

## Education and Outreach Implementation Strategies

The North Central Texas region is fortunate to benefit from the existence of many water-focused public education efforts. In addition to NCTCOG-coordinated programs such as *Doo the Right Thing*, yard waste efforts, cooperative purchase for stormwater education materials, and Texas SmartScape, there is also a partnership regarding fats, oils, and grease (FOG) with the Wastewater And Treatment Education Roundtable, the RSWMP's Public Education Task Force, and the efforts of the Trinity River Environmental Education Society (TREES). The implementation of the Education and Outreach Implementation Strategies were assumed by the Regional Stormwater Management Program's (RSWMP) Public Education Task Force (PETF) in 2015.

### Implementation Strategy 7.0: Ongoing stormwater public education participation and inclusion of bacteria-specific materials

NCTCOG and municipal MS4 stakeholders will continue their participation in and support of existing stormwater education campaigns such as *Doo the Right Thing*, Texas SmartScape, FOG, and others through the RSWMP. A list of RSWMP participants can be found in Table 25. As funding is available, NCTCOG and stakeholders will develop or expand the availability of more bacteria-specific public education materials to RSWMP participants. Support will also continue for the existing stormwater education web page, [www.dfwstormwater.com](http://www.dfwstormwater.com), and as funding and technology become available, NCTCOG will continue to enhance web site functions. The stormwater public education strategy is summarized in Table 46.

**Table 1. Implementation Strategy 7.0 Summary — Ongoing stormwater public education, participation, and inclusion of bacteria-specific materials**

<b>Targeted Source(s)</b>	Nonpoint sources
<b>Estimated Potential Load Reduction</b>	IS 7.0 may result in a 4% reduction over 25 years by providing resources for the implementation of other ISs and for education and outreach to the public in an effort to gain widespread cooperation for bacteria load reduction activities
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : some technical assistance may be necessary to include bacteria-specific information into existing materials  <u>Financial</u> : grants or existing funding as appropriate
<b>Education Component</b>	Some educational components are already in place and in use  NCTCOG and the RSWMP PETF will adapt or develop appropriate educational materials for inclusion in existing stormwater educational programs and products  Outreach to RSWMCC and the Public Education Task Force for their support in adapting existing materials

<b>Schedule of Implementation</b>	Depending on resource availability, gathering bacteria-specific stormwater information will begin immediately and continue throughout the project
<b>Interim, Measurable Milestone</b>	MS4s and NCTCOG will continue existing public education programs as funding allows
<b>Progress Indicators</b>	<p>Number of educational materials altered to include bacteria</p> <p>Number of educational materials purchased</p> <p>Number of educational materials distributed</p> <p>Web page hits</p>
<b>Monitoring Component</b>	<p>NCTCOG will report on the progress of educational materials and education efforts</p> <p>Existing MS4 reporting on stormwater public education efforts provided to NCTCOG for the collective annual report</p>
<b>Responsible Entity</b>	<p>The RSWMP PETF and NCTCOG will develop or adapt materials to include bacteria-specific topics in stormwater education</p> <p>NCTCOG will compile MS4 public education efforts and the progress of development of bacteria-specific information for the Coordination Committee</p>

### Implementation Strategy 7.1: Education and outreach forum

As further detailed in Table 47, some or all of the members of the Education and Outreach subcommittee will form an education and outreach forum that will interface with the RSWMP's Public Education Task Force, and other possible groups and organizations, such as the Wastewater And Treatment Education Roundtable and TREES, as necessary to facilitate greater regional understanding of the impact of bacteria on water quality. Additionally, the forum will work with the other technical subcommittees to coordinate public education messages.

**Table 2. Implementation Strategy 7.1 Summary — Education and outreach forum**

<b>Targeted Source(s)</b>	Nonpoint sources
<b>Estimated Potential Load Reduction</b>	IS 7.1 may result in a 2% reduction over 25 years by providing resources for the implementation of other ISs and for education and outreach to the public in an effort to gain widespread cooperation for bacteria load reduction activities
<b>Technical and Financial Assistance Needed</b>	<p><u>Technical</u>: no technical assistance will be necessary</p> <p><u>Financial</u>: grants or existing funding as appropriate</p>

<b>Education Component</b>	Some internal education may be necessary for some forum participants on existing public education programs
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Partnerships formed with RSWMP's Public Education Task Force, Wastewater And Treatment Education Roundtable, and other relevant organizations
<b>Progress Indicators</b>	Number of partnerships or relationships formed
<b>Monitoring Component</b>	Number of partnerships or relationships formed and reported to NCTCOG
<b>Responsible Entity</b>	<p>The Education and Outreach Forum or technical subcommittee will form partnerships with existing educational programs whose purposes align with the implementation strategies in this I-Plan and report on such progress to NCTCOG</p> <p>NCTCOG will report on partnerships to the Coordination Committee</p>

## **Implementation Strategy 7.2: Curriculum for Texas Education Agency**

The Education and Outreach Forum will, as resources are available, coordinate with the Texas Education Agency (TEA) and local school districts to provide curriculum and tools for teachers and students, including an educator's 'tool box' with programs that may include Waters to the Sea, Real School Gardens, and Green Teacher, that educate children about water quality. Emphasis will be placed on keeping costs as low as possible to enhance the potential of a curriculum being widely used. The strategies for TEA materials are summarized in Table 48.

