

Action/Activity	<div>Oakland CDC MS4</div> <div>NPDES Permit No. MI0060089</div> <div>FY 2020/2021</div> <div>Measurables</div> <div>(October 1, 2019 - September 30, 2021)</div>
Public Participation Plan	
Stormwater Management Plan (SWMP) Homepage	<p>The Oakland County Stormwater Management Plan (SWMP) is available on its website at: https://www.oakgov.com/water/stormwater/Pages/Stormwater-Management-Plan.aspx</p> <p>As of FY 2021, no comments have been received on the County's SWMP.</p> <p>There were 1,001 hits to the SWMP webpage as of FY 2021.</p>
Public Education Plan	
Bulletin Boards	<p>Throughout FY 2020/2021, the WRC had a variety of information related to storm drain awareness on display in its main lobby. Information on the “Seven Simple Steps to Clean Water”, and copies of the “Waterfront Wisdom” Booklet, “Kids Clean Water Calendar” and “Oakland County 24-Hour Pollution Hotline” brochure are available year-round. The Alliance of Rouge Communities developed a variety of seasonal posters on protecting water quality with tips to consider for spring, summer, winter and fall. That poster was framed and hung in the WRC lobby beginning in FY 2017 and is rotated out seasonally.</p>
Dirt Doctors Program	<p>-Approximately 640 students and adults in 9+ different presentations at 3 different events were reached in FY 2020. The Dirt Doctors attended events in Detroit, Pontiac, and West Bloomfield.</p> <p>-Due to the COVID-19 pandemic, 14 scheduled in-person Dirt Doctor events had to be cancelled. As a means to provide the Dirt Doctors educational experience to the public, a pre-recorded Dirt Doctors program was put together in September 2020 and as of September 30, 2021, it has been viewed 136 times. The pre-recorded program is available online at: https://www.youtube.com/watch?list=PLxN0wQGF96CL-c9anor-74HawzUbgXk61&v=aOOQjrSD8vg&feature=youtu.be</p> <p>-There were no pre-/post-surveys for the program disseminated in FY 2020 or 2021.</p>
Drain Detectives Program	<p>-There were no Drain Detectives programs requested in FY 2020 or 2021.</p>
E-newsletter Articles	<p>The WRC's E-Newsletter reaches approximately 2,000 individuals via e-mail and includes the following groups:</p> <ul style="list-style-type: none">-State Representatives-State Senators-SWAGs-County Commissioners-City Council members including Mayors (that we have emails for)-Township & Village Trustees/Council (that we have emails for)-Township Supervisors-Township Clerks-Township & City Treasurers-WRC Staff-Media contacts (small list)-Folks that have signed up for various updates on our WRC web site subpages (a lot of overlapping emails and a number of CVT DPW folks) <p>-In FY 2020/2021, four (4) "In the Flow" Employee Newsletters were distributed to approximately 318 WRC staff and available upon request</p> <p>-Throughout FY 2020/2021, the WRC quarterly E-newsletter has advertised the Oakland County 24-Hour Pollution Hotline. Digital copies of the E-newsletters are available upon request.</p>
Enviroscape Watershed Model Program	<p>-Approximately 455 students, adults and chaperones in 12 different presentations at three (3) different events were reached in FY 2020.</p> <p>-WRC staff presented the Enviroscape watershed model at events in Detroit, Pontiac and White Lake Twp.</p> <p>-There were no pre- or post-evaluations administered in FY 2020.</p> <p>In FY 2021, due to the COVID-19 pandemic, in-person events were impacted and two (2) scheduled presentations had to be cancelled as well as several water festivals. In order to reach people virtually, a 32 minute pre-recorded Enviroscape Watershed Model demonstration was created in September 2020 and is available online at: https://www.youtube.com/watch?list=PLxN0wQGF96CL-c9anor-74HawzUbgXk61&v=ipllqsx1Zvc&feature=youtu.be. As of September 30, 2021, the video has been viewed 351 times. The manufacturer of the Enviroscape watershed model also featured the video in one of its promotional emails as well as on its "Favorites" section of their YouTube channel: https://www.youtube.com/playlist?list=FL-BzXDjs1BczjNmNMUx_jw.</p>

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Electronics Recycling Event	There were no events held in FY 2020 or 2021.
Household Hazardous Waste Information	<p>In FY 2020, the Oakland County Waste Resource Management Division sponsored two (2) household hazardous waste disposal days: October 12, 2019 and September 26, 2020 at the Oakland County Service Center in Pontiac. A total of 2,170 residents participated in these events and a total of 315,384 pounds of household hazardous waste was collected. Due to COVID-19, two (2) other events originally scheduled during the year were cancelled.</p> <p>In FY 2021, the Oakland County Waste Resource Management Division sponsored five household hazardous waste disposal days: October 10, 2020, June 26, 2021 and September 25, 2021 at the Oakland County Service Center in Pontiac, April 24, 2021 at Oxford Middle School in Oxford and July 24, 2021 at Kensington Church in Orion Township. A total of 821,099 pounds of household hazardous waste was collected during the five collection events.</p> <p>Since the program began in 2003, residents of more than 61,000 households have disposed of more than 8 million pounds of hazardous materials which have been recycled or disposed of properly.</p> <p>Information on household hazardous waste disposal in Oakland County is available online at: www.nohaz.com.</p> <p>There were 27,635 website hits in FY 2020 and 42,219 website hits in FY 2021 to the County's Household Hazardous Waste Recycling Information.</p> <p>There are two solid waste authorities in the southern portion of the county that handle the waste for several member communities. One of these authorities holds several household hazardous waste collection events for residents, while the other offers year-round service for residents of its member communities.</p> <p>A few communities offer their own collection events each year.</p>
Inland Lake Natural Shoreline/Education Program	<p>MSU-Extension: Several educational programs were held on understanding lake ecology and the importance of natural shorelines on inland lakes. Programs were held for lake residents, natural resource professionals, lake managers, elected and appointed government officials, and educators.</p> <ul style="list-style-type: none">- A Michigan Natural Shoreline Partnership training for 43 contractors was held on 3/3/20 to train shoreline contractors how to design and install natural shorelines on inland lakes.- The Introduction to Lakes Online course ran two times, once between January - March 2020 with 189 participants, and January - March 2021 with 286 participants. Topics included lake ecology, watersheds, shorelines, water law, aquatic plants, and citizen involvement. There were also three live chat sessions during each course.- Bindu Bhakta also presented on Inland Lake shoreline solutions on October 14, 2020 to 53 participants as part of the Wild About Backyard Conservation webinar series.- Lake ecosystem content was also included in the two (2) in-person Michigan Conservation Stewards Programs held in Washtenaw County and the Capital Area in Fall 2019, as well as the Virtual Michigan Conservation Stewards Program in Fall 2021.- In 2019, MSU Extension staff helped enroll 43 Oakland County Lakes in the Cooperative Lakes Monitoring Program (MiCORP). There was no program in 2020 due to the pandemic. 20 lakes were enrolled in the 2021 monitoring program.- A 90-minute session, "Protecting inland lakes: Septic system maintenance, policies, and treatment options" was offered as part of the Michigan Inland Lakes Convention on September 18, 2020. The session recording can be found at: https://www.canr.msu.edu/michiganlakes/convention/friday_2020- A "Communicating Through Conflict" workshop was also offered at the MILC on 9/17/20 attended by 53 participants. Septic information was provided via MSU Extension news articles and the Septic Education web site (https://www.canr.msu.edu/septic_system_education/). Septic content was included in the following FY2020 & FY2021 programs: Introduction to Lakes Online Courses and Master Gardener Volunteer Trainings. Several resident inquiries were also fielded on various aspects of septic system management throughout the year. <p>MSU-Extension has a host of information on water management on their website at: https://www.oakgov.com/msu/programming/Pages/natural-resources.aspx .</p> <p>There were 226 website hits in FY 2020 and 269 website hits in FY 2021 to MSUE's natural resources education website.</p> <p>MSU-Extension hosts a website dedicated to learning all about Michigan inland lakes at: https://www.canr.msu.edu/michiganlakes/online-learning .</p>
Interpretive Signage	<p>OCPRC: In FY2020 and FY 2021, OCPR Maintained Aquatic Invasive Species (AIS) Interpretive Signs at Addison Oaks, Groveland Oaks, Highland Oaks, Independence Oaks, Orion Oaks and Rose Oaks - all parks with fishing access. Interpretive signage detailing a CMI-funded Waterford Oaks Storm water Improvements Project and associated BMPs installed at the park was also maintained. In FY 2020, new brochures regarding state boating law changes related to AIS were acquired along with permanent stand holders that were installed in FY2021 at Addison Oaks and Independence Oaks.</p> <p>In FY2021, brochures regarding state boating law changes related to AIS continued to be distributed and permanent stand holders were installed at Addison Oaks and Independence Oaks with AIS information. Additionally, a stormwater-specific brochure was created to support ongoing efforts at Springfield Oaks to update stormwater infrastructure; that brochure was distributed to the public via the Oakland County Fair staff.</p>

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Invasive Species Management, and Education and Outreach	<p>OCPRC: OCPR maintains a sizable invasive species management program within the Natural Resources Department, responsible for strategic management of invasive species throughout the park system's 6,800 acres.</p> <p>OCPR holds blanket contracts with aquatic spray and biocontrol contractors for the purposes of combating identified locations of aquatic invasive species inhibiting recreational use or ecological health of OCPR's inland lakes. Blanket contracts for upland invasive species control are also held.</p> <p>As part of OCPRC's invasive species management program, OCPRC requires contractors involved in natural resource vegetation management to perform equipment-cleaning good housekeeping practices to limit the introduction and spread of upland and aquatic invasives in park natural areas.</p> <p>The Oakland County CISMA is a partnership of county and local governments, non-profit organizations and universities with a focus on managing the spread of numerous invasive species. Information on the Oakland County Cooperative Invasive Species Management Area (CISMA) is available online at: https://www.michiganinvasives.org/occisma/ and at https://www.sixriversrlc.org/oakland-county-cisma. The OC CISMA Annual Reports for 2020 and 2021 are available in Appendix O.</p> <p>OCFM: FY2020 - continued removing Buckthorn and other invasives from woodlot areas. Stumps are treated with Diamondback shells applied with a lance. The active ingredient is Glyphosate. FY 2021 - continued with removal of European Buckthorn from wooded areas.</p> <p>WRC: In FY2021, the WRC selected six (6) County Drains that will be treated with herbicides and two detention basins that will be treated mechanically for Phragmites australis. The drains and basins to be treated are as follows: Arthur Drain - Milford Twp Dutton Drain - Rochester Hills Sunken Bridge Drain - Bloomfield Twp Bunny Run Lake Level - Orion Twp (this site will also be treated for Japanese Knotweed) Westwind Lake Drain - West Bloomfield Twp Windridge Hills Drain - West Bloomfield Twp Minnow Pond Detention Pond Caddell Drain Detention Pond</p>
	<p>FY 2020: -A total of 715 children across Oakland County participated in the 2020 Kids' Clean Water Calendar Contest. -A total of 5,500 calendars were distributed across Oakland County. -Drawings were submitted from classes representing 18 schools (30 classes). There were also six (6) separate entries from individual residents.</p> <p>An article promoting the 2020 calendar contest was published via the online Oakland County Times on 9/21/2019 (http://oaklandcounty115.com/2019/09/21/kids-can-enter-art-contest-for-environmental-calendar-deadline-oct-4/), as well as in the Oakland Press on 9/26/2019, "Fourth and Fifth Graders Invited to Enter Calendar Contest". An article featuring the winner of the 2020 calendar contest was published in the Oakland Press on 12/21/2019. An article featuring the winners of the 2020 calendar contest were published via the online Oakland County times on 12/29/2019. The PBS program, Great Lakes Now, has been involved in the judging and promotion of the Calendar Contest. They featured details about the contest and the 2020 winner online on 1/28/2020.</p> <p>-In FY2020, there were a total of 1,338 hits to the Calendar Contest website.</p>

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Kids' Clean Water Calendar Contest	<div>FY 2021:</div> <div>-A total of 181 4th and 5th graders across Oakland County participated in the 2021 Kids' Clean Water Calendar Contest. Due to the COVID-19 pandemic and most students learning virtually, the format for submitting entries for the 2021 calendar was changed to an online format. We only received about 20% of the typical participation rate due to the format change. The change did present new opportunities though. We saw a greater diversity of schools represented and we were also able to gain insight into what the students learned by competing in the contest and that information is provided in Appendix A.</div> <div>-A total of 5,500 calendars were distributed across Oakland County. A second round of distribution took place in February and March 2021 due to demand across the country from an online website promoting free materials. An additional 2,000 calendars were printed and distributed for a total of 7,500 calendars distributed.</div> <div>-Drawings were submitted from students representing 25 schools.</div> <div>-A new website for the contest is available at oakgov.com/calendarcontest. An online gallery of the 2021 contest winners was also added and is available at: https://www.oakgov.com/water/resources/education/calendar-contest/Pages/2021.aspx</div> <div>-In FY2021, there were a total of 791 hits to the Calendar Contest website.</div> <div>2021 Calendar Press:</div> <div>- An article promoting the purpose of the contest, the 2021 winners and availabiilty of the free 2021 calendar was published in the Oakland County times on January 24, 2021: http://oaklandcounty115.com/2021/01/24/students-environmental-art-featured-on-water-resource-calendars/</div> <div>-An article was published on January 26, 2021 in the Oakland Press and is available at: https://www.theoaklandpress.com/news/local/troy-fourth-grader-wins-annual-kids-clean-water-calendar-contest/article_d9fe9580-6000-11eb-b08b-7763d298559f.html</div> <div>- An article was published on February 10, 2021 in the Troy Times and is available at: https://www.candgnews.com/news/troy-student-wins-water-resources-commission-calendar-contest-119873</div> <div>- The calendar contest winners from the Troy School District's Barnard Elementary were also featured in a Troy School District Board Meeting in March 2021. The students were honored at the meeting and were given an opportunity to share what they learned from participating in the contest. The video is accessible at http://vimeo.com/troyschools and then clicking the link to "Troy Board of Education Meeting 3/16/2021".</div> <div>- The calendar contest was featured in the Troy School District's Online Newspaper on Page 5 at: https://resources.finalsite.net/images/v1623322212/troyk12mius/rsgjnduggs8cn3owaoyq/TSDNewspaperJune2021-Vol4Issue1.pdf</div> <div>Commissioner Nash developed two commercials to air on the PBS' channel/website, Great Lakes Now, promoting the availability of the 2021 calendar. Those commercials can be viewed here:</div> <div>30-second commercial:</div> <div>https://youtu.be/DkOY1lty-3A</div> <div>15-second commmercial:</div> <div>https://youtu.be/TCXrkCUdWf4</div>
Lakefront Lifestyles Magazine Advertisements and Articles	<div>The Lakefront Lifestyles magazine gets mailed to 15,400 lakefront homeowners on any of 223 inland lakes in west and central Oakland County.</div> <div>WRC coordinated and funded the publication of the following educational advertisements in the Oakland Lakefront magazine during FY 2020/2021:</div> <div>April 2020 - Pet Care (pet waste management)</div> <div>May/June 2020 Combined Edition and September 2021 - Septic Maintenance</div> <div>July 2020/2021 - Car Care</div> <div>August 2020/2021 - Earth-Friendly Landscaping</div> <div>September 2020 and May and June 2021 - Storm Drain Awareness (Oakland County's 24-Hour Pollution Hotline is also advertised within this ad)</div> <div>-A total of \$3,975.00 was spent on ads in FY 2020 (five ads at \$795 ea.)</div> <div>-A total of \$3,975.00 was spent on ads in FY 2021 (five ads at \$795 ea.)</div> <div>Since April of 2020, MSU Extension staff (Bindu Bhakta, Erick Elgin, Jo Latimore, Paige Filice, Terry Gibb, Lois Wolfson and Ruth Kline-Robach) published seven articles highlighting upcoming MSU Extension programs, resources and water quality protection issues relevant to residents on Oakland County lakes. Topics have included using native plants along the shoreline, maintaining septic systems, drinking water, and lake processes in the winter. Each month they highlight a relevant MSU Extension resource or upcoming program, such as the Michigan Inland Lakes Convention or Introduction to Lakes Online. Articles are sometimes reused for MSUE news for further distribution to continue reaching riparian landowners in Oakland County. During FY2020-2021, MSU Extension produced 8 articles in 2020 and 9 articles in 2021. All articles are archived at the Lakefront Lifestyles magazine web site: https://www.oaklandlakefront.com/archives/. The September 1, 2021 article on septic systems, can be found here: https://www.oaklandlakefront.com/articles/home-sewage-solutions-alternative-onsite-wastewater-solutions-for-difficult-sites/</div> <div>Throughout FY 2020/2021, a total of 35 articles and ads related to water and natural resource management were published in the Lakefront Lifestyles magazine. A summary of all the ads and articles published are provided in Appendix B.</div>

