

The background of the entire page is a light gray gradient. Scattered across this background are numerous water droplets of various sizes and shapes. Some are large and prominent, while others are small and subtle. The droplets have a realistic appearance with highlights and shadows, giving them a three-dimensional effect. They are distributed across the top, bottom, and right sides of the page, framing the central text.

RIVER WATCH 2015-2016

MEGGAN SMITH

AND

THE MONTPELIER HIGH RIVER WATCH TEAM

COLTEN FORD, SETH KJELLBERG, MORGAN SMITH, HOBIE BEAR



THE MONTPELIER RIVER WATCH TEAM

- MONTPELIER SCHOOL IS A SMALL FARM SCHOOL LOCATED IN SOUTH CENTRAL NORTH DAKOTA.
- THE STUDENT BODY CONSISTS OF ABOUT 115 STUDENTS KINDERGARTEN THROUGH 12TH GRADE.
- OUR RIVER WATCH TEAM IS COMPRISED OF STUDENTS RANGING FROM 9TH GRADE TO 12TH GRADE.
- THIS IS OUR FIRST FULL YEAR OF TRUE SAMPLING.
- SOME OF OUR EQUIPMENT MAY HAVE BEEN OFF WHICH IN TURN COULD CAUSE OUR DATA TO BE SKEWED, WE WILL BE CONTINUING OUR SAMPLING THIS SPRING AND HOPEFULLY FOR YEARS TO COME.

