**PK RANDOM SAMPLE LOCATION = Z3-LL-13004**

|                 |                     |                  |                  |
|-----------------|---------------------|------------------|------------------|
| County          | MARION              | Quarter Quad     |                  |
| WMD             | ST. JOHNS RIVER WMD | HUC              | OKLAWAHA         |
| Random Latitude | 29° 30m 52.8737s    | Random Longitude | 81° 51m 10.2157s |

**Is Z3-LL-13004 sampleable?**☒ Yes ☐ No ☐ N/A**Exclusion Category:****Exclusion Criteria:(definitions):****Was Z3-LL-13004 sampled?**☐ YesMonth  Day  Year **Comments:**☒ Aerial Photo ☐ Quad Map ☐ No Image

**DEP TIER 1  
STATUS NETWORK SITE CHARACTERIZATION**

Stream/Water Body Name: **Lake Ocklawaha**

| Site ID            | Latitude | Longitude | Type of Recon     | Date of Recon |
|--------------------|----------|-----------|-------------------|---------------|
| <b>Z3-LL-13004</b> |          |           | <b>Site Visit</b> |               |

Return Recon #1 \_\_\_\_\_

Return Recon #2 \_\_\_\_\_

Return Recon #3 \_\_\_\_\_

| Resource Type                          | Secondary Resource Type |
|----------------------------------------|-------------------------|
| <b>Large Lake</b>                      | <b>No 2nd Type</b>      |
| Desk Recon: 12/13/2018 By: Nate Gargas | Letter Sent:            |
| Recon Team:                            |                         |

| Site Location Address & Contact Information | Property Owner's Address |
|---------------------------------------------|--------------------------|
|                                             |                          |
|                                             |                          |
|                                             |                          |
|                                             |                          |
| <i>Data Requested:</i>                      | <i>County:</i> Marion    |

|                    |
|--------------------|
| <b>Tidal Info:</b> |
|--------------------|

|                              |
|------------------------------|
| <b>Access and Permission</b> |
| <b>PUBLIC ACCESS</b>         |

|                      |
|----------------------|
| Reason for Exclusion |
|                      |
|                      |

|                                                 |
|-------------------------------------------------|
| Recon Result<br>For Site:<br><b>Z3-LL-13004</b> |
| <b>INCLUDE</b>                                  |

**ADDITIONAL NOTES**

Additional Items: Duracraft

**DIRECTIONS:**

Use Public Boat Ramp at Kenwood Off CR 315.

|                                                             |  |
|-------------------------------------------------------------|--|
| <b>FILES GENERATED:</b><br>(i.e. digital photos, GPS, etc.) |  |
|-------------------------------------------------------------|--|