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Lake Improvement Board Assistance	<p>-The WRC continues to serve as one of the members on designated Lake Improvement Boards. Within Oakland County, there are currently 46 Lake Improvement Boards that have been established to address relevant lake improvement issues, including the oversight of aquatic weed control programs, nuisance control and other riparian homeowner educational activities.</p> <p>WRC Lake Improvement Board meetings and related information are posted on the WRC Web site at: https://www.oakgov.com/water/resources/meetings/Pages/lake-improvement-board.aspx</p> <p>There were 426 website hits in FY 2020 and 678 website hits in FY 2021 to WRC's lake improvement boards website.</p>
Michigan Green Schools Program	<p>For the 2019-2020 school year, 121 Oakland County schools earned the Michigan Green School designation by participating in a minimum of 10 out of 20 environmental and/or energy saving activities. Twenty-two (22) of the schools received the special designation of Emerald Schools by successfully participating in 15-19 activities and 82 schools participated in 20 or more activities to earn the special designation of Evergreen status. An awards ceremony was unable to be held to honor the schools due to the COVID-19 pandemic. Twenty-one (21) of the 28 public school districts had schools represented. In addition, 10 of the schools were recognized for participation for all 13 years of the program, 19 schools have participated for 10 years, and 7 schools have participated for five (5) years. One new school joined the program this year.</p> <p>For the 2020-2021 school year, 77 schools were designated a Michigan Green School. There were 15 schools that also received the special designation of Emerald status by successfully earning an additional 15 points for extra activities and 39 schools earned the Evergreen status, by receiving an extra 20 points. Seventeen (17) of the 28 public school districts were represented in the program this year. Eight (8) schools have participated for all 14 years of the program, 5 schools were recognized for participating for the last 10 years, and 1 school was recognized for participating the past five years. There were three (3) new schools that joined the program. Twelve (12) schools were awarded the "Green Education Award" which was offered for schools that wanted to participate in an environmental activity but could not meet all of the Green Schools requirements due to COVID-19.</p> <p>Information on the program for Oakland County is available on Oakland Schools' Web site at: https://www.oakland.k12.mi.us/school-districts/services/environmental</p>
Natural Resources Education Program	<p>OCPRC: <i>**See also activities described under 'workshops/seminars' and 'presentations/displays'</i></p> <p>During FY2020, OCPRC hosted and/or participated in one (1) public education and outreach event (approx. 600 attendees) with water resource-related content. OCPR continues to display and distribute OCPR 'Stop Aquatic Hitchhikers' Brochures which provide ID and control information for the top AIS found at OCPR parks - Eurasian watermilfoil, purple loosestrife, curly leaf pondweed, and starry stonewort. These brochures are kept and distributed via contact stations and boathouses at parks that have public boat access.</p> <p>During FY2021, OCPR nature centers were closed until July and all major programs were cancelled due to COVID-19 restrictions. OCPR continues to display and distribute OCPR 'Stop Aquatic Hitchhikers' Brochures which provide ID and control information for the top AIS found at OCPR parks - Eurasian watermilfoil, purple loosestrife, curly leaf pondweed, and starry stonewort. These brochures are kept and distributed via contact stations and boathouses at parks that have public boat access. OCPR also operated two mobile boat wash stations across the County from late May to late September that provided educational information about aquatic invasive species including prevention, identification and decontamination practices.</p>
Oakland County Environmental Stewardship and Water Resource Websites	<p>WRC, OCPLBD, OCPRC and MSU-Extension Oakland County maintain environmental stewardship and/or water resource information on their Web sites at: OCPLBD: https://www.oakgov.com/advantageoakland/planning/environmentalstewardship/Pages/default.aspx (a total of 1,440 website hits in FY 2020 and 2021) WRC: www.oakgov.com/riparian (a total of 449 website hits in FY2020 and 2021) WRC 24-Hour Pollution Hotline: https://www.oakgov.com/water/stormwater/Pages/environmental.aspx (a total of 1,796 website hits in FY 2020 and 2021) OCPRC: https://www.oakgov.com/parks/getinvolved/Pages/Natural-Resource-Management.aspx (a total of 1,350 website hits in FY 2020 and 2021) MSU-Extension: https://www.oakgov.com/msu/programming/Pages/natural-resources.aspx (a total of 495 website hits in FY 2020 and 2021)</p> <p>In FY 2018, Oakland County Information Technology developed a Seven Simple Steps to Clean Water Story Map and that is available at: https://oakgov.maps.arcgis.com/apps/Cascade/index.html?appid=1676f95c659d408e94bf73096db93387; a link to the Story Map is on WRC's "Seven Simple Steps to Clean Water" website at: https://www.oakgov.com/water/resources/education/Pages/seven-steps.aspx. The page also promotes the 24-Hour Pollution Hotline and viewers can explore land use changes from 1940 vs. 2017 imagery within Oakland County.</p> <p>There were 144 website hits in FY 2020 and 226 website hits in FY 2021 to the WRC's Seven Simple Steps to Clean Water website. The Storymap received 159 website hits in FY 2020 and 129 hits in FY 2021.</p>

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Oakland County Trail Network (OakRoutes) Mapping	<p>-The OakRoutes map is available electronically at: https://www.oakgov.com/parks/Resources/OakRoutes%20Trail%20Map.pdf. The Oakland County 24-Hr Pollution Hotline information is on this updated map.</p> <p>-The OakRoutes map and additional Regional Trail information is highlighted on an updated website available at: https://www.oakgov.com/parks/parksandtrails/Pages/Trails.aspx.</p> <p>There were 13,930 website hits in FY 2020 and 10,493 website hits in FY 2021 to OCPRC's parks and trails website.</p> <p>-In FY 2016, Oakland County IT created an interactive Trails Map that can be found at: https://oakgov.maps.arcgis.com/apps/Profile/index.html?appid=c75cbb32f63c41d4aedb51fae76f7c22. In 2021, Countywide GIS updates were made to the Trail Path and Recreational Land feature classes.</p> <p>In FY 2018, SEMCOG completed 360-degree Mapping of several land and water trails in Oakland County.</p>
OCSC Facilitation and Participation	<p>WRC maintained correspondence with the OCSC via email related to permit compliance activities and information sharing.</p> <p>The County was issued its new MS4 permit from EGLE, effective January 1, 2021 and expiring on October 1, 2023.</p>
Onsite Sewage Disposal (Septic System) Maintenance Education	<p>OCHD: OCHD offers a septic system installer education class that instructs on the Oakland County Sanitary Code and policies related to onsite wastewater treatment systems. The class is open to contractors wishing to complete installations in Oakland County as well as private homeowners wishing to install their own septic system. There were eight (8) classes with 48 attendees in FY 2020 and 11 classes with 60 attendees in FY2021 (these numbers were lower than normal due to COVID-19).</p> <p>WRC: -An ad on Septic System Maintenance was published in the May/June 2020 and September 2021 issues of the Oakland Lakefront Lifestyles Magazine that reaches 15,400 lakefront property owners annually in Oakland County.</p> <p>MSUE: Topics covered in this programming include introduction to septic systems, proper maintenance, what to do if a system fails including discussion of alternative systems, implications of onsite wastewater on Michigan's water quality, and water conservation tips to help extend the life of onsite systems.</p> <p>In FY 2020, MSUE staff crafted an article highlighting "SepticSmart" tips that was published in the September 2020 edition of the Oakland Lakefront Lifestyles Magazine that reaches 15,400 lakefront property owners annually in Oakland County.</p> <p>In FY 2021, One stand-alone septic education program, "Protecting inland lakes: Septic system maintenance, policies, and treatment options" (Speakers: Grenetta Thomassey, Tip of the Mitt Watershed Council; Larry Stephens, Stephens Consulting Services, PC; and Regina Young, Michigan Department of Environment, Great Lakes, and Energy. Moderator: Bindu Bhakta, MSU Extension) was delivered to 41 participants and offered as part of the Michigan Inland Lakes Convention on September 18, 2020 (session recording can be found at: https://www.canr.msu.edu/michiganlakes/convention/friday_2020). Multiple round tables were held in which 90 people discussed educating homeowners about septic system management.</p> <p>In addition, MSUE helped plan and contribute educational sessions to the 2020 Michigan Onsite Wastewater Conference on January 14-16, 2020 at MSU Kellogg Center. A septic session about harmful algal blooms and nutrient impacts on septic systems was delivered to 50 participants.</p> <p>Septic content was included in the following FY2020 and FY2021 programs:</p> <ul style="list-style-type: none">- Septic information was provided via MSU Extension news articles and the Septic Education website available at: https://www.canr.msu.edu/septic_system_education/.- Introduction to Lakes Online Courses and Master Gardener Volunteer Trainings.- Several resident inquiries were fielded on various aspects of septic system management throughout the year.- Septic concepts were also taught as part of groundwater model presentations given throughout the year.- A septic system maintenance online program was held on July 20, 2021 in Mid-Michigan (Gratiot, Montcalm, and Eaton Counties) to 40 participants.

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Operation Medicine Cabinet	<p>There are currently 36 drop-off sites throughout Oakland County where unused pharmaceuticals can be properly disposed of, including the following: Oakland County Sheriff's offices (13) in Addison Twp, Brandon Twp, Commerce Twp, Highland Twp, Independence Twp, Lyon Twp, Oakland Twp, Orion Twp, Oxford Twp, Pontiac, Rochester Hills and Springfield Twp; additionally, partner law enforcement agencies Auburn Hills PD, Beverly Hills Village Dept. of Public Safety, Birmingham PD, Bloomfield Hills Dept. of Public Safety, Bloomfield Twp. PD, Clawson PD, Farmington Hills PD, Ferndale PD, Franklin PD, Hazel Park PD, Holly PD, Huntington Woods Dept. of Public Safety, Keego Harbor PD, Madison Heights PD, Oak Park PD, Rochester PD, Royal Oak PD, Southfield PD, Troy PD, West Bloomfield PD, and White Lake PD, who all serve as OMC drop-off sites.</p> <p>New in FY 2017, a GIS-based online application is available for the public to see drop-off sites throughout the county and is available at: https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=db4052d9ca5c4e1798a7dfd2a54e3c25.</p> <p>There were 2,284 website hits in FY 2020 and 2,043 in FY 2021 to the Operation Medicine Cabinet website at: https://www.oakgov.com/sheriff/Community%20Services/domestic/Pages/Operation-Medicine-Cabinet.aspx.</p>
Presentations and Displays	<p>WRC: -WRC provided displays for one (1) event in FY 2020 and one (1) event in FY 2021 that highlighted the public education programs and water resource-related programs offered by Oakland County. This number is so low due to a lack of public events being offered due to the COVID-19 pandemic. -New in FY 2010, the WRC instituted a Speaker's Bureau where interested people can ask for a WRC representative to come and talk to their civic group about one of many aspects of the work we do at WRC (with a focus on our wastewater and stormwater management programs). In FY 2020 and 2021, Commissioner Nash participated in 76 speaking engagements, reaching more than 2,400 people (and likely many more that weren't trackable due to public broadcasting venues) and sharing info on the WRC's role in protecting water resources and the environment. See Appendix C for a complete listing.</p> <p>OCPRC: • The 2020 OC CISMA-led invasive species workshop for Oakland County residents was scheduled to take place at the Waterford Oaks Activity Center in spring 2020 but was cancelled due to COVID-19. OCPR was planning to provide a table-top display that included information on the identification and management of terrestrial and aquatic invasive species along with "Stop Aquatic Hitchhikers" stickers • 1/17/20 - 1/19/20 - Fire and Ice Festival in Rochester Hills, OCPR distributed 150 copies of a Homeowners Guide to Environmentally-Friendly Winter Maintenance Practices handout (Approx. 10,000 attendees) • The 2021 OC CISMA-led invasive species workshop for Oakland County residents took place on March 19, 2021. OCPR assisted with planning and implementation of that event. • The 2021 Fire and Ice Festival in Rochester Hills where OCPR traditionally distributed Homeowners Guide to Environmentally-Friendly Winter Maintenance Practices handout was cancelled in 2021.</p> <p>OCPLBD: FY 2020: - 10/3/2019 & 1/23/2020 hosted the Trail, Water & Land Alliance (TWLA) meetings with the following topics: Michigan Air Line Trail: Building a Local Destination; Transforming Public Spaces into Edible Forests; WHO Cares! – Wildlife Habitats of Oakland; The Wilder Side of South Manitou Island; Real-Time Water Level / Water Flow Monitoring Technology in the Clinton River Watershed; Bats in our Community; SEA LIFE Michigan Aquarium Programs; Creating a Comprehensive Green Infrastructure Maintenance Program</p> <p>FY 2021: - 2/18/2021 & 6/11/2021 hosted the Trail, Water & Land Alliance (TWLA) meetings with the following topics: Oakland County Parks, Countywide Millage and Community Grant Program Update; Oakland County Cooperative Invasive Species Management Area (CISMA) Update; Oakland Township's Lost Lake Nature Park Expansion; City of Berkley Park Redevelopment & New Splash Pad; Buckthorn and Autumn Olive Eradication Without Chemicals; Prairie Restoration for Homeowners</p> <p>- PLBD Staff made a presentation at the MSU Extension's Conservation Stewards Program on Michigan Natural Features Inventory-Potential Natural Areas in Oakland County; related environmental online mapping resources.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
	<p>OCHD: OCHD distributed drinking water filters and provided public education to residents of communities that had Action Level Exceedences (ALEs) for lead in their community water supply at the following events: Birmingham City Hall 10/8/19 White Lake Municipal Building 10/11/19 Birmingham Fire Open House 10/12/19 Hazel Park City Hall 10/25/19 Oak Park City Hall 10/24/19 Royal Oak Leo Mahany/Harold Meininger Senior Community Center 10/30/19 Hazel Park/Viking Ice Arena (drive-through) 7/30/20 Royal Oak Twp 11/21/2020</p> <p>OCHD also provides drinking water filters and education at our office for residents in affected communities.</p> <p>OCHD participated in a tele-townhall event with State Senator Ruth Johnson on 9-14-2021. The topics of the event were well water quality and arsenic in well water. Approximately 200 people attended this event.</p> <p>OCHD did not conduct any educational presentations related to stormwater or onsite wastewater. The events typically attended were cancelled in 2020 and 2021 due to COVID-19.</p> <p>MSU-Extension: Educational material on a variety of topics (soil testing, inland lake management, fertilizer management, stormwater management) were provided at the Quiet Adventure Symposium on 2/29/20 to approximately 200 participants.</p>
Publicize Environmental-Related Events	- A total of 22 events were publicized on the bulletin board in the WRC lobby in FY 2020. Due to the COVID-19 pandemic in FY2021, a very limited amount of events were publicized on the bulletin board since the office was closed to the public for a good part of that time. A complete listing of these events is available upon request. Many events were shared via social media during FY 2020/2021 between WRC, OC Parks, OC CISMA and partner organizations.
	<p>OCPRC: <i>Project List - Projects that improved and/ or increased public access to freshwater resources and/ or related public education tools on freshwater ecology and storm water quality. Many projects were halted or postponed in 2020 due to staffing and budget constraints from COVID-19.</i></p> <ul style="list-style-type: none">• Independence Oaks Boathouse Deck Replacement Completion: 6/30/2020 Total Cost: \$26,000• Springfield Oaks Golf Course Culvert Replacement Completion 11/30/2019 Total Cost: \$24,000• Springfield Oaks Dam Removal Project Feasibility study completed and design phase in progress Construction Budgeted for FY2022

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Recreational Use/Access	<p>OCPRC: <i>Project List - Projects that improved and/ or increased public access to freshwater resources and/ or related public education tools on freshwater ecology and storm water quality. Many projects were halted or postponed in 2021 due to staffing and budget constraints due to ongoing COVID-19 concerns.</i></p> <ul style="list-style-type: none">• Springfield Oaks Dam Removal Feasibility Study Ongoing Total Cost: \$65,000• Springfield Oaks Dam Removal Design/Engineering Ongoing Total Cost: \$257,000 <p>OCPLBD: FY 2020: - Participated in City of Pontiac Parks & Recreation Task Force Meetings - Assisted the MI Air Line Trail with completing construction on 5.3 miles of Phase 1 Trail Development from Wixom Road to Haggerty Road - Participated on the SEMCOG Bike/Pedestrian Master Plan Task Force - Assisted Friends of the Clinton River Trail with writing grant applications to improve Pontiac section of the trail - Assisted the Polly Ann Trail with updating the 5-year Trailway Master Plan - Assisted the Paint Creek Trail with updating trail map kiosks</p> <p>FY 2021: - Participated in Healthy Pontiac, We Can Coalition Meetings - Assisted the MI Air Line Trail with grant writing and also the design engineering portion of Phase 2 trail development that will include 2.4 miles of new shared use path that extends from Old Plank Road to Wixom Road. Construction is anticipated in FY2022. - Participated on the DNR's Nonmotorized Advisory Workgroup - Participated in the design engineering process for the Pontiac - Clinton River Trail Maintenance Improvements project with the Friends of the Clinton River Trail. Construction is anticipated in FY2022. - Assisted the City of Pontiac with updating the 5-year Parks & Recreation Master Plan</p>
Recreational Vehicle Waste Dumpsites	<p>The WRMD website has a link to RV dumpsites in MI and is available at: https://www.oakgov.com/advantageoakland/planning/Pages/waste-recycling-resources.aspx (under the "Statewide" dropdown, then click on "Recreational Vehicle Dump Stations in Michigan").</p> <p>There were 2,639 website hits in FY2020 and 2,732 website hits in FY2021 to the County's Waste and Recycling Resources website.</p>
Regional Public Education Efforts	<p>The WRC Environmental Team staff regularly attend meetings of the Southeast Michigan Partners for Clean Water. Material developed through the Ours to Protect campaign is used in ongoing public education efforts. A Web site for the public education campaign has been developed and is located at: www.semco.org. The Web site includes actions the public can take to protect our water resources. The WRC has a direct link to information on the Seven Simple Steps to Clean Water on its homepage at: http://www.oakgov.com/water/. Oakland County is an active member of SEMCOG and provides ongoing financial support to continue these regional educational programs.</p> <p>SEMCOG is a crucial partner to the County in implementing the Phase II stormwater permit. A complete listing of all of SEMCOG's supporting programs can be found in Appendix D, "Southeast Michigan Partners for Clean Water Community Annual Report Information, Sept. 2019- Sept. 2020".</p> <p>In a partnership between SEMCOG, the Great Lakes Water Authority and the Cranbrook Institute of Science, a regional public education campaign was unveiled in FY 2019 called "One Water". The goal of the campaign is to bring greater awareness of the connection between our drinking water, wastewater and stormwater systems and how it is all "One Water" and a resource that must be cared for with a shared responsibility. The tools of that campaign include: educational videos, Public Service Announcements on television and radio, billboard advertisements, tip cards, a blog series (one article on each topic of stormwater, wastewater and drinking water), an online resource center and giveaways including FOG disposal bags, reusable water bottles and pet waste baggies. The resource materials are available online at: mionewater.com.</p> <p>Commissioner Nash was featured in a OneWater video highlighting programs and best practices in Oakland County and is available online at: https://www.youtube.com/watch?v=W0JHQ1XSNml. As of September 30, 2021, the video has received 109 views.</p>
Regional Stormwater Summit	<p>For FY 2020, the 7th Annual Stormwater Summit was held on October 3, 2019 with approximately 250 attendees.</p> <p>-The agenda that identifies the featured speakers and topics presented and all PowerPoints and taped video of the event are available at: http://pureoaklandwater.org/resources.</p>

