



Eureka Area Watersheds Storm Water Resource Plan

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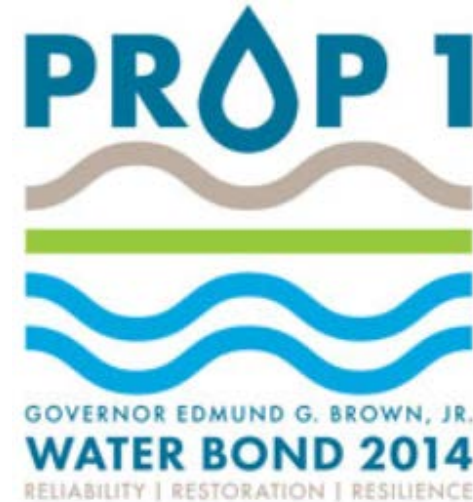
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December 2017

Outline

- Background and Purpose
- Goals and Objectives
- Work Completed to Date
- Project Participation
- Next Steps

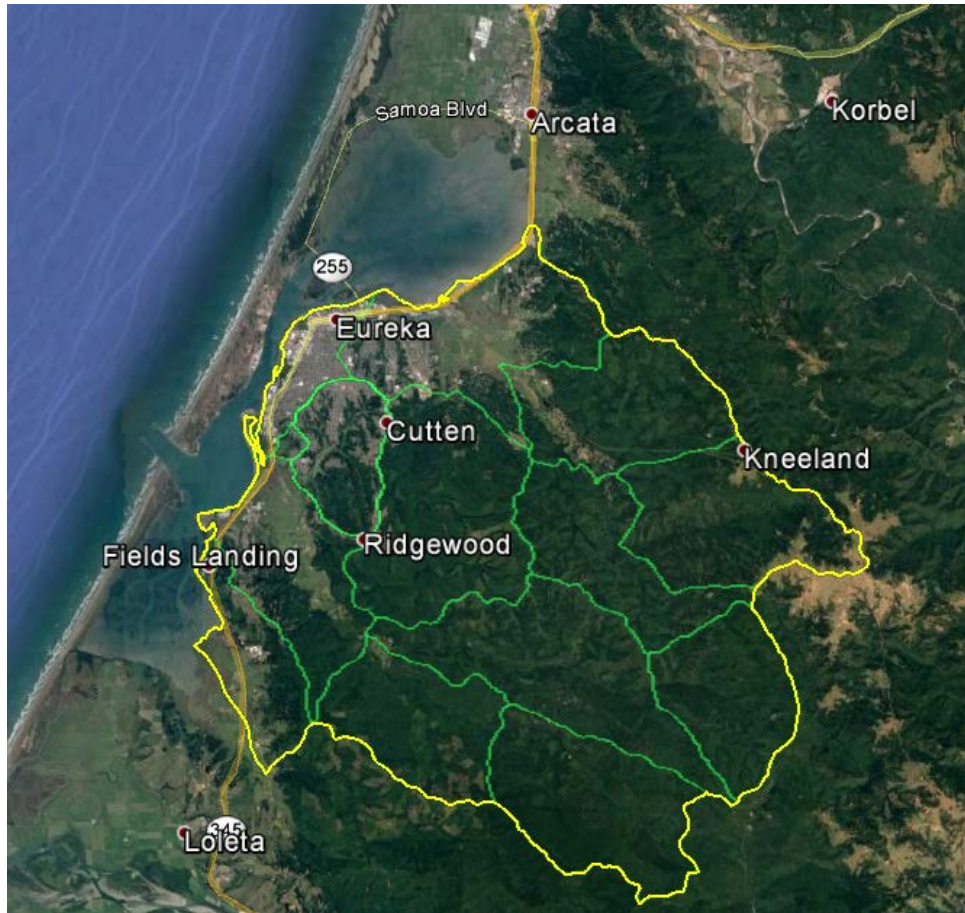
Background and Purpose



Storm Water Resource Plan (SWRP)

- Planning document
- Watershed-based management
- Provides metrics to prioritize multi-benefit projects SWRP required to obtain Prop 1 Stormwater funds in communities greater than 20,000 people

Background and Purpose



Technical Advisory Committee

- City of Eureka
- Humboldt County
- Humboldt County Services District (HCSD)
- North Coast Regional Water Quality Control Board

