

**Linn County Willamette River Basin  
TMDL Implementation Plan Annual Report**  
For the period of Aug. 1, 2020 to July 31, 2021

August 30, 2021

During the reporting period, Linn County completed the 13<sup>th</sup> year implementation period for the approved Willamette River Basin Total Maximum Daily Load (TMDL) Implementation Plan for Linn County.

The attached TMDL Management Strategy Matrix provides the content, goals and status of this program. Any changes in status or completion of goals or objectives are indicated in the "Status" column.

As provided by the attached report, Linn County has:

- Continued and maintained the operation of this TMDL Implementation Plan
- Completed projects and implemented programs to reduce bacteria contamination.
- Completed projects for improvement of stormwater collection, management and treatment.
- Completed projects that resulted in riparian preservation and enhancement.
- Worked with watershed councils in development of watershed improvement plans.

Focus within the next reporting period will be to continue the successful maintenance and operation of this plan and to complete planned projects.

For further information please contact:

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Submitted by:  Date: 8/30/2021  
Brittany May, REHS, Linn County Environmental Health

**Attachment –**

Annual Update of the TMDL Management Strategy Matrix - Willamette River Basin Total Maximum Daily Load (TMDL) Implementation Plan

### Linn County Environmental Health

<b>Pollutant: Bacteria</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Failing septic systems	Ensure repair of failing systems.	Respond to reports of failing systems; Work with homeowner to set a timeline for repair; Use existing enforcement methods to gain compliance	Currently funded in budget	Track #s using complaint and permit databases	Ongoing	N/A	<b>Ongoing</b> - 97 repair permits for failing septic systems have been issued during this time period. 22 complaints of sewage discharge have been received. 7 have come into compliance, 15 are in progress.
	-Low cost loan program for septic system and household repairs implemented by DevNW -Additional loan program for septic system repairs operated by Craft3 in partnership with DEQ	Provide information to homeowners about the programs	Currently funded via grant funds through DevNW and Craft3	Obtain data from DevNW and Craft3 to track the number of systems repaired using this program Track counties efforts to provide information to homeowners about the programs	Ongoing	N/A	<b>Ongoing</b> - No system were repaired during this time period using funds from DevNW.
	Educate homeowners about system maintenance and how to detect failures.	Provide written material with CSC Provide information on septic system maintenance on our website: <a href="https://www.linncountyhealth.org/eh">linncountyhealth.org/eh</a>	Printing costs	Track #s mailed	Ongoing, updating materials as needed	N/A	<b>Ongoing</b> - 151 CSC's were issued during this time period. For every CSC issued, written information on septic system maintenance is provided, or the system is part of our ongoing Operations and Maintenance Program. Septic system maintenance information is available on our website at <a href="https://www.linncountyhealth.org/eh/page/septic-system-maintenance">https://www.linncountyhealth.org/eh/page/septic-system-maintenance</a>
			Staff time to create materials and update website	Track website view metrics			
	Ensure that selected residential and commercial systems are properly maintained.	Provide annual inspection or certification review for holding tanks, ATTs, sand and gravel filters, and low pressure distribution systems.	Currently funded in budget	Track inspections, certification reviews and compliance actions in database	Ongoing	N/A	<b>Ongoing</b> - We annually review O&M reports of all systems in this program; currently, as of July 31, 2021, there are 447 such systems being reviewed in Linn County.
Identify legacy septic systems (those which predate permit records) within urban grown boundaries and rural community centers. Work with Cities on those systems which will require connection to City services	As reports of failing systems are received, work with the City to determine the location of services and the ability to connect.	Currently funded in budget	Track number of systems connected to City services each year	Ongoing	N/A	<b>Ongoing/Incomplete</b> - The number of legacy systems which have connected to city services is unknown at this time. A reliable method of tracking these systems needs to be developed. As many of these systems do not get to the application stage with our office, we do not currently have a method to track them.	
Unidentified non-point sources	Participate in collaborative efforts with DEQ, ODA, cities, and allied agencies to respond to complaints, including unidentified non-point sources of bacterial contaminants	Respond to citizen complaints. Contact agencies with shared jurisdiction and coordinate response.	Not currently funded in budget; larger projects may require grant funding	Track complaints received, follow-up actions and enforcement	Ongoing as complaints are received	N/A	<b>Ongoing</b> - A joint effort with varying jurisdictions have been made on 2 complaints received during this time period.