Action/Activity	<p>Oakland CDC MS4</p> <p>NPDES Permit No. MI0060089</p> <p>FY 2020/2021</p> <p>Measurables</p> <p>(October 1, 2019 - September 30, 2021)</p>	
	Due to the COVID-19 pandemic, the event did not take place in FY 2021.	
Riparian Information Distribution	<p>-To date, more than 17,000 Waterfront Wisdom booklets have been distributed. An excel spreadsheet that details the distribution list is available upon request</p> <p>-There were 226 website hits during FY 2020 and 223 website hits in FY 2021 to WRC's website on riparian education.</p>	
River Day Events	<p>WRC: The 7th annual Art Fish Fun Festival was cancelled for FY 2020 due to the COVID 19 pandemic. In FY 2021, the festival was held on June 12, 2021 in a modified format with the distribution of 100 "Craft Kits" for kids with environmental-themed art activities and information throughout the community. A park cleanup was also held with 14 volunteers attending. This event was also featured as part of the Clinton River Watershed Council's River Day activities. The festival was hosted in collaboration with WRC, Pure Oakland Water, Clinton River Watershed Council, The Art Experience and the City of Pontiac.</p> <p>OCPRC: OCPR did not participate in 2020 River Day Events. Affiliated groups, Cranbrook Freshwater Forum and Slow Row Lake Orion, held a 'kayak-powered' lake clean-up at Orion Oaks, Lake Sixteen 6/13/20 - 11AM - 1PM. Attendance/ participation unknown. OCPR did not participate in any River Day events in FY 2021.</p>	
	<p>CRWC: In FY2020, the CRWC coordinated 5 recreation and stewardship events on River Day, Saturday June 13th, 2020, including CRWC's 2nd annual native plant sale. Approximately 156 people attended these events and 146 T-shirts were distributed to the public. Due to precautions surrounding the spread of COVID-19, many of the regularly occurring River Day events were cancelled.</p> <p>In FY2021, the CRWC coordinated 11 recreation and stewardship events on River Day, Saturday, June 12th, 2021. There were approximately 1,100 attendees watershed-wide, and 420 T-shirts were distributed to the public. CRWC hosted a native plant sale in partnership with Plants for Ecology. Orders were pre-sale only with nearly 700 plants sold and approx. \$500 generated for CRWC. Other River Day activities included fishing derby's, paddling excursions, invasive species removal, trash cleanup, native plants sales and more.</p>	
School Program - Clinton River Water Festival at Oakland University	Due to the COVID-19 pandemic, the FY 2020 festival scheduled for May 15, 2020 had to be cancelled.	
	Due to the COVID-19 pandemic, the FY 2021 festival had to be cancelled.	
School Program - Detroit River Water Festival on Belle Isle in Detroit	Held on October 16 and 17, 2019 on Belle Isle in Detroit. The festival was open to 7th graders in the Detroit Public Schools.	
	<p>WRC staff presented the following at this years event: Dirt Doctors: Three staff members presented Dirt Doctors to 8 classes, approximately 360 students and 8 teachers. Enviroscape: One staff memeber presented to 8 classes, approximately 240 students and 14 teachers/chaperones.</p> <p>The FY 2021 event had to be cancelled due to the COVID-19 pandemic.</p>	
School Program - Lake Erie Water Festival at IHM Motherhouse in Monroe	The FY 2020 event scheduled for May 19, 2020 had to be cancelled due to the COVID-19 pandemic.	
	The FY 2021 event was held virtually in May 2021. The WRC provided a link to its online Dirt Doctors and Enviroscope Watershed Model programs. Related lesson plans were also provided to teachers and are available via Google Drive at: https://drive.google.com/drive/folders/1xoVd28-8mxnc0iTjeEnXUimFIAimLzAb	
School Program - Lake St. Clair Water Festival at Macomb Community College	The FY 2020 event scheduled for May 12, 2020 had to be cancelled due to the COVID-19 pandemic.	
	The FY 2021 event was held virtually on May 11, 2021. A resource guide was provided to participating teachers. The WRC provided a link to its online Dirt Doctors and Enviroscope Watershed Model programs. A total of 49 teachers received the resource guide; at an estimated 30 students per teacher, it's estimated that approximately 120 students were able to view the virtual programming.	
School Program - Raisin River Water Festival	Held virtually in May 2021 for Lenawee County Schools, WRC staff provided links to their online Dirt Doctors and Enviroscope Watershed Model Presentations. The WRC also provided staff for a live Q&A session for students on May 27, 2021 after they viewed the programs. The Q&A for the Enviroscope Watershed Model can be viewed on YouTube at: https://www.youtube.com/watch?v=cYu7bOXWTx4 . Related lesson plans were also provided to teachers and are available via Google Drive at: https://drive.google.com/drive/folders/1xoVd28-8mxnc0iTjeEnXUimFIAimLzAb	

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School Program - Rouge River Water Festival at Cranbrook Institute of Science	<p>Due to the COVID-19 pandemic, the 2020 festival was held as a virtual event on October 20-23, 2020. The WRC partnered with the Cranbrook Institute of Science to present the Water Festival for the Oakland County portion of the Rouge River Watershed. The 18th annual Cranbrook Water Festival provided an educational and enjoyable learning experience that supports the objectives of school science programs for fourth and fifth grade students despite the format change.</p> <p>Presenters from 14 different organizations donated video presentations and resources covering topics related to water quality, watershed health, wildlife, and pollution prevention. Four lesson plans for use during the school year were also provided, along with the materials needed to complete these lessons. Fifty-nine (59) teachers from 21 schools within the Rouge River Watershed participated each day, reaching a total of 1,561 students. An additional 14 schools and organizations, totaling 310 individuals, from outside of the watershed attending Zoom presentations, resulting in a daily attendance of ~1,800 participants. The virtual demonstrations provided by CIS staff are available online here.</p> <p>WRC, OCPRC and MSU-Extension Oakland County provided virtual programming to virtual attendees. MSU-Extension provided a video of their groundwater model (located here: https://mediaspace.msu.edu/id/1_9vwq3qh8) for use at the virtual Rouge River Water Festival in Fall 2020 and Fall 2021.</p>
School Program - U of M Dearborn Water Festival	<p>Due to the COVID-19 pandemic, the FY 2020 festival scheduled for April 30, 2020 had to be cancelled and the event did not take place in FY 2021.</p>
Solid Waste Plan	<p>In FY 2014, the County went through the solid waste plan amendment process and approved an amendment to the Oakland County Solid Waste Plan to include a proposed transfer station in Pontiac. The amendment received final approval from the Michigan Department of Environmental Quality in FY 2015. At this point there is no plan to do a full update to the Oakland County Solid Waste Plan unless the need arises and/or the WRMD is instructed to do so by the State of Michigan. Information on the County's Solid Waste Plan is available at: https://www.oakgov.com/advantageoakland/planning/wasteandrecycling/Pages/Solid-Waste-Plan.aspx.</p> <p>There were 493 website hits in FY 2020 and 453 website hits in FY 2021 to the County's Solid Waste Plan website.</p>
Storm Drain Markers/Stenciling Program	<p>There were no additional storm drain markers installed on the County Campus in FY 2020/2021.</p> <p>In FY 2020, one inquiry about storm drain markers was made by a resident in West Bloomfield Twp after seeing WRC's ad in the Oakland Lakefront Lifestyles magazine on the topic of "Storm Drain Awareness". WRC provided contact information for the Huron River Watershed Council's Storm Drain Labeling program since the resident resided within the Huron River watershed.</p> <p>In FY 2021, one inquiry about storm drain stencils was made by residents of Lake Oakland. They were put in touch with the Clinton River Watershed Council that has a stencil entitled, "Only rain down the drain" that folks are able to borrow.</p> <p>-WRC Storm Drain Manhole Cover specifications were updated in FY 2010 and now require that all new storm drain manhole covers are stamped with the message "Stormwater Only - Dump No Waste! Drains to Waterway!" and has a custom logo showing a heron, frog and fish.</p>
Watershed Group/CVT Support	<p>WRC staff regularly attend SEMCOG's Southeast Michigan Partners for Clean Water meetings.</p> <p>WRC staff send numerous emails to watershed group/stormwater contacts to help publicize upcoming events related to water-resource management. In FY 2020/2021, a total of 8 emails were sent to watershed/stormwater contacts promoting various educational/stormwater-related events/opportunities.</p> <p>Oakland County provides a summary to communities to supplement their stormwater reporting. A digital copy of the summary provided for FY 2020/FY 2021 is available at: https://www.oakgov.com/water/stormwater/Pages/stormwater-reports.aspx.</p> <p>There were 391 website hits in FY 2020 and 270 in FY 2021 to the WRC's Phase II Stormwater website.</p>
Technical Support	<p>-WRC staff responded to 11 different requests for information throughout FY 2020/2021. An excel spreadsheet that summarizes all of the information requests is available upon request.</p> <p>Oakland County provides a summary to communities to supplement their stormwater reporting. A link to access the summary provided for FY 2020/2021 is: https://www.oakgov.com/water/stormwater/Pages/stormwater-reports.aspx</p>

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Wastewater Treatment Plant/RTB Tours	<p>WRC:</p> <p>Throughout FY 2020/2021, the WRC hosted the following tours of its wastewater treatment plants:</p> <ul style="list-style-type: none">- 3 tours of its Clinton River Water Resource Recovery Facility in Pontiac reached approximately 53 students/visitors. A tour of the CRWRRF's new Thermal Hydrolysis Processing area and the rest of the plant was also provided during the MWEA's Sustainable Process Seminar on April 2, 2020.- 3 tours of its Walled Lake-Novı WWTP facility and reached approximately 57 students/visitors <p>The WRC also has some videos explaining the processes that takes place at a wastewater treatment plant on its "Water Education Playlist available here: https://www.oakgov.com/water/resources/Pages/Videos.aspx</p>
Watershed Council Support	<p>In FY 2020/2021, the WRC contributed the following in annual membership dues:</p> <ul style="list-style-type: none">-Clinton River Watershed Council: \$10,250.00 + \$10,250.00 = \$20,500.00-Huron River Watershed Council: \$8,730.12 + \$8,730.12 = \$17,460.24
Watershed Signage	<p>To date, the WRC has helped coordinate the purchase and installation of more than 650 watershed signs throughout the Flint, Clinton, Rouge and Huron River Watersheds in Oakland County, including:</p> <ul style="list-style-type: none">• 215 signs throughout the Huron, Clinton and Flint Watersheds in 2007-2008• 206 Clinton River Watershed signs in 2005• 230 Rouge River Watershed signs in 2001-2003 <p>The Alliance of Rouge Communities staff are currently conducting a watershed signage inventory in the Rouge River watershed to see where signs may need to be replaced or added in the watershed.</p>
	<p>WRC:</p> <ul style="list-style-type: none">• 12/3/2019 - One WRC staffer attended the MWEA Watershed and Stormwater Seminar in East Lansing. Topics included SEMCOG's One Water Campaign, IDEP Work in the Rouge River Watershed, SEMCOG's Climate Resiliency and Flooding Assessment Tool, and the Adventure Down the Missouri River for 'Water for People'• 12/5/2019 - One WRC staffer attended the Green Infrastructure Leadership Exchange's "Climate Change & Possibility Thinking: Cities, GI & Equity" Webinar• 1/15/2020 - 11 WRC staffers and 5 OCFM staffers attended the "Integrating Green Infrastructure - Approaches and Case Studies" Lunch & Learn presented by Environmental Consulting & Technologies, Inc.• 1/21/2020 - Five WRC staffers attended the EPA's "Straight Scoop on Integrated Planning" Webcast which covered integrated planning strategies for stormwater and wastewater systems for NPDES permittees.• 1/28/2020 - Five WRC staffers attedned the Great Lakes Stormwater Collaborative's "Permeable Pavement Performance Research" webinar• 4/9/2020 - One WRC staffer attended the EPA's Soak up the Rain Webinar Series, "Living Shorelines: Slowing Coastal Erosion and Saving Connecticut Habitats"• 4/30/2020 - One WRC staffer attended the Great Lakes Stormwater Collaborative's "Municipal Stormwater Management" webinar• 5/7/2020 - One WRC staffer attended the EPA's Soak up the Rain Webinar Series, "Effective Public Outreach in Massachusetts MS4 Communities"• 5/20/2020 - One WRC staffer attended the Maine Lakes Wednesary Webinar Series, 'Clear Vision for Clean Lakes' on the topic of "Optical Brighteners, Septic Systems and Lakes"• 5/27/2020 - One WRC staffer attended the Maine Lakes Wednesary Webinar Series, 'Clear Vision for Clean Lakes' on the topic of "Native Plants for LakeSmart Landscaping"• 6/11/2020 - One WRC staffer attended the EPA's Soak up the Rain Webinar Series, "Community Buy-in for Stormwater Funding: An EPA Roundtable Series"• 6/11/2020 - One WRC staffer attended the DC Water's "Green Infrastructure Practicability" Webinar• 6/17/2020 - One WRC staffer attended the NAISMA's "Making Educational Signage that People Actually Read, According to the Experts" webinar• 7/15, 22, 29 and 8/5/2020 - One WRC staffer attended the MWEA Virtual Watershed Summit series. Topics included an update from EGLE's Water Resources Division, Natural Channel Design Project, the Decennial Grand River Expedition, Managing Water Resources in Michigan by Watersheds, Funding for Conservation Practices to Reduce Phosphorus, Michigan Water School overview and Protecting and Restoring Inland Lake Shoreland Habitat• 7/8/2020 - One WRC staffer attended the EPA's Soak up the Rain Webinar Series "Redefining Urban Space: Site Remediation and Green Infrastructure Practices on Contaminated Properties in Lawrence, MA"• 7/30/2020 - One WRC staffer attended U of M's School for Environment and Sustainability webinar, "Exploring the Application of Field-Deployed Optical Sensors for Real-Time Indication of Fecal Contamination in the Clinton River Watershed"• 8/10/2020 - One WRC staffer attended SEMCOG's "Exploring Great Lakes and Fresh Water Week" Webinar• 9/22/2020 - One WRC staffer attended the IJC's "Interacting Ecosystem Stressors in the Great Lakes" Webinar• 10/7/2020 - One WRC staffer attended the NMSA's "Stormwater Pond Webcast Series Part 3 - Technologies and Pond Corrections/Enhancements" webinar• 10/28/2020 - One WRC staffer attended the NAISMA's "North American Weed Biocontrol Summit" webinar• 11/18/2020 - One WRC staffer attended the Friends of the Detroit River's "Coastal Wetlands and Climate Change" webinar• 11/20/2020 - One WRC staffer attended the GLWA Watershed Hub Stakeholder Group Webinar to learn about the workgroup's background and overview, GLWA's Water Quality Monitoring Program and proposed GIS Map and Datamart Online Applications

Action/Activity	<div>Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)</div>
Workshops/Seminars/ Webinars	<ul style="list-style-type: none">• 12/2/2020 - One WRC staffer attended SEMCOG's "The State of the Strait" webinar• 3/19/2021 - One WRC staffer attended WaterWorld Webcasts, "Cultivating Success: Using Vegetation to Manage Stormwater and Protect Water Quality"• 4/1/2021 - One WRC staffer attended the "2021 Virtual Green Your Neighborhood Community Forum" webinar with a focus on Green Infrastructure in Placemaking Projects• 4/6, 13, 20 and 27/2021 - One WRC staffer attended the Great Lakes Regional Sediment Management Team's webinar series with topics on "Urban Stormwater and Green Infrastructure", "Coastal Systems and Sediment Transport", "Habitat and Restoration" and "Agricultural Nonpoint Source Runoff"• 4/20/2021 - One WRC staffer attended EGLE's NotMiSpecies "Not in MI Waters: Responding to watchlist aquatic plants in Michigan" webinar• 4/22/2021 - One WRC staffer attended EGLE's "Michigan Earth Day 2021 Student Webinar - Protecting and Restoring Our Environment" with topics on climate change, drinking water and contaminated properties• 4/20, 22, 27 and 29/2021 - One WRC staffer attended the MWEA 2021 Virtual Watershed Summit series. Topics included West MI Sustainable Watershed Funding Project, Watershed Assessment of Detroit River Loads to Lake Erie, Microplastics Project, Michigan PFAS Action Response Team (MPART), and How to Manage Road Crossings for Watershed Health• 6/8/2021 - One WRC staffer attended EPA's Soak up the Rain Webinar, "Managing Phosphorus Pollution with Stormwater Bioretention Systems: A Soil Study"• 6/17/2021 - One WRC staffer attended the CRWC's Stormwater Forum webinar on the topic of green stormwater infrastructure design and native landscaping• 6/18/2021 - One WRC staffer attended Stormwater Magazine's webinar, "Getting Smart about Stormwater" which explores the use of "smart" stormwater technologies to manage stormwater• 6/24/2021 - One WRC staffer attended EGLE's NotMiSpecies "Big, hungry fish: What's being done to prevent invasive bighead, silver and black carp from entering the Great Lakes" webinar• 6/30/2021 - One WRC staffer attended EPA's Water Research Webinar Series, "Road Salts and Freshwater Salinization Syndrome: An Emerging Water Quality Threat"• 7/21/202 - One WRC staffer attended NAISMA's webinar "Best Management Practices for Pesticide Applications"• 7/27/2021 - One WRC staffer attended EGLE's NotMiSpecies "Hey! What's that in your backyard? An introduction to Michigan's CISMAs" webinar• 7/28/2021 - One WRC staffer attended EPA's Soak up the Rain Webinar, "Phytotechnology: a Nature-Based Approach to Containing Contamination"• 8/5/2021 - One WRC staffer attended EPA's webinar, "The Pathway to Green and Complete Streets: Steps, Success Stories and Lessons Learned"• 8/24/2021 - One WRC staffer attended the EPA's Soak up the Rain Webinar, "Addressing Stormwater Flooding through Resilience Action Strategies and Sustainable Financing"• 8/25/2021 - One WRC staffer attended EGLE's webinar "Release Reporting Regulations in Michigan"• 8/26/2021 - One WRC staffer attended GLWA's Watershed Hub Stakeholder Webinar that covered new MS4 and Collection System Permits (EGLE), GLWA and SEMCOG's efforts related to climate, rainfall and flooding and an update on the proposed regional Water Quality Monitoring initiative• 8/27/2021 - One WRC staffer attended the MEC's webinar "Green Infrastructure with Congressman Kildee"• 9/16/2021 - Two WRC staffers attended the CRWC's Stormwater Forum webinar on the topic of aquatic invasive species (Presenter: Tom Alwin, EGLE)• 9/20/2021 - Three WRC staffers attended the SE MI GSI Collaborative Focus Group meeting in Plymouth to discuss how partners in SE MI can help develop products and services to promote, install, inspect and maintain green stormwater infrastructure (GSI)• 9/23/2021 - Two WRC staffers attended the CWP webcast, "Tracking Bacteria in Stormwater Runoff During Dry & Wet Weather"• 9/23/2021 - Two WRC staffers attended the EPA webinar, "Quantifying and Monetizing the Triple Bottom Line Benefits of Green Stormwater Infrastructure"
	<p>OCPR staff provided and/ or partnered with other organizations to provide the following outreach and education programs that promoted best practices for protecting water quality and/ or freshwater resources during FY 2020:</p> <ul style="list-style-type: none">• OCPR Vernal Pools Volunteers - All Citizen Science/volunteer programs were cancelled in 2020 due to COVID-19, hopefully this program will resume in 2021.• 1/18 - 1/20/19 - Rochester Fire and Ice Festival - OCPR staff distributed approx. 150 copies of "CRWC's Citizen's Guide to Cold Weather Practices".• OCPR did not host its annual fishing derby or participate in any water festivals in 2020 due to COVID-19 restrictions.• 8/3/2020: Social media video focused on water quality and macroinvertebrates
	<p>OCPR staff provided and/ or partnered with other organizations to provide the following outreach and education programs that promoted best practices for protecting water quality and/ or freshwater resources during FY 2021:</p> <ul style="list-style-type: none">• 10/10/2020 - Trailblazer Hike at Waterford Oaks County Parks, focused on stormater management and wetlands. Approximately 5 participants.• 10/10/2020- Wint Nature Center hosted a field trip for Clarkston High School focuseed on wetlands and macroinvertebrates• OCPR Vernal Pools Volunteers - All Citizen Science/volunteer programs were cancelled in 2020 and 2021 due to COVID-19, hopefully additional programming will resume in 2022.• 2/13, 2/15, 2/21: OCPR hosted three ice fishing events with approximately 40, 15 and 30 people respectively.• 8/28/2021 - OCPR nature center staff hosted an event with the Clinton River Watershed Council focused on native plants for pollinators and water quality. Approximately 13 attendees.• 9/18/2021- OCPR nature center staff hosted an event with the Clinton River Watershed Counci focused on native plants for pollinators and water quality. Approximately 20 attendees.• 7/21/2021- OCPR nature center staff presented to the Lyon Township Library about native versus invasive plantings in residential landscapes. Approximately 20 attendees.• 5/30/2021- OCPR nature center staff presented to the Madison Heights Environmental Citizens Committee about pollinators and seed balls for children. Approximately 50 attendees.