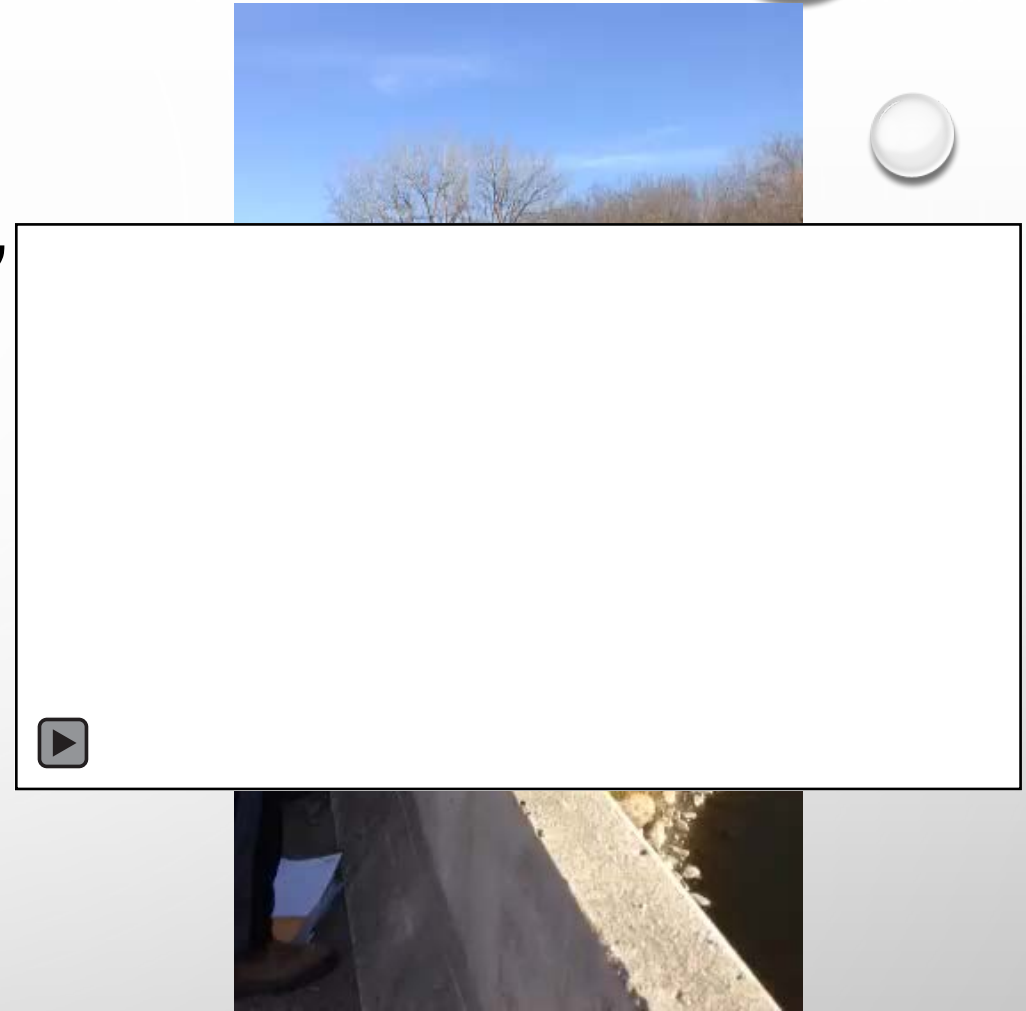
THE JAMES RIVER

- THE SAMPLING IS FROM THE JAMES RIVER IN NORTH DAKOTA.
- THE JAMES RIVER STARTS IN WELLS COUNTY AND FLOWS SOUTH UNTIL IT MEETS WITH THE MISSOURI RIVER NEAR YANKTON SOUTH DAKOTA.
- THE SECTION OF THE RIVER THAT WAS STUDIED IS SOUTH OF JAMESTOWN LOCATED BETWEEN YPSILANTI, ND AND ADRIAN, ND.
- THERE ARE THREE SAMPLING SITES, ALL WITHIN STUTSMAN COUNTY.



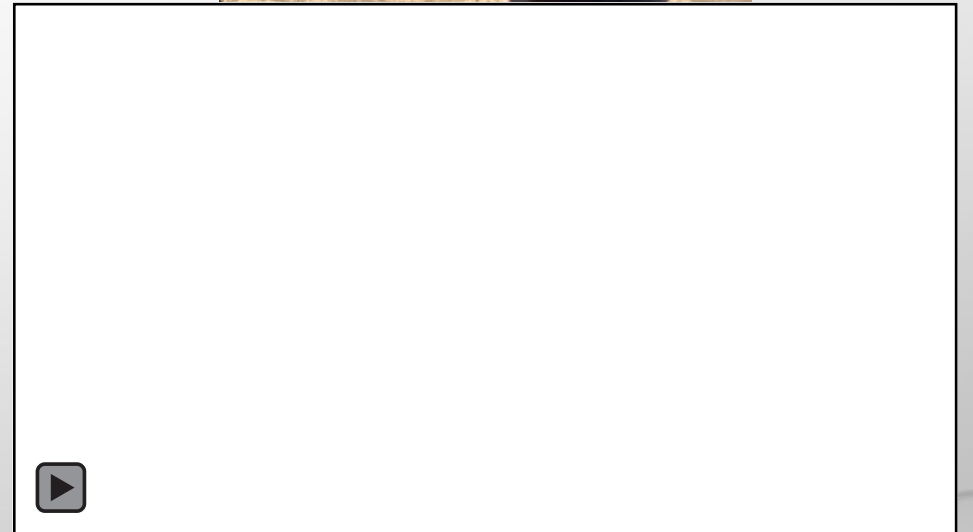
SAMPLING

- THIS VIDEO IS FROM SAMPLE SITE 3
LOOKING SOUTH ONTO THE JAMES RIVER.
- SOIL TESTING AND SOIL SAMPLING HAS
ALSO STARTED AROUND OUR WATER
SAMPLING SITES.



SOIL TESTING TOO

- SAMPLING AT ALL THE SITES NOW INCLUDES SOIL TESTING AS WELL.
- USING VERNIER EQUIPMENT THAT WAS PROVIDED BY A GRANT WE WERE AWARDED FROM MONSANTO.



SITE 1

- SAMPLING SITE ONE IS JUST SOUTH OF THE SMALL VILLAGE OF YPSILANTI.
- THE BRIDGE AT THE SAMPLE SITE IS ON A GRAVEL ROAD NEXT TO A SMALL TRAIN TRESTLE.
- THE LAND AROUND THE SAMPLE SITE IS USED MAINLY FOR AGRICULTURE FIELDS.



SITE 1 CONT....