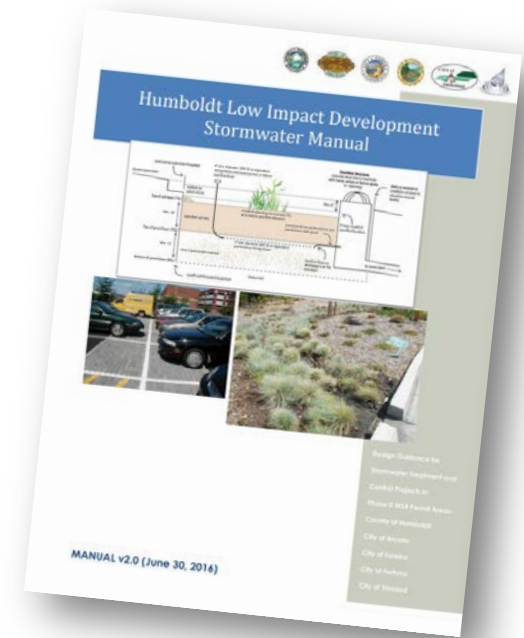
Eureka Area Watersheds

Storm Water Resource Plan Goals

- Characterize watershed processes, surface water quality, storm drainage systems, and land use characteristics
- Provide a quantitative and transferable methodology for the identification and prioritization of storm water projects
- Outline specific storm water projects within the SWRP area
- Leverage stakeholder expertise and knowledge through past planning documents, community engagement efforts, and continued communication and data sharing among stakeholder groups
- Develop framework for future storm water resource planning and program implementation through adaptive management

Eureka Area Watersheds Storm Water Resource Plan Management Objectives

- Increase regional coordination
- Support MS4 Permit compliance
- Improve water quality
- Improve flood management
- Protect and enhance natural resources and community benefits



Work Completed to Date

- Data review and gap analysis
- Literature review
- Watershed characterization
- Water quality compliance approach
- Preliminary data collection
- Developed draft project screening and prioritization method

Key Findings

- Most of the major water bodies are listed on the 303(d) Impaired Water Bodies List
- Primary pollutants include sediment, trash, indicator bacteria, dioxin toxic equivalents, and polychlorinated biphenyls
- Typical LID implementation is more challenging in the project watershed due to hydrologic conditions specific to our region
- Sea level rise will likely impact storm water management

Stakeholder Participation Opportunities

- Provide your organization's planned projects that are being implemented in the project watershed for inclusion in the EAWSWRP
 - Supports Regional Collaboration
 - Supports potential future Prop 1 funding
- Notification to provide review and comment on the Eureka Area Watersheds Storm Water Resource Plan

EAWSWRP Website – Page on North Coast Storm Water Coalition Website:

<http://northcoaststormwatercoalition.org/index.php/stormwaterresourceplan/>

EAWSWRP Project Request Form

Link available on the EAWSWRP
Website

Eureka Area Watersheds Storm Water
Resource Plan Project Request Form

* Required

Project Information

Title of Proposed Project *

project location (latitude and longitude
ct design, and how the project would

fits. Project examples for each benefit can
mples]. Check all boxes that apply to your

of runoff

- Increases water supply reliability through groundwater management and/or runoff capture and use
- Facilitates conjunctive use through groundwater management and/or runoff capture and use

Information:

The development of the EAWSWRP is an opportunity for public and stakeholder input on storm water management in the Project Area Watersheds. There are several ways you can get involved:

- **Submit a Storm Water Project for Inclusion in the EAWSWRP:**
Submit a project recommendation, using the [Project Request Form](#), to be considered for inclusion in the EAWSWRP.

Next Steps

- Solicit Regional Planned Project Information:
Now until February 28, 2018
- Finalize Project Opportunity Screening:
Complete January 2018
- Hydraulic and Hydrologic Modeling: January 2018 – March 2018
- North Coast Stormwater Coalition Outreach Survey: Spring 2018
- Prioritize Projects: April 2018 - May 2018
- Draft EAWSWRP: June 2018
- Final EAWSWRP: September 2018

Questions

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Additional slides

Project Examples

Benefit Category	Benefit	Example(s)
Water Quality <i>while contributing to compliance with applicable permit and/or TMDL requirements</i>	Increased filtration and/or treatment of runoff	<ul style="list-style-type: none"> • Bioretention facility, rain garden, green roof, bioswale
	Trash capture	<ul style="list-style-type: none"> • Program to organize community members to collect trash from streets • Low impact development project with trash capture system
	Nonpoint source pollution control	<ul style="list-style-type: none"> • Sediment reduction project at timber production site • Bioswale, rain garden, bioretention facility
	Reestablished natural water drainage and treatment	<ul style="list-style-type: none"> • Conversion of pervious surface to impervious surface • Creek restoration project to naturally filter storm water runoff
Water Supply <i>through groundwater management and/or runoff capture and use</i>	Water conservation	<ul style="list-style-type: none"> • Rainwater collection system • Native landscaping incorporated into projects to reduce potable water needs
	Water supply reliability	<ul style="list-style-type: none"> • Storm water infiltration project
	Conjunctive use	<ul style="list-style-type: none"> • Program or project that facilitates the use of groundwater infiltration of surface storm water into a drinking water supply aquifer
Flood Management	Reduced sanitary sewer overflows	<ul style="list-style-type: none"> • LID style basin to mitigate volumetric overflow • LID retrofit incorporated with illegal storm water connection removal
	Decreased flood risk by reducing runoff rate and/or volume	<ul style="list-style-type: none"> • Rainwater collection system • Bioretention facility, rain garden, bioswale • Conversion of pervious surface to impervious surface
	Increased sea level rise resiliency	<ul style="list-style-type: none"> • Tide gate installation or improvement that prevents backwatering in the storm water system • Project that increases storm water storage

