

Siuslaw Estuary Partnership

An Integrated Multiple Objective Approach To Watershed Protection and Restoration

Guiding Principles and Measurable Outcomes For the Siuslaw Estuary Partnership

Endorsed by Florence City Council September 21, 2010

Also Endorsed by the Siuslaw Watershed Council,
Siuslaw Soil and Water Conservation District,

Heceta Water District, Lane County Board of Commissioners, and Confederated Tribes
of Coos, Lower Umpqua, and Siuslaw Indians

1. Public Education and Stewardship

Guiding Principles

1. Promote public education and stewardship activities that increase public awareness of water quality and fish and wildlife facts and issues within the lower Siuslaw River Watershed and North Florence Dunal Aquifer.
2. Work toward common knowledge of water quantity and quality conditions and threats, including the environmental impacts of development, and decision-making reliant on facts based on field data.
3. Cooperate and coordinate among local governments and non-profits, service clubs, the travel industry, and the media to foster and promote public education and stewardship programs to protect water quality and fish and wildlife habitat.
4. Cooperate and coordinate among federal-state-local inter-agency staff, including emergency responders, in the development and implementation of water quality and fish and wildlife protection policies and programs.
5. Involve all citizens, and especially local retired citizens and youth, as stewards of wetland and riparian area resources, and seek their active participation in maintenance and restoration activities.
6. Work with the development community to increase their awareness of, and concern for, water quality and fish and wildlife habitat; and encourage them to actively seek new and innovative ways to design stormwater systems in a manner that best achieves water quality and quantity objectives.
7. Promote good stewardship of water resources in public education and communication programs as a way to foster livability and help protect surface and groundwater resources from cumulative impacts.
8. Provide public information on how personal choices and actions affect watershed health.

Measurable Outcomes

Please note: These are provided for illustrative purposes only. Endorsement of Outcomes is not requested or required.

Short Term Outcomes

1. Target population groups with internet access have the opportunity to obtain up-to-date information about the project.
2. 9,000 households and businesses have received information about water quality and fish and wildlife facts, issues, and projects in the watershed.
3. Two newspaper articles published or radio reports per year and one TV exposure during project.
4. All who live around or visit Clear Lake are informed of the importance of protecting the lake as a drinking water source through signage around the lake.
5. Over 200 people have signed up on the interested parties list to learn more about the project.
6. Targeted outreach is provided to three groups per year .
7. Five interest groups participate in the planning process, for example as stakeholders.
8. Project discussions that occur at City Planning Commission and City Council meetings are televised and shown repeatedly during the week on TV.
9. Participation of study area population in Siuslaw Watershed Council native plant distribution increases;
10. Ten volunteers help on the project, for example on the wetlands inventory and water quality testing and stewardship projects.
11. There is increased involvement in one or more activities hosted by Stakeholder Groups.
12. There is increased use of stormwater BMPs as noted in planning approval process.
13. The Stormwater Demonstration Project is completed and includes interpretation of the estuary and innovative stormwater management techniques.
14. Ten public agencies or community organizations put links to project on agency web site and four put information on their web site about the project.
15. Twenty referrals to agency web sites are made through the project web site.
16. Ten Stakeholder Groups and seven Elected Official Stakeholder Groups appoint a member.
17. Forty people attend open houses and they are geographically distributed in study area, based on "where do you live map."
18. Twenty people are knowledgeable about the project and they in turn share this knowledge with their group's members, spreading the word to over 200 people.
19. Preliminary assessment for Estuary Interpretive Trail is completed, setting the stage for future planning of the trail as an environmental interpretation tool.