- THERE IS VERY LITTLE TREE COVER ON THE BANKS OF THE JAMES RIVER AT THIS SITE.
- THE SAMPLE SITE IS JUST DOWN RIVER FROM A SMALL DAM IN YPSILANTI.
- NO DWELLINGS ARE AROUND THIS SAMPLE SITE.



SITE 2

- SAMPLE SITE TWO IS LOCATED JUST AS THE ROAD ENTERS MONTPELIER, ND FROM THE WEST.
- THE LAND AROUND THE RIVER AT THIS SITE IS HEAVILY VEGETATED.
- MANY TALL TREES AND SHRUBS COVER THE BANKS.



SITE 2 CONT...

- LOCATED AROUND THE RIVER AT THIS POINT ARE HOUSES, ONLY A FEW, BUT IT STILL MAKES A DIFFERENCE.
- THIS IS AN OLDER PICTURE OF THE SAMPLE SITE TWO WHILE FLOODED.



SITE 3

- SAMPLE SITE THREE IS ABOUT 4 MILES SOUTH OF MONTPELIER.
- THE BANKS OF THE RIVER ARE NOT AS OVERGROWN WITH TRESS AND SHRUBS AS SITE 2.
- CATTLE GRAZE NEAR THE RIVER AT THIS SITE.



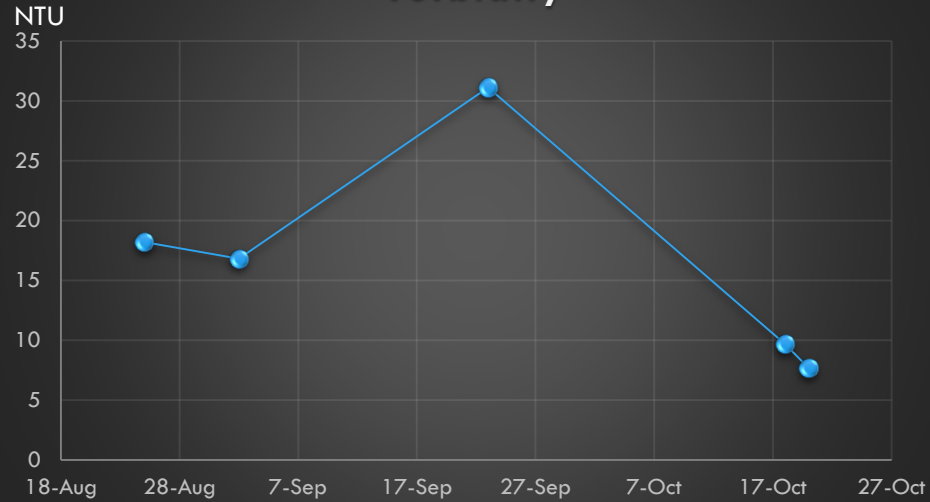
SITE 3 CONT...

- THE WATER IS VERY SHALLOW AT SITE 3.
- IT RUNS ONLY ½ TO 1 METER IN DEPTH.

