

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
<b>Public Education Plan</b>	
Bulletin Boards	Throughout FY 2018/2019, 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.
Dirt Doctors Program	-Approximately 1,968 students (and 345 adults) in 294 different presentations at 11 different events were reached in FY 2018. -The Dirt Doctors attended events in Ann Arbor, Bloomfield Hills, Dearborn, Detroit, Macomb, Madison Heights, Monroe, Novi, Pontiac, and Rochester Hills. -A total of 60 students reached in the classroom by the Dirt Doctors program responded to a pre- and post-survey that evaluated their awareness of watersheds and water pollution. In general, there was an increase in the level of awareness of the principles taught in the program. Of particular note, the students gained the most increase in awareness that we all live in a watershed, which watershed their school was located in, and that the greatest source of pollution is from soil erosion and sedimentation (a 52%, 47% and 51% increase in awareness, respectively). A summary of the information gleaned from these surveys is included in <b>Appendix A</b> .
	-Approximately 2,281 students, 605 adults and 50 teachers in 321 different presentations at 15 different events were reached in FY 2019. -The Dirt Doctors attended events in Livingston, Oakland, Macomb, Monroe and Wayne Counties, including the communities of Ann Arbor, Bloomfield Hills, Detroit, Keego Harbor, Macomb, Madison Heights, Monroe, Novi, Oxford, Pontiac, Southfield, Rochester Hills, West Bloomfield, and Westland. -A total of 13 students reached in the classroom by the Dirt Doctors program responded to a pre- and post-survey that evaluated their awareness of watersheds and water pollution. In general, there was an increase in the level of awareness of the principles taught in the program. Of particular note, the students gained the most increase in awareness of what the greatest source of water pollution is (from 8% to 46%, pre- to post), which watershed their school is located in (23% to 46%, pre- to post), and that we live in a watershed (46% to 77%, pre- to post). A summary of the information gleaned from these surveys is included in <b>Appendix A</b> . The Dirt Doctors were featured in an article about the Clinton River Water Festival in the Oakland Press published on 5/21/2019!
Drain Detectives Program	-There were no Drain Detectives programs requested in FY 2018 or 2019.
E-newsletter Articles	The WRC's E-Newsletter reaches approximately 1,500 individuals via e-mail and includes the following groups: -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)  -In FY 2018/2019, four (4) "In the Flow" Employee Newsletters were distributed to WRC staff and available upon request -Throughout FY 2018/2019, the WRC quarterly E-newsletter has advertised the Oakland County 24-Hour Pollution Hotline. Digital copies of the E-newsletters are available upon request.
Enviroscape Watershed Model	-Approximately 1,200 students (and 250 adults) in 127 different presentations at eight (8) different events were reached in FY 2018. -WRC staff presented the Enviroscape watershed model at events in Bloomfield Hills, Dearborn, Ferndale, Macomb, Rochester Hills, Troy and West Bloomfield. -A total of 158 students reached in the classroom by the Enviroscape Watershed Model program responded to a pre- and post-survey that evaluated their awareness of watersheds and water pollution. In general, there was an increase in the level of awareness of the principles taught in the program. Of particular note, the students gained the most increase in awareness that we all live in a watershed, which watershed their school was located in, and that the water we have on Earth now is all the water we will ever have (a 40%, 52% and 27% increase in awareness, respectively). A summary of the information gleaned from these surveys is included in <b>Appendix B</b> .

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Program	<p>-Approximately 843 students in 35 different presentations at nine (9) different events were reached in FY 2019.</p> <p>-WRC staff presented the Enviroscope watershed model at events in Birmingham, Bloomfield Hills, Dearborn, Ferndale, Macomb, Rochester Hills, and White Lake.</p> <p>-A total of 108 students reached in the classroom by the Enviroscope Watershed Model program responded to a pre- and post-survey that evaluated their awareness of watersheds and water pollution. In general, there was an increase in the level of awareness of the principles taught in the program. Of particular note, the students gained the most increase in awareness of what a watershed is, that we all live in a watershed, which watershed their school was located in, and that the water we have on Earth now is all the water we will ever have (a 36%, 51%, 34% and 38% increase in awareness, respectively). A summary of the information gleaned from these surveys is included in <b>Appendix B</b>.</p>
Electronics Recycling Event	<p>One electronics recycling event was held on June 5, 2019 at Oakland Schools. 54 cars attended the event with a total of 7 Gaylords and 3,435 pounds of e-waste was properly collected and disposed of.</p>
Household Hazardous Waste Information	<p>In FY 2018, the Oakland County Waste Resource Management Division sponsored five household hazardous waste disposal days: October 28, 2017 at Wildwood Amphitheater in Orion Township, April 28, 2018 at Oxford Middle School in Oxford Township, June 23, 2018 at Oakland University in Rochester, July 28, 2018 at North Sashabaw Elementary School in Independence Township and on September 8, 2018 at the Oakland County campus in Pontiac. During these collection events, 721,370 pounds of household hazardous waste was collected.</p> <p>In FY 2019, the Oakland County Waste Resource Management Division sponsored five household hazardous waste disposal days: October 13, 2018 at Oakland Community College Highland Lakes Campus, April 13, 2019 at Oxford Middle School in Oxford Township, June 22, 2019 at Oakland University in Rochester, July 20, 2019 at the Oakland County Service Center Campus in Pontiac and on September 7, 2019 at Oakland Community College Highland Lakes campus in Waterford Township. A total of 681,720 pounds of household hazardous waste was collected during the five collection events.</p> <p>Since the program began in 2003, residents of more than 53,000 households have disposed of nearly 7 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: <a href="http://www.nohaz.com">www.nohaz.com</a>.</p> <p>There were <b>22,577</b> website hits in FY2018 and <b>30,104</b> website hits in FY2019 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>
	<p>MSU-Extension hosted several workshops entitled, "Eco-friendly Landscaping for Water Quality". The focus included teaching participants how to garden with native wildflowers and plants, protect water resources and manage stormwater runoff and attract beneficial birds and butterflies to their garden. Three workshops were held at the following locations and dates:</p> <ul style="list-style-type: none"> <li>-May 30, 2019 at the Northville Community Center</li> <li>-June 3, 2019 at the Madison Heights Fire Station #1</li> <li>-June 13, 2019 at the Sylvan Lake Community Center</li> </ul> <p>MSU-Extension has a host of information on water management on their website at: <a href="https://www.oakgov.com/msu/programming/Pages/natural-resources.aspx">https://www.oakgov.com/msu/programming/Pages/natural-resources.aspx</a>.</p> <p>There were <b>50</b> website hits in FY2018 and <b>277</b> website hits in FY2019 to MSUE's natural resources education website.</p> <p>The CRWC in partnership with Cardno hosted a "Cost Effective Natural Shoreline Management" workshop on June 24, 2019 at 7:00 p.m. at the Independence Twp Fire Department. Topics to be covered included <i>Phragmites</i> and other invasive species management, shoreline erosion control, common mistakes for property owners and community resources.</p>

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Inland Lake Natural Shoreline/Education Program	<p><b>MSU-Extension:</b> 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"> <li>- A natural shoreline program was held as part of the Lapeer Conservation District Speakers Series on 5/10/18 in Dryden, MI.</li> <li>- A natural shoreline presentation was also given at the Waterford Lakes Spring Meeting on 5/31/18 in Waterford.</li> <li>- Another natural shoreline presentation was given to riparians from Hillsdale County on 6/1/19.</li> <li>- Two (2) additional natural shoreline programs were held in the Upper Peninsula (7/18/19) and Northern Michigan (7/19/19). Topics covered included the importance of natural shoreline landscapes on Michigan's inland lakes, healthy lake ecosystems, understanding the shoreline, planning a natural shoreline landscape, design ideas for a natural shoreline landscape, plant selection, planting stock and site preparation, natural shoreline success, and Michigan rules and regulations.</li> <li>- The 2018 Introduction to Lakes Online course was held January - March 2018 and January - March 2019. Topics included lake ecology, watersheds, shorelines, water law, aquatic plants, and citizen involvement. There were also three live chat sessions.</li> <li>- Lake ecosystem content was also included in the six (6) Michigan Conservation Stewards Programs.</li> <li>- A full-day lake management and Cooperative Lakes Monitoring Program training was held on 5/5/18 in Pontiac, MI as part of the Oakland Healthy Lakes Partnership.</li> <li>- A septic education program, "Nearshore Impacts of Septic Systems" was held on 10/4/18 at the Michigan Inland Lakes Convention in Grand Rapids.</li> <li>- The Protecting Inland Lakes: A Guide to Lake Stewardship was offered in partnership with the Huron River Watershed Council on 4/24/19 in Hamburg Township.</li> <li>- Ecofriendly Landscaping for Water Quality was offered in three locations in 2019: Northville (5/30/19), Madison Heights (6/3/19), and Sylvan Lake (6/13/19).</li> <li>- A presentation on MSUE invasive species programs and services was presented to the Oakland County Commissioners "Invasive Species Taskforce" on 7/17/19.</li> </ul>
Interpretive Signage	<p><b>OCPRC:</b> In FY2018 and FY2019, 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.</p>
	<p><b>OCPRC:</b> 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: <a href="https://www.michiganinvasives.org/occisma/">https://www.michiganinvasives.org/occisma/</a> and at <a href="https://www.sixriversrlc.org/oakland-county-cisma">https://www.sixriversrlc.org/oakland-county-cisma</a>.</p>

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<b>Invasive Species Management, and Education and Outreach</b>	<p><b>OCFM:</b>  FY 2018: The Grounds Department continues to clear European Buckthorn, Box Elder, Callery Pear, Japanese Honeysuckle, etc. from the County campus.</p> <p>FY 2018 - The Grounds department continues to remove invasive species and treat stumps with glyphosate injection to prevent re-growth. Phragmites have been mowed down to make treatment easier. The grow zones on the County campus received a Community Beautification Award from the Michigan Nursery and Landscape Association.</p> <p>FY2019 - Removal of invasive plant species on the campus, native woodlots and Mainland Drain continues.</p> <p><b>RCOC:</b>  In FY2018 and FY2019, RCOC maintained its partnership with the Oakland County CISMA and provided funding for invasive species management within RCOC road rights-of-way. RCOC will continue the partnership in the next fiscal year. RCOC staff have been trained on Phragmites information and the proper ways to remove and handle Phragmites.</p> <p><b>OS:</b></p> <ul style="list-style-type: none"> <li>● In FY2013, at the Main Campus, a COC (13-94-2458) for chemical treatment of Phragmites was received from the DEQ. In FY2014, the majority of the Phragmites at the Admin building in Waterford were removed. OS is continuing the program to kill off the phragmites each year.</li> <li>● Redefined the perimeter of Admin retention pond due to invasive species.</li> </ul>
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<b>Kids' Clean Water Calendar Contest</b>	<p>FY 2018:</p> <ul style="list-style-type: none"> <li>-More than 600 children across Oakland County participated in the 2018 Kids' Clean Water Calendar Contest.</li> <li>-A total of 5,500 calendars were distributed across Oakland County.</li> <li>-Drawings were submitted from classes representing 20 schools (31 classes). There were also eight (8) separate entries from individual residents.</li> </ul> <p>FY 2019:</p> <ul style="list-style-type: none"> <li>-Nearly 700 children across Oakland County participated in the 2019 Kids' Clean Water Calendar Contest.</li> <li>-A total of 5,500 calendars were distributed across Oakland County.</li> <li>-Drawings were submitted from classes representing 18 schools (30 classes). There were also six (6) separate entries from individual residents.</li> </ul> <p>An article promoting the 2019 calendar contest was published via RochesterMedia.com on 9/11/2018 (<a href="http://www.rochestermedia.com/annual-kids-clean-water-calendar-contest/">http://www.rochestermedia.com/annual-kids-clean-water-calendar-contest/</a>).</p> <p>An article promoting the 2020 calendar contest was published via the online Oakland County Times on 9/21/2019 (<a href="http://oaklandcounty115.com/2019/09/21/kids-can-enter-art-contest-for-environmental-calendar-deadline-oct-4/">http://oaklandcounty115.com/2019/09/21/kids-can-enter-art-contest-for-environmental-calendar-deadline-oct-4/</a>), as well as in the Oakland Press on 9/26/2019, "Fourth and Fifth Graders Invited to Enter Calendar Contest".</p>
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<b>Lakefront Lifestyles Magazine Advertisements</b>	<p>The Lakefront Lifestyles magazine gets mailed to 15,400 lakefront homeowners on any of 223 inland lakes in west and central Oakland County.</p> <p>The following educational topics were advertised in the Oakland Lakefront magazine during FY 2018/2019:</p> <ul style="list-style-type: none"> <li>April 2018/2019 - Pet Care (pet waste management)</li> <li>May 2018/2019 - Household Hazardous Waste management/Pet Care</li> <li>June 2018/2019 - Fertilize Sparingly and Caringly/Household Hazardous Waste management</li> <li>July 2018/2019 - Earth-friendly Landscaping</li> <li>August 2018/2019 - Septic System Maintenance</li> <li>September 2018 - Storm Drain Awareness (Oakland County's 24-Hour Pollution Hotline is also advertised within this ad)</li> <li>September 2019 - Septic System Maintenance (an article about the health impacts to exposure of elevated <i>E. coli</i> levels in our surface waters and best practices to protect water quality were featured on the same page as this ad in this issue)</li> </ul> <p>-A total of \$4,290.00 was spent on ads in FY 2018 (six ads at \$715 ea.)  -A total of \$4,590.00 was spent on ads in FY 2019 (six ads at \$765 ea.)</p>
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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>An article highlighting the purpose of Lake Improvement Boards, including quotes from a staff member of the WRC office, was featured in the September 2019 edition of the Lakefront Lifestyles magazine.</p> <p>WRC Lake Improvement Board meetings and related information are posted on the WRC Web site at: <a href="https://www.oakgov.com/water/resources/meetings/Pages/lake-improvement-board.aspx">https://www.oakgov.com/water/resources/meetings/Pages/lake-improvement-board.aspx</a></p> <p>There were <b>1,136</b> website hits in FY 2018 and <b>1,017</b> website hits in FY 2019 to WRC's lake improvement boards website.</p>
Michigan Green Schools Program	<p>For the 2017-2018 school year, 139 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. Thirty-two (32) of the schools received the special designation of Emerald Schools by successfully participating in 15 activities and 87 schools participated in 20 or more activities to earn the special designation of Evergreen status. An awards ceremony was held on April 26, 2018 to honor the schools. Twenty-two (22) of the 28 public school districts had schools represented. In addition, 14 of the schools were recognized for participation for all 11 years of the program, 28 schools have participated for 10 years, and 14 schools have participated for five (5) years.</p> <p>For the 2018-2019 school year, 138 schools were designated a Michigan Green School. There were 32 schools that also received the special designation of Emerald status by successfully earning an additional 15 points for extra activities and 80 schools earned the Evergreen status, by receiving an extra 20 points. Twenty-one (21) of the 28 public school districts were represented in the program this year. Eleven (11) schools have participated for all 12 years of the program, 25 schools were recognized for participating for the last 10 years, and 7 schools were recognized for participating the past five years. The awards ceremony was held at the Detroit Zoo on April 23, 2019 with close to 500 attendees. WRC also donated POW sling backpacks to attendees at this year's ceremony!</p> <p>Information on the program for Oakland County is available on Oakland Schools' Web site at: <a href="https://www.oakland.k12.mi.us/school-districts/services/environmental">https://www.oakland.k12.mi.us/school-districts/services/environmental</a></p>
Natural Resources Education Program	<p><b>OCPRC:</b> **See also activities described under 'workshops/seminars' and 'presentations/displays'</p> <p>During FY2018, OCPRC hosted and/or participated in 3 public education and outreach events (approx. 200 attendees) with water resource-related content, and hosted 3 lake clean-ups supported by 51 volunteers.</p> <p>During FY2019, OCPRC hosted and/or participated in 5 public education and outreach events (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. On 3/23/19, OCPR Hosted an OC CISMA-led invasive species workshop for Oakland County residents at the Waterford Oaks Activity Center. OCPR provided a table-top display that included information on the identification and management of terrestrial and aquatic invasive species. "Stop Aquatic Hitchhikers" stickers were provided (120 attendees)</p>
Oakland County Environmental Stewardship and Water Resource Websites	<p>WRC, OCPEDS, OCPRC and MSU-Extension Oakland County maintain environmental stewardship and/or water resource information on their Web sites at:            OCPEDS: <a href="https://www.oakgov.com/advantageoakland/planning/environmentalstewardship/Pages/default.aspx">https://www.oakgov.com/advantageoakland/planning/environmentalstewardship/Pages/default.aspx</a> (a total of <b>1,207</b> website hits in FY2018 and 2019)            WRC: <a href="http://www.oakgov.com/riparian">www.oakgov.com/riparian</a> (a total of <b>359</b> website hits in FY2018 and 2019)            WRC 24-Hour Pollution Hotline: <a href="https://www.oakgov.com/water/stormwater/Pages/environmental.aspx">https://www.oakgov.com/water/stormwater/Pages/environmental.aspx</a> (a total of <b>462</b> website hits in FY2018 and 2019)            OCPRC: <a href="https://www.oakgov.com/parks/getinvolved/Pages/Natural-Resource-Management.aspx">https://www.oakgov.com/parks/getinvolved/Pages/Natural-Resource-Management.aspx</a> (a total of <b>1,242</b> website hits in FY2018 and 2019)            MSU-Extension: <a href="https://www.oakgov.com/msu/programming/Pages/natural-resources.aspx">https://www.oakgov.com/msu/programming/Pages/natural-resources.aspx</a> (a total of <b>327</b> website hits in FY2018 and 2019)</p> <p>In FY 2018, Oakland County Information Technology developed a Seven Simple Steps to Clean Water Story Map and that is available at: <a href="https://oakgov.maps.arcgis.com/apps/Cascade/index.html?appid=1676f95c659d408e94bf73096db93387">https://oakgov.maps.arcgis.com/apps/Cascade/index.html?appid=1676f95c659d408e94bf73096db93387</a>; a link to the Story Map is on WRC's "Seven Simple Steps to Clean Water" website at: <a href="https://www.oakgov.com/water/resources/education/Pages/seven-steps.aspx">https://www.oakgov.com/water/resources/education/Pages/seven-steps.aspx</a>. 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 <b>702</b> website hits in FY2018 and <b>379</b> website hits in FY2019 to the WRC's Seven Simple Steps to Clean Water website.</p>