### **7.2.1: Local school district outreach**

As TEA-approved materials become available, the Forum will educate/outreach to local school districts and teachers about their availability.

### **7.2.2: Reevaluation of TEA materials and effectiveness**

The Forum will reevaluate the program in five years, in conjunction with the MS4 permit term, for the ability to get programs and materials approved by TEA, the ability to conduct outreach locally, and local use of materials; and will communicate those results to the Coordination Committee.

**Table 3. Implementation Strategy 7.2 Summary — Curriculum for Texas Education Agency**

<b>Targeted Source(s)</b>	Nonpoint sources
<b>Estimated Potential Load Reduction</b>	IS 7.2 may result in a 2% reduction over 25 years by providing educational resources regarding bacteria loading to educators within the Project area
<b>Technical and Financial Assistance Needed</b>	<p><u>Technical</u>: some technical assistance may be necessary to develop materials for TEA approval</p> <p><u>Financial</u>: grants or existing funding as appropriate</p>
<b>Education Component</b>	<p>The NCTCOG and RSWMP PETF will, as resources are available, coordinate with TEA and local school districts to provide curriculum, modules, and tools for teachers and students, including an educator's 'tool box' with emphasis on keeping costs as low as possible to enhance the potential of a curriculum being widely used</p> <p>Once curricula are in place, outreach to local schools is necessary</p>
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	<p>Requirements for TEA acceptance researched</p> <p>Existing curriculum identified or new curriculum/modules developed</p> <p>Curriculum/modules approved by TEA</p> <p>Outreach to local schools</p>
<b>Progress Indicators</b>	<p>Number of modules available</p> <p>Number of curriculum available</p> <p>Number of students reached</p> <p>Number of teachers or administrators contacted</p>
<b>Monitoring Component</b>	NCTCOG will report on progress of educational materials
<b>Responsible Entity</b>	<p>The NCTCOG and RSWMP PETF will coordinate with TEA and local school districts to provide curriculum, modules, and tools to educate children about stormwater and water quality, and will reevaluate materials and relationship with TEA every five years in conjunction with the MS4 permit term</p> <p>NCTCOG will provide an annual report to the Coordination Committee</p>

### Implementation Strategy 7.3: Education and outreach funding

As resources are available and with stakeholder input, NCTCOG will seek natural partnerships for long term funding of education and outreach efforts. These partnerships may include grants and other government-related funding sources. NCTCOG will serve as the primary contact on collaborative grants; working with stakeholders and the Stormwater Public Education Task Force for distribution. Non-governmental TMDL stakeholders may seek out additional funding sources such as sponsorships and donations for educational efforts. Table 49 summarizes the strategy for funding.

**Table 4. Implementation Strategy 7.3 Summary — Education and outreach funding**

<b>Targeted Source(s)</b>	Nonpoint sources
<b>Estimated Potential Load Reduction</b>	IS 7.3 may result in a 2% reduction over 25 years by providing resources for the implementation of other ISs and for education and outreach to the public in an effort to gain widespread cooperation for bacteria load reduction activities
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : no technical assistance is necessary <u>Financial</u> : grants or existing funding as appropriate
<b>Education Component</b>	None
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Possible funding sources identified
<b>Progress Indicators</b>	The number of potential sources identified and number of applications for grants or other funding sources
<b>Monitoring Component</b>	NCTCOG will report on funding efforts
<b>Responsible Entity</b>	NCTCOG will seek natural partnerships for long term funding of education and outreach efforts  The non-governmental RSWMP PETF members and stakeholders may seek out additional funding sources such as sponsorships and donations for educational efforts

### Implementation Strategy 7.4: Partnerships

The Coordination Committee encourages MS4s to seek out partnerships with environmentally-focused organizations, such as Keep Texas Beautiful/Keep America Beautiful, TREES, or other appropriate groups to further water quality outreach efforts via web links, etc. As further explained in Table 50, the Coordination Committee encourages municipalities to develop and increase the number of partnerships with local businesses, local volunteer groups, and service organizations to promote park stewardship and public education and to report the number of volunteer hours on their MS4 annual report.