Google Earth

miles  
km



| Waterbody: <u>Lake Ocklawaha</u>                                                                                                                           |   |   |   | County: <u>Putnam</u>         |                |                                                            |   | Date: <u>7/13/19</u>                   |   |    |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|-------------------------------|----------------|------------------------------------------------------------|---|----------------------------------------|---|----|----------------|
| Analyst: <u>B Davis, C Ruben</u>                                                                                                                           |   |   |   | Signature: <u>[Signature]</u> |                |                                                            |   | STORET:                                |   |    |                |
| Except where noted as "sp." species level identification required. *Genera that may require lab verification*                                              |   |   |   |                               |                |                                                            |   | Lake units sampled (circle one group): |   |    |                |
| Plants in bold = FLEPPC Invasive exotic.                                                                                                                   |   |   |   |                               |                |                                                            |   | 1, 4, 7, 10      2, 5, 8, 11           |   |    |                |
| It is important to note dominant or co-dominant taxa (by areal extent) for each unit. Use "D" to denote dominant taxon, or "C" for the 2 co-dominant taxa. |   |   |   |                               |                |                                                            |   | 3, 6, 9, 12                            |   |    |                |
| SPECIES                                                                                                                                                    | 1 | 4 | 7 | 10                            | Collected? (✓) | SPECIES                                                    | 1 | 4                                      | 7 | 10 | Collected? (✓) |
| <i>Cyperus rubrum</i>                                                                                                                                      | P | P | P | P                             |                | <i>Habenaria repens</i>                                    |   |                                        |   |    |                |
| <i>Alternanthera philoxeroides</i>                                                                                                                         | P | P | P | P                             |                | <i>Hydrilla verticillata</i>                               |   |                                        |   |    |                |
| <i>Andropogon</i> sp.                                                                                                                                      |   |   |   |                               |                | <i>Hydrocotyle</i> sp.                                     | P | P                                      | P | P  |                |
| <i>Azolla filiculoides</i> (A. caroliniana)                                                                                                                |   |   |   |                               |                | <i>Hygrophila polysperma</i>                               |   |                                        |   |    |                |
| <i>Baccharis</i> sp.                                                                                                                                       |   | P | P | P                             |                | * <i>Hypericum fasciculatum</i>                            |   |                                        | P |    |                |
| <i>Bacopa caroliniana</i>                                                                                                                                  |   |   |   |                               |                | * <i>Hypericum hypericoides</i>                            |   |                                        |   |    |                |
| <i>Bacopa monnieri</i>                                                                                                                                     |   |   |   |                               |                | * <i>Hypericum myrtifolium</i>                             |   |                                        |   |    |                |
| <i>Bidens laevis</i>                                                                                                                                       |   |   |   |                               |                | <i>Ilex cassine</i>                                        |   |                                        |   | P  |                |
| <i>Bidens</i> mit's                                                                                                                                        |   |   |   |                               |                | <i>Ipomoea aquatica</i>                                    |   |                                        |   |    |                |
| <i>Blechnum serrulatum</i>                                                                                                                                 |   |   |   |                               |                | <i>Ipomoea sagittata</i>                                   |   |                                        |   |    |                |
| <i>Boehmeria cylindrica</i>                                                                                                                                | P |   | P | P                             |                | <i>Itea virginica</i>                                      |   |                                        |   |    |                |
| <i>Brasenia schreberi</i>                                                                                                                                  |   |   |   |                               |                | <i>Juncus effusus</i>                                      | P | P                                      |   |    |                |
| <i>Cabomba caroliniana</i>                                                                                                                                 |   |   |   |                               |                | * <i>Juncus marginatus</i>                                 |   |                                        |   |    |                |
| <i>Casuarina equisetifolia</i>                                                                                                                             |   |   |   |                               |                | * <i>Juncus megacephalus</i>                               |   |                                        |   |    |                |
| <i>Centella asiatica</i>                                                                                                                                   |   |   |   |                               |                | <i>Juncus repens</i>                                       |   |                                        |   |    |                |
| <i>Cephalanthus occidentalis</i>                                                                                                                           | P | P | P | P                             |                | * <i>Juncus scirpoides</i>                                 |   |                                        |   |    |                |
| <i>Ceratophyllum demersum</i>                                                                                                                              | P |   | P | P                             |                | <i>Lachnanthes caroliniana</i>                             |   |                                        |   |    |                |
| <i>Chara</i> sp.                                                                                                                                           |   |   | P | P                             |                | <i>Leersia hexandra</i>                                    |   |                                        |   |    |                |
| <i>Cladium jamaicense</i>                                                                                                                                  |   | P | P | P                             |                | <i>Landoltia punctata</i> ( <i>Spirodela punctata</i> )    |   |                                        |   |    |                |
| <i>Cliftonia monophylla</i>                                                                                                                                |   |   |   |                               |                | <i>Lemna</i> sp.                                           | P |                                        |   | P  |                |
| <i>Colocasia esculenta</i>                                                                                                                                 |   |   | P | P                             |                | <i>Leucothoe racemosa</i> ( <i>Eubotrys racemosa</i> )     |   |                                        |   |    |                |
| * <i>Commelina</i>                                                                                                                                         |   |   |   |                               |                | <i>Limnium spongia</i>                                     | P | P                                      | P | C  |                |