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Oakland County Trail Network (OakRoutes) Mapping	<p>-The OakRoutes map is available electronically at: <a href="https://www.oakgov.com/parks/Resources/OakRoutes%20Trail%20Map.pdf">https://www.oakgov.com/parks/Resources/OakRoutes%20Trail%20Map.pdf</a>. 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: <a href="https://www.oakgov.com/parks/parksandtrails/Pages/Trails.aspx">https://www.oakgov.com/parks/parksandtrails/Pages/Trails.aspx</a>.</p> <p>There were <b>5,230</b> website hits in FY 2018 and <b>6,040</b> website hits in FY 2019 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: <a href="https://oakgov.maps.arcgis.com/apps/Profile/index.html?appid=c75cbb32f63c41d4aedb51fae76f7c22">https://oakgov.maps.arcgis.com/apps/Profile/index.html?appid=c75cbb32f63c41d4aedb51fae76f7c22</a>. In FY 2018 and 2019, Countywide GIS updates were made to the Trail Path feature class.</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 is currently still working through achieving an approvable MS4 permit program to meet the requirements of the new EGLE permit.</p>
Onsite Sewage Disposal (Septic System) Maintenance Education	<p><b>OCHD:</b> June 8, 2018: OCHD presented water quality and water sampling education to the Rochester Women's Club and general public at the Rochester Library</p> <p>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 66 attendees in FY 2018 and 11 classes with 61 attendees in FY2019.</p> <p><b>WRC:</b> -An ad on Septic System Maintenance was published in the August 2018/2019 issues of the Oakland Lakefront Magazine that reaches 15,400 lakefront property owners annually in Oakland County.</p> <p><b>MSUE:</b> 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>Septic content was included in the following FY2018 and FY2019 programs:</p> <ul style="list-style-type: none"> <li>- One stand-alone septic education program, "Nearshore Impacts of Septic Systems" was held on 10/4/18 at the Michigan Inland Lakes Convention in Grand Rapids.</li> <li>- Septic information was provided via MSU Extension news articles and the Septic Education website available at: <a href="https://www.canr.msu.edu/septic_system_education/">https://www.canr.msu.edu/septic_system_education/</a>.</li> <li>- Introduction to Lakes Online Courses and Master Gardener Volunteer Trainings.</li> <li>- Several resident inquiries were fielded on various aspects of septic system management throughout the year.</li> <li>- MSUE had a septic display and roundtable educational session at the Michigan Onsite Wastewater Conference held on January 9-11, 2018 at MSU Kellogg Center.</li> <li>- Septic concepts were also taught as part of groundwater model presentations given throughout the year.</li> </ul>

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Action/Activity	
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: <a href="https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=db4052d9ca5c4e1798a7dfd2a54e3c25">https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=db4052d9ca5c4e1798a7dfd2a54e3c25</a>.</p> <p>In FY 2018, WRC printed a message on its January - June 2018 water/sewer bills that reach about 58,000 households and businesses in Oakland County with the following message: "Stop! Don't rush to flush unwanted or expired medications. Please visit michigan.gov/deqdrugdisposal to find a site near you." This message was put together by the Novi First Lego League Team. The Team met with WRC staff in November 2018 to share a presentation they put together on the issue of water contamination from pharmaceuticals. The team wanted to go a step further and help spread the message to the public on proper disposal of unwanted prescription medications and WRC was able to fulfill their request by putting their message on the water/sewer bills.</p> <p>There were <b>4,318</b> website hits in FY2018 and <b>1,729</b> in FY2019 to the Operation Medicine Cabinet website at: <a href="https://www.oakgov.com/sheriff/Community%20Services/domestic/Pages/Operation-Medicine-Cabinet.aspx">https://www.oakgov.com/sheriff/Community%20Services/domestic/Pages/Operation-Medicine-Cabinet.aspx</a>.</p>
	<p><b>WRC:</b> -WRC provided displays for four (4) events in FY 2018 and 14 events in FY 2019 that highlighted the public education programs and water resource-related programs offered by Oakland County. -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 2018 and 2019, Commissioner Nash participated in 82 speaking engagements, reaching more than 5,400 people and sharing info on the WRC's role in protecting water resources and the environment. See <b>Appendix C</b> for a complete listing.</p> <ul style="list-style-type: none"> <li>● 12/5/2017 - One WRC staffer presented at the 2017 MWEA Watershed and Stormwater Seminar in East Lansing as part of a panel on "Post-construction Stormwater Management Standards"</li> <li>● 2/14-16/2018 - One WRC staffer presented at the 119th Winter Conference of the Michigan Association of Drain Commissioners on "Community Engagement". The WRC highlighted many of its successful stormwater public education programs, including its annual Kids Clean Water Calendar Contest and water festivals.</li> <li>● 10/4/2018 - Commissioner Nash presented at the Trail, Water and Land Alliance's Fall Celebration in Independence Township on Water Infrastructure 101. Two (2) other WRC staffers were also in attendance.</li> <li>● February 2019 - As part of the Michigan Water School coordinated in Oakland County by the Clinton River Watershed Council, WRC staff provided a tour of the GWK RTB.</li> <li>● 9/28/2019 - Two WRC staffers attended a Girl Scouts event entitled, "Blue Water Wonderland" held at Riverfront Park in Algonac. Approximately 200 scouts were in attendance. WRC provided information on FOG, including the problems it can cause, and how to prevent it. A number of information materials were also distributed.</li> </ul> <p><b>OCPRC:</b></p> <ul style="list-style-type: none"> <li>● 1/18/19 - 1/20/19 - Fire and Ice Festival in Rochester Hills, OCPR distributed 150 copies of the 2019 WRC Kids Clean Water Calendar and 150 copies of a Homeowners Guide to Environmentally-Friendly Winter Maintenance Practices handout (Approx. 10,000 attendees)</li> <li>● 3/23/19 OCPR hosted an OC CISMA-led invasive species workshop for Oakland County residents at the Waterford Oaks Activity Center. OCPR provided a table-top display that included information on the identification and management of terrestrial and aquatic invasive species. "Stop Aquatic Hitchhikers" stickers were provided (120 attendees).</li> </ul>

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Action/Activity

Presentations and Displays

**OCPEDS:**

FY 2018:

10/5/2017, 1/18/2018, 4/19/2018, 7/19/2018, OCPEDS hosted the TWLA meetings with the following topics: History of Cranbrook Educational Community; Glacial Geology, Surface Hydrology, and Megafauna of Southeast Michigan; Oakland County MNFI Update; Cranbrook Collections Tour; Michigan Clean Water Corps; Detroit River Restoration; MI Air Line Trail and Great Lake to Lake Trail Route 1 Update; Paint Creek Trail; SEMCOG 360 Degree Imagery Mapping Project; Shiawassee River Water Trail Coalition; Oakland County Programs Update; The Daisy Project-Michigan; Springfield Township Habitat Management; Powshiek skipperling update.

OCPEDS is participating the Robert Wood Johnson Foundation-Invest Health Grant along with OC Health Division for the City of Pontiac to improve access to a variety of transportation options and encourage healthy lifestyles.

12/4/2017 attended National Convening in New Orleans, LA.

2/8/2018 presented on Ways to Successfully Complete Your 5-Year Park & Recreation Master Plan at the mParks Conference in Detroit.

3/19/2018 assisted Addison Township with a large outdoor map and information kiosk of the Lake George Nature Park.

4/14/2018 the Wildlife Habitats of Oakland participated in the Detroit Zoo GreenFest. Wildlife Habitats of Oakland (WHO) is a collaborative effort among several leading conservation groups, county government, and non-profit agencies in Oakland County, Michigan working with the National Wildlife Federation to become a Certified Wildlife Habitat.

6/2/2018 - OCPEDS participated in National Trails Day events on the Paint Creek Trail, Clinton River Trail, and at the City of Pontiac Fit Fest.

8/16/2018 - OCPEDS presented at the People For Bikes Draft Event in the City of Ferndale.

9/14/2018 - OCPEDS Completed a series of maps to assist the Detroit Audubon during the organization's annual Christmas Bird Count.

9/21/2018 - OCPEDS Completed a series of maps to assist the Oakland Audubon during the organization's annual Christmas Bird Count.

9/26/2018 - OCPEDS presented at the Michigan State University Extension - Conservation Stewards Program.

OCPEDS made numerous presentations at public meetings for the Pontiac 5-Year Parks & Recreation Master Plan update.

**OCPEDS:**

FY 2019:

11/5/2018 - OCPEDS hosted the Annual Heritage Conference at All Saints' Episcopal Church in the City of Pontiac. The Conference included sessions on "The Architecture of Death: An Integral Part of Life Today"; "Thinking Outside the Fence: How to Preserve your Historic Cemetery"; and "Preserving the Public Value of Historic Sacred Places". A tour of the Oak Hill Cemetery was also included.

3/23/2019 - the Wildlife Habitats of Oakland participated in the Oakland County Cooperative Invasive Species Management Area (CISMA) Invasive Species Summit. Wildlife Habitats of Oakland (WHO) is a collaborative effort among several leading conservation groups, county government, and non-profit agencies in Oakland County, Michigan working with the National Wildlife Federation on their Certified Wildlife Habitat program.

4/27/2019 - the Wildlife Habitats of Oakland participated in the Detroit Zoo GreenFest.

6/15/2019 - OCPEDS participated in City of Pontiac Fit Fest.

9/27/2019 - Hosted the League of Michigan Bicyclist training for Law Enforcement and Communities on Bicycle and Pedestrian Safety; Bike Rodeo Train the Trainer

FY 2019:

10/4/2018, 1/10/2019, 4/25/2019, 7/25/2019, OCPEDS hosted the TWLA meetings with the following topics: Uncovering the Past to Make Connections at the Brady Lodge; Get into going Outside! at Independence Township Parks, Making Our Trails into Destinations, Water Infrastructure 101; Ferndale: Growing Sustainably; Tour of Bay Court Park & Disc Golf Demonstration; Mission-Driven Decision Making for Your Fundraising/Volunteer Engagement Program; Keystone Species: Beavers...and Ways to Coexist; Holy Spokes; Oakland County Cooperative Invasive Species Management Area Update; Proper Invasive Plant Disposal; Oakland County Parks and Recreation Updates; Southeast Michigan's Bicycle and Pedestrian Mobility Plan

Action/Activity	<p style="text-align: center;"><b>Oakland County MS4 FY 2018/2019 Measurables (October 1, 2017 - September 30, 2019)</b></p>
	<p><b>OCHD:</b></p> <ul style="list-style-type: none"> <li>- April 4 &amp; 6, 2018: OCHD presented at the Cranbrook Institute "Spring into Science". A groundwater model was demonstrated to small groups of children and adults</li> <li>- May 5, 2018: OCHD presented at the Milford Wellhead Protection Open House using a groundwater model</li> <li>- May 18, 2018: OCHD presented at the Clinton River Water Festival at Oakland University. A groundwater model was demonstrated in a classroom setting and education provided to school aged children regarding groundwater protection, the water cycle and duties of the Oakland County Health Division Environmental Health Services.</li> <li>- June 2, 2018: OCHD presented at the Lyon Township Kite Festival. A groundwater model was demonstrated and education provided to festival attendees. Distributed informational brochures related to the holistic protection of ground and surface water. Answered questions from the public regarding the protection of drinking water.</li> <li>- June 13, 2018: OCHD presented at the Lyon Township Library Fun Day. A groundwater model was demonstrated and education provided to festival attendees.</li> <li>- May 4, 2019: OCHD presented at the Milford Wellhead Protection Open House using a groundwater model</li> <li>- May 17, 2019: OCHD presented at the Clinton River Water Festival at Oakland University. A groundwater model was demonstrated in a classroom setting and education provided to school aged children regarding groundwater protection, the water cycle and duties of the Oakland County Health Division Environmental Health Services.</li> <li>- June 2, 2019: OCHD presented at the Lyon Township Kite Festival. A groundwater model was demonstrated end education provided to festival attendees. Distributed informational brochures related to the holistic protection of ground and surface water. Answered questions from the public regarding the protection of drinking water.</li> <li>- June 8, 2019: OCHD presented at the Milford Public Library for Children's Science Fun Day . A groundwater model was demonstrated end education provided to festival attendees.</li> </ul> <p><b>Oakland Schools Curriculum:</b></p> <p>Oakland Schools staff continue to offer environmental education opportunities to their students and staff as follows:</p> <ul style="list-style-type: none"> <li>● As part of new employee orientation, an introduction to the preservation of the wetlands surrounding the OS building in Waterford is provided</li> <li>● Biotechnology and Natural Resources curriculum for all students in Oakland County is offered</li> <li>● Utilize the new environmental improvements, wind turbine and solar panels, at the OS technical campuses as part of the curriculum</li> <li>● IDEP tip sheets have been posted at all campuses</li> </ul> <p><b>MSU-Extension:</b></p> <p>Presentations and displays were provided at a variety of MSUE-sponsored and partner-sponsored events throughout Oakland County in FY 2018 and 2019. For a complete list of events held and the location, dates, and number of attendees see <a href="#">Appendix D</a>.</p>
Publicize Environmental-Related Events	-A total of 45 events were publicized on the bulletin board in the WRC lobby in FY 2018/2019. A complete listing of these events is available upon request.

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Action/Activity

Recreational Use/Access

**OCPRC:**

In FY2018 and 2019, the following projects took place that improved and/or increased public access to freshwater resources and/ or related public education tools on freshwater ecology and storm water quality:

- Addison Oaks - Shoreline restoration, fishing dock, boardwalk and access route, kayak and standup paddleboard launch.
  - Completion: 5/17/2019
  - Total Cost: \$147,000
- Independence Oaks Connector Trail - Joint, grant-funded project between OCPRC and Independence Township to connect Independence Oaks with township safety path.
  - Completion: 11/1/2018
  - Total Cost: \$1.3M
- Independence Oaks Lakeshore Trail Boardwalk Replacement
  - Completion: 4/15/2019
  - Total Cost: \$18,400
- Independence Oaks - Wint Nature Center Display Improvements
  - Modernize exhibits at the Wint Nature Center and Independence Oaks to provide a framework for keeping educational components up to date
  - Completed fall 2018
  - Approximate cost: \$10,000
- Red Oaks Nature Center Display Improvements
  - Modernize exhibits at the Red Oaks Nature Center to provide a framework for keeping educational components up to date
  - Anticipated completion fall 2019
  - Approximate cost: \$50,000
- Red Oaks Nature Center Deck Replacement
  - Anticipated completion: Fall 2019
  - Approximate cost: \$40,000
- Orion Oaks Dog Park Dock Replacement
  - Anticipated completion: 11/15/2019
  - Approximate Cost: \$55,000
- Groveland Oaks Campground - Groundwater discharge permit
  - Obtain groundwater discharge permit for Groveland Oaks campground
  - Anticipated completion fall 2019
  - Approximate cost \$20,000
- Springfield Oaks Activity Center (Oakland County Fairgrounds) – Stormwater Master Plan
  - Contracted stormwater masterplan for projected pavement buildout of the Oakland County Fairgrounds
  - Anticipated completion September 2019
  - Approximate cost \$35,000
  - Phased budgeting and construction implementation beginning FY20