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
	<p>Staff training opportunities were limited in 2021 due to the COVID Pandemic, reduced staffing and offerings. OCPR staff remain compliant with required licenses for job tasks including but not limited to: pesticide application, underground storage tanks, CDL, etc.</p> <p>Staff attended the following trainings in FY2021:</p> <ul style="list-style-type: none">• MSU Virtual Turf School Dec 15 - 5 staff• Stewardship Network Conference, Jan 8, 2021 - 4 staff• MSU Lakes Ecology, Jan 19, 2021 - 1 staff• GLTE, Jan 27, 2021 – 1 staff• Michigan Turfgrass Foundation, Annual Conference, Lansing - 2 staff• MParks Virtual Annual Conference, Jan. 28-31, Novi - 21 staff• Wildflower Association of MI, 1 staff• Michigan Wetlands Association Shrub ID (Aug 13-14) 3 staff and Winter Woody Plants Nov) - 2 staff
Illicit Discharge Elimination Plan	
Adopt-A-Road/Adopt-a-Highway Clean-up Program	<p>OCFM participated in MDOT's Adopt-a-Highway program beginning in FY 2012. They adopted Telegraph Rd between Dixie Highway and Elizabeth Lake Roads.</p> <p>In FY 2020, one (1) clean-up event took place: -October 3, 2020 with 12 bags of trash collected by 5 volunteers (a total of approximately 0.72 cubic yards of trash in FY 2020 collected).</p> <p>In FY 2021, one (1) clean-up event took place: -April 17, 2021 with 18 bags of trash collected and 5 volunteers (a total of approximately 0.93 cubic yards of trash in FY 2021 collected).</p> <p>The WRC adopted a one-mile stretch of Pontiac Lake Road from Telegraph to Scott Lake Road in FY 2011. There were no cleanup events in FY2020 or 2021 due to the COVID-19 pandemic.</p>
Beach Monitoring Program	<p>In FY2020, a total of 100 beaches on 67 different lakes were sampled for E. coli. The primary sampling program lasted 10 weeks and began the week of June 8, 2020. A total of 1,014 sampling events were conducted between June 8 and August 14, 2020 (one beach was sampled through August 19 and one through September 3 due to persistent elevated results. An additional beach was sampled twice after August 14 due to a complaint. These extended activities consisted of an additional 17 sampling events.) A list of beaches sampled is available online at: https://www.oakgov.com/health/Documents/Sharepoint%20beach%20list.pdf.</p> <p>At the beginning of each bathing beach season, OCHD sends notifications to the individual cities, villages or townships in which the beach is located as notification that sampling will occur. These same letters are also mailed to the contact person on record for the individual bathing beaches.</p> <p>There were 10 beaches closed during the 2020 season. Some beaches were closed multiple times, and length of closure varied from 1 day to several weeks. Beach closure information is available online at: https://www.oakgov.com/health/services/Documents/9-1-20%20Historically%20Closed%20Beaches.pdf</p> <p>There were 8,066 website hits in FY 2020 to the OCHD's Beach Monitoring Program website.</p> <p>In FY2021, a total of 100 beaches on 64 different lakes were sampled for E. coli. The primary sampling program lasted 10 weeks and began the week of June 7, 2021. A total of 1,109 sampling events were conducted between June 8 and August 13, 2021 (one beach was sampled through August 16, one through August 23, one through September 2, one through September 14, and one through September 15 due to persistent elevated results. An additional beach was sampled twice after August 13 due to a complaint. These extended activities consisted of an additional 48 sampling events.) A list of beaches sampled is available online at: https://www.oakgov.com/health/services/environmental-health/PublishingImages/Pages/beaches/2021%20Beach%20List.pdf.</p> <p>At the beginning of each bathing beach season, OCHD sends notifications to the individual cities, villages or townships in which the beach is located as notification that sampling will occur. These same letters are also mailed to the contact person on record for the individual bathing beaches.</p> <p>There were 35 beaches closed during the 2021 season. Some beaches were closed multiple times, and length of closure varied from 1 day to months. Beach closure information is available online at: https://www.oakgov.com/health/services/environmental-health/Documents/11-5-21%20Historically%20Closed.pdf.</p> <p>Additional details about which lakes are monitored and the closed beaches can be found online at: https://www.oakgov.com/health/services/environmental-health/Pages/beaches.aspx</p> <p>The Health Department also allows residents to bring in their own samples for testing and the results will be provided for a nominal fee.</p> <p>There were 5,411 website hits in FY 2021 to the OCHD's Beach Monitoring Program website.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Complaint Tracking, Investigation and Notification and Reporting	<p>WRC: The WRC received 83 complaints throughout 23 communities during FY 2020/2021. Complaint investigations resulted in the identification of 35 illicit discharge sources, 33 of which have been eliminated by FY 2021. See Appendix E for the WRC Pollution Hotline Complaint Summary Tables.</p> <p>OCHD: The OCHD acted on 99 septic-related customer complaints in FY 2020 and 78 septic-related complaints in FY 2021, as reported to EGLE.</p> <p>The Oakland County 24-Hour Pollution Hotline was promoted in the following ways in FY 2020/21:</p> <ul style="list-style-type: none">-Published on WRC's "Contacts" page at: https://www.oakgov.com/water/about/Pages/contact.aspx and at: https://www.oakgov.com/water/stormwater/Pages/environmental.aspx-Published in WRC E-newsletter that gets sent quarterly to elected officials throughout Oakland County communities-Published in WRC's Waterfront Wisdom publication-Published in WRC's annual Kids' Clean Water Calendar-Published in the Fishing Opportunities in Oakland County Poster-Hotline brochures are distributed throughout the year to CVTs at SWAG meetings and at special events-Information about the hotline are shared during presentations at water festivals (Rouge River, Lake St. Clair and Clinton River water festivals) and public education presentations
Combined Sewer Overflow (CSO) Retention Treatment Basin (RTB) Operation	<p>The WRC operates and maintains the Acacia Park, Birmingham, Bloomfield Village, and George W. Kuhn Retention Treatment Basins (RTBs).</p> <p>For FY 2020, approximately 2,563.35 million gallons (MG) of treated combined sewage was discharged from the four RTBs during 25 Permitted Treated Discharges (PTDs). During this period, all but two (92%) of the PTDs were in compliance with permit limitations and 2,888.78 MG of combined sewage was retained and dewatered from these four facilities.</p> <p>For FY 2021, approximately 2,954.67 MG of treated combined sewage was discharged from the four RTBs during 20 Permitted Treated Discharges (PTDs). During this period, all but three (85%) of the PTDs were in compliance with permit limitations and 3,749.04 MG of combined sewage was retained and dewatered from these four facilities.</p> <p>The WRC has prepared a Public Notification Plan (PNP), dated Aug. 3, 2018, for CSOs in the Red Run Drain and Rouge River in accordance with their NPDES permits and 40 CFR Part 122.38(c). The PNP describes how WRC insures that the public receives adequate notification of CSO occurrences and impacts from its combined sewer system. The plan is available online at: https://www.oakgov.com/water/wastewater/rtb/Pages/cso.aspx.</p> <p>WRC remains committed to continued water resource protection and preservation.</p> <p>There were a total of 177 website hits in FY 2020 and 270 website hits in FY 2021 to WRC's RTB website.</p>
	<p>WRC: During FY 2020, WRC performed 5,183 inspections on structures located along 112 county drains in 23 communities in four watersheds (the Clinton, Huron, Rouge and Flint). A total of eight (8) drains were identified with suspect discharges. All 8 drains were investigated and one (1) illicit discharge was discovered. The source of this discharge was found to be a misconnected septic system to the Claude H. Stevens No. 4 Drain and was corrected in FY 2020.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
IDEP Investigations	<p>During FY 2021, surveys and dry weather screening were conducted at 6,023 outfalls/discharge points on 117 County Drains in fifteen (15) communities in the Clinton, Huron and Rouge River watersheds. See Appendix F for the Dry Weather Screening and IDEP Investigations Summary Tables. Based on the screening and sampling data, 102 of the 117 Drains were eliminated as having suspected sources of illicit discharges and follow-up investigations were conducted on fifteen (15) County Drains that indicated a high probability of dry weather illicit discharges including the Fracassi and Owens Drains in Southfield, the Claude H. Stevens 3 & 4 in Bloomfield Twp, the Sharkey Drain in Madison Heights, the Kutchey Drain in Hazel Park, and Clark and Leonard Drains in the Village of Leonard.</p> <p>In spring FY 2021, the Village of Leonard requested sampling of the Clark and Leonard Drains to obtain data as part of an application for a community sanitary treatment facility. The Village has a history of failed septic fields and illicit discharges which have been corrected in the past. Sampling in April 2021 came up with low counts of <i>E. coli</i> , but return sampling in July 2021 produced high numbers in both the Clark and Leonard Drains. The Clark Drain had high <i>E. coli</i> and high traces of Human DNA at the southwest corner of Forest and Elmwood and the Leonard Drain had high <i>E. coli</i> and high traces of Human DNA behind the Addison Township Fire Department which is where the drain daylights from the enclosed portion in the Village. These results were passed along to the Village and their consultant and WRC will do follow up in 2022.</p> <p>WRC continued work in FY 2021 with a consultant on wet weather sampling throughout the Red Run and Bear Creek Watersheds. In May 2021, a wet weather event produced high <i>E. coli</i> and traces of Human DNA on the Sharkey Inter-County Drain on Frazho east of I-696. Follow up dry weather sampling in June confirmed elevated numbers along Lincoln and Dequindre Roads in the City of Madison Heights. During the same wet weather event in June, high <i>E. coli</i> and Human DNA was also identified on the Kutchey Inter-County Drain on Stephens Road just east of Dequindre Road. The local storm system in the City of Hazel Park has historical high <i>E. coli</i> values and work will take place in 2022 to investigate and resolve the high counts.</p> <p>Follow-up IDEP investigation work was conducted on drains in the Rouge Watershed as a continuation of previous Rouge ARC IDEP-funded projects. Follow-up sampling in August 2021 on the Fracassi Drain at Indian Street produced elevated numbers of <i>E. coli</i> . While lower than previous years, continued investigation and coordination with the City of Southfield will continue into 2022. Follow-up sampling also took place on the Claude H. Stevens No. 3 Drain in September 2021. Elevated numbers continued in the structures along Charing Cross with evidence of animal feces. It was recommended that grates be placed at the inlets to prevent animals from entering. Resampling will take place in 2022. Sampling along the Eight Mile Drain has been completed the last couple years. July through September sampling was focused on the Owens and Flannery Drains which are tributary to the Eight Mile Drain. A structure on the Flannery just east of Mapleridge had elevated <i>E. coli</i> numbers and will be resampled and investigated in 2022. A segment of the Owens that goes north along Mapleridge had low levels of <i>E. coli</i> . A secondary segment of the Owens further west was investigated as well. During sampling it was noted that there was a significant number of feral cats around a pile of pallets along with cat food at 21655 Melrose. A structure of the Owens Drain was buried underneath. The issue was forwarded to the City of Southfield. <i>E. coli</i> levels upstream and downstream were only slightly elevated. WRC Drain Maintenance staff will follow up in 2022 to uncover the structure. Further upstream of that segment an area southeast of the intersection of 9 Mile Road and Evergreen sampling in August and September produced high <i>E. coli</i> levels. A second round of sampling just north of 9 Mile Road with MST identified high levels of both <i>E. coli</i> and Human DNA. Follow up CCTV identified an illicit discharge at 19244 9 Mile Road. Resolution of the illicit connection is currently in progress and follow up sampling of the area will take place in 2022.</p> <p>OCPRC and OCFM: There were no IDEP incidents or investigations in FY 2020 or 2021.</p>
IDEP Training	<p>WRC: FY 2020: • October 2019 - Training on IDEP Investigator-level and general Stormwater Pollution Prevention awareness, IDEP and Pollution Prevention and Good Housekeeping was held in partnership with SEMCOG, the ARC, and Oakland, Macomb and Wayne Counties at Schoolcraft College in Livonia. The following County staff attended the general awareness training session: OCFM Grounds Maintenance - 2 staff members; The following County staff attended the Investigator-level IDEP training: OCPRC - 7 staff members; WRC - 3 staff members; one WRC staff member also assisted with the training session. FY 2021: • SEMCOG hosted the FY 2021 IDEP Awareness training virtually via its SEMCOG University. Three (3) WRC staffers attended. The training is available on-demand via YouTube at: https://www.youtube.com/watch?v=3JJSbsvO99Q</p> <p>OCPRC: • FY 2020 and FY 2021 Safety Training Packets containing Stormwater Pollution Prevention Good Housekeeping, and Spill Response and Safety Measure Protocols were provided to all park supervisors in fall 2020 and May 2021 along with a packet including the following; Overview of the Oakland County Phase II Permit; Overview of potential maintenance facility environmental emergencies and facility response plans; List of vendors for spill response kits; Overview of the MI Turfgrass Environmental Stewardship Program; OCPR Surface Water Pollution Response Cards. In total, 98 full and part-time OCPR employees participated in the stormwater awareness and management-based spring/ summer training sessions described above.</p> <p>• In 2016 - 2017 OCPR launched 2 new standardized forms for documenting inventory and assessment of storm water assets and pollution prevention activities at all park facilities - "OCPR Annual Facility Storm Water Pollution Prevention Inspection Report" and "Annual Storm Water Structure Inspection Sheet". These forms are to be completed annually by qualified staff at each park facility containing potential pollutants.</p>