Benefit Category	Benefit	Example(s)
Environmental	Reduced energy use, greenhouse gas emissions, or provides a carbon sink	<ul style="list-style-type: none"> • Creation of wetland with quantifiable greenhouse gas emission reduction
	Reestablishment of the natural hydrograph	<ul style="list-style-type: none"> • Conversion of pervious surface to impervious surface • Creek restoration project that removes riprap or concrete and converts river bed back to native material
	Water temperature improvement	<ul style="list-style-type: none"> • Deep media bioretention facilities that shield water from sunlight • Riparian forest restoration for infiltration of stormwater
	Environmental and habitat protection and improvement, including: - wetland enhancement/creation; - riparian enhancement; and/or - instream flow improvement	<ul style="list-style-type: none"> • Storm water treatment wetland • Channel enhancement project to reduce storm water turbidity • Replacement of undersized culvert that causes flooding and debris accumulation • Floodplain enhancement project to infiltrate storm water
	Increased urban green space	<ul style="list-style-type: none"> • Green streets project
Community	Employment opportunities provided	<ul style="list-style-type: none"> • LID project at public school
	Public education	<ul style="list-style-type: none"> • LID project with signage
	Community involvement	<ul style="list-style-type: none"> • Community built demonstration LID project
	Enhance and/or create recreational and public use areas	<ul style="list-style-type: none"> • Creation or enhancement of trail drainages to filter storm water runoff or wildlife areas • Installation bioswale or rain garden at existing public use area

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Project Prioritization

Benefit	Score			Weight
	1	2	3	
Water Quality				
Increased filtration and/or treatment of runoff	<ul style="list-style-type: none"> Increases treatment or filtration of runoff by up to 25% for the contributing drainage area for the 85th percentile of the 24-hr storm event 	<ul style="list-style-type: none"> Increases filtration and/or treatment of runoff by 25-50% for the contributing drainage area for the 85th percentile of the 24-hr storm event 	<ul style="list-style-type: none"> Increases treatment or filtration of runoff by 50% or more for the contributing drainage area for the 85th percentile of the 24-hr storm event, or the primary purpose of the project is to provide runoff treatment, and provides treatment for more than 0.5 acres 	4
Trash capture	<ul style="list-style-type: none"> Provides partial trash removal 	N/A	<ul style="list-style-type: none"> Provides full trash capture for the 2-year, 24-hr storm event of the contributing drainage area using a SWRCB-approved device 	4
EAWSWRP priority pollutant removal	<ul style="list-style-type: none"> Provides minimal secondary priority pollutant removal 	<ul style="list-style-type: none"> Includes treatment techniques known to remove one priority pollutant for the contributing drainage area for the 85th percentile of the 24-hour storm event 	<ul style="list-style-type: none"> Contributes to compliance with applicable NPDES permits and TMDLs, and includes treatment techniques known to remove two or more priority pollutants for the contributing drainage area for the 85th percentile of the 24-hour storm event 	4
Nonpoint source pollution control	<ul style="list-style-type: none"> Implements BMPs that cover less than 5 acres of land 	<ul style="list-style-type: none"> Implements BMPs that cover between 5 and 10 acres of land 	<ul style="list-style-type: none"> Implements BMPs that cover more than 10 acres of land 	3
Conversion of pervious to impervious surface	<ul style="list-style-type: none"> Converts between 1000 SF (or 10 parking spaces) from impervious to pervious 	<ul style="list-style-type: none"> Converts between 1000 SF (or 10 parking spaces) and 1700 SF (or 30 parking spaces) from impervious to pervious 	<ul style="list-style-type: none"> Converts more than 1700 SF (or 30 parking spaces) from impervious to pervious 	2
Water quality monitoring and assessment	<ul style="list-style-type: none"> Includes visual inspection of water quality assessments 	<ul style="list-style-type: none"> Includes regular water quality monitoring 	<ul style="list-style-type: none"> Includes a water quality monitoring and assessment plan 	2
				24

