

Polk County Conservation Water
Quality Monitoring Program



5 Year Report 2015-2020

POLK COUNTY



**WATER QUALITY
MONITORING PROGRAM**



Program History

In November 2012, voters supported the Polk County Water and Land Legacy Bond (PCWLL) in historic fashion, passing the measure with 72% support. This large margin of victory clearly shows that there is strong support for critical water quality, wildlife, trails, and recreation projects. In part, this bond has allowed Polk County Conservation (PCC) to start a water monitoring program to help assess stream quality in Polk County, Iowa.

The Polk County Conservation Water Quality Monitoring Program (PCCWQMP) began in the spring of 2015. The goal of this program is to design and implement a series of twice a month monitoring events that will assess the water quality of streams within Polk County. Specific objectives of these events include establishing a baseline for determining stream health based on chemical, physical, habitat and biological parameters, assessing the health of the local watersheds, targeting areas in need of water quality improvement, creating partnerships in order to grow our water monitoring program and to gain a better understanding of the needs of our watershed systems within Polk County. To achieve these objectives PCCWQMP, working with IOWATER (Iowa's statewide citizen monitoring program 1999-2016) and the Iowa Department of Natural Resources (Iowa DNR), selected sites designed to complement existing IOWATER sites. In fall 2016, PCCWQMP staff completed the first full year of assessments on 32 sites on creeks, streams and drainage ditches throughout Polk County. Since then, our program collaborated with surrounding municipalities and public volunteers to allow our program to grow to 70 sites. City partnerships include Cities of Altoona, Ankeny, Des Moines, Des Moines Parks and Recreation, Johnston and West Des Moines. Each year, new staff and volunteers enlist and are trained to assist in this endeavor.

Establishing a program to assess the health of the streams and create a better understanding of the needs of our watershed system within Polk County is not without challenges. The Iowa Nutrient Reduction Strategy (INRS) was developed with the goal of reducing nutrient loads that lead to algae growth, end up in the Mississippi River and ultimately in the Gulf of Mexico, by 45%. This nutrient load is the leading cause of hypoxia, low dissolved oxygen that cannot support aquatic life, in the Gulf of Mexico. Several challenges identified in the INRS report are consistent



Program History

with challenges the PCCWQMP faces. Such challenges include determining how much data is necessary to accurately establish a baseline for stream health and health of the watersheds, what target areas are in need of water quality improvement, how to identify the origin of nutrients, which management practices are most effective and how long before the management practices implemented have an impact on water quality.

Despite these challenges, Polk County Conservation continues to monitor streams throughout Polk County. Sites were sampled twice a month for chemical and physical data. Each sampling assessment included weather, water clarity, color, odor, water and air temperature, precipitation over last 24 hours, stream width and maximum depth, transparency, pH, nitrate, nitrite, dissolved oxygen, chloride and phosphate.

In addition to the chemical/physical assessments, habitat and biological assessments were completed in July or August for each actively monitored site. Habitat assessments document changes in the streamside landscape over time. Biological assessments involve collecting and identifying benthic macroinvertebrates, aquatic insects and other small invertebrates, which when combined with habitat and water quality data, biological data can be an essential tool in characterizing the quality of your stream.

This report summarizes five years of chemical, physical and biological data collected by PCCWQMP staff, partners and volunteers for stream sites from mid-September 2015 through mid-September 2020. This is the result of countless hours, considerable data (87,808 data points), valuable partnerships and dedicated employees and volunteers.



Data Interpretation

Due to the large amount of data collected over the past 5 years, averages for each parameter were calculated for every site using the full data set. This allowed realistic interpretation of the data and teased out areas of concern throughout the county. Overall, averages for each parameter at most of the sites fall below the threshold. Exceptions to this were chloride and phosphate, which were above the threshold for the 5 year average at some sites. The below paragraphs summarize each parameter in more detail.

NITRATE

Nitrate concentration averages fell below the threshold of 20 mg/L at all sites. As expected, higher levels of nitrate were seen in the agricultural areas and lower levels were seen in the urban areas. The highest 5 year average for nitrate was below 8 mg/L, which is also below the drinking water threshold of 10 mg/L.

NITRITE

Average nitrite values were also well below the threshold of 0.3 mg/L. This was expected, as nitrite converts quickly to nitrate when entering the water. When looking at data points directly, instead of averages, nitrite seemed to be higher at times when dissolved oxygen was low. This is likely due to the fact that nitrate needs oxygen to complete the conversion to nitrate.

PH

pH was relatively steady throughout the 5 years with averages of 7 or 8. This is above threshold of less than 6 and greater than 9.

DISSOLVED OXYGEN

Overall, dissolved oxygen averages stayed above the threshold of 5 mg/L. There were a handful of sites, though, with averages close to 6 mg/L. These sites were located near the Skunk River in eastern Polk County as well as in some of our urban areas. There can be many causes of low dissolved oxygen such as high temperatures (especially mixed with low water levels), high amounts of biomass in the streams, and excess nutrients. High temperatures and drought conditions over the past 5 years likely led to averages being low at some of these sites.



Data Interpretation

PHOSPHATE

Phosphate averages were below the threshold of 0.6 mg/L at all sites but 10. These sites had averages ranging from 0.7 mg/L to 1.9 mg/L. Like dissolved oxygen, there are many potential causes for elevated phosphates such as fertilizer run off, human/animal waste, and industrial effluents. Natural phenomenon, such as low water levels, can also cause high phosphate readings due to higher concentration of nutrients. Moving forward, sites will be monitored closely and sources of elevated phosphates will be explored.

CHLORIDE

Chloride averages above the threshold of 100 mg/L were seen on 11 of our urban sites. Looking at the data more closely at each of these sites showed that elevated chloride levels were seen throughout the year, not just in winter months when road salts are being applied. This indicates a concerning chronic issue in some of our urban streams. Similar to other nutrients, these elevated levels during the summer months could be due to low water levels and increased concentration. Even if this is the case, there is likely a source providing chloride to the system during these times. Throughout the next year, causes of elevated chlorides will be explored at these sites. Because excess salt use is likely a contributor in the winter months, the PCCWQMP will also work hand in hand with the various jurisdictions to increase awareness of this issue.



Data Interpretation and Hotspot Maps

NEXT STEPS

Data collected over the past 5 years will be used in many ways as we move into the future. The major use of the data will be to target water quality improvement efforts. Utilizing the following hot spot maps, focus will be placed in the areas showing the greatest need. Efforts will be made to implement conservation measures in these areas that work to improve the water quality issue of concern. More in depth observations and sampling may be performed to determine potential sources and severity of pollutants.

Statistical analysis will be completed to determine what change in results must be seen in order to show a significant change in water quality. This will help guide decisions on what the best water quality improvement techniques lead to the greatest improvement in water quality.

Along with targeting and statistical analysis, the data collected will drive educational campaigns throughout Polk County. PCCWQMP staff will work with local jurisdictions to raise awareness of the current water quality issues we are seeing and potential solutions.

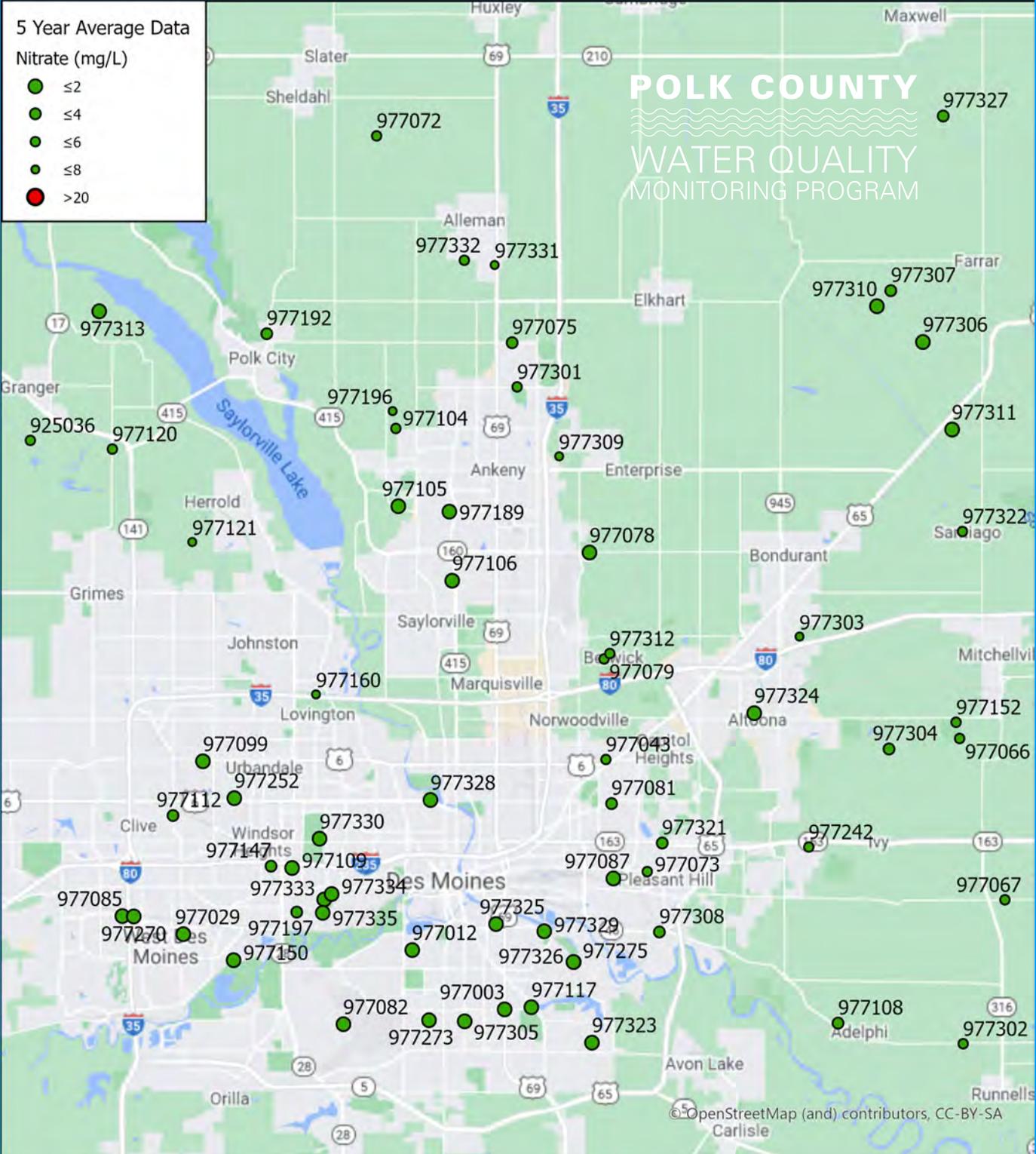
As we continue our program, future data will be compared to our 5 year results to track trends in water quality. This will show efficiency of restoration efforts on the landscape and help track impacts from urban development.

5-YEAR HOTSPOT MAPS

Hotspot maps, created using the average of the 5 year data collected for each parameter at all actively monitored sites, highlight which sites have average levels above the set threshold and help pinpoint issue areas. This allows for a more targeted approach as we move forward towards improving water quality in the county. When looking at the maps, the red dots indicates the average value for that site is above the set threshold for water quality and the green dots mean the average value is below the threshold. The larger the dot, the better or worse the value for the site.

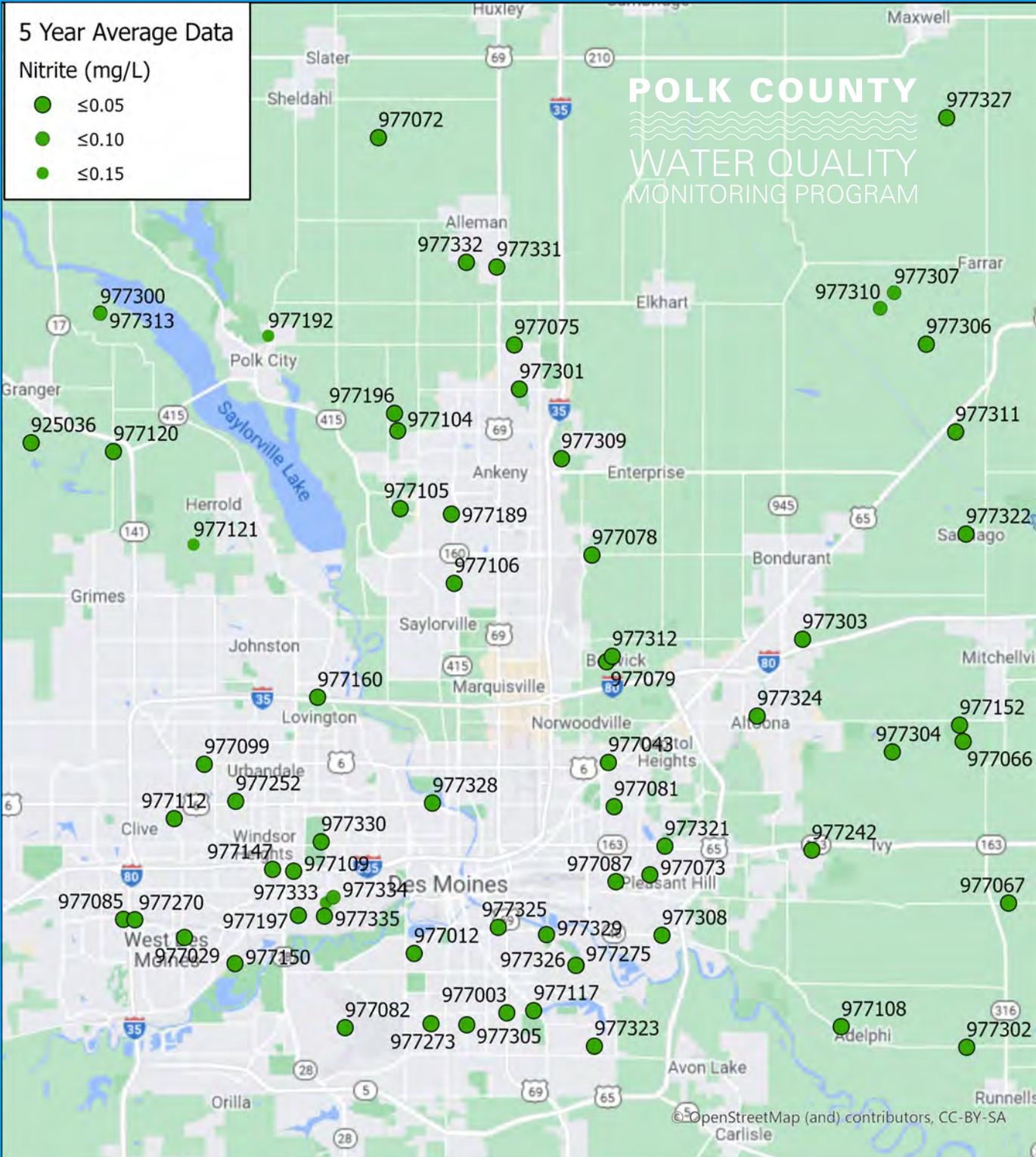


Nitrate Hotspots



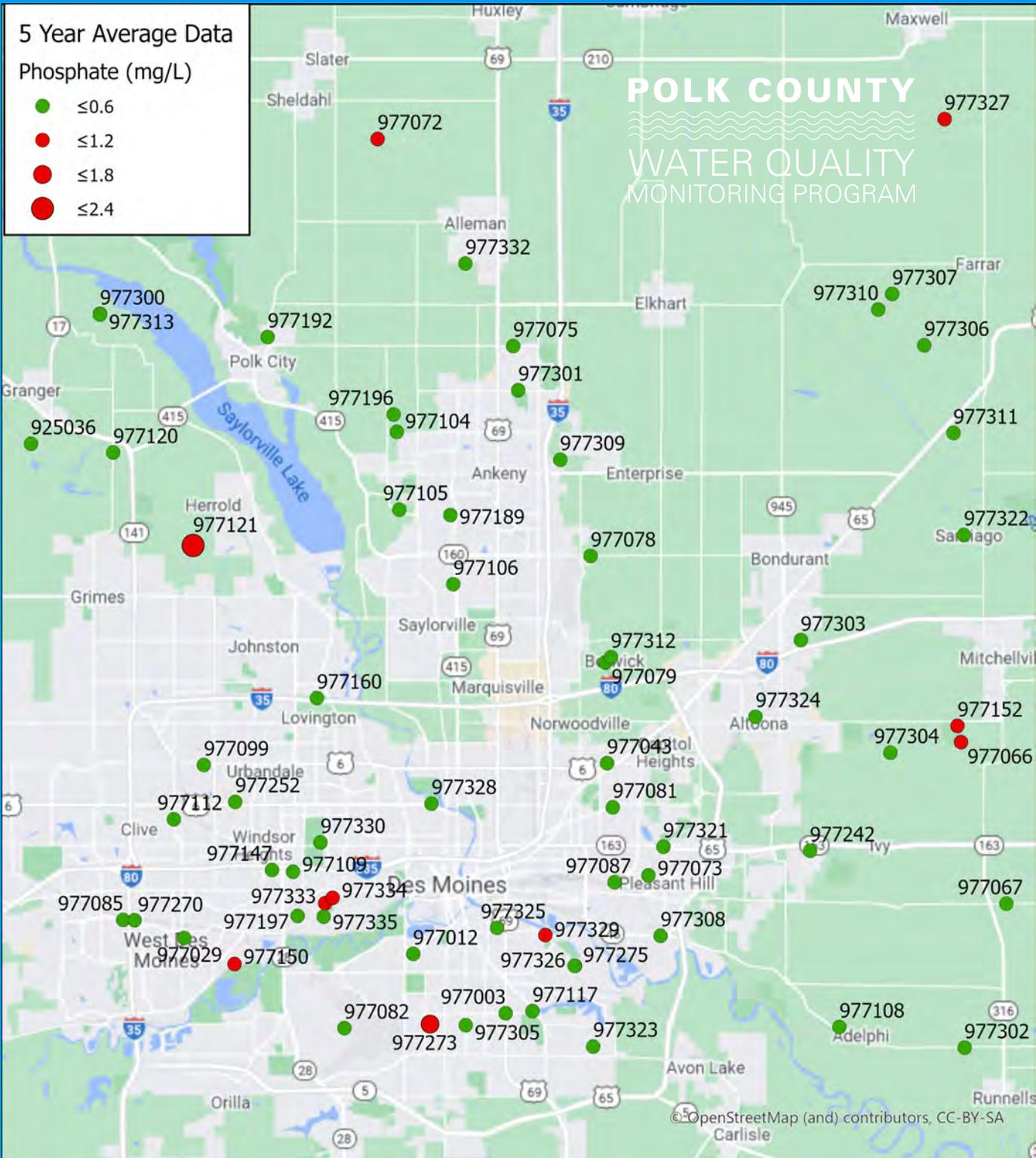


Nitrite Hotspots





Phosphate Hotspots





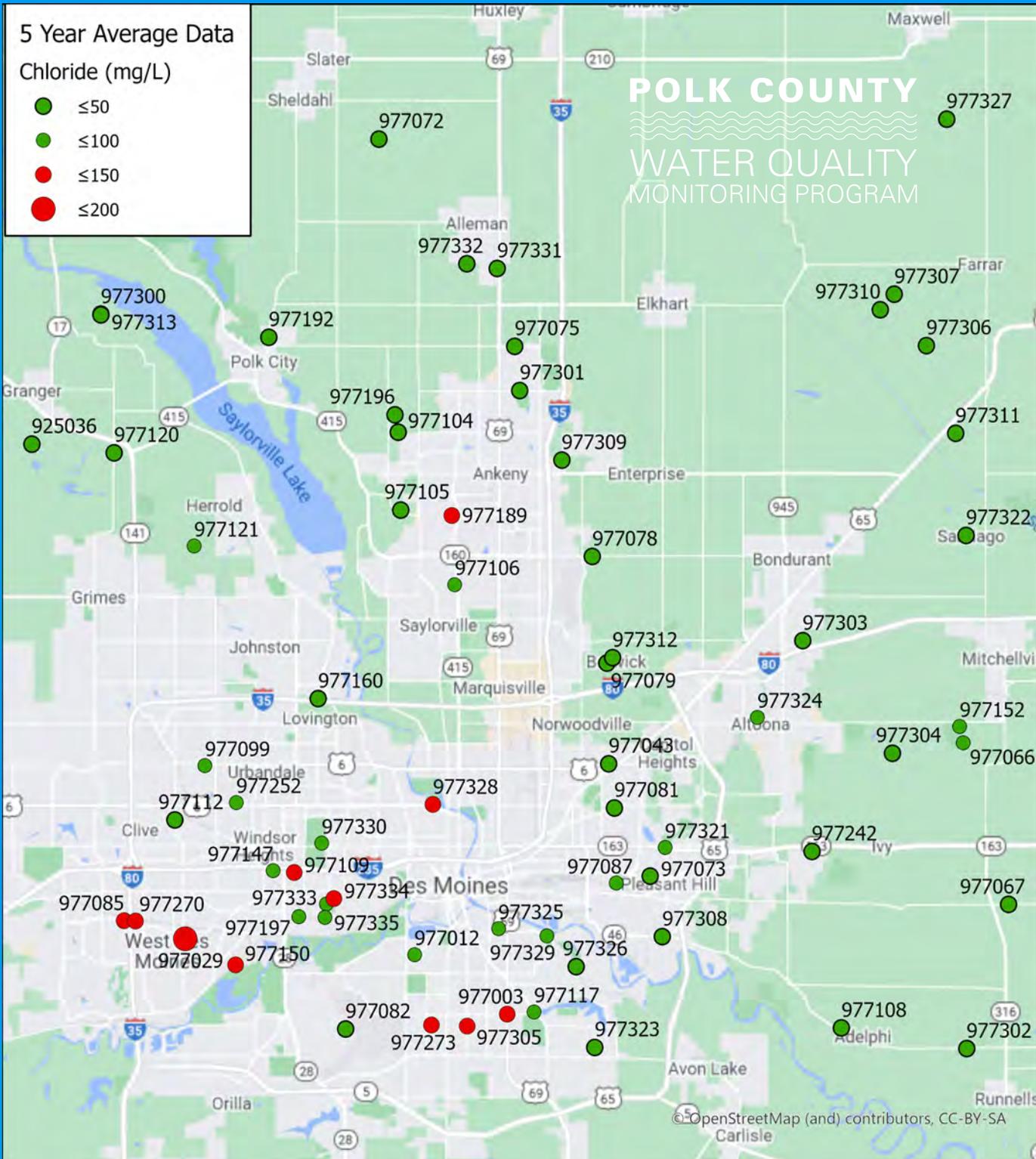
Chloride Hotspots

5 Year Average Data

Chloride (mg/L)

- ≤50
- ≤100
- ≤150
- ≤200

POLK COUNTY
WATER QUALITY
MONITORING PROGRAM





Individual Site Data

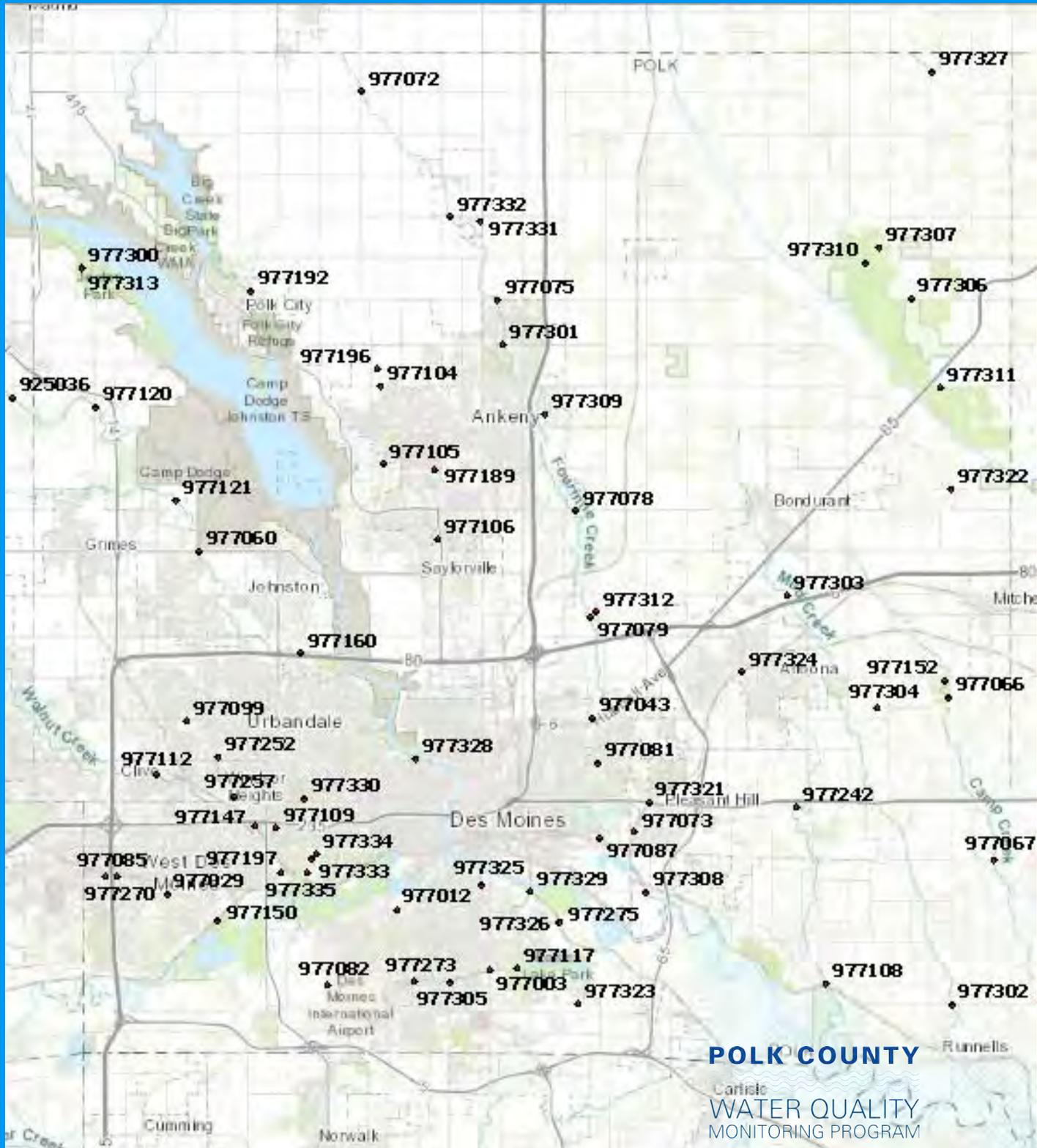
Individual site data is organized by watershed. Navigating to an individual site can be done three ways.