<b>Pollutant: Mercury</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Household Hazardous Waste (HHW) and Conditionally Exempt Small Quantity Generations (CESQGs)	HHW collection events provided by Solid Waste franchises in accordance with their franchise application and agreement.	Continue to work with solid waste franchise to provide HHW collection events.	DEQ solid waste grants, current budget, and rate base	Review amounts of material recovered as provided by the Oregon Material Recovery Survey	Ongoing	Franchise agreements are reviewed on an annual basis to determine compliance	<b>Incomplete</b> - Franchise agreements are reviewed, however reports for this time period have not yet been generated.

### Linn County Parks and Recreation

<b>Pollutant: Bacteria</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Public Parks	· Monitor on-site waste water system in all public facilities	· Annual inspection & reporting of system status	· Existing budget	· Compliance with allowable waste strength limits through annual testing	Ongoing and Additional tankage was the River Bend system in 2020. We will add additional tankage at Sunnyside by 2025.	Current, annual reporting to DEQ under WPCF permits. Confirm completion of annual requirements.	<b>Annual reporting completed. River Bend Waste water tank project completed. New panel was installed. We are monitoring and reporting our waste water sampling to DEQ and will determine if any additional action is necessary.</b>
	Limit and control pet waste	· In parks with high visitation we have constructed pet-off leash areas where pet waste can be easily cleaned up. · Educate public through signage about cleaning up after pets.	Existing budget	Staff will monitor and confirm the refill pet waste bags weekly or as needed. Confirm annually that pet waste signs are still in place.	Ongoing- Staff will confirm the ongoing cleanup of pet waste.	Staff confirmation that pet waste is not a significant sanitary issue in the Parks.	<b>confirmed Pet waste stations stocking. Bags are being used and staff is restocking bag stations.</b>
	Reduce human waste entering water ways	Provide floating restrooms on water ways and pump out stations at boat ramps	We receive annual funding from the Oregon State Marine Board	Confirm maintenance of floating restrooms in high use areas. Use door counter to confirm the amount of public use.	Additional tankage to the River Bend	Ongoing. This information is reported annually to the Oregon State Marine Board. Confirm report to OSMB.	<b>Floating restroom were installed , maintained and pumped. Annual reporting to the Oregon State Marine Board was completed.</b>
	Decrease angling waste entering waterways	Empty Fishing line recycling tubes, replace as necessary	Existing budget and grants, volunteers and agency partnering	Replace and maintain cleaning stations, and receptacles for recycling fish line. add 5 new fishing line tubes in the next 5 years	Ongoing; annual review. Add 5 stations between 2020 and 2025	Sign in all park facilities. Add 5 stations between 2020 and 2025	<b>Ongoing- Fishing line stations were cleaned and maintained. Two new fishing Line Stations were added this year.</b>
	Maintain Public Restrooms in Park Areas	Maintain rest areas with restrooms	Existing Budget	Track and document that restrooms are adequately maintained	Ongoing; annual review	Ongoing	<b>Ongoing- Restrooms are cleaned a minimum of three times per week during the main camping season and twice per week in the off-season</b>
	Provide Porta-potties in parks that do not have permanent restrooms	Rent porta-potty from local company for parks that do not have Restrooms	Existing Budget	Confirm porta potties are located at necessary facilities.	Ongoing; annual review	Have year round sanitary facilities at all Linn County parks.	<b>Ongoing- Confirmed Porta-potties were installed when necessary.</b>
	Provide Porta potties in parks during special events	Require Parks Special Use Permits for private parties holding special events to provide porta potties	Existing Budget	Require port a potties (1/50 participants) The 1/50 is a new standard for implementation	Add language requiring 1 potty per 50 people to all special use permits in 2020.	Confirm Special event porta potty policy has been implemented	<b>Confirmed special event require 1 porta-potty per 50 people.</b>