Medium Term Outcomes

1. 50% of the population in the urban growth boundary become aware of issues pertaining to water quality and quantity in the study area (i.e., the aquifer, the estuary, Clear Lake, Munsel and Ackerley Creeks, and the ocean/beach area).
2. 20% of the population is aware of climate change and its potential effect on water quality and quantity in the Florence area.
3. News stories continue to be written tracing the progress of City programs to protect water quality and quantity.
4. Clear Lake is protected from contamination threats, due to increased education about the lake as a drinking water source.
5. Interested parties continue to be informed of and participate in environmental protection efforts in the community.
6. Key interest groups participate in future planning processes to protect the environment.
7. Local community leaders from the City, the Water District, etc. place an emphasis on local programs and plans to protect surface and groundwater quality in the Florence UGB.
8. Volunteers sign up to be involved in on-going stewardship programs, such as invasive plant abatement and monitoring vegetation along stream banks.
9. Inter-governmental cooperation and coordination focuses on programs that will achieve mutual environmental goals and objectives.
10. Federal-State-local inter-agency coordination promotes the exchange of ideas, information, and programs to ensure on-going protection of the resources.

Long Term Outcomes

1. Heightened awareness of the vulnerability of habitat and drinking water sources leads to permanent protection of the aquifer, Clear Lake, other area lakes, high priority tidal and fresh water wetlands, creeks, and the beach.
2. Local retired citizens and school children are actively involved in wetland and riparian area maintenance and restoration activities.
3. Developers and builders actively seek new and innovative ways to design stormwater systems in a manner that best achieves water quality and quantity objectives.
4. Public education and communication programs promote good stewardship of water resources as a way to foster livability and help protect surface and groundwater resources from cumulative impacts.

2. Water Quality and Quantity

Guiding Principles

1. Protect water quality for human consumption in the North Florence Sole Source Dunal Aquifer and Clear Lake from known contamination threats; and adopt plans and strategies to respond to potential threats.
2. Protect the quality of water in surface waters, i.e., the estuary, creeks, lakes, wetlands, and ocean/beach, from contamination threats that could impair the quality of the water for fish and wildlife habitat and human recreation.
3. Protect water quality in ground and surface waters from the effects of urbanization through land use and development policies and procedures.
4. Understand the natural state of water quantity and quality through the establishment of base line data and a surface and groundwater assessment and monitoring program and through research and monitoring of climate change.
5. Protect the water storage function of wetlands and water flow in creeks and the estuary through water management planning and practices that maintain groundwater levels and surface water flows so that they do not impair water quality or impact fish and wildlife habitat.
6. Prevent adverse flooding conditions through natural storage and slow release of surface water and runoff.
7. Locate, design, and operate production wells so that they do not reduce groundwater at levels below that necessary to support fish and wildlife habitat.
8. Foster and support the design and use of innovative stormwater management practices, including the incorporation of properly-designed constructed wetlands into public and private stormwater systems.
9. Tailor stormwater management plans and practices for new development and re-development to the Oregon coastal environment in a manner that can adapt to changes in temperature and precipitation, and other notable climate change impacts.
10. Promote water conservation through efficient landscape and irrigation, including water reuse and recycling, and other strategies to reduce water consumption, to reduce the need for new drinking water sources and/or expanded water storage.

Measurable Outcomes

Please note: These are provided for illustrative purposes only. Endorsement of Outcomes is not requested or required.

Short Term Outcomes

Water Quantity

1. Existing conditions (base line data) are known for aquifer flow patterns (volume, direction, and speed) and water table levels and seasonal variability
2. Model and data capacity exist to evaluate how future production well sites might affect groundwater flow, wetlands, and overall aquifer production.
3. Storage capacity of aquifer and wetlands is known; information is used to inform City Stormwater System Plans and projects (*note: this needs to be combined with wetlands outcomes worksheet*).
4. Baseline data are better understood on the impact of groundwater flow (water quantity) into Munsel and Ackerley Creeks, the estuary, the ocean/beach, Clear Lake, and wetlands.
5. Existing hydrograph conditions (baseline data) for Munsel and Ackerley Creeks will be established.
6. Impacts of fluctuation in rainfall (short term) are known, to the extent a transient model or another measuring tool is available to the Project.
7. Impacts of land use on the water table are better understood.
8. Sites for new city production wells are identified.
9. Risk (e.g., overloading) to groundwater of artificial infiltration of stormwater is reduced through modeling results and analyses.
10. Flood storage is improved through the protection of natural areas with flood storage capacity, thus, preventing further impacts to the hydrograph of the aquifer and surface waters.

