

CURRY'S FORK TECHNICAL COMMITTEE MEETING NO. 1
 Oldham County Fiscal Court
 October 29, 2008, 10 A.M.

Present	Representing	Contact
Glen Yost	Oldham County Soils	occd@insightbb.com
Tim Curtis	Parks and Recreation	tcurtis@oldhamcounty.net
Kurt Mason	Oldham County Conservation District	Kurt.Mason@ky.usda.gov
Beth Stuber	Oldham County Engineer	bstuber@oldhamcounty.net
John Webb	Salt River Basin Coordinator	john.webb@ky.gov
Stuart Strickler	Oldham County Board of Education	stuart.strickler@oldham.kyschools.us
Clark Dorman	Kentucky Division of Water	Clark.Dorman@ky.gov
Mike Croasdaile	University of Louisville	m.croasdaile@louisville.edu
John Bennett	La Grange Utility Commission	luc@insightbb.com
Paul Maron, P.E.	Strand Associates, Inc. (Engineer)	Paul.Maron@strand.com
Andrea Rogers	Strand Associates, Inc. (Engineer)	Andrea.Rogers@strand.com
Andrew Esarey	Strand Associates, Inc. (Engineer)	Andrew.Esarey@strand.com

1. Purpose of Meeting

The purpose of the technical committee meeting was to review the potential stressors identified by Strand Associates, Inc. Potential pollutants and stressors were identified on a sub-watershed basis and presented for discussion by Paul Maron.

2. Sub-watershed Potential Pollutants and Stressors

North Curry's Fork

One of the primary pollutants throughout the watershed is bacteria. Due to the fact bacteria levels were elevated in wet and dry weather conditions, poorly operated and maintained septic systems were indicated as a potential stressor. Priority subdivisions were identified by Todd LaFollette with the Oldham County Health Department and Kurt Mason with the Oldham County Conservation District. These subdivisions outside of La Grange are older and probably have a higher septic system failure rate than newer subdivisions. It was suggested that bacteria results from NC2 could be artificially high due to the lake trapping bacteria.

Sampling site NC1 had the highest nutrient values of any subwatershed in Curry's Fork. A review of KPDES permits revealed that the main sources of nutrients within the watershed are probably Buckner STP and La Grange STP, with Buckner STP being the primary source. La Grange has recently had several upgrades including a UV application. Available KPDES data ends at the beginning of 2008 and therefore the upgrades are not reflected in the current data used for identification of stressors. Beth Stuber mentioned Buckner has surface water issues, which could be contributing to its high percentage



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of KPDES permit exceedences. Clark Dorman suggested conducting further sampling between Buckner STP and La Grange STP to better quantify the impact of each plant on stream water quality.

La Grange Utility Commissions board is in the process of setting up a study of North Curry's Fork for phosphorus, bacteria, solids, and BOD.

In summary, septic systems and treatment plants seem to be the primary stressors in the watershed. It was also noted that there are a significant amount of deer in the watershed, especially in the buffer area around I-71. Large deer populations could also be contributing to the high bacteria loads in the watershed. Pet owners not cleaning up after their animals could also be contributing to the elevated bacteria loads.

South Curry's Fork

SC1 in South Curry's Fork had the highest bacteria levels of any site in the Curry's Fork watershed. Once again, package treatment plants and septic systems were indicated as the primary stressor in the watershed. Reviewing package treatment plant effluent quality revealed a high number of KPDES permit exceedences throughout the watershed. Several comments were made about the package treatment plants in the watershed. Clark Dorman indicated Green Valley effluent does not discharge directly to a stream, it first enters a farm pond which should improve the effluent quality before it enters the stream. Clark Dorman also indicated Lakewood and Lockwood have chronic inflow and infiltration problems with frequent overflows. It was also noted that Centerfield Elementary package plant is dated and could be a potential stressor. Mike Croasdaile mentioned that SC1 could have the highest bacteria levels because it is in close proximity to the Lockwood discharge point.

Similar to North Curry's Fork, septic systems and package treatment plants were potential stressors in the watershed. Pet owners not cleaning up after their animals could also be contributing to the elevated bacteria loads.

Curry's Fork

Pollutants in Curry's Fork seem to be transported from other watersheds. Elevated nutrient levels are carried through from North Curry's Fork and bacteria is transported from both North and South Curry's Fork. Country Village STP was identified as potentially the primary stressor in the watershed. Many stakeholders in attendance agree it has poor effluent quality and should be a first priority in the watershed. Clark Dorman added that Country Village is already a priority and is planned decommissioning in 3 to 5 years.

