

Agenda



- 1 New Braunfels and Its Waterways
- 2 Developing and Implementing The Watershed Protection Plan
- 3 Education and Outreach Strategies
- 4 Key Takeaways

The City of New Braunfels

- One of America's fastest-growing cities
- Current population: ~ 100,000
- A vibrant, water-loving community: tubing, swimming, fishing, kayaking, etc.





Dry Comal Creek and Comal River Watershed

- •83,160 acres
- Designated use: contact recreation
 - Popular water recreation destination
- Upstream of public drinking water supply
- Bacteria pollution listed as 'impaired'
 - •Dry Comal Creek 2010
 - Comal River 2016



The Watershed Partnership

- Consisted of 25 interest groups with 2-3 representatives each; divided into work groups
- Objectives:
 - Identify sources of bacteria pollution in the Watershed
 - Select BMPs to implement in the Watershed to reduce E. coli loading to the waterbodies
 - Develop outreach and education activities to support BMP implementation
 - Act as WPP ambassadors to communicate the WPP efforts to the community and garner support.



Wildlife Management



Livestock



Stormwater and Infrastructure



Outreach and Education

Watershed Protection Planning

Develop a strategic plan



Partner with agencies for funding and support



Conduct outreach and education activities



Monitor progress and adapt



The Watershed Protection Plan

- WPPs are stakeholder-driven watershed-based plans designed to prevent and manage nonpoint source (NPS) pollution.
- The success of the plan depends primarily on good stewardship by landowners, businesses, municipalities, elected officials, and residents who live and work within the watershed area

Dry Comal Creek and Comal River Watershed Protection Plan

Developed by the Dry Comal Creek and Comal River Watershed Partnership AUGUST 2018



WPP Strategies



Reduce the population of overabundant urban deer and non-native avian wildlife



Reduce the feral hog population through education programs and trapping



Improve control of pollution from livestock through implementing voluntary site-specific management plans



Provide additional access to pet waste stations and education on the importance of cleaning up waste



Provide education and resources to owners of on-site sewage facilities to prevent system failures



Implement additional measures to remove contaminants from stormwater

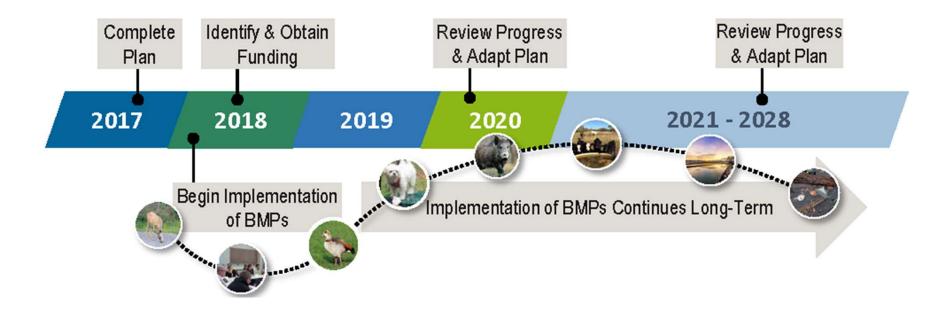


Monitor existing discharges in the Watershed



Conduct outreach and education activities targeting both residents and visitors

Watershed Protection Plan Timeline



Implementing the WPP

- 10-year implementation plan
- Most activities transition from implementation to maintenance
- Initial focus on inexpensive efforts to manage overabundant urban and non-native wildlife

Category	BMP or Outreach and Education Activity	Years								
		1	2	3	4	5	6	7	8	9 1
KEY:	◆ Purchase of new equipment, development of new materials, etc.		Imple	ement	ation			Maint	enanc	e Phase
Outreach and	Social Media Campaign						٠			
Education	News Campaign				•					
	Youth Activities									
	Local Event Outreach									
	Wildlife Management Workshops									
	Do-Not-Feed Wildlife Ordinance and Campaign within City Limits						•			
Overabundant	Do-Not-Feed Wildlife Ordinance and Campaign within City Limits						•			
Urban Deer	Deer Population Assessment									
	Voluntary Do-Not-Feed Wildlife Campaign in Rural Neighborhoods		٠				•			
	Wildlife Management Workshops									
	Active Management of Deer with Council Approval		•							
Non-Native	Do-Not-Feed Wildlife Ordinance and Campaign within City Limits						•			
Avian Wildlife	Non-Native Duck and Goose Population Assessment									
	Discourage Non-Native Ducks and Geese from Congregating in the Park		٠							
	Rapid Removal of Dead Animals									
	Wildlife Management Workshops									
	Trap Non-Native Ducks and Geese									
	Oil Coat Non-Native Duck Eggs									
Feral Hog	Feral Hog Workshops									
	Bounty Program		•							
	Trapping Intensity Assessment									
	Feral Hog Website				•					
Livestock	Water Quality Management Plans (WQMPs)									
	Livestock Outreach and Education									
OSSF	OSSF Education and Assistance Programs									
	Mandatory OSSF Inspection and Maintenance Program									
Stormwater	Non-Structural Stormwater BMPs Outside of the City's MS4 Jurisdiction		٠		+					
	Stormwater Outreach and Education			٠			٠			
	Engineering Analysis of Opportunities for Structural Stormwater BMPs				٠					
Pet Waste	Pet Owner Outreach and Education									
	Pet Waste Stations									
	Pet Code Enforcement									
	Tailored Pet Solutions		•				•			
Wastewater	Wastewater Discharge Water Quality Assessment									