Water Quality

1. Existing conditions of water quality in aquifer (background levels for each constituent included in the Quality Assurance Project Plan) are established.
2. Impacts of land uses on surface water and groundwater quality are better understood.
3. Appropriate trigger levels are set for groundwater contaminant concentration.
4. Variability of contaminant concentrations in the area is established.
5. Variability of contaminant concentrations as a function of season is determined.
6. Existing aquifer contamination is identified, assessed, and corrected, as feasible.
7. Contamination threats are identified, assessed, and prioritized for strategies in the Source Water Protection Plan.
8. Potential threats to drinking water from contaminated storm runoff and surface contaminants being carried into the aquifer via percolation are better understood and addressed or prioritized for future actions
9. Preliminary baseline data are established for existing conditions of water quality in Munsel and Ackerley Creek and estuary and marine as specified in the Quality Assurance Project Plan.
10. Impacts of Stormwater Demonstration Project on estuary water quality, as specified in the Quality Assurance Project Plan, are known and any modi-

- fications to BMPs that are indicated are made.
11. Goals and strategies for protecting water quality in the aquifer are agreed upon and submitted for local adoption and State approval.
 12. Risk to groundwater quality of artificial infiltration of stormwater is reduced.
 13. Impacts of stormwater runoff to water quality in estuary are evaluated and reduced as data become available.
 14. The impacts from septic systems, if any, to the water quality of the aquifer are better understood, and if necessary management actions can be developed and implemented.

Fish and Wildlife Habitat

1. Human-induced and naturally occurring changes in water levels in wetlands and area lakes from water table fluctuations are understood, and the effects on fish and wildlife habitat are better understood, through the data collection, analysis, and modeling described in the Quality Assurance Project Plan.
2. Impacts of stormwater outfalls on the hydrograph of Munsel Creek are known, and the effects on fish habitat are better understood.
3. Preliminary threshold level, i.e., allowable drop in water table, is set that does not have a significant impact on lakes, streams and wetlands, as determined through data collection, analysis, and response.
4. Preliminary threshold level, above, is considered in location of new production wells.
5. If a transient model is available, recharge capacity can be gauged and different impervious surface scenarios can be evaluated. As a result, the potential threats to fish and wildlife from water quantity impacts of runoff and groundwater flowing into surface waters will be better understood and addressed or prioritized for future actions.
6. Effect of land uses on surface water quantity, and thus fish and wildlife habitat and human contact recreation, is better understood.
7. Runoff and groundwater contaminants flowing into Clear Lake, Munsel and Ackerley Creeks, wetlands, estuary, and ocean/beach are better understood. As a result, water quality data will provide a basis for better understanding the effects on fish and wildlife habitat.
8. Potential threats (e.g., pharmaceuticals) to fish and wildlife from runoff and groundwater contaminants flowing into surface waters are better understood and addressed or prioritized for future actions.
9. Effect of land uses on surface water quality, and thus fish and wildlife habitat, is better understood.
10. Source Water Protection Plan is aligned with Goals and Strategies for protecting fish and wildlife habitat.
11. Production well sites selected do not cause water levels in creeks and wetlands to go below threshold levels set above.
12. New stormwater practices reduce impacts to fish and wildlife habitat by reducing pollutants entering surface waters through groundwater seepage and by reducing stormwater discharge impacts to wetlands and the hydrograph of Munsel Creek.
13. Stormwater Demonstration showcases state-of-the-art Best Management Practices in established commercial area adjacent to an estuary with high habitat values.

