

Section 7

Implementation



Section 7. Implementation

Implementation is the process of transforming the concerns, ideas, and commitment that went into developing this WPP into tangible action and results. This section details the principles that will guide implementing the solutions identified in Sections 5 and 6, the estimated schedule of implementation, and interim milestones along the way that can be used to gauge progress.

Implementation Strategy

The Partnership balanced the development of potential solutions with the considerations of the logistics of implementation. Some solutions were discarded because they were unfeasible to implement, some were focused to specific areas of the watershed, etc. The starting point for developing the WPP's implementation strategy is the water quality goals and guiding principles (described in Section 1). From there, the local stakeholders of the Partnership discussed the best ways to translate project ideas into achievable timelines of activity that would be acceptable to the community. The implementation of this WPP will be based on:

- Coordination provided by a watershed coordinator serving as a focal point for WPP efforts;
- Decisions made locally, implemented on a voluntary basis;
- Siting of solutions that considers local needs and conditions, but overall favors areas closest to waterways;
- An opportunistic approach that is flexible enough to maximize resources and opportunities;
- Timelines that consider the changing mix of sources through the implementation period;
- An integrated approach that uses education and outreach to support related solutions;
- A recognition that human waste sources represent a relatively greater pathogenic risk to human health;
- An ongoing focus on adapting plans to meet changing conditions; and
- A special focus on coordinating implementation activities with flood mitigation, source water protection, conservation, and forestry projects in the watershed and region.

Locally Based Watershed Coordinator

Implementing, maintaining, evaluating, and adapting the ongoing and proposed solutions is essential to the success of this project and the future of water quality in the Spring Creek watershed. A local watershed coordinator will be necessary to guide

implementation, education, and outreach solutions as the focal point for coordinating these efforts for the WPP. The coordinator will work with local partners to seek opportunities to implement solutions and to find common priorities. The coordinator will maintain a high awareness of and involvement in water quality issues in the area through engagement with related efforts, educational programs, outreach through social media, and communication with the local media. The position will routinely interact with local city councils, county commissioner courts, SWCDs, and other stakeholder groups to keep them informed and involved in implementation activities being carried out in the watershed. Coordinating efforts among key partners will be crucial for success and should be one of the primary roles of the position. The watershed coordinator will also work to secure external funding to facilitate implementation activities and coordinate with partner efforts, specially the existing and planned studies and efforts involving flood mitigation in the system. H-GAC will provide facilitation for the phase of the WPP directly after the submission of the WPP. An estimated \$70,000 per year including travel expenses will be necessary for this position, which assumes only a portion of the time of a full-time senior level position, or a greater portion of an entry level position. Initial funding for the watershed coordinator will be incorporated into a CWA §319(h) grant proposal. The Partnership will consider after that point how best to house ongoing facilitation of the Partnership through a watershed coordinator, including consideration of integrating coordination of other local watershed efforts and other local partners.

Comprehensive Strategy for Pet Waste

While human waste sources can produce the greatest human health risk¹, pet wastes are a prominent source of fecal bacteria and nutrients. As the watershed continues to develop, pet wastes will continue to grow in prominence as a fecal waste source. Pet waste represents both a unique challenge and an opportunity because it is a significant contributor, generally concentrated in more densely populated areas with higher impervious cover, and a source that's generally under our control as pet owners (as opposed to wildlife sources).

This WPP recommends solutions and education/outreach activities (Sections 5 and 6, respectively) designed to engage the public and promote proper management of pet wastes. Integration of these elements will be necessary to ensure successful implementation. The strategy for pet waste under this WPP will be conducted based on the following principles.

¹ Research has indicated that human waste has a significantly higher risk of causing illness in humans as compared to animal sources. Additional information about an example of this research in Texas can be reviewed at: <http://oaktrust.library.tamu.edu/handle/1969.1/158640?show=full>

Message Support

As possible, structural solutions will be supported by targeted outreach and education to enhance public awareness and utilization. For example, installation of pet waste stations will be accompanied by promotional messages for the specific area (in the form of partner messaging, relevant online venues, or other appropriate means).