1. Use the bookmarks to access the watershed or site you would like to view
2. Click on the site number on the map found on the following page
3. Simply continue to page down

2015 - 2020 Water Quality Monitoring Sites

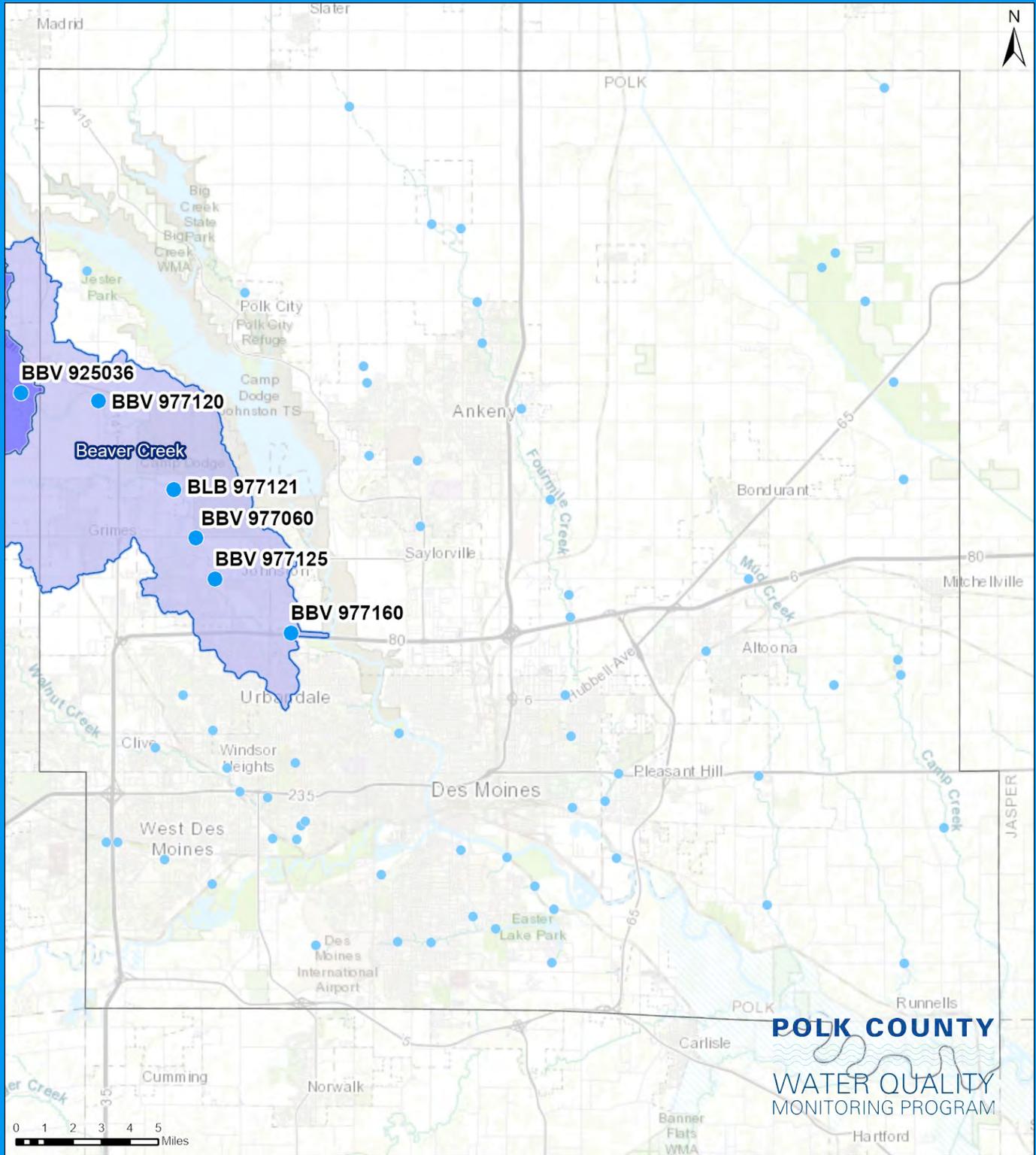


Click on site number to advance to site summary





Beaver Creek Watershed





925036



Gravel road south of Granger, adjacent to the water treatment facility



Site Details

Monitoring Began
July 2015

Watershed
Beaver Creek

Field Monitor
Andrew Phelps
PCC

Site Description

The monitoring site is located along agricultural and forest land. This portion of Beaver Creek has an open canopy with exposed soil and low plants and grass along the left bank. The north bank is more vegetated providing a small amount of shade .



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

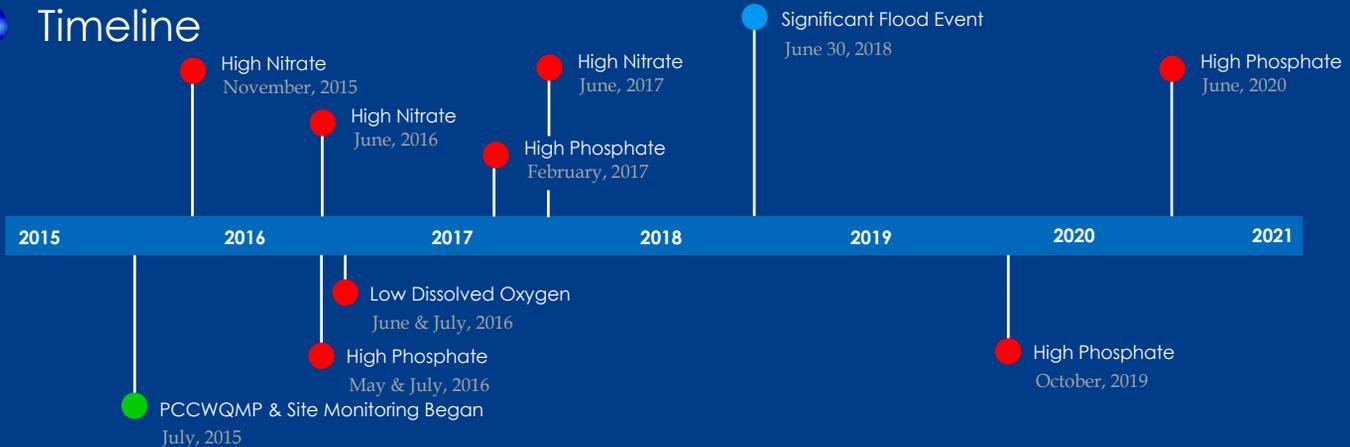
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977120



Northwest 121st Street,
south of Highway 141

Site Details

Monitoring Began
July 2015

Watershed
Beaver Creek

Field Monitor
Nikki Dunbar
PCC

Site Description

The monitoring site is surrounded by agricultural and forested land. The left bank is lined with trees providing some shade along the monitoring site.



PCCWQMP CONTACTS

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Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

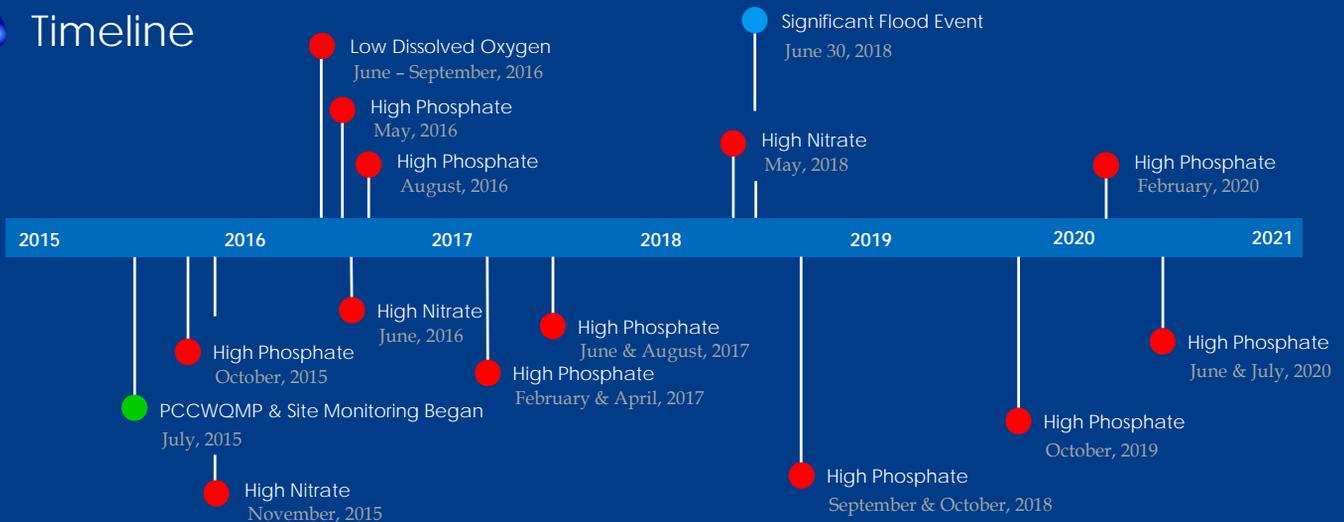
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977160



North of I-80, near the Trestle to Trestle Trail



Site Details

Monitoring Began
July 2015

Watershed
Beaver Creek

Field Monitor
Joe Boyles
PCC

Site Description

Recreational trail and commercial businesses are the predominant land use in this area. Grass and low plants along the banks leave an open canopy at this site. Because of the spacing of the old railroad Trestle to Trestle Bridge supports, this site often experienced logjams. In spring 2019, a large ice flow on Beaver Creek washed out the pilings supporting the bridge. Construction to replace the bridge will begin in 2021.

99

Completed Site Visits

49

Abnormal Results

92%

Percent Normal Results

PCCWQMP CONTACTS

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QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

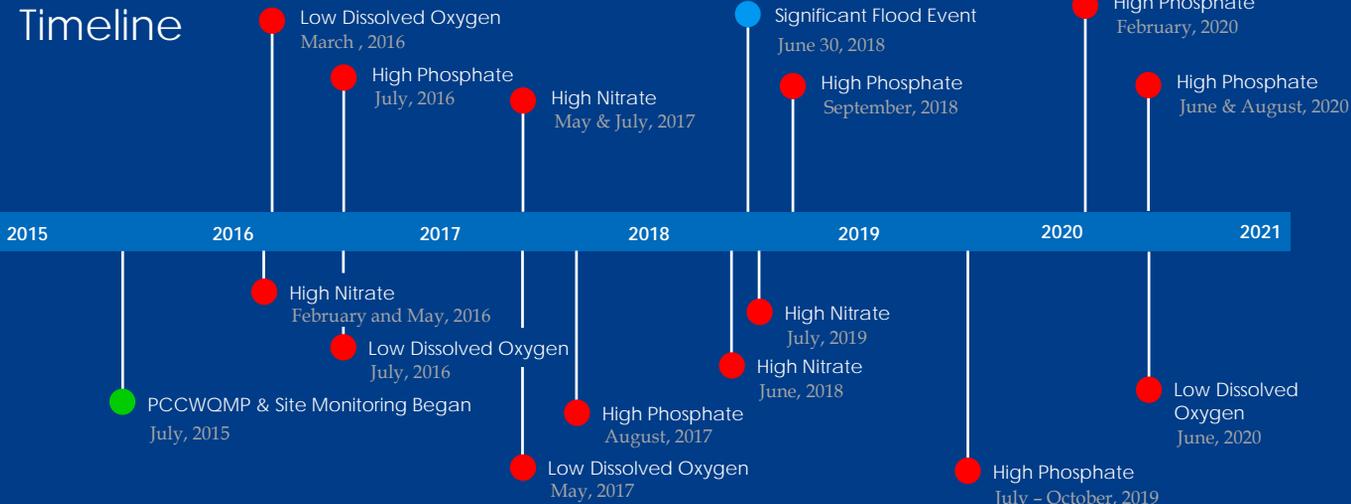
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977121



Northwest 100th Street and Little Beaver Creek, near Crosshaven Park, in Johnston



Site Details

Monitoring Began
June 2017

Watershed
Beaver Creek

Field Monitor
Dave Croll & Clayton Ender
City of Johnston

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This area is primarily a suburban residential area with agricultural land nearby. The sloping banks are covered primarily with grass and low growing plants leaving the site with an open canopy.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

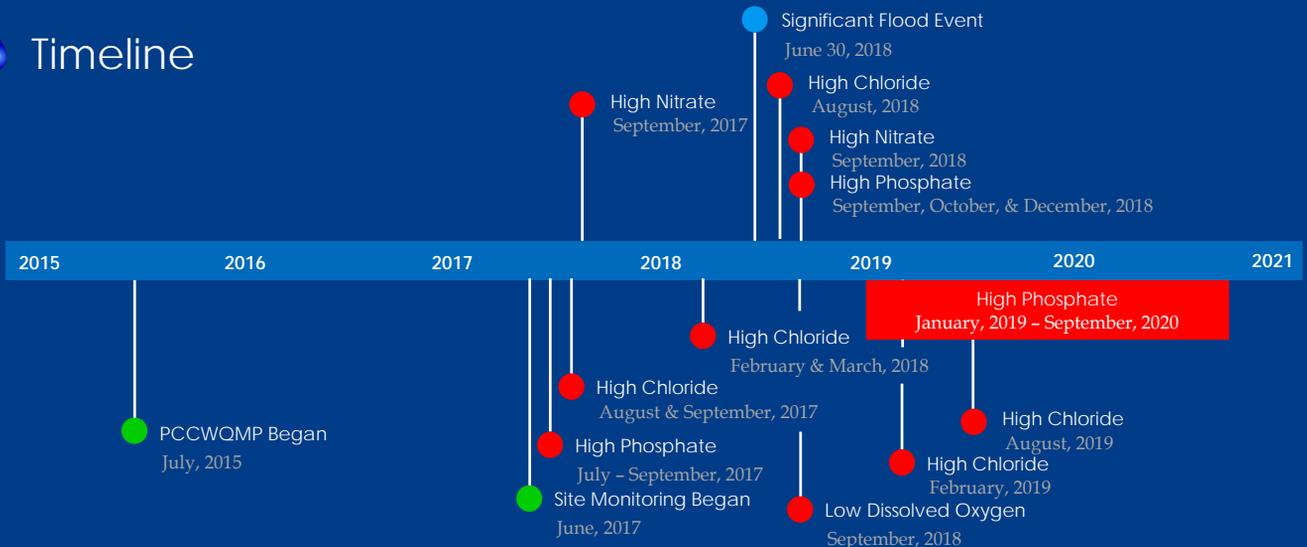
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977192



North 3rd Street, just north of Polk City Town Square

Site Details

Monitoring Began
May 2017

Watershed
Big Creek

Field Monitor
Pat Spain
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

The creek leaves Big Creek Lake, flows through and along the Tournament Club of Iowa golf course until reaching the water monitoring site. The creek then flows along the park terminating at the Saylorville Wildlife Refuge.

78

Completed Site Visits

37

Abnormal Results

92%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



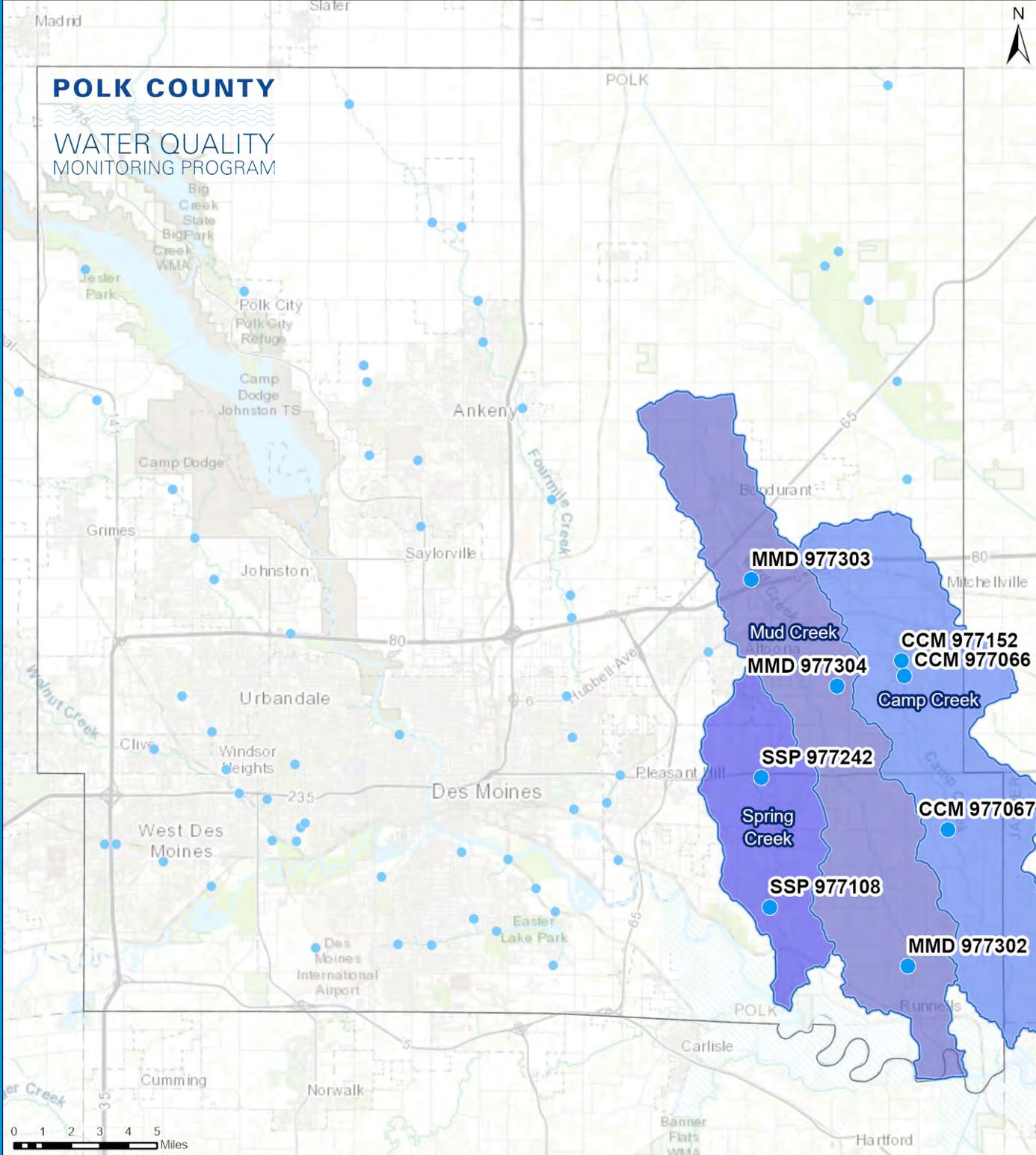
Average Index of Biotic Integrity (IBI)



Timeline



Camp, Mud and Spring Creek Watersheds





977152



Bridge crossing into Thomas Mitchell Park

Site Details

Monitoring Began
July, 2015

Watershed
Camp Creek

Field Monitor
Zach Deutmeyer
PCC

Site Description

Upstream of this site is primarily agricultural land. The banks at the monitoring site are primarily covered with grass and low growing plants and has an open canopy.



PCCWQMP CONTACTS

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QUALITY CONTROL
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WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

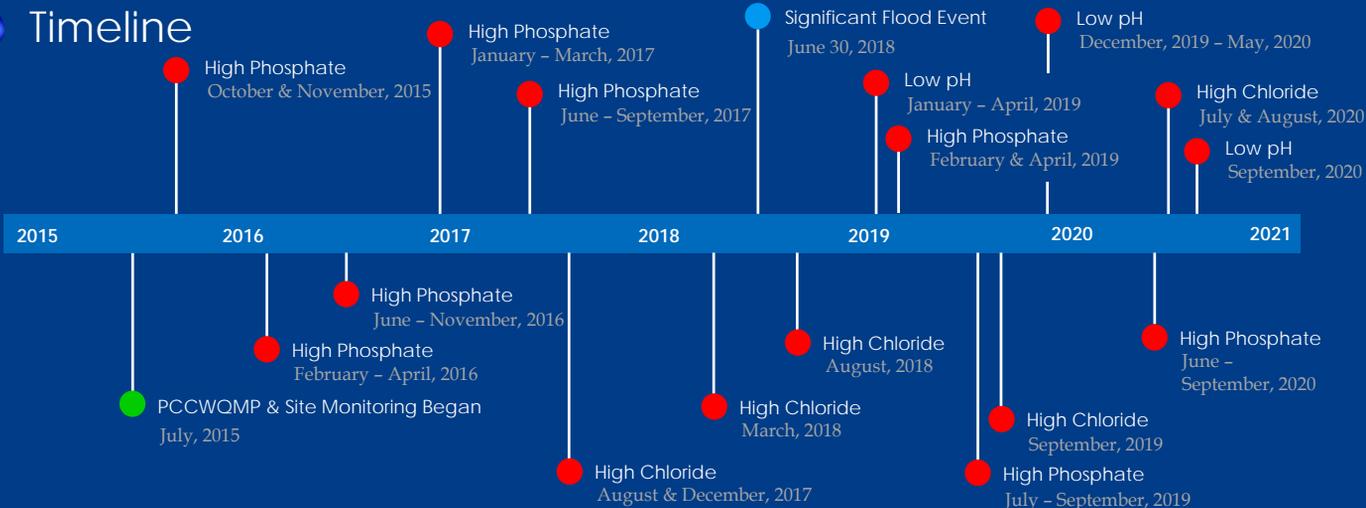
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977066



Bridge crossing in Thomas Mitchell Park

Site Details

Monitoring Began
July 2015

Watershed
Camp Creek

Field Monitor
Zach Deutmeyer
PCC

Site Description

The banks of this site are lined with grass, low growing plants and trees which provide a partly shaded canopy.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
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QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

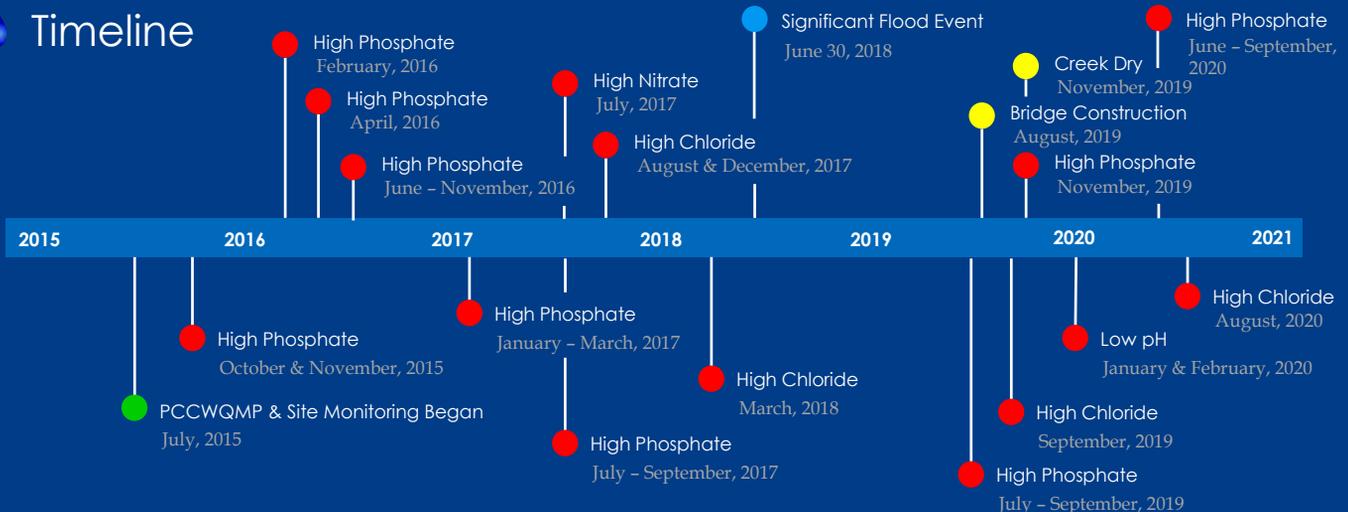
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977067



Southeast 6th Avenue at the Southeast Polk Learning Center

Site Details

Monitoring Began
July 2015

Watershed
Camp Creek

Field Monitor
Al Pasker
PCC

Site Description

This site, located along a steep, grassy bank with open canopy, is in the far southeast corner of the county near the Metro Waste Authority Environmental Learning Center.