### Linn County Parks and Recreation

<b>Pollutant: Mercury</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Public Facility Construction	Use BMP's to limit runoff contaminates	Where appropriate use silt fences, hay bales, and other silt containment devices.	Existing budget	Confirm proper implementation of BMPs; monitor storm water and runoff during construction for turbidity	Ongoing	Ongoing	<i>Ongoing: Silt fencing was installed when constructing projects near waterway. Vegetation was planted to stabilize soil when projects were completed.</i>
		Provide training to county staff on proper BMP implementation		Track and document that staff are trained on implementation of BMPs	Annual Training	Ongoing	<i>Ongoing. Staff did a training in March this of this year, prior to construction season on BNP for erosion control and the proper installation of silt/erosion fencing.</i>
Cars/Mass Transportation	Promote carpooling, public transportation as a strategy to reduce mercury	Collect extra vehicle fees at all campgrounds	Funded from fees collected	Limit the amount of extra vehicles in campgrounds. Confirm staff is limiting the extra vehicle parking	Ongoing; annual review	Ongoing.	<i>Ongoing- We have added more no parking signs to limit the number of areas extra vehicles can park and we are collecting extra vehicle fees to encourage visitors to limit the number of vehicles they bring.</i>

<b>Pollutant: Temperature</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Public Facility Design	Design Facilities to limit impacts on water ways	<ul style="list-style-type: none"> <li>· Provide adequate buffer areas to water ways.</li> <li>· Slope facilities to avoid direct unfiltered runoff.</li> <li>· Utilize available technologies such porous asphalt and concrete.</li> </ul>	Grants	Confirm State and county Planning and Building requirements are met when new facilities are installed or existing facilities are renovated	Ongoing/New construction and renovations	Meet or exceed permit requirements.	<i>Ongoing-met planning and building requirements for facility design and construction.</i>
Fertilizer and pesticides	Reduce dependency on fertilizers and pesticides in landscape areas	<ul style="list-style-type: none"> <li>· Limit application of fertilizers and pesticides.</li> <li>· Use alternative forms of weed control such as mechanical removal.</li> </ul>	Existing budget and grants	Decrease the amount of fertilizer and pesticides applied annually	Ongoing Annual monitoring of purchases and applications.	Confirm documentation of the amount of pesticides used. Eliminate or decreased use of pesticides	<i>Ongoing- Confirmed that no fertilizers were used in the routine maintenance of the parks. Pesticide use was limited to removal of highly invasive species, such as Japanese Knotweed. Documentation of pesticides use was completed.</i>

**Linn County Planning and Building**

<b>Pollutant: Bacteria</b>							
<b>Source</b>	<b>Management Strategy</b>	<b>Implementation Measures</b>	<b>Implementation Resources</b>	<b>Progress Measures</b>	<b>Timeline</b>	<b>Milestone</b>	<b>Status</b>
Stormwater from Residential, Commercial, and Industrial Development	Collect and treat stormwater with infiltration, filtration, and detention on-site	Require 1200C Permits for development disturbing one acre or more.	Existing budgets and development permit review.	For qualifying projects, verify a 1200C permit is obtained prior to the issuance of development permits.	Ongoing	N/A	<i>No building permits requiring a 1200C were accepted during the 2020-2021 reporting period</i>
		Require Geotechnical Engineering Report identifying site stabilization measures for development within geohazard areas.	Existing budgets and development permit review.	Review geotechnical engineering reports as required; Include site stabilization measure in building permit requirements.	Ongoing	N/A	<i>Reviewed with every building permit.</i>
		Limit development and ensure compliance with development standards within the Willamette River Greenway and Aggregate Resource Overlays.	Existing budgets and development permit review.	Review land use and building permit applications for Code compliance; Include permit conditions as needed.	Ongoing	N/A	<i>One permit was issued within the Willamette River Greenway Overlay during this review period. No permits were issued within the ARO zoning during this review period.</i>
				Track variances that the county approves for development standards and approved conditional use permits in protected areas, e.g. Willamette Greenway.			
		Provide erosion control and stormwater BMP training to County building inspection staff.	Existing training budget.	Obtain and provide EPA and DEQ BMP publications. Conduct field training.	Ongoing	N/A	<i>All Linn County Building Inspectors are currently trained on stormwater BMP and erosion control. The building inspectors remain up-to-date on their continuing education requirements.</i>
		Provide erosion control and stormwater BMP education to contractors and the public.	Existing personnel and materials and services budgets	Develop handouts and provide erosion control and stormwater BMP informational materials to contractors and the public.	Ongoing	Educational materials provided during permitting process and online, to be complete within the year	<i>The County is in the process of updating educational materials to be provided during the permitted process and online.</i>
		Publish erosion control and stormwater BMP information on County website.	Existing personnel and materials and services budgets	Development and publication of educational material; Development of erosion control and prevention web page.	Years 1-2: Develop and publish educational material; provide educational handouts with development permits and to the public; post the Current TMDL Plan, educational material, and related external links on County web site. Years 1-5: Review handouts and web page annually to ensure educational material and links are up-to-date.	Publication of development material; Development and maintenance of County erosion control and prevention web page.	<i>A draft erosion control and stormwater permit application is under review and is expected to be in use by 2022.</i>

