

The background is a light blue gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The main title is centered in the upper half of the image.

STREAM QUALITY MONITOR TRAINING

RICHLAND SOIL AND WATER CONSERVATION DISTRICT
(RICHLANDSWCD)

ABOUT RICHLAND SWCD

- VOTED INTO EXISTENCE IN 1948
- STATE OF OHIO AND RICHLAND COUNTY
- OHIO DEPARTMENT OF AGRICULTURE (ODA) SOIL AND WATER CONSERVATION
- UNITED STATES DEPARTMENT OF AGRICULTURE-NATURAL RESOURCES CONSERVATION SERVICE (USDA-NRCS) FOR TECHNICAL ASSISTANCE.

WHAT WE DO

ASSIST RICHLAND COUNTY RESIDENTS WITH:

- SOIL AND WATER QUALITY AND QUANTITY
 - DRAINAGE, EROSION, FLOODING AND SEDIMENT CONTROL
 - POND MAINTENANCE
 - WOODLAND, WETLAND, WILDLIFE, AND RECREATION PLANNING & MANAGEMENT
 - AGRICULTURE LAND PLANNING AND ENGINEERING ASSISTANCE

WHAT WE DO (CONTD.)

- ADMINISTER THE COUNTY STORM WATER MANAGEMENT PROGRAM IN UNINCORPORATED AREAS AND WITH THE VILLAGE OF LEXINGTON.
- FORESTRY MANAGEMENT
- CREATE GPS MAPS
- SOIL TESTING
- ADVISE LANDOWNERS ON THE SUITABILITY OF LAND FOR PURPOSE THEY ARE INTENDING

STAFF

- ERICA THOMAS, DISTRICT ADMINISTRATOR
- THERESA ROZIC SUTTER, COMMUNITY RELATIONS COORDINATOR
- MATT WALLACE, AGRICULTURE TECHNICIAN
- DAN HERROLD, MS4 AND URBAN TECHNICIAN
- JORDAN KELLER, H2OHIO AND URBAN DISTRICT TECHNICIAN
- EVAN STERN, H2OHIO STORMWATER TECHNICIAN

WATERSHED INVESTIGATOR VOLUNTEER OPPORTUNITIES

- DATA MANAGEMENT
- LAKE MONITOR
- HISTORICAL PHOTO AND DOCUMENT ARCHIVIST
- OFFICE ASSISTANT (INCLUDES STORM WATER PERMITS)
- PHOTOGRAPHY
- PRECIPITATION MONITOR
- STREAM QUALITY MONITOR
- SPECIAL EVENT ASSISTANT

YOU ARE IMPORTANT!

- WITHOUT VOLUNTEERS WE COULDN'T COLLECT DATA
- DATA IS USED AS A RESOURCE BY THE PUBLIC, OTHER GOVERNMENT OFFICES AND OUR PARTNERS.
- DATA IS REPORTED TO OHIO EPA AS PART OF THE COUNTY NPDES (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT.
- DATA IS POSTED TO WWW.RICHLANDSWCD.NET FOR ANYONE TO VIEW

WHY IS IT IMPORTANT TO MONITOR?

- MONITOR LONG-TERM TRENDS OF OUR STREAMS
- DETERMINE IF PROBLEMS EXIST IN OUR STREAMS AND RIVERS
- PROTECT DRINKING WATER
- PROTECT RECREATIONAL WATER
- PROTECT ANIMAL HABITATS
- IDENTIFY SOURCES AND FATES OF CONTAMINANTS

SAFETY FIRST

- WEAR PROPER CLOTHING, INCLUDING SAFETY APPAREL
- DON'T GO OUT IN BAD OR THREATENING WEATHER CONDITIONS
- AVOID UNSAFE SITUATIONS
- PUT FLASHERS ON WHEN CAR IS PARKED
- PULL OFF ONTO BERM OR INTO FIELD ACCESS
- FOR FIELD ACCESS, PARK ALONG ROAD

WHAT TO MONITOR

- WATER TURBIDITY
- WATER ODOR
- WATER TEMPERATURE
- WATER COLOR
- CLOUD COVER
- WIND DIRECTION
- WHEN IT LAST RAINED

WHERE TO MONITOR

- PRE-DETERMINED SAMPLING POINT
 - MAPS AND GPS COORDINATES PROVIDED FOR EACH SAMPLING SITE
 - FROM THE SIDE OF THE BANK
 - DOWNSTREAM
-
- **NOTE: IF YOU DISCOVER THAT THE SITE IS UNSAFE OR CANNOT BE MONITORED, PLEASE CONTACT THERESA**

WHAT IS TURBIDITY?