Outreach Strategy

Outreach and Education Work Group



Develop core message

Goals



Define target audiences



Select impactful channels

Resources



Stakeholder knowledge



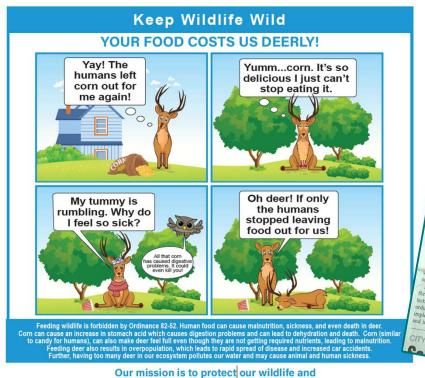
EPA Outreach Guide



Other Cities' WPPs



Newspaper Ads





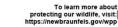
Our mission is to protect our wildlife and make our community a safer place to live and play.

















Postcards & Door Hangers



Did you know, feeding wildlife will lead to: Decreased water quality Loss of natural fear of humans · Bacteria from wildlife feces pollutes water · Contact may hurt both humans and wildlife · Polluted water may cause human and · Wildlife may be more likely to be hit by cars **Disruption of migratory patterns** kness and disease · Feeding discourages natural migration lation spreads disease · Health of wildlife and ecosystem depend noldy foods make wildlife sick on migration ods are not nutritious for wildlife ay starve without their natural food **Questions?** http://www.nbtexas.org/Wildlife annot be sustained by the area's od sources undant wildlife may damage







Road and Park Signs













Social Media Campaign













Movie Theatre Trailer













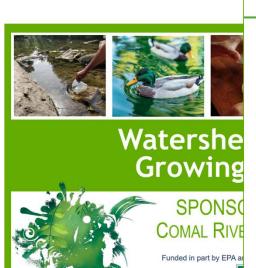


Hands-on Learning Module

How are E. coli data analyzed?







List of Materials:

- 1. Petri dishes with agar
- 2. Cotton swabs in resealable plastic bag
- 3. Plastic beaker
- 4. Cardboard box
- 5. Marker/Pen

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PREPARING YOUR WORK AREA FOR EXPERIMENT:

- 1. Be sure that Petri dishes are closed and upside down, agar surface facing the table.
- 2. Make certain to keep the swabs sealed in the plastic bag.
- Using marker, label the Petri with your name and the name of the water sample (for example, Comal River)
- 4. Make sure you wash your hands before and after coming to your work area everyday!



CONDUCTING EXPERIMENT:

Using the plastic beaker, collect water from the surface of a nearby river or stream. Make sure you have adult supervision before you leave the classroom





Take one cotton swab out of the bag by touching the stick handle. Dip the cotton swab







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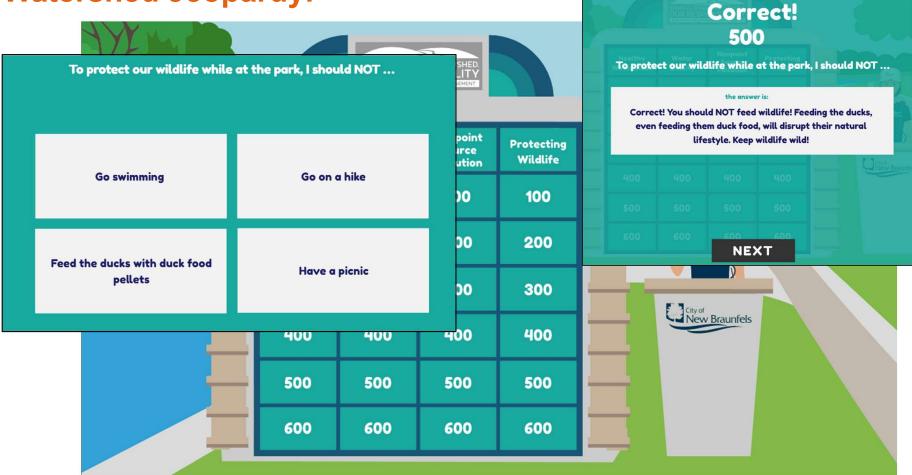








Watershed Jeopardy!











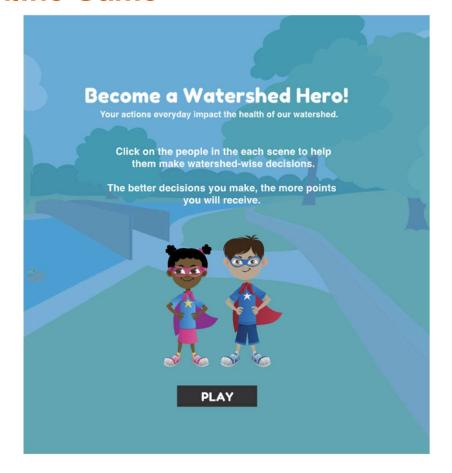








Online Game





Al-deation

- Used generative AI to brainstorm some outreach posters.
- Facilitated smoother communication between technical and design teams.
- Final versions created by human designers.

"Create a cartoon of a deer getting run over by a car"



"Make it less gory and more Texan"







Key Takeaways













Thank you for attending!



Nissim Gore-Datar
Water Resources Consultant
512 527 6064
nissim.goredatar@arcadis.com



Phillip Quast
Watershed Supervisor
830.221.4651
pquast@newbraunfels.gov

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