**Linn County Planning and Building**

<b>Pollutant: Bacteria Cont.</b>							
<b>Source</b>	<b>Management Strategy</b>	<b>Implementation Measures</b>	<b>Implementation Resources</b>	<b>Progress Measures</b>	<b>Timeline</b>	<b>Milestone</b>	<b>Status</b>
Stormwater from Residential, Commercial, and Industrial Development Cont.	Ensure Comprehensive Plan and Land Development Codes are consistent with State and Federal stormwater regulations.	Amend Plan and Land Development Codes as needed.	Not funded	Monitor adoption of new State stormwater regulations.	Ongoing	County adopted Title V requiring compliance with state and federal regulations; Road Department BMP's included in Land Development Code Chapter 935.	<b>The County Comprehensive Plan and Land Development Codes are up-to-date with State stormwater regulations. Continued yearly Plan and Code review is ongoing to ensure compliance.</b>
	Ensure that all permitted development is properly connected to an approved method of sewage disposal as needed.	Coordinate development permit sign-off with EHP/DEQ agent; withhold certificate of occupancy until verification of EHP/DEQ compliance.	Existing budgets and development permit review.	Plumbing permits issued	Ongoing; annual review	N/A	<b>All development requiring a sewage disposal system must provide evidence of an Environmental Health Program/DEQ authorization and permit prior to acceptance and review of the development permit. All plumbing installations are inspected and require EHP/DEQ verification of satisfactory completion prior to finalizing the permit.</b>
<b>Pollutant: Mercury</b>							
<b>Source</b>	<b>Management Strategy</b>	<b>Implementation Measures</b>	<b>Implementation Resources</b>	<b>Progress Measures</b>	<b>Timeline</b>	<b>Milestone</b>	<b>Status</b>
Erosion from residential, commercial and industrial development	Limit erosion and mitigate the impacts of land disturbance on water quality.	Limit land disturbance activities; implement the Linn County Fill and Excavation Code; monitor 1200C permitting; use BMPs for fill and excavation activities.	Existing budgets and development permit review.	Require and track fill and excavation permits pursuant to Linn County Code; report numbers of fill and excavation permits issued; refer developments disturbing one acre or more to DEQ to ensure compliance with 1200C requirements.	Ongoing; annual review	N/A	<b>The County issued five (5) fill and excavation permits during this review period.</b>