- TURBIDITY IS A MEASURE OF WATER CLARITY.
- THE AMOUNT OF MATERIAL SUSPENDED IN WATER DECREASES THE PASSAGE OF LIGHT THROUGH WATER.
- SUSPENDED MATERIALS INCLUDE SOIL PARTICLES, SOLIDS, ALGAE, ETC..
- CAN CAUSE THE WATER TO BE CLOUDY OR MUDDY LOOKING.
- HIGHER TURBIDITY INCREASES WATER TEMPERATURES BECAUSE SUSPENDED PARTICLES ABSORB MORE HEAT.

WHAT IS TURBIDITY CONTD.?

- THIS REDUCES THE CONCENTRATION OF DISSOLVED OXYGEN SO THAT NOT ALL ORGANISMS CAN SURVIVE
- CAUSED BY EROSION, LEAF LITTER, HIGH NUMBERS OF MICROSCOPIC PLANKTON
- CREATES PROBLEMS: SEDIMENT COVERS EGG BEDS AND FOOD, DAMAGES GILLS, CAUSES LOWER REPRODUCTION AND DEPLETED HABITAT QUALITY.
- ADDITIONAL PROBLEMS: WASTE DISCHARGE, RUNOFF, ERODING STREAM BANKS AND EXCESSIVE ALGAL GROWTH.

HOW TO MEASURE TURBIDITY (PHYSICAL ASSESSMENT)

- POSITION YOURSELF ALONG THE STREAM BANK
- MAKE SURE THE BOTTLE IS FIRMLY AFFIXED TO THE POLE
- IF YOU NEED TO EXTEND THE LENGTH OF THE POLE, TURN THE METAL PIECE AT THE END OF THE POLE COUNTER-CLOCKWISE AND EXTEND THE POLE THE LENGTH YOU NEED.
- WHEN PROPER LENGTH OF THE POLE IS DETERMINED, TURN THE POLE CLOCK-WISE UNTIL YOU HEAR A LOCKING SOUND.

HOW TO MEASURE TURBIDITY (PHYSICAL ASSESSMENT)

- PUT THE POLE IN THE WATER AS FARM FROM THE BANK AS IS SAFELY POSSIBLE.
- PLACE OPEN END OF THE BOTTLE UPSTREAM TO CAPTURE THE WATER
- FILL THE BOTTLE
- BRING THE SAMPLE BACK UP TO YOU ON THE STREAM BANK
- HOLD THE TURBIDITY TUBE IN YOUR SHADOW AND PERPENDICULAR TO THE GROUND

HOW TO MEASURE TURBIDITY (PHYSICAL ASSESSMENT)

- CAN REMOVE THE WATER BOTTLE FROM THE SAMPLING POLE PRIOR TO POURING INTO TURBIDITY TUBE, IF WANT
- POUR THE WATER SAMPLE SLOWLY INTO THE TURBIDITY TUBE
- LOOK STRAIGHT DOWN INTO THE TUBE WITH YOUR EYE CLOSE TO THE TUBE OPENING
- STOP ADDING WATER WHEN YOU CANNOT SEE THE 0.4 INCH BLACK DOT AT THE BOTTOM OF THE TUBE

HOW TO MEASURE TURBIDITY (PHYSICAL ASSESSMENT)

- AS YOU POUR, ROCK THE TUBE AS NEEDED TO KEEP MATERIAL SUSPENDED
- READ THE HEIGHT OF THE WATER COLUMN FROM THE MARKINGS ON THE TUBE TO THE NEAREST $\frac{1}{4}$ INCH
- RECORD THE READING ON YOUR DATA SHEET
- REPEAT THE PROCEDURE AGAIN AND RECORD THE SECOND READING ON YOUR DATA SHEET
- AVERAGE THE TWO READINGS (WILL AUTO-POPULATE WHEN ENTER ON THE WEBSITE)

ODOR (PHYSICAL ASSESSMENT)