Action/Activity	<div>Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)</div>
Illicit Connection and Discharge Elimination	<p>WRC:</p> <p>In FY 2020, 22 illicit discharges were discovered by WRC during complaint investigations, outfall/discharge point surveys, stormwater structure inspections and follow-up investigations. Of these, a total of 20 illicit discharges were corrected with the identified sources being eliminated. The remaining illicit discharge source has been identified and is pending corrective action and elimination (expected to be corrected in FY 2022). Thirty-five (35) Pollution Hotline complaints investigated resulted in 90% identification and elimination of a pollutant source. Surveys and dry weather screening identified one (1) illicit discharge which was eliminated.</p> <p>In FY 2021, 21 illicit discharges were discovered by WRC during complaint investigations, outfall/discharge point surveys, stormwater structure inspections and follow-up investigations. Of these, a total of 19 illicit discharges were corrected with the identified sources being eliminated. The remaining illicit discharge source has been identified and is pending corrective action and elimination (expected to be corrected in FY 2022). Fourteen (14) Pollution Hotline complaints investigated resulted in 100% identification and elimination of a pollutant source. Surveys and dry weather screening identified two (2) illicit discharges. Both illicit connections are currently in the process of being eliminated. See Appendix F for the dry weather screening and IDEP investigations summary tables for FY 2020 and 2021.</p> <p>The efficiency of the number of complaints received and those resulting in the identification and removal of a surface water pollution source shows that the WRC 24-Hour Pollution Hotline program continues to be a valuable tool for staff, citizens and municipalities.</p> <p>Dry weather screening of County Drains continues to be shown as a useful tool for evaluating the presence of upstream sources of illicit discharges. Although only three (3) sources of pollution were found, this procedure continues to be effective in identifying discharges that would not be found otherwise. Dry weather screening procedures for IDEP were detailed in WRC Work Instructions in FY 2020 and are being conducted on all storm water structures during routine storm drain maintenance inspections of open and enclosed county drains. This process will continue to be used and evaluated in FY 2022.</p> <p>In summary, during FY 2020/2021, 43 illicit discharges were discovered by WRC during complaint investigations, outfall/discharge point surveys, stormwater structure inspections and follow-up investigations. Of these, a total of 39 illicit discharges were corrected with the identified sources being eliminated. The remaining illicit discharge sources have been identified and are pending corrective action and elimination (expected to be corrected in FY 2022).</p> <p>The following pollutants were removed through the County's IDEP in FY 2020 and FY 2021 (see Appendix G, WRC Pollutant Removal Summary Tables, for details):</p> <ul style="list-style-type: none">• 29,546,424 gallons of sewage• 3,031 gallons of fuel, oil and grease• 2,200 pounds of sediment• 55 gallons of hydraulic fluid• Unestimated amount of chromium waste• 55 gallons of Sodium Hypochlorite• 2 gallons of fertilizer• 250 cubic yards of broken concrete/fill material• 0.5 gallon of tracing dye
Implement Dry Weather Discharge Screening Procedures and Parameters for Road Drainage and Storm Drainage Systems	<p>WRC:</p> <p>Standardized dry weather screening procedures, parameters, complaint investigation and illicit discharge investigation procedures for IDEP have been established and incorporated into the Oakland County MS4 IDEP. These procedures are documented in Work Instructions EU-1700 and EU-1702 and are available upon request. WRC procedures, parameters and forms utilized by IDEP have been converted into standardized forms and reports for the Collaborative Assessment Management System (CAMS) being utilized for enterprise-wide management of county assets and data. The CAMS incorporates standardized processes for data collection, data entry and reporting for IDEP including:</p> <ul style="list-style-type: none">• MS4 discharge point surveys and data collection,• Pollution Hotline complaints, and• Illicit discharge investigations. <p>Standardized forms have been integrated into other Oakland County departments IDEP programs for use. Dry weather screening (DWS) inspections, complaint and illicit discharge investigation forms were used to collect information and data in FY 2020 and 2021. IDEP work instructions and procedures are being utilized by other County departments in completing IDEP outfall/discharge point mapping and DWS in FY 2020 and 2021.</p> <p>OCPRC:</p> <p>OCPR observes the 5-year permit cycle requirement for MS4 dry-weather screening for all OCPR-operated discharge points (approx. 70 locations over 11 parks). Dry-weather screening for all OCPR MS4 outfalls was completed in summer 2019. OCPR will continue to partner with WRC and other permitted County Departments to standardize practices and achieve NPDES Phase II Permit requirements.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
MS4 Discharge Point/Outfall Database	<p>WRC: Beginning in FY 2019, WRC's Environmental Unit staff conducts DWS and sampling with respect to its approved Alternative IDEP Plan which focuses on monitoring of prioritized open and enclosed County Drains based on historical water quality sampling data, complaints and follow-up sampling. Drain Maintenance staff also inspect each County Drain and their associated structures triennially. Suspected illicit discharges are reported to Environmental Unit staff for follow-up. A list of prioritized drains is available upon request.</p> <p>OCPRC:</p> <ul style="list-style-type: none">• As of FY2017, 100% of OCPR MS4 outfall points were mapped and screened.• In FY2018, GIS data for OCPR MS4 outfalls and stormwater assets was incorporated into the Oakland County GIS database.• Dry-weather screening of all known OCPR MS4 outfalls was completed in summer of FY2019. <p>To date, all discharge points for County Departments have been mapped and include: Water Resources Commissioner – 100% (1,461 MS4 outfalls/discharge points monitored as part of WRC's Alternative IDEP approved in FY 2019) Facilities Maintenance & Operations – 100% (76 discharge points screened once per permit cycle) Parks and Recreation Commission – 100% (68 discharge points screened once per permit cycle)</p>
Oakland Brownfield Initiative	<p>As of FY 2021, there are over 500 projects in the program.</p> <p>There are 390 projects with environmental assessment work started.</p> <p>A total of \$1,960,000,000+ on proposed investment.</p>
Oakland County Facilities with OSDS	<p>OCPRC maintains six (6) OSDS' as outlined in their respective Operations & Maintenance Manual.</p> <p>WRC operates and maintains several community septic systems and county park disposal systems:</p> <ul style="list-style-type: none">- Island Club Condominiums in Commerce Township- Woodbridge Lake Estates in Walled Lake- Belle Ann Falls Estates in Ortonville- Lower Pettibone Lake Community Septic in Highland Township- Addison Oaks Park Lagoon System (maintained by WRC)- Groveland Oaks Park (maintained by WRC)- Springfield Oaks Park (maintained by WRC) <p>These systems are visited at least monthly.</p>
Oakland County Onsite Sewage Disposal System (OSDS) Program	<p>OCHD Environmental Health Services (EHS) is responsible for inspection and regulation of septage pumping/hauling trucks. Septage haulers are those businesses that are engaged in servicing, handling and disposing of waste from portable toilets, septic tanks, seepage pits, cesspools and sewage lift stations. Licensed septage haulers require a yearly inspection from the local health department. For FY 2020, EHS conducted 69 septage vehicle inspections of both new haulers and existing vehicles and 2 septage receiving station inspections and 71 vehicle inspections and 2 septage receiving inspections in FY 2021. The unit investigates septage hauler complaints and conducts compliance meetings as necessary.</p> <p>EHS facilitates land development, including the subdividing of land for subdivisions and site condominiums. Properly planned land use enhances community improvement and ensures groundwater protection during the land development process.</p> <p>EHS assists local municipalities in assessing a property's ability to support proposed activities as related to onsite sewage disposal and groundwater protection.</p> <p>OCHD issued 767 on-site sewage disposal system permits for FY 2020 and 806 permits in FY 2021 as reported to EGLE. OCHD completed 551 failure evaluations in FY 2020 and 523 failure evaluations in FY2021.</p> <p>The OCHD has a website dedicated to information about its OSDS Program at: https://www.oakgov.com/health/services/environmental-health/Pages/septic.aspx</p> <p>There were a total of 4,792 website hits in FY 2020 and 5,684 in FY 2021 to the OCHD's Septic System website.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Spill/Non-Stormwater Release Response	<p>WRC: The WRC has the following procedures in place to deal with pollution incidences:</p> <p>-Surface Water Pollution Response Procedure (P-043): The purpose of this Procedure is to describe how the WRC identifies and responds to Oakland County surface water pollution incidents reported through their 24-hour Pollution Hotline (248-858-0931) and other sources. This document was last updated in FY 2015 and is currently under revision; it is available upon request.</p> <p>-Notification and Reporting of SSOs and CSOs (P-036): The purpose of this Procedure is to describe how the WRC handles the notification and reporting of sanitary sewer overflows (SSOs), and combined sewer overflows (CSOs) in accordance with Public Act No. 286 of the Public Acts of 2000. This document is available upon request.</p>
Update Prioritization and Scheduling of Dry Weather Screening Activities at Known Discharge Point Locations, Road Drainage and Storm Drainage Systems	<p>WRC will continue to follow-up on suspicious discharges identified during FY 2020 and/or 2021 surveys. Follow-up sampling and investigations are scheduled to continue through various IDEP programs in FY 2022.</p> <p>WRC: WRC has surveyed and inventoried all MS4 outfalls and discharge points on County Drains. WRC has submitted an Alternative IDEP which includes a schedule for continued dry weather screening of County Drain structures, including outfalls and discharge points, as part of its 4-year inspections. The Alternative IDEP has identified prioritized drains for follow-up investigation and sampling based on dry weather screening results, complaints and any known pollution issues. WRC will continue dry weather screening, inspections and investigation on drains scheduled for FY 2022.</p> <p>WRC is not applying for any additional funding from the ARC for IDEP investigations in the Rouge Watershed. WRC will contiinue work to investigate and eliminate illicit discahrges on Drains identified in FY 2020 / 2021 and conduct additioanl investigations on identfied priority drains in the watershed in FY 2022.</p> <p>WRC will continue to work with the ARC in the implementation of its approved Collaborative IDEP. The Collaborative Plan integrates WRC monitoring data collected under its Alternative IDEP with current and proposed monitoring data collected by Wayne County and the ARC during the next permit cycle. This information will be utilized by the Counties and communities in prioritizing their outfall screening and IDEP investigation activities under their individual stormwater permits. WRC will also continue working collaboratively with the Cities of Madison Heights and Hazel Park on a combined effort to screen and prioritize county drains and isolate localized storm drains for illicit discharge investigations in areas trubutary to the Red Run Drain and Bear Creek in the Clinton Watershed in FY 2022.</p> <p>OCPRC: OCPR observes the 5-year permit cycle requirement for MS4 dry-weather screening for all OCPR-operated discharge points (approx. 70 locations over 11 parks). Dry-weather screening for all OCPR MS4 outfalls was completed in summer 2019. OCPR will continue to partner with WRC and other permitted County Departments to standardize practices and achieve NPDES Phase II Permit requirements.</p> <p>OCFM will continue to dry weather screen outfalls located on their properties once per the 5-year permit cycle and follow-up on investigation and elimination of any illicit discharges found. WRC will continue to provide support for these activities under the Oakland County Stormwater Committee (OCSC).</p>
Verify New Connections - Prevent Illicit Connections	<p>WRC currently employs seven (7) full-time and one part-time trained inspectors to inspect drain and sewer projects throughout Oakland County. The inspector is responsible for inspecting connections and other related items to insure that work is constructed in accordance with the plans and specifications. The inspector is also present to insure that the integrity of the existing system is maintained and that proper compliance with state and local regulations is observed.</p> <p>In FY 2020, WRC inspected a combined 400 house lead and sewer connections and 87 drain permits throughout Oakland County and provided full time inspection on 29 new construction projects.</p> <p>In FY 2021, WRC inspected a combined 429 house lead and sewer connections and 76 drain permits throughout Oakland County and provided full time inspection on 30 new construction projects.</p>
	<p>For FY 2020, approximately 7.96 billion gallons of treated wastewater was discharged from the WWTP's.</p> <p>For the 10th year in a row, the Walled Lake-Novı WWTP was awarded the highest honor available from the National Association of Clean Water Agencies (NACWA) – the prestigious Platinum Award. The platinum award goes to a facility with perfect compliance with NPDES permits over a consecutive five-year period. The Walled Lake-Novı WWTP has now gone 14 straight years without a non-compliance. At the same time, for the 11th year in a row, the Commerce Township WWTP was awarded the Platinum Award, meaning that the Commerce WWTP has now gone 15 years in a row without a non-compliance. NACWA's Peak Performance Awards Program recognizes facilities for excellence in wastewater treatment as measured by their compliance with their National Pollutant Discharge Elimination System (NPDES) permit requirements. The Clinton River Water Resource Recovery Facility had zero permit non-compliances and was awarded NACWA's Gold Award.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Wastewater Treatment Plant Operation	<p>For FY 2021, approximately 7.4 billion gallons of treated wastewater was discharged from the WWTP’s.</p> <p>For the 11th year in a row, the Walled Lake-Novı WWTP was awarded the highest honor available from the National Association of Clean Water Agencies (NACWA) – the prestigious Platinum Award. The platinum award goes to a facility with perfect compliance with NPDES permits over a consecutive five-year period. The Walled Lake-Novı WWTP has now gone 15 straight years without a non-compliance. At the same time, for the 12th year in a row, the Commerce Township WWTP was awarded the Platinum Award, meaning that the Commerce WWTP has now gone 16 years in a row without a non-compliance. NACWA’s Peak Performance Awards Program recognizes facilities for excellence in wastewater treatment as measured by their compliance with their National Pollutant Discharge Elimination System (NPDES) permit requirements.</p>
Construction Stormwater Runoff Control	
Soil Erosion Program	<p>WRC: The WRC Soil Erosion Unit currently has four (4) inspectors and is responsible for implementing the SESC program in 21 cities, 9 villages and 18 townships (48 CVT's).</p> <p>The WRC soil erosion unit issued 820 single-family residential soil erosion permits, 218 commercial soil erosion permits and 77 permit exemptions in FY 2020. There were no violation corrections conducted in FY 2020.</p> <p>The WRC soil erosion unit issued 1,075 single-family residential soil erosion permits, 240 commercial soil erosion permits and 52 permit exemptions in FY 2021. There were no violation corrections conducted in FY 2021.</p> <p>The WRC Soil Erosion Unit has a fee structure that uses a permit class system to identify the severity of earth disruption and assign appropriate inspection priorities. WRC maintains a soil erosion database to retrieve daily inspections as well as provide information utilized in monthly quality assurance monitoring. The soil erosion unit is fully staffed and the inspection scheduling system is in place. The WRC Soil Erosion program is an exceptional program that results in the significant water quality benefits throughout Oakland County.</p> <p>Soil erosion complaints are documented in the county's Collaborative Asset Management System (CAMS) and details are available upon request.</p>
Post-Construction Stormwater Runoff Controls for Development and Redevelopment	
Community Master Plan Review	<p>In FY 2020, OCPLBD reviewed two (2) master plans and one (1) amendment which was waived due to COVID-19. The master plans came from the City of Oak Park and the City of Hazel Park. A master plan amendment for Waterford Township was waived due to time constraints caused by COVID-19 “stay home stay safe” executive orders.</p> <p>In FY 2021, OCPLBD reviewed four (4) master plans and one (1) amendment. The master plans came from the City of Madison Heights, the City of Bingham Farms, the City of Lathrup Village, and the City of Berkley. The master plan amendment was received from the Village of Holly.</p>
Dams	<p>Under the provisions of Part 307 of Act No. 59 of 1995, Inland Lake Levels, the Water Resources Commissioner is delegated the responsibility of participating in legal proceedings to establish and maintain normal lake levels for lakes in Oakland County.</p> <p>At present there are 54 lakes within the County that have an established normal level. The Water Resources Commissioner is the delegated authority to maintain the normal levels of these lakes. The lakes are located in four river basins, distributed as follows: 34 in the Clinton, 13 in the Huron, 2 in the Rouge, 3 in the Shiawassee and 2 in the Flint.</p> <p>A staff Engineer heads the Lake Level Program, which involves the operation and maintenance of 36 lake level control structures and 8 lake level augmentation pumps. In some cases, the level of more than one lake is controlled from a single structure. There are three (3) lake level control technicians assigned to monitor the lake levels and perform the day to day operation of the structures.</p> <p>The regulation of a lake level provides for flood control, enhanced recreational use and protection of property values. The Water Resources Commissioner's Office is available to help facilitate the process of establishing a normal lake level with literature and technical expertise.</p> <p>WRC has emergency action plans for eight (8) of the dams as required by the State's Dam Safety Act. These plans are available upon request.</p> <p>Information on lake levels is available on the WRC Web site at: https://www.oakgov.com/water/stormwater/lakes-watersheds/Pages/lake-level.aspx.</p> <p>In FY 2020, WRC conducted an extensive study of publicly and privately owned dams within Oakland County per the request of the Board of Commissioners. That report is available on the WRC's website at: https://www.oakgov.com/water/resources/Documents/2020%20Dam%20Study%20for%20Oakland%20County.pdf</p>
Drainage District Mapping	<p>As of FY 2021, WRC has 451 assessment districts mapped and approved for use. Of these, 29 are Lake Level Assessment Districts, 422 are Drain Assessment Districts.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Stormwater Standards	<p>WRC: The WRC employs three engineers and three engineering systems coordinators to review construction plans for mobile home parks, platted subdivisions, any involvement with County Drains or their easements, or drain district enlargements as required by the Drain Code.</p> <p>The WRC has a written procedure (P-012) to describe the method for the review of drain site plans and issuing of drain tap permits by the Engineering Unit in accordance with the Public Acts of 1956, the Michigan Drain Code, as amended, and WRC's Engineering Design Standards for stormwater Facilities.</p> <p>In FY 2020, WRC reviewed and approved 16 stormwater BMPs and all are privately maintained. In FY 2021, WRC reviewed and approved 19+ stormwater BMPs and all are privately maintained. For a complete list of the variety of BMPs approved and maintained, see Appendix H, WRC Drain Permit Stormwater BMP Tracking Summary Tables.</p> <p>-WRC Storm Drain Manhole Cover specifications were updated in FY 2010 and now require that all new storm drain manhole covers are stamped with the message "stormwater Only - Dump No Waste! Drains to Waterway!" and has a custom logo showing a heron, frog and fish.</p> <p>-In FY 2021, WRC obtained approval of its updated Stormwater Management Design Standards to meet the most recent Phase II NPDES stormwater general permit requirements. An article highlighting the County's new stormwater standards was published on the front page of the Oakland Press on May 8, 2021.</p> <p>-Beginning in FY2017, WRC tracks new developments and redevelopments that install infiltration BMPs. The spreadsheet tracks the types of BMPs installed, as well as the responsible party for long-term operation and maintenance. These files are located on the J drive (J:\Drain\EandC\Engineering\Permit Tracking Spreadsheets\MS4 Infiltration Tracking\O+M Agreements). Copies of the long-term O&M agreements are also kept on file and are available upon request.</p>
USGS Stream Flow Gauges	<p>Beginning in FY 2021, the WRC reduced the number of USGS gage stations it funds from six (6) to one (1). -Six (6) continuous-record gage stations were financed by WRC in FY 2020 and one (1) station was funded by WRC in FY 2021. This station is located at the Clinton River in Auburn Hills, Gage #0416000. -FY 2020 expenditures on gage operation totaled \$55,341 (USGS covered \$27,519 of the total \$82,860 cost) -FY 2021 expenditures on gage operation totaled \$12,086 (USGS covered \$3,614 of the total \$15,700 cost)</p> <p>-The data can be accessed from the USGS Web site at: http://waterdata.usgs.gov/mi/nwis/rt</p>
WRC Projects Under Development, Under Construction and Recently Completed	<p>The WRC has a complete listing of current, future and recently completed drain and sewer projects that are implemented to protect our natural resources from water pollution and are available on WRC's web site at: https://www.oakgov.com/water/projects/Pages/default.aspx</p> <p>The WRC's Clinton River Water Resource Recovery Facility unveiled its newly constructed biosolids handling facility and produced a virtual tour available here: https://www.youtube.com/watch?list=PLxN0wQGF96CL-c9anor-74HawzUbgXk61&v=MHezUUxEgNg</p>
Pollution Prevention and Good Housekeeping for Municipal Operations	
Employee/Contractor Training	
	<p>FY 2020:</p> <ul style="list-style-type: none">October 2019 - Training on IDEP Investigator-level and general Stormwater Pollution Prevention awareness, IDEP and Pollution Prevention and Good Housekeeping was held in partnership with SEMCOG, the ARC, and Oakland, Macomb and Wayne Counties at Schoolcraft College in Livonia. The following County staff attended the general awareness training session: OCFM Grounds Maintenance - 2 staff members; The following County staff attended the Investigator-level IDEP training: OCPRC - 7 staff members; WRC - 3 staff members; one WRC staff member also assisted with the training session.3/12/2020 - 27 WRC staff members at the Clinton River Water Resource Recovery Facility in Pontiac received training on general stormwater pollution prevention awareness, the County-s 24-Hour Pollution Hotline, and more specific details on their facility's SWPPP, PIPP and SPCC plans. <p>FY 2021:</p> <ul style="list-style-type: none">October/November 2020 - SEMCOG hosted a virtual IDEP and PPGH Awareness training via SEMCOG University.

Action/Activity	<div>Oakland CDC MS4</div> <div>NPDES Permit No. MI0060089</div> <div>FY 2020/2021</div> <div>Measurables</div> <div>(October 1, 2019 - September 30, 2021)</div>
Employee/Contractor Training Related to Stormwater Management Activities	<p>OCPRC: In FY 2020 OCPR continued to distribute an internal Best Practices Resource Guide for Parks and Facilities on Water Resource Permitting. Copies were re-distributed to parks supervisors, district chiefs, and project managers in winter 2020.</p> <p><u>Contractors:</u> As part of the Oakland County Purchasing Procurement and contracting process, all contractors engaging in construction and related activities must be compliant with all MDEQ and WRC stormwater regulations, and satisfy all associated permitting requirements. OCPR-hired project inspectors and general contract managers are Certified Stormwater Operators.</p> <p><u>Staff:</u> See above description for OCPR's annual staff training for IDEP - the annual storm water saftey packet contains materials for Pollution Prevention and Good Housekeeping. In addition, each spring parks are required to complete a Pollution Prevention Facility Inspection and update their spill kits as needed.</p> <ul style="list-style-type: none">• At this time OCPR has 0 Certified Industrial Stormwater Operators on staff with the loss of our stormwater program manager, however the OCPR Natural Resources Coordinator will be certified by the end of 2020.• 18 staff maintained MDA Pesticide Applicator Certification at OCPR in FY20, by position: 3 Grounds Maintenance Supervisors, 1 Maintenance Supervisor, 5 Groundskeeper IIs, 6 Park Crew Chiefs, 3 Park Maintenance Aides• 1 Chief of Park Operations holds the UST A Certification and 4 staff hold UST B Certifications for the Park where they work.• Staff training opportunities were limited in 2020 due to the COVID Pandemic, reduced staffing and offerings. OCPR staff remain compliant with required licenses for job tasks including but not limited to: pesticide application, underground storage tanks, CDL, etc. OCPR is encouraging full time maintenance staff to attend the Nov. 10 SEMCOG University online webinar for IDEP Alert Observer and SWIPPI Housekeeping. However, staff attended the following trainings in FY2020:<ul style="list-style-type: none">• Michigan Turfgrass Foundation, Annual Conference, Lansing,• MParks Annual Conference, Jan. 28-31, Novi, 19 staff• Great Lakes Park Training Institute, Feb. 24-27, Indiana• Michigan Prescribed Fire Council Firefighter Type 2 (FFT2) field day training, Battle Creek, Feb 26-27, 5 staff• Professional Golf Show, 1 staff• Wildflower Association of MI, 2 staff• Certified Pool Operator Training, Sept. 17-18, Livonia, 1 staff
	<p>OCPRC: In FY 2021, OCPR continued to distribute an internal Best Practices Resource Guide for Parks and Facilities on Water Resource Permitting. Copies were re-distributed to parks supervisors, district chiefs, and project managers in winter 2021.</p> <p><u>Contractors:</u> As part of the Oakland County Purchasing Procurement and contracting process, all contractors engaging in construction and related activities must be compliant with all EGLE and WRC stormwater regulations, and satisfy all associated permitting requirements. OCPR-hired project inspectors and general contract managers are Certified Stormwater Operators.</p> <p><u>Staff:</u> See above description for OCPR's annual staff training for IDEP - the annual storm water safety packet contains materials for Pollution Prevention and Good Housekeeping. In addition, each spring parks are required to complete a Pollution Prevention Facility Inspection and update their spill kits as needed.</p> <ul style="list-style-type: none">• At this time, OCPR has one (1) Certified Industrial Stormwater Operator on staff• 15 staff maintained MDA Pesticide Applicator Certification at OCPR in FY21, by position: 3 Grounds Maintenance Supervisors, 1 Maintenance Supervisor, 1 Groundskeeper IIs, 6 Park Crew Chiefs, 4 Park Maintenance Aides• 1 Chief of Park Operations holds the UST A Certification and 4 staff hold UST B Certifications for the Park where they work.