### Linn County Planning and Building

<b>Pollutant: Temperature</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Solar radiation input due to loss of riparian shading	Protect riparian and wetland areas and buffers from vegetation loss.	Implement Comprehensive Plan and Land Development Code provisions for riparian and wetland protection.	Existing budgets and development permit review.	Review land use and building permits for compliance with riparian and habitat protection requirements.	Ongoing	N/A	<i>The County issued six (6) variance permits for construction within 50 feet of an inventoried wetland boundary.</i>
				Track variances and conditional use permits that allow development within defined 50 foot and 100 foot riparian buffers.			<i>Riparian habitat setback variance permits are not issued for and do not permit development within a riparian area. The County coordinates with DSL and ODFW on all riparian setback variance requests and incorporates DSL/ODFW concerns into the variance permit decision and permit conditions.</i>
		Support watershed councils on waterway improvement projects.	Existing budgets and development permit review.	Review proposed watershed improvement projects for compliance with the Comprehensive Plan and Land Development Code; Recommend measures and processes to achieve compliance as needed.	Ongoing	Review and issue Land Use Compatibility Permits and other County permits.	<i>The County has not approved any LUCS's for waterway improvement projects during the review period.</i>
				Track assistance provided to watershed councils and reviews completed on an annual basis			<i>No watershed councils requested Department assistance for projects within Linn County during the 2019-2020 reporting period.</i>
Unidentified non-point sources	Protect natural drainage systems and limit surface water runoff.	Implement Comprehensive Plan, Floodplain Management Code, and Building Code provisions relating to drainage and surface water.	Existing budgets and development permit review.	Review and track land use and building permits to ensure compliance with the Floodplain Management Code; Building Codes relating to drainage course maintenance; grading permits; and fill and excavation permits.	Ongoing	Enforcement of Floodplain Management and Drainage Code requirements; Review and Issue Floodplain Permits and Grading Permits as Required.	<i>The Linn County Floodplain Manager reviews every building permit application and ensures compliance with the Floodplain Management Code.</i>

### Linn County Roads

<b>Pollutant: Bacteria</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Ditches and Storm Water Facilities	Water Complaints are directed to the Linn County Environmental Health Department	Linn County Health Department to respond and provide corrective action as necessary.	Linn County Environmental Health, Oregon Department of Agriculture, USDA, or ODEQ to be contacted if outside of Linn County Road Department	Track and document Complaints received with follow up as required of condition.	Ongoing	Not Applicable	<i>There were not any complaints received during the reporting period.</i>
Ditches and Storm Water Facilities Continued	Sources of bacteria from residential and domestic activities are under the jurisdiction of Linn County Environmental Health Department	Any sources of domestic waste contaminants along the roadside seen during road maintenance activities are reported to Linn County Environmental Health	Sources of Animal Waster Contaminates are reported to Oregon department of Agriculture	Progress followed by Linn County Environmental Health of Oregon Department of Agriculture	Ongoing	Not applicable	<i>There were not any reports to the ODA during the reporting period.</i>
Roadside Camping	Eliminate Roadside Camping in Quartzville Corridor	Addition of 3 roadside parking areas with Restrooms	Completion of project and implementation of Roadside Camping Ban in 2017	Roadside Camping Ban is enforced by Linn County Sheriff	Ongoing	Not applicable	<i>The Roadside Camping Ban is still in enforcement and will continue forever as adopted by Linn County and enforced by the Linn County Sheriff.</i>
Illicit Discharges	Train employees and develop BMPs so as to prevent illicit discharges from occurring.	County Employees educated through BMP and other resources.	Linn County Road Department Budget	Ongoing - Document and track permit violations and corrective action taken.	Ongoing	Ongoing	<i>See Table B for development and implementation and continual improvement of Best Management Practices. Training continually provided through on the job training an supervisors meetings.</i>