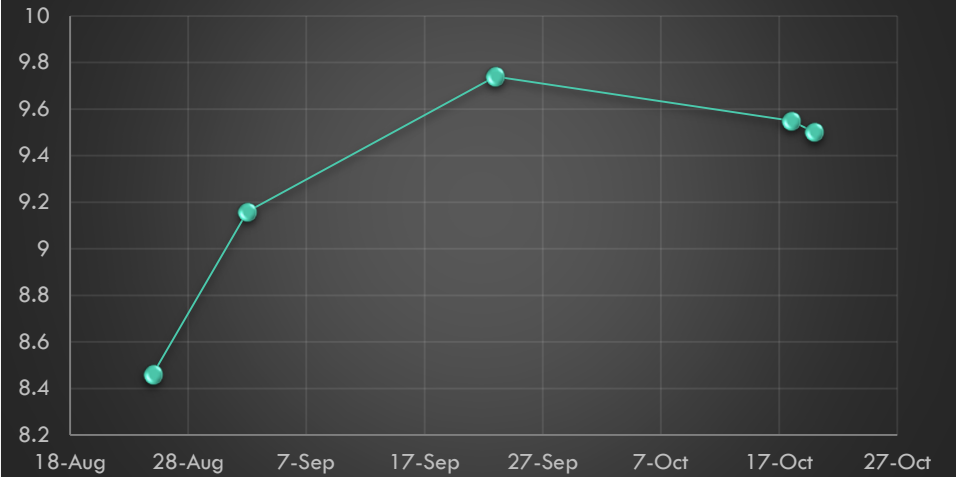


DATA FROM SITE 1, FALL OF 2015

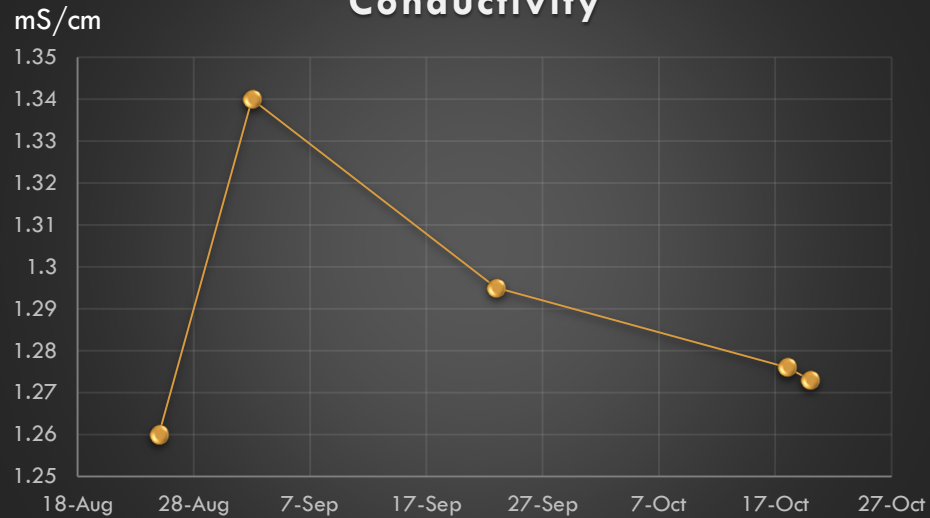