Action/Activity	<div>Oakland CDC MS4</div> <div>NPDES Permit No. MI0060089</div> <div>FY 2020/2021</div> <div>Measurables</div> <div>(October 1, 2019 - September 30, 2021)</div>
	<p>Staff training opportunities were limited in 2021 due to the COVID Pandemic, reduced staffing and offerings. OCPR staff remain compliant with required licenses for job tasks including but not limited to: pesticide application, underground storage tanks, CDL, etc. Staff attended the following trainings in FY2021:</p> <ul style="list-style-type: none">• MSU Virtual Turf School Dec 15 - 5 staff• Stewardship Network Conference, Jan 8, 2021 - 4 staff• MSU Lakes Ecology, Jan 19, 2021 - 1 staff• GLTE, Jan 27, 2021 – 1 staff• Michigan Turfgrass Foundation, Annual Conference, Lansing - 2 staff• MParks Virtual Annual Conference, Jan. 28-31, Novi - 21 staff• Wildflower Association of MI, 1 staff• Michigan Wetlands Association Shrub ID (Aug 13-14) 3 staff and Winter Woody Plants Nov) - 2 staff <p>OCFM: In FY 2021, OCFM staff offered their grounds maintenance facility and staff as a real-world example of Pollution Prevention and Good Housekeeping best management practices in action for the annual PPGH Training offered through SEMCOG University on 11/10/2020 (the training was held virtually this year due to COVID-19). The photos and videos of the facility were used as part of the training to show BMPs in action and the Chief of Landscape Services for OCFM offered his perspective on successes and challenges as part of their PPGH program. This training video is available via SEMCOG's On-Demand Video Library at: https://www.youtube.com/watch?v=NTKIJMPWCzw</p> <p>As of FY 2021, OCFM has three (3) grounds maintenance staffers that are a Certified Industrial Stormwater Operator. All OCFM grounds crew staff annually review the "Municipal Stormwater Pollution Prevention" DVD.</p> <p>As of FY 2021, the following County staff are Certified Industrial Stormwater Operators and/or Certified Construction Site Stormwater Operators - lists of certified staff are available upon request:</p> <p>Industrial: WRC - 9 OCPRC - 1 OCFM - 3</p> <p>Construction: WRC - 30 OCFM - 1</p> <p>In FY 2013, Pollution Prevention language was added to the Notes section on the soil erosion and sedimentation control details sheet and is available electronically at: https://www.oakgov.com/water/resources/detailsheets/soil_erosion_details%20Sheet-updated_042013.pdf to address the contractor training requirements</p>
Pollution Prevention and Good Housekeeping for Municipal Operations	
Maintenance Activities for Stormwater Structural Controls	
Bar Screen Cleanout	WRC staff cleaned 3,807 bar screens in FY 2020 and 3,099 in FY 2021. Maintenance records are tracked in CAMS (see DC-215, "Daily Bar Screens Work Report")

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Catch Basin Cleaning	<p>WRC: During FY 2020, 836 catch basins were cleaned and 309.67 cubic yards of debris properly disposed of; 748 were cleaned and 190 cubic yards of debris properly disposed of in FY 2021. WRC started tracking catch basin cleaning in its Collaborative Asset Management System (CAMS) where sediment depth is reset to a cleaned condition (for those catch basins that were cleaned) which will allow maintenance staff to track build-up during future triennial inspections. This effort will help to establish the "base-line" for the next round of catch basin inspections and will help to determine future cleaning frequency, including determining priority areas for cleaning.</p> <p>WRC Sewer Maintenance Unit properly disposed of approximately 1,368 cubic yards of debris/waste (this includes 1,000 cu. yds. between RCOC and CDM storm systems and 368 cu. yds. of sewer system waste) in FY 2020. A total of 1,992.57 tons of debris/waste were properly disposed of in FY 2021 (1,035.57 tons from sewer systems and 957 tons from storm systems).</p> <p>OCFM: In FY 2020 - roughly 100 catch basins were cleaned out and 7 catch basins rebuilt. Between catch basin cleaning and street sweeping, approx. 115 cubic yards of debris was removed and disposed of properly. In FY 2021 - 285 cubic yards of debris from catch basin cleaning and street sweeping have been properly disposed of and 3 catch basins were rebuilt.</p> <p>OCPRC: In FY2017, Park Supervisors began conducting annual stormwater asset inspections at their facilities using a standardized inspection form. Standardized annual inspections provide the framework for the development of system-wide maintenance standards for stormwater asset maintenance, as well as, future maintenance budget forecasting. Currently, facility catch basins are cleaned on an as-needed basis that varies by location and operation. OCPR contracts with WRC and alternative Vactor service contractors to perform catch-basin cleaning when needed. In 2021, there was one culvert cleaned at Groveland Oaks, additional maintenance will be completed in 2022.</p>
Stormwater Detention Basin Maintenance and Inspections	<p>WRC: In FY 2020, there were no detention basins inspected or cleaned. In FY 2021, there were two (2) stormwater detention basins cleaned.</p> <p>Inspections are documented on Form DC-450, "WRC stormwater Detention Basin Field Report" and are available upon request.</p>
Pump Station Maintenance	<p>WRC operates and maintains stormwater pumping stations that help prevent flooding during rain events. The stations are inspected on a regularly scheduled interval to verify local/remote alarms are functional and that pump station equipment is working properly. Wet wells and bar screens in the storm and sanitary pump stations are cleaned twice per year. In addition, bar screens in stormwater pumping stations are cleaned after every significant rain event.</p> <p>WRC has a written work instruction outlining the method for sewer/drain cleaning and maintenance (SW-1503) and is available upon request.</p> <p>Reports are available through WRC Operations and Maintenance upon request (see Form DC-139, "Pump Station Checklist", Form DC-193, "Daily Maintenance Work Report", Form DC-222, "Sanitary Wet Well Maintenance Form", and Form DC-179, "Sanitary Wet Well Weekly Maintenance Form").</p>
Sanitary Sewer Maintenance and Inspections	<p>WRC: FY 2020: WRC staff performed 1,613 manhole inspections and 273 manhole repairs, CCTV'd 573,218 linear feet of sewer, and cleaned 440,781 linear feet of WRC-owned or -operated sanitary sewer systems. In addition, there were 539 complaints and 75 plugged sewers logged. FY 2021: WRC staff performed 579 manhole inspections and 213 manhole repairs, CCTV'd 393,745 linear feet of sewer, and cleaned 319,627 linear feet of WRC-owned or -operated sanitary sewer systems. There were also 521 complaints and 95 plugged sewers logged.</p> <p>WRC Sewer Maintenance Unit properly disposed of approximately 1,368 cubic yards of debris/waste (this includes 1,000 cu. yds. between RCOC and CDM storm systems and 368 cu. yds. of sewer system waste) in FY 2020. A total of 1,992.57 tons of debris/waste were properly disposed of in FY 2021 (1,035.57 tons from sewer systems and 957 tons from storm systems).</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Storm Drain Maintenance and Inspections	<p>WRC: WRC performs necessary maintenance on County Drains as budget and schedule allow. Maintenance Mechanic I’s and above are certified stormwater operators and have completed soil erosion training. WRC complies with proper procedures to protect the drain from erosion, reduce the amount of solids entering the drain, stabilize stream banks and protect aquatic habitat.</p> <p>In FY 2020, WRC inspected 4,862 structures, 122 drains and performed 880 structure repairs. In FY 2021, WRC inspected 4,819 structures, 85 drains and performed 1,350 structure repairs.</p>
Pollution Prevention and Good Housekeeping for Municipal Operations	
Controls Used for Reducing or Eliminating Discharges of Water and Pollutants from Streets and Maintenance Garages	
Fleet Maintenance and Storage Yards	<p>WRC: The following WRC facilities have existing SWPPPs, PIPPs and/or SPCCs and have met all eligible requirements to date:</p> <ul style="list-style-type: none">● 8 Mile Road Pump Station - SPCC developed and implemented in May 2019 for newly installed 2,000 gal capacity aboveground storage tank● 522 S. Opdyke - Water Maintenance North; SWPPP updated in July 2021● The Pontiac WWTPs - Auburn and E. Blvd Sites updated SWPPPs in November 2021● The Pontiac WWTPs - Auburn and E. Blvd Sites updated PIPPs in January 2019● The Pontiac WWTP - Auburn Site updated SPCC in January 2019● All four (4) Retention Treatment Basins and the Pump Maintenance and Systems Control Complex have a PIPP - updated July 2020● The Commerce Waste Water Treatment Plant SWPPP was updated September 2021; the PIPP was last updated in July 2020● The Walled Lake-Novı (WLN) Waste Water Treatment Plant SWPPP was updated September 2021; the PIPP was last updated in July 2020 <p>All of these plans are available upon request.</p> <ul style="list-style-type: none">● Spill cabinet inventory inspections were conducted at all WRC facilities with a SWPPP/PIPP/SPCC's in April 2021 <p>OCFM: Grounds Maintenance is transitioning their transmission fluid, hydraulic fluid, engine oil, etc. to bio-degradable vegetable oil. OCFM is four years into the program and have changed the hydraulic fluid in some of its riding mowers, some walk-behind mowers and one of its loaders. Additional equipment will be modified as funds are available.</p> <p>FY2020 - OCFM worked with ECT to develop an Integrated Contingency Plan (ICP) which is a combination of a Spill Prevention, Control & Countermeasure Plan, Pollution Incident Prevention Plan, Storm Water Pollution Prevention Plan, RCRA Contingency Plan and OSHA Emergency Response Plan. All 55 gallon barrels in the Grounds Shop are on containment pallets with absorbent pads on the top of the barrels. FY 2021 - Continuing with good housekeeping practices and monthly, quarterly and yearly inspections of shop and chemicals.</p> <p>OCPRC:</p> <ul style="list-style-type: none">● OCPRC continues (since 2010) to maintain a contract for system-wide purchase and use of 'green' cleaning products - this is part of the OCPRC Green Initiatives Program● All park facilities now utilize "green" cleaning products that are low in volatile organic compounds, reducing the amount of toxins in the air and reduce water contamination in the environment● Biofuels and biolubricants are used in heavy equipment, mowers, and utility vehicles in the park fleet when and where the benefits of such products outweigh those of using conventional fuels, oils, and lubricants.● All park maintenance yards are required to do an annual pollution prevention inspection and refresh their on-site and vehicular spill kits and spill response plans. Inspection reports since FY 2017 available upon request. <p>Several OCPRC facilities are pursuing certification or recertified under the MTESP program (see below under MTESP activity) which addresses many of the requirements in a SWPPP/PIPP/SPCC plan.</p> <ul style="list-style-type: none">● Currently the following parks achieved lifetime recertification with the MTESP program: Springfield Oaks, Lyon Oaks, White Lake Oaks, Red Oaks, Groveland Oaks. Addison Oaks is anticipated to achieve certification by the end of 2022.

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Road Salt Application	OCFM: OCFM continues to maintain its covered salt storage structure that holds up to 1,000 tons of salt and its self-contained Salt Brine Maker stored in the Grounds shop which produces salt brine for its use. FY 2020 - Salt Brine used exclusively on sidewalks. A product called Headwaters Hot, a sugar-based additive, was added to the salt brine to bring its' effective temperature to minus 5 degrees Farenheit. FY 2021 - Salt brine and Headwaters Hot will be used on parking areas and roads. Three 1,000 gallon spray units have been approved and are now in the bid process.
Street Sweeping Programs	OCFM: OCFM-Grounds Division cleans all county-owned streets and parking lots (approximately 40 acres of parking lot and 3 miles of roadway) throughout the year. In FY 2020, a Tymco Regenerative Air Street Sweeper was purchased. The sweeper has an attachment that enables the unit to clean catch basin sumps. In FY 2020 - between catch basin cleaning and street sweeping, approx. 115 cubic yards of debris was removed and disposed of properly. In FY 2021 - 285 cubic yards of debris from catch basin cleaning and street sweeping have been properly disposed of.
Waste Reduction Program	WRC: In FY 2020, 2,237 pounds of batteries were recycled. In FY 2021, 788 pounds of batteries were recycled. OCPRC: -Parks employees recycle paper, plastic, metals, batteries, lights and ink cartridges in special collection containers -The entire parks system now uses 100% recycled paper OCFM: FY 2021 - Ten "Big Belly" solar powered compacting trash containers have been approved for purchase. These send an email notification regarding their full status so time and gasoline is not wasted checking an empty can. Our new Sustainability Officer, Erin Quentell, is looking into a Single Stream Recycling program. In FY 2020: 325,742 pounds of paper were recycled. This equates to the following environmental benefits: <ul style="list-style-type: none">● 2,768 trees saved● 571 cubic yards of waste kept out of landfills● 1,142,866 gallons of water saved● 408 barrels of oil saved● 649,530 kwh of electricity saved In FY 2021: 456,747 pounds of paper were recycled. This equates to the following environmental benefits: <ul style="list-style-type: none">● 2,314 trees saved● 476 cubic yards of waste kept out of landfills● 955,230 gallons of water saved● 340 barrels of oil saved● 542,891 kwh of electricity saved