Benefit	Score			Weight
	1	2	3	
Water Supply				
Water conservation	<ul style="list-style-type: none"> • Captures and stores storm water that offsets potable water use with storage less than 100 gallons, or • includes drought-tolerant plants, or • incorporates water conservation educational component(s), or • fixes existing water system leaks 	<ul style="list-style-type: none"> • Captures and stores storm water that offsets potable water use with storage capacity between 100 and 1,000 gallons 	<ul style="list-style-type: none"> • Captures and stores storm water that offsets potable water use with storage capacity greater than 1,000 gallons 	1
Water supply reliability	N/A	<ul style="list-style-type: none"> • Provides groundwater recharge from storm water 	N/A	1
Conjunctive use	N/A	<ul style="list-style-type: none"> • Implements conjunctive use program or plan incorporating storm water 	N/A	1
Stormwater runoff reuse	<ul style="list-style-type: none"> • Makes use of less than 100 gallons of storm water runoff that would otherwise be conveyed directly to a surface water body 	<ul style="list-style-type: none"> • Makes use of between 100 gallons and 500 gallons of storm water runoff that would otherwise be conveyed directly to a surface water body 	<ul style="list-style-type: none"> • Makes use of more than 500 gallons of storm water runoff that would otherwise be conveyed directly to a surface water body 	2
Flood Management				
Reduced sanitary sewer overflows	N/A	<ul style="list-style-type: none"> • Reduces existing sanitary sewer overflow issue within 10 to 20 feet of a storm drain inlet or surface water body 	<ul style="list-style-type: none"> • Eliminates an existing sanitary sewer overflow issue within 10 to 20 feet of a storm drain inlet or surface water body for the 85th percentile of the 24-hr storm event 	2
Decreased flood risk by reducing runoff rate and/or volume	<ul style="list-style-type: none"> • Reduces an existing flood issue by less than 50% for the 85th percentile of the 24-hr storm event, or • includes a project component known to reduce flood risk 	<ul style="list-style-type: none"> • Reduces an existing flood issue by 50% or more for the 85th percentile of the 24-hr storm event 	<ul style="list-style-type: none"> • Eliminates an existing flood issue for the 85th percentile of the 24-hr storm event, or • the primary purpose of the project is to reduce flooding that poses a risk to public safety 	5
Increased sea level rise resiliency	N/A	N/A	<ul style="list-style-type: none"> • Includes sea level rise resiliency measures 	4
Environmental				
Reduced energy use	N/A	<ul style="list-style-type: none"> • Reduces energy use 	N/A	1

Benefit	Score			Weight
	1	2	3	
Reduced greenhouse gas emissions	N/A	• Reduces greenhouse gas emissions	N/A	1
Provides carbon sink	N/A	• Provides carbon sink	N/A	1
Re-establishment of the natural hydrograph	N/A	• Provides peak flow attenuation	N/A	2
Water temperature improvement	N/A	• Decreases water temperature	N/A	1
Wetland enhancement	• Enhances less than 0.5 acres of wetland	• Enhances between 0.5 and 1 acre of wetland	• Enhances more than 1 acre of wetland	2
Wetland creation	• Creates less than 0.25 acre of wetland	• Creates between 0.25 and 0.5 acres of wetland	• Creates more than 0.5 acres of wetland	3
Riparian enhancement	• Enhances less than 0.5 acres of wetland	• Enhances between 0.5 and 1 acre of wetland	• Enhances more than 1 acre of wetland	2
Riparian creation	• Creates less than 0.25 acre of wetland	• Creates between 0.25 and 0.5 acres of wetland	• Creates more than 0.5 acres of wetland	3
Fish passage improvement	N/A	• Improves fish passage	N/A	4
Urban green space enhancement	• Enhances less than 0.5 acres of wetland	• Enhances between 0.5 and 1 acre of wetland	• Enhances more than 1 acre of wetland	1
Urban green space creation	• Creates less than 0.25 acre of wetland	• Creates between 0.25 and 0.5 acres of wetland	• Creates more than 0.5 acres of wetland	2
Community				
Employment opportunities provided	• Provides employment opportunities	N/A	N/A	2
Disadvantaged community	N/A	N/A	• Provides benefit for disadvantaged community	3



Benefit	Score			Weight
	1	2	3	
Public education, outreach, and involvement	<ul style="list-style-type: none"> Includes public education, outreach or involvement 	N/A	N/A	3
Public use area enhancement	<ul style="list-style-type: none"> Enhances public use area 	N/A	N/A	2
Public use area creation	<ul style="list-style-type: none"> Creates public use area 	N/A	N/A	3