PCCWQMP CONTACTS

PHONE
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COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

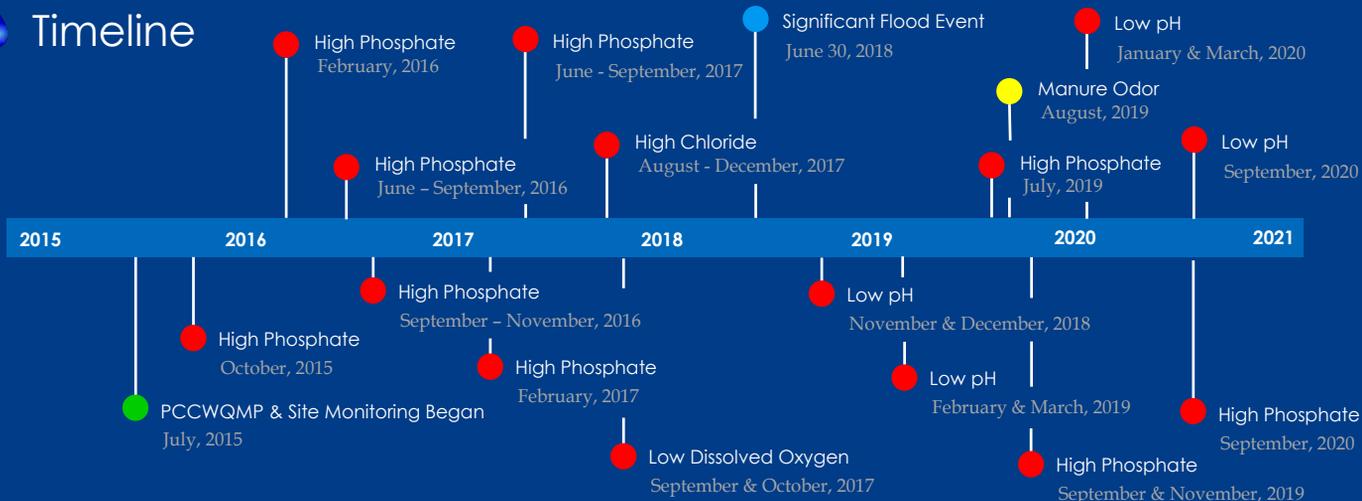
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977303



Northeast 62nd Avenue,
north of Altoona

Site Details

Monitoring Began
July 2015

Watershed
Mud Creek

Field Monitor
James Dotzler
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is partly shaded and located near agricultural land.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

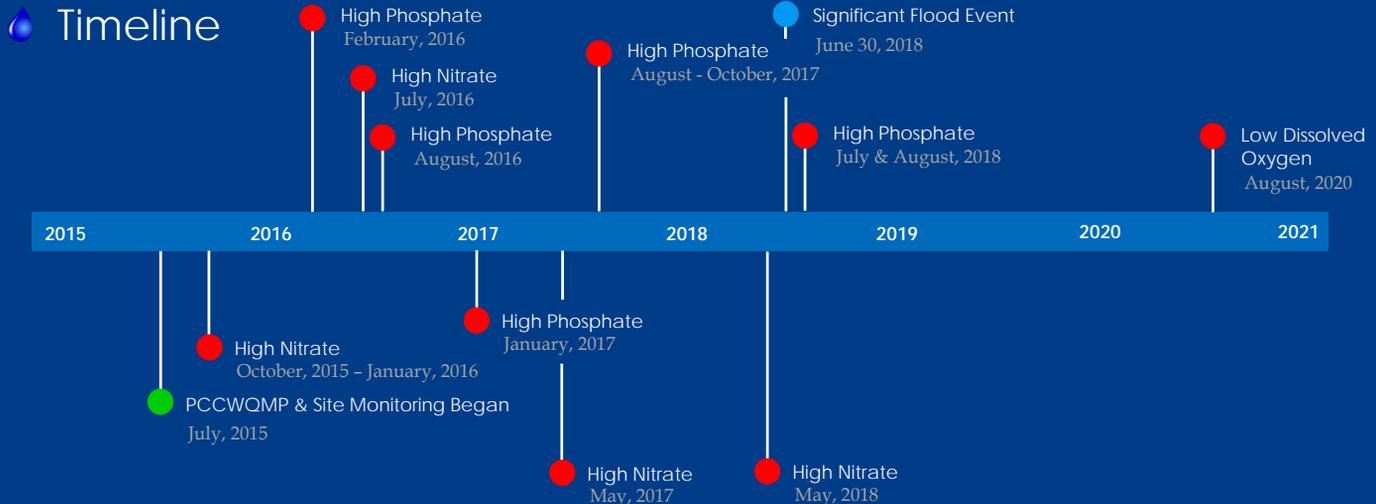
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977304



North of Highway 163 on
Northeast 12th Avenue, east of
Southeast Polk High School

Site Details

Monitoring Began
July 2015

Watershed
Mud Creek

Field Monitor
Al Pasker
PCC

Site Description

This area is primarily agricultural and forested land, however, the monitoring site has an open canopy with rip rap, grass, shrubs and low trees lining the banks.

118

Completed
Site Visits

60

Abnormal
Results

92%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal

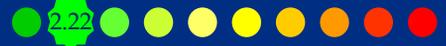


Chloride Results

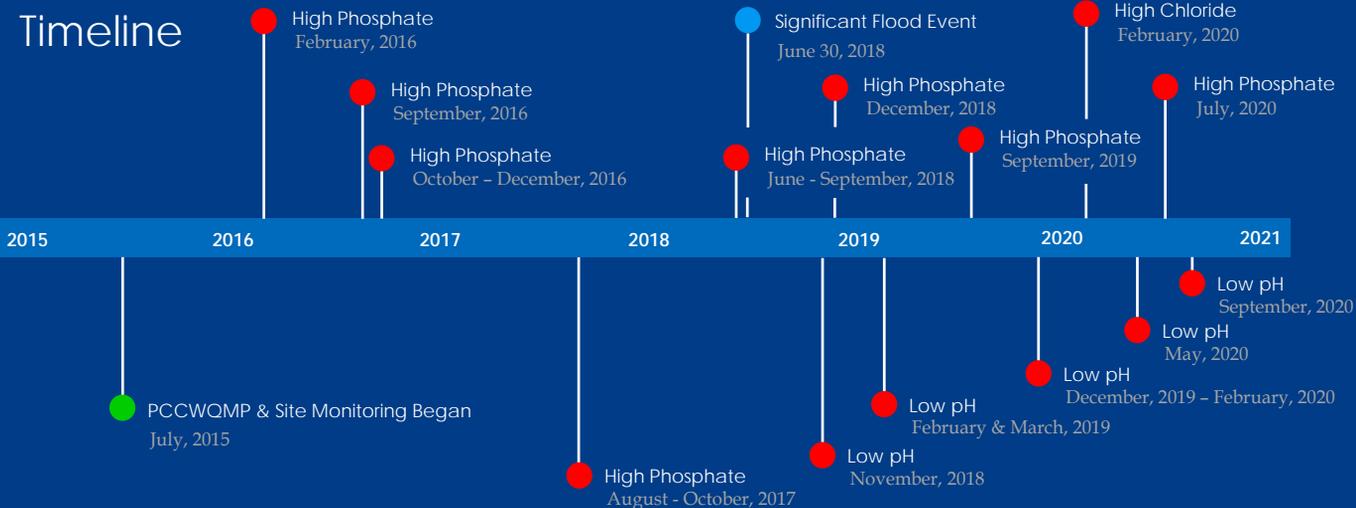
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977302



Southeast 56th Street,
north of Runnells

Site Details

Monitoring Began
July 2015

Watershed
Mud Creek

Field Monitor
Charlie Finch
PCC

Site Description

While banks are mostly covered by grass and low growing plants, mature trees partly shade this site.

111

Completed
Site Visits

14

Abnormal
Results

98%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977242



South of Highway 163 near Southeast Polk High School

Site Details

Monitoring Began
July 2015

Watershed
Spring Creek

Field Monitor
Melanie Shaw
Volunteer

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This portion of Spring Creek flows through forested land near commercial businesses but the monitoring site itself has an open canopy with grass, and low growing shrubs and plants covering the banks.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977108



Spring Creek at Vandalia Avenue

Site Details

Monitoring Began
July 2015

Watershed
Spring Creek

Field Monitor
Charlie Finch
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is located in a mostly rural area and has an open canopy. Both banks are covered with low growing plants and grasses. Spring Creek is shaded by trees and downstream by the Vandalia Drive Bridge.

109

Completed Site Visits

5

Abnormal Results

99%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

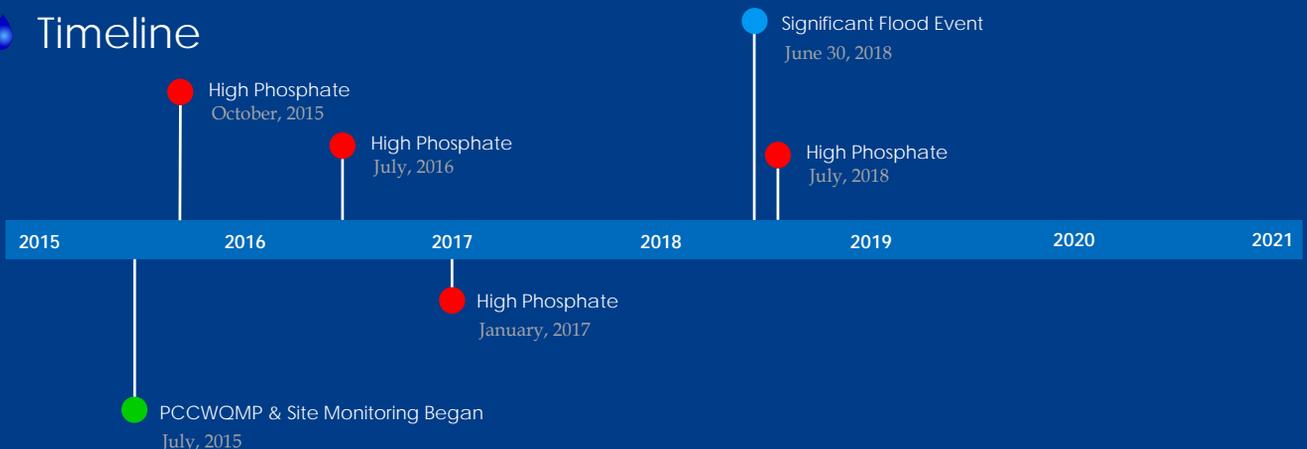
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

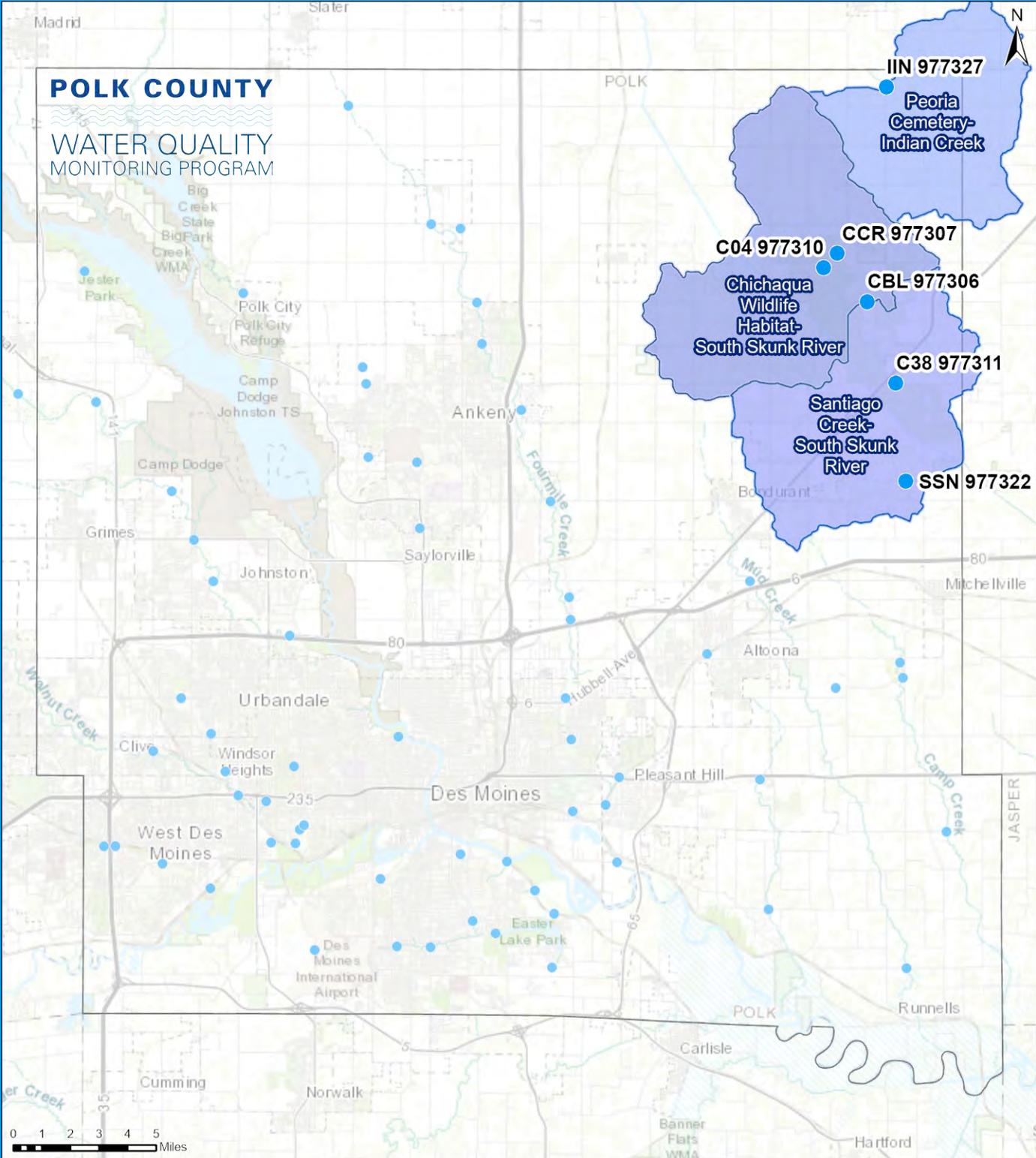


Timeline





NE Polk County Sites





977327



Indian Creek at
Northeast 162nd Street



Site Details

Monitoring Began
June 2017

Watershed
Indian Creek

Field Monitor
Jim Treadway
Volunteer

Site Description

The banks along this rural monitoring site are eroded and primarily treed which provides a mostly shaded site.

75

Completed
Site Visits

74

Abnormal
Results

84%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

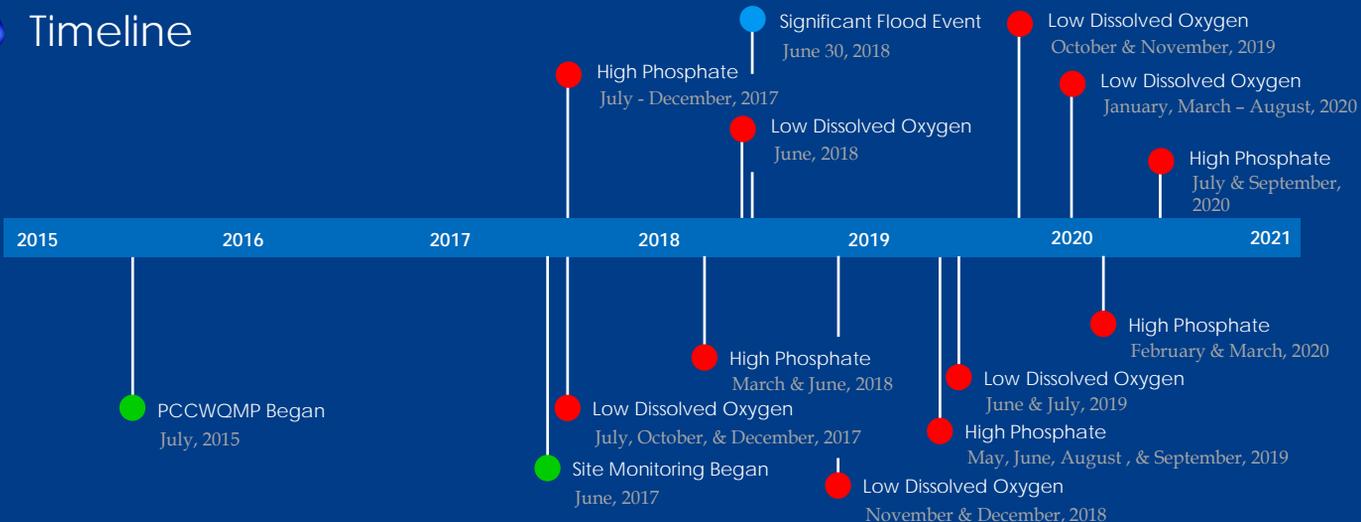
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977307



Carney Creek at
Buttonbush

Site Details

Monitoring Began
July 2015

Watershed
Carney Creek

Field Monitor
Dan Hrubes
PCC

Site Description

This is a heavily vegetated site that flows through well-managed pastureland before entering Chichaqua Bottoms Greenbelt.

118

Completed
Site Visits

45

Abnormal
Results

94%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
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COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal

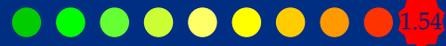


Chloride Results

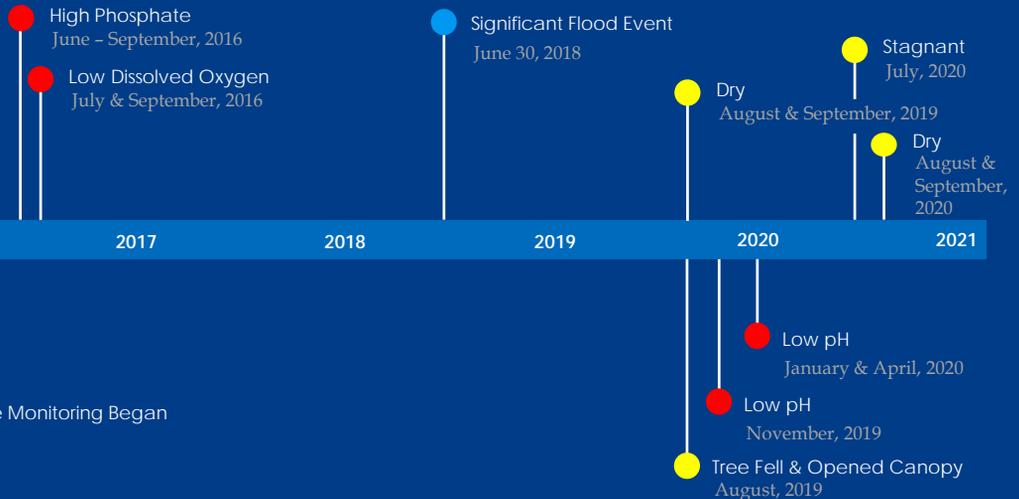
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977310



Drainage Ditch 4 at
Chichaqua Bottoms Greenbelt

Site Details

Monitoring Began
July 2015

Watershed
NE Polk
County

Field Monitor
Lael Neal
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This is a highly vegetated area located in an original Skunk River oxbow. The water originates in Drainage Ditch 4 then flows through the old oxbow to Drainage Ditch 52.

116

Completed
Site Visits

93

Abnormal
Results

87%

Percent Normal
Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

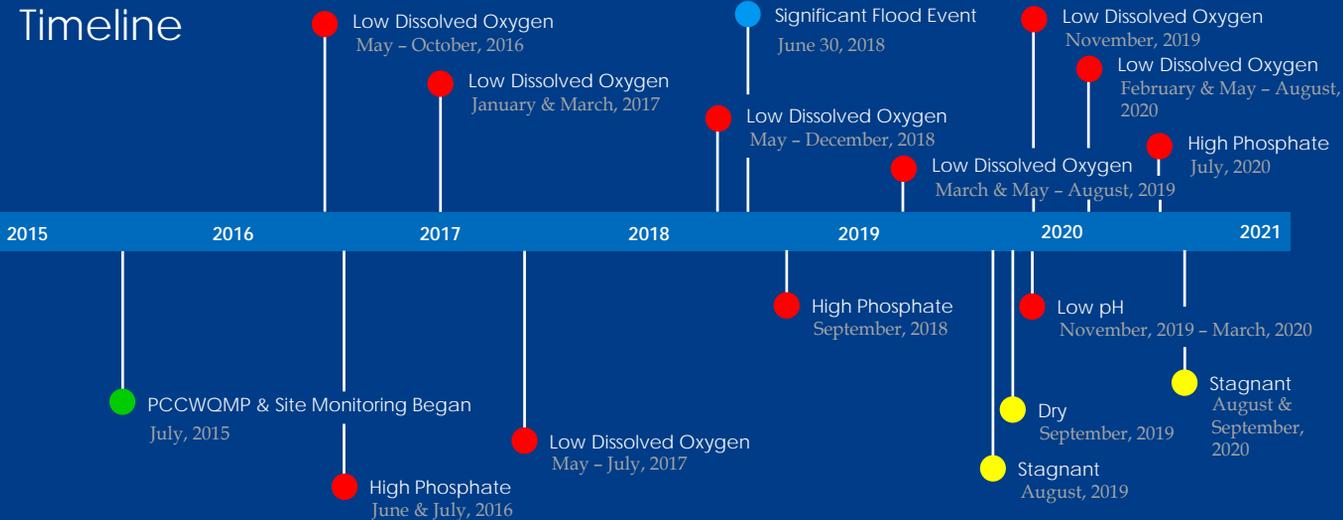
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977306



Bluff Creek at 118th Street

Site Details

Monitoring Began
July 2015

Watershed
Bluff Creek

Field Monitor
Lael Neal
PCC

Site Description

This is a largely shaded, shallow, sandy-bottomed stream near agricultural land. This site is heavily vegetated which decreases the sediment load in runoff from adjacent agricultural land.

117

Completed Site Visits

69

Abnormal Results

90%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

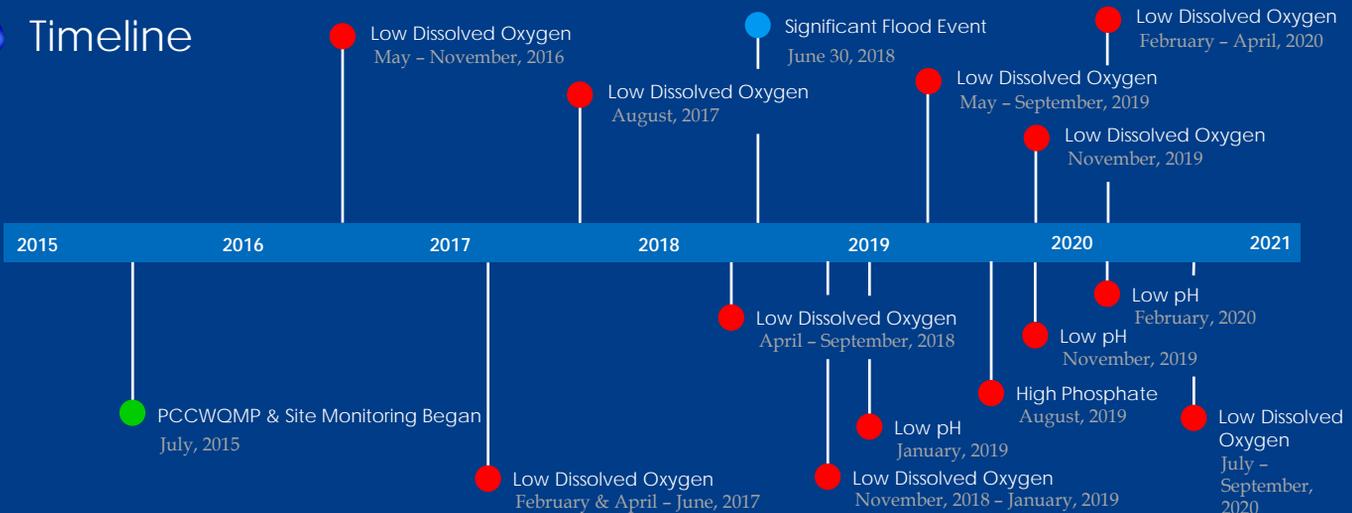
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977311



Drainage Ditch 38 at Chichaqua Bottoms Greenbelt



Site Details

Monitoring Began
July 2015

Watershed
NE Polk
County

Field Monitor
Dan Hrubes
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is downstream from Chichaqua Bottoms Greenbelt, surrounded by open field, shrubs and low trees in a primarily agricultural portion of the county.