Curry's Fork does not have a substantial amount of development but has high potential for considerable growth. Efforts should not only be focused on reducing the impact of current stressors within the watershed, but protecting the watershed from future stressors as well.

Asher Run/Tributary

Subdivisions within the Asher Run watershed are relatively new and are most likely not contributing as much pollutant loads as septic systems in other watersheds. Kurt Mason indicated the watershed has a large number of domestic animals as well as horses, donkeys, lama, and other animals. Animals are not concentrated in any one place but are spread throughout the watershed. Clark Dorman informed the committee that the Deible Dairy Farm has been out of production for over 10 years.

3. Introduction to Best Management Practices

After the pollutant sources and stressors have been identified within the watershed, the next step is to develop BMPs to reduce or eliminate their impact on water quality within the watershed. A wide variety of BMPs were discussed and recommended for the Curry's Fork watershed. BMPs included:

- Homeowner BMPs (proper lawn care, reduce paved surfaces, pet waste cleanup, etc.)
- Septic System Maintenance
- Clustered Septic Systems
- Improve/Eliminate Package Treatment Plants
- Extend Sewer Service Area
- Riparian Buffer/Filter Strips
- Grade Stabilization Structures
- Constructed Wetlands
- Agricultural Practices (fence animals away from streams, soil testing, waste management plans, etc.)

For many of these BMPs to be successful, it was agreed that public education and outreach will be a key component. The public's perception of many of the BMPs must be changed so they understand the purpose and benefits of their implementation.

Proper sewage disposal and septic tank and treatment plant maintenance are considered priorities for the watershed due to the elevated bacteria levels.

Proper installation and implementation is also important. Kurt mentioned that some developers leave a buffer around streams that does not function well. The buffer is just untouched space, not a space next to streams that has been designed to buffer and filter runoff, which is considerably more effective.

4. Next Step

The next step is to setup a Round Table discussion. This would be a public meeting where all the information obtained thus far would be discussed with the public. Water quality issues, potential

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stressors, and BMPs would be primary topics of discussion. This event is tentatively scheduled for sometime in January.

Respectfully Submitted,

STRAND ASSOCIATES, INC.

Prepared by Andrew Esarey and respectfully submitted to all in attendance.

Enclosure(s)

c/enc: All Participants
Stakeholders



Curry's Fork Technical Committee Meeting

October 29, 2008 – 10:00 a.m.

Curry's Fork Identification of Stressors and Causes

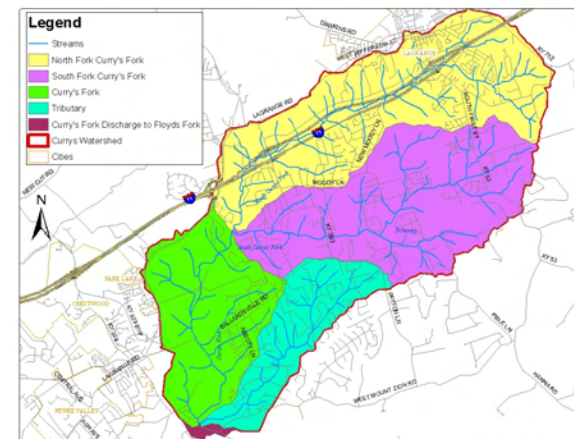
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Curry's Fork Stream Team

- Beth Stuber
 - Oldham County Engineer
- Paul Maron
 - Project Manager – Strand Associates
- Andrea Rogers
 - Project Engineer– Strand Associates
- Andrew Esarey
 - Project Engineer- Strand Associates
- Mike Croasdaile
 - University of Louisville
- YOU!

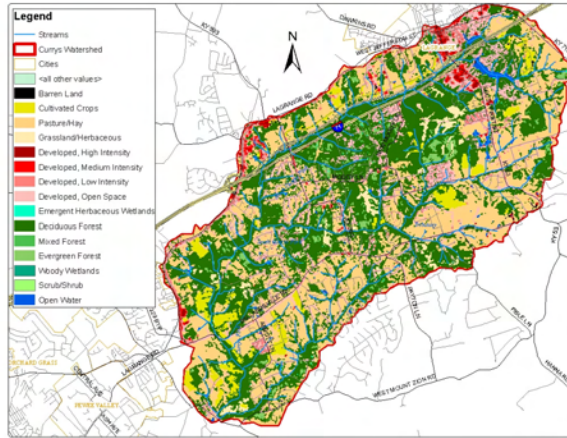
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Curry's Fork Subwatersheds