Medium Term Outcomes

Water Quantity

1. Aquifer flow patterns (volume, direction, and speed) and water table levels and seasonal variability are monitored and better understood.
2. Future production well sites are evaluated for their potential affect on groundwater flow, wetlands, and overall aquifer production.
3. City Stormwater System Plans and projects take into account the storage capacity of aquifer and wetlands.
4. The impact of groundwater flow (water quantity) into Munsel and Ackerley Creeks, the estuary, the ocean/beach, Clear Lake, and wetlands is monitored and better understood.
5. Hydrograph conditions for Munsel and Ackerley Creeks are better understood.
6. Stormwater policy and practices incorporate knowledge about the impacts of fluctuation in rainfall (short term) (requires transient model).
7. Known impacts of land use on the water table are addressed in modifications to land use and development policies and practices.
8. New city production wells are planned.
9. Risk (e.g., overloading) to groundwater of artificial infiltration of stormwater is reduced through modeling results and analyses.
10. Flood storage is improved through the protection of natural areas with flood storage capacity, reducing reliance on culverts for stormwater discharge and, thus, preventing further impacts to the hydrograph of the aquifer and surface waters.
11. Water quantity in Munsel Creek is monitored.

Water Quality

1. Water quality in aquifer is monitored.
2. Impacts of land uses on surface water and groundwater quality are monitored.
3. Groundwater contaminant concentration and variability are monitored and maintained below trigger levels in all seasons.
4. Aquifer contamination is identified, assessed, and corrected, as feasible.
5. Strategies in the Source Water Protection Plan are adopted and implemented to protect water quality.
6. Water quality in Munsel and Ackerley Creek , the estuary and marine is monitored.
7. Modifications to BMPs are made, as indicated by the impacts of Stormwater Demonstration Project on estuary water quality, as described in the Quality Assurance Project Plan.
8. Goals and strategies for protecting water quality in the aquifer are adopted by the City and approved by the appropriate State agencies.
9. Groundwater quality is protected from artificial infiltration of stormwater.
10. Impacts of stormwater runoff to water quality in estuary are monitored and continue to be reduced.
11. Water quality in Munsel Creek is monitored.

Fish and Wildlife Habitat

1. The threat to water levels in wetlands and area lakes from water table fluctuations, and the effects on fish habitat, are reduced.
2. Impacts of stormwater outfalls on the hydrograph of Munsel Creek, and the effects on fish habitat, are reduced.
3. Drop in water table is monitored and significant impact on lakes and wet-

- lands, and thus fish and wildlife habitat, from drop is reduced.
4. New production wells are planned that will not allow water table to go below threshold levels and thus, significant impact on lakes and wetlands, and thus fish and wildlife habitat, from drop is reduced, as described in the Quality Assurance Project Plan.
 5. Plans and strategies are in place to prevent threats to fish and wildlife and human contact recreation from runoff and groundwater seeping into surface waters (assumes transient model is available.)
 6. Land use and development policies are pursued to reduce impacts to surface water quantity and quality, and thus fish and wildlife habitat.
 7. Runoff and groundwater contaminants seeping into Clear Lake, Munsel and Ackerley Creeks, wetlands, estuary, and ocean/beach are reduced, improving conditions for fish and wildlife habitat and human contact recreation.
 8. Source Water Protection Plan and City Comprehensive Plan amendments are adopted, and contain strategies to protect drinking water and fish and wildlife habitat.
 9. Production well sites are planned in a manner that will not negatively affect fish and wildlife habitat.
 10. New stormwater practices are monitored for continued reduction of impacts to fish and wildlife habitat and human contact recreation by reducing pollutants entering surface waters through groundwater seepage and by reducing stormwater discharge impacts to wetlands and the hydrograph of Munsel Creek.
 11. Stormwater Demonstration showcases state-of-the-art Best Management Practices in established commercial area adjacent to an estuary with high habitat values.

Long Term Outcomes

1. The quality of water for human consumption in the North Florence Sole Source Dunal Aquifer and Clear Lake is protected from known contamination threats; and plans and strategies are adopted to respond to any unforeseen threats.
2. The quality of water in surface waters, i.e., the estuary, creeks, lakes, wetlands, and ocean/beach is protected from contamination threats that could impair the quality of the water for fish and wildlife habitat or human contact recreation.
3. Water quality in ground and surface waters is protected from the effects of urbanization through adopted land use and development policies and procedures.
4. Groundwater levels and fluctuations, and runoff volumes and velocity, are maintained at levels and flow patterns that do not impair the function of wetlands, creeks, and the estuary for fish and wildlife habitat.
5. Stormwater management plans and practices for new development and re-development are tailored to the Oregon coastal environment; and can adapt to changes in temperature and precipitation, and other notable climate change impacts.