**Table 5. Implementation Strategy 7.4 Summary — Partnerships**

<b>Targeted Source(s)</b>	Nonpoint sources
<b>Estimated Potential Load Reduction</b>	IS 7.4 may result in a 2% reduction over 25 years by providing resources for the implementation of other ISs and for education and outreach to the public in an effort to gain widespread cooperation for bacteria load reduction activities
<b>Technical and Financial Assistance Needed</b>	<p><u>Technical</u>: no technical assistance is necessary</p> <p><u>Financial</u>: grants or existing funding as appropriate</p>
<b>Education Component</b>	<p>As resources are available, the Education and Outreach Forum or technical subcommittee will modify or develop public education materials for use by partnering organizations for use in parks</p> <p>MS4s are encouraged to seek out and maintain partnerships with environmentally-focused organizations and utilize them as sources and distributors of information</p>
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Materials developed and potential partnerships identified
<b>Progress Indicators</b>	<p>Number of materials distributed</p> <p>Number of partnerships formed or maintained</p> <p>Number of parks with stewardship groups with educational efforts</p>
<b>Monitoring Component</b>	NCTCOG will report on partnership efforts
<b>Responsible Entity</b>	<p>MS4s will seek out and maintain partnerships to help disseminate water quality related education messages to targeted groups such as park visitors</p> <p>The NCTCOG and RSWMP PETF will modify or develop park-specific educational materials</p> <p>NCTCOG will report on progress to the Coordination Committee</p>

## Implementation Strategy 7.5: Development of river-specific bacteria TMDL materials

National focus on bacteria TMDLs and loading has been primarily on the impacts to coastal waters and lake beaches. While these are important concerns, the methods for limiting bacteria loading for inland streams differ greatly and should be of equal concern. The Coordination Committee encourages the EPA to develop more river-specific bacteria TMDL procedures and educational materials and recognize the inherent differences between coastal and inland waters. Table 51 summarizes implementation strategy 7.5.

**Table 6. Implementation Strategy 7.5 Summary — Development of river-specific bacteria TMDL materials**

<b>Targeted Source(s)</b>	All potential sources
<b>Estimated Potential Load Reduction</b>	IS 7.5 may result in a 5% reduction over 25 years by providing resources for the implementation of other ISs and for education and outreach to the public in an effort to gain widespread cooperation for bacteria load reduction activities
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : EPA may require some technical assistance in order to develop or add to materials with river-specific TMDL information  <u>Financial</u> : grants or existing funding as appropriate
<b>Education Component</b>	As resources are available, the EPA should modify or develop more public education materials focused on river-specific causes and sources of bacterial contamination in waterways
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	River-specific TMDL causes investigated
<b>Progress Indicators</b>	Number of river-specific TMDL materials developed
<b>Monitoring Component</b>	River-specific materials will be available on EPA's web site
<b>Responsible Entity</b>	The NCTCOG and RSWMP PETF will formulate a letter from the Coordination Committee to the EPA formalizing the request for river-specific bacteria TMDL materials  NCTCOG will encourage EPA to develop, if feasible, river-specific TMDL materials for use by municipalities and others to use in attaining the contact recreation standard for water bodies

## Implementation Strategy 7.6: Bacteria-specific outreach to volunteer service groups

Volunteer service groups already focused on tangentially-related quality of life projects, such as the Master Gardener, Composter, and Naturalist programs, are a natural fit with the TMDL I-Plan outreach efforts. Those involved with such programs have already expressed a desire to be more involved and more informed about plant selection, reducing fertilizer use, and knowing more about their local environment. Some practices, however, such as placing compost materials too close to waterways can exacerbate bacteria loading, making it as important to partner with such groups as it is to educate them about the causes of high bacteria levels in the region's waterways. As detailed in Table 52, the Coordination Committee encourages bacteria specific outreach by the MS4s and Education and Outreach Forum or technical subcommittee to volunteer service groups such as Master Gardeners, Master Composters, and Master Naturalists.

**Table 7. Implementation Strategy 7.6 Summary — Bacteria-specific outreach to volunteer service groups**

<b>Targeted Source(s)</b>	Nonpoint sources
<b>Estimated Potential Load Reduction</b>	IS 7.6 may result in a 2% reduction over 25 years by providing resources for the implementation of other ISs and for education and outreach to the public in an effort to gain widespread cooperation for bacteria load reduction activities
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : no technical assistance is necessary <u>Financial</u> : grants or existing funding as appropriate
<b>Education Component</b>	As resources are available, the Education and Outreach Forum or technical subcommittee will modify or develop public education materials focused on the impact of certain activities on bacteria levels in waterways and geared toward volunteer service groups  MS4s and the NCTCOG and RSWMP PETF will conduct outreach to volunteer service organizations regarding the region's bacteria TMDL and its causes
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Materials developed  Volunteer service organizations identified
<b>Progress Indicators</b>	Number of materials distributed  Number of service groups contacted and engaged
<b>Monitoring Component</b>	NCTCOG will report on outreach efforts



<b>Responsible Entity</b>	<p>NCTCOG and RSWMP PETF will develop or modify educational materials for volunteer service groups</p> <p>MS4s and RSWMP PETF will conduct outreach to service organizations and report progress of the outreach to NCTCOG</p> <p>NCTCOG will compile an annual report for the Coordination Committee</p>
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