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Pollution Prevention and Good Housekeeping for Municipal Operations	
Managing Vegetated Property	
Fertilizer Use	<p>OCFM uses a 50% slow-release granular fertilizer on County property. A soil test is also conducted every three years to determine the soil conditions. OCFM is also using organic fertilizer in four areas as a pilot. Beginning in 2013, Phosphorus has been eliminated from our granular fertilizer program. In FY 2018, low-odor pesticide formulations and low-volume spray equipment with shielded sprayers continue to be used. There were no complaints of pesticide odors this past fiscal year. FY 2021 - Two rounds of slow release fertilizer applied to turf. Screened compost was spread over turf in some areas to see if it has an effect on the fertilizer's effectiveness.</p> <p>OCPRC adheres to the phosphorus fertilizer regulations with the exception of golf course properties demonstrating exemption through soil test results. OCPR conducts soil testing through MSUE laboratories to inform all planting projects associated with major maintenance and capital improvement projects.</p>
Greenbelt Maintenance	<p>OCFM continues to maintain a buffer zone along ditches. The buffers are not fertilized or mowed. These buffer zones were expanded in 2012/2013, as part of a USEPA grant, administered through SEMCOG, as part of the "Regional Green Streets" initiative.</p> <p>FY 2021 - Additional clearing of invasive European Buckthorn in wooded areas. These areas were mowed twice this year in an effort to control invasive re-growth.</p> <p>OCPRC - All parks now have designated "no-mow zones" that decrease the amount of gas and energy used in maintaining park property and allows for natural plant progression and reduces runoff into adjacent waterways. OCPR maintains constructed vegetated swales containing native plant materials or ecoturf for parking lot/ facility stormwater management at the following OCPR parks: Waterford Oaks, Red Oaks, Catalpa Oaks, Glen Oaks and Groveland Oaks. New no-mow zones were implemented at Springfield Oaks in spring 2021.</p>
Irrigation Practices	<p>OCFM: In FY 2012, OCFM completed the installation of moisture sensors for the entire 100 acres of irrigated turf on the campus. These moisture sensors monitor the relative humidity, temperature, and rain amounts, and automatically alter the system to run according to a preset amount of moisture. These sensors have already shown a dramatic cut back on water use. OCFM staff have conservatively projected a return on investment of two to three months on this expenditure.</p> <p>FY2020 - installed Hydrowise system and flow meter at Oak Pointe. Hydrowise is a web-based program that monitors the amount of water used by zone and allows remote adjustment of zone times. It also sends a notice to the Irrigation Tech if excess water is being used.</p> <p>FY 2021 - Continuing to install Hydrowise systems.</p>
Mowing Practices	<p>OCFM - Mower blades have been set at a height of four inches to follow the Michigan Turf Grass recommendation. FY2020 - another large area mower was added so there are only four mowers operating now. FY 2021 - Continuing to mow with four mowers. All mowers now have "Tier 4" compliant engines.</p> <p>OCPRC - All parks now have designated "no-mow zones" that decrease the amount of gas and energy used in maintaining park property and allows for natural plant progression and reduces runoff into adjacent waterways.</p>
Pesticide Applications	<p>OCFM: All 9 of the OCFM full-time grounds keeping staff are certified pesticide applicators. Staff are retested every three years to maintain certification. OCFM has had certified pesticide applicators on staff since 1976. In addition, OCFM has been practicing integrated pest management (IPM) techniques for close to 30 years for both indoor and outdoor operations. A Drift Management Plan was developed in 2011 and is available upon request.</p> <p>FY 2020 - continued with tree injections especially for Gypsy moth. Using more pre-emergents in beds and non-vegetated yard areas instead of post emergent spraying. Added Cheetah Herbicide, a.i. Glufosinate, for post emergent bed weed control instead of Round-up a.i. glyphosate</p> <p>FY 2021 - Continued weed control in beds with Cheetah Pro. Applied Casoron to large areas with no vegetation and did not have to apply any additional herbicide.</p> <p>OCPRC: Integrated pest management principles are established at all parks to reduce the use of chemical pesticides. As of FY2019, OCPRC employed 15 certified pesticide applicators. Within the OCPRC Natural Resource Management Department, aquatic-safe herbicides and surfactants are used as a BMP. Park Drift Management Plans are reviewed annually and updated as-needed.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Turf Management Training	<p>OCPRC: Oakland County Parks has partnered with the Michigan Turfgrass Environmental Stewardship Program (http://www.mtesp.org) to increase environmental stewardship and water quality management at several Oakland County Park Golf Courses.</p> <p>Components of the Golf Course Program include: -Compliance with environmental laws & regulations. -Reduced herbicide and fertilizer applications. -Environmentally-sensitive course maintenance. -Green Purchasing, Energy Conservation & Waste Reduction. -Wildlife corridors, no-mow zones and prescribed burns.</p> <p>In 2008, Groveland Oaks was the first park in Michigan to be environmentally certified by the Michigan Turfgrass Environmental Stewardship Program. All 5 OCPRC golf courses have been recertified through the program as of FY 2019. Addison Oaks and Waterford Oaks went through initial evaluation for MTESP certification in FY 2003 and FY 2004 respectively, and are currently working toward implementing recommended environmental action items prior to final certification.</p> <p>OCFM continues to implement best practices related to mowing, fertilization, pesticide use and irrigation. FY 2021 - Pesticide Applicators have attended seminars for Re-certification Credits.</p>
Extra Activities (Not included in SWMP)	
Adopt-A-Stream Training Workshops	<p>In FY 2020, the CRWC conducted 6 Adopt-A-Stream volunteer trainings and 2 bug ID workshops for the watershed community. A total of 103 people attended these workshops and trainings. Many of these trainings were adjusted to be held outdoors or on a virtual platform, in order to accommodate safety precautions related to the COVID-19 pandemic.</p> <p>In FY 2021, the CRWC conducted 8 Adopt-A-Stream volunteer trainings and 2 Bug ID workshops for the watershed community. A total of 60 people attended these workshops and trainings. Trainings were held via in-person and virtual formats.</p>
Adopt-A-Stream Volunteer Water Quality Monitoring Program	<p>In FY 2020, a total of 200 volunteers participated in the CRWC's Fall Adopt-A-Stream monitoring and monitored a total of 39 stream sites within the watershed. Spring 2020 monitoring was cancelled due to the COVID-19 pandemic. 23 volunteers monitored 12 sites for the Winter Stonefly Search in January 2020.</p> <p>In FY 2021, a total of 300 volunteers participated in the CRWC's Spring and Fall Adopt-A-Stream monitoring and monitored a total of 38 stream sites within the watershed. 59 volunteers monitored 15 sites for the Winter Stonefly Search in January 2021.</p>
Alliance of Rouge Communities Activities	<p>A summary of Alliance of Rouge Communities (ARC) activities throughout FY 2020 and FY 2021 that support the efforts of Oakland County's natural resource protection and preservation efforts are provided in Appendix I, "ARC Executive Director's 2019, 2020 and 2021 Annual Reports".</p> <p>The 2018-2019 and 2020-2021 ARC Collaborative PEP and IDEP Progress Reports also outline the progress made with PEP and IDEP in the Rouge River watershed from April 2017 - Dec. 2019 and Jan 2020 - Dec. 2021 (PEP) and January 2018 - December 2019 and Jan. 2020 - Dec. 2021 (IDEP) and are provided in Appendix J and K, respectively. The 2020-2021 ARC Collaborative PPP Progress Report (Jan. 2020 - Dec. 2021) is provided in Appendix P.</p> <p>All ARC documents available to its members are on the ARC website at: https://allianceofrougecommunities.com/documents.html</p>
Art-Fish-Fun Festival	<p>The 2020 festival had to be cancelled due to the COVID-19 pandemic. In 2021, the event was modified to include a park cleanup in Pontiac's Beaudette Park on River Day, June 12, 2021 with a total of 14 volunteers. A total of 100 Water Education "Craft Kits" were also distributed in the community.</p> <p>The festival was hosted in collaboration with WRC, Pure Oakland Water, Clinton River Watershed Council, The Art Experience in Pontiac and the City of Pontiac.</p>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
Clinton Cleanup	<p>In FY 2020, the CRWC coordinated a total 17 volunteer trash cleanup events within the watershed for Clinton Cleanup. 208 volunteers attended and collected approximately 4,740 pounds of trash. Volunteers included local community members, government partners, and corporate sponsors like GM and FCA. We continued to partner with local liveries who donate the use of kayaks and canoes to collect debris in-stream. CRWC provided PPE, sanitized all equipment, and made sure social distancing protocols were followed. People were eager to volunteer their time doing outdoor stewardship activities, which is why numbers for this event weren't greatly affected by the pandemic.</p> <p>In FY 2021, CRWC coordinated a total of 15 volunteer trash cleanups and 1 stream bank restoration within the watershed for Clinton Cleanup. 236 volunteers attended and removed over 2,150 pounds of trash and yard waste and planted more than 1,200 native plants.</p> <p>In FY 2021, WRC hosted a cleanup day in Pontiac's Hawthorne Park on Sept. 17th. WRC staff, CRWC staff and other community members joined together in the cleanup and picked up enough litter to fill a 3 yd³ "Bagster"!</p>
Clinton River Watershed Council Collaborative Public Education Plan (PEP)	<p>The CRWC works collaboratively with many municipalities, Macomb and Oakland counties and MSU-Extension within the Clinton River watershed to address the public education goals of the MS4 program. A summary of the FY 2020 and 2021 efforts as part of the Collaborative PEP are available in Appendix Q and on the CRWC's "Resource Library for MS4 Permittees" website at: https://www.crw.org/resources/resource-library/ms4-permittees</p>
CRWC Weekly Clean Program	<p>In FY 2020, the CRWC coordinated a total of 30 cleanups as part of the Keeping It Clean volunteer stewardship program, which includes Weekly Clean, paddling Trash Run cleanups, and other scheduled cleanups that fell outside of the Weekly Clean schedule. Of the 30 scheduled cleanups, 2 were cancelled due to inclement weather. Weekly Clean was not scheduled for 11 weeks during its normal program time due to the Stay-at-Home order in place for Michigan. A total of 281 volunteers participated, contributed a total of 670 volunteer hours and collected approximately 6,301 pounds of trash from the Clinton River, its tributaries and surrounding park areas. CRWC also created a virtual weekly clean program, encouraging watershed residents to organize their own cleanup in their neighborhood, local park, or favorite trail. Staff kicked off this virtual program, for a total of 8 additional cleanups hosted by CRWC staff.</p> <p>In FY 2021, CRWC coordinated a total of 60 cleanups as part of the Keeping It Clean volunteer stewardship program, which includes Weekly Clean, paddling Trash Run cleanups, and other scheduled cleanups that fell outside of the Weekly Clean schedule. Of the 60 cleanups, 1 was cancelled due to COVID-19. A total of 394 volunteers participated, with a combined effort of 790 volunteer hours and collected approximately 6,649 pounds of trash from the Clinton River, its tributaries and surrounding park areas.</p>
Flow Monitoring Sensors Initiative	<p>Open-storm.org is an open source blueprint for smart water systems founded by Professor Kerkez and the Real-Time Water Systems Lab at the University of Michigan. The project builds upon the same advances found in cell phones and autonomous cars to transform how we manage our water. From wireless sensors to real-time applications, we combine the flow of water with the flow of information to help watershed managers monitor and manage aging water infrastructure, which can be over decades old, sometimes older than a century. Looking ahead, these advances not only help inform maintenance and alerts (e.g. flood warnings), but also promise a future where existing valves and pumps are operated in real-time to instantly “redesign” existing infrastructure to be used much more effectively.</p> <p>Today we are laying the foundation for smart stormwater systems, starting with a massive network of wireless water level sensors. These sensors enable us to more finely track the movement of water throughout Oakland County and beyond. These efforts are just the first step in a new pilot by the Michigan Department of Environment, Great Lakes, and Energy and its partners to deliver the latest innovations in stormwater management throughout the Clinton River Watershed and Huron River Watershed.</p> <p>WRC has coordinated the installation of 17 sensors in relation to its lake level monitoring sites within the Clinton River Watershed.</p> <p>Currently, there are:</p> <ul style="list-style-type: none">- 40 sensors in the Clinton River watershed (20 in Oakland County)- 25 sensors in the Huron River watershed (2 in Oakland County)- There are hopes to expand the program into the Rouge River watershed. <p>In FY 2021, most of the sensors installed were updated to a new model.</p>

Action/Activity	<div>Oakland CDC MS4</div> <div>NPDES Permit No. MI0060089</div> <div>FY 2020/2021</div> <div>Measurables</div> <div>(October 1, 2019 - September 30, 2021)</div>
Friends of the Rouge Monitoring Activities	<p>A summary of FOTR monitoring activities that help support the natural resource protection and preservation efforts in Oakland County are provided in Appendix L. These documents include:</p> <ul style="list-style-type: none">• 2020 Annual Report for the Alliance of Rouge Communities (Jan. 1 - Dec. 31, 2020) which includes information on the number of people that were reached or participated in the following 2020 activities: Rouge Education Project, Benthic Macroinvertebrate Sampling, Frog and Toad Survey, Fish Surveys, Rouge Rescue, Rain Gardens for the Rouge, Rainsmart Program, Rouge River Water Trail and other local and regional outreach activities• 2019 Fall Bug Hunt Report: 31 sites were sampled by 76 volunteers at 20 sites on 10 teams. Based on three or more years of past data, 84% of the sites were stable, 13% were improving and 3% were declining. Compared to last Fall, a higher percentage of sites are stable and fewer are declining.• 2020 Winter Stonefly Search Report: 65 volunteers in 12 teams sampled 23 sites. An additional five (5) sites were sampled by Wayne County DPS and five sites on Johnson Creek by Sue Thompson. Stoneflies were found at 16 of the 34 sites (47%, up from 42% the prior year).• 2020 Fall Bug Hunt Report: 30 sites were sampled by 58 volunteers at 21 sites on 11 teams. Sue Thompson with Wayne County DPS and four Team Leaders sampled an additional six sites, U of M Students assisted at one site and Sue Thompson surveyed two more sites (total of 30 sites). Based on three or more years of past data, 80% of the sites were stable, 3% were improving and 17% were declining. Compared with past years, fewer sites are stable (2019 - 84%), fewer sites were improving (2019 - 13%) and more sites were declining (2019 - 3%).• 2021 Spring Bug Hunt Report: 35 sites were sampled by 101 volunteers at 25 sites on 13 teams. Two additional sites were sampled as part of the spring training for Team Leaders. Sue Thompson with Wayne County DPS sampled an additional eight (8) sites. 54% of the sites (19/35) had FAIR Stream Quality Index scores. 11 sites rated GOOD and four sites had POOR scores. There was one EXCELLENT score.• 2021 Fall Bug Hunt Report: 36 sites were sampled by 43 volunteers at 21 sites on 11 teams. Additional sites were sampled by a number of others for a total of 36 sites. Of the 36 sites sampled, 12 sites rated GOOD (33%), 21 sites were FAIR (58%), and two sites were POOR. There was one EXCELLENT score. Overall, 72% of sites were stable, 22% were improving and 6% were declining. Compared to last Fall, fewer sites are stable, more are improving and more are declining.• 2021 Winter Stonefly Search Report: 75 volunteers in 11 teams sampled 20 sites. An additional four (4) sites were sampled by Wayne County DPS and one additional site by Sue Thompson in Maybury State Park. Stoneflies were found at 10 of the 25 sites (40%, down from 47% the prior year).• 2019 Frog and Toad Survey: 121 participants surveyed 176 blocks for the year. American toads and green frogs were the most commonly heard species with wood frogs and leopard frogs least commonly heard. Eight species were heard calling in all but three subwatersheds.• 2020 Frog and Toad Survey: 204 participants surveyed 228 blocks for the year. American toads, gray treefrogs and green frogs were the most commonly heard species with wood frogs and leopard frogs least commonly heard. Eight species were heard calling in all but three subwatersheds.• 2021 Frog and Toad Survey: 143 participants surveyed 130 blocks for the year. American toads, gray treefrogs and green frogs were the most commonly heard species with leopard frogs least commonly heard, followed by bullfrogs and wood frogs. Eight species were heard calling in all but two subwatersheds. The 2021 survey map is available online at: https://www.arcgis.com/home/webmap/viewer.html?webmap=c48383a52e9f44c2a091a58698e75e77&extent=-83.8055,42.2018,-82.8188,42.6241.• Rouge River Fish Surveys: A total of 135 sites have been sampled in the watershed and 55 native and 9 non-native species have been identified. A summary of all the species of fish found in the Rouge River are available on the FOTR website at: https://therouge.org/species-of-fish-found-in-the-rouge-river/ A map of the sampling locations is available online at: https://www.google.com/maps/d/u/0/viewer?mid=1KceRpGBvwuHoMZV8vN08nzkJfXEOfC&ll=42.4461277191809%2C-83.37838249999997&z=11
Goose Management	<p>In an effort to curb nuisance geese populations on County properties to protect water quality from excess nutrients and bacteria, the following properties utilize services as follows:</p> <p>OCPRC: A combination of goose control methods is implemented annually as-needed based on the size of the goose population and associated nuisance levels at the following County Parks:</p> <ul style="list-style-type: none">-Glen Oaks-Lyon Oaks-Red Oaks-White Lake Oaks <p>OCFM: As of FY2021, Facilities employs Gooseworks which utilizes a dog to chase away the geese on Campus property; they are contracted to work in the Spring, two times daily for about 1.5 months and in the Fall, two times daily for about 3 months.</p>
Groundwater Model Program (MSU-Extension)	<p>Groundwater model demonstrations were conducted at a variety of MSUE-sponsored and partner-sponsored events. In FY2020 and FY2021, demonstrations were given as part of "Gardening to Protect Water Quality" trainings that were given as part of the Master Gardener Program (see details below).</p> <p>A 20-minute model demonstration recording was also created as part of the 2020 Michigan Water School webinar series (https://www.canr.msu.edu/water-school/video-series).</p> <p>Another video (located here: https://mediaspace.msu.edu/id/1_9vwq3qh8) was created for use at the virtual Rouge River Water Festival in Fall 2020 and Fall 2021.</p>

Action/Activity	<div>Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)</div>
GWK Code Audit	<p>In FY2019, WRC began an effort within the GWK Drainage District (14 communities) called the "Multi-Community Collaboration Stormwater Standards and Code Enforcement Project". The effort is being led by OC WRC, OHM Advisors and Birchline Planning, LLC. The goal of the SEMCOG-funded grant initiative is to collaborate on aligning stormwater management design standards and help determine the barriers to implementing Green Infrastructure within the GWK communities by completing a code audit. Ultimate goals of the project for all parties are many:</p> <ul style="list-style-type: none">-Reduce runoff volume - especially in combined sewer service areas-Improve water quality-Protect infrastructure and downstream properties-Facilitate redevelopment (or at minimum, don't create a disadvantage for one community vs. another-Enhance community quality of life-Increase resilience and reduce urban heat island effect <p>The project outcomes thus far are available on the WRC's website at: https://www.oakgov.com/water/stormwater/Pages/Green-Infrastructure.aspx</p> <p>The work under this initiative will be ongoing.</p>
Master Gardener Volunteer Program (MGVP)	<p>In FY2020-2021, a total of 160 individuals were enrolled in the Oakland County Master Gardener Volunteer Program. These programs included: Fall 2019 (38); Spring 2020 (41); Fall 2020 (41); and Fall 2021 (40). Each participant received 40+ hours of instruction including a 2-hour water quality presentation and groundwater model demonstration that is part of the Chapter “Gardening Practices to Protect Water Quality.” In addition, Bindu Bhakta also taught this water resource content in Washtenaw County on 11/20/19, Livingston County on 1/21/20 to 32 Master Gardeners, Macomb County on 8/20/2020 to 41 Master Gardeners, Ingham County on June 1, 2021, and March 17, 2021 in Macomb County.</p>
Michigan Cooperative Lakes Monitoring Program (CLMP)	<p>In 2019, 43 lakes in Oakland County were enrolled in the program. There was no formal program in 2020 due to the COVID-19 pandemic. In 2021, there were 20 lakes enrolled in the program. Information about the Cooperative Lakes Monitoring Program can be found online at: https://micorps.net/lake-monitoring/</p>
Michigan Conservation Stewards Program	<p>During FY2020-2021, two in-person Michigan Conservation Stewards Programs were held in Fall 2019: Washtenaw (22 participants) and Capital area (14 participants). This program, which consists of 9 sessions, consists of 45+ hours of in-class lectures, online modules, and hands-on field work. The ecosystem management-based curriculum covers the following topics: Michigan Conservation Heritage, Invasive Species, Climate Change, Terrestrial Ecosystems and Management (Grasslands and Forestlands), and Aquatic Ecosystems and Management (Streams, Rivers, Lakes, Wetlands). Participants also are required to complete a Capstone (Applied) volunteer project during the program.</p> <p>The Michigan Conservation Stewards Program also offered a Conservation Talk Tuesdays Webinar series in 2020 to 545 participants. The series consisted of 6 topics offered on October 20 and 27; November 10 and 24; and December 8 and 15. Topics included connecting youth to the outdoors, camera trap wildlife research, wild rice, arctic grayling reintroduction in Michigan, habitat restoration on Belle Isle, and understanding people and the landscape to protect Michigan’s natural heritage (all six webinar recordings are available here: https://www.canr.msu.edu/conservation_stewards_program/Webinar-Series/). The Conservation Stewards Program also co-sponsored with the Friends of the Detroit River a webinar to 130 participants on Coastal wetlands and climate change.</p> <p>Due to the inability to deliver in-person programs due to pandemic restrictions which began in March 2020, the in-person program was converted to a fully virtual format and offered Fall 2021. 137 participants enrolled in this virtual offering, including 3 from Oakland County. The virtual offering consisted of 10 sessions over 10 back-to-back weeks of Zoom instruction every Wednesday night from Sept. 8, 2021 to November 10, 2021. Topics included Foundations of Ecology, Aquatic Ecosystems, and Terrestrial Ecosystems. Details regarding the number of volunteer hours and additional advanced training hours completed by these individuals, as well as participants trained in Oakland County to date, are included in Appendix M, "2019 and 2020 Annual Conservation Steward Report At-A-Glance".</p> <p>A "Prairie Fens and Beavers" hike was co-hosted with Oakland County Parks on 9/30/2021 at Independence Oaks County Park in Clarkston with 12 participants attending.</p>