Local Integration

As possible, education and outreach efforts will be coordinated with existing events or programs. This ensures a broader reach than more narrowly targeted events and reduces costs and logistics for project resources. For example, H-GAC and other local partners will include pet waste messaging and outreach as part of broader messages at general events or seek a presence at community/regional events where local pet owners may be present (e.g., the Houston Dog Show).

Targeted Implementation

The specific needs of subwatersheds or other areas will be considered in the selection of solutions and outreach messaging that is directed towards their communities. For example, implementation in more densely urban areas may focus more on individual behaviors (picking up after pets) and addressing feral populations, while less dense suburban area messaging may focus on pet waste stations in public spaces and promoting dog park development. In general, the focus of efforts will be heaviest on the downstream area and new development.

Coordination with Adjacent Efforts

Coordination with the adjacent practice areas of flood mitigation, conservation, and forestry will be key to successful implementation of this WPP.

Flood Mitigation

While this effort is focused mainly on issues related to water quality, many of the primary grant funding sources (as referenced in Appendix D) currently available to local partners focus on resiliency and flood mitigation, a water quantity issue. To maintain visibility as an effort, and have the opportunity to tie water quality messages and considerations to flood mitigation efforts, the Partnership will maintain a strong focus on coordinating with local partners (Harris County Flood Control District, and others) and actively participating, as appropriate, in public processes linked to the flood mitigation efforts.

Conservation

The strong tradition of conservation in the watershed and existing organizational capacity among local governments and NGOs provides an opportunity to

enhance water quality through the ecosystem services provided by conserved land. The Partnership will seek to actively engage with and support conservation initiatives in the watershed and help represent the unique character and needs of the watershed in regional initiatives. Current efforts include the Gulf-Houston Regional Conservation Plan (Houston Wilderness), the Regional Conservation Framework (H-GAC), and others.

Forestry

Based on preliminary modeling, inclusion of forestry practices will have a dramatic impact on stormwater runoff in the watershed. Urban forestry is a growing focus in the Houston region, as evidenced by its inclusion in the City of Houston’s recent climate change and resilience planning efforts, with a 4.6 million new tree goal for the city alone, and innovative riparian restoration and linear forest programs. Other regional efforts include:

- Large scale planting programs by the Harris County Flood Control District, Centerpoint Energy, Texas Department of Transportation, and others;
- Significant research and restoration work by Texas A&M Forest Service and conservation NGOs;
- Local collaborations like the Tree Strategy Implementation Group, Stream Corridor Restoration Committee, and Houston Area Urban Forestry Council; and
- Broad regional partnerships like the Texas Forests and Drinking Water Partnership².

Project staff have been engaged with local partners in all these pursuits, the Partnership will continue to participate and actively promote water quality considerations and appropriate areas of the watershed within these efforts.

Timelines for Implementation

Implementation of this WPP is intended to take place over a 9-year initial implementation timeframe (2021-2030), broken into two distinct phases: early (2021-2025), and late (2025-2030). Some of the recommended solutions and outreach elements are intended for the whole implementation period, while some are intended for specific timeframes within that period. Some activities recommended by the Partnership are already underway or are likely to initiate prior to the approval of the WPP. The schedules were developed with the stakeholders to ensure that implementation took place at a feasible

² For more information, see:

<https://tfsweb.tamu.edu/partnership/#:~:text=The%20Texas%20Forests%20and%20Drinking,important%20and%20interdependent%20natural%20resource>

rate and meshed with other planned activities and priorities. The timelines are intended to reflect the period in which each solution will be implemented, along with the responsible entities and costs they will incur (**Table 1**). Solutions in the 2019-2020 range represent partner activities that began or were ongoing during the development of this WPP are not included as future activities but set a solid foundation for implementation. Additional information about each solution, its intended implementation, and estimated costs can be found in Sections 5 and 6³. This table will be updated as part of future WPP updates, after each implementation phase, or as needs warrant.



Figure 1. Brushy Creek at confluence with Spring Creek

Photo Credit: Houston-Galveston Area Council

³ While not specifically noted in Sections 5 and 6, the Supporting Research tasks identified in Section 8, following, are also included in the planning for implementation.