| <i>Crinum americanum</i>                                                                                                                                   |   |   |   |                               |                | <i>Limnophila sessiliflora</i>                             |   |                                        |   |    |                |
| * <i>Cyperus alternifolius</i> (C. involucratus)                                                                                                           |   |   |   |                               |                | <i>Liquidambar styraciflua</i>                             |   |                                        | P | P  | ✓              |
| <i>Cyperus articulatus</i>                                                                                                                                 |   |   |   |                               |                | * <i>Ludwigia arcuata</i>                                  |   |                                        |   |    |                |
| <i>Cyperus haspan</i>                                                                                                                                      |   |   |   |                               |                | * <i>Ludwigia leptocarpa</i>                               |   |                                        |   |    |                |
| * <i>Cyperus lecontei</i>                                                                                                                                  |   |   |   |                               |                | * <i>Ludwigia linearis</i>                                 |   |                                        |   |    |                |
| * <i>Cyperus polystachyos</i>                                                                                                                              |   |   |   |                               |                | * <i>Ludwigia octovalvis</i>                               |   |                                        |   |    |                |
| * <i>Cyperus odoratus</i>                                                                                                                                  | P |   |   |                               |                | * <i>Ludwigia peruviana</i>                                |   |                                        |   |    |                |
| * <i>Cyperus surinamensis</i>                                                                                                                              |   |   |   |                               |                | * <i>Ludwigia repens</i>                                   | P |                                        |   |    |                |
| <i>Cyrtilla racemiflora</i>                                                                                                                                |   |   |   |                               |                | <del>*<i>Ludwigia</i> sp.</del>                            |   |                                        |   |    |                |
| <i>Decodon verticillatus</i>                                                                                                                               |   |   |   |                               |                | <i>Luziola fluitans</i> ( <i>Hydrochloa carolinensis</i> ) |   |                                        |   |    |                |
| <i>Diodia virginiana</i>                                                                                                                                   |   |   |   |                               |                | <i>Lyonia lucida</i>                                       |   |                                        |   |    |                |
| * <i>Echinochloa crus-galli</i>                                                                                                                            |   |   |   |                               |                | <i>Magnolia virginiana</i>                                 |   |                                        | P | P  |                |
| * <i>Echinochloa muricatum</i>                                                                                                                             |   |   |   |                               |                | <i>Mayaca fluviatilis</i>                                  |   |                                        |   |    |                |
| <i>Echinochloa walteri</i>                                                                                                                                 |   |   |   |                               |                | <i>Melaleuca quinquenervia</i>                             |   |                                        |   |    |                |
| <i>Eclipta prostrata</i> (E. alba)                                                                                                                         |   |   |   |                               |                | <i>Micranthemum glomeratum</i>                             |   |                                        |   |    |                |
| <i>Egeria densa</i>                                                                                                                                        |   |   |   |                               |                | <i>Micranthemum umbrosum</i>                               |   |                                        |   |    |                |
| <i>Eichhornia crassipes</i>                                                                                                                                | P |   | P | P                             |                | <i>Mikania scandens</i>                                    |   | P                                      | P | P  |                |
| * <i>Eleocharis baldwinii</i>                                                                                                                              | P |   | P | P                             |                | <i>Mimosa pigra</i>                                        |   |                                        |   |    |                |
| * <i>Eleocharis</i>                                                                                                                                        |   |   |   |                               |                | <i>Myrica cerifera</i>                                     | P | P                                      | P | P  |                |
| <i>Eleocharis cellulosa</i>                                                                                                                                |   |   |   |                               |                | <del>Water hemlock</del>                                   | P |                                        |   |    |                |
| <i>Eleocharis equisetoides</i>                                                                                                                             |   |   |   |                               |                | <del>Swamp mallard (pines)</del>                           | P | P                                      |   |    | ✓              |
| <i>Eleocharis interstincta</i>                                                                                                                             |   |   |   |                               |                | <del>Sedge Volcan</del>                                    | P |                                        |   |    | ✓              |
| * <i>Eriocaulon compressum</i>                                                                                                                             |   |   |   |                               |                | <i>Hibiscus coccineus</i>                                  |   | P                                      | P | P  | ✓              |
| * <i>Eriocaulon decangulare</i>                                                                                                                            |   |   |   |                               |                | <i>Echinochloa</i> spp.                                    |   | P                                      | P | P  |                |
| <i>Eupatorium capillifolium</i>                                                                                                                            |   | P | P | P                             |                | <i>Asteranthus Australis</i>                               | P |                                        | P | P  |                |
| * <i>Fuirena</i>                                                                                                                                           |   |   |   |                               |                | <i>Costarivus virginica</i>                                |   | P                                      | P | P  |                |
| <i>Fuirena scirpoidea</i>                                                                                                                                  |   |   |   |                               |                |                                                            |   |                                        |   |    |                |
| <i>Gordonia lasianthus</i>                                                                                                                                 | P |   |   |                               |                |                                                            |   |                                        |   |    |                |

## FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

80567

| Site: Lake Ocklawaha                           |   |   |   |    | Date: 7/13/19  |                                                   |   |   |   |    |                |
|------------------------------------------------|---|---|---|----|----------------|---------------------------------------------------|---|---|---|----|----------------|
| SPECIES                                        | 1 | 4 | 7 | 10 | Collected? (Y) | SPECIES                                           | 1 | 4 | 7 | 10 | Collected? (Y) |
| Myriophyllum aquaticum                         |   |   |   |    |                | Salix caroliniana                                 |   |   |   |    |                |
| *Myriophyllum heterophyllum                    |   |   |   |    |                | Salvinia minima                                   | P | P | P | P  |                |
| *Myriophyllum laxum                            |   |   |   |    |                | Sambucus canadensis                               |   |   |   |    |                |
| *Myriophyllum pinnatum                         |   |   |   |    |                | Sapium sebiferum                                  |   |   |   |    |                |
| Myriophyllum spicatum                          |   |   |   |    |                | Saururus cernuus                                  |   |   |   |    |                |
| *Najas filifolia                               |   |   |   |    |                | Schinus terebinthifolius                          |   |   |   |    |                |
| *Najas guadalupensis                           | P |   | P | P  |                | *Schoenoplectus californicus                      | P |   |   |    |                |
| *Najas minor                                   |   |   |   |    |                | *Schoenoplectus pungens                           |   |   |   |    |                |
| Nelumbo lutea                                  |   |   |   |    |                | *Schoenoplectus tabernaemontani (Scirpus validus) |   |   | P |    |                |
| Nitella spp.                                   |   |   |   |    |                | Scirpus cubensis (Oxycaryon cubense)              | C | P | P | P  |                |
| Nuphar sp.                                     | P | P | P | P  |                | Scirpus cyperinus                                 |   |   |   |    |                |
| Nymphaea odorata                               |   |   |   |    |                | *Sesbania sp.                                     |   | P | P |    |                |
| Nymphoides aquatica                            |   |   |   |    |                | Solidago sp.                                      |   |   |   |    |                |
| Nyssa sylvatica var. biflora                   |   |   | P |    |                | Sparganium americanum                             |   |   |   |    |                |
| Orontium aquaticum                             |   |   |   |    |                | Spartina bakeri                                   |   |   |   |    |                |
| Osmunda cinnamomea                             |   |   |   |    |                | Spirodela polyrhiza                               |   |   |   |    |                |
| Osmunda regalis                                |   |   |   |    |                | Taxodium sp.                                      | P | P | P | P  |                |
| Panicum hemitomon                              |   | P | P | P  |                | Thalia geniculata                                 |   |   |   |    |                |
| Panicum repens                                 | P | P | P | P  |                | Thelypteris palustris                             |   |   |   |    |                |
| Paspalidium geminatum                          |   |   |   |    |                | Triadenum virginicum                              |   |   | P |    |                |
| *Paspalum repens                               |   |   |   |    |                | Typha sp.                                         | P | P | P |    |                |
| Paspalum urvillei                              |   |   |   |    |                | Urochloa mutica (Brachiaria mutica)               |   |   |   |    |                |
| Peltandra sp.                                  |   |   |   |    |                | *Utricularia gibba (U. biflora)                   |   |   |   |    |                |
| Persea sp.                                     |   |   |   |    |                | *Utricularia floridana                            |   |   |   |    |                |
| Pennisetum purpureum                           |   |   |   |    |                | *Utricularia foliosa                              |   |   |   |    |                |
| Phragmites australis                           |   |   |   |    |                | *Utricularia inflata                              |   |   |   |    |                |
| Pinus elliotii                                 |   |   |   |    |                | *Utricularia purpurea                             |   |   |   |    |                |
| Pistia stratioides                             | P | P | P | P  |                | *Utricularia cornuta                              |   |   |   |    |                |
| Pluchea sp.                                    |   |   |   |    |                | *Utricularia radiata                              |   |   |   |    |                |
| *Polygonum glabrum (densiflorum)               | P | P | P | P  |                | Vallisneria americana                             |   |   | P |    |                |
| *Polygonum hydropiperoides                     | P | P | P | P  |                | *Websteria confervoides                           |   |   |   |    |                |
| *Polygonum punctatum                           |   |   |   |    |                | Wedelia trilobata (Sphagneticola trilobata)       |   |   |   |    |                |
| *Polygonum <del>sp.</del>                      | P | P |   |    |                | Wolffiella spp.                                   |   |   |   |    |                |
| Pontederia cordata                             | P | P |   |    |                | Woodwardia virginica                              |   |   |   |    |                |
| *Potamogeton diversifolius                     |   |   |   |    |                | Xyris sp.                                         |   |   |   |    |                |
| *Potamogeton illinoensis                       |   |   |   |    |                | Zizania aquatica                                  |   |   |   |    |                |
| *Potamogeton pusillus                          |   |   |   |    |                | Zizaniopsis milacea                               |   |   |   |    |                |
| *Potamogeton pectinatus (Stuckenia pectinatus) |   |   |   |    |                | <del>oak grass</del>                              |   |   |   |    |                |
| Proserpinaca pectinata                         |   |   |   |    |                | <del>pink Ludwigia?</del>                         |   |   |   |    |                |
| *Rhexia                                        |   |   |   |    |                | <del>temple tree</del>                            |   |   |   |    |                |
| *Rhynchospora corniculata                      |   |   |   |    |                | <del>Logan like tree</del>                        |   |   |   |    |                |
| *Rhynchospora inundata                         |   |   |   |    |                | <del>Sabal minor</del>                            |   |   |   |    |                |
| Rhynchospora tracyi                            |   |   |   |    |                | <del>Passiflora</del>                             |   |   |   |    |                |
| Ricciocarpus natans                            |   |   |   |    |                | <del>yellow legume vine</del>                     |   |   |   |    |                |
| Sabal palmetto                                 |   |   | P | P  |                | <del>Aster Carolinensis</del>                     |   |   |   |    |                |
| Sacciolepis striata                            |   |   | P |    |                | <del>Cicuta maculata</del>                        |   |   |   |    |                |
| *Sagittaria filiformis                         |   |   |   |    |                | <del>Vigna luteola</del>                          |   |   |   |    |                |
| *Sagittaria graminea                           |   |   |   |    |                | <del>Lycopers sp.</del>                           |   |   |   |    |                |
| *Sagittaria isoetiformis                       |   |   |   |    |                | <del>Sabal palmetto</del>                         |   |   |   |    |                |
| Sagittaria lancifolia                          |   | P | P | P  |                |                                                   |   |   |   |    |                |
| Sagittaria latifolia                           |   | P | P | P  |                |                                                   |   |   |   |    |                |
| <del>Polygonum sp.</del>                       | P |   |   |    |                |                                                   |   |   |   |    |                |