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	<p><b>OCPEDS:</b> FY 2018: 10/27/2017 - OCPEDS assisted the Commerce, Walled Lake and Wixom Trailway Management Council with completing a successful Transportation Alternatives Program grant application to improve the surface and crossings on the MI Air Line Trail. Construction expected in FY 2019. 12/5/2017 - Pontiac Complete Streets/Non-Motorized Master Plan implemented the first mile of bike lane in the city on Saginaw Street. 5/19/2018 - OCPEDS participated in a Leonard Grain Elevator work day. The Grain Elevator is located at the park adjacent to the Polly Ann Trail. 6/28/2018 - OCPEDS assisted the Commerce, Walled Lake and Wixom Trailway Management Council with completing a successful Ralph C. Wilson, Jr. Foundation grant application to improve the surface and crossings on the MI Air Line Trail. Construction expected in FY 2019. 7/13/2018 - OCPEDS assisted the Clinton River Trail with the design and installation of new mile markers, half mile markers and confidence markers.</p> <p>FY 2019: New in FY 2017, Oakland County now has a for-public-use ARC-based online map showing public access fishing spots throughout Oakland County and it is available at: <a href="https://gis.oakgov.com/FishingSpots/">https://gis.oakgov.com/FishingSpots/</a> New in FY 2017, an ARC-based online map showing swimming spots throughout Oakland County is available at: <a href="https://oakgov.maps.arcgis.com/apps/View/index.html?appid=f53aca2c659647e3b1c029d7444d6634">https://oakgov.maps.arcgis.com/apps/View/index.html?appid=f53aca2c659647e3b1c029d7444d6634</a> - Assisted the City of Pontiac with updating their 5-Year Parks &amp; Recreation Master Plan 1/2019 - Assisted the MI Air Line Trail with writing a successful Recreational Trails Program grant for Phase 1 Trail Development project 9/17-9/18 2019 - Assisted the Michigan Trails and Greenways Alliance with the Great Lake-to-Lake Trail Inaugural ride as it passed through Oakland County (entire week long ride was from South Haven to Port Huron) - Participated on the SEMCOG Bike/Pedestrian Master Plan Task Force - Assisted with Clinton River Trail 15th Anniversary events - Attended progress meetings and supported MI Air Line Trail development</p>
Recreational Vehicle Waste Dumpsites	<p>The WRMD website has a link to RV dumpsites in MI and is available at: <a href="https://www.oakgov.com/advantageoakland/planning/Pages/waste-recycling-resources.aspx">https://www.oakgov.com/advantageoakland/planning/Pages/waste-recycling-resources.aspx</a> (under the "Statewide" dropdown, then click on "Recreational Vehicle Dump Stations in Michigan").</p> <p>There were <b>1,307</b> website hits in FY2018 and <b>2,303</b> website hits in FY2019 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: <a href="http://www.semco.org">www.semco.org</a>. 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: <a href="http://www.oakgov.com/water/">http://www.oakgov.com/water/</a>. 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 <b>Appendix E</b>, "Southeast Michigan Partners for Clean Water Community Annual Report Information, Sept. 2017 - August 2018 and 2019".</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. Pre- and post-surveys were also conducted as part of the effort in FY 2019. The resource materials are available online at: <a href="http://mionewater.org">mionewater.org</a>.</p> <p>The WRC's featured a link to the One Water campaign on it's homepage from July 15, 2019 - August 2019. They also helped to share the PSA information on its Facebook page. A link to the One Water campaign survey was also up for about a week in August 2019 on WRC's homepage.</p> <p>A complete list of materials distributed by WRC related to the Regional Public Education campaign is available upon request.</p>
	<p>For FY 2018, the 5th Annual Stormwater Summit was held on October 20, 2017 with approximately 250 attendees. -The agenda is included in <b>Appendix F</b> that identifies the featured speakers and topics presented. All PowerPoints and taped video of the event are also available at: <a href="http://pureoaklandwater.org/resources">http://pureoaklandwater.org/resources</a>.</p> <p>An evaluation summary for the 2017 Regional stormwater Summit is available upon request.</p>

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Action/Activity	
Regional Stormwater Summit	<p>For FY 2019, the 6th Annual Stormwater Summit was held on October 5, 2018 with approximately 220 attendees.</p> <p>-The agenda is included in <b>Appendix F</b> that identifies the featured speakers and topics presented. All PowerPoints and taped video of the event are also available at: <a href="http://pureoaklandwater.org/resources">http://pureoaklandwater.org/resources</a>.</p> <p>There were 20 WRC staff in attendance at the event.</p> <p>An evaluation summary for the 2018 Regional stormwater Summit is available upon request.</p> <p>An article about the 2018 Stormwater Summit was published in the C&amp;G News on 10/9/2018 to share details about the event.</p>
Riparian Information Distribution	<p>-To date, more than 16,700 Waterfront Wisdom booklets have been distributed.</p> <p>An excel spreadsheet that details the distribution list is available upon request</p> <p>-There were <b>213</b> website hits during FY 2018 and <b>204</b> website hits in FY 2019 to WRC's website on riparian education.</p>
River Day Events	<p><b>WRC:</b> The 5th Annual festival was held on June 9, 2018 and the 6th annual on June 8, 2019 in Beaudette Park in Pontiac and featured a day of fun including environmental exhibitors and activities, fishing with Commissioner Nash and a barbeque. In FY 2018, there were more than 500 visitors and 37 exhibitors. In addition, 19 volunteers showed up to help with the trash cleanup along the river's edge from 11 to noon collecting 20 bags of trash. In FY 2019, there were more than 800 visitors and 46 exhibitors representing 29 different organizations in attendance. In addition, 27 volunteers showed up to help with the trash cleanup along the river's edge from 11 to noon collecting 27 bags of trash. 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>The Art-Fish-Fun festival was featured in numerous articles including promotion of the event on the Oakland County Blog (<a href="https://oaklandcountyblog.com/2018/05/25/get-ready-for-the-5th-annual-art-fish-fun-festival/">https://oaklandcountyblog.com/2018/05/25/get-ready-for-the-5th-annual-art-fish-fun-festival/</a>), the Great Lakes Now website (<a href="https://www.greatlakesnow.org/2018/06/art-fish-fun-how-one-michigan-community-gets-kids-to-care-about-water/">https://www.greatlakesnow.org/2018/06/art-fish-fun-how-one-michigan-community-gets-kids-to-care-about-water/</a>), Metro Parent for Southeast Michigan events page (<a href="https://www.metroparent.com/calendar/art-fish-fun-festival-at-beaudette-park-in-pontiac/">https://www.metroparent.com/calendar/art-fish-fun-festival-at-beaudette-park-in-pontiac/</a>), the Oakland County Times website (<a href="http://oaklandcounty115.com/2019/06/01/june-8-art-fish-fun-festival-in-pontiac-to-celebrate-environment/">http://oaklandcounty115.com/2019/06/01/june-8-art-fish-fun-festival-in-pontiac-to-celebrate-environment/</a>), Pure Oakland Water's website (<a href="http://www.pureoaklandwater.org/art-fish-fun-festival-0">http://www.pureoaklandwater.org/art-fish-fun-festival-0</a>), and the Art-Fish-Fun Facebook page (<a href="https://www.facebook.com/ArtFishFun/">https://www.facebook.com/ArtFishFun/</a>).</p> <p><b>OCPRC:</b> OCPR did not participate in any River Day events in FY2018 or FY2019. Affiliated groups, Cranbrook Freshwater Forum and Slow Row Lake Orion held 'kayak-powered' lake clean-ups at Orion Oaks, Lake Sixteen both years: 6/9/18 - 11AM - 1PM; 6/1/19 - 11AM - 1PM. Attendance/ participation unknown.</p> <p><b>CRWC:</b> In FY2018, the CRWC coordinated 17 recreation and stewardship events on River Day, Saturday June 9th. Approximately 355 T-shirts were distributed to the public. In FY2019, the CRWC coordinated 11 recreation and stewardship events on River Day, Saturday, June 8th. There were approximately 1,598 attendees watershed-wide, and 150 T-shirts were distributed to the public. CRWC hosted a native plant sale that attracted roughly 250 people and generated over \$700 in revenue for the CRWC through partnership with Plants for Ecology. Activities included fishing derby's, paddling excursions, invasive species removal, trash cleanup, native plants sales and more.</p> <p>See <b>Appendix G</b> for a complete list of event locations.</p>

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	<p>Held on May 18, 2018 at Oakland University. 1,154 students (and 228 teachers/staff/chaperones) from 22 schools in 13 school districts experienced a mix of 49 indoor and outdoor sessions. In addition, there were 83 professional and student presenters and 70 student and professional volunteer guides.</p> <p>Three <b>WRC</b> staff members presented <b>Dirt Doctors</b> to 4 classes, approximately 105 students</p> <p>One staff member from the <b>OC Sherriff's Division</b> presented "Water Safety" to 5 classes, approximately 107 students</p> <p>Three staff members from the <b>OC Health Dept.</b> presented the "Groundwater Model" to 5 classes, approximately 86 students</p> <p>One <b>MSU-Extension Oakland County</b> staff member presented "Water's Journey: Out of the Tap &amp; Down the Drain" to 5 classes, approximately 124 students</p> <p>One <b>OCPRC</b> staff member presented "Macroinvertebrate Mayhem" to 5 classes, approximately 141 students</p> <p>Two <b>WRC</b> staff members attended and worked the registration area.</p>
School Program - Clinton River Water Festival at Oakland University	<p>Held on May 17, 2019 at Oakland University. Approximately 775 students (and 117 teachers/chaperones) from 15 schools attended. Staff from 43 different organizations donated their time and expertise to the students for the day. Info on the 2019 festival is available on OU's website at: <a href="https://www.oakland.edu/precollege/news/oakland-university-hosts-11th-annual-clinton-river-water-festival">https://www.oakland.edu/precollege/news/oakland-university-hosts-11th-annual-clinton-river-water-festival</a></p> <p>The following <b>WRC</b> staff presented:</p> <p><b>Dirt Doctors:</b> One team of Dirt Doctors (3 staff members) presented to 4 classes, approximately 102 students, 4 teachers and 12 adults.</p> <p><b>Enviroscape:</b> One staff member presented to 5 classes, approximately 111 students</p> <p>One staff member from <b>OCHD</b> presented the "Groundwater Model" to 4 classes, approximately 100 students</p> <p>One staff member from <b>OCPRC</b> presented "Macroinvertebrate Mayhem " to 4 classes, approximately 92 students</p> <p>One staff member from <b>MSU-Extension Oakland County</b> presented "Water's Journey: Out of the Tap and Down the Drain" to 4 classes, approximately 87 students</p> <p>Two staff members from the <b>Road Commission for Oakland County</b> presented "Make it to the Drain" game to 4 classes, approximately 87 students</p> <p>Two <b>WRC</b> staff members attended and worked the registration area.</p>
School Program - Detroit River Water Festival on Belle Isle in Detroit	<p>Held on October 19, 2017 on Belle Isle in Detroit. The festival is open to 8th graders in the Detroit Public Schools.</p> <p><b>WRC</b> staff presented the following at this years event: Dirt Doctors: Three staff members presented Dirt Doctors to 4 classes, approximately 180 students.</p> <p>Held on October 25, 2018 on Belle Isle in Detroit. The festival is open to 8th graders in the Detroit Public Schools. More than 500 Detroit public school students attended. Ten (10) different organizations presented and there were 75 volunteers.</p> <p><b>WRC</b> staff presented the following at this years event: Dirt Doctors: Three staff members presented Dirt Doctors to 4 classes, approximately 180 students and 4 teachers.</p>
School Program - Lake Erie Water Festival	<p>The 5th annual Lake Erie Water Festival was held on May 22, 2018 at the IHM Motherhouse in Monroe, MI. Monroe County sixth graders in the River Raisin watershed are invited to attend six, 25-minute presentations. There were 260 children, 26 teachers and 53 volunteers in attendance.</p> <p>Three <b>WRC</b> staff members attended and presented the "Dirt Doctors" to six classes, approximately 127 students.</p>

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Festival at IHM Motherhouse in Monroe	<p>The 5th annual Lake Erie Water Festival was held on May 21, 2019 at the IHM Motherhouse in Monroe, MI. Monroe County sixth graders in the River Raisin watershed are invited to attend six, 25-minute presentations. There were 277 children, 28 teachers and 55 volunteers in attendance.</p> <p>Two <b>WRC</b> staff members attended and presented the "Dirt Doctors" to six classes, approximately 121 students.</p>
School Program - Lake St. Clair Water Festival at Macomb Community College	<p>Held on May 15, 2018 at Macomb Community College with more than 1,400 fourth and fifth grade students in attendance which included 11 school districts, 20 schools, 28 presenters and roughly 223 presentations! <b>WRC</b> staff presented the following at this years event: <b>Dirt Doctors:</b> Three staff members presented Dirt Doctors to 8 classes, approximately 212 students.</p> <p>Held on May 14, 2019 at Macomb Community College with 1,473 fourth and fifth grade students (totaling 55 classes) in attendance which included 14 school districts and 22 schools. Twenty-five (25) different organizations presented. <b>WRC</b> staff presented the following at this years event: <b>Dirt Doctors:</b> Three staff members presented Dirt Doctors to 5 classes, approximately 143 students and 30 teachers/chaperones. <b>Enviroscape:</b> One staff member presented to 6 - 4th/5th grade classes, approx. 162 students and 12 teachers/chaperones</p>
School Program - Rouge River Water Festival at Cranbrook Institute of Science	<p>Held from Sept. 11-14, 2018 at Cranbrook Institute of Science. 1,354 students (and 50 teachers) from 19 different schools in 10 different communities attended (Beverly Hills, Bingham Farms, Birmingham, Bloomfield Hills, Commerce, Farmington Hills, Franklin, Southfield, Troy, and Walled Lake). Twenty-three (23) organizations presented during this year's Water Festival. A total of 128 volunteers/presenters donated their time during this year's water festival!</p> <p>The following <b>WRC</b> staff presented at this year's Festival: <b>Dirt Doctors:</b> Three staff members presented Dirt Doctors to 22 classes, approximately 491 students and 45 adults <b>Enviroscape:</b> One staff member presented to 2 classes, about 50 students.</p> <p><b>OCRPC:</b> Six (6) staff members presented "Macroinvertebrate Mayhem" to 14 classes, approximately 277 students</p> <p>Two <b>WRC</b> staff members attended and worked the registration area and/or worked as volunteer guides on all four days of the festival.</p> <p>Held from Sept. 10-13, 2019 at Cranbrook Institute of Science. Approximately 1,070 students from 46 classes and 17 different schools in 10 different communities attended (Beverly Hills, Bingham Farms, Birmingham, Bloomfield Hills, Bloomfield Twp, Commerce, Farmington Hills, Southfield, Troy and Walled Lake). Twenty-eight (28) organizations presented during this year's Water Festival.</p> <p>The following <b>WRC</b> staff presented at this year's Festival: <b>Dirt Doctors:</b> Three staff members presented Dirt Doctors to 16 classes, approximately 359 students</p> <p>Three staff members from <b>OCRPC</b> presented "Macroinvertebrate Mayhem" to 10 classes, approximately 239 students</p> <p>One staff member from <b>MSU-Extension</b> presented "Water's Journey - Out of the Tap and Down the Drain" to 7 classes, approximately 189 students</p> <p>Two <b>WRC</b> staff members attended and worked the registration area all four days of the festival.</p>
School Program - U of M Dearborn Water Festival	<p>Held on May 3, 2018 at the University of Michigan-Dearborn campus.</p> <p>The following <b>WRC</b> staff presented at this year's Festival: <b>Enviroscape:</b> One staff member presented Enviroscap to 4 classes, approximately 120 students, and 13 teachers and chaperones <b>Dirt Doctors:</b> Two staff members presented to 5 classes, approximately 125 students</p>

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	<p>Held on May 2, 2019 at the University of Michigan-Dearborn campus. The following <b>WRC</b> staff presented at this year's Festival: <b>Enviroscape:</b> One staff member presented Enviroscape to 8 - 5th/6th grade classes, approximately 175 students and 18 teachers/chaperones</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: <a href="https://www.oakgov.com/advantageoakland/planning/wasteandrecycling/Pages/Solid-Waste-Plan.aspx">https://www.oakgov.com/advantageoakland/planning/wasteandrecycling/Pages/Solid-Waste-Plan.aspx</a>.</p> <p>There were <b>427</b> website hits in FY2018 and <b>528</b> website hits in FY2019 to the County's Solid Waste Plan website.</p>
Storm Drain Markers/Stenciling Program	<p>There were no additional storm drain markers installed in FY 2018/2019.</p> <p>In FY 2019, one inquiry about storm drain markers was made by an Eagle Scout in the City of Troy; WRC provided some resources and ultimately the inquirer contacted the City that provided him with a preferred stencil to use for his project.</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 2018/2019, a total of 14 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 2018/FY 2019 is available at: <a href="http://www.oakgov.com/water/Pages/publications/PH2stormwaterPermit.aspx">http://www.oakgov.com/water/Pages/publications/PH2stormwaterPermit.aspx</a> and <a href="https://www.oakgov.com/water/stormwater/Pages/stormwater-reports.aspx">https://www.oakgov.com/water/stormwater/Pages/stormwater-reports.aspx</a>.</p> <p>There were <b>265</b> website hits in FY2018 and <b>218</b> in FY2019 to the WRC's Phase II Stormwater website.</p>
Technical Support	<p>-WRC staff responded to 131 different requests for information throughout FY 2018/2019. 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 2018/2019 is: <a href="https://www.oakgov.com/water/stormwater/Pages/stormwater-reports.aspx">https://www.oakgov.com/water/stormwater/Pages/stormwater-reports.aspx</a></p>
Wastewater Treatment Plant/RTB Tours	<p>WRC: Throughout FY 2018/2019, the WRC hosted the following tours of its wastewater treatment plants:</p> <ul style="list-style-type: none"> <li>- 16 tours of its Clinton River Water Resource Recovery Facility in Pontiac reached approximately 280 students/visitors.</li> <li>- 22 tours of its Walled Lake-Novu WWTP facility and reached approximately 389 students/visitors</li> <li>- 6 tours of its Commerce Twp WWTP facility and reached by approximately 78 students/visitors</li> <li>● February 2019 - WRC staff provided a tour of the GWK RTB as part of the Michigan Water School coordinated in Oakland County by the Clinton River Watershed Council. There were about 35 participants in the program.</li> </ul>
Watershed Council Support	<p>In FY 2018/2019, the WRC contributed the following in annual membership dues:</p> <ul style="list-style-type: none"> <li>-Clinton River Watershed Council: \$10,250.00 + \$10,250.00 = \$20,500.00</li> <li>-Huron River Watershed Council: \$8,730.12 + \$8,730.12 = \$17,460.24</li> </ul>