Table 1. Implementation schedule

Solution Category	Recommended Solution or <i>Outreach Element</i> ⁴	Responsible Parties	Implementation Period ⁵
General	Watershed Coordinator	Partnership ⁶	Ongoing
WWTFs and SSOs	WWTF 1 - Address Problem Plants and Consider Regionalization	Utilities; Cities; Counties	Early (recommendations); Ongoing (actions)
	WWTF 2 – Recommend Increased Testing	Utilities	Early (recommendations); Ongoing (actions)
	SSO 1 – Remediate Infrastructure	Utilities	Ongoing
	SSO 2 – Consider Additional Preventative Measures	Utilities	Early (consider measures); Ongoing (implement measures)
	<i>WWTF E1 – Promote Fats, Oils, and Grease Awareness</i>	<i>Partnership; Utilities</i>	<i>Ongoing</i>
	<i>WWTF E2 – Promote Floodwater Contact Awareness</i>	<i>Partnership; Counties; Special districts</i>	<i>Ongoing</i>
OSSFs	OSSF 1 - Remediate Failing OSSFs	H-GAC; Homeowners; Counties (enforcement); Utilities (for conversion projects)	Ongoing
	OSSF 2 – Improve Spatial Data	H-GAC; Counties; Special Districts; Utilities	Ongoing
	OSSF 3 - Convert to Sanitary Sewer	H-GAC; Counties; Special Districts; Utilities; Homeowners	Ongoing
	<i>OSSF E1 – Hold Residential OSSF Workshop</i>	<i>H-GAC; Partnership; AgriLife Extension</i>	<i>Ongoing - Periodic</i>
	<i>OSSF E2 – Participate in County Wide OSSF Workshop for Practitioners</i>	<i>Partnership; Harris County</i>	<i>Ongoing - Periodic</i>
	<i>OSSF E3 – Provide Model Educational Materials Online</i>	<i>Partnership</i>	<i>Early</i>

⁴ Outreach and education elements are designated with italics.

⁵ Potential periods include Early (2021-2025), and Late (2025-2030). Projects spanning these are denoted as Ongoing. Items listed with a “-periodic” suffix indicate an outreach element with a periodic frequency.

⁶ Where Partnership appears on this table, it indicates H-GAC, a successor agency, or a watershed coordinator for the WPP acting on behalf of the stakeholders and WPP. While H-GAC is currently acting as the watershed coordinator for the Partnership, this table refers to elements conducted by H-GAC under other projects (CRP, etc.) as “H-GAC.”

Solution Category	Recommended Solution or Outreach Element ⁴	Responsible Parties	Implementation Period ⁵
	OSSF E4 – Texas Well Owner Network Events	Partnership; TWRI; AgriLife Extension; TSSWCB	Ongoing-Periodic
	OSSF E5 – Signage at Remediation Sites	H-GAC; Harris County; TCEQ	Ongoing
Urban Stormwater	Urban Stormwater 1 - Install Stormwater Inlet Markers	Harris County; Local Governments; Special Districts; HOAs; Local Volunteers	Early; Ongoing
	Urban Stormwater 2 - Investigate Drainage Channels	H-GAC; MS4s; Counties; TCEQ	Early; Ongoing
	Urban Stormwater 3 - Promote and Implement Urban Riparian Buffers	MS4s; Local Governments; Special Districts; Texas A&M Forest Service (forestry technical support); NGOs; Landowners	Ongoing
	Urban Stormwater 4 - Low Impact Development	H-GAC; MS4s; Counties; Local Governments; Special Districts	Early; Ongoing
	Urban Stormwater E1 – Expand Texas Stream Team Participation	H-GAC; Partnership; TST Partners	Ongoing
	Urban Stormwater E2 – Promote Urban Forestry as a Stormwater Solution	Partnership; Texas A&M Forest Service; H-GAC	Ongoing
Pet Waste	Pet Waste 1 - Install Pet Waste Stations	Counties; Local Governments; HOAs; Apartment Complexes	Early (installation); Ongoing (maintenance)
	Pet Waste 2 - Expand Dog Parks	Counties; Local Governments; HOAs; Developers; Special Districts	Early (1 new park area); Late (1 new park area)
	Pet Waste 3 - Promote Spay and Neuter Events	Service provider (such as SPCA or similar); Local Partners	Ongoing – Periodic (1 every 5 years)
	Pet Waste 4 – Consider Increased Enforcement	Local Governments; Special Districts; HOAs; Apartment Complexes	Ongoing
	Pet Waste E1 – Pet Waste Dispensers at Local Events	Partnership; H-GAC	Ongoing
	Pet Waste E2 – Elementary School Visits	Partnership	Ongoing - Periodic
	Pet Waste E3 – Promote Model Educational Materials Online	Partnership	Ongoing - Periodic