3. Wetlands and Riparian Area Protection

Guiding Principles

1. Protect the functions and values of significant¹ wetlands for water quality, water storage, fish and wildlife habitat, public recreation and use, and education.
2. Protect the functions and values of significant riparian areas² for water quality, flood management, thermal regulation, and fish and wildlife habitat.
3. Restore and protect publicly-owned wetlands and riparian areas.
4. Encourage restoration and protection of privately-owned wetlands and riparian areas through education and incentives.
5. Retain and restore native shoreline and riparian vegetation cover, manage invasive plants, monitor significant streamsides, and protect streamsides from erosion.

Measurable Outcomes

Please note: These are provided for illustrative purposes only. Endorsement of Outcomes is not requested or required.

Short Term Outcomes

Wetland / Riparian Function

1. The functions and values of wetlands greater than .5 acre are known for water quality, water storage, fish support and habitat, public recreation and use, and education.
2. The storage and water purification capacity of wetlands in the study area portion of the North Florence Dunal Aquifer is known; information guides City Stormwater System Plans and Projects. (note: combined outcome with water quality and quantity).
3. The functions and values of locally significant riparian areas for water quality, flood management, thermal regulation, and wildlife habitat are known.
4. Significant wetlands and riparian areas are known and proposed for protection for their functions and values.
5. The viability of constructed wetlands to store and slow the velocity of stormwater prior to discharge into natural creeks and estuary is better understood.
6. Wetlands / Riparian areas on City-owned property capacity for flood management, water purification, thermal regulation, and fish and wildlife habitat is known.
7. Opportunities for restoration of wetlands on City owned properties are known.

¹ "Significant" means wetlands that meet the definition of significant in Statewide Planning Goal 5.

² Id.

Streamside Erosion Protection (Non-estuary)

1. Soil characteristics and vegetation cover in study area riparian zones are known and the shoreline erosion resistance capabilities in study area are better understood.
2. Significant riparian areas are known and proposed for protection for their functions and values in protecting significant streambanks from erosion.
3. Potential for shoreline erosion on City owned properties is known.
4. Possibilities for shoreline restoration are known.

Aesthetics, Recreation, and Education

1. The value of wetlands for aesthetics and recreation is known and the information guides local Parks and Recreation Plans.
2. The value of riparian areas for aesthetics and recreation is known and the information guides Parks and Recreation Plans.
3. Significant wetlands are proposed for protection for their educational functions and values.
4. Significant riparian areas are proposed for protection for their recreation and aesthetic functions and values.
5. Wetlands and riparian areas on City owned property with capacity for recreation facilities are known and inform proposed modifications to the City Parks and Recreation Plan.

Medium Term Outcomes

Wetland / Riparian Function

1. The functions and values of wetlands greater than .5 acre are protected for water quality, water storage, fish support and habitat, public recreation and use, and education.
2. City Stormwater System Plans and Projects take into account the storage and water purification capacity of wetlands in the study area portion of the North Florence Dunal Aquifer. (note: combined outcome with water quality and quantity).
3. The functions and values of locally significant riparian areas for water quality, flood management, thermal regulation, and wildlife habitat are protected.
4. Significant wetlands and riparian areas are protected for their functions and values.
5. Constructed wetlands are incorporated into stormwater system plans and projects to store and slow the velocity of stormwater prior to discharge into natural creeks and estuary.
6. Wetlands and riparian areas on City-owned property are protected for their capacity for flood management, water purification, thermal regulation, and fish and wildlife habitat.
7. Opportunities are pursued for restoration of wetlands on City and other publicly-owned properties.
8. Restoration and protection of privately-owned wetlands and riparian areas are encouraged through specific education and incentive programs identified by the City.

Streamside Erosion Protection (Non-estuary)

1. Soil characteristics and vegetation cover in study area riparian zones and the shoreline erosion resistance capabilities in study area are monitored.
2. Significant riparian areas are protected for their functions and values in

- preventing erosion on significant streamsides.
3. City owned riparian areas are protected from shoreline erosion.
 4. Shoreline restoration of City-owned riparian areas is commenced.