CAUSES OF ODOR:

- FISH KILL
- RAW SEWAGE
- INDUSTRIAL RUN-OFF
- DECOMPOSITION

HOW TO MONITOR ODOR

- WHILE THE SAMPLE IS IN THE BOTTLE, WAVE YOUR HAND OVER THE CONTAINER MOUTH TOWARD YOUR NOSE TO DETERMINE ODOR
- ODORS
 - NONE (LEAVE BLANK ON WEBSITE DATA ENTRY PAGE)
 - RAW EGGS
 - BAD SMELL, BUT NOT SURE WHAT IT SMELLS LIKE
 - OTHER: WRITE IN AN ODOR NOT LISTED

HOW TO MONITOR ODOR CONTD.

- RECORD ODOR ON DATA SHEET
- **NOTE: A BAD SMELL COULD BE DUE TO THE STREAM BEING HIGHER THAN NORMAL. IF YOU GET A BAD SMELL, RE-TEST WHEN THE STREAM RETURNS TO NORMAL FLOW.**

HOW TO MONITOR WATER TEMPERATURE (PHYSICAL ASSESSMENT)

- SUBMERGE THERMOMETER IN WATER SAMPLE AND WAIT 1 TO 2 MINUTES
- CAN RECORD FAHRENHEIT AND CELSIUS READINGS
- RECORD ON DATA SHEET
- IS IMPORTANT BECAUSE TEMPERATURE AFFECTS THE OXYGEN CONTENT OF THE WATER. OXYGEN LEVELS BECOME LOWER AS TEMPERATURE INCREASES AND IS A DETERMINING FACTOR IN THE HEALTH OF AQUATIC ORGANISMS, WHICH IS AN INDICATOR OF STREAM HEALTH.
- **NOTE: MAKE SURE THAT THE THERMOMETER IS ALWAYS STORED UPRIGHT TO PREVENT IT FROM BREAKING**

WATER COLOR AND WHAT WATER COLOR MEANS

- BLUE WATER: LOW ACCUMULATIONS OF DISSOLVED MATERIALS
- YELLOW/BROWN: DISSOLVED ORGANIC MATERIAL FROM SOIL, PEAT OR DECAYING PLANT MATERIAL
- RED: CAN BE PRODUCED FROM SOME ALGAE
- GREEN: WATER RICH IN PHYTOPLANKTON AND ALGAE
- MIXED COLORS: CAUSED BY SOIL EROSION
- RECORD COLOR ON DATA SHEET

HOW TO MEASURE CLOUD COVER (PHYSICAL ASSESSMENT)

- OBSERVATION
- EXAMPLES:
 - CLEAR
 - HAZY
 - FEW CLOUDS
 - MANY CLOUDS
 - OVERCAST

WIND DIRECTION (PHYSICAL ASSESSMENT)

- REFER TO WWW.NOAA.GOV FOR WIND CONDITIONS AT THE TIME YOU MONITORED
- ENTER YOUR ZIP CODE
- RECORD ON DATA SHEET

WHEN DID RAINFALL LAST OCCUR

- CHECK WATER DATA MAP. SELECT PRECIPITATION MONITOR CLOSEST TO WHERE YOU ARE SAMPLING. REFER TO THE SAME MONITOR EACH TIME YOU SAMPLE.
- IN A PERFECT WORLD, WAIT UNTIL 3 DAYS AFTER A STORM EVENT TO MONITOR. HOWEVER, THIS ISN'T ALWAYS POSSIBLE AND THAT'S WHY WE ASK WHEN IT LAST RAINED.
- IMPORTANT BECAUSE IT AFFECTS TURBIDITY
- RECORD ON DATA SHEET

COMMENTS

- RECORD ANY OTHER OBSERVATIONS ON THE DATA SHEET

THIS AND THAT

- MONITOR PRE-ASSIGNED STREAMS ONCE PER MONTH, APPROXIMATELY MAY TO NOVEMBER
- RECORD ALL DATA (**INCLUDING DATE AND TIME**) ON THE PAPER DATA SHEET AND TRANSFER TO THE DISTRICT WEBSITE WITHIN 24 HOURS OF MONITORING
- DATA SHEETS CAN BE DROPPED OFF, MAILED OR SCANNED AND EMAILED TO THERESA AT SUTTER.THERESA@RICHLANDSWCD.NET EVERY MONTH.
- MONITORS ARE RESPONSIBLE FOR THEIR OWN TRANSPORTATION AND WILL BE REIMBURSED FOR MILEAGE AT THE END OF THE YEAR, BASED ON THE CURRENT IRS REIMBURSEMENT RATE. AND THE NUMBER OF TIMES YOU MONITORED.