Turbidity



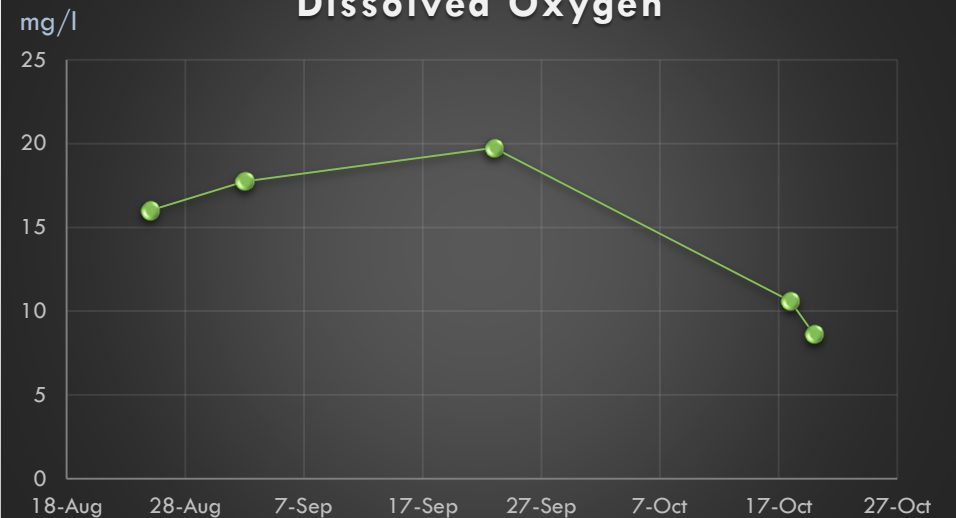
pH



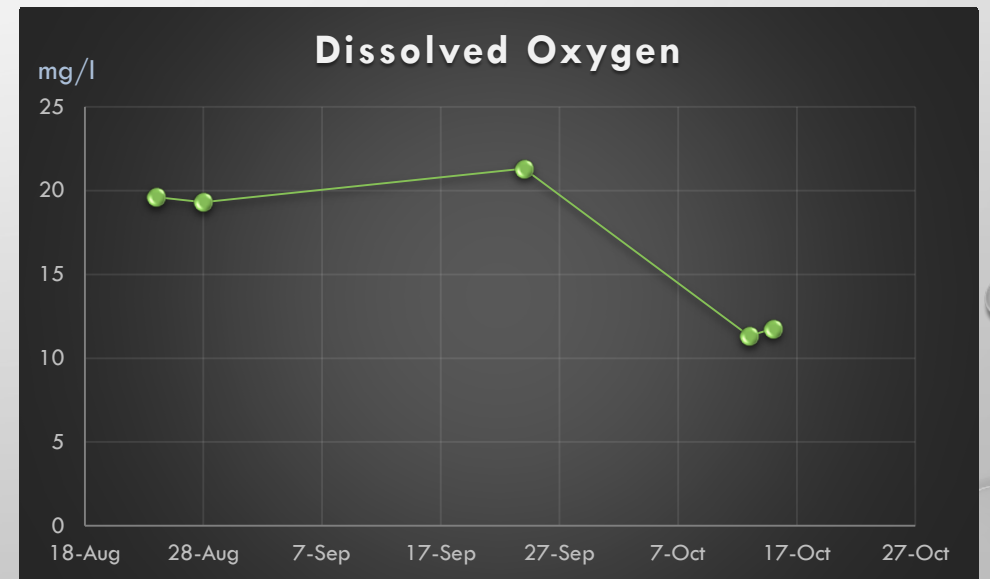