Solution Category	Recommended Solution or Outreach Element ⁴	Responsible Parties	Implementation Period ⁵
Agricultural Operations	Agricultural Operations 1 - WQMPs and Conservation Plans	TSSWCB; SWCDs; USDA NRCS; Agricultural Producers/Landowners	Ongoing
	Agricultural Operations 2 - Maintain or Restore Riparian Buffers	Landowners/producers (on a voluntary basis); NGOs; Agricultural Agencies	Ongoing
	Agricultural Operations 3 – Implement Horse Manure Composting Program	Horse Owners; Stabling Operations; Commercial Facilities	Early (development); Ongoing (implementation)
	<i>Agricultural Operations E1 – Develop and Implement Education Measures and Materials for Livestock Operations (non-CAFO)</i>	<i>Partnership; TSSWCB; AgriLife Extension</i>	<i>Early</i>
	<i>Agricultural Operations E2 – Hold Agricultural Resources Workshops</i>	<i>Partnership; TSSWCB; AgriLife Extension; USDA NRCS</i>	<i>Ongoing - Periodic</i>
	<i>Agricultural Operations E3 – Support Local Agricultural Conservation</i>	<i>Partnership; USDA NRCS; Katy Prairie Conservancy; Other local conservation partners</i>	<i>Ongoing, with a focus on Early</i>
	<i>Agricultural Operations E4 – Outreach for Recreational Horses</i>	<i>Partnership; Texas A&M AgriLife; TSSWCB; local SWCDs</i>	<i>Early</i>
Feral Hogs	Feral Hogs 1 - Remove Feral Hogs	Landowners; Local Governments; Special Districts; Agricultural Agencies (technical support)	Ongoing
	<i>Feral Hogs E1 – Lone Star Healthy Streams – Workshops and Feral Hog Resource Manual</i>	<i>AgriLife Extension; TSSWCB; Partnership</i>	<i>Ongoing - Periodic</i>
	<i>Feral Hogs E2 – Feral Hog Management Workshop</i>	<i>AgriLife Extension; TSSWCB; Partnership</i>	<i>Ongoing - Periodic</i>
Deer and Other Wildlife	Wildlife 1 – Conserve or Restore Upland Habitat	Landowners; NGOs; Local Governments; Agricultural Agencies (technical support); Developers	Ongoing
	Wildlife 2 – Manage Feeding	Landowners; Agricultural Agencies (technical support)	Ongoing

Solution Category	Recommended Solution or Outreach Element ⁴	Responsible Parties	Implementation Period ⁵
	<i>Wildlife E1 – Homeowner Education Materials and Mailing</i>	<i>Partnership; AgriLife Extension; HOAs; Local Partners</i>	<i>Ongoing</i>
Conservation and Land Management	Conservation and Land Management 1 - Riparian Buffers	Landowners; NGOs; Counties; Local Governments; Special Districts; Agricultural Agencies	Ongoing; focus on Early
	Conservation and Land Management 2 - Voluntary Conservation	Landowners; NGOs; Counties; Local Governments; Special Districts; Agricultural Agencies	Ongoing; focus on Early
	Conservation and Land Management 3 – Increase Tree Canopy	Landowners; NGOs; Counties; Local Governments; Special Districts; Agricultural Agencies; Developers	Ongoing; focus on Early
	<i>Conservation and Land Management E1 – Promote Riparian Buffers (Tools and Workshops)</i>	<i>Partnership; TWRI; TSSWCB/TCEQ (granting)</i>	<i>Ongoing - Periodic</i>
	<i>Conservation and Land Management E2 – Texas Watershed Stewards</i>	<i>TWRI; Partnership</i>	<i>Ongoing - Periodic</i>
	<i>Conservation and Land Management E3 – Conservation Coordination</i>	<i>Partnership; NGOs; USDA NRCS; Other local conservation partners</i>	<i>Ongoing, with a focus on Early</i>
Illegal Dumping and Trash	Illegal Dumping 1 – Report Chronic Dump Sites and Consider Increased Enforcement	Counties; Local Governments; H-GAC; Landowners	Ongoing
	<i>Trash and Illegal Dumping E1 – Trash Bash Site</i>	<i>H-GAC; Partnership; San Jacinto River Authority</i>	<i>Ongoing</i>
Flooding	Flooding 1 – Coordinate with Ongoing Mitigation Efforts	Harris County Flood Control District; Special Districts; Local Governments; Counties; NGOs	Ongoing

