

Improving NPS Pollution Prevention In A Small Urban Community Watershed through Education and Demonstration #15-900

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Problem

- City of Springdale Parks & Recreation staff reported spending considerable time removing litter entering the pond from diffuse sources in the drainage basin.
- The amount of litter was unsightly and caused clogging of aerators and local flooding issues during downpours.
- The park lacked any educational amenities.

Objectives

- provide a cleaner, healthier, and more attractive Murphy Pond
- address a trash collection point before discharge into Spring Creek
- help make park users aware of litter problem through educational outreach

Actions

- demonstrate impact of NPS pollution (litter) using catchments, public displays, and educational signage
- Engage residents, businesses, and park users on the ecological impact of NPS pollutants on local receiving waterbodies through stakeholder engagement
- Garner feedback through social media, events, and activities that would engage residents and provide educational/feedback opportunities.

Funding Breakdown

Project Title:	Improving NPS Pollution Prevention In A Small Urban Community Watershed		
	FY19		
Project Start Date:	10/1/2018	Completion Date:	4/30/2019
Project Funding:	Federal	State/Local	Total
	\$56,415		\$56,415

UACES:

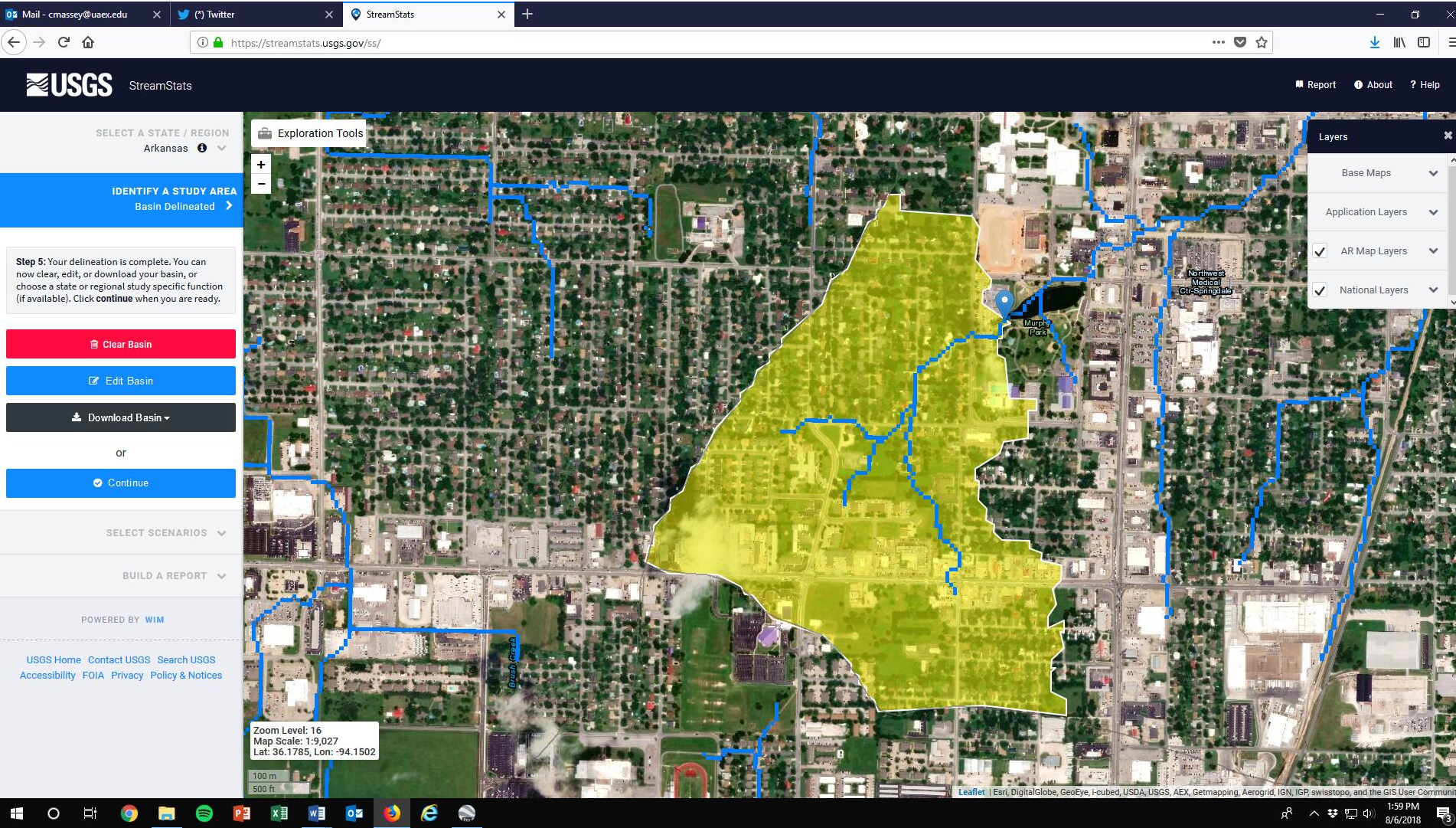
provided project direction and facilitated funding;
outreach and education