Action/Activity	<div>Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)</div>
Michigan Water School: Essential Resources for Local Officials	<div>Water School features both in-class presentations and interactive learning demonstrations along with a field-tour. The program includes sessions on a) water quantity; b) water quality; c) economics, finance, and planning; and d) water policy issues. Relevant topics presented as part of this course include:<ul style="list-style-type: none">• Michigan’s Blue Economy• Local water issues• Water quantity and groundwater availability in Michigan• Dealing with water quality issues affecting the waters of Michigan• Critical connections to Michigan’s Water Strategy• Fiscal benefits of water management• How to incorporate water into local planning and placemaking• Risk management approaches• Water policy at the federal, tribal, state and local levels• Online Toolkit to help address water problems</div> <div>In FY 2020, the Water School was converted into four (4) virtual sessions that reached 324 participants on October 9, 22, November 5 and 19th, 2020. The webinar series included core content delivered by MSU Extension staff, panel discussion with representatives from state and regional experts, and several online resources including the Water Policy Toolkit and a groundwater model demonstration video (all recordings and additional resources found here: https://www.canr.msu.edu/water-school/video-series). - Bindu Bhakta and Terry Gibb with MSU Extension also presented on Water School to 50 participants of the Michigan Water Environment Association's Virtual Watershed Summit on August 5, 2020, and to a national audience of Natural Resource Extension Professionals on May 24th at the Association of Natural Resource Extension Professionals Conference.</div> <div>In FY 2021, the Michigan Water School Team worked with the MSU National Charette Institute to conduct a formal evaluation process to review the program and develop a strategic plan for the next iteration of the program. These sessions included the following individuals and groups: Michigan Water School Advisory Council, Water School Team, watershed partners and stakeholders and program participants.</div> <div>In addition, MSU Extension Educators Bindu Bhakta and Mary Bohling conducted visits with 18 state legislators who represented the 6 watersheds that the Michigan Water School worked with including the Clinton River, Rouge River, Huron River, Detroit River, St. Clair and River Raisin Watersheds. Finally, in 2021 and as part of Pure Oakland Water's funding support, the MSUE Water School team began working to develop a promotional video for Water School which will be completed by the end of 2021.</div> <div>In FY 2021, the virtual Michigan Water School reached the following number of participants:<div>Oct 8, 2020 - Water Quantity: 116 Oct 22, 2020 - Water Quality: 101 Nov 5, 2020 - Economics: 94 Nov 19, 2020 - Policy: 93</div></div> <div>Video Views: As of 9/30/2021<div>Water Quantity: 164 Water Quality: 98 Economics: 46 Policy: 59 Groundwater: 158 Toolkit: 24</div></div>

Action/Activity	Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)
	Legislative Meetings: MSUE and watershed partners met with state legislators and staff serving in their watershed districts to discuss watershed issues in the area and hear about MI Water School program and resources. Total: 47 people March 5, 2021 - meeting with Rep Weiss and Clinton River Watershed Council (3 people) March 16, 2021 - meeting with Rep Young and Friends of the Detroit River (4 people) March 18, 2021 - meeting with Rep Breen and Friends of the Rouge (3 people) March 19, 2021 - meeting with Rep Thanedar and Friends of the Detroit River (3 people) March 30, 2021 - Huron River Watershed Council Change Makers meeting, where I gave Water School presentation (12 people) April 2, 2021 - meeting with Rep Cavanagh and Friends of the Rouge (4 people) April 16, 2021 - meeting with Rep Brabec and Huron River Watershed Council (2 people) August 6, 2021 - meeting with Rep Steckloff and Friends of the Rouge (3 people) August 10, 2021 - meeting with Rep Puri and Friends of the Rouge (3 people) August 12, 2021 - meeting with Rep Tisdell and Clinton River Watershed Council (3 people) Sept 3, 2021 - meeting with Rep Carter aids and Clinton River Watershed Council (4 people) Sept 16, 2021 - meeting with Rep Steenland and Clinton River Watershed Council (3 people)
MSUE News articles and MSUE Oakland County Conservation Connections Monthly Newsletter	In FY2020-FY2021, educational articles were written on a variety of subjects related to management of water and natural resources, published by MSU Extension (https://www.canr.msu.edu/outreach/). Topics included water quality, attracting wildlife to inland lake shorelines, stormwater management and septic system management. A list of articles is posted at https://www.canr.msu.edu/people/bindu_bhakta . MSUE Oakland County also published a Conservation Connections monthly e-newsletter. A total of 24 newsletters were published during FY2020 and 2021. All issues are available at: https://www.oakgov.com/msu/Pages/newsletters.aspx
MSU Extension Smart Gardening "Smart Shorelands" Tipsheet series	MSU Extension Educators, Paige Filice, Erick Elgin and Bindu Bhakta worked with MSUE Consumer Horticulture Educator Rebecca Finneran to develop a series of 5 tipsheets on earth-friendly, Smart Gardening practices targeting waterfront property owners who are engaged in lawn and garden activities that can have a negative or positive impact on lakes, streams and wetlands. The “Smart Gardening for Shorelands” tip sheets were released in 2021. In addition, three, one-hour trainings (April 7, March 3, and February 3, 2020) to augment these titles were developed and held to train Smart Gardening Extension Volunteers. The tipsheet series can be found online at: https://www.canr.msu.edu/home_gardening/tip_sheets/smart-shorelands
Native Plant Initiative	In the summer of 2020, the Oakland County Board of Commissioners launched the Native Plant Initiative. The program is designed to educate residents about the ecological benefits of cultivating native plants. Native plants help prevent the spread of invasive species, which can crowd out other local species, contribute to erosion, promote the use of toxic pesticides and cause other problems for natural habitats. Events hosted in the fall of 2020 and spring of 2021 have helped distribute 700 bundles, each containing dozens of native plants, to residents from many cities, villages and townships across Oakland County. Participants signed an environmental stewardship pledge and received kits with native flora along with information on how to plant and care for these beneficial species in their own gardens.
Native Plant Use	OCPR incorporates MI-genotype native seed and/ or plug material into all restoration projects, as well as in landscaping associated with developed park areas, as much as possible. All of the landscaping around the Waterford Oak Administrative Building and Waterford Oaks Activity Center was converted into Michigan genotype native perennials during FY 2020 and FY 2021. Additionally, a turf conversion began at Glen Oaks in fall 2021 along Pebble Creek in the Rouge River watershed.
Oakland County Clean, Drain, Dry, Dispose (CD3) Pilot Program	In the summer of 2020, the Oakland County Board of Commissioners (BOC) established the Clean, Drain, Dry, Dispose (CD3) Pilot Program to raise awareness about the dangers of invasive aquatic species and to educate residents about how to help prevent the spread of these species in Oakland County waters. The CD3 Pilot Program utilizes mobile boat cleaning stations to empower local water enthusiasts to better protect Oakland County waterways. These stations help users to clean, drain and dry their watercraft, and to dispose of any living organisms (plant or animal) that may be clinging to the crafts. With support from Oakland County Parks and Recreation, the pilot program ran for the final weeks of the 2020 boating season and relaunched at the beginning of the 2021 season. Additional resources related to the effort are available at: https://www.oakgov.com/boc/Programs/environmental/Pages/Boat-Cleaning-Stations-Initiative.aspx
Oakland County Green Infrastructure Vision	Oakland County was among three regions in the nation to receive the National Green Infrastructure Implementation Award in FY 2012 at the National Green Infrastructure Conference in Shepherdstown, West Virginia. For more info on Oakland County's Green Infrastructure vision, visit https://www.oakgov.com/advantageoakland/resources/Documents/Maps/pl_gi_poster.pdf . The Oakland County Green Infrastructure Vision acts as a guide for various conservation related projects and is used to support various grant applications. The information has been included in many Planning & Recreation documents.
Oakland County Green Streets	FY 2020 - OCFM applied for and received Invasive Species Nuisance permit for entire Campus. Sprayed Phragmites in September and then mowed them down in November. Working with OC Parks to start a controlled burn project for wildflower areas. FY 2021 - Half of wildflower areas were burned this spring with good results. Will try a controlled burn this year on other areas.

Action/Activity	<div>Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)</div>
Oakland County Street Tree Enhancement Match Grant Program (OAKSTEM)	The Oakland County Street Tree Enhancement Match Grant Program (OAKSTEM) was started as a pilot program by Oakland County Planning & Local Business Development to decrease impervious surface area and increase the tree canopy in communities that make up the George W. Kuhn (GWK) Drainage District. Of the fourteen (14) communities eligible to participate in the program, twelve (12) communities have submitted applications to participate.
Oakland County Campus Sustainability Plan	<p>In FY 2021, OCPLBD staff participated in the selection process to hire a firm that will complete a sustainability plan for the Oakland County Campus. The County has contracted with AECOM to assist in developing a Sustainability Plan that will be completed in Summer 2022. The County is currently seeking input on the plan. The plan will explore sustainability initiatives related to four themes: Energy & Emissions, Campus Operations, Nature & Ecosystems, and Health & Wellness.</p> <ul style="list-style-type: none">- The County hired its first ever Environmental Sustainability Officer.- The County hired its first ever Transit Advisor.
Oakland County Natural Areas	<p>OCPLBD contracted with Michigan Natural Features Inventory to update and enhance our Countywide Natural Area coverage (last updated in 2004). This effort was completed in FY2018 and produced a countywide baseline document that summarizes existing biological survey work and supporting GIS data sets along with recommendations for future surveys and GIS analysis.</p> <p>In FY2019, Oakland County reached the goal and was recognized as a Certified Wildlife Habitat by the National Wildlife Federation</p>
Prescribed Burn Program	<p>In 2007, Oakland County Parks initiated a Prescribed Burn Program for Natural Area Restoration.</p> <p>To date, prescribed burns have taken place on more than 2,500 acres at Addison, Independence, Rose, Groveland, Orion, Highland, White Lake, Springfield, Waterford, and Lyon Oaks where fire is being used to restore both upland and wetland natural areas and improve habitat quality within the parks. The timing of burns is carefully planned to minimize risk to park wildlife. The burns reduce shrubby invasives, release nutrients into the system, and facilitate microhabitat that favors native forbs, grasses, sedges, and wildflowers.</p> <p>Burns take place under the supervision of Oakland County Parks staff and licensed professionals, in cooperation with local fire departments. Future prescribed burns are planned throughout the park system.</p> <p>In 2021, OCPR burned approximately 470 acres.</p>
RiverSafe LakeSafe	<p>The CRWC's RiverSafe LakeSafe program is an education campaign that encourages homeowners to incorporate best management practices for watershed health in and around their home and community.</p> <p>In FY 2020 there were a total of 7 new certifications, leading to a total of 108 RiverSafe LakeSafe certifications since the program's inception in 2016 at the end of FY 2020. Public education related to this program was stunted due to the COVID-19 pandemic, and therefore certifications were as well.</p> <p>In FY 2021 there were a total of 10 new RiverSafe LakeSafe certifications, leading to a total of 118 RiverSafe LakeSafe certifications since the program's inception in 2016.</p>
Soil Testing Services	<p>In 2019, a total of 672 home lawn/garden - (517) and farm/commercial soil tests - (155) were processed for Oakland County. In 2020, 532 home lawn/garden - (479) and farm/commercial - (53) were processed for Oakland County. To date in 2021, 762 home lawn/garden - (649) and (113) farm/commercial soil tests were processed for Oakland County.</p> <p>These kits include everything needed to return soil samples to the MSU lab for processing. In return, the customer receives their fertilizer recommendation generated automatically by the MSU Home Soil Test web site (https://homesoiltest.msu.edu/). All additional soil test mailer sales for Oakland County and other residents were conducted through Shop MSU (http://shop.msu.edu/product_p/bulletin-e3154.htm) and not included in the number reported above.</p>

Action/Activity	<div>Oakland CDC MS4</div> <div>NPDES Permit No. MI0060089</div> <div>FY 2020/2021</div> <div>Measurables</div> <div>(October 1, 2019 - September 30, 2021)</div>
Stream Leaders Student River Monitoring Program (CRWC)	<p>In FY 2020, CRWC engaged 822 students, 35 teachers and mentors, and 8 schools through the Stream Leaders program in the fall of 2019. Students and mentors collected macroinvertebrates, tested the water chemistry, and observed stream morphology at their stream site to determine water quality. Numbers were already low due to the outbreak of eastern equine encephalitis in fall 2019, and then because of the rapid onset of the COVID-19 pandemic and the majority of schools not allowing field trips, spring 2020 monitoring was cancelled. CRWC program staff wanted to provide an education program for student's to use remotely, so we created 'Stream Leaders Online'. An interactive module was created for each Stream Leaders station (biological, chemical, and physical), as well as a short video that demonstrates the methods for how to complete each station. These modules will serve as an excellent resource for teachers to use as an introduction to the program, and as a catalyst for easily incorporating the monitoring day into overall science curriculum. CRWC's Student Congress is a development opportunity for students to present their findings to their peers and attend education workshops; unfortunately this event was cancelled for fall 2019 due to low attendance. CRWC was scheduled to host a mentor and teacher training in March 2020, but it was cancelled due to the COVID-19 pandemic.</p> <p>In FY 2021, CRWC engaged 624 students, 27 teachers and mentors, and 12 schools, homeschool groups and public events through the Stream Leaders student water quality monitoring program. In FY2021, the Stream Leaders program expanded accessibility by including homeschools, and public events hosted in partnership with nature centers and libraries. Student Congress was not scheduled for 2021, due to unknown and varying COVID-19 school restrictions and precautions. Plans are underway for a 2022 Student Congress in a new capacity that is more flexible and accessible to schools.</p>
Stormwater Education: Community presentations and workshops	<p>In FY 2020, CRWC hosted a total of 20 stormwater education presentations and reached 830 people within the Clinton River Watershed. CRWC developed new programs and outdoor workshops, as well as delivered programs virtually, in order to provide stormwater education opportunities for the community, while still promoting safety related to the COVID-19 pandemic.</p> <p>In FY 2021, CRWC hosted a total of 30 stormwater education presentations and reached nearly 400 people within the Clinton River Watershed.</p>
Stormwater Management Forums	<p>In FY 2020, CRWC hosted 2 Stormwater Management Forums targeted at municipal staff, elected officials, City Council members, engineers, consultants, planners, and EGLE staff. There were a total of 46 attendees and the locations were Macomb Intermediate School District in Fall 2019 and virtual via Zoom in Fall 2020. Two scheduled forums were cancelled due to the COVID-19 pandemic.</p> <p>In FY 2021, CRWC hosted 4 Stormwater Management Forums targeted at municipal staff, elected officials, City Council members, engineers, consultants, planners, and EGLE staff. There were a total of 142 attendees and the meetings were hosted virtually to continue best practices for COVID-19.</p>
Stormwater Utility Legislation	<p>In 2014, the WRC convened a workgroup of stakeholders to assemble language for a bill that will help clarify how communities can establish dedicated funding sources for managing their stormwater systems. A bill to enact new law known as the "Stormwater Utility Act" has been introduced in Lansing many times over the past several years without gaining enough momentum to be addressed by the full Legislature. As of FY 2021, the WRC has recommended a pause on any action due to pending court cases that may be decided favorable to a stormwater utility and then the bill would need to be amended significantly, or perhaps not needed at all. The WRC is beginning to work on revisions to a draft bill to gain community feedback and meet needs on stormwater utility guidance.</p>
WaterTowns	<p>FY 2020 was the 8th year of the WaterTowns® (WT) initiative with four new communities joining the program (Berkley, Ferndale, Center Line, and Royal Oak) and one organization (Huron-Clinton Metropark Authority). The WT program now has a total of 24 communities dedicated to enhancing water resources through education, engagement, and green stormwater infrastructure implementation. The City of Huntington Woods (2017 WT) installed a rain garden in Statue Park using their WT match mini grant. Royal Oak used their mini-grant in 2020 for installing a bioswale in Normandy Oaks Park. Mount Clemens (2014 WT), Sterling Heights (2015 WT) and Chesterfield (2019 WT) installed universally accessible canoe and kayak launches. Independence Township used their mini-grant to acquire engineered designs of 3 bioswale structures at Brady Lodge.</p> <p>FY 2021 was the 9th year of the WaterTowns® (WT) initiative with two new communities joining the program; Independence Township and Madison Heights. The WT program now has a total of 28 communities dedicated to enhancing water resources through education, engagement, and green stormwater infrastructure implementation. Four WaterTowns communities completed green infrastructure projects in 2021, Clinton Township, Independence Township, Madison Heights and Rochester Hills.</p>
Wildlife Habitats of Oakland (WHO)	<p>Wildlife Habitats of Oakland (WHO) is a collaborative effort among leading conservation groups, county government and nonprofit agencies in Oakland County. WHO is working in conjunction with the National Wildlife Federation to accomplish the following goals:</p> <ul style="list-style-type: none">• Create a network of wildlife-friendly habitats in residential yards, businesses, parks, trails and other publicly owned lands• Raise awareness about the importance of pollinators and other indicator species• Recognize the significant role that native plants have in fostering a healthy environment• Certify all of Oakland County as a National Wildlife Federation Community Wildlife Habitat <p>An article was published in the Oakland Press on 10/4/2019 highlighting the WHO program, entitled "County recognized by National Wildlife Federation as wildlife-friendly"</p> <p>More information is available on the WHO website: https://detroitzoo.org/who/</p>
Workforce Development - Blue Planet Jobs	<p>WRC, in partnership with Pure Oakland Water, the Cranbrook Institute of Science's Freshwater Forum and Oakland Schools Career Readiness Proram, has hosted the annual Blue Planet Jobs event which introduces high school students to careers in water. In FY 2020 and 2021, the event has been hosted virtually due to the COVID-19 pandemic. Highlights of the FY 2021 event is available on WRC's website at: https://www.youtube.com/watch?v=VmvZGe7OyP0. The program featured WRC staff talking about careers in Skilled Trades (Water and Sewer), Facility Operations (Pump Maintenance and Clinton River Water Resource Recovery Facility) and Engineering (various). A total of 173 students and 9 educators participated.</p>

Action/Activity	<div>Oakland CDC MS4 NPDES Permit No. MI0060089 FY 2020/2021 Measurables (October 1, 2019 - September 30, 2021)</div>
Workforce Development - "Careerversations" Event	WRC, in partnership with Oakland Schools' Career Readiness Program, hosted two virtual events to talk about careers in water with nearly 50 educators. Staff from WRC's Environmental Unit talked about stormwater management and highlighted various public education programs and resources that are available; other WRC staff talked about their roles in workforce development and public education and outreach initiatives for the WRC. The other virtual event featured staff from the Clinton River Water Resource Recovery Facility and discussed the importance of wastewater treatment and the skills needed in that field.
"Water by the Quarter" Online Program	"Water by the Quarter" is an online platform whereby Water Resources Commissioner Jim Nash interviews a variety of environmental resource professionals on various topics. The programs are produced by CMNtv. All episodes can be viewed here: https://www.youtube.com/playlist?list=PL9YdrTm187odc5sh8VQ1GCNhtiY22YM0k . A summary of guests, topics and links to playlists for FY 2020 and 2021 are included in Appendix N .