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Watershed Signage	<p>There was one inquiry regarding watershed signage information in FY 2019 from one of the Clinton River Watershed Council's Adopt-a-Stream teams to see if they could get a sign installed by their site (in a Sportsman's Club). WRC provided the sign specifications and information on a company that may be able to fabricate the signs.</p> <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"> <li>• 215 signs throughout the Huron, Clinton and Flint Watersheds in 2007-2008</li> <li>• 206 Clinton River Watershed signs in 2005</li> <li>• 230 Rouge River Watershed signs in 2001-2003</li> </ul> <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>
Workshops/Seminars/ Webinars	<p><b>WRC:</b></p> <ul style="list-style-type: none"> <li>• 10/11/2017 - Four WRC staffers attended the "Green Infrastructure Champions Workshop" hosted by SEMCOG University. The workshop's focus was on lessons learned from those that have implemented green infrastructure.</li> <li>• 11/28/2017 - Three WRC staffers viewed a webinar entitled, "Stormwater Requirements for Private Development - Getting Developers to the Table".</li> <li>• 6/15/2018 - Several WRC staffers attended a presentation by OHM Advisors on the use and application of the Great Lakes Automated Sampling Solutions and Evaluation System (GLASSES). This program could be used as a useful tool for IDEP, capital improvements, system/facility operation and real-time water quality data collection.</li> <li>• 7/24/2018 - 3 WRC staffers viewed EGLE's webinar hosted by the Nonpoint Source Program for FY2019 funding opportunities for watershed projects that restore impaired waters and protect high quality waters.</li> <li>• 12/4/2018 - One WRC staffer attended the MWEA's annual Watershed and Stormwater Seminar in Lansing. Topics included: FOG prevention, green infrastructure maintenance, stormwater public education via Facebook, MDOT BMP selection tool and asset management for stormwater.</li> <li>• 6/4/2019 - Several WRC staffers attended a lunch and learn about "Green Infrastructure Solutions (GIS)/Integrated Planning" - the presentation covered the use of Green Infrastructure as a component of a utility's wet weather management strategy, including integrated benefits for stormwater control, stormwater water quality and community benefits.</li> <li>• 6/4/2019 - One WRC staffer viewed a webinar on "TPH sampling" (Total Petroleum Hydrocarbons) hosted by Eurofins (Test America).</li> </ul> <p><b>RCOC:</b> RCOC environmental staff completed a number of workshops and seminars in FY 2018 and FY 2019: -Some of the seminars/workshops in FY 2018 included: SARA Title III workshop, MDEQ Environmental Compliance Conference, Oakland County Stormwater Summit, Section 7 Training, MDEQ Hazardous Waste webinar, MDEQ CESQG webinar, MDEQ Part 111 Hazardous Waste Management Rule Change webinar, MDEQ SARA Tier II Reporting Training. Staff also completed IDEP training, good housekeeping training and preventative maintenance training along with various SESC training. -Some of the seminars/workshops in FY 2019 included: Oakland County Stormwater Summit, Transportation &amp; the Environment Conference, EGLE SARA Tier II Reporting Training, MDOT's NEPA JPA Application training, infiltration approach to stormwater management training for roads and the EGLE/Army Corp Permits &amp; Processing training. Staff also completed IDEP training, good housekeeping training and preventative maintenance training along with various SESC training.</p> <p><b>OCPR</b> 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 FY18 - FY19:</p> <ul style="list-style-type: none"> <li>• 2018 MSUE Conservation Stewards Program - On 9/29/18 OCPR hosted approximately 40 students and instructors at Independence Oaks for hands-on field experiences/ lab sessions in: vernal pools, macroinvertebrate sampling, prairie fens, and basic water-quality sampling. OCPR staff assisted with presentations/ material provided for several sessions.</li> <li>• OCPR Vernal Pools Volunteers - In FY2018 OCPR mentored 1 volunteer to ground-truth GIS-mapped vernal pools at Highland Oaks; In 2019 OCPR is hosting 2 volunteers to ground-truth GIS-mapped vernal pools at Rose and Independence Oaks, and to monitor a known vernal pool at Waterford Oaks using an MNFI-defined protocol. Results of volunteer work will be used by OCPR NR staff for future mapping, monitoring, and protection of vernal pools in all parks.</li> <li>• 6/16/18 - Independence Oaks Fishing Derby - Program that includes educational components on water quality needed for healthy fish habitat; approx. 50 attendees (23 children).</li> <li>• 9/11 - 9/14/18 - Rouge River Water Festival - OCPR staff hosted a water quality game for school classes each day of the festival; approx. 400 student participants.</li> <li>• OCPR Vernal Pools Volunteers - In FY2019, OCPR hosted 3 volunteers to ground-truth GIS-mapped vernal pools at Rose and Independence Oaks, and to monitor a known vernal pool at Waterford Oaks using an MNFI-defined protocol. Results of volunteer work will be used by OCPR NR staff for future mapping, monitoring, and protection of vernal pools in all parks.</li> <li>• 1/18 - 1/20/19 - Rochester Fire and Ice Festival - OCPR staff distributed approx. 150 copies each of "CRWC's Citizen's Guide to Cold Weather Practices", and the " WRC 2019 Kids Clean Water Calendar".</li> <li>• 6/15/19 - Independence Oaks Fishing Derby - Program that includes educational components on water quality needed for healthy fish habitat; approx. 50 attendees</li> <li>• 5/17/19 - Clinton River Water Festival - OCPR staff hosted a water quality game for school classes and provided display materials and giveaways on aquatic invasive species; approx. 100-125 student participants.</li> <li>• 9/10- 9/13/19 - Rouge River Water Festival - OCPR staff hosted a water quality game for school classes each day of the festival; approx. 400 student participants.</li> <li>• 9/20/2019- Trailblazer Hike at Groveland Oaks County Parks, focused on water quality. Approximately 20 participants</li> </ul>

**Illicit Discharge Elimination Plan**

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Adopt-A-Road/Adopt-a-Highway Clean-up Program	<p><b>OCFM</b> participated in MDOT's Adopt-a-Highway program beginning in FY 2012. They adopted Telegraph Rd between Dixie Highway and Elizabeth Lake Roads. In FY 2018, two clean-up events took place:            -April 21, 2018 with 36 bags of trash collected by 28 volunteers            -September 22, 2018 with 22 volunteers collecting 33 bags of trash (a total of approximately 4.1 cubic yards of trash in FY 2018 collected).            In FY 2019, two (2) events were held:            -April 13, 2019 with 29 bags of trash collected and 21 volunteers            -September 21, 2019 with 29 bags of trash collected and 20 volunteers (about 3.4 cubic yards of trash in FY 2019 collected).</p> <p>The <b>WRC</b> adopted a one-mile stretch of Pontiac Lake Road from Telegraph to Scott Lake Road in FY 2011. Four clean-up events were held in FY 2018/2019 and a total of 4.12 cubic yards collected:            -May 31, 2018, 18 volunteers participated and collected 21 bags of trash, approximately 1.2 cubic yards of trash removed            -October 11, 2018, 18 volunteers participated and collected 22 bags of trash, approximately 1.3 cubic yards of trash removed            -May 16, 2019, 15 volunteers participated and collected 15 bags of trash, approximately .9 cubic yards of trash removed            -September 26, 2019, 10 volunteers participated and collected 12 bags of trash, approximately .72 cubic yards of trash removed</p> <p><b>Between OCFM and WRC cleanup events, a total of 11.62 cubic yards of trash were removed and properly disposed of!! That equates to 2,347.24 gallons or 1.17 tons kept out of the Clinton River watershed!</b></p> <p><b>RCOC:</b>            - The Adopt-A-Road Program sponsored by the RCOC resulted in approximately 172 cubic yards of trash being removed and properly disposed of in FY 2018.            - 14 new Adopt-A-Road groups joined in FY 2018.            - The Adopt-A-Road Program sponsored by the RCOC resulted in approximately 40 cubic yards of trash being removed and properly disposed of in FY 2019.            - 9 new Adopt-A-Road groups joined in FY 2019.            - The RCOC currently manages 298 Adopt-A-Road groups</p> <p><b>In total, RCOC Adopt-a-Road volunteers collected approximately 212 cubic yards of trash which equates to 42,800 gallons or 21.2 tons of trash kept out of Oakland County's watersheds!</b></p>
Beach Monitoring Program	<p>In FY2018, a total of 75 beaches on 58 different lakes were sampled for <i>E. coli</i>. The sampling program encompassed ten weeks and began the week of June 4, 2018. A total of 805 sampling events were conducted between June 4 and August 10, 2018 consisting of 2,415 individual samples. A list of beaches sampled is available online at: <a href="https://www.oakgov.com/health/Documents/2018%20Beach%20List.pdf">https://www.oakgov.com/health/Documents/2018%20Beach%20List.pdf</a></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 14 beaches closed during the 2018 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: <a href="https://www.oakgov.com/health/services/Documents/2018%20Beach%20Closure%20History.pdf">https://www.oakgov.com/health/services/Documents/2018%20Beach%20Closure%20History.pdf</a></p> <p>There were <b>1,207</b> website hits in FY2018 to the OCHD's Beach Monitoring Program website.</p> <hr/> <p>In FY 2019, a total of 75 beaches on 59 different lakes were sampled for <i>E. coli</i>. The sampling program encompassed ten weeks and began the week of June 3, 2019. A total of 885 sampling events were conducted between June 3 and August 9, 2019 (one beach was sampled through October 10th due to persistent elevated results) consisting of 2,655 individual samples. A list of beaches sampled is available online at: <a href="https://www.oakgov.com/health/Documents/2019%20All%20Beaches.pdf">https://www.oakgov.com/health/Documents/2019%20All%20Beaches.pdf</a></p> <p>There were 15 beaches closed during the 2019 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: <a href="https://www.oakgov.com/health/services/Documents/2019%20Historical%20Closed%20Beaches%2010%2011%2019.pdf">https://www.oakgov.com/health/services/Documents/2019%20Historical%20Closed%20Beaches%2010%2011%2019.pdf</a></p> <p>Additional details about which lakes are monitored and the closed beaches can be found online at: <a href="https://www.oakgov.com/health/services/environmental-health/Pages/beaches.aspx">https://www.oakgov.com/health/services/environmental-health/Pages/beaches.aspx</a></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 <b>1,511</b> website hits in FY2019 to the OCHD's Beach Monitoring Program website.</p>

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Complaint Tracking, Investigation and Notification and Reporting	<p><b>WRC:</b> The WRC received 30 complaints throughout 13 communities during FY 2018. Complaint investigations resulted in the identification of 21 illicit discharge sources, 20 of which have been eliminated in FY 2018. The remaining unresolved complaint is related to an ongoing investigation by WRC and Bloomfield Twp to locate the source of sanitary discharge in a residential subdivision to an enclosed local road drainage system. In FY2019, the source of sanitary discharge was found to be coming from a misconnected septic system to an illicit tap to the Claude H Stevens No. 4 Drain in Bloomfield Twp. Correction of this illicit connection is expected in FY 2020.</p> <p>In FY 2019, WRC received 49 complaints throughout 24 communities which resulted in the identification of 24 illicit discharge sources, all of which have been eliminated in 2019. See <b>Appendix H</b> for the complaint summary tables and <b>Appendix I</b> for maps of illicit discharges.</p> <p><b>OCHD:</b> The OCHD acted on 90 septic-related customer complaints in FY 2018 and 90 septic-related complaints in FY 2019, as reported to EGLE.</p> <p><b>RCOC:</b> RCOC staff responded to two (2) pollution complaints in FY 2018 and seven (7) in FY 2019. See <b>Appendix J</b> for a summary of the complaints and follow-up actions taken.</p> <p>The Oakland County 24-Hour Pollution Hotline was promoted in the following ways in FY 2018/19:          -Published on WRC's "Contacts" page at: <a href="https://www.oakgov.com/water/about/Pages/contact.aspx">https://www.oakgov.com/water/about/Pages/contact.aspx</a> and at: <a href="https://www.oakgov.com/water/stormwater/Pages/environmental.aspx">https://www.oakgov.com/water/stormwater/Pages/environmental.aspx</a>          -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</p> <p>In FY 2013, WRC participated with a Regional IDEP Group in developing a Regional IDEP identification contact brochure which gets distributed to municipal staff in the 5-County Southeast Michigan region at various IDEP training opportunities.</p>
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 2018, approximately 2,778.55 million gallons (MG) was retained and dewatered during wet weather events to the Great Lakes Water Authority (GLWA) for further treatment. These four RTBs experienced a total of 20 Permitted Treated Discharges (PTDs), for a total volume of 1,945.69 MG of permitted, treated and disinfected effluent. During this period, 100% of the PTDs were in compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations.</p> <p>For FY 2019, approximately 2,909.28 MG was retained and dewatered during wet weather events to the Great Lakes Water Authority (GLWA) for further treatment. These four RTBs experienced a total of 19 Permitted Treated Discharges (PTDs), for a total volume of 681.43 MG of permitted, treated and disinfected effluent. During this period, 95% of the PTDs were in compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations.</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: <a href="https://www.oakgov.com/water/wastewater/rtb/Pages/cso.aspx">https://www.oakgov.com/water/wastewater/rtb/Pages/cso.aspx</a>.</p> <p>WRC remains committed to continued water resource protection and preservation.</p> <p>There were a total of <b>40</b> website hits in FY2018 and <b>41</b> website hits in FY2019 to WRC's RTB website.</p>

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**WRC:**  
During FY 2018, surveys and dry weather screening were conducted at 105 outfalls/discharge points on 25 County Drains in five (5) communities in the Clinton and Rouge watersheds that were previously indicated as high priority for follow-up investigations of suspected illicit discharges. See **Appendix K** for a summary. Based on the screening and sampling data, 19 of the 25 Drains were eliminated as having suspected sources of illicit discharges and follow-up investigations were conducted on six (6) County Drains that indicated a high probability of dry weather illicit discharges including the Fracassi and 8 Mile Road Drains in Southfield, the Claude H. Stevens 3 & 4 in Bloomfield Twp, the Sharkey Drain in Madison Heights and the Kutchey Drain in Hazel Park.

Additional follow-up IDEP investigation work was conducted on drains in the Rouge Watershed as a continuation of the FY 2017 Rouge ARC IDEP-funded project. Additional sampling, CCTV investigations of the drain laterals, and dye testing of residential homes on the Fracassi Drain were conducted in FY 2018. Sampling results indicated that the sewage source on Indian St. at the manhole downstream of the John Grace Community Center is no longer present. The building was suspected of having illicit connections to the storm drain, but dye testing of fixtures in the east half of the building in FY 2017 was inconclusive with dye not showing up in either the storm or sanitary systems. The building is currently vacant and is in the process of being sold. The City of Southfield will address the potentially illicit connected drain fixtures when the property is sold. Sampling of the drain laterals on Negaunee St., Poinciana St., and Seminole St. indicated that illicit discharges of sanitary sewage may still be occurring on these laterals. Additional CCTV inspections of the laterals on Negaunee St. and Poinciana St. were completed and 4 6-inch unknown clay tile taps to the drain were located. These are in addition to the four (4) unknown taps that were discovered on Seminole St. in FY 2017. Dye testing of residential properties associated with the unknown tap locations did not indicate any direct illicit connections to drains. In addition, Microbial Source Tracking (MST) samples along with *E. coli* samples were collected from dry weather flow in the street drain laterals. Human DNA was detected in the samples on Negaunee, Poinciana and Seminole Streets, but human DNA markers were present in low concentrations. The presence of racoons in the drain systems was also noted. The lack of observed illicit connections to the drain and lack of physical evidence of sanitary debris in the street laterals and sampling results indicate that sewage may be present, but may be related to an indirect infiltration of sanitary sewage to the drain from the sanitary system which runs parallel to the storm drains on the street laterals and at approximately the same elevation. Review of CCTV footage of the storm drain laterals indicates multiple cracks and points of joint damage that could potentially be sources of sanitary infiltration. See the 2018 ARC IDEP Report for details. A review and inspection of the sanitary system in this area is recommended. No further IDEP Investigations are planned for FY 2019.

Follow-up sampling and investigations were conducted on sections 3 & 4 of the Claude H. Stevens Drain in Bloomfield Twp. in FY 2018. A failed residential septic system discharging to the upper portion of the Claude H. Stevens No. 3 Drain on Charring Cross was identified in FY 2017 and eliminated in FY 2018. Resampling of the drain at the downstream manhole location after corrections were made still showed high *E. coli* concentrations. A survey and sampling of upstream manholes indicated elevated *E. coli* levels, but also indicated evidence of animal feces throughout the drain system. No connections with flow exhibiting physical signs of sanitary sewage were found in the County Drain or connected local subdivision storm drain systems. In FY 2019, additional sampling and investigations of the drain and upstream connected subdivisions were conducted by WRC and Bloomfield Twp. The drain exhibited elevated *E. coli* levels in the upper portions and had signs of animal fecal matter, but no evidence of sewage discharges or illicit connections to the drain were discovered. The drain was cleaned and inspected by WRC as part of ongoing scheduled maintenance in FY 2019. Dry weather screening of all storm water structures conducted during the inspection process did not indicate any evidence of illicit discharges occurring. No further investigations are scheduled to be conducted in FY 2020.

A complaint was received in FY 2018 of a grey water discharge at the outlet of the Claude H. Stevens No. 4 Drain off Burnley St. Resampling of the drain again showed elevated *E. coli* at the unknown connection to the drain off Dover St. at Kensington Rd that was identified in FY 2017. WRC and Bloomfield Twp. were able to obtain road drain plans of the local storm drain system and survey and sample upstream manhole locations on Dover St. Results indicated that the source of upstream contamination was limited to a section of storm drain to the first upstream manhole east of Kensington. In FY2019, cleaning and CCTV inspection of the suspect drain section was conducted by RCOC and Bloomfield Twp. The inspection located an illicit tap to the drain with evidence of sewage from a residential home. An inspection of the property and dye testing of the plumbing fixtures by Bloomfield Twp. found that although the house is on a septic system, the sanitary system is connected to the illicit connection to the road drain on Kensington. A violation letter was issued to the homeowner by the Oakland County Health Department and is currently undergoing elimination and corrective actions for repair / replacement of the septic system which is scheduled to be completed in FY 2020.