111

Completed
Site Visits

80

Abnormal
Results

88%

Percent Normal
Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

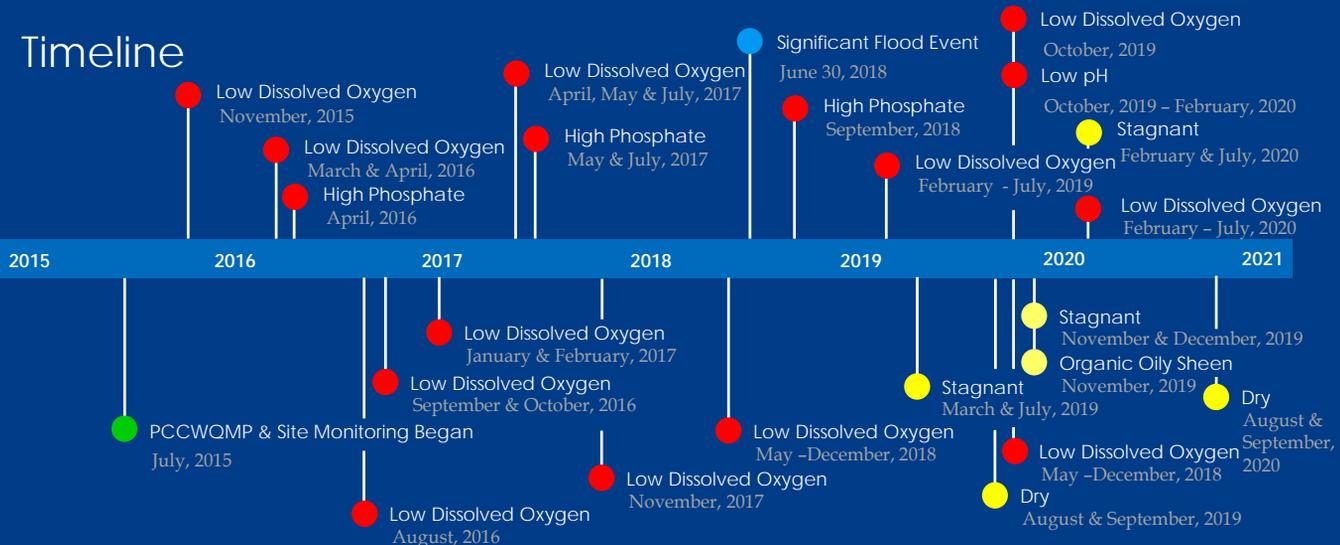
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977322



Santiago Creek at bridge near
Northeast 82nd Avenue

Site Details

Monitoring Began
June 2017

Watershed
**Santiago
Creek**

Field Monitor
Jim Treadway
Volunteer

Site Description

This monitoring site is located on a shaded portion of the creek. The vegetation along the banks consists of trees, shrubs, and low growing plants and grasses.

77

Completed
Site Visits

35

Abnormal
Results

92%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

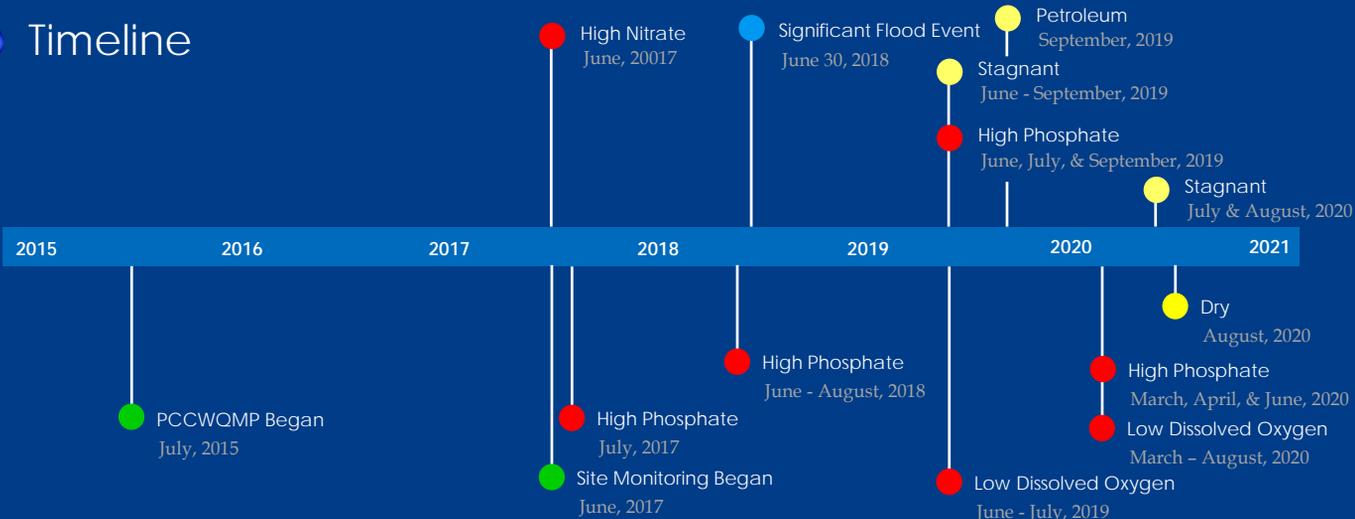
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

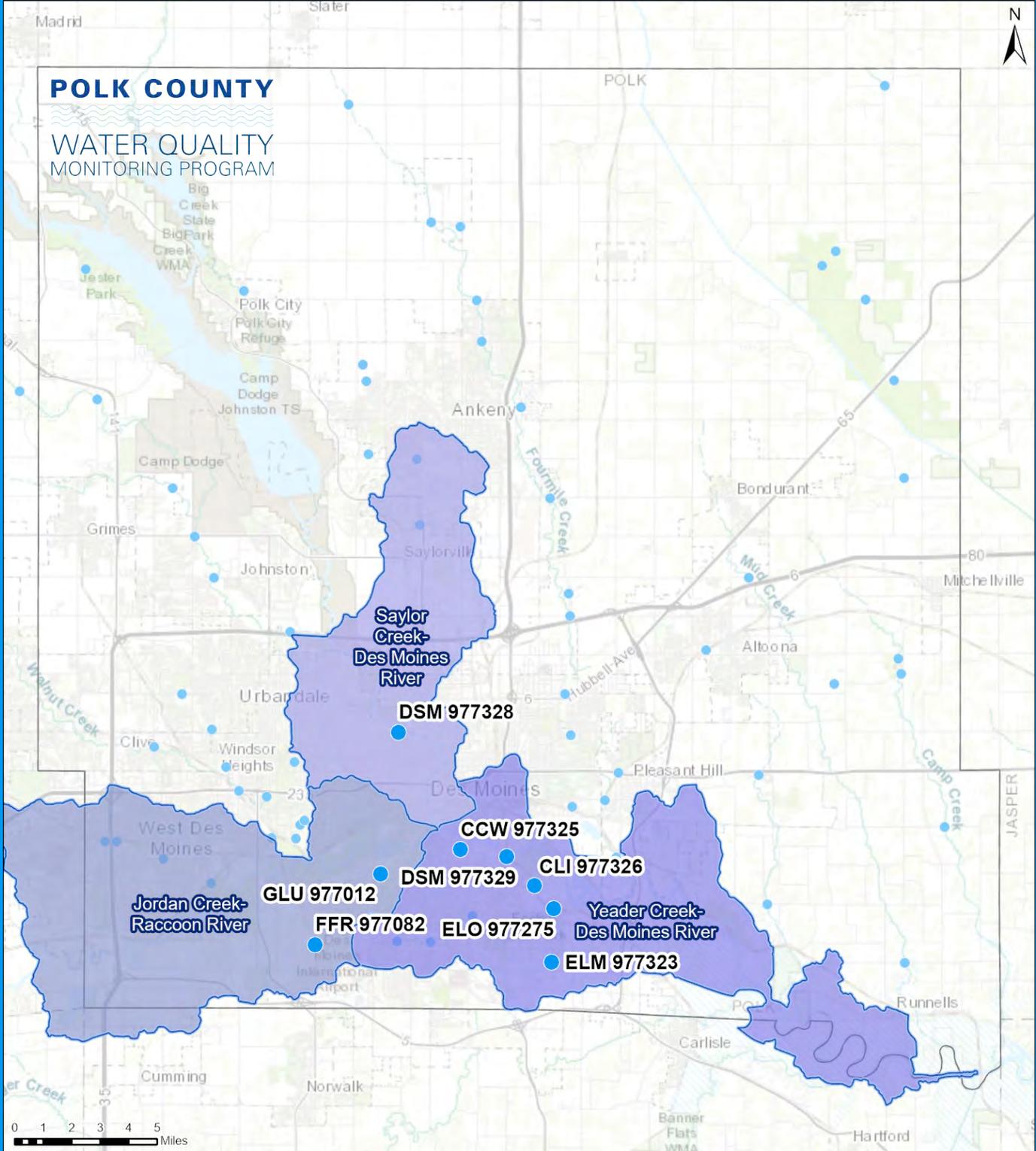


Timeline





Des Moines Area Sites





977326



On Hartford Avenue,
north of East Park Street

Site Details

Monitoring Began
July 2017

Watershed
Case Lake

Field Monitor
Justin D'Souza
City of Des Moines

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

The monitoring site is located in an area with little tree cover and steeply sloped, grassy banks.

56

Completed
Site Visits

66

Abnormal
Results

80%

Percent Normal
Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

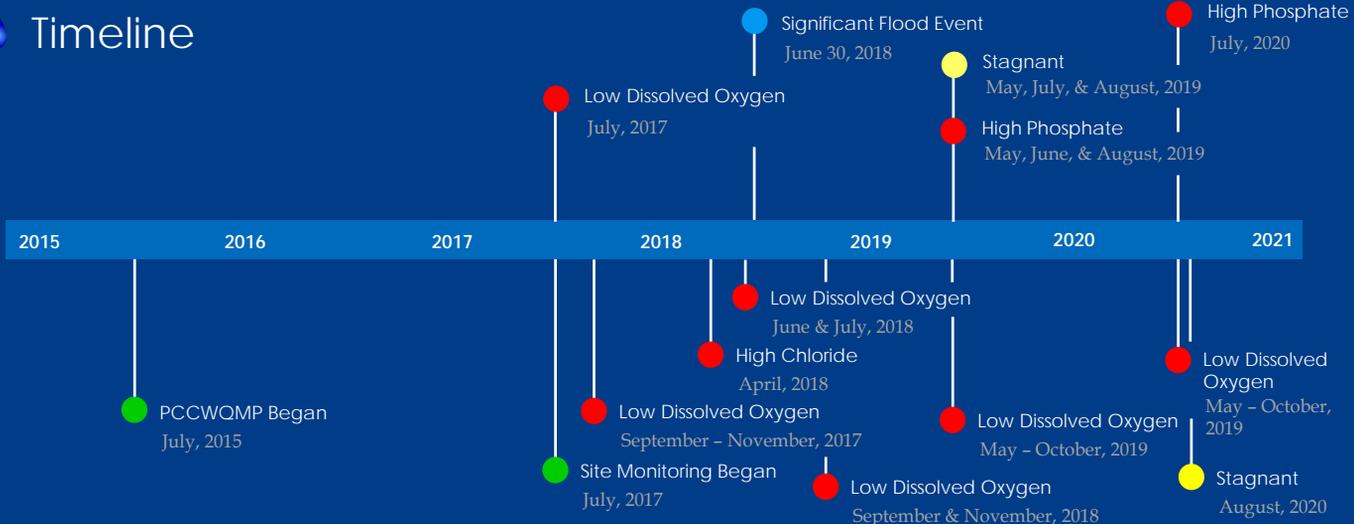
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977325



West side of Southeast 9th Street between East Edison Avenue and East Hillside Avenue



Site Details

Monitoring Began
July 2017

Watershed
Crawford Creek

Field Monitor
Justin D'Souza
City of Des Moines

Site Description

This creek flows northeast into the flood control structure prior to going into the Des Moines River.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

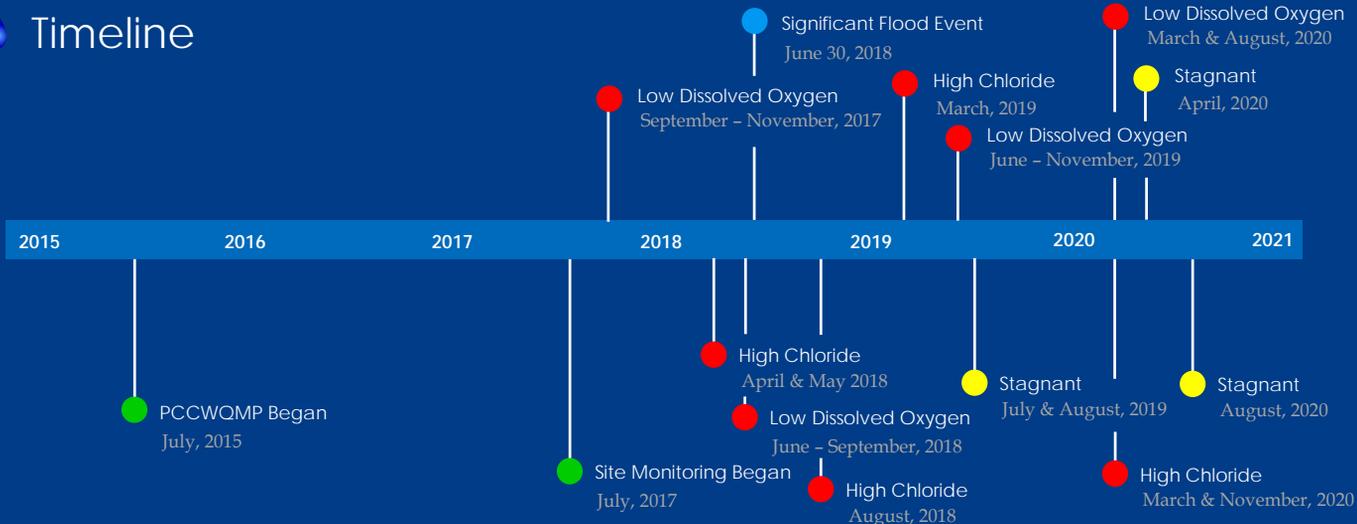
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977323



Three Lakes Estates along Southeast 60th Avenue

Site Details

Monitoring Began
July 2017

Watershed
Easter Lake

Field Monitor
Justin D'Souza
City of Des Moines

Site Description

The monitoring site is located in a residential area with no trees, bordered by rip rap, grass, and low growing plants.

58

Completed Site Visits

28

Abnormal Results

92%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

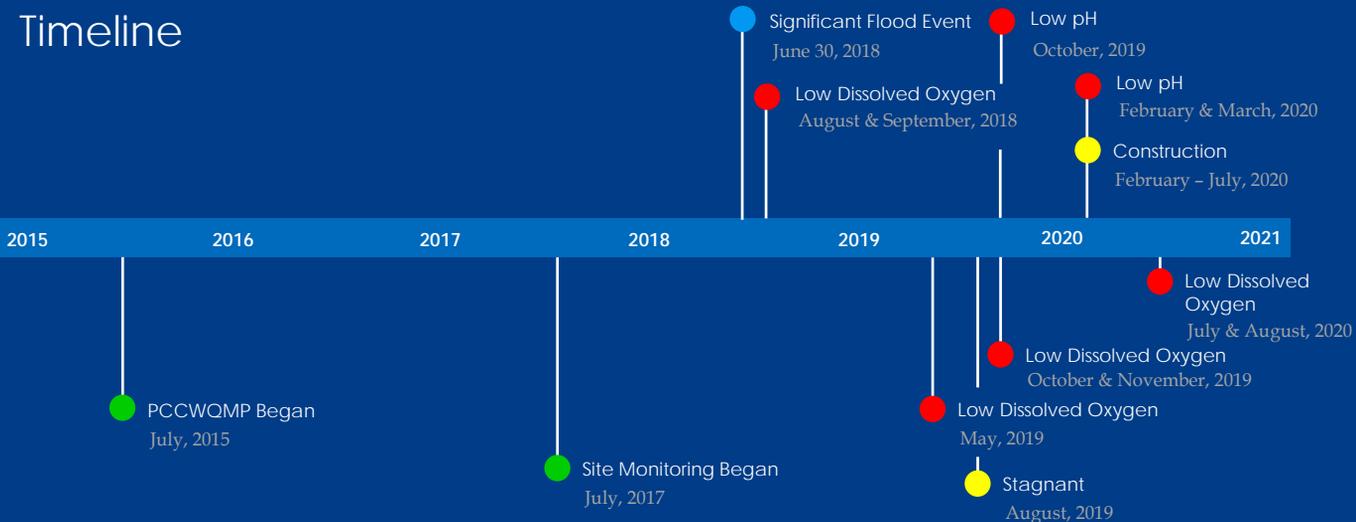
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977275



North of Easter Lake at Hartford Avenue

Site Details

Monitoring Began
August 2017

Watershed
Easter Lake

Field Monitor
Justin D'Souza
City of Des Moines

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

The location of this monitoring site is in a portion of the Easter Lake outlet with an open canopy and banks covered primarily by grass and low growing plants.

53

Completed Site Visits

26

Abnormal Results

92%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977082



Park Avenue near the Great Western Trail

Site Details

Monitoring Began
July 2017

Watershed
Frink Creek

Field Monitor
Justin D'Souza
City of Des Moines

Site Description

This monitoring site is in a forested area with shrubs and trees lining the bank providing a partly shaded canopy.

59

Completed Site Visits

7

Abnormal Results

98%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977012



Unnamed creek at the First Unitarian Church

Site Details

Monitoring Began
July 2017

Watershed
Gray's Lake

Field Monitor
Rich and Jody Anderson
Volunteers

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site flows from a residential neighborhood into Gray's Lake. It is primarily shaded by trees. Banks are lined with mature trees and low growing plants.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

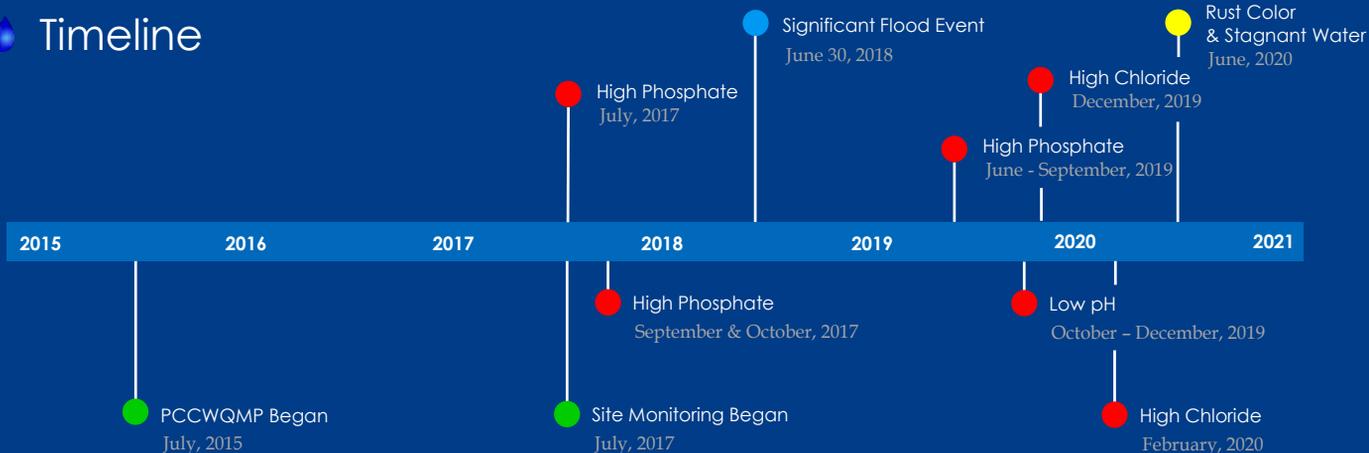
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977334



Drainage creek going into the northeast side of Greenwood Pond near the Art Center

Site Details

Monitoring Began
July 2018

Watershed
Raccoon River

Field Monitor
Abby Chugath
Volunteer

Site Description

This site flows into Greenwood Pond from the residential neighborhood northeast of the pond.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

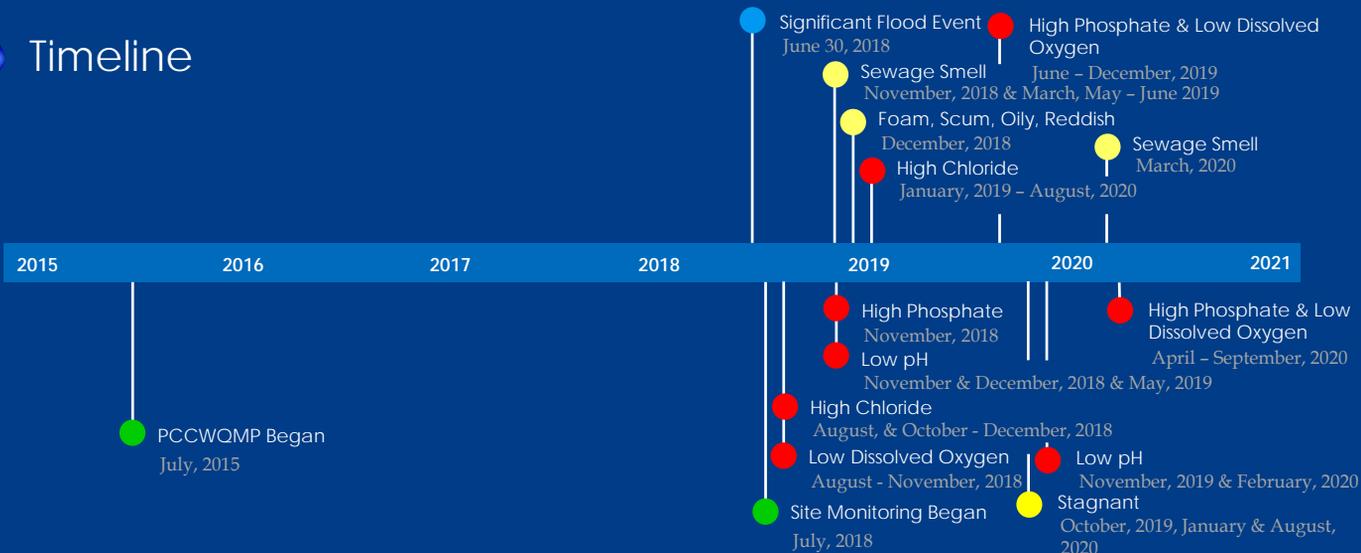
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977335



Unnamed creek south of Greenwood Pond

Site Details

Monitoring Began
July 2018

Watershed
Raccoon River

Field Monitor
Abby Chugath
Volunteer

Site Description

This site is an outlet of Greenwood Pond that flows toward the Raccoon River along the Bill Riley Recreation Trail.

46

Completed Site Visits

32

Abnormal Results

88%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977333



Drainage creek going into the northwest side of Greenwood Pond near the Art Center

Site Details

Monitoring Began
July 2018

Watershed
Raccoon River

Field Monitor
Abby Chugath
Volunteer

Site Description

This site is found on the west side of Greenwood Park, south of the Art Center. The creek flows into Greenwood Pond from the residential neighborhood northwest of the pond. This site has grassy banks and is partially shaded by the nearby mature trees of the park.