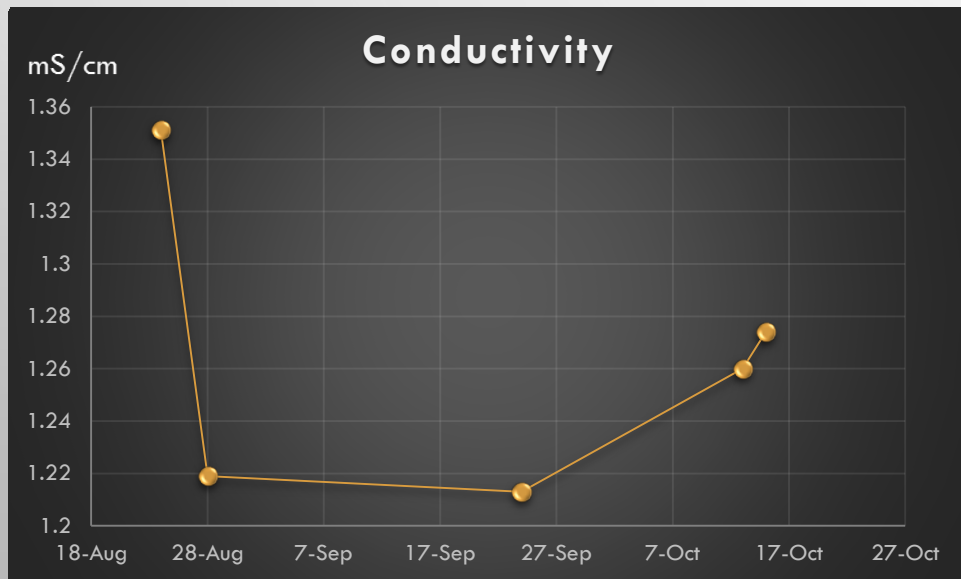
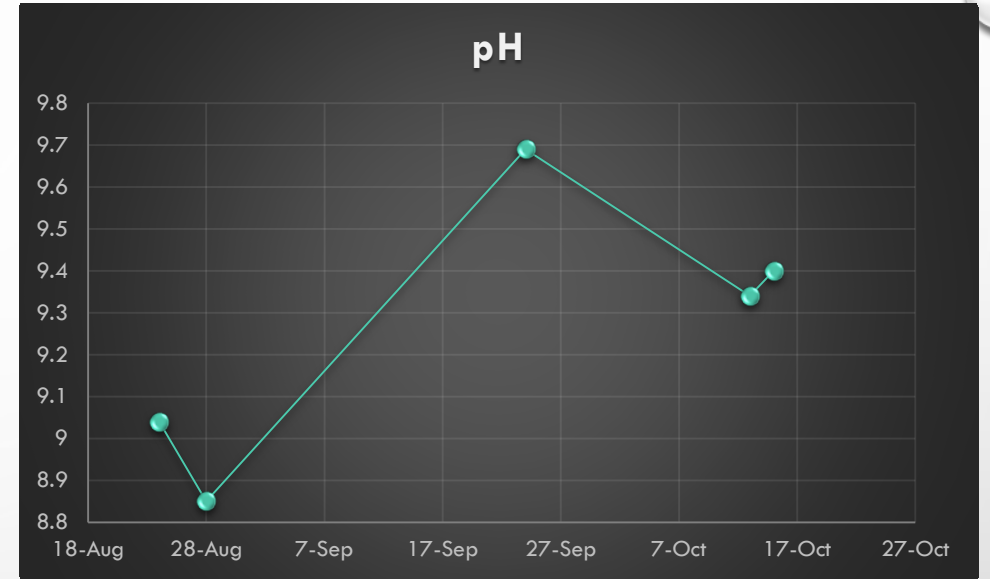
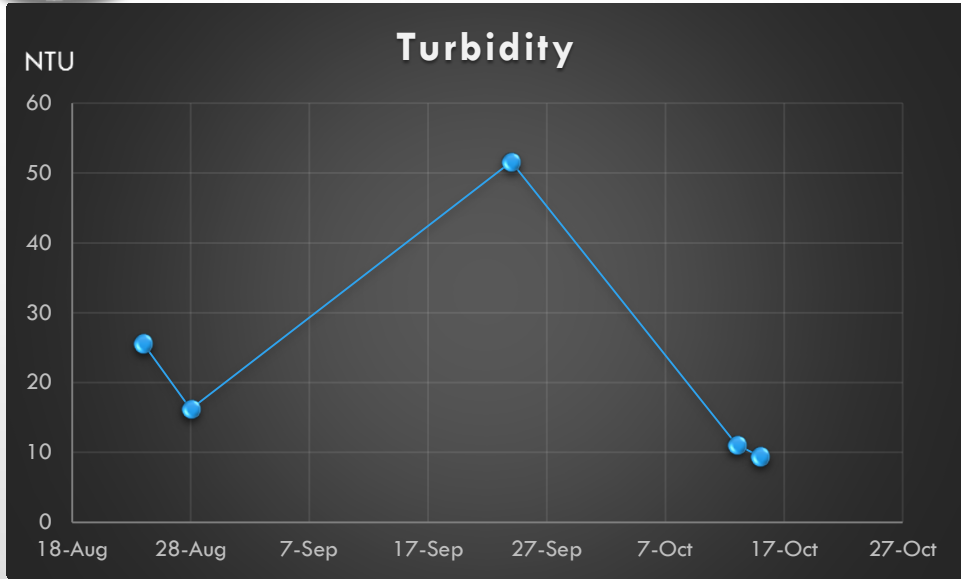
Conductivity