In FY 2018, resampling at the outlet of the US-16 Drain to the Rouge River in Farmington for *E. coli* at the Shiawassee road/stream crossing and at upstream manholes indicated that the three (3) residential illicit connections to the drain that were eliminated in FY 2017 are no longer an issue. In FY 2019, a CCTV inspection of the drain was conducted by WRC Drain Maintenance as part of their routine maintenance schedule. No additional issues were found. The drain will be placed back on the DWS schedule to be monitored as per WRC's Alternative IDEP Plan.

In FY 2018, sampling of the 8 Mile Rd. Drain was conducted as follow-up to DWS sampling conducted in FY 2017 which had indicated that both the 8 Mile Rd. Drain outlet and the Rouge River upstream of the 8 Mile Rd. Drain outlet had elevated *E. coli* levels. The outlet and upstream Rouge River location were resampled in FY 2018 for *E. coli* and MST human DNA analysis. Samples came back with elevated for *E. coli* and positive for human DNA. The 8 Mile Rd. Drain is a large enclosed concrete box drain in the center of 8 Mile Rd that picks up road drainage along 8 Mile Rd and from residential and commercial property drainage areas on the north side of 8 Mile Rd in Southfield and Oak Park. The drain extends from the road/stream crossing just east of Telegraph Rd in Southfield to just east of Southfield Rd. in Oak Park. The drain has a continuous flow depth of 1 to 1 1/2 feet and picks up numerous road and other storm drain inlets along its route. Drain plans were reviewed and a project to walk the drain and catalogue and inspect the drain and inlets utilizing a consultant was conducted in FY 2018. During the inspection, 15 unknown inlets to the drain were located and examined. All of the inlets had some amount of dry weather flow, but none exhibited any physical evidence of illicit discharges. All inlets were sampled for *E. coli* and 2 inlets, at MH 5 and MH 11, had elevated *E. coli* concentrations of 1,035 and 11,640 CFU/100 mL. Location maps, sampling data and a summary of the 8 Mile Rd. Drain investigation is included in the 2018 ARC IDEP Investigation Report. No additional investigations were conducted in FY 2019. Investigation of the 2 unknown inlets will be scheduled for FY 2020.

During FY2019, WRC performed 5,039 inspections on structures located along 101 county drains in 23 communities in four watersheds (the Clinton, Huron, Rouge and Shiawassee). A total of 10 drains were identified with suspect discharges. All ten 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 is anticipated to be corrected in FY 2020.

IDEP Investigations

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity

**OCPRC:**

3 known IDEP Investigation Incidents in FY2018 and no known IDEP investigations in FY2019.

- Incident at the Waterford Oaks County Market Parking Lot on 5/22/18, was reported on 5/23/18. Incident consisted of a sanitary sewer overflow, a sewer line back-up to a manhole. WRC on-site assessment determined that there was no contact or impact to an adjacent catch basin; no grab samples/ OC health department testing were deemed necessary. Scoping of the sanitary line revealed a hairline crack as the cause of the water back-up. WRC contacting OC Facilities Maintenance (asset owner/ operator) to make appropriate arrangements to repair crack in sanitary line. An initial description of the incident was sent to MDEQ and no follow-up action was requested by MDEQ.
- 2 additional sewage line breaks were detected in June 2018; one involving a toilet in the Waterford Oaks Carpenter Shop; one involving a toilet in the Red Oaks Golf Pro-shop. In both incidents sewage impacted upland areas with no discernable impacts to surface, storm, or groundwater. Sewage lines were repaired in each case.
- Detailed descriptions of the above incidents and resolutions are available upon request.

**RCOC:**

No Illicit discharge issues have been found by RCOC during surveys of county road drains during FY 2018/2019 and no illicit discharges were reported during FY 2018/2019.

**In summary, during FY 2018/2019, 45 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 44 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 2020).**

The following pollutants were removed through the County's IDEP in FY 2018 and FY 2019 (see [Appendix L](#) for details):

- 4,442,315 gallons of sewage
- 2,940 gallons of fuels, oil and grease
- 873,281 pounds of sediment
- 50 pounds of asphalt
- 40 gallons of hydraulic fluid
- 20 gallons of paint washout
- 5 gallons of concrete washout
- 2,000 pounds of lime waste
- 20 yards of trash/debris
- An undetermined amount of yard waste and algae/nutrients

**WRC:**

FY 2018:

- 4/12/2018 - Six (6) WRC staffers attended an IDEP-Investigator level training session at Van Hoosen Farm in Rochester hosted by the ARC, Wayne County and the City of Rochester Hills.

FY 2019:

- 10/9/2018 - 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 - 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.

**RCOC:**

In FY 2018, 14 RCOC employees received IDEP training.

In FY 2019, 30 RCOC employees received IDEP training.

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
IDEP Training	<p><b>OCPRC:</b></p> <ul style="list-style-type: none"> <li>• FY18 and FY19 Safety Training Packets containing Stormwater Pollution Prevention Good Housekeeping, and Spill Response and Safety Measure Protocols were distributed to all OCPR Maintenance and Operation Facility Supervisors in April 2018 and 2019. The packet content was reviewed by Park Supervisors as part of park-specific, mandatory 30-minute safety training sessions for full and part-time facilities staff. Content of the training packages included 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.</li> <li>• In FY18 the above safety packet was presented in conjunction with a 20 min training video, "Storm watch - Municipal Storm water Pollution Prevention", to all park supervisors and key maintenance staff (approx. 30 employees video trained). Staff took an associated quiz on the training video and correct answers were reviewed as a group.</li> <li>• In FY19 an updated IDEP Tip Card Developed by the Southeast Michigan Regional IDEP Work Group (Available for download at: <a href="http://www.allianceofrougecommunities.com/PDFs/technical/IDEP%20Tip%20Card2.pdf">http://www.allianceofrougecommunities.com/PDFs/technical/IDEP%20Tip%20Card2.pdf</a>) was distributed as part of the annual OCPR Stormwater Pollution Prevention Good Housekeeping and Safety Measure Protocols Training Packet.</li> <li>• 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. Completed inventory forms will be archived within the OCPR CAMS system.</li> </ul>
Illicit Connection and Discharge Elimination	<p><b>WRC:</b></p> <p>FY 2018 and FY 2019 IDEP data indicates that 20 of 30 Pollution Hotline complaints investigated in FY 2018, or approximately 67%, and 24 of 49 complaints investigated in FY 2019, or approximately 49%, resulted in the identification and elimination of a pollutant source. Only one (1) illicit discharge was detected during FY 2018/2019 based on DWS, outfall surveys and drain Investigations. Follow-up IDEP investigations has lead to the identification and confirmation of a failed septic system that also has an illegal tap to the storm drain. The illicit connection is currently in the process of being eliminated.</p> <p>The pollution source removal percentages based on complaint investigations has decreased slightly over previous year's percentages of complaints resulting in identification and removal of pollution sources. Although the percentage of complaints resulting in the detection and elimination of illicit discharges is around 50%, the number and types of complaints, and the number of communities utilizing the hotline, is steadily increasing. 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 (1) source of pollution was 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 2019 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 2020.</p>
Implement Dry Weather Discharge Screening Procedures and Parameters for Road Drainage and Storm Drainage Systems	<p><b>WRC:</b></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"> <li>• MS4 discharge point surveys and data collection,</li> <li>• Pollution Hotline complaints, and</li> <li>• Illicit discharge investigations.</li> </ul> <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 2018 and 2019. IDEP work instructions and procedures are being utilized by other County departments in completing IDEP outfall/discharge point mapping and DWS in FY 2018 and 2019.</p> <p><b>OCPRC:</b></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> <p><b>RCOC:</b></p> <p>RCOC developed guidelines for the Illicit Discharge Elimination Program in March 2015, which includes RCOC procedures for dry weather screening. These procedures were updated in 2019.</p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
MS4 Discharge Point/Outfall Database	<p><b>WRC:</b> 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><b>OCPRC:</b></p> <ul style="list-style-type: none"> <li>• As of FY2017, 100% of OCPR MS4 outfall points were mapped and screened.</li> <li>• In FY2018, GIS data for OCPR MS4 outfalls and stormwater assets was incorporated into the Oakland County CAMS database.</li> <li>• Dry-weather screening of all known OCPR MS4 outfalls was completed in summer of FY2019.</li> </ul> <p><b>RCOC:</b> The RCOC has completed the mapping and dry weather screening of all stormwater outfall and discharge points (2,370 outfalls/discharge points screened). The discharge point/outfall database will be organized and maintained with Cityworks, RCOC's asset management system.</p> <hr/> <p><b>To date, all discharge points for County Departments have been mapped and include:</b>  Water Resources Commissioner – 100% (1,461 MS4 outfalls/discharge points monitored as part of WRC's Alternative IDEP approved in FY 2019)  Facilities Maintenance &amp; Operations – 100% (76 discharge points screened once per permit cycle)  Parks and Recreation Commission – 100% (68 discharge points screened once per permit cycle)  Oakland Schools - 100% (9 discharge points screened once per permit cycle)  Road Commission - 100% (2,370 outfalls/discharge points monitored as part of an Alternative IDEP)</p>
Oakland Brownfield Initiative	<p>As of FY 2019, there are over 460 projects in the program.</p> <p>There are 355 projects with environmental assessment work started.</p> <p>A total of \$1,450,000,000+ on proposed investment.</p>
Oakland County Facilities with OSDS	<p><b>RCOC</b> has two garage facilities with OSDS (Milford-District #1, Davisburg-District #2) and each has their tanks pumped on a regular basis.</p> <p><b>OCPRC</b> maintains five (5) OSDS<sup>1</sup> as outlined in their respective Operations &amp; Maintenance Manual.</p> <p><b>WRC</b> operates and maintains several community septic systems and county park disposal systems:</p> <ul style="list-style-type: none"> <li>-Island Club Condominiums in Commerce Township</li> <li>-Woodbridge Lake Estates in Walled Lake</li> <li>-Belle Ann Falls Estates in Ortonville</li> <li>-Lower Pettibone Lake Community Septic in Highland Township</li> <li>-Addison Oaks Park Lagoon System (maintained by WRC)</li> <li>-Groveland Oaks Park (maintained by WRC as of FY2019)</li> <li>-Springfield Oaks Park (maintained by WRC)</li> </ul> <p>These systems are visited at least monthly.</p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
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 2018, EHS conducted 62 septage vehicle inspections of both new haulers and existing vehicles and 2 septage receiving station inspections and 65 vehicle inspections and 2 septage receiving inspections in FY 2019. 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 801 on-site sewage disposal system permits for FY 2018 and 728 permits in FY 2019 as reported to EGLE. OCHD completed 440 failure evaluations in FY 2018 and 443 failure evaluations in FY2019.</p> <p>The OCHD has a website dedicated to information about its OSDS Program at: <a href="https://www.oakgov.com/health/services/environmental-health/Pages/septic.aspx">https://www.oakgov.com/health/services/environmental-health/Pages/septic.aspx</a></p> <p>There were a total of <b>4,792</b> website hits in FY2018 and <b>4,306</b> in FY2019 to the OCHD's Septic System website.</p>
Road Commission for Oakland County Owned and/or Operated Storm Drain Discharge Catch Basin Surveys	<p>In FY 2018, RCOC collected 8,808 catch basin and 1,400 manhole points. RCOC hired three environmental college interns this past summer to help collect the catch basin and manhole points. In FY 2019, RCOC collected 9,690 catch basin and 1,029 manhole points. RCOC hired three environmental college interns this past summer to help collect the catch basin and manhole points.</p> <p>RCOC is working with EGLE to prioritize the outfall/discharge points for future inspections.</p>
Spill/Non-Stormwater Release Response	<p><b>WRC:</b> 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> <p><b>RCOC:</b> RCOC has a Pollution Incident Prevention Plan (PIPP) that is also amended for brine well operations. In FY 2019, RCOC updated the Spill Response Procedure flowchart that was distributed to all directors and maintenance staff. RCOC also promotes WRC's 24-hour Pollution Hotline at (248) 858-0931 in addition to RCOC's 7-day a week Department of Customer Service (DCS) contact numbers to the public. When DCS is contacted, the incident is inputted into City Works and forwarded to the correct department. RCOC's PIPP was updated in March, 2015.</p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Update Prioritization and Scheduling of Dry Weather Screening Activities at Known Discharge Point Locations, Road Drainage and Storm Drainage Systems	<p>WRC and RCOC will continue to follow-up on suspicious discharges identified during FY 2018 and/or 2019 surveys. Follow-up sampling and investigations are scheduled to continue through various IDEP programs in FY 2020.</p> <p><b>WRC:</b> 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 triennial 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 2020.</p> <p>WRC is not applying for any additional funding from the ARC for IDEP investigations in the Rouge Watershed. WRC will continue work to investigate and eliminate illicit discharges on Drains identified in FY 2018 / 2019 and conduct additional investigations on identified priority drains in the watershed in FY 2020.</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 tributary to the Red Run Drain and Bear Creek in the Clinton Watershed in FY 2020.</p> <p><b>OCPRC:</b> 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><b>OCFM</b> 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> <p><b>Oakland Schools</b> will continue to inspect its discharge points once per permit cycle.</p>
Verify New Connections - Prevent Illicit Connections	<p>WRC currently employs six (6) 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 2018, WRC inspected a combined 467 house lead and sewer connections and 84 drain permits throughout Oakland County and provided full time inspection on 25 new construction projects.</p> <p>In FY 2019, WRC inspected a combined 502 house lead and sewer connections and 171 drain permits throughout Oakland County and provided full time inspection on 28 new construction projects.</p>
Wastewater Treatment Plant Operation	<p>For FY 2018, approximately 7.76 billion gallons of treated wastewater was discharged from the WWTP's.</p> <p>For the eighth 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 12 straight years without a non-compliance. At the same time, for the ninth year in a row, the Commerce Township WWTP was awarded the Platinum Award, meaning that the Commerce WWTP has now gone 13 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 two permit non-compliances and was awarded NACWA's Silver Award.</p> <p>For FY 2019, approximately 9.15 billion gallons of treated wastewater was discharged from the WWTP's.</p> <p>For the 9th 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 13 straight years without a non-compliance. At the same time, for the tenth year in a row, the Commerce Township WWTP was awarded the Platinum Award, meaning that the Commerce WWTP has now gone 14 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 two permit non-compliances and was awarded NACWA's Silver Award.</p>
<b>Construction Stormwater Runoff Control</b>	

<b>Action/Activity</b>	<b>Oakland County MS4  FY 2018/2019  Measurables  (October 1, 2017 - September 30, 2019)</b>
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Soil Erosion Program	<p><b>WRC:</b>  The WRC Soil Erosion Unit currently has four (4) inspectors and is responsible for implementing the SESC program in 21 cities, 10 villages and 16 townships (47 CVT's).</p> <p>The WRC soil erosion unit issued 866 single-family residential soil erosion permits, 235 commercial soil erosion permits and 301 permit exemptions in FY 2018. There were also six (6) violation corrections conducted for a total of \$6,850.00.</p> <p>The WRC soil erosion unit issued 688 single-family residential soil erosion permits, 189 commercial soil erosion permits and 229 permit exemptions in FY 2019. There were also two (2) violation corrections conducted for a total of \$1,957.50.</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>
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Soil Erosion Program	<p>The RCOC has been an Approved Public Agency since 1975. In FY 2013, RCOC's program was audited by the MDEQ and was approved. RCOC currently has 39 certified SESC/stormwater operators on staff.</p>
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<b>Post-Construction Stormwater Runoff Controls for Development and Redevelopment</b>	
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Community Master Plan Review	<p>In FY 2018, Oakland County PEDS reviewed four (4) master plans and six (6) amendments. The master plans came from the City of Clawson, Village of Leonard, the City of Orchard Lake, and the City of Keego Harbor. Master plan amendments were received from Bloomfield Township, Rose Township, Highland Township, the City of Northville (2), and the City of Auburn Hills.</p> <p>In FY 2019, OCPEDS reviewed five (5) master plans and one (1) amendment. The master plans came from the Village of Clarkston, Oxford Township, City of Wixom, Farmington Hills, and Royal Oak Township. Master plan amendments were received from the City of Rochester Hills.</p>
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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: <a href="https://www.oakgov.com/water/stormwater/lakes-watersheds/Pages/lake-level-reports.aspx">https://www.oakgov.com/water/stormwater/lakes-watersheds/Pages/lake-level-reports.aspx</a> and <a href="https://www.oakgov.com/water/stormwater/lakes-watersheds/Pages/lake-level.aspx">https://www.oakgov.com/water/stormwater/lakes-watersheds/Pages/lake-level.aspx</a></p>
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Drainage District Mapping	<p>As of FY 2019, WRC has 446 assessment districts mapped and approved for use. Of these, 29 are Lake Level Assessment Districts, 417 are Drain Assessment Districts.</p>
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**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Stormwater Standards	<p><b>WRC:</b> 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 2018, WRC reviewed and approved 16 stormwater BMPs and all but two are privately maintained (two are maintained by RCOC). In FY 2019, WRC reviewed and approved 32 stormwater BMPs, one (1) of which is maintained by WRC. For a complete list of the variety of BMPs approved and maintained, see <b>Appendix M</b>.</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>-WRC is currently in the process of obtaining approval of its proposed Stormwater Management Design Standards to meet the most recent Phase II NPDES stormwater general permit requirements and expects to have an approvable standard in April 2020.</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&amp;M agreements are also kept on file and are available upon request.</p> <p><b>RCOC:</b> RCOC's Post-Construction guidelines were updated in 2019 which identifies how RCOC minimizes post-construction runoff by using BMP's on a job-by-job scenario for every project. RCOC is waiting on MDOT's guidelines to be approved before making further edits to the current guidelines.</p>
USGS Stream Flow Gauges	<p>-Six (6) continuous-record gage stations were financed by WRC in FY 2018 and FY 2019 -FY 2018 expenditures on gage operation totaled \$55,341 (USGS covered \$27,519 of the total \$82,860 cost) -FY 2019 expenditures on gage operation totaled \$55,341 (USGS covered \$27,519 of the total \$82,860 cost)</p> <p>-The data can be accessed from the USGS Web site at: <a href="http://waterdata.usgs.gov/mi/nwis/rt">http://waterdata.usgs.gov/mi/nwis/rt</a></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: <a href="https://www.oakgov.com/water/projects/Pages/default.aspx">https://www.oakgov.com/water/projects/Pages/default.aspx</a></p> <p>An article about the WRC's Clinton River Water Resource Recovery Facility was featured in the Summer 2019 edition of the MWEA Matters magazine.</p>

**Pollution Prevention and Good Housekeeping for Municipal Operations  
Employee/Contractor Training**

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity

**WRC:**

FY 2018:

- 4/12/2018 - Six (6) **WRC** staffers attended an IDEP-Investigator level training session at Van Hoosen Farm in Rochester hosted by the ARC, Wayne County and the City of Rochester Hills.