46

Completed Site Visits

73

Abnormal Results

74%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

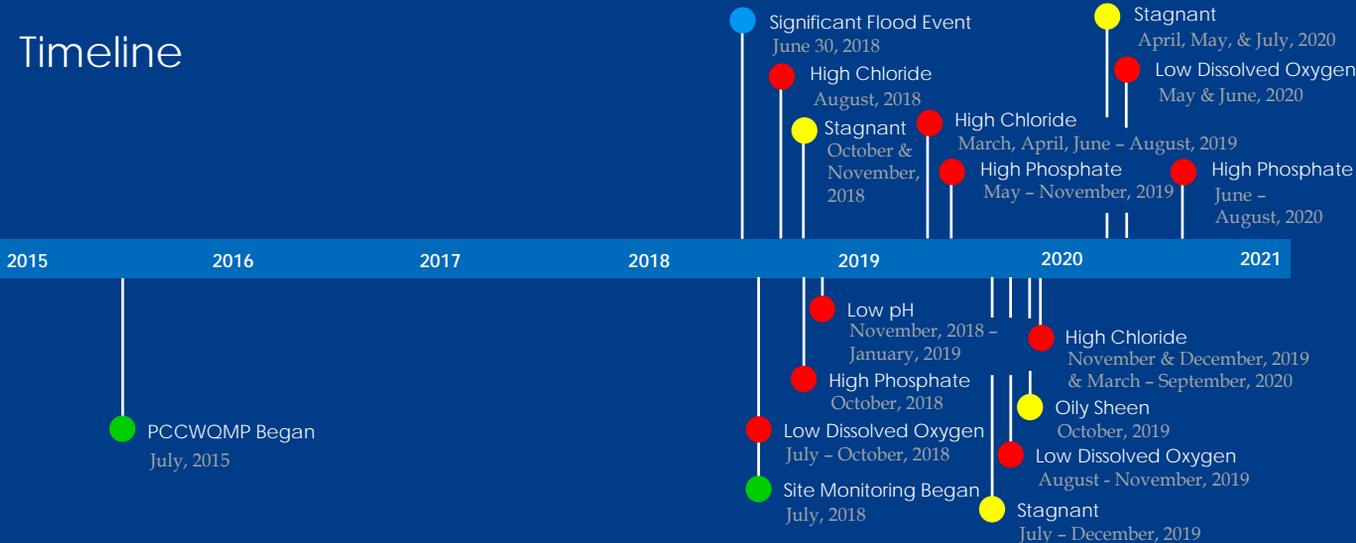
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977328

Prospect Park

Site Details

Monitoring Began
July, 2019

Watershed
Des Moines River

Field Monitor
Jordan Hildreth
DMPR

Site Description

This site is in a predominately forested residential area, providing a shaded canopy.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

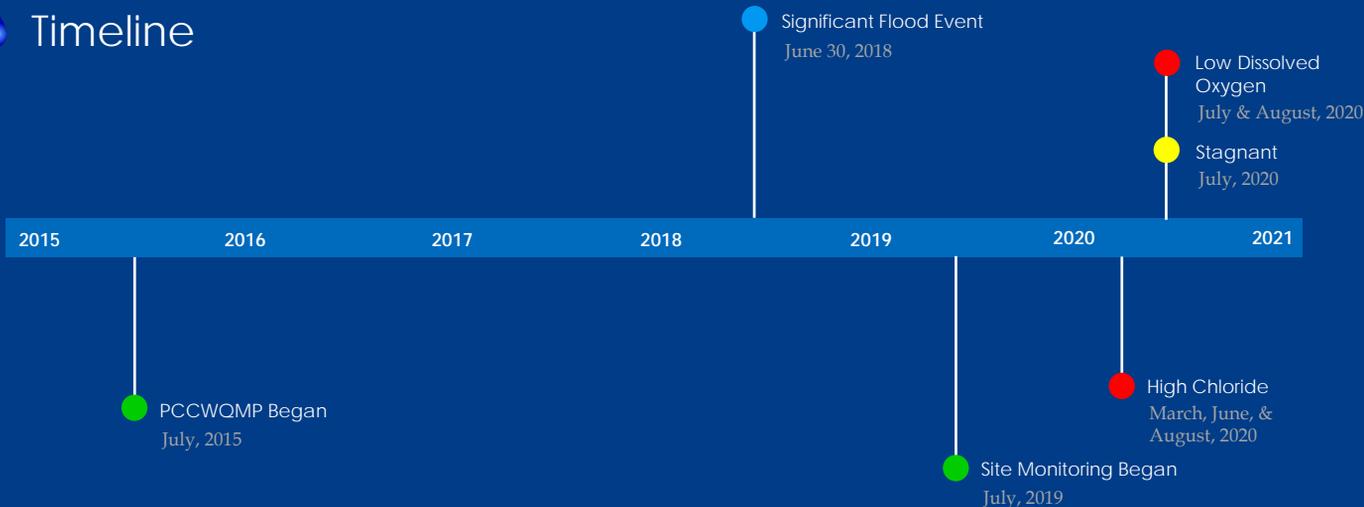
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977329



Unnamed creek at Hartford Avenue and the Des Moines River Trail



Site Details

Monitoring Began
July 2018

Watershed
Des Moines River

Field Monitor
Joel Van Roekel
DMPR

Site Description

This site at the Des Moines River Trail is in a residential area. Both streambanks consist mainly of trees and shrubs shading the waterway.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

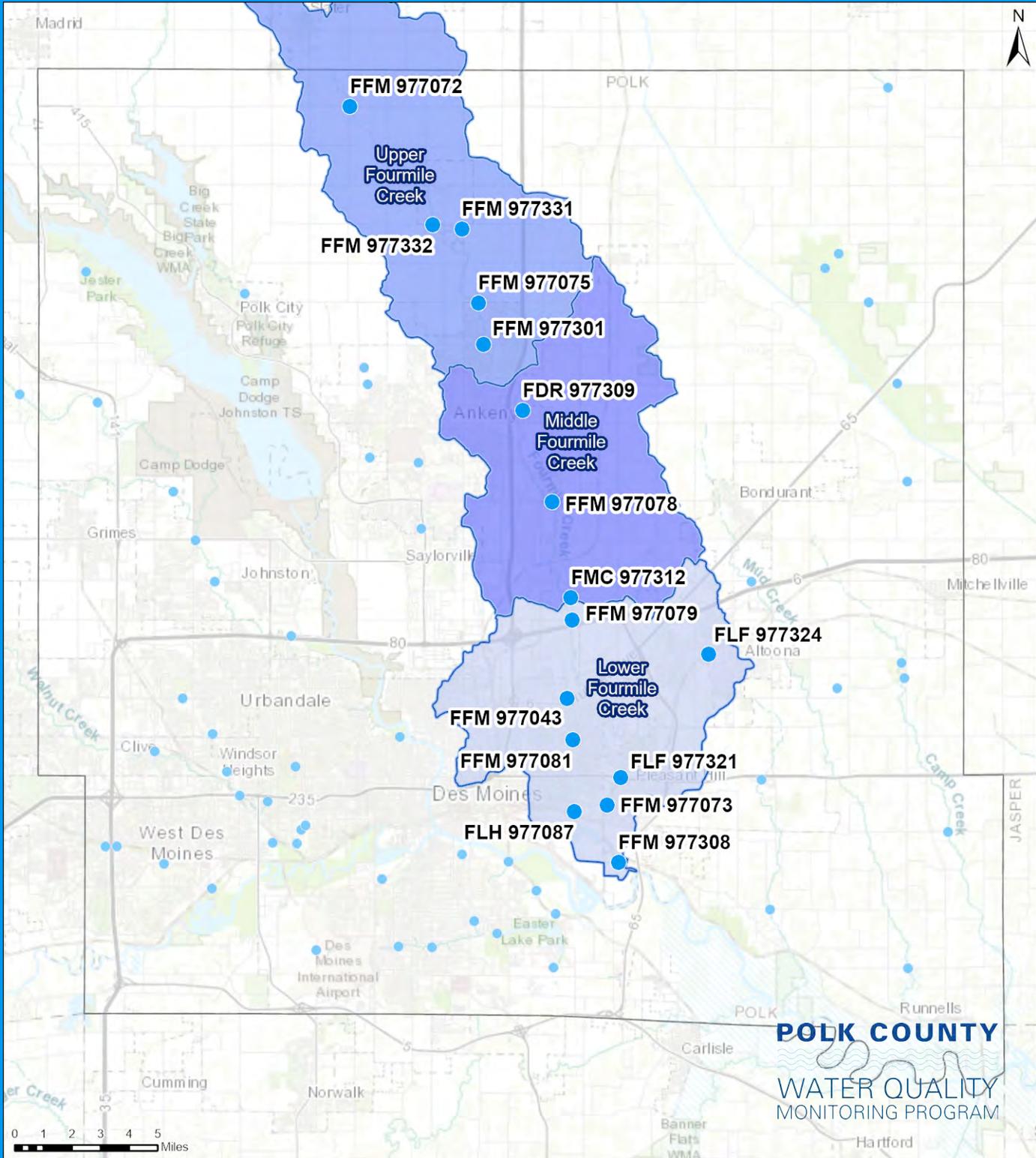


Timeline





Fourmile Creek Watershed





977331



Unnamed creek in Alleman Country Estates

Site Details

Monitoring Began
July 2018

Watershed
Fourmile Creek

Field Monitor
Available

Site Description

No assessments have been completed. This site is available for adoption.

0

Completed Site Visits

NR

Abnormal Results

NR

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline



Significant Flood Event
June 30, 2018

2015 2016 2017 2018 2019 2020 2021



PCCWQMP Began
July, 2015



977332



Northeast 134th Avenue between Northwest 2nd Street and Northeast 6th Street



Site Details

Monitoring Began
July 2018

Watershed
Fourmile Creek

Field Monitor
Ron Dunek
Volunteer

Site Description

This site is located in an open field, in rural, northern Polk county and near the residential area of Alleman Country Estates.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977309



Deer Creek tributary at Northeast Frisk Drive in Ankeny



Site Details

Monitoring Began July 2015

Watershed Fourmile Creek

Field Monitor Low Major PCC

Site Description

Upstream from the site are housing developments and agricultural land. This site has a partly open canopy and is lined with trees, shrubs, and grass.



PCCWQMP CONTACTS

PHONE 515-323-5300

COORDINATOR Ginny Malcomson

QUALITY CONTROL Amanda Brown

WEBSITE www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

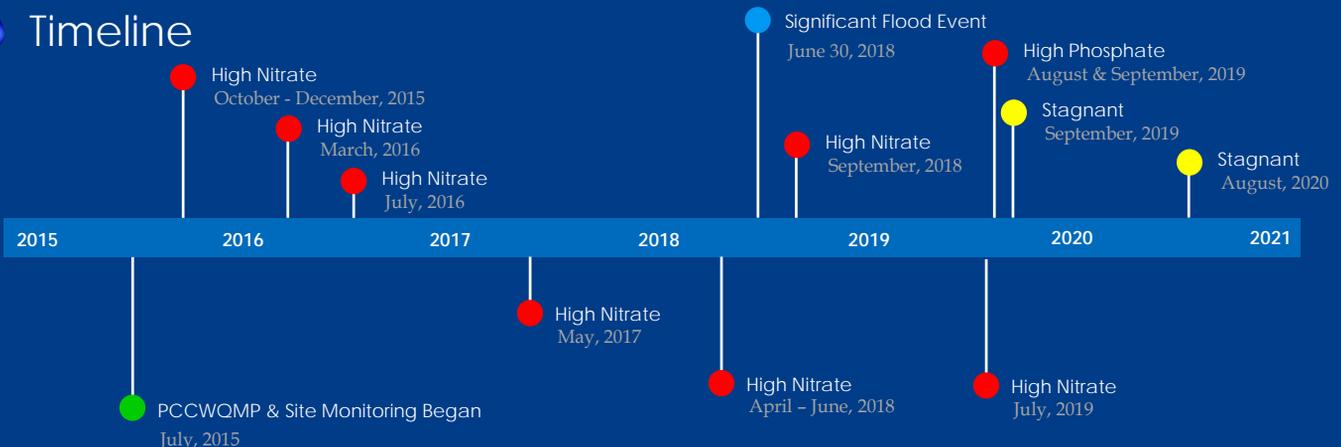
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977072



Northwest 158th Street and
Fourmile Creek, North of Alleman

Site Details

Monitoring Began
July 2015

Watershed
Fourmile
Creek

Field Monitor
Heidi
Anderson
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is the most rural sampling site in the Fourmile Creek watershed, located in an open area surrounded by agricultural land.

114 Completed Site Visits
110 Abnormal Results
84% Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

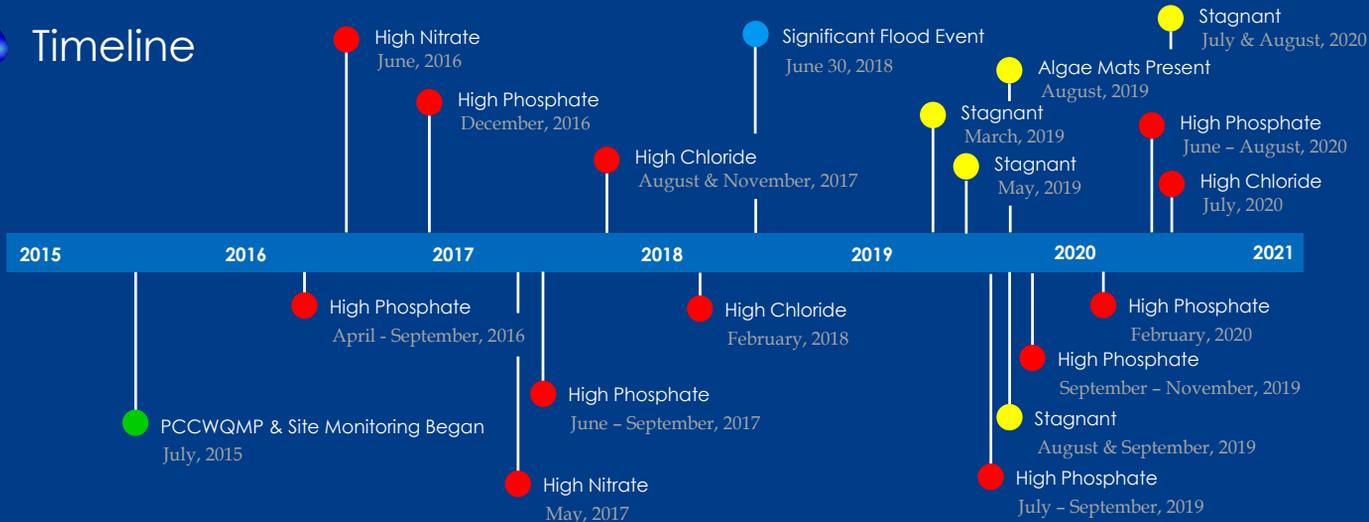
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977075



Northeast 54th Street, north of the bridge

Site Details

Monitoring Began
July 2017

Watershed
Fourmile
Creek

Field Monitor
Carla Moore
City of Ankeny

Site Description

This site is located in northern Ankeny along the edge of a residential area. Upstream from the site is agricultural land.

67

Completed
Site Visits

35

Abnormal
Results

91%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977301



Northeast 36th Street and Fourmile Creek in Ankeny

Site Details

Monitoring Began
July 2015

Watershed
Fourmile Creek

Field Monitor
Low Major PCC

Site Description

This site is located north of Briarwood Golf Course in northern Ankeny. Grass dominates the stream banks providing an open canopy along this stretch of Fourmile Creek.

86

Completed Site Visits

28

Abnormal Results

95%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



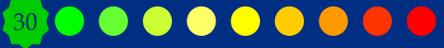
Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

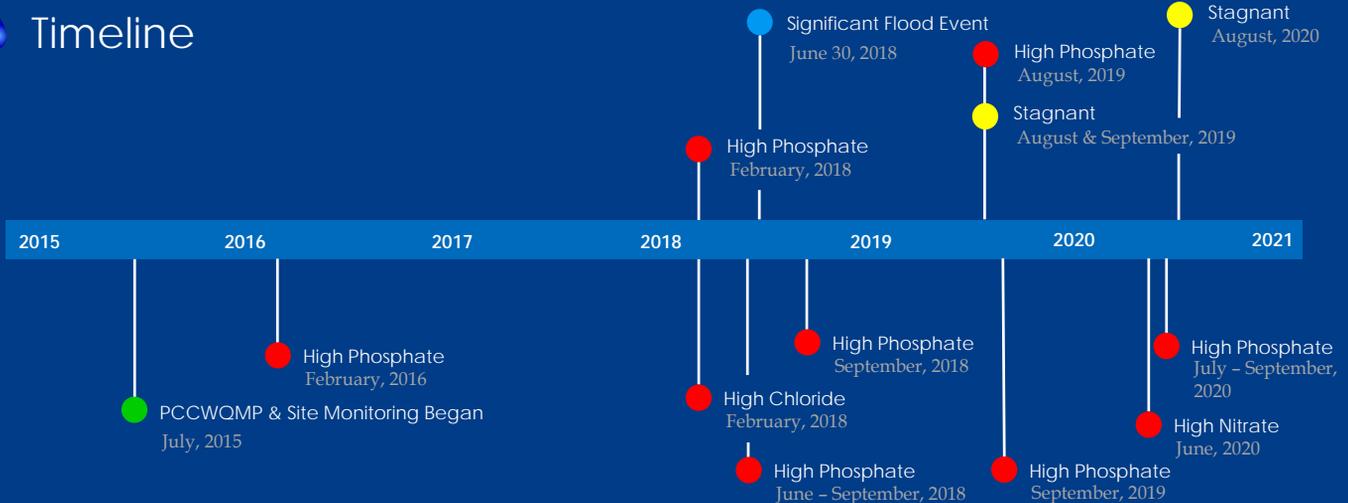
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977078



Southeast Oralabor Road, north of the Bridge, northeast of the Airport

Site Details

Monitoring Began
July 2017

Watershed
Fourmile
Creek

Field Monitor
Carla Moore
City of Ankeny

Site Description

This site has an open canopy with vegetated banks surrounded by a forest and residential area.

67

Completed
Site Visits

29

Abnormal
Results

93%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

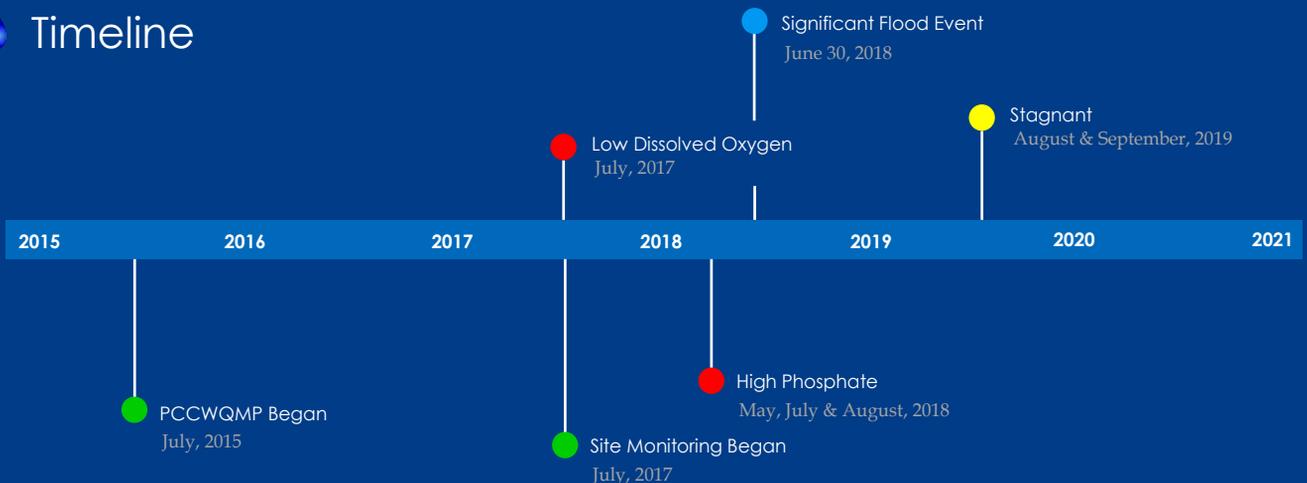
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977079



At the Mally's Park boat launch located on the north end of the park



Site Details

Monitoring Began
July 2015

Watershed
Fourmile Creek

Field Monitor
Melissa Schmelling
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is mostly shaded as Fourmile Creek flows through a wooded area on the west and the park on the east. The left bank is heavily treed and with mostly grass and low plants and a sandbar on the right.

89

Completed Site Visits

34

Abnormal Results

94%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

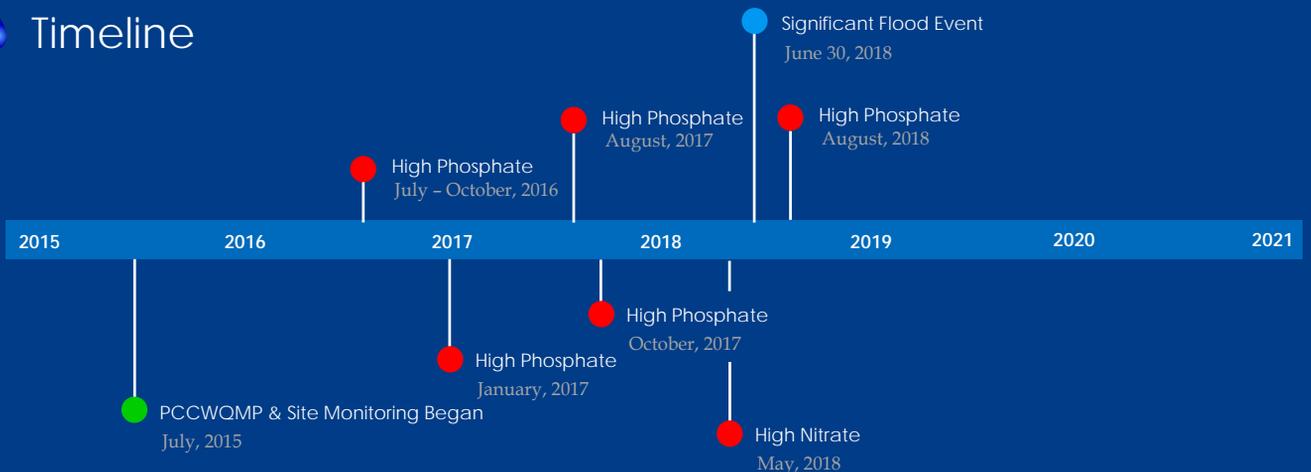
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977043



Sargent Park

Polk County Conservation Water Quality Monitoring Program



Site Details

Monitoring Began
June 2018

Watershed
Fourmile Creek

Field Monitor
Con Robinson
DMPR

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

The streambanks were recently regraded and replanted and are now covered with grass, low vegetation and rip rap leaving a partly open canopy along this area of Fourmile Creek.

37

Completed Site Visits

10

Abnormal Results

95%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline

2015 2016 2017 2018 2019 2020 2021

PCCWQMP Began
July, 2015

Site Monitoring Began
June, 2018

High Nitrate
June, 2018

Significant Flood Event
June 30, 2018

High Phosphate
September, 2018



977081



Easton Ave., west of the community center

Site Details

Monitoring Began
June, 2018

Watershed
Fourmile Creek

Field Monitor
Con Robinson
DMPR

Site Description

This site is located in an undeveloped area with shrubs and grasses surrounding the banks, providing an open canopy.

40

Completed Site Visits

12

Abnormal Results

95%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

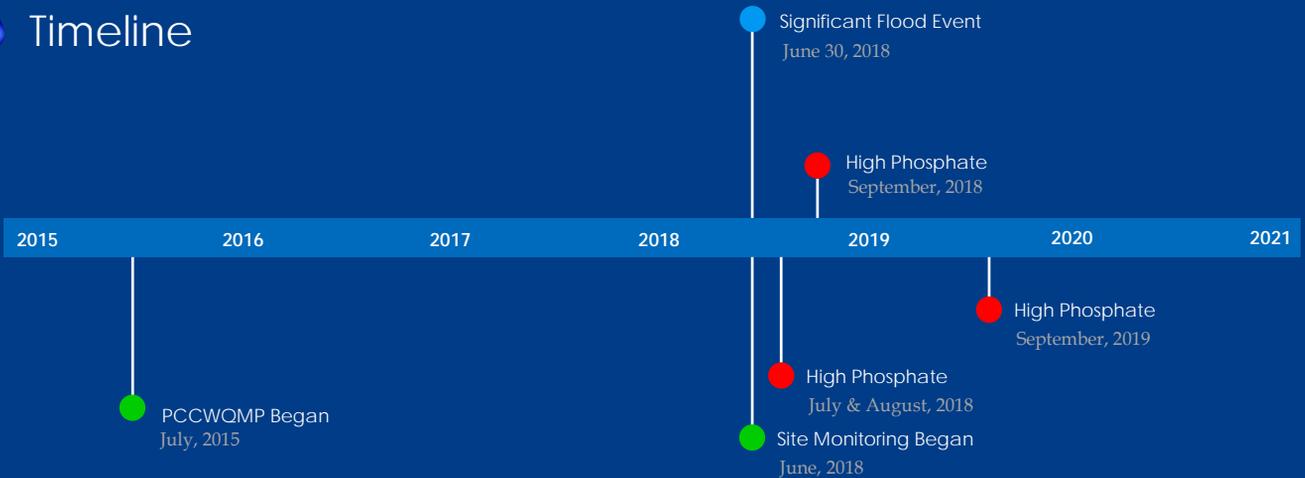
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977073



Dean Avenue near Sleepy Hollow



Site Details

Monitoring Began
July 2015

Watershed
Fourmile Creek

Field Monitor
Penny and John Thomsen
Volunteers

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

Streambanks along this section of Fourmile Creek are primarily lined with tree and shrubs.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline

High Chloride
September, 2016

Significant Flood Event
June 30, 2018



2015 PCCWQMP & Site Monitoring Began
July, 2015

2016 High Chloride
February, 2016



Polk County Conservation Water Quality Monitoring Program



977308



Vandalia Avenue, west of Highway 5
near the mouth of the river

Site Details

Monitoring Began
June 2015

Watershed
Fourmile Creek

Field Monitor
Brad Janssen
PCC

Site Description

Streambanks along this section of Fourmile Creek are primarily lined with trees and shrubs.