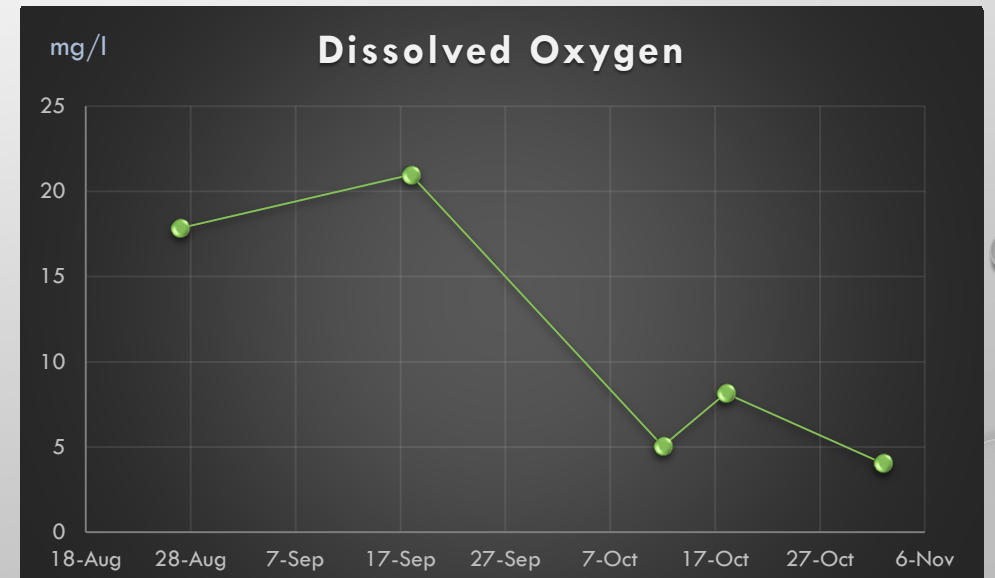
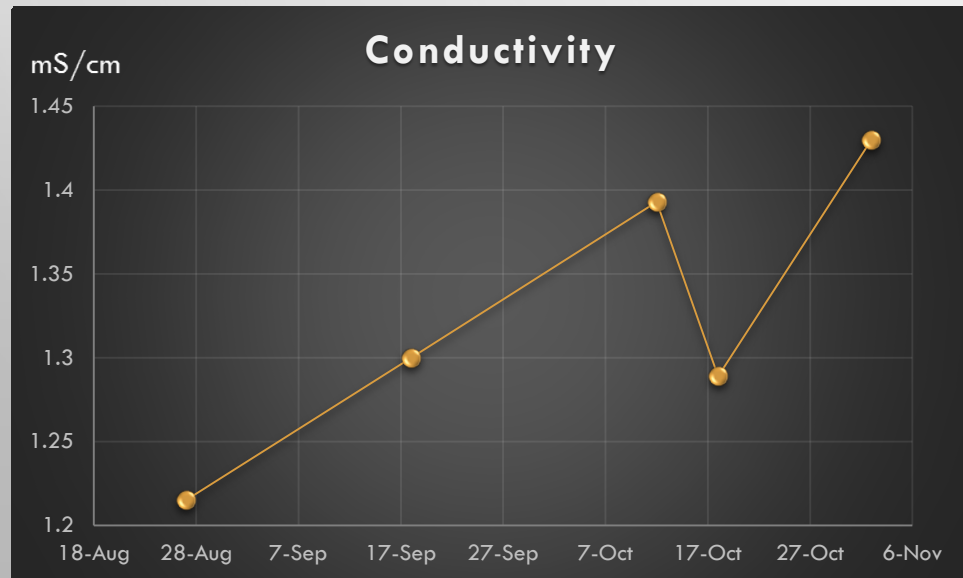
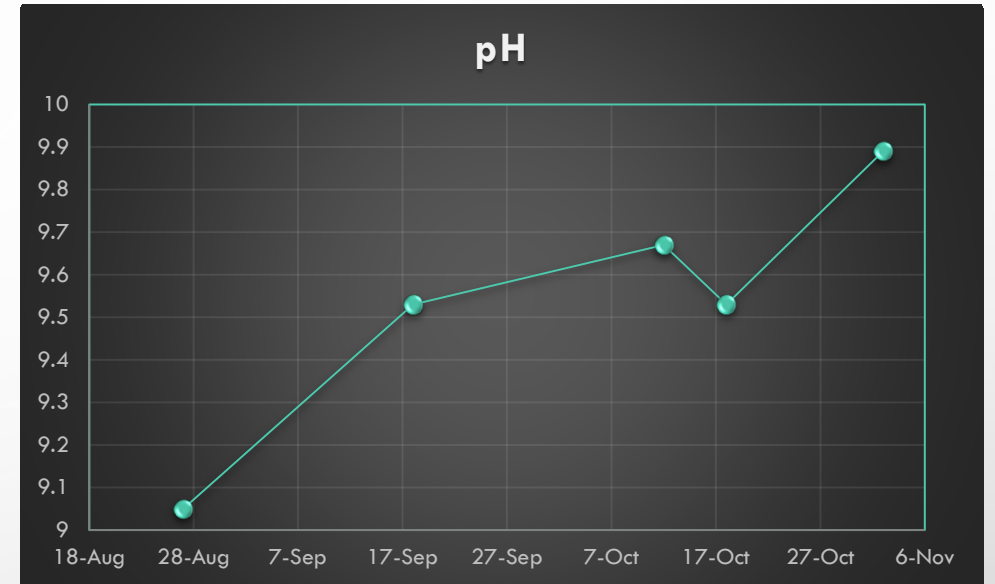
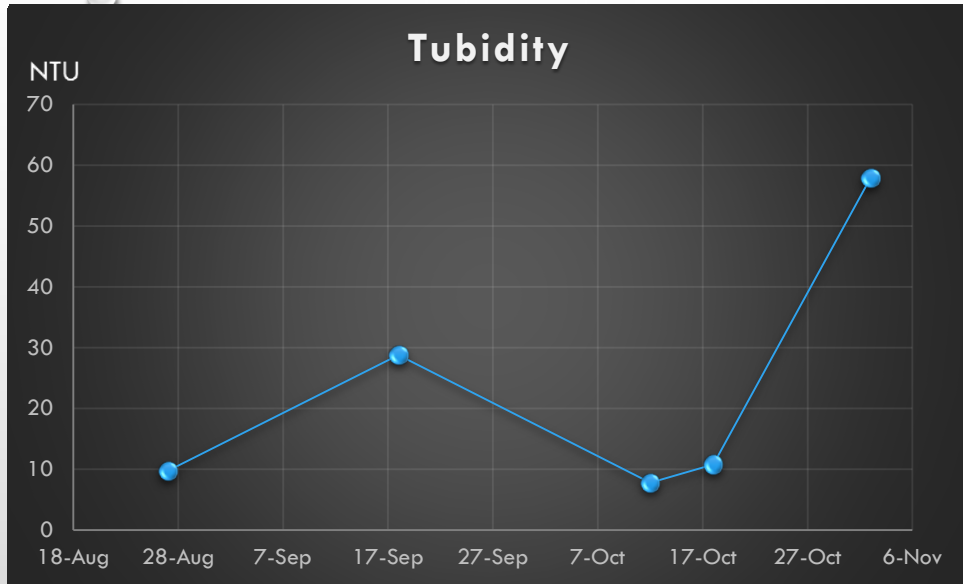
Dissolved Oxygen