<b>Pollutant: Mercury</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Linn County Access and Driveway Permit Program	Driveway Access and Review Program Permit Applications are reviewed for sediment and erosion control	Following Established BMP Manual adopted by Road Department. BMPs are integrated into driveway and access permits issued by Road Department	Access and Driveway Permit Program Covered under Road Department Budget. Any disturbance of one area of more requires a DEQ 1200 C permit.	Project is inspected during construction and after completion of project to verify compliance with BMPs. Owner needs a 1200 C permit before obtaining Linn County Permit. Track enforcement related to permit violations.	Ongoing since 2005	Ongoing	Proposed new roads and driveways are currently being reviewed as part of an existing permit program that includes that owners provide erosion and sediment control and collection and treatment of stormwater so as to comply with current ODEQ regulations and Linn County Road Department's adopted Best Management Practices.
Completion of Road and Bridge Improvement Projects with Stormwater Collection and Treatment	Design and Construct Bridge and Road Improvements to provide Stormwater Collection and Treatment	Follow BMP Manual and ODEQ requirements for new construction. Linn County follows its DEQ 1200CA Permit.	Covered under Road Maintenance Budget and Capital Improvement Plan Budget. Linn County Road Department has a 1200CA permit	Erosion and Sediment Control Plans and Monitoring Reports are prepared and followed for bridge and road maintenance and improvement projects. Plans and reports are kept on file by Road Department.	Ongoing	Ongoing	<i>See Attached Table B for List of projects that have been constructed, scheduled for construction, funded for construction and in development.</i>
Soils and Other Unknown	Determine sources of Mercury so as determine actual if any environmental and health concern	Obtain copy of monitoring and sampling of Linn County rivers from ODEQ. Obtain additional data by collection of samples for sediment and soils for road and bridge improvement projects to determine presence.	Covered under Capital Improvement Plan for projects funded by FHWA and ODOT	Review of DEQ monitoring data and sampling of soils and sediments during the past two years indicate that Linn County is not a source of mercury for the Willamette River. Mercury sources are located south of Linn County.	Status Report to be provided by December 1, 2021.	Ongoing	Sampling of soils for recent projects (One Horse Slough Bridge Project, Hamilton Creek Bridge Project and Muddy Creek Project) did not indicate any presence of Mercury above Oregon background level criteria. On November 5, 2020, Oregon Department of Environmental Quality released its most recent Willamette River Basin Water Toxics Summary which did not indicate evidence of toxics (including Mercury) in waters of Linn County other than the Willamette River that pose an immediate risk to human health or the environment which support the conclusions of the Linn County data review.

### Linn County Roads

<b>Pollutant: Temperature</b>							
Source	Management Strategy	Implementation Measures	Implementation Resources	Progress Measures	Timeline	Milestone	Status
Streams Adjacent to County Roads -- <i>Note: Sources of Temperature are primarily from Agricultural Activities (irrigation and flow and stream side habitat) under the jurisdiction of the USDA and Oregon Department of Agriculture.</i>	Maintain vegetation and trees near streams and rivers when possible regarding road and bridge maintenance and improvement projects.	BMPs have been developed and integrated into Road Department operations and are ongoing which require compliance with local, state and federal regulations	Maintenance and Capital Improvement Plan Budget. Capital improvement projects with design under approval of Linn County Engineer. Development of roads and driveways on Private Lands under review and approval of the Linn County Road Department by a Permit Program since prior to 2005	BMPs have been developed and adopted and are ongoing. The Linn County BMP Plan has been updated this year in coordination with ODOTs BMP and also includes USDA BMP on gravel roads.	.Ongoing	Ongoing	<i>New roads and driveways are currently being reviewed as part of an existing permit program that includes that owners maintain trees and vegetation near streams and rivers. For the 2015-2020 year, no trees or vegetation were removed near streams and rivers so as to impact temperature. Bridge projects were completed which did not remove trees or vegetation near streams and rivers. (See Table B)</i>
Riparian Preservation and Enhancement	Develop, design, fund and construct restorations	Partnerships with Watershed Councils, Soil and Water Conservation District, and Linn County Improvement Projects	Covered under County Engineering Program and Road Maintenance Budget and Capital Improvement Plan Budget	Track project implementation: Approximately 10 projects are funded for construction in 2020 to 2025 that have a component related to riparian preservation and enhancement and stormwater management.	Complete funded projects in 2020 to 2025 period. Develop and obtain additional funding for improvements for 2022+	Ongoing	<i>Projects were completed that result in improvement of water quality. One specific example is the Little Rock Creek Fish Passage Project which included the addition of riparian vegetation and stormwater management. Other projects that include stormwater collection, retention and treatment as well as removal of treated timbers are provided in Table B</i>
Roads	Stormwater Conveyance Systems Map	Linn County GIS Ella Maps, one foot contour topography maps have been developed based on 2009 LIDAR, Aerial Maps and Google Maps.	Completed by Linn County GIS Department	Update and maintain system map as system changes or grows.	Ongoing	Ongoing program	<i>The existing GIS developed map, including LIDAR which provides one foot contours, the Linn County Soil Survey and the Oregon Landslide Inventory are used to determine, develop, fund, design and construction improvements for stormwater collection management and treatment. See List of Projects in Table B provided below.</i>
Riparian Preservation and Enhancement	Riparian Vegetation Inventory	Linn County GIS Ella Maps, Aerial Maps and Google Maps.	Completed by Linn County GIS Department	The aerial photography that is available provides an ongoing inventory. This layers are added to the GIS web site when available.	Work is ongoing. A status report of work that is completed will be submitted in a summary report by 2025	Ongoing program	<i>The existing GIS developed aerial maps combined with Google Earth Pro provides a Riparian Vegetation Inventory for all road corridors that is presently used to design and construction improvements for stormwater collection management and treatment. It is also used to document activity on adjacent private and public lands.</i>