City of Springdale Public Works & Parks Staff:

fabricating, installing, maintaining demonstrations

JO Kelly Middle School EAST (Education Accelerated by Service and Technology) lab:

assistance reaching residents and stakeholders within the watershed
graphic design for interpretive trash bins, translation of NPS messaging into Spanish
performing litter removal and waste audit
planning and staffing activities for the capstone event



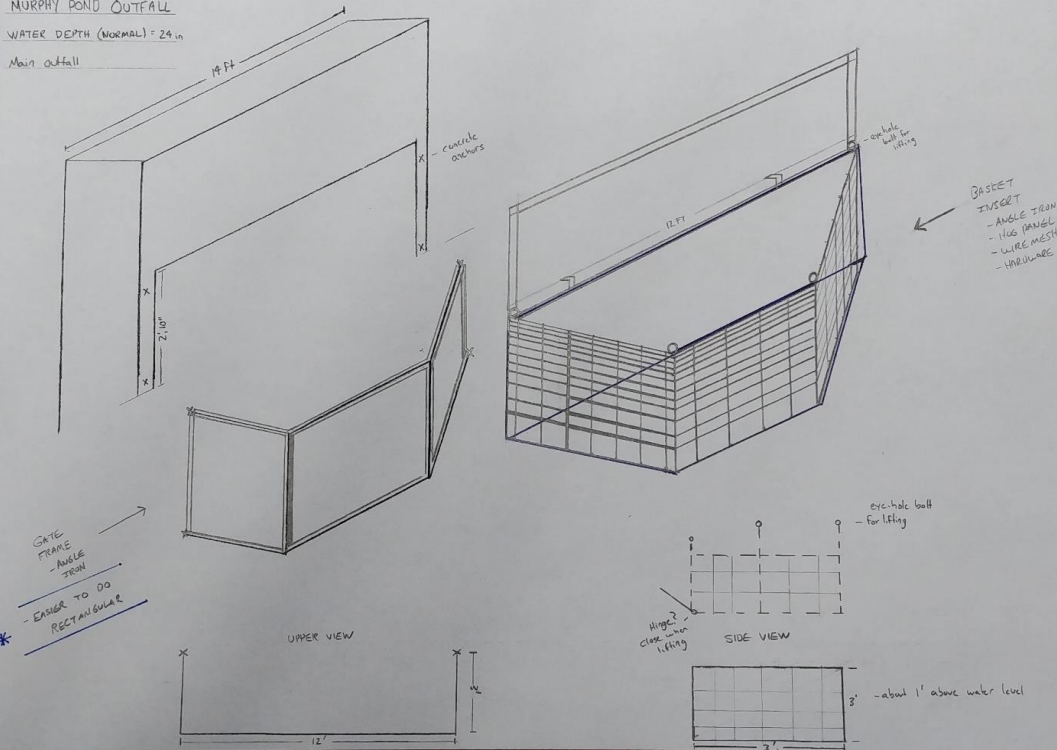
Streamstats.usgs.gov

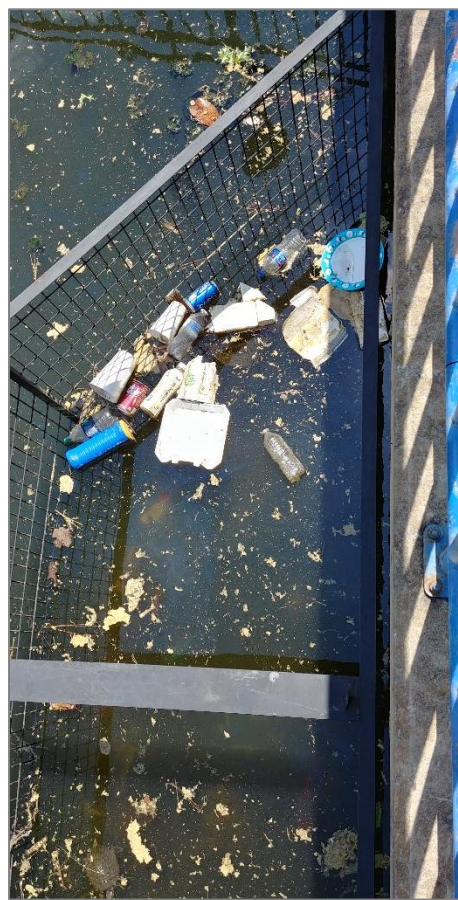
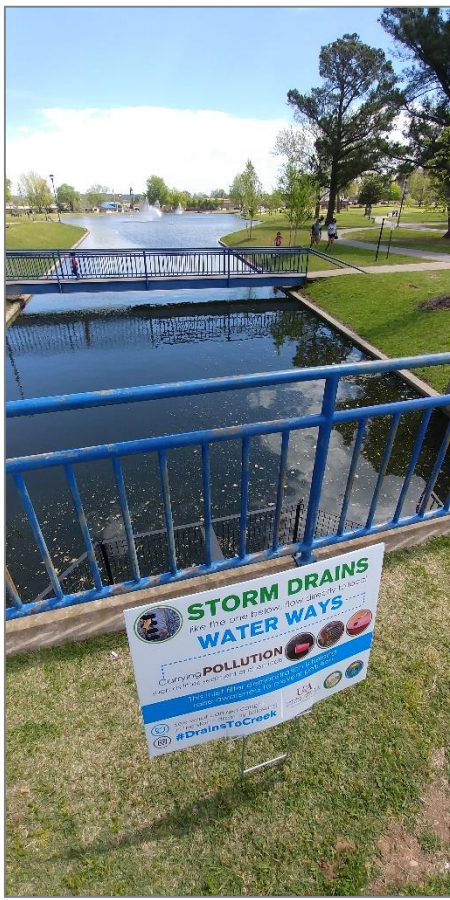
Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.3	square miles
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	100	percent
LC11DVOPN	Percentage of developed open area from NLCD 2011 class 21	25.9	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	38.2	percent



Do you know Murphy Pond?

MURPHY POND OUTFALL
 WATER DEPTH (NORMAL) = 24 in
 Main outfall



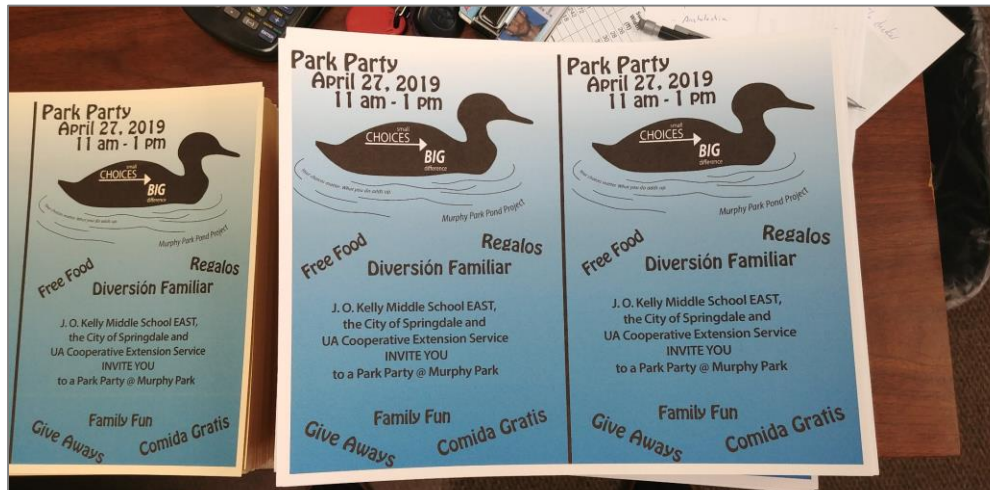




Capstone Event: 136 participants



Small Choices → Big Difference



Keep Murphy Park Clean & Litter-Free

LITTER AFFECTS WATER BY:

Murphy pond drains water from 0.3 square miles of urban neighborhoods, businesses, streets, rooftops, yards, and sidewalks. When it rains, runoff flows down gutters and storm drains, picking up anything left on the ground like litter, sediment, yard waste, automotive fluids, or pet waste. These pollutants can collect in Murphy Pond or flow to Spring Creek, a major tributary to the Illinois River, harming water quality, recreation, and wildlife habitat.

SMALL CHOICES = BIG DIFFERENCES

When we all do our part, small choices can lead to big improvements to water quality. **You can do your part by:**

- properly disposing of litter and cigarette butts
- make clean choices in your yard or business
- clean up pet and yard waste
- never throw anything down a stormdrain!

These small actions keep your park clean, reduce costs and time of cleanup, and maintains safe and quality recreation. Remember, its your park! Help keep it clean!