FY 2019:

- 10/9/2018 - 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** - 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.
- 1/31/2019 - 24 **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.

As of FY 2019, WRC has 8 staff that are Certified Industrial Stormwater Operators and 25 staff that are Certified Construction Site Stormwater Operators. Lists of certified staff are available upon request.

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/projects/soilerosion/soil\\_erosion\\_details%20Sheet-updated\\_042013.pdf](https://www.oakgov.com/water/projects/soilerosion/soil_erosion_details%20Sheet-updated_042013.pdf) to address the contractor training requirements

**OCPRC:**

In FY18-19 OCPR created an internal Best Practices Resource Guide for Parks and Facilities on Water Resource Permitting. OCPR worked with WRC's SESC Permitting Division for document vetting and review. Copies were distributed to parks supervisors, district chiefs, and project managers in winter 2019.

Contractors:

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.

Staff:

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.

- 1 OCPRC staff renewed their Certified Industrial Stormwater Operator standing in FY2017. At this time OCPR has 1 Certified Industrial Stormwater Operator on staff (I-14985; exp. 2023).
- The following 16 staff by position maintained MDA Pesticide Applicator Certification at OCPR in FY18 - FY19: 4 Park Crew Chiefs, 5 Groundskeeper II, 3 Grounds Maintenance Supervisor, 4 Parks Helpers.
- UST B Certification Exam; 11/21/17; 1 staff AND 11/20/18; 1 staff

Employee/Contractor Training  
Related to Stormwater Management

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

**Action/Activity**

Activities	<p>The following external conferences which provided instructional material pertinent to stormwater pollution prevention and management BMPs were attended by staff during FY18 - FY19:</p> <ul style="list-style-type: none"> <li>• MSU Extension Introduction to Lakes Online Course, 6-week spring 2018; 1 staff</li> <li>• Michigan Wetlands Association Vernal Pools Workshop; 4/11/19; 1 staff AND MWA Aquatic Plant ID, 7/11/18 - 7/12/18; 1 staff</li> <li>• Michigan Turfgrass Foundation, Annual Conference; 1/3/18 - 1/5/18, 8 staff AND 1/22/19 - 1/24/19, 4 staff</li> <li>• Stewardship Network Conference; 1/12/18 - 1/13/18; 3 staff</li> <li>• Great Lakes Park Training Institute, 2/26/18 - 3/1/18, 2 staff AND GLPTI, 2/25/19 - 2/28/19; 3 staff</li> <li>• MGIA Pesticide Category/CORE Review and update class; 12/15/17, 3 staff AND 11/13/18; 3 staff</li> <li>• 2018 Mparks Conference Detroit; 2/6/18 - 2/9/18; 27 staff AND 2019 Mparks Conference; 1/29/19 - 2/1/19; 12 staff</li> <li>• ArborCon; 2/13/18 - 2/14/18; 1 staff AND Arborcon 2/12/19 - 2/13/19; 2 staff</li> <li>• MGIA Tree &amp; Shrub Insect &amp; Disease Identification Class; 3/21/18; 3 staff</li> <li>• Special Parks District Forum; 5/20/18 - 5/24/18; 4 staff AND SPDF 5/5/19 - 5/9/19; 2 staff</li> <li>• MSU Kellogg Biological Station - Native Grasses; 8/16/18 - 8/18/18; 1 staff</li> <li>• ASM Oak Wilt Certification; 8/21/18 - 8/22/18; 1 staff</li> <li>• MGIA Modern Tree Pruning; 8/16/18; 2 staff</li> <li>• MSUE Conservation Stewards Program; 9/15/18 - 10/24/18; 1 staff</li> <li>• American Trails Webinar: Trail Design Mistakes; 9/20/18; 1 staff AND Managing Winter Trails; 11/15/18; 1 staff</li> <li>• NRPA; 9/24/18 - 9/27/18; 6 staff</li> <li>• Natural Areas Association Conference; 10/23-10/26/2018; 2 staff</li> <li>• FFT2 Burn Training 2/28/19 - 3/1/18; 3 staff</li> <li>• Wildflower Association of MI, 3/4/18 - 3/5/18; 2 staff</li> <li>• MGIA Tree &amp; Shrub Insect &amp; Disease ID Class, 3/21/18; 3 staff</li> </ul> <p><b>OCFM:</b> As of FY 2019, OCFM has two staffers that are a Certified Industrial Stormwater Operator. All 17 OCFM staff reviewed the "Municipal Stormwater Pollution Prevention" DVD.</p> <p>In total, as of FY 2019, there are currently 11 Oakland County staff members that are active Certified Industrial Stormwater Operators (8 - WRC; 3 - OCFM) and 65 County staff members that are Certified Construction Site Stormwater Operators (40 - RCOC; 25 - WRC).</p> <p><b>RCOC:</b> All designated employees, except new employees, will receive training within one (1) year of their hire date. As of FY2019, RCOC has 33 staff members that are Certified Construction Site Stormwater Operators. Lists of certified staff are available upon request.</p> <p><b>OS:</b> In FY2013, Pollution Prevention language was added to OS' purchasing documents to address the contractor training requirements. These documents are available upon request.</p>
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**Pollution Prevention and Good Housekeeping for Municipal Operations  
Maintenance Activities for Stormwater Structural Controls**

Bar Screen Cleanout	WRC staff cleaned 2,934 bar screens in FY 2018 and 3,586 in FY 2019. Maintenance records are tracked in CAMS (see DC-215, "Daily Bar Screens Work Report")
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**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Catch Basin Cleaning	<p><b>WRC:</b> During FY 2018, 317 catch basins were cleaned and 89 cubic yards of debris properly disposed of; and 748 were cleaned and 190 cubic yards of debris properly disposed of in FY 2019. 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 1,952 cubic yards of debris/waste (combined catch basin and sewer system waste) for FY 2018/2019. In addition, 398 yards of storm drain debris generated by RCOC-maintained systems was properly disposed of.</p> <p><b>OCFM:</b> In FY 2018 - Several catch basins were inspected and repaired. In FY2019, the interior floor drains on the Grounds'-side of the Public Works Bldg were vactored. Catch basin inspections, clean outs and repairs continue to take place. Trench drains are inspected and cleaned, as needed.</p> <p><b>OCPRC:</b> 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 FY18-19, approximately 20 CB's and culverts were identified for vactoring (all budgeted and scheduled for completion by end FY19), 6 culverts were identified at 2 parks as needing maintenance or replacement within the next 5 years as a result of OCPR's annual stormwater asset inspections.</p> <p><b>RCOC:</b> The RCOC maintenance department cleaned 5,106 catch basins and the contractor cleaned 879 catch basins for a total of 5,985 catch basins cleaned in FY2018. The RCOC maintenance department cleaned 4,894 catch basins and the contractor cleaned 2,228 catch basins for a total of 7,122 catch basins cleaned in FY 2019.</p> <p><b>OS:</b> In Summer of FY 2018, all catch basins were cleaned at the Northeast, Northwest, Southeast, Southwest technical campuses. The next round of cleaning will take place in FY 2020 as cleaning occurs on a 2-year cycle.</p>
Stormwater Detention Basin Maintenance and Inspections	<p><b>WRC:</b> In FY 2018, there were five (5) stormwater detention basin inspections completed and no maintenance determined to be required.</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>

**Oakland County MS4  
FY 2018/2019  
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(October 1, 2017 - September 30, 2019)**

Action/Activity	
Sanitary Sewer Maintenance and Inspections	<p><b>WRC:</b> WRC staff performed 2,493 manhole inspections and 363 manhole repairs, CCTV'd 680,169 linear feet of sewer, and cleaned 749,824 linear feet of WRC-owned or -operated sanitary sewer systems in FY 2018. WRC staff performed 1,511 manhole inspections and 245 manhole repairs, CCTV'd 559,113 linear feet of sewer, and cleaned 352,451 linear feet of WRC-owned or -operated sanitary sewer systems as of the 3rd quarter in FY 2019. There were also 68 plugged sewers and 411 complaints logged during FY 2019.</p> <p>WRC Sewer Maintenance Unit properly disposed of 721 yards of sanitary debris and 149 yards of storm drain debris in FY 2018 and 1,082 yards of debris (combined storm and sanitary) in FY2019 from WRC-maintained systems. In addition, 398 yards of storm drain debris generated by RCOC-maintained systems was properly disposed of.</p>
Storm Drain Maintenance and Inspections	<p><b>WRC:</b> 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 2018, WRC inspected 9,764 structures, 190 drains and performed 1,619 structure repairs. In FY 2019, WRC inspected 5,612 structures, 72 drains and performed 2,934 structure repairs.</p> <p><b>RCOC:</b> RCOC performs necessary and emergency maintenance on RCOC storm drains as budget and circumstances allow. When necessary, RCOC jets and cleans blocked storm sewers to allow for road run-off. Repairs and replacements of damaged culverts are done routinely throughout the year. All activities are overseen by staff that are a certified stormwater operator and have completed EGLE's SESC training.</p> <p><b>OS:</b> The following environmental improvements have taken place at OS four technical campuses:  <ul style="list-style-type: none"> <li>● All parking lots at the four technical campuses and the main campus have crack filler applied annually to maintain structural integrity. OS is purchasing its own crack filling machine to be completed in house starting in FY 2020.</li> <li>● OS' implements catch basin cleaning and inspections on a two-year cycle which means all storm drains will be inspected and vactored out again in FY2020.</li> </ul> </p>
<b>Pollution Prevention and Good Housekeeping for Municipal Operations</b>	
<b>Controls Used for Reducing or Eliminating Discharges of Water and Pollutants from Streets and Maintenance Garages</b>	
Dust Control	The RCOC applied approximately 6.8 million gallons in FY 2018 and approximately 6.8 million gallons in FY 2019.
Gravel Road Maintenance	During FY 2018/2019, RCOC continued proper grading practices at gravel stream crossings.
	<p><b>WRC:</b> The following WRC facilities have existing SWPPPs, PIPPs and/or SPCCs and have met all eligible requirements to date:  <ul style="list-style-type: none"> <li>● 8 Mile Road Pump Station - SPCC developed and implemented in May 2019 for newly installed 2,000 gal capacity aboveground storage tank</li> <li>● 522 S. Opdyke - Water Maintenance North; SWPPP updated in July 2019</li> <li>● The Pontiac WWTPs - Auburn and E. Blvd Sites updated SWPPPs in January 2019</li> <li>● The Pontiac WWTPs - Auburn and E. Blvd Sites updated PIPPs in January 2019</li> <li>● The Pontiac WWTP - Auburn Site updated SPCC in January 2019</li> <li>● All four (4) Retention Treatment Basins and the Pump Maintenance and Systems Control Complex have a PIPP - updated January 2017</li> <li>● The Commerce Waste Water Treatment Plant SWPPP was updated April 2018; the PIPP was last updated in January 2017.</li> <li>● The Walled Lake-Novu (WLN) Waste Water Treatment Plant SWPPP was updated September 2018; the PIPP was last updated in January 2017. date - updated June 2019</li> </ul>           All of these plans are available upon request.  <ul style="list-style-type: none"> <li>● Spill cabinet inventory inspections were conducted at all WRC facilities with a SWPPP/PIPP/SPCC's in April 2019.</li> </ul> </p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Fleet Maintenance and Storage Yards	<p><b>OCFM:</b> 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>As of FY2019, OCFM is currently updating its SWPPP, PIPP and SPCC plans.</p> <p><b>OCPRC:</b></p> <ul style="list-style-type: none"> <li>● 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</li> <li>● 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</li> <li>● 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.</li> <li>● 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 FY2017 available upon request.</li> </ul> <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"> <li>● In FY18 - FY19 the following parks achieved lifetime recertification with the MTESP program: Springfield Oaks, White Lake Oaks, Red Oaks, and Groveland Oaks. Addison and Lyon Oaks anticipated by end of 2019.</li> </ul>
Road and Bridge Maintenance	<p><b>RCOC:</b> Each construction project is required to have a SESC plan, which includes specific SESC details on the plans.</p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Road Salt Application	<p><b>OCFM:</b> FY 2018 - A new salt storage structure was built and can hold 1,000 tons of salt under cover. A Salt Brine Maker has been installed in the Grounds shop and is producing Salt Brine for our use. FY 2019 - Construction of salt storage structure complete with improvements for better salt containment. Salt Brine Maker fully installed with holding tank and containment system.</p> <p><b>WRC:</b>  <ul style="list-style-type: none"> <li>● The February 2018 issue of WRC's employee newsletter, "In the Flow", shared an article on encouraging the use of brine instead of rock salt at home to protect water quality.</li> </ul> </p> <p><b>RCOC:</b> Out of the 318 vehicles, 130 of the trucks are solely dedicated to salting the roads. Information is available on RCOC's Web site at: <a href="http://www.rcocweb.org/187/Winter-Maintenance">http://www.rcocweb.org/187/Winter-Maintenance</a>. RCOC's PIPP was updated in March 2015.</p> <p><b>OS:</b>  <ul style="list-style-type: none"> <li>● We continue to use only the minimum amount of rock salt and ice melt at all of the campuses.</li> <li>● All parking lots were thoroughly cleared of debris in the Spring and are continually kept free of debris throughout the year.</li> <li>● Facility staff keep parking lots clear of contaminants that could affect our stormwater.</li> </ul> </p>
Street Sweeping Programs	<p><b>OCFM:</b> OCFM-Grounds Division cleans all county-owned streets and parking lots (approximately 40 acres of parking lot and 3 miles of roadway) three times per year: once in the Spring during Spring cleanup, once in the summer, and one more time in the Fall during Fall cleanup.  In FY 2018 - A street sweeper attachment was purchased for one of OCFM's loaders. In FY 2018 and 2019, streets and parking lots were swept in conjunction with Fall and Spring cleanup and debris was properly disposed of in a sanitary landfill.  In addition in FY2019 (Sept. 2019), OCFM had the opportunity to borrow an Elgin Whirlwind vacuum sweeper to try out on the county campus's streets and parking lots. Over the course of two days, a total of 20 yd<sup>3</sup> of debris was collected and properly disposed of. OCFM is currently receiving bids on the purchase of it's own vacuum sweeper.</p> <p><b>RCOC:</b> During FY 2018, the following curb miles were swept to keep our waterways clean :  <ul style="list-style-type: none"> <li>● State Roads: the State managed their own contract for the sweeping of their highways.</li> <li>● Primary Roads: 512 curb miles are swept three times per year (1536 miles total)</li> <li>● Local Roads: 501 curb miles are swept once per year</li> </ul> During FY 2019, the following curb miles were swept to keep our waterways clean :  <ul style="list-style-type: none"> <li>● State Roads: the State managed their own contract for the sweeping of their highways.</li> <li>● Primary Roads: 498 curb miles are swept three times per year (1494 miles total)</li> <li>● Local Roads: 501 curb miles are swept once per year</li> </ul> </p> <p><b>OS:</b> Parking lots are cleaned with high-powered blowers every Spring and monthly thereafter. The fine debris is blown onto the adjacent turfgrass surface. Larger debris is picked up by hand and properly disposed of in the trash. At the NW and SW campuses, donated/curriculum vehicles are parked in designated parking areas off from asphalt surfaces.</p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Waste Reduction Program	<p><b>WRC:</b> In FY 2018, no batteries were recycled by Great Lakes Electronics. In FY 2019, 2,867 pounds of batteries were recycled.</p> <p><b>OCPRC:</b> -Parks employees recycle paper, plastic, metals, batteries, lights and ink cartridges in special collection containers -The entire parks system now uses 100% recycled paper</p> <p><b>OCFM:</b> In FY 2018: 309,922 pounds of paper were recycled. This equates to the following environmental benefits:</p> <ul style="list-style-type: none"> <li>● 2,634 trees saved</li> <li>● 542 cubic yards of waste kept out of landfills</li> <li>● 1,087,361 gallons of water saved</li> <li>● 387 barrels of oil saved</li> <li>● 617,984 kwh of electricity saved</li> </ul> <p>In FY 2019: 456,747 pounds of paper were recycled. This equates to the following environmental benefits:</p> <ul style="list-style-type: none"> <li>● 3,882 trees saved</li> <li>● 800 cubic yards of waste kept out of landfills</li> <li>● 1,602,498 gallons of water saved</li> <li>● 571 barrels of oil saved</li> <li>● 910,753 kwh of electricity saved</li> </ul> <p><b>OS:</b> Recycles paper, cardboard, plastic, metals, video tapes and cases, batteries, electronics, used oil, antifreeze, and cooking grease used for biofuel.</p>
Waste Reduction Program	<p><b>RCOC:</b> RCOC participates in recycling programs for all potential recycled material. The materials are picked from our offices and garages by consultants or suppliers and are taken to be recycled. Materials that are recycled include:</p> <ul style="list-style-type: none"> <li>● Car and truck batteries</li> <li>● Scrap metal</li> <li>● Aluminum</li> <li>● Used tires</li> <li>● Used motor and hydraulic oil</li> <li>● Paper and cardboard</li> <li>● Ink cartridges</li> <li>● General batteries</li> <li>● Lightbulbs</li> </ul>
<b>Pollution Prevention and Good Housekeeping for Municipal Operations</b>	
<b>Managing Vegetated Property</b>	
Fertilizer Use	<p><b>OCFM</b> 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.</p> <p><b>OCPRC</b> 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>