Team 1

ocklawaha z3-II-13004

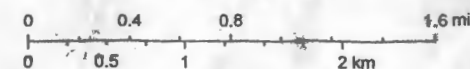


July 2, 2019

Waterbody IDs (WBIDs)

- ☐ Group 1
- ☐ Group 2
- ☐ Group 3
- ☐ Group 4
- ☐ Group 5

1:36,112



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Map created by Map Direct, powered by ESRI. ocklawaha z3-II-13004  
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# CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: YSI PRO DSS

RQ: Neg

Project: LVE STATUS

Notes: (1) Always wait for meter to stabilize before recording any readings.

(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).

(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 6/20/19

| DO DEP SOP FT 1500 | Name      | Date   | Time CT-ET | Temp °C | Baro-meter mmHg | D.O. Chart mg/L | Meter D.O. mg/L | % DO | Probe Charge | Probe Gain | Pass / Fail | Lab / Field |
|--------------------|-----------|--------|------------|---------|-----------------|-----------------|-----------------|------|--------------|------------|-------------|-------------|
| Calibr.            | J Parnish | 7/3/19 | 711        | 24.0    | 750             | 8.4             | 8.4             | 99.9 | —            | —          | P/F         | L/F         |
| ICV                | J         | 7/3/19 | 714        | 24.0    | 760             | 8.4             | 8.41            | 99.9 | —            | —          | P/F         | L/F         |
| CCV                | J Parnish | 7/3/19 | 650        | 24.9    | 759             | 8.3             | 8.22            | 99.9 | —            | —          | P/F         | L/F         |
| CCV                |           |        |            |         |                 |                 |                 |      |              |            | P/F         | L/F         |