Murphy Park, the city's oldest park, was named after Robert Murphy, who moved to Springdale in 1901. The Murphys sold their farm to the city in 1955 to build a park and swimming pool.



During heavy rains, litter can become stranded along the shoreline or flow into Spring Creek



Improper trash maintenance leads to litter polluting waterways



Murphy Pond flows into Spring Creek



A juvenile green heron scouts Murphy Pond for fish

LA BASURA AFECTA EL AGUA:

El Estanque Murphy drena agua de 0.3 millas cuadradas de vecindarios urbanos, negocios, calles, techos, patios y aceras. Cuando llueve, la escorrentía fluye por los canales de agua y los desagües pluviales, recogiendo todo lo que queda en el suelo, como basura, sedimentos, desechos de jardines, fluidos automotrices o desechos de mascotas. Estos contaminantes pueden acumularse en el Estanque Murphy o fluir al Arrollo Spring, un importante afluente del río Illinois, perjudicando la calidad del agua, la recreación y el hábitat de la vida silvestre.

PEQUEÑAS ELECCIONES = GRANDES DIFERENCIAS

Cuando todos hacemos nuestra parte, las pequeñas elecciones pueden llevar a grandes mejoras en la calidad del agua. **Puedes hacer tu parte:**

- Eliminando adecuadamente la basura y las colillas de cigarrillos
- Haciendo elecciones limpias en tu patio o negocio
- Limpiando los desechos de tu mascota y del jardín
- ¡No tires nada en el drenaje pluvial!

Estas pequeñas acciones mantienen tu parque limpio, reducen los costos y el tiempo de limpieza y mantienen una recreación segura y de calidad. Recuerda, ¡es tu parque! ¡Ayuda a mantenerlo limpio!

This project is supported by a 319(h) grant through the Arkansas Natural Resources Commission in cooperation with the University of Arkansas System Division of Agriculture Cooperative Extension and the City of Springdale.



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bit of litter and trash each day. Through a grant from the University of Arkansas and labor from the hardworking folks at Parks and Rec they created a unit to catch trash, until it can be removed, as it flows in to keep our pond water cleaner. Excellent job by those involved.

Mattie Speece Villines and 622 others
43 comments 57 shares

Comments Post Insights

Reach

The number of people who viewed your post.

14,000	5,483	17,848
Organic	Paid	Total

Reactions, Comments, Shares

The number of people who took action on your post.

623	43	57
Reactions	Comments	Shares

Clicks

The number of people who clicked in your post.

1	3,805	0
Link Clicks	Photo Views	3-Second Video Views

For example, one Facebook user stated “Awesome job guys! Now the rest of us need to learn not to litter.” Other comments included “Smart, forward thinking!”, “Great idea!! Reduce, Reuse, Recycle!”, and “Wonderful! Preserving the beauty of Northwest Arkansas is very important”.

Challenges

- While this project was successful and deliverables were met, six months can be challenging to plan, implement, and deliver programs. This limited time can also be challenging for partners to meet project goals.
- Project occurred during a very cold and wet winter, which limited or delayed some components.

Challenges

- The main litter gate was destroyed during an unexpectedly strong flood event in late April 2019. Measures were taken to be able to remove the gate in instance of expected flooding, but this particular storm was stronger than anticipated.
- City staff immediately began plans to rebuild the structure and improve its strength based on their positive experience with the time-saving and public demonstration value the gate provided.
- City of Springdale Parks staff also commented that, while in place, the litter gate cut staff time spent cleaning the pond by half.

Take-a-way

- Success of short, targeted projects in small watersheds can be highly successful with adequate planning and the collaboration of partnering organizations.
- Projects such as this can infuse a spark or a springboard for municipalities or organizations to enhance NPS education efforts in urban areas. This project was a valuable supplement to the City of Springdale staff with regard to their time and effort
- UACES staff was able to leverage professional experience and ANRC dollars in providing education and public awareness which may have otherwise required a dedicated staff person by the city.

Conclusion

- Innovative educational efforts as well as an emphasis on physical demonstrations in the form of storm drain awareness, green infrastructure installations, and use of video and social media have proven successful in reaching a wider audience and providing a visual impact of NPS pollution.
- This project would not have occurred without fostering relationships, the city identifying a need, and recognizing UACES and the 319(h) program to help deliver this education and address their specific litter problem.



Kristifier Paxton Jonathan Chick The main challenge for this method is regular maintenance and staffing to clean them out. In this case, the devices simplify the collection process. Think of this project as a demonstration of what can be achieved so we can determine effectiveness.

Like · 2w



Questions?

Many thanks to the ANRC staff!





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