

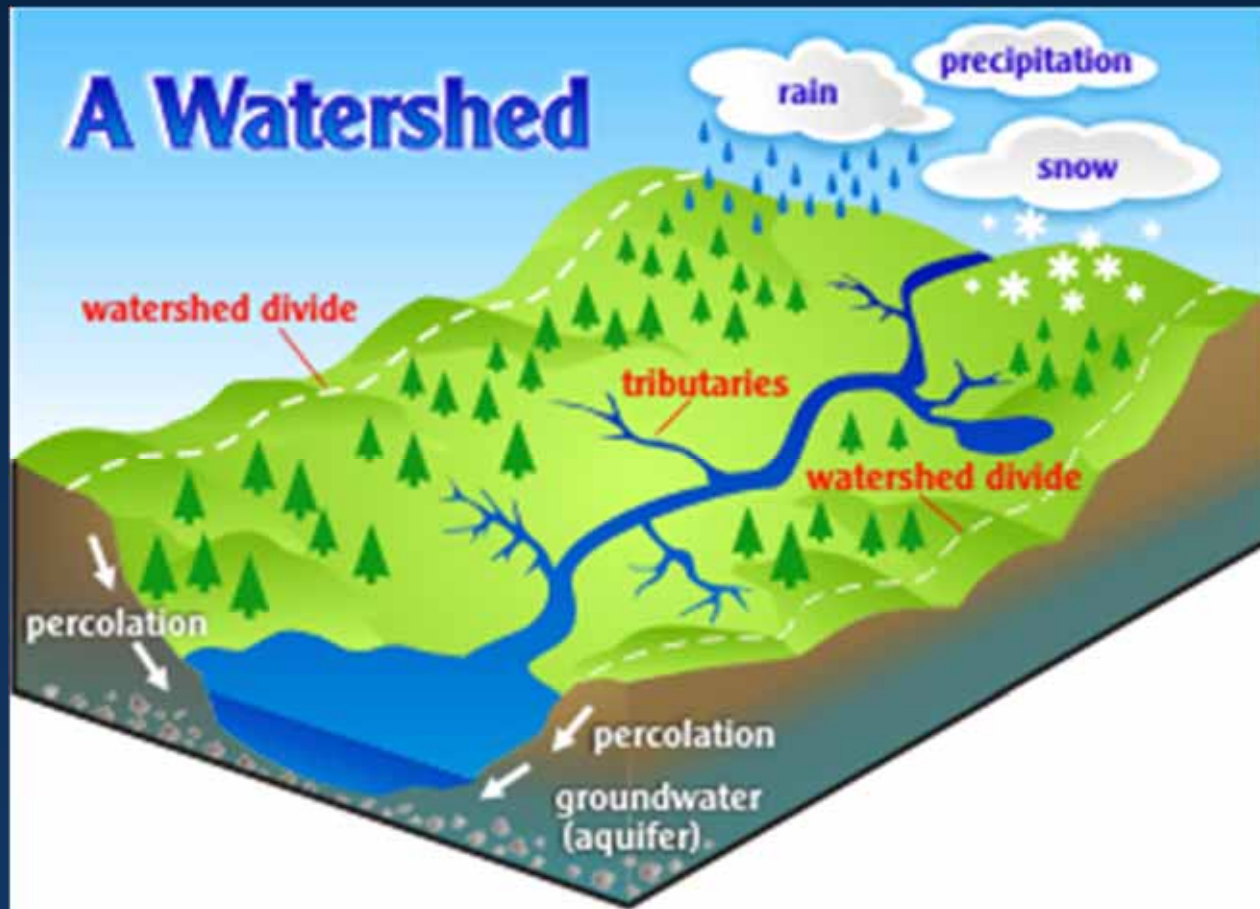


# TROUT BROOK PUBLIC MEETING

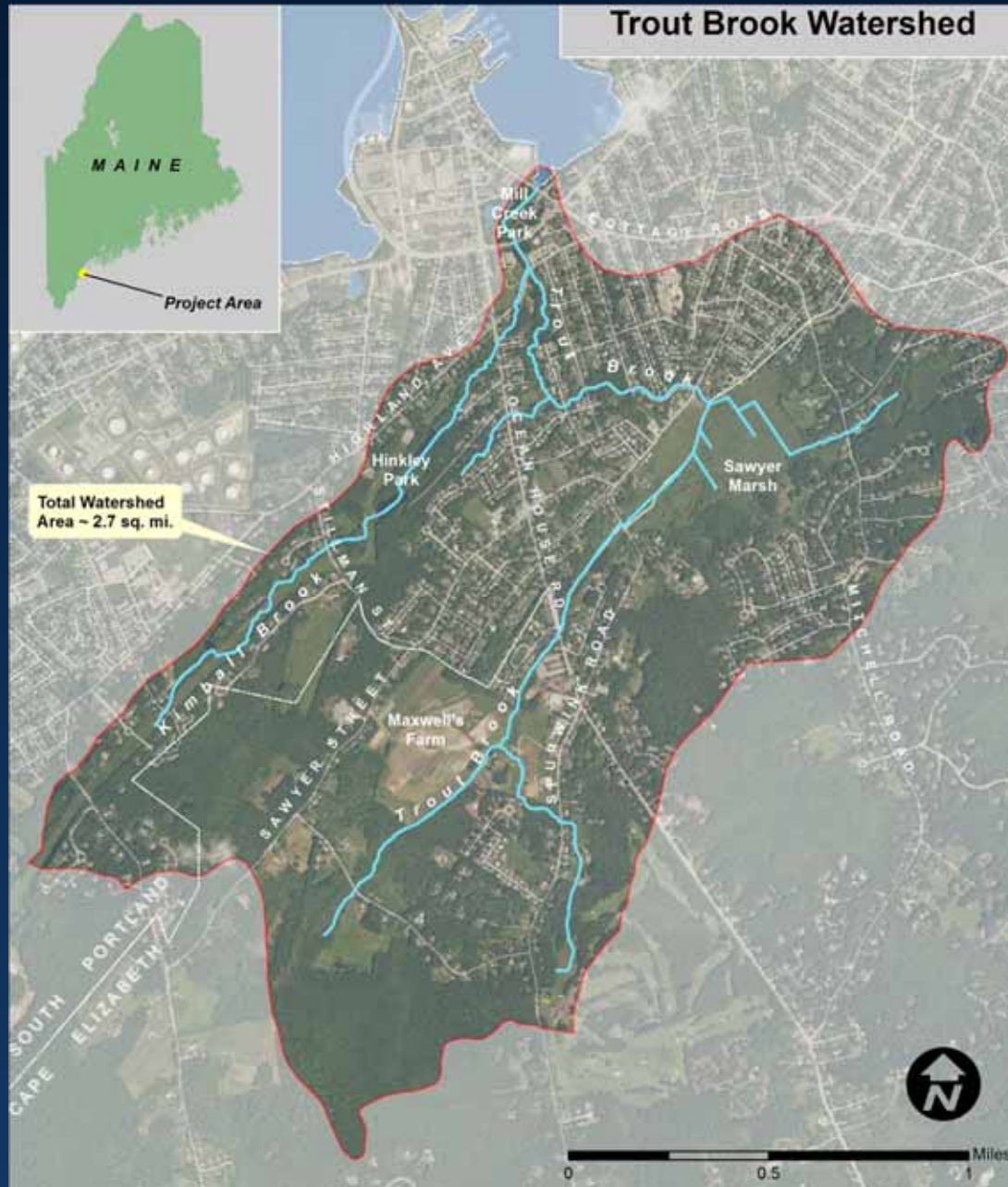
June 9, 2011

# What is a Watershed?

All of the land that drains to a waterbody.