98

Completed Site Visits

41

Abnormal Results

93%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

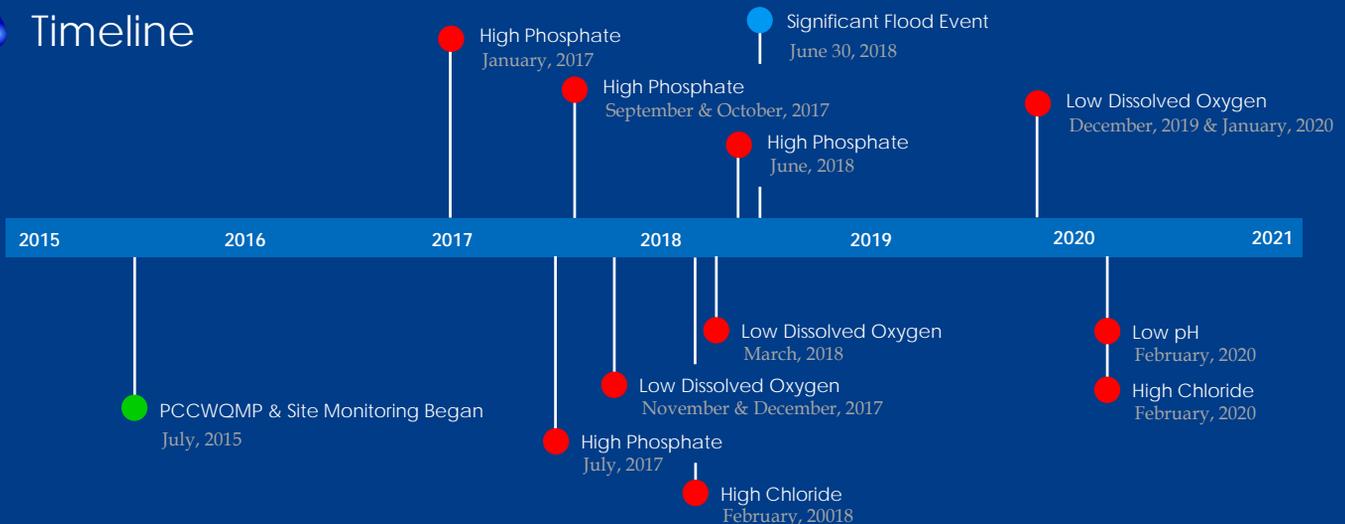
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977087



Sotheast 36th Street, west of Laurel Hill Cemetery

Site Details

Monitoring Began
June 2018

Watershed
Fourmile Creek

Field Monitor
Shane Laycock
DMPR

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is located in an undeveloped area with shrubs and grasses surrounding the banks, providing a partially open canopy.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977312



Muchiknock Creek and
Northeast Berwick Drive, northeast of
Mally's Park



Site Details

Monitoring Began
July 2015

Watershed
Fourmile
Creek

Field Monitor
Melissa
Schmelling
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This portion of the creek has streambanks dominated by low vegetation leaving a partly open canopy.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

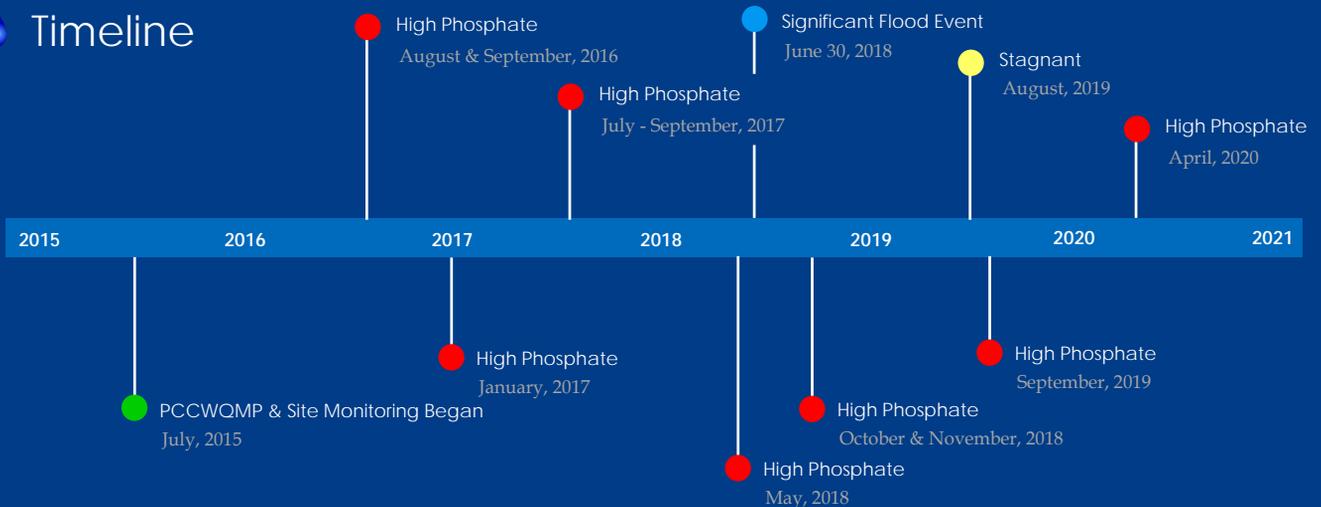
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977321



East University in Pleasant Hill



Site Details

Monitoring Began
July 2017

Watershed
Little Fourmile
Creek

Field Monitor
Penny Thomsen
and John Harri
Volunteers

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This portion of Fourmile Creek is mostly shaded and bordered primarily with grass and low plants.

73

Completed
Site Visits

38

Abnormal
Results

91%

Percent Normal
Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

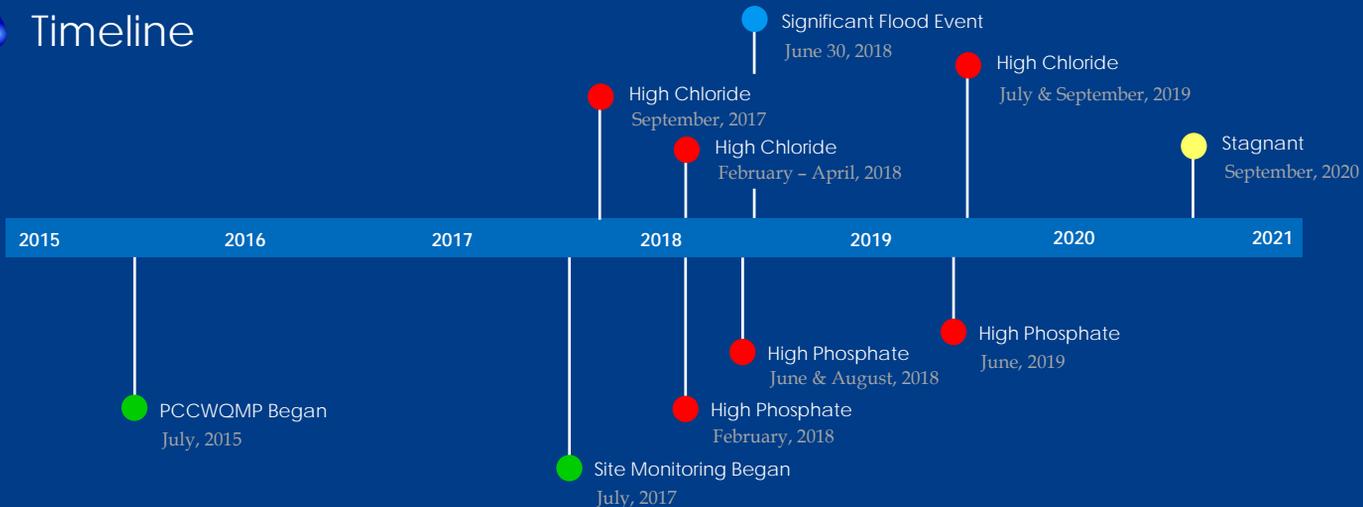
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977324



Along railroad culvert at Lion's Park in Altoona

Site Details

Monitoring Began
July 2017

Watershed
Little Fourmile Creek

Field Monitor
Karen Oppelt
City of Altoona

Site Description

The creek, with vegetated banks lined largely with grass, low plants and trees is mostly shaded along the transect.

74

Completed Site Visits

26

Abnormal Results

94%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

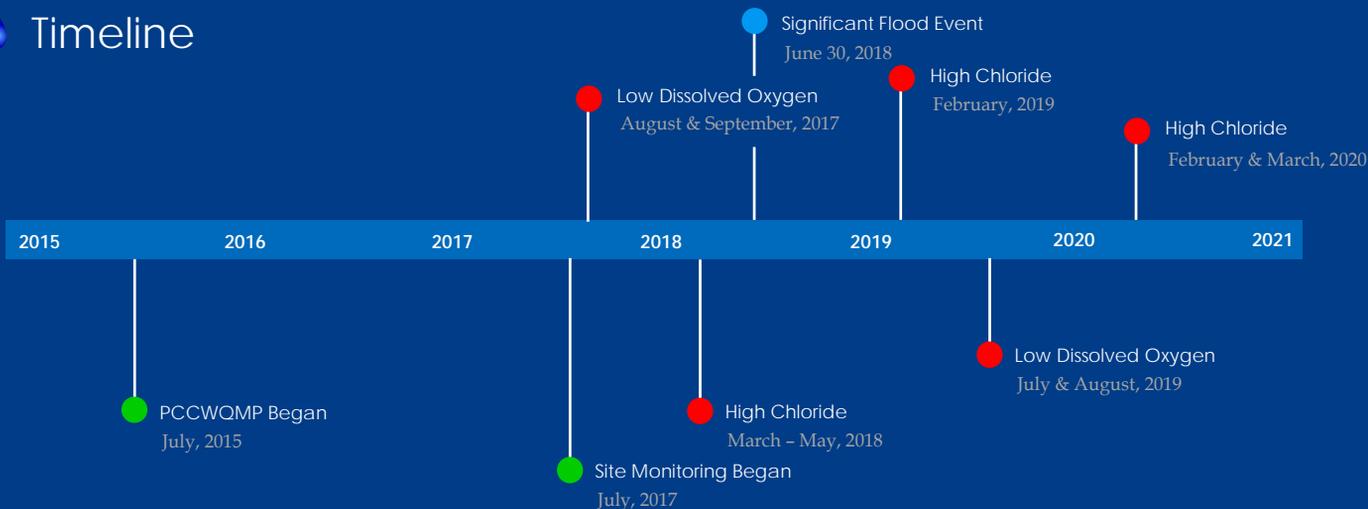
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

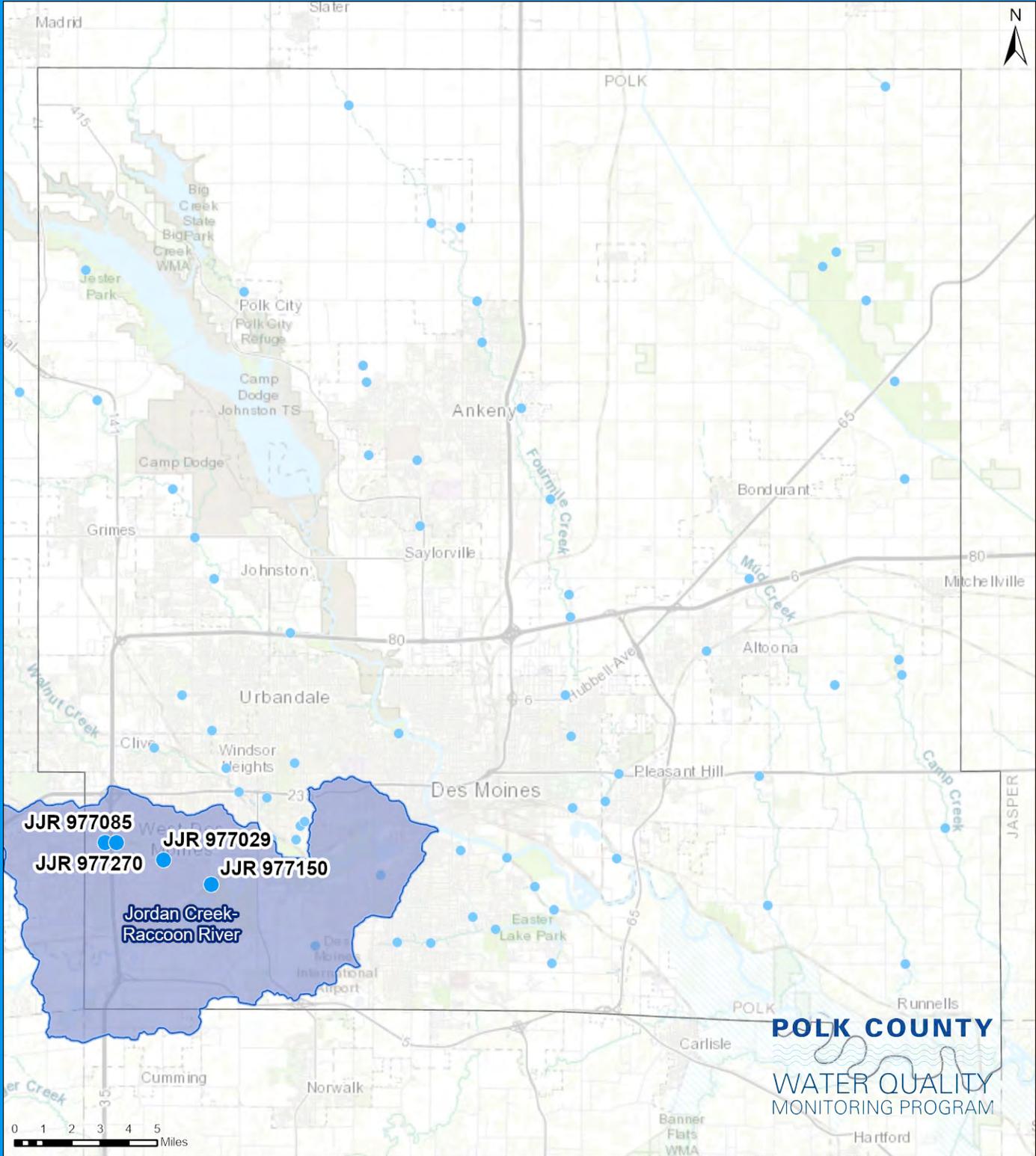


Timeline





Jordan Creek Watershed





977085



Prairie View Drive, north of
E. P. True Parkway on Jordan Creek Trail

Site Details

Monitoring Began
July 2017

Watershed
Jordan Creek

Field Monitor
Missy Smith
PCC

Site Description

This portion of the creek has an open canopy with vegetated cut banks. The left bank is covered primarily with shrubs and grass while trees dominate the other.

54

Completed
Site Visits

57

Abnormal
Results

82%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

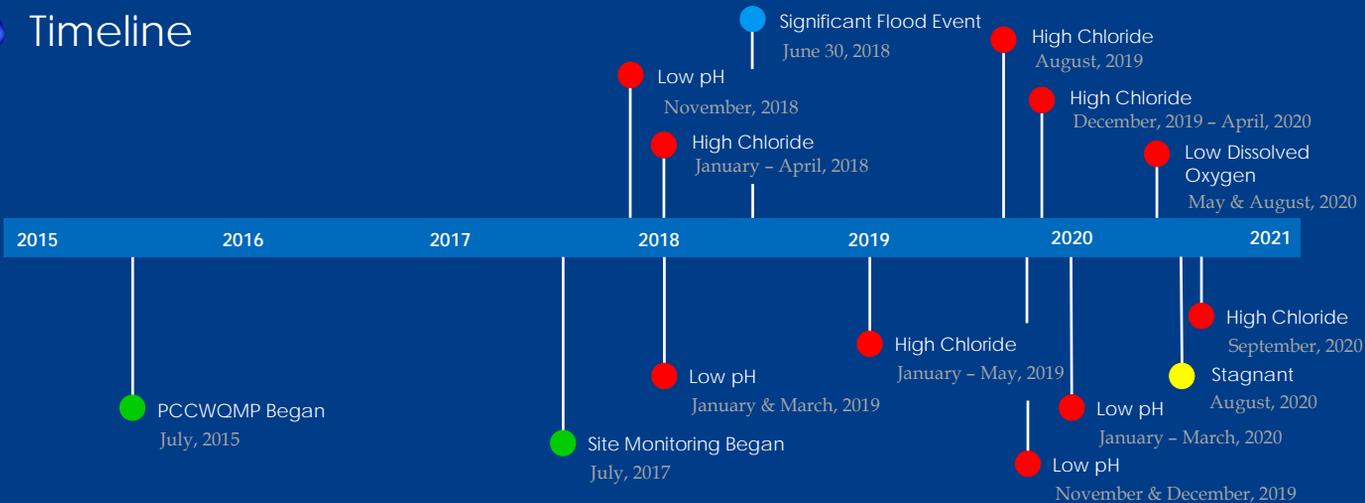
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977270



At Walking Trail Bridge north of E. P. True Parkway, East of Interstate 35

Site Details

Monitoring Began
July 2017

Watershed
Jordan Creek

Field Monitor
Missy Smith
PCC

Site Description

Trees dominate the riparian zone along this site, shading much of the creek.

71

Completed Site Visits

54

Abnormal Results

87%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

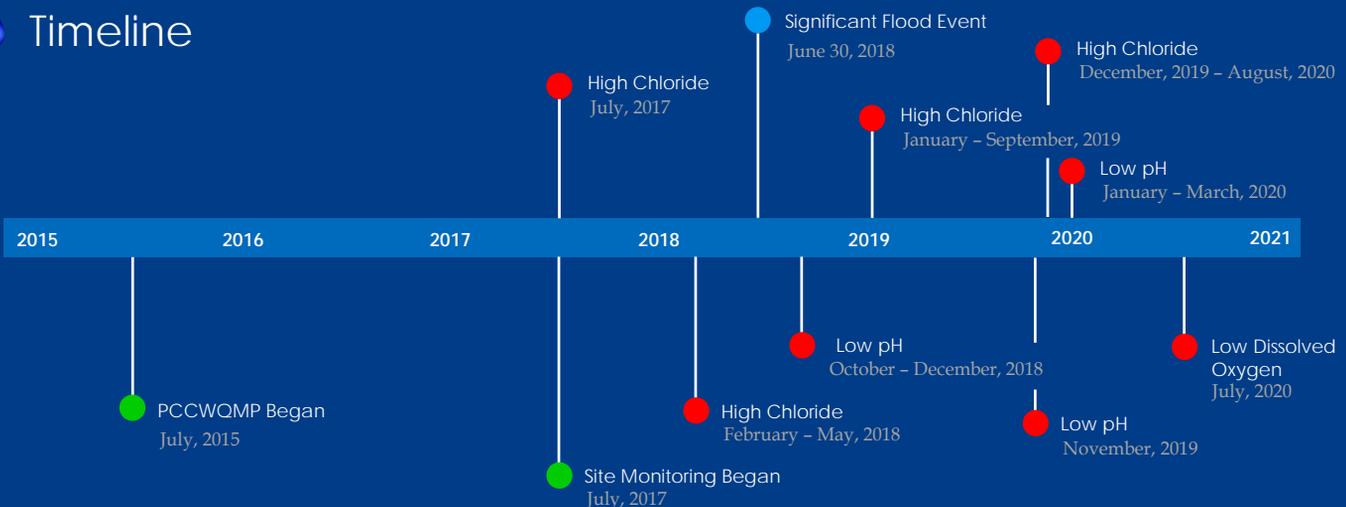
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977029



Near Mills Civic Parkway by the West Des Moines Police Department

Site Details

Monitoring Began
July 2017

Watershed
Jordan Creek

Field Monitor
Missy Smith
PCC

Site Description

At the transect of the creek there is an open canopy bordered primarily with grass and low plants on cut, eroded banks.

64

Completed Site Visits

74

Abnormal Results

81%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

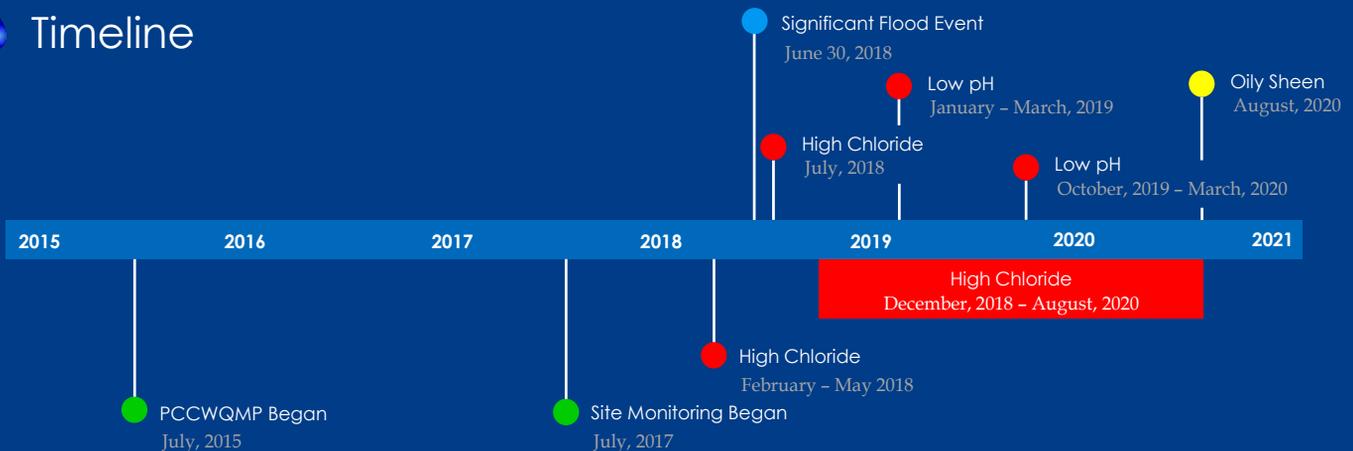
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977150



At Raccoon River Park along the Jordan Creek Trail in West Des Moines



Site Details

Monitoring Began
July 2017

Watershed
Jordan Creek

Field Monitor
Missy Smith
PCC

Site Description

This is an industrial and recreational park area. The monitoring site is shaded by trees and shrubs which border this section of the creek.

72

Completed Site Visits

53

Abnormal Results

88%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

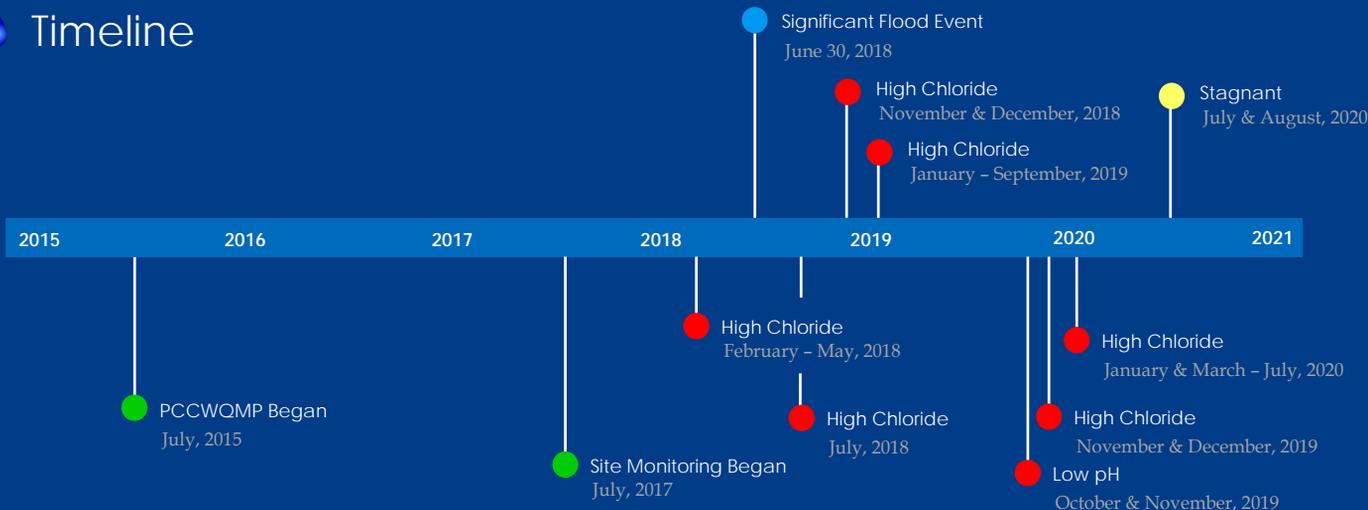
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

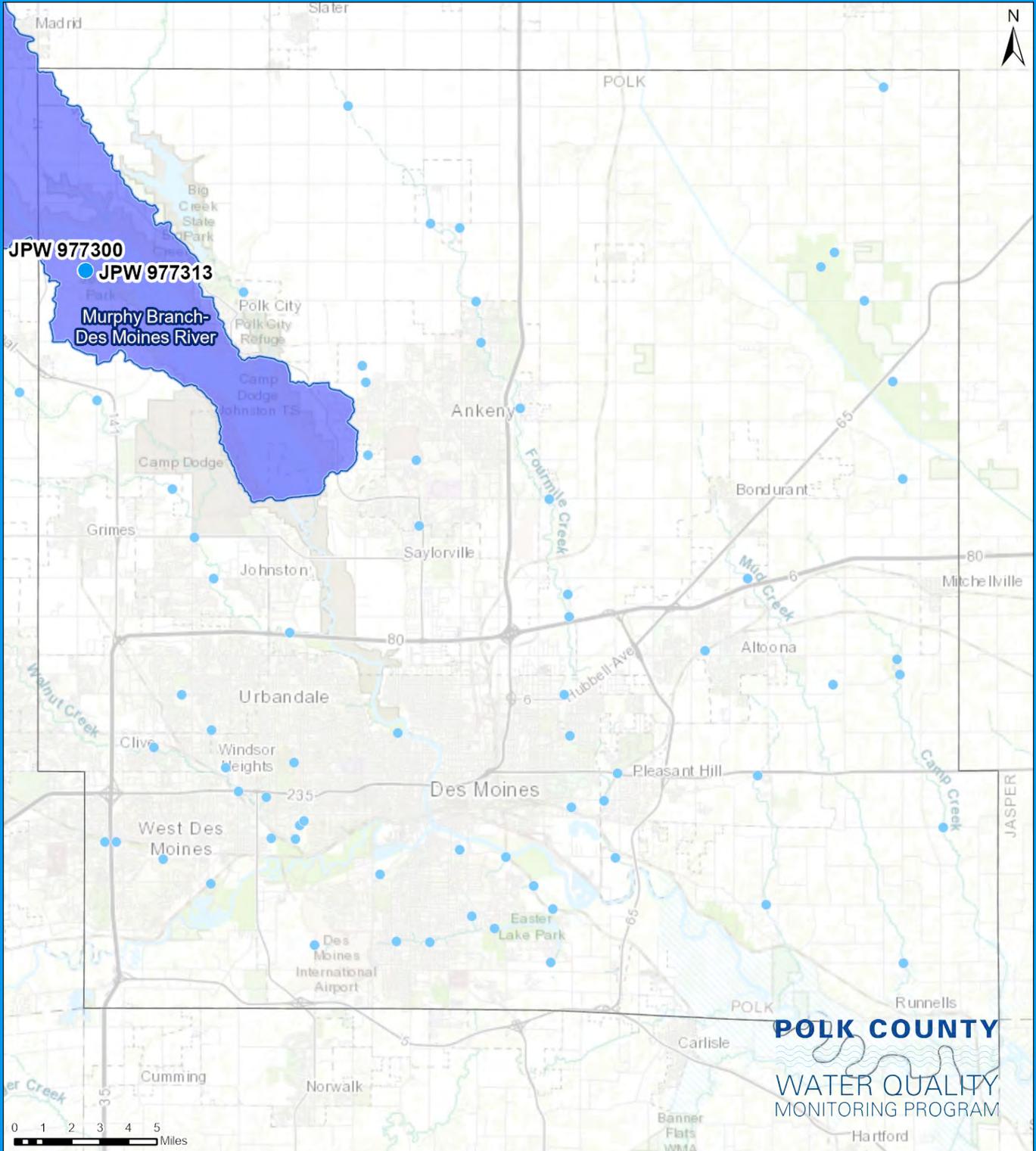


Timeline





Paw Creek Watershed





977300



Near the footbridge along Hickory Ridge Trail at Jester Park

Site Details

Monitoring Began
July 2015

Watershed
Paw Creek

Field Monitor
David Weidt
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

The streambed of this creek is primarily silt and mud with some cobble. Banks are cut and eroded at transect and canopy is shaded by mature trees along both banks.