**Oakland County MS4  
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Action/Activity	
Greenbelt Maintenance	<p><b>OCFM</b> 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>In FY 2018 - 300 trees were planted across the County campus to replace diseased or dying trees. OCFM introduced several new genus and species of trees that were not represented before. In FY 2019 - Continued replacement of diseased and dying trees. Turf restoration along roadways and ditch lines to mitigate soil erosion into storm drains.</p> <p><b>OCPRC</b> - 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, and Groveland Oaks.</p>
Irrigation Practices	<p><b>OCFM:</b> 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>As of FY2019 - OCFM is continuing to monitor irrigation water usage. The new Animal Shelter will have the irrigation monitored as part of the Building Management System.</p>
Mowing Practices	<p><b>OCFM</b> - Mower blades have been set at a height of four inches to follow the Michigan Turf Grass recommendation. In FY 2018, mowing times continued to be reduced to further lower emissions.</p> <p><b>OCPRC</b> - 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><b>OCFM:</b> 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>In FY 2018 and 2019 - Acelepryn (an insecticide found to be safe around honeybees) and tree injections continued to be used. No neonicotinoids were sprayed on campus.</p> <p><b>OCPRC:</b> Integrated pest management principles are established at all parks to reduce the use of chemical pesticides. As of FY 2017, OCPRC employed 9 full-time and 13 part-time certified 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>
Roadside Vegetation Maintenance	<p><b>RCOC:</b> RCOC's vegetation control on properties within the ROW include:</p> <ul style="list-style-type: none"> <li>● Blight ordinances: RCOC will maintain vegetation control in ROW's where Cities, Townships, etc. have blight ordinances.</li> <li>● Visibility/sight distance problem areas: RCOC mows vegetated areas that may be a traffic safety issue such as intersections, driveways, etc.</li> <li>● "Clear vision mowing": RCOC maintains vegetation control along RCOC roads at a minimum of 6' off the edge of road for safety reasons.</li> <li>● Boulevard mowing: RCOC mows boulevards, in communities where present, due to community ordinances and safety concerns.</li> <li>● RCOC is a member of the Oakland County CISMA which treats invasive species such as phragmites from road ROW.</li> </ul>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Turf Management Training	<p><b>OCPRC:</b> Oakland County Parks has partnered with the Michigan Turfgrass Environmental Stewardship Program (<a href="http://www.mtesp.org">http://www.mtesp.org</a>) 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 &amp; regulations.            -Reduced herbicide and fertilizer applications.            -Environmentally-sensitive course maintenance.            -Green Purchasing, Energy Conservation &amp; 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. Four (4) OCPRC golf courses received lifetime certification under the MTESP program: Springfield Oaks, White Lake Oaks, Red Oaks and Groveland Oaks. Addison Oaks and Waterford Oaks went through initial evaluation for MTESP certification in FY 2013 and FY 2014 respectively, and are currently working toward implementing recommended environmental action items prior to final certification. OCPRC is in process of re-certifying golf courses, and certifying Waterford, Addison, and Independence Oaks by end of FY 2019.</p> <p><b>OCFM</b> continues to implement best practices related to mowing, fertilization, pesticide use and irrigation.</p>
<b>Extra Activities (Not included in SWPPI)</b>	
Adopt-A-Stream Training Workshops	<p>In FY 2018, the CRWC conducted 7 Adopt-A-Stream volunteer trainings and 3 bug ID workshops for the watershed community. A total of 87 people attended these workshops and trainings.</p> <p>In FY 2019, the CRWC conducted 7 Adopt-A-Stream volunteer trainings and 2 Bug ID workshops for the watershed community. A total of 112 people attended these workshops and trainings.</p>
Adopt-A-Stream Volunteer Water Quality Monitoring Program	<p>In FY 2018, a total of 250 volunteers participated in the CRWC's Spring and Fall Adopt-A-Stream monitoring and monitored a total of 41 stream sites within the watershed. 72 volunteers monitored 16 sites for the Winter Stonefly Search in January 2018.</p> <p>In FY 2019, a total of 245 volunteers participated in the CRWC's Spring and Fall Adopt-A-Stream monitoring and monitored a total of 40 stream sites within the watershed. 40 volunteers monitored 9 sites for the Winter Stonefly Search in January 2019. Temperatures that day (1/26/19) were bitterly cold at around 4 degrees Fahrenheit which led to a lower turnout.</p>
Alliance of Rouge Communities Activities	<p>A summary of Alliance of Rouge Communities (ARC) activities throughout FY 2018 and FY 2019 that support the efforts of Oakland County's natural resource protection and preservation efforts are provided in <b>Appendix N</b>, "ARC Executive Director's 2017 and 2018 Annual Report".</p> <p>The 2017 ARC Collaborative IDEP Progress Report also outlines the progress made with IDEP in the Rouge River watershed from Sept. 2017 - Dec. 2017 and is provided in <b>Appendix O</b>. The next biennial report will be available in March 2020.</p>
Art-Fish-Fun Festival	<p>The 5th Annual festival was held on June 9, 2018 and the 6th annual on June 8, 2019 in Beaudette Park in Pontiac and featured a day of fun including environmental exhibitors and activities, fishing with Commissioner Nash and a barbeque.</p> <p>In FY 2018, there were more than 500 visitors and 37 exhibitors. In addition, 19 volunteers showed up to help with the trash cleanup along the river's edge from 11 to noon collecting 20 bags of trash. In FY 2019, there were more than 700 visitors and 36 exhibitors in attendance. In addition, 22 volunteers showed up to help with the trash cleanup along the river's edge from 11 to noon collecting 22 bags of trash. This event was also featured as part of the Clinton River Watershed Council's River Day activities.</p> <p>The Art-Fish-Fun festival was featured in numerous articles including promotion of the event on the Oakland County Blog (<a href="https://oaklandcountyblog.com/2018/05/25/get-ready-for-the-5th-annual-art-fish-fun-festival/">https://oaklandcountyblog.com/2018/05/25/get-ready-for-the-5th-annual-art-fish-fun-festival/</a>), the Great Lakes Now website (<a href="https://www.greatlakesnow.org/2018/06/art-fish-fun-how-one-michigan-community-gets-kids-to-care-about-water/">https://www.greatlakesnow.org/2018/06/art-fish-fun-how-one-michigan-community-gets-kids-to-care-about-water/</a>), Metro Parent for Southeast Michigan events page (<a href="https://www.metroparent.com/calendar/art-fish-fun-festival-at-beaudette-park-in-pontiac/">https://www.metroparent.com/calendar/art-fish-fun-festival-at-beaudette-park-in-pontiac/</a>), the Oakland County Times website (<a href="http://oaklandcounty115.com/2019/06/01/june-8-art-fish-fun-festival-in-pontiac-to-celebrate-environment/">http://oaklandcounty115.com/2019/06/01/june-8-art-fish-fun-festival-in-pontiac-to-celebrate-environment/</a>), Pure Oakland Water's website (<a href="http://www.pureoaklandwater.org/art-fish-fun-festival-0">http://www.pureoaklandwater.org/art-fish-fun-festival-0</a>), and the Art-Fish-Fun Facebook page (<a href="https://www.facebook.com/ArtFishFun/">https://www.facebook.com/ArtFishFun/</a>).</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>
Clean Sweep Program Participation	<p>In May 2019, OCPR participated in the Macomb County Clean Sweep Program to properly dispose of unused, unwanted pesticides and pesticide-containing fertilizers from 6 parks.</p>

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Action/Activity	
Clinton Cleanup	<p>In FY 2018, the CRWC coordinated a total 15 volunteer trash cleanup events within the watershed for Clinton Cleanup. 230 volunteers attended and collected approximately 4,660 pounds of trash. The noted increase in volunteers and pounds of trash collected can be attributed to increased turnout of volunteers from corporate partners like GM and FCA, as well as the partnerships with local liveries who donate the use of kayaks and canoes to collect debris in-stream. In years past, most cleanups have taken place on land or from the shoreline and have not had access to stretches of the river by boat.</p> <p>In FY 2019, CRWC coordinated a total of 17 volunteer trash cleanups within the watershed for Clinton Cleanup. 228 volunteers attended and removed over 3,971 pounds of trash and yard waste.</p>
Cooperative Lakes Monitoring Program	<p>In FY 2018, The Oakland County Board of Commissioner's provided funding to help cover some of the costs of the Cooperative Lakes Monitoring Program for lakes in Oakland County. The program is a volunteer-based program whereby interested lakefront owners monitor their lake's water quality and plant communities. More than 60 lakes within Oakland County had volunteers enroll in the program; typically about 15 Oakland County lakes have participated in the program in the past. This opportunity was shared amongst Oakland County communities and other watershed groups by WRC, as well as forwarded to all lake improvement boards for consideration.</p>
CRWC Weekly Clean Program	<p>In FY2018, the CRWC coordinated a total of 57 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 57 scheduled cleanups, 6 were cancelled due to inclement weather. Volunteers contributed a total of 1,524 volunteer hours and collected approximately 12,770 pounds of trash from the Clinton River, its tributaries and surrounding park areas.</p> <p>In FY 2019, CRWC coordinated a total of 52 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 52 cleanups, 2 were cancelled due to inclement weather. A total of 1,076 volunteers participated, with a combined effort of 2,390 volunteer hours and collected approximately 18,686 pounds of trash from the Clinton River, its tributaries and surrounding park areas.</p>
Energy Efficiency and Water Conservation Programs	<p><b>OS:</b></p> <ul style="list-style-type: none"> <li>● OS' continue to reduce energy consumption at all buildings.</li> <li>● All exterior lighting is LED. Each year, flourescent bulbs are replaced with LED bulbs in cluster refresh areas of each building</li> <li>● OS' has "Green Globes" awards at all campuses.</li> <li>● All campuses are still certified Michigan Green Schools.</li> </ul>
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"> <li>- 40 sensors in the Clinton River watershed (20 in Oakland County)</li> <li>- 25 sensors in the Huron River watershed (2 in Oakland County)</li> <li>- There are hopes to expand the program into the Rouger River watershed.</li> </ul>

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Action/Activity	
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 <b>Appendix P</b>. These documents include:</p> <ul style="list-style-type: none"> <li>● 2017-2018 Rouge River Fish Survey: 46 fish species were identified, 40 of which were native. One new species was found in Upper Long Lake that is a state endangered species last found in the Rouge in 1906 (the pugnose shiner). Another new species was found in the Lower Rouge (threespine stickleback), which is native to the Atlantic, Pacific and Lake Ontario.</li> <li>● 2017 Fall Bug Hunt Report: 42 sites were sampled by 60 volunteers on 12 teams. Most sites scored "fair", five sites were "good" (12%), 29 sites were "fair" (69%) and 8 sites scored "poor" (19%).</li> <li>● 2018 Frog &amp; Toad Survey Report: <ul style="list-style-type: none"> <li>- Three training workshops were held with 180 attendees. Over 200 volunteers (including 68 veteran surveyors) signed up to collect data. An average of 3.6 species per block were recorded. The Middle 3 and Middle 1 subwatersheds both had the highest diversity with an average of 4.5 and 4.3 species calling per block.</li> <li>● 2018 Frog &amp; Toad Survey Map: <a href="https://therouge.org/frog-toad-data/?blm_aid=41618">https://therouge.org/frog-toad-data/?blm_aid=41618</a></li> <li>● 2018 Spring Bug Hunt Report: <ul style="list-style-type: none"> <li>- 75 volunteers in 12 teams participated; 52% of the 46 sites sampled had "fair" scores; trend analysis showed the Middle 1 and Middle 3 subwatersheds with positive trends. For the 41 sites with past data, 61% were stable, 10% showed improving scores and 29% showed a decline.</li> </ul> </li> <li>● 2018 Fall Bug Hunt Report: <ul style="list-style-type: none"> <li>- 89 volunteers on 11 teams participated; Most sites scored in the "fair" range. Of the 42 sites that have been sampled for three years or more, 62% were stable, 7% showed improvement and 31% were declining. Long-term trends show improving scores in the Middle 3 subwatershed and Johnson Creek, while scores in the Main 1-2, Lower 1 and Upper Branches of the Rouge were declining.</li> </ul> </li> <li>● 2018 Winter Stonefly Search Report: <ul style="list-style-type: none"> <li>- 72 volunteers in 12 teams found stoneflies at 39% of the monitoring sites (14 out of 36). For the first time in eight years, stoneflies were found in the Upper Branch of the Rouge River!</li> </ul> </li> <li>● 2018 Fish Monitoring: <ul style="list-style-type: none"> <li>-The Rouge River has been monitored by FOTR since 2012. The Rouge River has been found to have a surprising diversity of fish including two endangered species and some returning to the river as water quality and habitat continues to improve. A total of 65 species have been documented, including 56 native and 9 non-native species.</li> </ul> </li> <li>● 2019 Spring Bug Hunt Report: <ul style="list-style-type: none"> <li>-Sixteen (16) sites were sampled; 43% of the sites scored in the "fair" range. Five sites (31%) scored "good" and four (25%) had "poor" scores.</li> </ul> </li> <li>● 2019 Stonefly Search Report: <ul style="list-style-type: none"> <li>-74 volunteers in 11 teams sampled 21 sites. An additional six sites were sampled by Wayne County DPS, one site on Bell Creek by Schoolcraft College students and five sites on Johnson Creek by Sue Thompson. Stoneflies were found at 14 of the 32 sites (42%).</li> </ul> </li> </ul> </li> </ul>
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: -Glen Oaks -Lyon Oaks -Red Oaks -White Lake Oaks</p> <p>OFCM: In FY2019, Facilities employed Gooseworks which utilized 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 and EnviroScape Watershed Model Program (MSU-Extension)	<p>Groundwater model demonstrations were conducted at a variety of MSUE-sponsored and partner-sponsored events. In FY2018 and FY2019, demonstrations were given as part of "Gardening to Protect Water Quality trainings that were given as part of the Master Gardener Program on 3/5/18 in Oakland, 11/28/18 in Livingston, and 12/5/18 in Oakland; 4 Michigan Water School Programs; in 2018 at the Rouge River Water Festival in Dearborn, the Lake St. Clair Watershed Festival in Clinton Township, and the Clinton River Water Festival in Rochester; and in 2019 at the Rouge River Watershed Festival in Dearborn and Bloomfield Hills, the Lake St. Clair Water Festival in Clinton Township, and the Clinton River Water Festival in Rochester. An EnviroScape model program was also delivered to students St. Sebastian School in Dearborn Heights on 11/6/2018 and to students at Paddock Elementary School in Milan on 3/18/19.</p>