Interim Milestones for Measuring Progress

Interim milestones are identified as goalposts to measure the progress of implementation. Whereas water quality and other criteria will be used to measure the effectiveness of implementation (Section 8), interim milestones measure whether implementation is occurring on schedule (Table 2).



Figure 2. Wetland area in the George Mitchell Preserve

Table 2. Interim milestones for solutions and outreach activities

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
General – Watershed Coordinator	Retain a Watershed Coordinator to manage day-to-day coordination, pursue resources, and guide implementation	2021 – The Partnership assesses facilitation during early implementation	2022 – Funding application is made for a 2023 start date	2023 – Watershed Coordinator position retained	2026 – Partnership reassess facilitation need after early implementation
WWTF 1 – Address Problem Plants and Consider Regionalization	Improve treatment of sewage	2022 – At least 1 WWTF makes operational/ structural changes resulting in effluent improvement	2026 – At least 1 additional WWTF makes operational/ structural changes resulting in effluent improvement	2030 – At least 1 additional WWTF makes operational/ structural changes resulting in effluent improvement	
WWTF 2 – Recommend Increased Testing	Enhance monitoring to better characterize effluent	2026 – Partnership worked with at least 10 plants to identify capacity for increased testing	2030 – Partnership worked with at least 10 additional plants to identify capacity for increased testing		
SSO 1 – Remediate Infrastructure	Reduce contamination from human fecal waste by reducing overflows from WWTF collection systems	2026 – 5 fewer SSOs occurred than average since 2020	2030 – 10 fewer SSOs occurred than average since 2020 over implementation period		
SSO 2 – Consider Additional Preventative Measures	Improve infrastructure capacity, operations, and preventive measures to reduce SSOs	2026 – At least 3 utilities have reviewed and/or upgraded backup capacity or other measures	2030 – At least 3 additional utilities have reviewed and upgraded backup capacity or other measures		

⁷ Availability and timing of all solutions, especially those not directly facilitated by the Partnership, are subject to changes in partner schedules in the future. Timing of some events (workshops, etc.) may be adjusted based on partner availability as needed.

⁸ Target goals are based on Table 30, and may vary based on opportunity, resources, and regulatory changes in the future. All numeric targets (i.e., number of dogs) refer to representative units. Actual units addressed may change based on pollutant removal efficiency, location, etc. Outreach and education elements are designated with italics.

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
WWTF E1 – Promote FOG Awareness	Reduce SSOs by affecting utility customer behavior regarding FOG	2022 – Model materials identified and added to website; distribute printed materials at local events	2030 – Consistent promotion with partners throughout implementation period		
WWTF E2 – Promote Floodwater Contact Awareness	Reduce exposure to bacteria by educating residents about floodwater contact	2022 – Model materials identified and added to website; distribute printed materials at local events	2030 – Consistent promotion with partners throughout implementation period		
WWTF E3 – Work with Partners to Increase Public SSO Reporting	Enhance reporting by increasing public visibility and community knowledge	2022 – Partnership imitates work with local utilities to develop and disseminate materials to customers/ community members	2030 – Consistent promotion with utilities throughout implementation period		
OSSF 1 – Remediate Failing OSSFs	In conjunction with OSSF 3, address failing OSSFs	2026 – First half of OSSFs addressed, or failures prevented	2030 – Second half of OSSFs addressed, or failures prevented		
OSSF 2 – Improve Spatial Data	Improve OSSF location spatial data to guide remediation efforts	2022 – Partners have reviewed and commented on existing spatial data, which is revised accordingly	2026 – Authorized Agents have continued to provide new data regularly	2030 – Authorized Agents have continued to provide new data regularly	
OSSF 3 – Convert to Sanitary Sewer	In conjunction with OSSF 1, address failing OSSFs	2026 – First half of OSSFs addressed, or failures prevented	2030 – Second half of OSSFs addressed, or failures prevented		