DO Acceptance criteria from Table  $\pm 0.3$  mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

| Spec. Cond. FT 1200 | Name      | Date   | Time CT-ET | Lot #   | Expir. Date | Standard $\mu$ hos/cm | Meter Reading $\mu$ hos/cm | Pass / Fail | Lab / Field |
|---------------------|-----------|--------|------------|---------|-------------|-----------------------|----------------------------|-------------|-------------|
| Calibr.             | J Parnish | 7/3/19 | 715        | 1904305 | 5/20        | 1000                  | 1000                       | P/F         | L/F         |
| ICV                 | J         | 7/3/19 | 718        | 1903196 | 3/20        | 147                   | 155                        | P/F         | L/F         |
| CCV                 | J Parnish | 7/3/19 | 1505       | 1014135 | 9/19        | 1413                  | 1451                       | P/F         | L/F         |
| CCV                 |           |        |            |         |             |                       |                            | P/F         | L/F         |

Conductivity Acceptance criteria  $\pm 5\%$

| pH DEP SOP FT 1100 | Name      | Date   | Time CT-ET | Lot #   | Expir. Date | pH Buffer SU | Temp °C | Meter reading SU | mV    | Pass / Fail | Lab / Field |
|--------------------|-----------|--------|------------|---------|-------------|--------------|---------|------------------|-------|-------------|-------------|
| Calibr.            | J Parnish | 7/3/19 | 719        | 2904654 | 3/21        | 7.00         | 24.7    | 7.0              | 17.1  | P/F         | L/F         |
| Calibr.            | J         | 7/3/19 | 720        | 2904600 | 3/21        | 4.           | 24.7    | 4.0              | 158   | P/F         | L/F         |
| Calibr.            | J         | 7/3/19 | 721        | 2901851 | 7/20        | 10.          | 24.5    | 50.0             | 185   | P/F         | L/F         |
| ICV                | J         | 7/3/19 | 722        | 2904607 | 3/21        | 4.0          | 24.6    | 3.95             | 1607  | P/F         | L/F         |
| CCV                | J         | 7/3/19 | 1500       | 2901851 | 7/20        | 10.0         | 24.6    | 10.01            | 186.4 | P/F         | L/F         |
| CCV                |           |        |            |         |             |              |         |                  |       | P/F         | L/F         |

pH Acceptance criteria  $\pm 0.2$  SU; mV pH 7 Range 0  $\pm$  50;

mV pH 4 Range +180  $\pm$  50;

mV pH 10 Range -180  $\pm$  50;

If mV are recorded: slope from 7 to 10 \_\_\_\_\_, slope from 4 to 7 \_\_\_\_\_ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: \_\_\_\_\_

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: \_\_\_\_\_; Date of last verification: \_\_\_\_\_

| Depth Sensor (Daily Calibration & ICV) | Name | Date | Time CT-ET | Calibrated Value (0.00 or Offset), meters | ICV Value, meters | Pass / Fail | Lab / Field |
|----------------------------------------|------|------|------------|-------------------------------------------|-------------------|-------------|-------------|
| Pressure mode in air                   |      |      |            |                                           |                   | P/F         | L/F         |

Report two decimal places. Round numbers  $\leq 4$  down,  $\geq 5$  up. ICV acceptance criteria  $\pm 5\%$  or  $\pm 0.05$ m, whichever is greater.

COMMENTS:

50567

SAMPLE ID: \_\_\_\_\_ MACROPHYTE ID: \_\_\_\_\_ LATITUDE: \_\_\_\_\_  
 COUNTY: Pulmon STORET #: 56142 LONGITUDE: \_\_\_\_\_  
 DATE: 7/3/19 TIME: 1130 SAMPLING AGENCY: \_\_\_\_\_  
 SITE NAME: Ockanunk Reservoir 23-LL-13004 WBID: \_\_\_\_\_  
 FIELD ID/NAME: \_\_\_\_\_ LAKE SIZE: \_\_\_\_\_ RQ: \_\_\_\_\_