DATA FROM SITE 2, FALL OF 2015



DATA FROM SITE 3, FALL 2015



ANALYZING THE RESULTS

- THERE IS A NOTICEABLE INCREASE IN THE TURBIDITY IN ALL THREE SITES OF THE RIVER IN MID SEPTEMBER.
- WHICH WE BELIEVE CORRELATES TO A HEAVY PERIOD OF RAINFALL THAT THE AREA RECEIVED.
- IT IS BELIEVED THAT SOME OUR SAMPLING WAS SKEWED BY AN EQUIPMENT MALFUNCTION, THE DATA WILL STILL BE USED TO COMPARE WITH FUTURE SAMPLING.
- IT WAS OBSERVED THAT AFTER THE SIGNIFICANT AMOUNT OF RAINFALL THAT THE CONDUCTIVITY WENT UP AND THE DISSOLVED OXYGEN LEVELS WENT DOWN.
- IT WAS PRESUMED THAT RUNOFF INTO THE RIVER CAUSED THESE LEVELS TO CHANGE.

FUTURE

- IN THE FUTURE WE HOPE TO INCORPORATE THE KNOWLEDGE FROM THE WATER SAMPLING AND FROM THE SOIL TESTING TOGETHER TO SEE WHAT CORRELATION, IF ANY, THERE IS BETWEEN THE TWO.



MANY THANKS TO:

- THE MANY HELPFUL PEOPLE AT PRAIRIE WATERS IN KATHRYN, ND.
- DR. DELORME AT VCSU FOR INCLUDING OUR SCHOOL IN THE RIVER WATCH PROGRAM.
- OUR SCHOOL ADMINISTRATORS FOR ALLOWING US TO DO A PROJECT SUCH AS THIS.
- MONSANTO FOR AWARDING OUR SCHOOL A GRANT MAKING IT POSSIBLE TO BE MORE INVOLVED IN STUDYING OUR SURROUNDINGS.