### Linn County Roads

<b>Pollutant: Temperature Continued</b>							
Riparian Preservation and Enhancement	Post Construction Ordinance and Plan for meeting predevelopment hydrology, and riparian vegetation	Linn County Drainage and Flood Code and Development Code. Enforced through LCRD Access, Driveway, and Development permit program. (Linn County Code 935)	LCRD Engineering staff and Operations Supervisors for inspection	Access and driveway permit applications for new developments are reviewed by Linn County Road Department staff for compliance with federal, state and local environmental requirements. Permits are issued only after the development demonstrates compliance with those requirements. Work is inspected and only accepted when completed property prior to owner getting an occupancy permit. Track permit violations and enforcement actions	Ongoing	Implemented prior to 2015	<i>There were not any permit violations and/ or required follow-up actions during the reporting period.</i>
Riparian Preservation and Enhancement	Educational Outreach	In partnership with Watershed Councils and Soil and Water Conservation District and South Santiam Area Management program as well as for separate Linn County projects and through the Linn County permit program.	Road Department Budget	Review of DEQ monitoring data and sampling of soils and sediments during the past two years indicate that Linn County is not a source of mercury for the Willamette River. Mercury sources are located south of Linn County.	Track assistance provided on an annual basis	Implemented prior to 2015	<i>No specific assistance was provided during the reporting period. Linn County Road Department continues to meet and work with the Watershed Councils and Soil and Water Conservation District.</i>