Aesthetics, Recreation, and Education

1. The Florence Parks and Recreation Plan and Comprehensive Plan recognize the value of wetlands for aesthetics and recreation.
2. The Florence Parks and Recreation Plan and Comprehensive Plan recognize the value of riparian areas for aesthetics and recreation.
3. Significant wetlands are protected for their educational functions and values.
4. Significant riparian areas are protected for their recreation and aesthetic functions and values.
5. The Florence Parks and Recreation Plan and Comprehensive Plan incorporates wetlands and riparian areas on City owned property with capacity for recreation facilities.

Long Term Outcomes

1. Significant wetlands are protected for water quality, water storage, fish support and habitat, public recreation and use, and education.
2. City Stormwater System Plans and projects incorporate wetlands as part of the system to store and purify water; and constructed wetlands are incorporated into stormwater system plans and projects to store and slow the velocity of stormwater prior to discharge into natural creeks and estuary.
3. Significant riparian areas are protected for water quality, flood management, thermal regulation, and wildlife habitat.
4. Wetlands and riparian areas on City and other publicly-owned property are restored and protected for their capacity for flood management, water purification, thermal regulation, and fish and wildlife habitat; and protected from streamside erosion.
5. Restoration and protection of privately-owned wetlands and riparian areas are encouraged through education and incentives.
6. Shoreline vegetation cover is retained and significant streamsides are protected and monitored for erosion.
7. The Florence Parks and Recreation Plan and Comprehensive Plan incorporate wetlands and riparian areas for aesthetics and recreation, including wetlands and riparian areas on City-owned properties.
8. Significant wetlands are protected for their educational functions and values.
9. Significant riparian areas are protected for their recreation and aesthetic functions and values.

4. Key Estuary Wetlands³ Restoration

Guiding Principles

1. Protect and restore key estuary wetland functions and values, including water quality, water storage, fish and wildlife habitat, research, education, historic, and cultural resources.

Measurable Outcomes

Please note: These are provided for illustrative purposes only. Endorsement of Outcomes is not requested or required.

Short Term Outcomes

1. Permanently protect two key/priority estuary wetlands.
2. Collect baseline data on two key/priority estuary wetlands.
3. A management plan is developed and implemented to protect a key/priority estuary wetland.

Medium Term Outcomes

1. Tidal influence is restored to a key/priority estuary wetland.
2. Native vegetation is restored or maintained on two key/priority estuary wetlands.
3. A key/priority estuary wetland is managed according to the management plan to maintain the protection of the estuaries.

Long Term Outcomes

1. Wetland processes are restored or maintained on key/priority estuary wetlands.
2. Key/priority estuary wetlands functions are restored, improving and maintained for water quality, water storage, fish and wildlife habitat, research, education, and cultural resources.
3. Answers to key questions regarding the practice of restoring tidal estuary wetlands are known and inform further estuary restoration projects.

³ “Key” Estuary Wetlands are among the tidal wetlands identified as priority wetlands for restoration in the report, Brophy, L.S. (Green Point Consulting), and K. So. 2005a. Tidal wetland prioritization for the Siuslaw River Estuary. Prepared for the Siuslaw Watershed Council, Mapleton, OR.