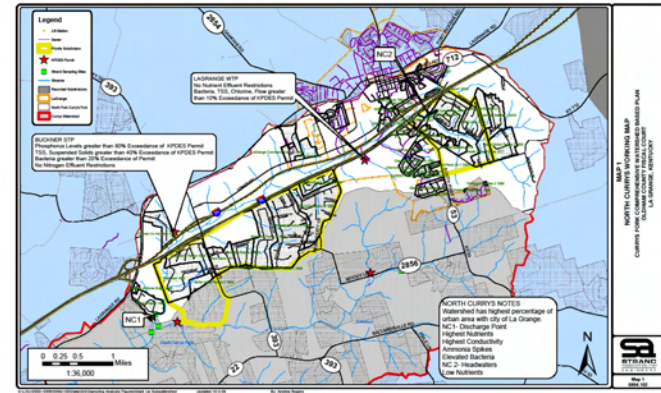
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Land Use



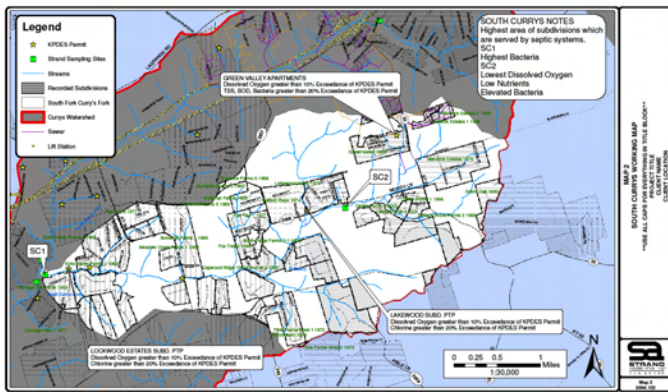
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North Curry's Fork



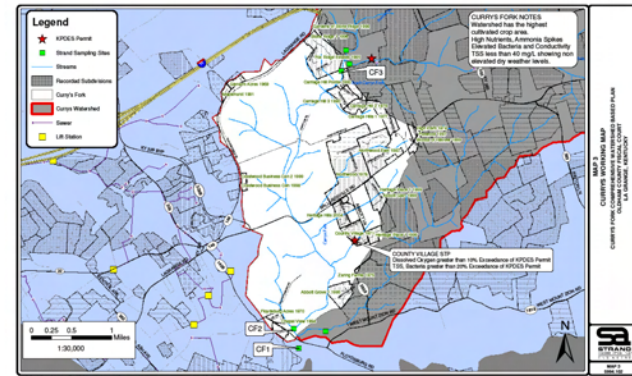
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South Curry's Fork



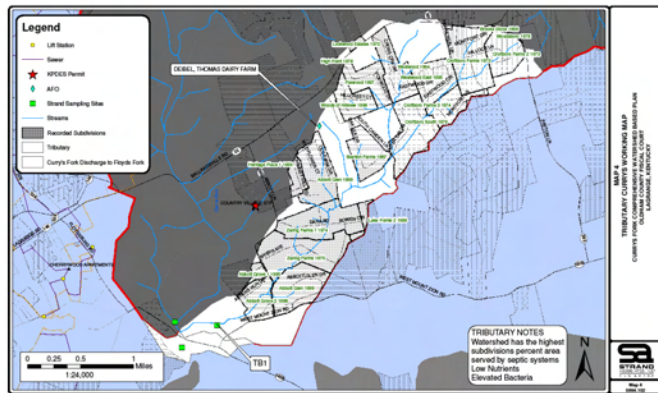
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Curry's Fork



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Tributary



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Nonpoint Source Pollution Major Contributors

- ❑ Sewage Disposal
- ❑ Stream Bank Erosion
- ❑ Construction Activities
- ❑ Livestock
- ❑ Agricultural Runoff



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1. Homeowner BMP

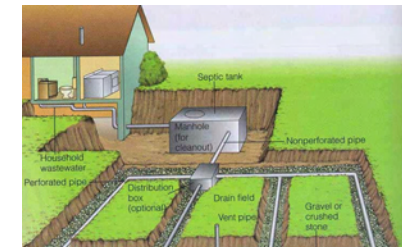
- ❑ Lawn Care
- ❑ Rain Gardens
- ❑ Rain Barrels
- ❑ Clean Up After Your Dog
- ❑ Clean Dishes and Clean Streams
- ❑ Household Hazardous Waste
- ❑ Paved Surfaces