112

Completed Site Visits

14

Abnormal Results

98%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline

Significant Flood Event
June 30, 2018

Dry
July - September, 2020

2015 2016 2017 2018 2019 2020 2021

PCCWQMP & Site Monitoring Began
July, 2015



977313



Golf course tributary where it enters Paw Creek at Jester Park

Site Details

Monitoring Began
July 2015

Watershed
Paw Creek

Field Monitor
David Weidt
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is shaded with mature trees lining both banks.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

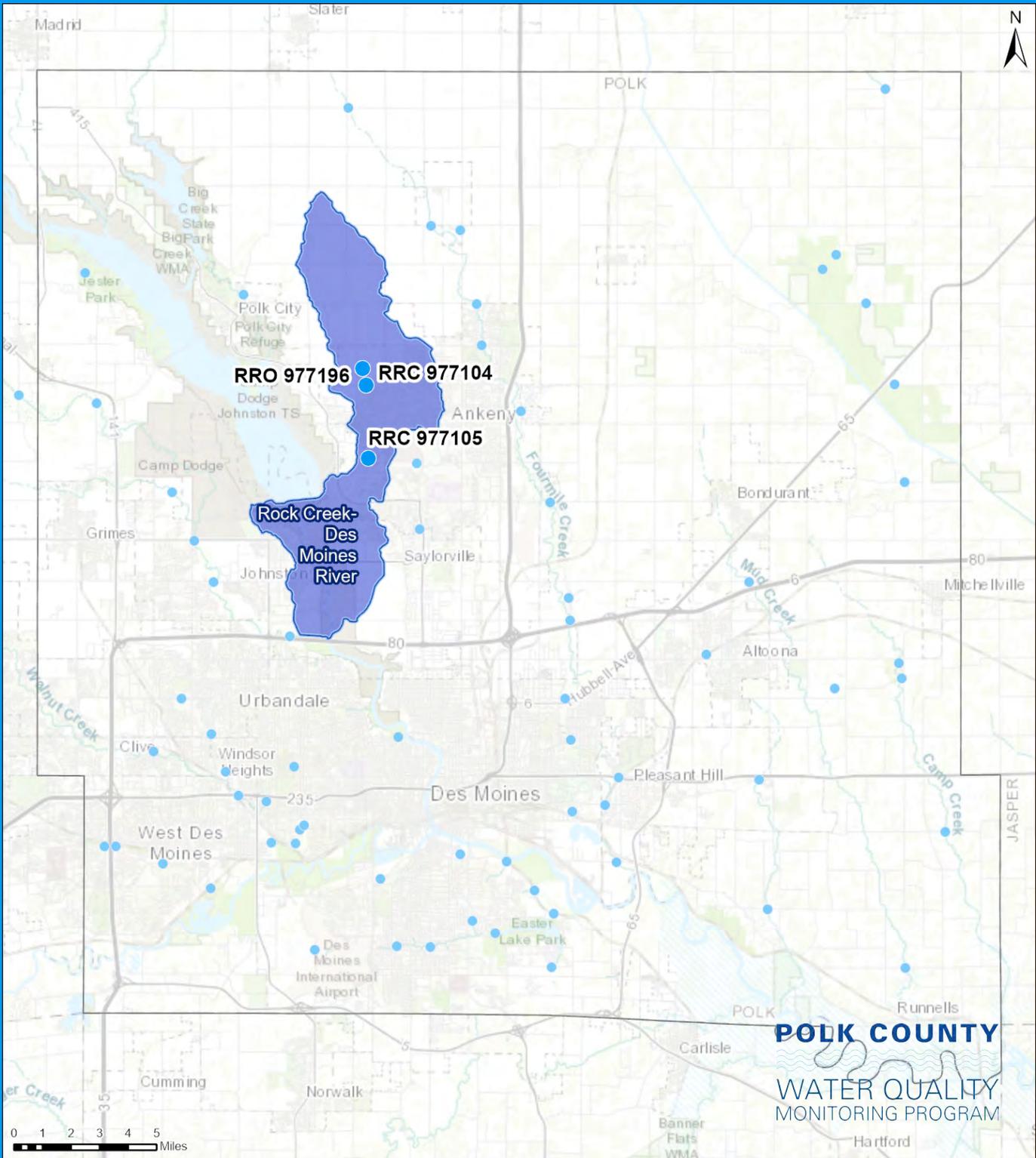


Timeline





Rock Creek Watershed





977196



High Trestle Trail and Rock Creek



Site Details

Monitoring Began
July 2017

Watershed
Rock Creek

Field Monitor
Heidi
Anderson
PCC

Site Description

This site is shaded with cut, eroded banks surrounded by trees creating a shaded canopy. The creek flows through agricultural, pastureland, and along the High Trestle Trail.

52

Completed
Site Visits

65

Abnormal
Results

79%

Percent Normal
Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

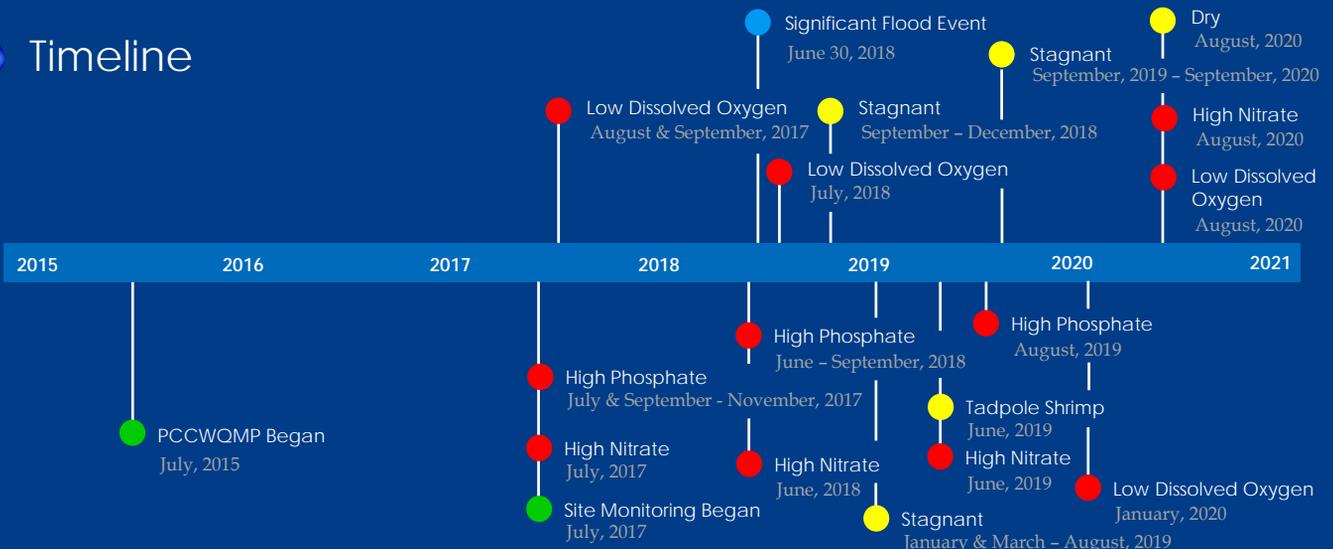
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977104

Polk County Conservation Water Quality Monitoring Program



Northwest 18th Street, upstream from box culvert

Site Details

Monitoring Began
July 2017

Watershed
Rock Creek

Field Monitor
Carla Moore
City of Ankeny

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This part of Rock Creek flows along an agricultural field and residential area. The canopy is open with grass and low plants along the cut banks.

67

Completed Site Visits

25

Abnormal Results

94%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline

- High Nitrate July, 2015
- Low Dissolved Oxygen July, 2015

- Significant Flood Event June 30, 2018

- High Phosphate May, 2018
- High Phosphate July - September, 2018
- Stagnant September, 2019

2015 2016 2017 2018 2019 2020 2021

- PCCWQMP & Site Monitoring Began July, 2015

- Low Dissolved Oxygen July, 2018

- High Phosphate August, 2019

- Dry August, 2020



977105



Northwest Polk City Drive, upstream from box culvert



Site Details

Monitoring Began
July 2017

Watershed
Rock Creek

Field Monitor
Carla Moore
City of Ankeny

Site Description

This part of Rock Creek flows along fields and a residential area with a mostly open canopy with trees on one bank and grass and low plants on the other.

68

Completed Site Visits

24

Abnormal Results

94%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

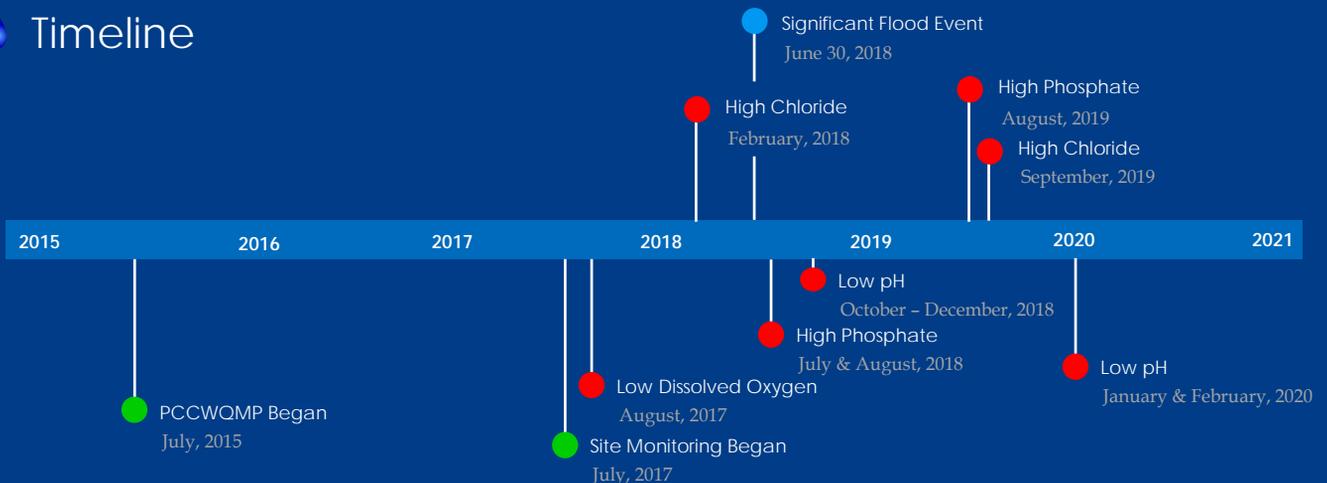
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

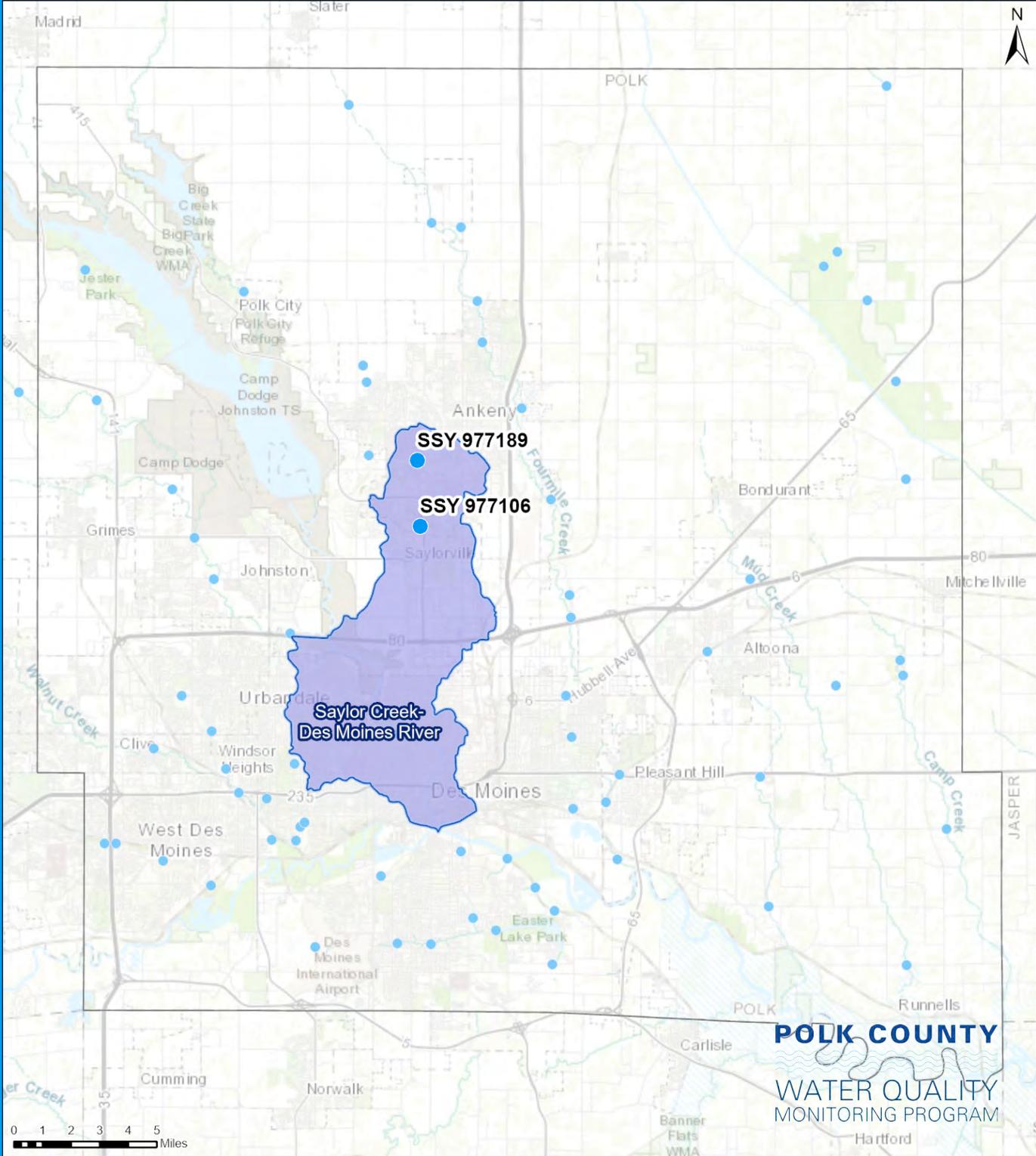


Timeline





Saylor Creek Watershed





977189



North of Prairie Trail west of Southwest State Street in Ankeny

Site Details

Monitoring Began
July 2017

Watershed
Saylor Creek

Field Monitor
Carla Moore
City of Ankeny

Site Description

This site is located along a field and residential area. The left bank is primarily lined with trees with the right bank covered with grass and low plants providing an open canopy.

73

Completed Site Visits

85

Abnormal Results

81%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

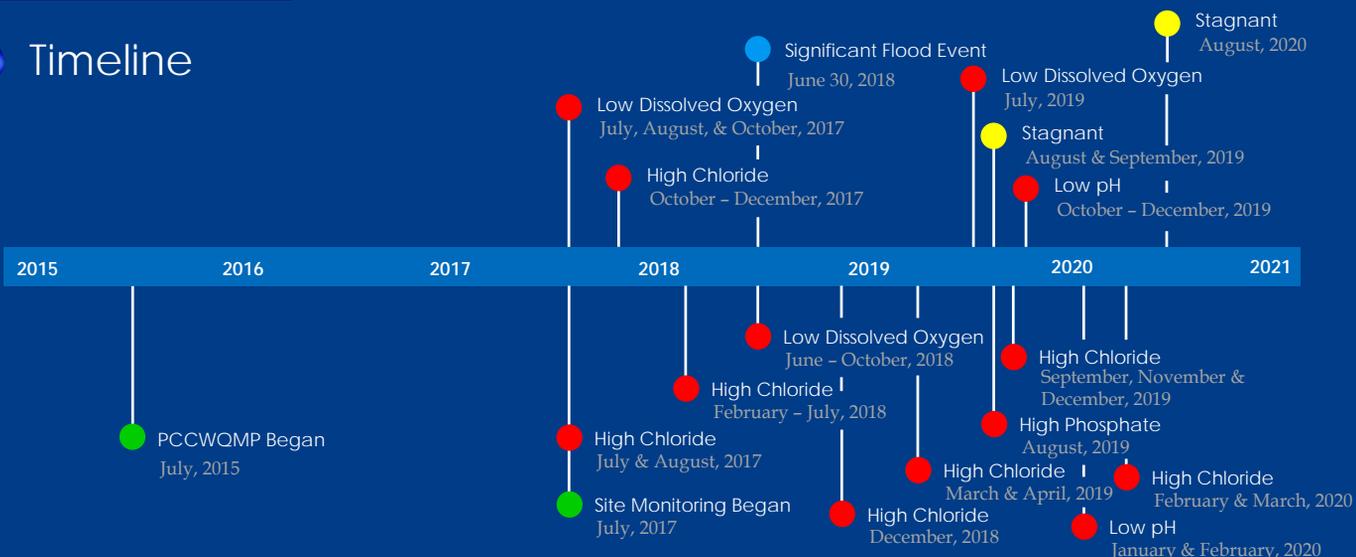
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977106



West of Southwest State Street along Northwest 72nd Place in Ankeny



Site Details

Monitoring Began
July 2017

Watershed
Saylor Creek

Field Monitor
Carla Moore
City of Ankeny

Site Description

This part of Saylor Creek flows through a residential area west of Highway 415. The creek banks are covered with grass and low plants providing an open canopy.

67

Completed Site Visits

38

Abnormal Results

91%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)

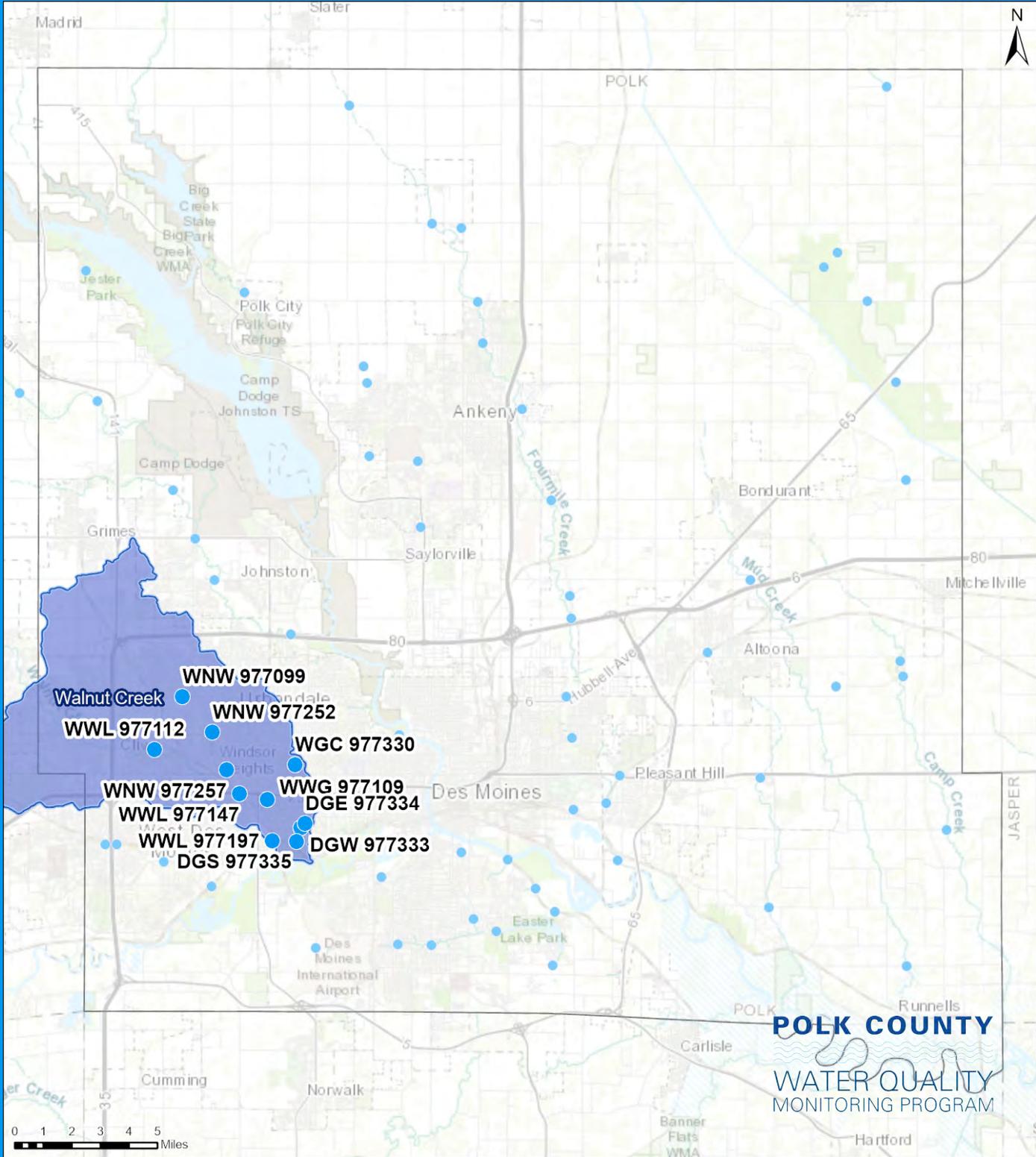


Timeline





Walnut Creek Watershed





977252



North of Hickman Road and west of Colby Woods Drive in Urbandale

Site Details

Monitoring Began
May 2017

Watershed
Walnut Creek

Field Monitor
Kay Tweedy
Volunteer

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

The site is partly shaded by trees and shrubs along the banks and is located in a residential area.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

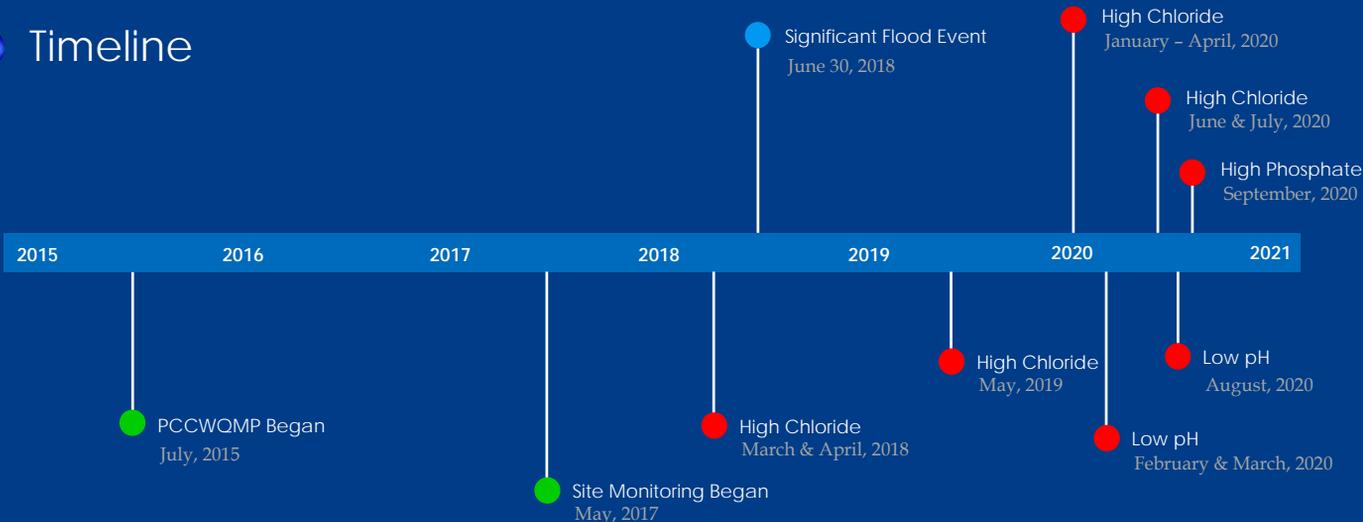
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977099



Walker Johnson Park in Urbandale, south of Douglas Avenue bridge

Site Details

Monitoring Began
July 2015

Watershed
Walnut Creek

Field Monitor
Lori Foresman-Kirpes
PCC

Site Description

A box culvert upstream and a small drainage pipe on the left bank can be found north of the site. The banks are mostly rip rap and grass covered, providing an open canopy at the site location. It then becomes treed as it flows south through the park.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

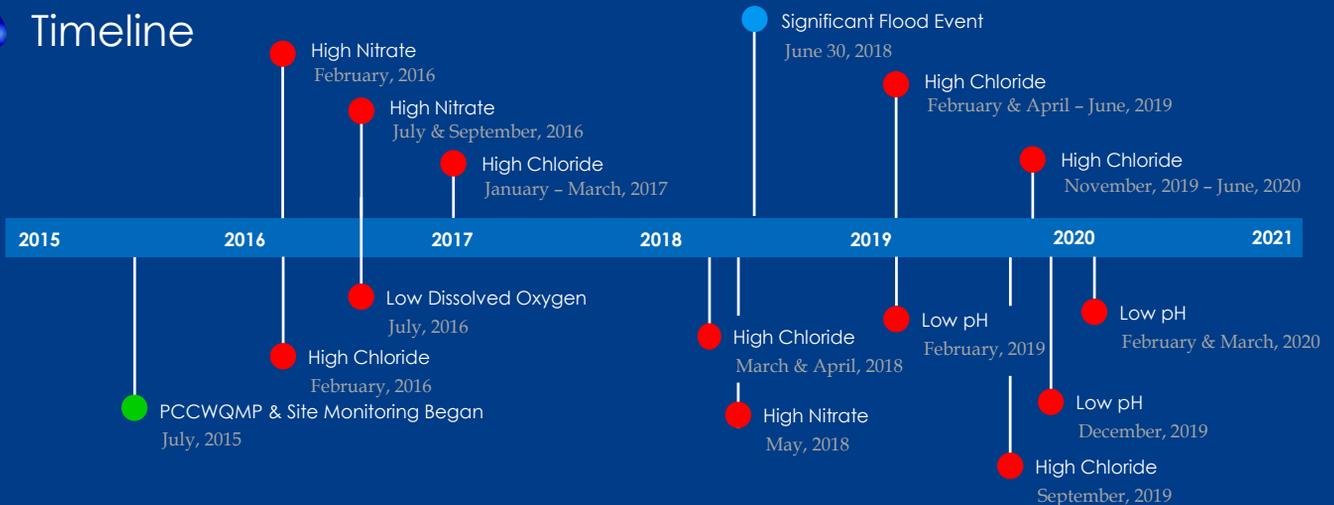
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977112



Clive Greenbelt Trail near the 100th Street bridge



Site Details

Monitoring Began
July 2015

Watershed
Walnut Creek

Field Monitor
Lori Foresman-Kirpes
PCC

Site Description

This site is partly shaded by shrubs and low trees lining each sloping bank.