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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"> <li>-Reduce runoff volume - especially in combined sewer service areas</li> <li>-Improve water quality</li> <li>-Protect infrastructure and downstream properties</li> <li>-Facilitate redevelopment (or at minimum, don't create a disadvantage for one community vs. another)</li> <li>-Enhance community quality of life</li> <li>-Increase resilience and reduce urban heat island effect</li> </ul> <p>The project outcomes thus far are available on the WRC's website at: <a href="https://www.oakgov.com/water/stormwater/Pages/Green-Infrastructure.aspx">https://www.oakgov.com/water/stormwater/Pages/Green-Infrastructure.aspx</a></p> <p>The work under this initiative will be ongoing.</p>
Master Gardener Volunteer Program (MGVP)	<p>In FY2018-2019, a total of 186 individuals were enrolled in the Oakland County Master Gardener Volunteer Program. These programs included: Fall 2017 (50); Fall 2018 (48); Spring 2019 (51); Fall 2019 (37). 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, MSUE Natural Resources Educator taught for this content to participants in the Master Gardener Program in Livingston County on 11/28/18.</p>
Michigan Conservation Stewards Program	<p>Six (6) Michigan Conservation Stewards Programs were held in FY2018 and FY2019. In 2018, one Winter/Spring program was held in Washtenaw County with 30 participants. In Fall 2018, programs were held in Oakland (17 participants), Kalamazoo (14 participants), and St. Clair (19 participants) counties. Two (2) additional 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. 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 <b>Appendix C</b>, "2018 Annual Conservation Steward Report At-A-Glance".</p>
Michigan Water School: Essential Resources for Local Officials	<p>Water School features both in-class presentations and interactive learning demonstrations along with a field-tour. The program will include 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:</p> <ul style="list-style-type: none"> <li>•Michigan's Blue Economy</li> <li>•Local water issues</li> <li>•Water quantity and groundwater availability in Michigan</li> <li>•Dealing with water quality issues affecting the waters of Michigan</li> <li>•Critical connections to Michigan's Water Strategy</li> <li>•Fiscal benefits of water management</li> <li>•How to incorporate water into local planning and placemaking</li> <li>•Risk management approaches</li> <li>•Water policy at the federal, tribal, state and local levels</li> <li>•Online Toolkit to help address water problems</li> </ul> <p>Three (3) Water Schools were held in FY2019:</p> <ul style="list-style-type: none"> <li>- Clinton River Watershed Water School in Madison Heights: February 27-28, 2019 (32 attendees); 8 attendees took advantage of the POW scholarships offered (staff representing Oakland County, Brighton, Clinton Twp, East Pointe, Fraser, Pontiac and Warren). This was held in partnership with the Clinton River Watershed Council.</li> <li>- Huron River Watershed Water School in Ann Arbor: May 13-14, 2019 (18 attendees); 1 attendee took advantage of the POW scholarships offered (staff represented Hamburg Twp). This was held in partnership with the Huron River Watershed Council.</li> <li>- Rouge River Watershed Water School in Northville Twp: Sept. 26-27, 2019 (18 attendees); 7 attendees took advantage of the POW scholarships offered (staff representing Wayne County, Canton Twp, Detroit, and Northville). This was held in partnership with Friends of the Rouge.</li> </ul> <p>The WRC's non-profit, Pure Oakland Water, generously offered scholarships to 16 attendees to MI Water Schools in FY 2019 (a total of \$2,800).</p>

Action/Activity	<p style="text-align: center;"><b>Oakland County MS4 FY 2018/2019 Measurables (October 1, 2017 - September 30, 2019)</b></p>
MSUE News articles and MSUE Oakland County Conservation Connections Monthly Newsletter	<p>In FY2018-FY2019, educational articles were written on a variety of subjects related to management of water and natural resources, published by MSU Extension (<a href="https://www.canr.msu.edu/outreach/">https://www.canr.msu.edu/outreach/</a>). Topics include volunteer management, inland lake management, terrestrial and aquatic invasive species, and lake education. A list of articles is posted at <a href="https://www.canr.msu.edu/people/bindu_bhakta">https://www.canr.msu.edu/people/bindu_bhakta</a>.</p> <p>MSUE Oakland County also published a Conservation Connections monthly e-newsletter. A total of 24 newsletters were published during FY2018-2019. All issues are available at: <a href="https://www.oakgov.com/msu/Pages/newsletters.aspx">https://www.oakgov.com/msu/Pages/newsletters.aspx</a></p>
Native Plant Use	<p><b>OCPRC:</b> OCPR attempts to incorporate 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. FY 2017 native seed budget was \$5,000.</p> <p><b>OCPEDS:</b> See Oakland County Green Streets Activity</p> <p><b>OS:</b> Ongoing - Adding landscaping and perennial plantings around each building</p>
Oakland County Green Infrastructure Vision	<p>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 <a href="https://www.oakgov.com/advantageoakland/resources/Documents/Maps/pl_gi_poster.pdf">https://www.oakgov.com/advantageoakland/resources/Documents/Maps/pl_gi_poster.pdf</a>.</p> <p>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 &amp; Recreation documents.</p>
Oakland County Green Streets	<p>FY 2018 - The Grounds department continues to remove invasive species and treat stumps with glyphosate injection to prevent re-growth. Phragmites have been mowed down to make treatment easier. The grow zones on the County campus received a Community Beautification Award from the Michigan Nursery and Landscape Association.</p> <p>FY2019 - Removal of invasive plant species on the campus, native woodlots and Mainland Drain continues.</p>
Oakland County - "In the Press"	<ul style="list-style-type: none"> <li>- October 2017 - An article about MSU-Extension's "Introduction to Lakes" online course was featured in the October 2017 issue of the Lakefront Lifestyles Magazine. Registrants will learn about the following in the six-week course: Lake Ecology, Shorelines, Aquatic Plants, Watersheds and More!</li> <li>- October 11, 2017 - An article in The Daily Tribune entitled, "Water Resources Commissioner Jim Nash hosting global warming discussion in Birmingham" invited the public to a talk Commissioner Nash will be giving on how people can help reverse global warming by changing daily activities and routines.</li> <li>- April 5, 2018 - An article in the Oakland Press on "Record number of volunteers will monitor Oakland County's lakes this summer" highlighted the 2018 effort by the Oakland County Board of Commissioner's to increase participation in the Cooperative Lakes Monitoring Program coordinated by MiCorps. The article noted that only 14 lakes participated in the program in 2017 and in 2018, 74 lakes were enrolled in the program.</li> <li>- May 21, 2018 - The WRC's Dirt Doctors were featured in the Oakland Press in an article about the Clinton River Water Festival entitled, "Fifth graders visit Oakland University for Clinton River Water Festival". Highlights of the festival were included.</li> <li>- May 23, 2018 - The WRC's Dirt Doctors were featured in The Monroe News on an article about the Lake Erie Water Festival entitled, "Sixth-graders learn about Lake Erie at Water Festival". Highlights about the Dirt Doctors program were mentioned.</li> <li>- May 24, 2018 - The WRC's Dirt Doctors were featured in in the Rochester and Rochester Hills Gazette in an article about the Clinton River Water Festival.</li> <li>- August 14, 2018, An article in the Oakland Press on "State helping Oakland County Health Division develop new <i>E. coli</i> testing method". The article detailed how the Dept. was getting funding to purchase a qPCR machine for more rapid evaluation of beach monitoring sample for <i>E. coli</i>.</li> <li>- Summer 2019 - The WRC's Clinton River Water Resource Recovery Facility was featured in the MWEA Matters magazine. The article detailed the wastewater treatment processes that take place at the plants and several of the recent upgrades to the plants.</li> <li>- June 2019 - The WRC's Environmental Team was featured in an article in the June 2019 issue of the Lakefront Lifestyles magazine. The article highlighted the various responsibilities of the Environmental Team including compliance with the stormwater permit through its public education and pollution prevention programs, as well as highlighted the importance of stormwater pollution prevention, the benefits of riparian buffers, implementing green infrastructure, the issue of PFAS and how challenging regulating legal lake levels can be for our office.</li> <li>- July 10, 2019 - The WRC was featured in the Spinal Column with an article entitled, "What Goes on Lawns Ends up in our Streams". The article brought attention to the impacts of excess fertilizers on area waterways that can lead to nutrient pollution. The article highlighted best practices for maintaining a healthy lawn that also protects water quality.</li> <li>- July 24, 2019 - The OCHD was featured in The Oakland Press with an article on "Oakland County receives help from state to enhance water quality monitoring efforts". The article detailed how much funding the health dept. receives to conduct water quality testing at area beaches and information on historical beach closing statistics within the County. It was noted that the Dept. has been using a qPCR machine for quicker results of water quality analyses at beaches.</li> </ul>

Action/Activity	<p style="text-align: center;"><b>Oakland County MS4 FY 2018/2019 Measurables (October 1, 2017 - September 30, 2019)</b></p>
	<p>- August 16, 2019 - The OCHD was featured on the Oakland County main website with an article on "Residents Cautioned About Algal Blooms in Lakes". The article brought light to the dangers of exposure to toxic algal blooms and precautions for exposure. Residents were encouraged to contact EGLE with concerns or to report suspected algal blooms at: <a href="mailto:algaebloom@michigan.gov">algaebloom@michigan.gov</a> or call 800-662-9278.</p> <p>- August 2019 - The WRC was featured in the August issue of Lakefront Lifestyles Magazine with an article entitled, "What Goes on Lawns Ends up in our Streams". The article brought attention to the impacts of excess fertilizers on area waterways that can lead to nutrient pollution. The article highlighted best practices for maintaining a healthy lawn that also protects water quality. Tips from the WRC's "Waterfront Wisdom" booklet were also featured!</p> <p>- August 2019 - The WRC's lake level management team was featured in the August issue of the Lakefront Lifestyles Magazine with an article entitled, "The ups and downs of Oakland County's inland lakes". The article highlighted the responsibilities of the lake level team in managing legally established lake levels and associated dam structures throughout Oakland County. - August 16, 2019 - The OCHD was featured on the Oakland County main website with an article on "Residents Cautioned About Algal Blooms in Lakes". The article brought light to the dangers of exposure to toxic algal blooms and precautions for exposure. Residents were encouraged to contact EGLE with concerns or to report suspected algal blooms at: <a href="mailto:algaebloom@michigan.gov">algaebloom@michigan.gov</a> or call 800-662-9278.</p> <p>- August 2019 - The WRC was featured in the August issue of Lakefront Lifestyles Magazine with an article entitled, "What Goes on Lawns Ends up in our Streams". The article brought attention to the impacts of excess fertilizers on area waterways that can lead to nutrient pollution. The article highlighted best practices for maintaining a healthy lawn that also protects water quality. Tips from the WRC's "Waterfront Wisdom" booklet were also featured!</p> <p>- August 2019 - The WRC's lake level management team was featured in the August issue of the Lakefront Lifestyles Magazine with an article entitled, "The ups and downs of Oakland County's inland lakes". The article highlighted the responsibilities of the lake level team in managing legally established lake levels and associated dam structures throughout Oakland County.</p>
Oakland County Natural Areas	<p>OCPEDS 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>
RiverSafe LakeSafe	<p>The 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 2018, there were a total of 20 new certifications, leading to a total of 90 RiverSafe LakeSafe certifications since the program's inception in 2016.</p> <p>In FY 2019, there were a total of 9 new certifications, leading to a total of 99 RiverSafe LakeSafe certifications since the program's inception in 2016.</p>
Soil Testing Services	<p>In FY 2018, 94 soil test mailers for home lawns and gardens were sold through the MSUE Oakland office in Pontiac.</p> <p>In FY 2019, 111 soil test mailers for home lawns and gardens were sold through the MSUE Oakland office in Pontiac.</p> <p>37 commercial soil test kits were also sold over the counter at the MSUE Oakland office during FY2018-FY2019.</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 (<a href="https://homesoiltest.msu.edu/">https://homesoiltest.msu.edu/</a>). All additional soil test mailer sales for Oakland County and other residents were conducted through Shop MSU (<a href="http://shop.msu.edu/product_p/bulletin-e3154.htm">http://shop.msu.edu/product_p/bulletin-e3154.htm</a>) and not included in the number reported above.</p>

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Action/Activity	
Stream Leaders Student River Monitoring Program (CRWC)	<p>In FY 2018, CRWC engaged 3,075 students, 32 teachers and mentors, and 18 schools through the Stream Leaders program. Students and mentors collected macroinvertebrates, tested the water chemistry, and observed stream morphology at their stream site to determine water quality. CRWC's Student Congress is a development opportunity for students to present their findings to their peers and attend education workshops, and in FY 2018 there were 4 schools in attendance, with 66 students, 6 teachers, and 5 presenters participating. CRWC hosted one Aquatic WILD professional development workshop facilitated by the MDNR where 12 educators attended.</p> <p>In FY 2019, CRWC engaged 3,842 students, 61 teachers and mentors, and 27 schools through the Stream Leaders student water quality monitoring program. CRWC's Student Congress is a development opportunity for students to present their findings to their peers and attend education workshops, and in FY 2019 there were 3 schools in attendance, with 43 students, 5 teachers, and 5 presenters participating. CRWC hosted one Aquatic WILD professional development workshop facilitated by the MDNR where 14 educators attended.</p>
Streamside Education Program (HRWC)	<p>One WRC staff member participated in the Huron River Watershed Council's Streamside Education Program in FY2018 and 2019.</p> <p>In FY 2018, on 9/14/2018, and in FY2019, on 9/12/2019, about 60 high school girls from St. Catherine of Siena AP Biology class in West Bloomfield participated on the Huron River at Wixom Rd. Students performed tests to measure DO, pH, conductivity, temperature, macroinvertebrate ID and stream discharge. More information can be found at <a href="http://www.hrwc.org/our-work/stewardship/education-program/">http://www.hrwc.org/our-work/stewardship/education-program/</a></p>
Stormwater Education: Community presentations and workshops	<p>In FY 2018, CRWC hosted a total of 37 stormwater education presentations and reached 1,129 people within the Clinton River Watershed.</p> <p>In FY 2019, CRWC hosted a total of 26 stormwater education presentations and reached 1,153 people within the Clinton River Watershed.</p>
Stormwater Management Forums	<p>In FY 2018, CRWC hosted 4 Stormwater Management Forums targeted at municipal staff, elected officials, City Council members, engineers, consultants, planners, and MDEQ staff. There were a total of 118 attendees and the location alternated between Macomb and Oakland County.</p> <p>In FY 2019, CRWC hosted 4 Stormwater Management Forums targeted at municipal staff, elected officials, City Council members, engineers, consultants, planners, and MDEQ staff. There were a total of 122 attendees and the location alternated between Macomb and Oakland County.</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. With the need for this legislation continuing to rise, House Bill 4691, with identical language from prior bills, was introduced again this year in June by Representative Michal Webber and has bi-partisan co-sponsorship support.</p> <p>Work on this effort and related resources are available on the WRC's website at: <a href="https://www.oakgov.com/water/resources/Pages/Policy.aspx">https://www.oakgov.com/water/resources/Pages/Policy.aspx</a></p>
Touch-a-Truck/Tons of Trucks Program	<p>WRC participated in three (3) events in FY2018/2019 to educate the public on how the WRC keeps our sewers and drains clean and free of debris that could lead to sanitary sewer overflows or flooding in an effort to protect public health, safety and welfare. The WRC showcases either it's CCTV truck or it's Vactor Truck. The events were as follows:</p> <ul style="list-style-type: none"> <li>- 8/7/2018 at Clintonwood Park in Independence Twp (CCTV Truck)</li> <li>- 4/22/2019 in West Bloomfield Twp (Vactor Truck)</li> <li>-8/5/2019 at Clintonwood Park in Independence Twp (CCTV Truck)</li> </ul>
Water Education/Recruitment Events	<p>WRC participated in 10 events throughout FY2018 and 2019 to inform and educate the next generation about our water resources and the wastewater treatment (water resource recovery) process and encourage them to consider a career in the water field. Approximately 8,815 students were engaged through these outreach events.</p>

**Oakland County MS4  
FY 2018/2019  
Measurables  
(October 1, 2017 - September 30, 2019)**

Action/Activity	
Water Infrastructure 101: "What You Need to Know Below and Beyond" Library Discussion Series	<p>In FY2018 and 2019, Commissioner Nash visited the following area libraries to discuss topics related to aging infrastructure, water quality, stormwater, protecting inland lakes, WRC projects to improve water quality and reduce costs to wastewater rate payers, employment opportunities and info on the Water Residential Assistance Program:</p> <ul style="list-style-type: none"> <li>-Holly, 5/15/2018</li> <li>-Southfield, 5/21/2018</li> <li>-Pontiac, 6/16/2018</li> <li>-Brandon, 6/21/2018</li> <li>-Highland Township, 9/19/2018</li> <li>-Novi, 9/20/2018</li> <li>-Royal Oak, 9/23/2018</li> <li>-Oxford, 10/10/2018</li> <li>-Rochester Hills, 10/25/2018</li> <li>-Bloomfield Township, 11/15/2018</li> <li>-Southfield, 5/13/2019 (Dirt Doctors were also in attendance for this event, the "Southfield Weather Fest")</li> <li>-Bloomfield Township, 5/16/2019</li> <li>-Addison Township, 6/4/2019</li> <li>-West Bloomfield Township, 6/20/2019</li> <li>-Hazel Park, 7/8/2019 (AM Session)</li> <li>-Hazel Park, 7/11/2019 (PM Session)</li> <li>-Ferndale, 9/12/2019</li> <li>-Holly Twp, 9/19/2019</li> </ul> <p>Approximately 300 area residents were in attendance in total.</p>
WaterTowns	<p>FY 2018 was the 6th year of the WaterTowns™ (WT) initiative with a total of 19 communities committed resolutions to participating in the program. Four WT were established in 2018 (Independence Township, Madison Heights, Eastpointe, and Macomb Township), with an additional 3 communities slated for FY 2019. Mount Clemens also completed the installation of a universally accessible (UA) canoe and kayak launch at MacArthur Park.</p> <p>FY 2019 was the 7th year of the WaterTowns® (WT) initiative with two new communities joining the program; Chesterfield Township and Village of Lake Orion. The WT program now has a total of 22 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. Sterling Heights (2015 WT) constructed two universally accessible canoe and kayak launches located at Rotary Park and Clinton River Park North.</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"> <li>• Create a network of wildlife-friendly habitats in residential yards, businesses, parks, trails and other publicly owned lands</li> <li>• Raise awareness about the importance of pollinators and other indicator species</li> <li>• Recognize the significant role that native plants have in fostering a healthy environment</li> <li>• Certify all of Oakland County as a National Wildlife Federation Community Wildlife Habitat</li> </ul> <p>More information is available on the WHO website: <a href="https://detroitzoo.org/who/">https://detroitzoo.org/who/</a></p>
WRC Recycling Initiative	<p>As of July 2019, the WRC has prevented 251.8 pounds of recyclables from entering Michigan landfills.</p>