WEBSITE: TO REGISTER AS NEW VOLUNTEER

- IF NOT A VOLUNTEER ALREADY, REGISTER ON THE VOLUNTEER PORTAL AT RICHLANDSWCD.NET, GET INVOLVED, VOLUNTEER PORTAL
- COMPLETE FORM
- CLICK SUBMIT BUTTON
- AFTERWARD, I WILL APPROVE YOU AS A VOLUNTEER AND YOU ARE READY TO ENTER DATA

WEBSITE: EXISTING VOLUNTEERS

- ALREADY REGISTERED, SO CAN ADD DATA WHEN YOU'RE READY.

WEBSITE: HOW TO RECORD DATA

- GO TO WEBSITE: [HTTPS://RICHLANDSWCD.NET/](https://richlandswcd.net/)
- CLICK ON “GET INVOLVED”
- CLICK ON “VOLUNTEER PORTAL”
- ENTER YOUR USER NAME OR EMAIL ADDRESS AND PASSWORD
- CLICK ON “SUBMIT”

- **NOTE:** IF YOU FORGET YOUR PASSWORD, YOU CAN CREATE A NEW PASSWORD

WEBSITE: HOW TO RECORD DATA

- CLICK ON MENU BUTTON
- GO TO STREAM TURBIDITY TAB
- CLICK ON “ADD ENTRY”
- PAPER MONITORING DATA SHEET MATCHES ORDER ON WEBSITE
- DATA CAN BE CHANGED IF YOU NEED TO CORRECT SOMETHING. IF YOU CORRECT DATA, PLEASE CORRECT AS SOON AS POSSIBLE
- DON'T FORGET TO SAVE YOUR DATA! CLICK THE SUBMIT BUTTON!
- CAN EDIT YOUR ENTRY
- CAN UPLOAD A PHOTO OF THE SITE

WEBSITE: WATER DATA MAP

- CAN ACCESS ON VARIOUS PAGES OF WEBSITE
 - HOME PAGE: ROTATING IMAGE
 - HOME PAGE: RICHLAND COUNTY WATERSHEDS
 - HOME PAGE: SERVICES, WATER, WATER DATA MAP
 - VOLUNTEER PORTAL

WEBSITE: WATER DATA MAP CONTD.

- TO VIEW:
 - CLICK ON CHEVRON BUTTON
 - CHECK MARK THE STREAMS BOX
 - CAN SELECT MAP OR SATELLITE VIEW
 - CAN TYPE IN AN ADDRESS
 - YOUR DATA SHOWN UNDER STREAMS AND/OR AGRICULTURAL STREAMS
 - IF YOU ARE INTERESTED IN COLLECTING CHEMICAL DATA, LET THERESA KNOW

FORMS

- EQUIPMENT AGREEMENT: NEW VOLUNTEER
- APPLICATION
- RELEASE: EVERYONE, UNLESS SUBMITTED ONE UNDER ANOTHER PROGRAM YOU VOLUNTEER FOR
- MONITORING DATA SHEETS: EVERYONE

QUESTIONS

DO YOU WANT YOUR PHONE NUMBER AND/OR EMAIL ADDRESS SHARED WITH OTHER VOLUNTEERS?

HELPS WITH CONNECTING WITH OTHER VOLUNTEERS

ADDITIONAL RESOURCE

CONTACT INFORMATION

THERESA ROZIC SUTTER, COMMUNITY RELATIONS COORDINATOR

RICHLAND SOIL AND WATER CONSERVATION DISTRICT

1495 W. LONGVIEW AVENUE, SUITE 205B

MANSFIELD, OHIO 44906

OFFICE NUMBER: 419-747-8686

DIRECT PHONE NUMBER: 419-747-8685

EMAIL: SUTTER.THERESA@RICHLANDSWCD.NET

The background is a light blue gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the image.

THANK YOU!

WE APPRECIATE YOUR HELP!