PCCWQMP CONTACTS

PHONE
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COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

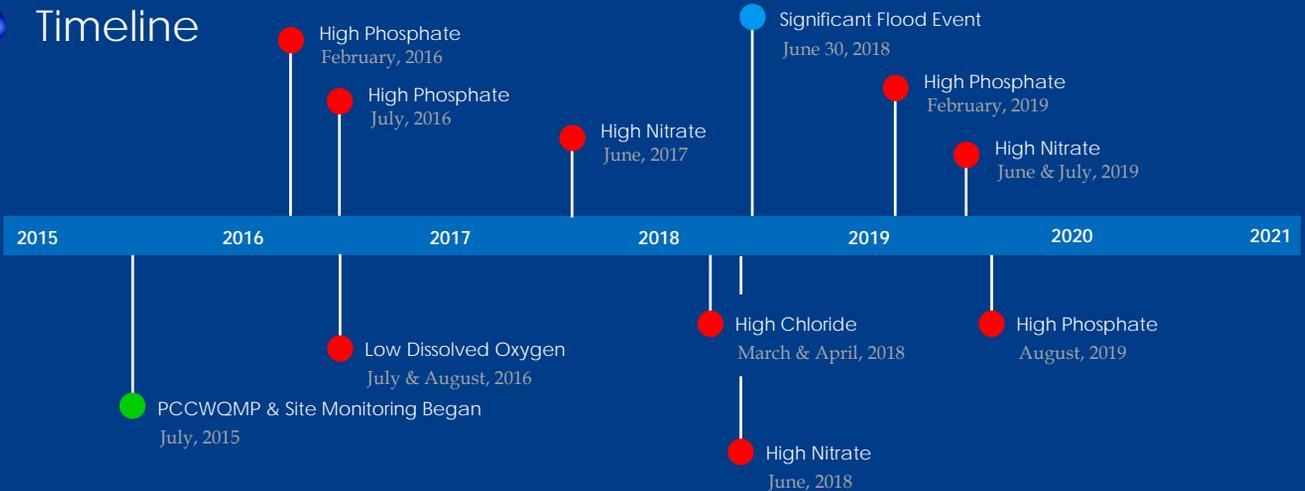
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977147



Colby Park in Windsor Heights

Site Details

Monitoring Began
July 2015

Watershed
Walnut Creek

Field Monitor
Ginny Malcomson
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is mostly open with deeply incised banks which are covered with rip rap, grasses and low plants. Many culverts exist from neighboring business parking lots and a park. A dog park is located immediately downstream. This site also receives runoff from the Interstate 235 bridge overhead.

108	34	95%
Completed Site Visits	Abnormal Results	Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal

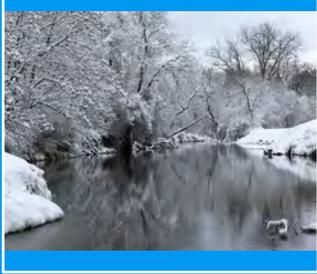


Average Index of Biotic Integrity (IBI)



Timeline





977197



East of 63rd Street and South of Grand Avenue in Des Moines



Site Details

Monitoring Began
July 2015

Watershed
Walnut Creek

Field Monitor
Ginny Malcomson
PCC

Site Description

This site is in an open residential area down a steep bank of grass, rip rap and low growing plants. Upstream is a commercial area, residential area, and public athletic field.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

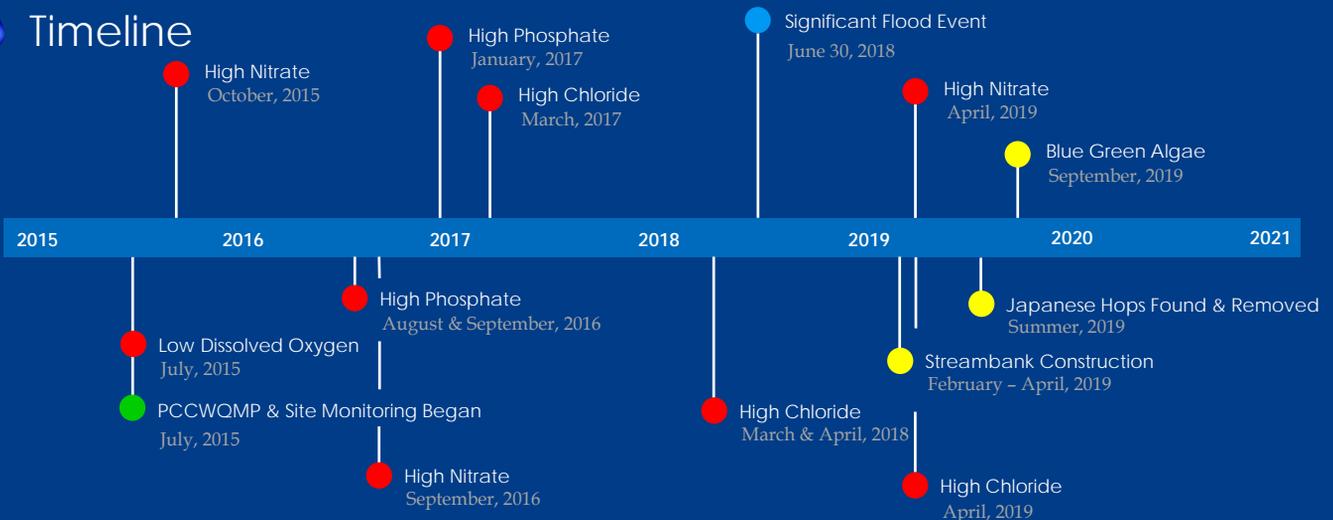
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977330



Unnamed creek at Glendale Cemetery in Des Moines

Site Details

Monitoring Began
June 2018

Watershed
Walnut Creek

Field Monitor
Shane Laycock
DMPR

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This small creek in Glendale Cemetery flows through a grassy field which provides an open canopy.

35

Completed Site Visits

6

Abnormal Results

97%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977109



Southwest of Waveland Golf Course
in Des Moines

Site Details

Monitoring Began
June 2018

Watershed
Walnut Creek

Field Monitor
Shane Laycock
DMPR

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is on a tributary of Walnut Creek in a residential neighborhood. It has an open canopy with sloping banks covered with grass and some rip rap.



Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977273



Southwest 13th Street bridge and Yeador Creek

Site Details

Monitoring Began
July 2015

Watershed
Yeador Creek

Field Monitor
Dean Bruscher
PCC

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Site Description

This site is in a residential neighborhood, is mostly shaded by high banks and mature trees on the left bank. The right bank consists of trees and shrubs. Of the four monitored Yeador Creek sites, this is the closest to the Des Moines International Airport.

113

Completed Site Visits

82

Abnormal Results

88%

Percent Normal Results

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

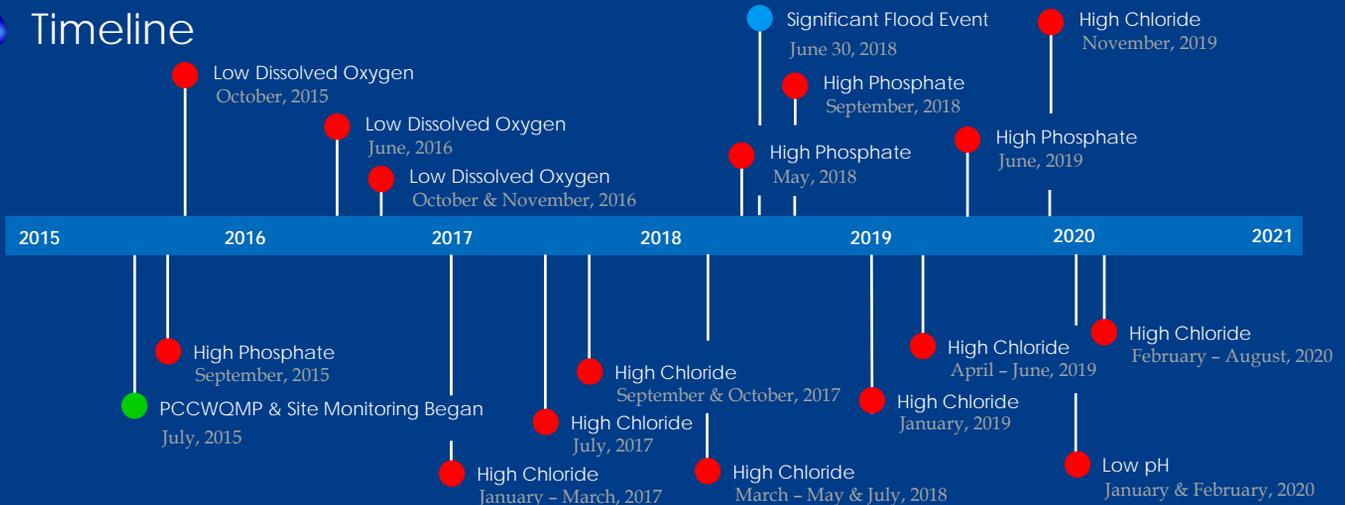
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977305



South Union bridge and Yeader Creek, in Des Moines



Site Details

Monitoring Began
July, 2015

Watershed
Yeader Creek

Field Monitor
Dean Bruscher

Site Description

This site is fully shaded with tree-lined banks and rocky a bed in an urban residential neighborhood.

113

Completed Site Visits

83

Abnormal Results

88%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

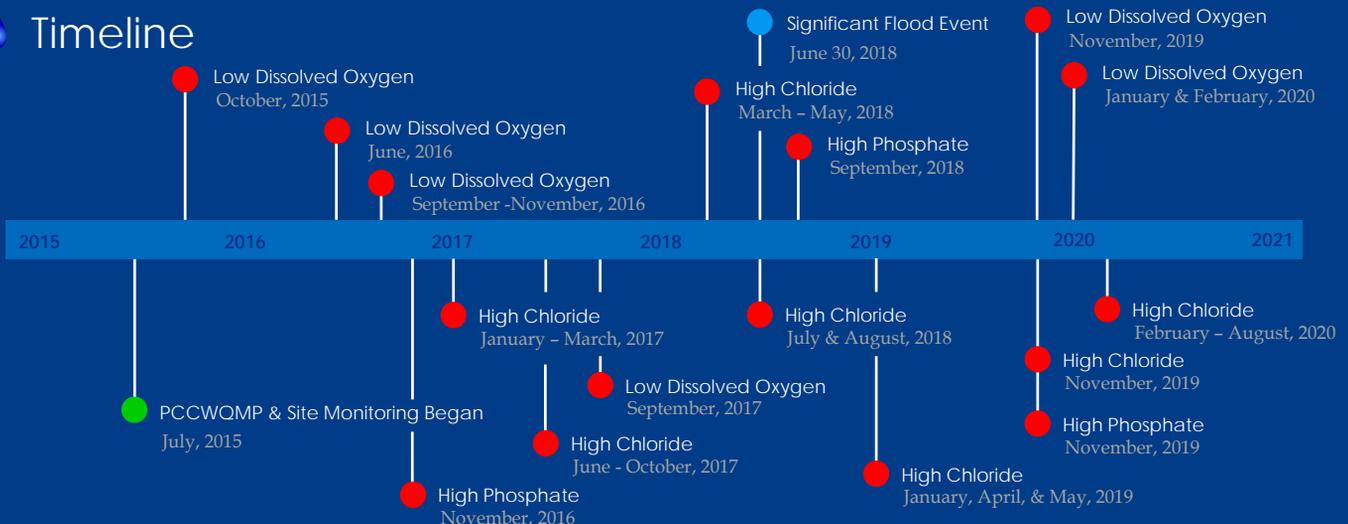
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977003



Southeast 14th Street and Yeader Creek, in Des Moines

Site Details

Monitoring Began
July 2015

Watershed
Yeader Creek

Field Monitor
Brad Janssen
PCC

Site Description

This site is located in a commercial area. The banks along the site are vegetated with grasses and low plants which provide an open canopy. The low water level and open canopy allow water temperatures to rise rapidly in this area. The creek depth in this area averages 17 centimeters deep.



PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

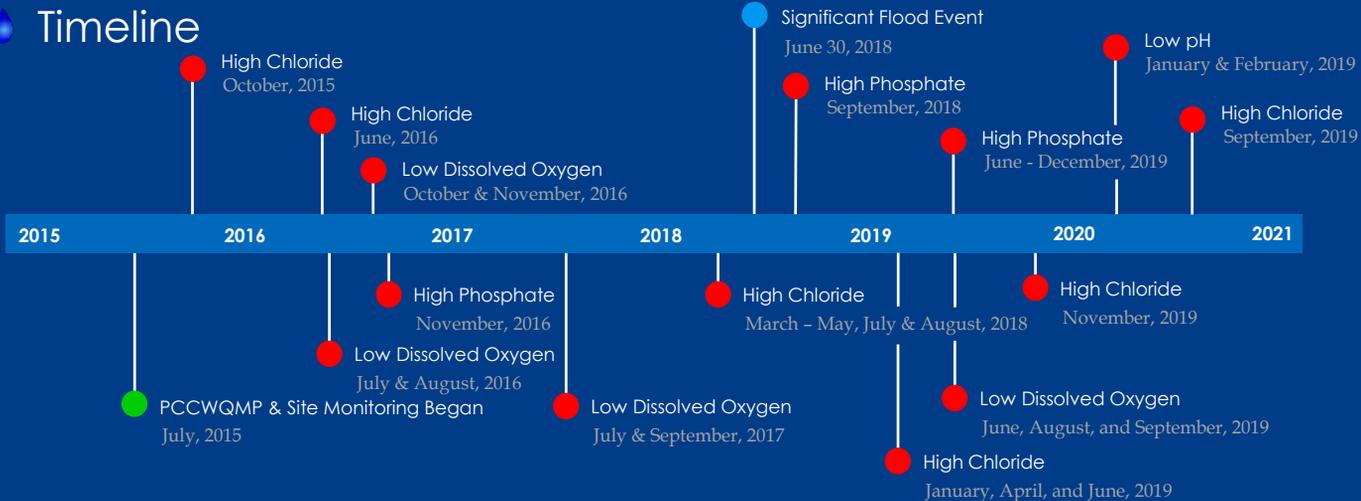
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





977117



Ewing Dog Park on Indianola Avenue, in Des Moines



Site Details

Monitoring Began
July 2015

Watershed
Yeader Creek

Field Monitor
Tad Thomas
DMPR

Site Description

The site is located at the pedestrian bridge in Ewing Dog Park. The banks are lined with grass and low plants providing an open canopy. The creek depth, when measurable, averages 37 centimeters deep.

107

Completed Site Visits

90

Abnormal Results

86%

Percent Normal Results

PCCWQMP CONTACTS

PHONE
515-323-5300

COORDINATOR
Ginny Malcomson

QUALITY CONTROL
Amanda Brown

WEBSITE
www.LeadingYouOutdoors.org

Five-year Average Assessment Results

pH Results

Results below 6 can be harmful



Nitrite Results

Results are typically not detectable



Nitrate Results

The maximum recreation standard is 20 mg/L



Dissolved Oxygen Results

The minimum water quality standard is 5 mg/L



Phosphate Results

Results over 0.6 mg/L are considered abnormal



Chloride Results

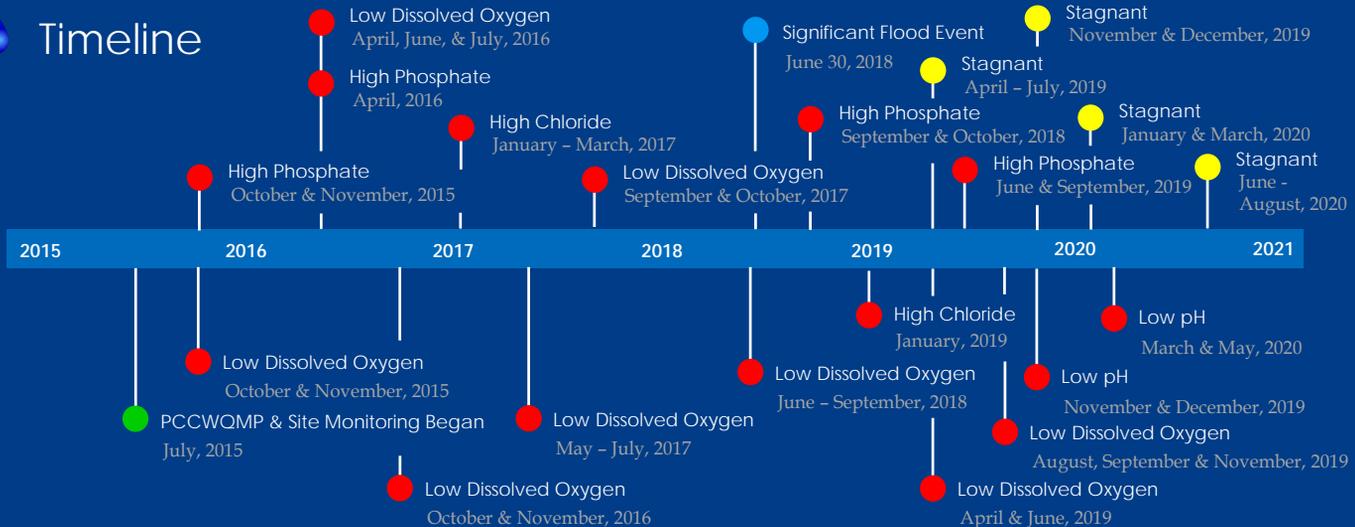
Results above 100 mg/L are considered abnormal



Average Index of Biotic Integrity (IBI)



Timeline





Field Monitors

Aaron Heuss **	Volunteer
Abby Chungath ¹ **	Volunteer
Adam Fendrick	Polk County Conservation
Alan Pasker ¹	Polk County Conservation
Amanda Brown ¹	Polk County Conservation
Amber Piatt**	Volunteer
Amy Bryant	City of Ankeny
Amy Pajak **	Volunteer
Andre Olsen**	Volunteer
Andrew Phelps ¹	Polk County Conservation
Brad Janssen ¹	Polk County Conservation
Brian Herstrom	Polk County Conservation
Brody Buskohl ¹	City of Johnston
Callie Leau Courtright	Des Moines Parks and Recreation
Carla Moore ¹	City of Ankeny
Charlie Finch ¹	Polk County Conservation
Clayton Ender ¹	City of Johnston
Curt Smejkal	City of Des Moines-Sewer Enterprise Div.
Dan Hrubes ¹	Polk County Conservation
Dave Croll ¹	City of Johnston
David Weidt ¹	Polk County Conservation
David Wilwerding	City of Johnston
Dean Bruscher ¹	Polk County Conservation
Doug Romig	Polk County Conservation
Doug Sheeley	Polk County Conservation
Drake Boeckholt ¹ **	Volunteer
Erich Braun	Polk County Conservation
Ginny Malcomson ¹	Polk County Conservation
Heidi Anderson ¹	Polk County Conservation
Isaac Svoboda ¹	City of Des Moines
Jake Slings	City of Altoona
James Dotzler ¹	Polk County Conservation
Janna Coulter ¹	Polk County Conservation
Jared Bright	City of Ankeny
Jeff Behan ¹	City of West Des Moines
Jennifer Mendenhall-Bellon**	Volunteer
Jim Tredway ^{1**}	Volunteer
Jody Anderson ^{1**}	Volunteer
Joe Boyles ¹	Polk County Conservation



Field Monitors

Joel Van Roekel ¹	Des Moines Parks and Recreation
John Hami ^{1**}	Volunteer
John Mackey ¹	Polk County Conservation
John Roan ^{**}	Volunteer
Johnathan Gano	City of Des Moines-Public Works
Jordan Hildreth ¹	Des Moines Parks and Recreation
Jordan Wilmes	Des Moines Parks and Recreation
Josh Dewes ¹	Des Moines Parks and Recreation
Justin D'Souza ¹	City of Des Moines-Sewer Enterprise Div.
Kaleb Alger ^{1 **}	Volunteer
Karen Oppelt ¹	City of Altoona
Karrah Rau ^{**}	Volunteer
Katharine Carman	Urbandale High School
Kay Tweedy ^{1**}	Volunteer
Kelly Sand ¹	City of West Des Moines
Ken Trytek ¹	Des Moines Parks and Recreation
Kendall Fogle ¹	Des Moines Parks and Recreation
Lael Neal ¹	Polk County Conservation
Lewis Major ¹	Polk County Conservation
Lori Foresman-Kirpes ¹	Polk County Conservation
Lowell De Vries ^{**}	Volunteer
Lucas Tenborg ¹	City of Des Moines Public Works
Lydia Roush	Des Moines Parks and Recreation
Marc Pedersen	Valley High School
Mariel Castillo ^{1**}	Volunteer
Matt Brown	Des Moines Parks and Recreation
Melany Shaw ¹	SE Polk High School
Melissa Ritter	Polk County Conservation
Melissa Schmeling ¹	Polk County Conservation
Michael French ¹	Polk County Conservation
Mike Murphy ^{**}	Volunteer
Missy Smith ¹	Polk County Conservation
Nikki Dunbar ¹	Polk County Conservation
Pat Spain ¹	Polk County Conservation
Patti Petersen-Keys ¹	Polk County Conservation
Penny Thomsen ^{1**}	Volunteer
Rich Anderson ^{1**}	Volunteer
Richard Brown	Des Moines Parks and Recreation
Richard Leopold	Polk County Conservation
Ron Dunek ^{1**}	Volunteer



Field Monitors

Sam Brown**	Volunteer
Sandy Roan**	Volunteer
Sophia Campbell ¹	Polk County Conservation
Tad Thomas ¹	Des Moines Parks and Recreation
Tobyn Peterson	City of Ankeny
Vance Weltha	City of Altoona
Veronica Marse	Polk County Conservation
Zach Deutmeyer ¹	Polk County Conservation

¹ 2019-20 field monitor

**public volunteer



INFORMATION

Additional information and summarized annual reports are found at <https://www.polkcountyiowa.gov/conservation/water-quality/>. All site records are available on the EPA Water Quality Exchange (WQX) website (<https://www.epa.gov/waterdata/water-quality-data-wqx>).

To become involved in our program, please contact Ginny Malcomson, Project Coordinator, to learn more.

Thank you,

Ginny Malcomson
PCCWQMP Coordinator

Amanda Brown
PCCWQMP QC Officer

Polk County Conservation
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Granger, IA 50109
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