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
OSSF E1 – Hold Residential OSSF Workshop	Empower homeowners and real estate inspectors to identify the signs of failing/failed OSSFs and promote proper OSSF management to avoid failures	2026 – 2 workshops held	2030 – 2 additional workshops held		
OSSF E2 – Participate in County-wide OSSF Workshop for Practitioners	Harris and Montgomery County’s annual OSSF workshop provides a point of coordination with practitioners	2030 – Annual meetings ⁹ have been held; Partnership participated			
OSSF E3 – Promote Model Educational Materials	Provide model educational materials online to facilitate education by other organizations	2022 – Model materials identified and added to website; distribute printed materials at local events	2030 – Consistent promotion with partners throughout implementation period		
OSSF E4 – Texas Well Owner Network Events	Educate well owners about potential risks from OSSFs and potential contamination of drinking water wells	2022 – First TWON event held	2029 ¹⁰ – Second TWON event held		
OSSF E5 – Signage at Remediation Sites	Use OSSF remediation sites as outreach to neighbors via signage	2030 – Signage placed at OSSF remediation locations			
Urban Stormwater 1 – Install Stormwater Inlet Markers	Raise awareness and shift behavior of residents served by stormwater systems to reduce pollutants entering drains/waterways	2026 – At least 2 neighborhoods have markers added	2030 – At least 2 additional neighborhoods have markers added		

⁹ This education and outreach measure is an activity of Montgomery and Harris Counties. The counties may change the nature or frequency of these meetings in the future.

¹⁰ These workshops are expected to occur in 7-year intervals which do not align with usual milestone intervals.

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
Urban Stormwater 2 – Investigate Drainage Channels	Locate potential sources of pollutants in urban channels ¹¹	2022 – Potential priority areas and grant resources identified	2026 – Pilot project completed; at least 1 waterway completed field reconnaissance project	2030 – At least 1 additional waterway completed field reconnaissance project	
Urban Stormwater 3 – Promote and Implement Urban Riparian Buffers	Reduce pollutants in urban sheet flow and erosion through vegetative barriers; this strategy coincides with Agricultural Operations 2, and Conservation and Land Management 1	2026 – At least 1 urban riparian project completed	2030 – At least 1 additional urban riparian project completed; Partnership consistently promotes riparian buffers		
Urban Stormwater 4 – Low Impact Development	To reduce pollutants in stormwater flows through promoting and implementing infrastructure that mimics or improves on natural hydrology	2022 – LID materials developed and hosted on website	2030 – At least 1 LID demonstration project installed		
<i>Urban Stormwater E1 – Expand Texas Stream Team Participation</i>	<i>Supplement existing monitoring data with volunteer sites and empower volunteers to acts as water quality ambassadors</i>	<i>2026 – 5 volunteers added</i>	<i>2030 – 10 total volunteers added</i>		
<i>Urban Stormwater E2 – Promote Urban Forestry as a Stormwater Solution</i>	<i>Coordinate and promote urban forestry programs and projects for water quality benefits; this strategy coincides with Conservation and Land Management 3</i>	<i>2022 – Model materials identified and hosted online; distribute printed materials at local events</i>	<i>2026 – Revised modeling completed to support forestry measures’ effectiveness</i>	<i>2030 – Coordination and promotion consistent throughout implementation period</i>	

¹¹ This solution is intended as a supplement to MS4 activities to detect illicit discharges, etc. It is expected additional investigations will take place as part of TPDES MS4 permits. This activity will not replace requirements under permits.