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2. Septic System Maintenance

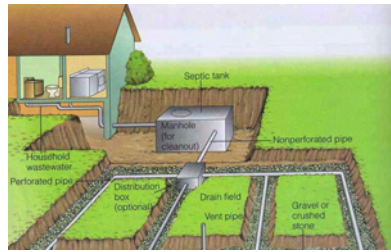
- ❑ Outreach information for Simple Maintenance Strategies
- ❑ Draft Ordinance when property is bought/sold to complete septic tank inspection



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2. Septic System Maintenance

- Benefit:
 - Reduce Bacteria
 - Educate Community
- Most Applicable In:
 - South Curry's Fork
 - Beneficial Throughout Watershed



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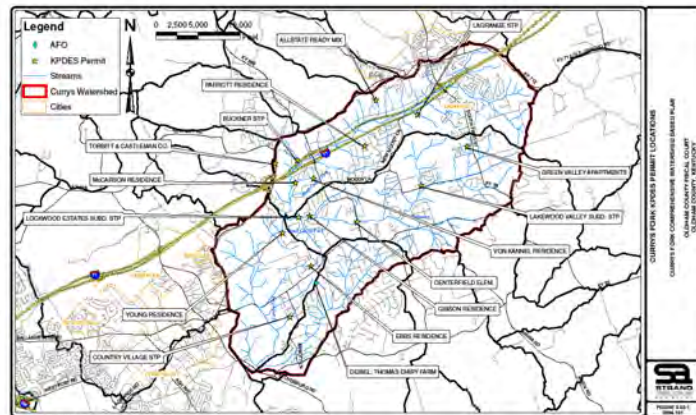
3. Clustered Septic Tanks

- 2nd Line of Defense after Septic Tanks
- Benefits:
 - Additional Filtration
 - Decrease Bacteria in watershed
- Challenges:
 - Management Entity
- Most Applicable In:
 - North Currys Fork
 - Tributary



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4. Improve/Eliminate Package Plants



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4. Improve/Eliminate Package Plants

- Benefits:
 - Known Management Entity
- Challenges:
 - Infrastructure Capital Cost to Remove
- Most Applicable In:
 - Curry's Fork
 - South Curry's Fork
 - North Curry's Fork

5. Extend Sewer Service Area

- Benefits:
 - Eliminate need to replace septic systems
 - Centralized Management Entity
- Challenges:
 - Funding Capital Projects
- Most Applicable:
 - Adjacent to current sewer service area



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6. Riparian Buffer/Filter Strips

- Conservation Easement to Form Stream Buffers
- Benefits:
 - Nutrients and Sediment Reduction
 - Increases Stream bank stability
- Challenges:
 - Limited by Available Land
- Most Applicable In:
 - Currys Fork
 - South Currys Fork



Multi-species riparian buffer strip model



7. Grade Stabilization Structures

- Benefits:
 - Stabilize Streams
 - Decrease Stream Erosion
 - Decrease sedimentation
 - Slows Down Stream Flow Velocity
- Most Applicable In:
 - Areas of High Streambank Erosion and Steep Slopes

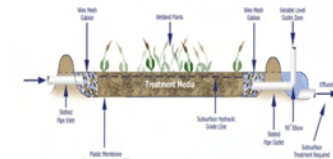
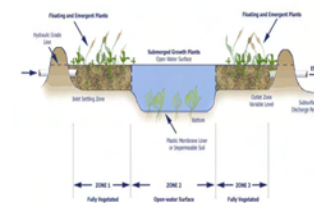


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8. Constructed Wetlands

Free Water Surface

Vegetated Submerged Bed



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8. Constructed Wetlands

- Benefits:
 - US EPA Study found 99% removal of Bacteria
 - Reduces BOD, sediment
 - Reduces Nitrogen
- Challenges:
 - Limited by Available Land
 - Costly
- Most Applicable In:
 - South Curry's Fork
 - Beneficial throughout Curry's Fork Watershed



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9. Agriculture Practices

- Fence animals away from streams
- Develop a farm management plan for soil and water conservation
- Develop an animal waste disposal plan
- Soils Testing



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9. Agricultural Practices

- Benefits:
 - Reduction in Bacteria in Stream
- Challenges:
 - By in from property owners
- Most Applicable In:
 - Curry's Fork
 - Tributary



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Questions? Comments?



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