### Linn County Roads

Table B	<i>Linn County Road Department Projects 2015 - 2021</i>	Status
	<b><i>The following Projects were completed or will be implemented following Best Management Practices which are designed to meet and implement management strategies for improvement or maintenance of levels of Bacteria, Mercury, and Temperature as well as other Pollutants of Concern:</i></b>	
	Implementation of Best Management Practices for Road Maintenance and Construction. This is modified and improved as new guidance is available to incorporate into the BMP Plan for Linn County Road Department such as ODOT Erosion Control Manual Version 2 - March 2019; U S Department of Agriculture's Environmentally Sensitive Maintenance Practices for Gravel Roads	Implemented 2015 with updates in 2021
	Recent Update of Best Management Practices for Road Maintenance and Construction.	Scheduled for completion and distribution within Linn County Road Department and the Website by September 1 2021.
	North Santiam Stayton Scio Bridge Scour Protection including bank stabilization with addition of large root wads and riparian planting	Constructed 2015 - 2017
	Shimaneck Bridge Drive Bank Restoration and Enhancement Bank Stabilization including root wads (woody Debris) and riparian planting and stormwater management improvements	Constructed 2016
	Quartzville Road Improvement Project including Stormwater Management and Treatment, three parking lots and restrooms	Constructed 2016
	Truax Creek Old Salem Road Bridge Replacement Including hydraulic restoration and riparian planting and stormwater management and treatment	Constructed 2018
	Riverside Drive Improvement Project to provide 2.5 miles of pavement widening combined with stormwater management, retention and treatment improvements	Constructed 2018
	Little Rock Creek Morrison Road Fish Passage and Stream Restoration for tributary of North Santiam River which included Riparian Restoration and Stormwater Management and Treatment improvements	Constructed 2019
	Butte Creek Berlin Road Culvert Replacement Project (FEMA Funded) with fish passage and Stormwater Management and Treatment improvements	Constructed 2019
	Foster Dam Road Improvements combined with Stormwater Collection, Management, and Treatment Improvements	Constructed 2019
	Upper Calapoovia Drive Right of Way Transfer from Private Logging Company to Linn County Road Department with the development and implementation of improved Best Management Practices for Stormwater Management and Treatment.	Developed and Implemented in 2019
	Upper Calapoovia Drive Bridge Replacement and Road Improvement Project federal funding development and submittal to improve bridges and road and construction of improvements to include Stormwater Management and Treatment improvements	Funding requests are due in 2021 with construction to be in 2025 if funding request is successful.
	One Horse Slough Brewster Road Bridge Replacement Project with Riparian and Stormwater Management and Treatment improvements	Constructed 2020
	Hamilton Creek Berlin Road Bridge Replacement Project with Riparian and Stormwater Management and Treatment improvements	Constructed 2020
	Henshaw Lane Road Improvement Project with Stormwater Management and Treatment improvements as part of development project	Constructed 2021
	Powerline Road Muddy Creek Bridge Replacement Projected with Stormwater Management and Treatment Improvements with completed design and permits obtained	Constructed 2021
	Franklin Avenue (Lebanon) Road Improvement Project with Stormwater Management and Treatment improvements as part of development project	Constructed 2021
	Primrose Lane (Lebanon) Road Improvement Project with Stormwater Management and Treatment improvements as part of development project	Construction to occur in 2021/2022
	Mill Creek Folsom Road Bridge Replacement Project with Stormwater Management and Treatment Improvements. Design and permitting in progress	Construction to occur in 2022
	Shimaneck Covered Bridge Thomas Creek Rehabilitation Project to include removal of treated timbers, bridge restoration and stormwater management improvements	Construction to occur in 2022
	Mill City Improvement Project combined with Stormwater Management and Treatment improvements	Construction to be completed in 2021

## Linn County Roads

<b>Table B</b>	<b>Linn County Road Department Projects 2015 - 2021 Continued</b>	<b>Status</b>
	North River Drive Improvement Project combined with Stormwater Management and Treatment improvements	Project in design with construction in 2022
	Seven Mile Lane Improvement Project combined with Stormwater Management and Treatment improvements	Construction is designed with construction in 2022
	Cox Creek Goldfish Farm Road Bridge Replacement Projected combined with Stormwater Management and Treatment improvements	Project funding has been received with engineering design and permits to be obtained for construction in 2022 - 2023
	Tangent Drive Road Improvement Project combined with Stormwater Management and Treatment improvements	Project funding has been received with engineering design and permits to be obtained for construction in 2022 - 2023
	Goldfish Farm Road Improvement Project combined with Stormwater Management and Treatment improvements	Project funding has been received with engineering design and permits to be obtained for construction in 2022 - 2023
	Butte Creek, Sand Ridge Road Bridge Replacement Project combined with Stormwater Management and Treatment improvements	Project funding has been received with engineering design and permits to be obtained for construction in 2022 - 2023
	Owl Creek Peoria Road Bridge Replacement Project combined with Stormwater Management and Treatment improvements	Project funding has been received with engineering design and permits to be obtained for construction in 2022 - 2023
	Riverside Drive Improvement Project Phase 2 to provide additional 4 miles of pavement widening combined with Stormwater management and treatment improvements	Design in Progress with intent to complete when funding is available
	Brownsville Road Improvement Project to provide pavement widening combined with Stormwater Management and Treatment improvements	Design in Progress with intent to complete when funding is available

Note: Other Projects are under development - Contact Linn County Engineer for additional information