5. Ecological Growth Planning

Guiding Principles

1. Use Guiding Principles to guide environmental policies, products and processes.
2. Work toward achieving long-term outcomes for land use and water management policies and practices that:
 - maintain and protect rearing, migrating, and spawning habitat for resident and anadromous fish, and habitat for birds, mammals, amphibians and reptiles;
 - ensure that water quality and healthy stream conditions are maintained as rural lands are converted to urban densities;
 - protect and restore the functions and values of wetlands and riparian areas;
 - promote the benefits to the economy of recreational and scenic resources;
 - support commercial fishing;
 - provide jobs through environmental restoration;
 - incite an appreciation for the area's rich and complex ecosystem, creating an attraction for residents and visitors; and
 - promote local environmental programs, such as STEP, as a model for other small coastal cities.
3. Develop protection measures such as low impact development requirements, revised stormwater management Best Management Practices (BMPs), green spaces and riparian buffer Plan designations and zoning, and requirements to protect unique wetland features (such as forested wetlands, darlingtonia patches, and blueberry bogs), and unique riparian areas (such as gravel beds for salmon spawning).
- 4.⁴ Recognize private property rights by requiring due process and thus avoid the unconstitutional "taking" of private property.
5. Use the base line data and monitoring regimes established through this Siuslaw Estuary Partnership project to set the stage for analyses of environmental impacts of development.

Measurable Outcomes

Please note: These are provided for illustrative purposes only. Endorsement of Outcomes is not requested or required.

Short Term Outcomes

1. Guiding Principles are endorsed by City and by other public and non-profit bodies and the tribal council, as willing.
2. Land use and water management policies and practices are proposed that:

⁴ The Florence City Council added this Principle after the Guiding Principles were endorsed by the Siuslaw Watershed Council, the Siuslaw Soil and Water Conservation District, and the Heceta Water District.

- maintain and protect rearing, migrating, and spawning habitat for resident and anadromous fish, and habitat for birds, mammals, amphibians and reptiles;
 - ensure that water quality and healthy stream conditions are maintained as rural lands are converted to urban densities;
 - enhance functions and values of wetlands and riparian areas;
 - improve the economy through improved access to recreational opportunities for visitors;
 - create a renewed appreciation for the area's rich and complex ecosystem, making it attractive to residents and visitors; and
 - promote local environmental programs, such as STEP, as a model for other small coastal cities.
3. Protection measures are proposed, such as low impact development requirements, revised stormwater management BMPs, green spaces and riparian buffer Plan designations and zoning, requirements to protect unique wetland features, such as flooded forests and blueberry bogs, and other measures to address environmental impacts of growth.
 4. Base line data and monitoring regimes are established through this Siuslaw Estuary Partnership project that can be used to set the stage for analyses of environmental impacts of development.

Medium Term Outcomes

1. Guiding Principles guide environmental planning and projects by the City and by other bodies that endorsed the Principles.
2. Land use and water management policies and practices are adopted that:
 - maintain and protect rearing, migrating, and spawning habitat for resident and anadromous fish, and bird habitat and migration, mammals, amphibians and reptiles;
 - ensure that water quality and healthy stream conditions are maintained as rural lands are converted to urban densities;
 - enhance functions and values of wetlands and riparian areas;
 - improve the economy through improved access to recreational opportunities for visitors;
 - create a renewed appreciation for the area's rich and complex ecosystem, making it attractive to residents and visitors; and
 - promote local environmental programs, such as STEP, as a model for other small coastal cities.
3. Protection measures are adopted, such as low impact development requirements, revised stormwater management BMPs, green spaces and riparian buffer Plan designations and zoning, requirements to protect unique wetland features, such as flooded forests and blueberry bogs, and other measures to address environmental impacts of growth.
4. Funding is pursued to use the base line data and monitoring regimes from this project to set the stage for analyses of environmental impacts of development.

Long Term Outcomes

1. Guiding Principles are used to guide environmental policies, products and processes.
2. Long-term outcomes are achieved for land use and water management policies and practices that:
 - maintain and protect rearing, migrating, and spawning habitat for resident and anadromous fish, and habitat for birds, mammals, amphibians

- ans and reptiles;
 - ensure that water quality and healthy stream conditions are maintained as rural lands are converted to urban densities;
 - enhance functions and values of wetlands and riparian areas;
 - improve the economy through improved access to recreational opportunities for visitors;
 - create a renewed appreciation for the area's rich and complex ecosystem, making it attractive to residents and visitors; and
 - promote local environmental programs, such as STEP, as a model for other small coastal cities.
3. Unique wetland features, such as flooded forests and blueberry bogs are protected.
 4. The base line data and monitoring regimes established through this Siuslaw Estuary Partnership project are used to analyze the environmental impacts of development.

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