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
Pet Waste 1 – Install Pet Waste Stations	Reduce wastes by facilitating use of bags in public areas	2026 – At least 20 pet waste stations installed	2030 – At least 20 additional stations installed; all stations maintained throughout the implementation period		
Pet Waste 2 – Expand Dog Parks	Increase availability of controlled dog recreation areas to sequester wastes in public areas	2026 – 1 new dog park area developed	2030 – Second new dog park area developed		
Pet Waste 3 – Promote Spay and Neuter Events	Reduce pollutants from feral populations through voluntary population control	2026 – 1 spay/neuter event held	2030 – Second spay /neuter event held		
Pet Waste 4 – Consider Additional Enforcement	Reduce dog waste by promoting enforcement	2026 – The Partnership will have worked with at least 5 local partners to promote enforcement	2030 – The Partnership will have worked with at least 5 more local partners to promote enforcement		
<i>Pet Waste E1 – Handheld Pet Waste Bag Dispensers at Local Events</i>	<i>Educate residents about impacts of dog waste and reduce waste in stormwater</i>	<i>2026 – Distribution of 1,200 dispensers at 24 local events</i>	<i>2030 – Distribution of 1,500 additional dispensers at 30 local events</i>		
<i>Pet Waste E2 – Elementary School Visits</i>	<i>Educate children on pet waste and other water quality issues</i>	<i>2026 – 4 visits held</i>	<i>2030 – 5 additional visits held</i>		
<i>Pet Waste E3 – Promote Model Educational Materials</i>	<i>Provide model materials to facilitate other organizations’ education efforts</i>	<i>2022 – Model materials identified and added to website; distribute printed materials at local events</i>	<i>2030 – Consistent promotion with partners throughout implementation period</i>		

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
Agricultural Operations 1 – WQMPs and Conservation Plans	Address waste from 2,885 livestock units through 59 WQMPs/Conservation Plans	2026 – First half of plans (or plans representing half of the reduction load) addressed by the solution	2030 – Second half of plans (or plans representing half of the reduction load) addressed by the solution		
Agricultural Operations 2 – Maintain or Restore Riparian Buffers	In conjunction with, or in supplement to, Agricultural Operations 1, install or maintain riparian buffers in agricultural areas to reduce transmission of pollutants; this strategy coincides with Urban Stormwater 3, and Conservation and Land Management 1	2026 – At least 2 rural properties have riparian projects, at least 1 is agricultural	2030 – At least 2 additional rural properties have riparian projects, at least 1 is agricultural		
Agricultural Operations 3 – Implement Horse Manure Composting Program	Reduce horse manure entering waterways by turning it to beneficial use	2022 – Program developed with local partners	2026 – At least 3 participants in the program	2030 – At least 3 additional participants in the program	
<i>Agricultural Operations E1 – Develop and Implement Education Measures and Materials for Livestock Operations (non-CAFO)</i>	<i>Develop specific recommendations for stabling and other livestock operations to reduce contributions from these sources</i>	<i>2022 – Needs, potential local partners identified; Materials developed and reviewed locally; hosted online; distribute printed materials at local events</i>	<i>2030 – Consistent promotion with partners throughout implementation period</i>		

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
<i>Agricultural Operations E2 – Hold Agricultural Resources Workshops</i>	<i>Promote agricultural programs by facilitating one on one meetings with landowners</i>	<i>2022 – First workshop held</i>	<i>2025¹² – Second workshop held</i>	<i>2028¹³ – Third workshop held</i>	
<i>Agricultural Operations E3 – Support Local Agricultural Conservation</i>	<i>Increase conservation efforts by lending support and coordination to local partners pursuing opportunities</i>	<i>2022 – Collaborate with at least 1 local partner on a project proposal</i>	<i>2026 – collaborate with at least 1 additional partner on a project proposal</i>	<i>2030 – Collaborate with at least 1 additional partner on a project proposal</i>	
<i>Agricultural Operations E4 – Outreach for Recreation Horses</i>	<i>Reduce pollution from horse manure in stables and individual households</i>	<i>2022 – Develop targeted outreach campaign</i>	<i>2026 – Work with partners to disseminate materials</i>	<i>2030 – Consistent promotion with partners throughout implementation period</i>	
<i>Feral Hogs 1 – Remove Feral Hogs</i>	<i>Implement trapping or other removal programs to remove feral hogs from the watershed to reduce pollutants and ancillary damages</i>	<i>2026 – Develop or augment trapping program with local partners</i>	<i>2030 – Expand program to additional properties</i>		
<i>Feral Hogs E1 – Lone Star Healthy Streams – Workshops and Feral Hog Resource Manual</i>	<i>Educate local stakeholders to promote feral hog reduction</i>	<i>2026 – First workshop has been held</i>	<i>2030 – Second workshop has been held</i>		
<i>Feral Hogs E2 – Feral Hog Management</i>	<i>Educate local stakeholders to promote feral hog reduction</i>	<i>2022 – First workshop has been held</i>	<i>2026 – Second workshop has been held</i>	<i>2030 – Third workshop has been held</i>	