## WATERSHED / LAKESIDE FEATURES

| PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS) :                                                                                       |                          |                                                                                                           |                          |                          |                                                                                                    |                          |                          |                                                                                                            |    | LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)                                             |                                                                                                                   |    |   |   |   |   |   |   |   |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------------------------------------------|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----|---|---|---|---|---|---|---|---|---|
| Forest/Natural                                                                                                                                                                   | Silviculture             | Field/Pasture                                                                                             | Agricultural             | Residential              | Commercial                                                                                         | Industrial               | Other (Specify)          |                                                                                                            |    |                                                                                            |                                                                                                                   |    |   |   |   |   |   |   |   |   |   |
| <input type="checkbox"/>                                                                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                                                           | <input type="checkbox"/> | <input type="checkbox"/> |                                                                                                            |    |                                                                                            |                                                                                                                   |    |   |   |   |   |   |   |   |   |   |
| Local Watershed Erosion (select one) : <input type="checkbox"/> None <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy |                          |                                                                                                           |                          |                          |                                                                                                    |                          |                          |                                                                                                            |    | Artificially Impounded <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |                                                                                                                   |    |   |   |   |   |   |   |   |   |   |
| Local Watershed NPS Pollution : <input type="checkbox"/> No evidence <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy |                          |                                                                                                           |                          |                          |                                                                                                    |                          |                          |                                                                                                            |    | Land Use Source & Year:                                                                    |                                                                                                                   |    |   |   |   |   |   |   |   |   |   |
| STORMWATER INPUTS                                                                                                                                                                |                          | Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation                     |                          |                          | Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place |                          |                          | Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place |    |                                                                                            | Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place |    |   |   |   |   |   |   |   |   |   |
| <u>12</u>                                                                                                                                                                        |                          | 20                                                                                                        | 19                       | 18                       | 17                                                                                                 | 16                       | 15                       | 14                                                                                                         | 13 | <u>12</u>                                                                                  | 11                                                                                                                | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| LAKESIDE ALTERATIONS                                                                                                                                                             |                          | Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected)       |                          |                          | Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected)              |                          |                          | Many structures, roads or other human disturbance visible (50%-70% lakeside affected)                      |    |                                                                                            | Highly developed or disturbed (>70% of lakeside affected)                                                         |    |   |   |   |   |   |   |   |   |   |
| <u>12</u>                                                                                                                                                                        |                          | 20                                                                                                        | 19                       | 18                       | 17                                                                                                 | 16                       | 15                       | 14                                                                                                         | 13 | <u>12</u>                                                                                  | 11                                                                                                                | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| BUFFER ZONE                                                                                                                                                                      |                          | Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer |                          |                          | 89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer                               |                          |                          | 50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer                                    |    |                                                                                            | < 29% of shoreline with >18m buffer                                                                               |    |   |   |   |   |   |   |   |   |   |
| <u>14</u>                                                                                                                                                                        |                          | 20                                                                                                        | 19                       | 18                       | 17                                                                                                 | 16                       | 15                       | <u>14</u>                                                                                                  | 13 | 12                                                                                         | 11                                                                                                                | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

## WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

| <b>Water:</b><br>Nutrient Sample Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No Preserved? <input type="checkbox"/> Yes <input type="checkbox"/> No pH<2 <input type="checkbox"/> No<br>Color Sample Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No Lot # _____ Exp. Date: _____<br>Alkalinity Sample Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Water Level <input type="checkbox"/> Low <input type="checkbox"/> Normal <input type="checkbox"/> High                                                                                                                                                                                                                             |                          |                          |                                     |                          |               |                 |                | <b>Water Odors:</b> <input checked="" type="checkbox"/> Normal<br><input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum <input type="checkbox"/> Other _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|---------------|-----------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|-------------|---------------|-----------------|----------------|----------|------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-----------------|--------------------------|--------------------------|-------------------------------------|--------------------------|------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|---------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| <b>Meter Readings:</b> <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat. (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td><u>0.3</u></td> <td><u>30.7</u></td> <td><u>7.56</u></td> <td><u>5.3</u></td> <td><u>71.7</u></td> <td><u>469</u></td> <td><u>0.22</u></td> </tr> <tr> <td>Mid-Depth:</td> <td><u>2.00</u></td> <td><u>29.8</u></td> <td><u>7.4</u></td> <td><u>3.9</u></td> <td><u>52%</u></td> <td><u>462</u></td> <td><u>0.22</u></td> </tr> <tr> <td>Bottom:</td> <td><u>2.60</u></td> <td><u>29.8</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> |                          |                          |                                     |                          |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Depth (M) | Temp. (°C) | pH (SU) | D.O. (MG/L) | D.O. Sat. (%) | Cond. (UMHO/CM) | Salinity (PPT) | Top:     | <u>0.3</u> | <u>30.7</u>              | <u>7.56</u>              | <u>5.3</u>                          | <u>71.7</u>              | <u>469</u>      | <u>0.22</u>              | Mid-Depth:               | <u>2.00</u>                         | <u>29.8</u>              | <u>7.4</u>       | <u>3.9</u>               | <u>52%</u>               | <u>462</u>                          | <u>0.22</u>              | Bottom:             | <u>2.60</u>              | <u>29.8</u>              |                                     |                          |  |  |  | <b>Water Surface Oils:</b> <input checked="" type="checkbox"/> None<br><input type="checkbox"/> Sheen/Slack <input type="checkbox"/> Glob <input type="checkbox"/> Other _____ |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Depth (M)                | Temp. (°C)               | pH (SU)                             | D.O. (MG/L)              | D.O. Sat. (%) | Cond. (UMHO/CM) | Salinity (PPT) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Top:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>0.3</u>               | <u>30.7</u>              | <u>7.56</u>                         | <u>5.3</u>               | <u>71.7</u>   | <u>469</u>      | <u>0.22</u>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Mid-Depth:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>2.00</u>              | <u>29.8</u>              | <u>7.4</u>                          | <u>3.9</u>               | <u>52%</u>    | <u>462</u>      | <u>0.22</u>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Bottom:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>2.60</u>              | <u>29.8</u>              |                                     |                          |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>Meter ID:</b> _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |                          |                                     |                          |               |                 |                | <b>Clarity:</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Slightly Turbid<br><b>Color:</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Tannic <input type="checkbox"/> Green                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>Sediment Type:</b> (may check more than one)<br><input checked="" type="checkbox"/> Sandy <input type="checkbox"/> Organic fibrous (peaty, CPOM) <input type="checkbox"/> Vegetated<br><input type="checkbox"/> Sand/Silt <input type="checkbox"/> Organic smooth (muck) <input type="checkbox"/> Other (Specify): _____                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |                          |                                     |                          |               |                 |                | <b>SECCHI (M)</b> <u>1.3</u> <b>Total Station Depth (M)</b> <u>2.6</u><br><b>VOB</b> <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>Sediment Odors:</b> <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Other (Specify): _____<br><input type="checkbox"/> Anaerobic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                          |                                     |                          |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>Biological Communities:</b><br>LVI Conducted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Phytoplankton Sample Taken? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Sample Preserved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Lot #: _____ Exp Date: _____<br>Algal Bloom/Algal ID Sample Taken? Yes No<br>Active Vegetation Mgmt? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know                                                                                                                                                                                                                         |                          |                          |                                     |                          |               |                 |                | <b>Abundance:</b> <table border="1"> <thead> <tr> <th></th> <th>Absent</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Nuisance Plants</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Submersed Plants</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Exotic Apple Snails</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> |           |            |         |             | Absent        | Rare            | Common         | Abundant | Periphyton | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Nuisance Plants | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Submersed Plants | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Exotic Apple Snails | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |  |  |                                                                                                                                                                                |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Absent                   | Rare                     | Common                              | Abundant                 |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Periphyton                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Nuisance Plants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Submersed Plants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| Exotic Apple Snails                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>Weather Conditions:</b> <u>80</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |                          |                                     |                          |               |                 |                | <b>Additional Notes:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>SAMPLING TEAM:</b> <u>Joan / K. M. Appleby</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |                          |                                     |                          |               |                 |                | <b>SIGNATURE:</b> <u>Joan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |
| <b>DATE:</b> <u>7/3/19</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                          |                                     |                          |               |                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |            |         |             |               |                 |                |          |            |                          |                          |                                     |                          |                 |                          |                          |                                     |                          |                  |                          |                          |                                     |                          |                     |                          |                          |                                     |                          |  |  |  |                                                                                                                                                                                |  |  |  |