¹² These workshops are expected to occur in 3-year intervals which do not align with usual milestone intervals.

¹³ See above.

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
Workshop					
Wildlife 1 – Restore Upland Habitat	Restore upland habitat to provide wildlife alternative areas and reduce concentration in riparian zones	2030 – Develop at least 1 acre or greater restoration project			
Wildlife E1 – Homeowner Education Materials and Mailing	Work with AgriLife Extension, HOAs and Local Partners to distribute of exclusionary device materials for homeowners	Ongoing through 2030			
Conservation and Land Management 1 – Riparian Buffers	Promote riparian buffers in all land uses to reduce transmission of pollutants (in conjunction with Land Management – Voluntary Conservation); this strategy coincides with Urban Stormwater 3, and Agricultural Operations 2	2026 – At least 1 property has a riparian project	2030 – At least 1 additional property has a riparian project		
Conservation and Land Management 2 — Voluntary Conservation	Promote voluntary conservation to reduce pollutants from developed areas	2026 – At least one 1+ acre property has a conservation project	2030 – At least 2 additional properties have conservation projects		
Conservation and Land Management 3 – Increase Tree Canopy	Reduce storm flow runoff and generate additional ecosystem services by expanding tree canopy in appropriate areas; this strategy coincides with Urban Stormwater E2	2022 – Develop additional i-Tree modeling and 5-year planting priorities	2026 – Plant trees sufficient to meet the developed 5-year priority	2030 – Plant trees sufficient to meet the developed 5-year priority	

Solutions ⁷	Overall Implementation Goal ⁸	Milestone 1	Milestone 2	Milestone 3	Milestone 4
Conservation and Land Management E1 – Promote Riparian Buffers (Tools and Workshops)	Reduce pollutant loads by promoting riparian buffer areas	2026 – Workshop held	2030 – Another workshop held		
Conservation and Land Management E2 – Texas Watershed Stewards	Educate stakeholders on water quality/watershed issues	2026 – Workshop held	2030 – Additional workshop held		
Conservation and Land Management E3 – Conservation Coordination	Promote and help coordinate conservation efforts in the watershed	Ongoing; Partnership has been active in all appropriate conservation initiatives in the watershed			
Trash and Illegal Dumping 1 – Report Chronic Dump Sites and Consider Increased Efficiency	Promote enforcement efforts to reduce chronic dumping sites	2022 – Identify dumping sites and enforcement priorities with local partners	2026 – Address at least 1 chronic site	2030 – Address at least 1 additional chronic site	
Trash and Illegal Dumping E1 – Trash Bash Site	Reduce trash and educate participants on water quality issues	Ongoing (annual event)			
Flooding 1 – Coordinate with Ongoing Flood Mitigation Efforts	Promote water quality features as supplementary elements in flood mitigation studies and projects	2022 – Identify flood mitigation priority projects for water quality enhancements	2022 through 2030 – Partnership or successor maintains a standing presence in flood mitigation projects through public processes, comments, etc.		

It should be noted that developing and ensuring funding to cover the cost of implementation activities without current funding sources is a primary challenge and focus for the successful implementation of a WPP. While the WPP recognizes the need for support from a local coordinator and local partners to identify funding resources, and emphasizes an opportunistic approach to utilizing funding sources, funding will be a primary determining factor in the pace and extent of implementation.



Figure 3. Riparian vegetation on the banks of Spring Creek