# Trout Brook Watershed



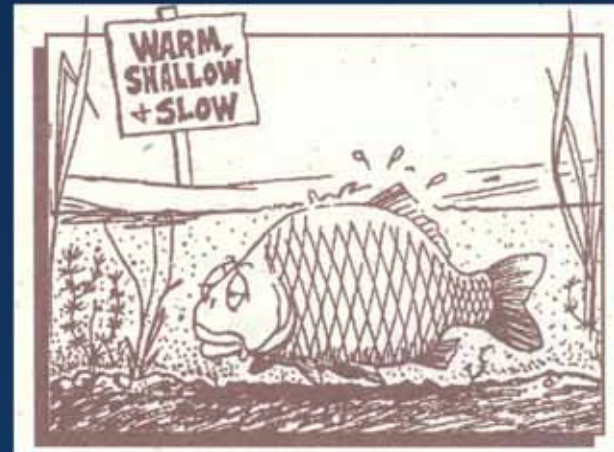
# Why are we here?

Trout Brook's water quality does not meet State water quality standards



# Why are we here?

- Stream flow has been altered



# Why are we here?

- Stream flow has been altered
- Lack of woody debris



# Why are we here?

- Stream flow has been altered
- Lack of woody debris
- Dissolved oxygen is low



# Why are we here?

- Stream flow has been altered
- Lack of woody debris
- Dissolved oxygen is low
- High levels of toxic substances



# Why are we here?

- Stream flow has been altered
- Lack of woody debris
- Dissolved oxygen is low
- High levels of toxic substances
- High bacteria



# Urbanization is Hard on Streams



- Vegetation along the stream is removed



# Urbanization is Hard on Streams



- Vegetation along the stream is removed
- Impervious surfaces speed water to the stream



# Urbanization is Hard on Streams



- Vegetation along the stream is removed
- Impervious surfaces speed water to the stream
- Streams channelize, floodplains fill



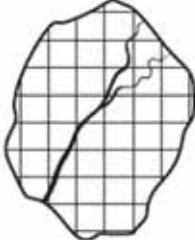
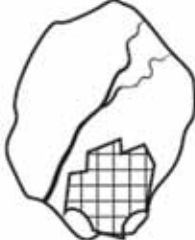

# Urbanization is Hard on Streams



- Vegetation along the stream is removed
- Impervious surfaces speed water to the stream
- Streams channelize, floodplains fill
- Increased pollutant load



# The Value of Development Density

| Scenario A   | Scenario B  | Scenario C   |
|--|---|--|
| <p><b>1 acre parcels</b></p>    | <p><b>1/4 acre parcels</b></p>    | <p><b>1/8 acre parcels</b></p>    |
| <p>1,000 houses built on 1,000 acres produce:</p> <p>1,000 acres x 1 house<br/>x 18,700 ft<sup>3</sup>/yr of runoff =</p> <p><b>18.7 million ft<sup>3</sup>/yr (140 million gallons) of stormwater runoff</b></p> <p><b>Site: 20% impervious cover</b></p> <p><b>Watershed: 20% impervious cover</b></p> | <p>1,000 houses built on 250 acres produce:</p> <p>250 acres x 4 houses<br/>x 6,200 ft<sup>3</sup>/yr of runoff =</p> <p><b>6.2 million ft<sup>3</sup>/yr (46 million gallons) of stormwater runoff</b></p> <p><b>Site: 38% impervious cover</b></p> <p><b>Watershed: 9.5% impervious cover</b></p> | <p>1,000 houses built on 125 acres produce:</p> <p>125 acres x 8 houses<br/>x 4,950 ft<sup>3</sup>/yr of runoff =</p> <p><b>4.95 million ft<sup>3</sup>/yr (37 million gallons) of stormwater runoff</b></p> <p><b>Site: 65% impervious cover</b></p> <p><b>Watershed: 8.1% impervious cover</b></p> |



# The Value of Vegetation

- Leaves intercept rainfall



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- Roots hold soil in place



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- Uneven ground ponds water and helps it soak in



# The Value of Vegetation

- Leaves intercept rainfall
- Roots hold soil in place
- Uneven ground ponds water and helps it soak in
- Mulch layer filters impurities

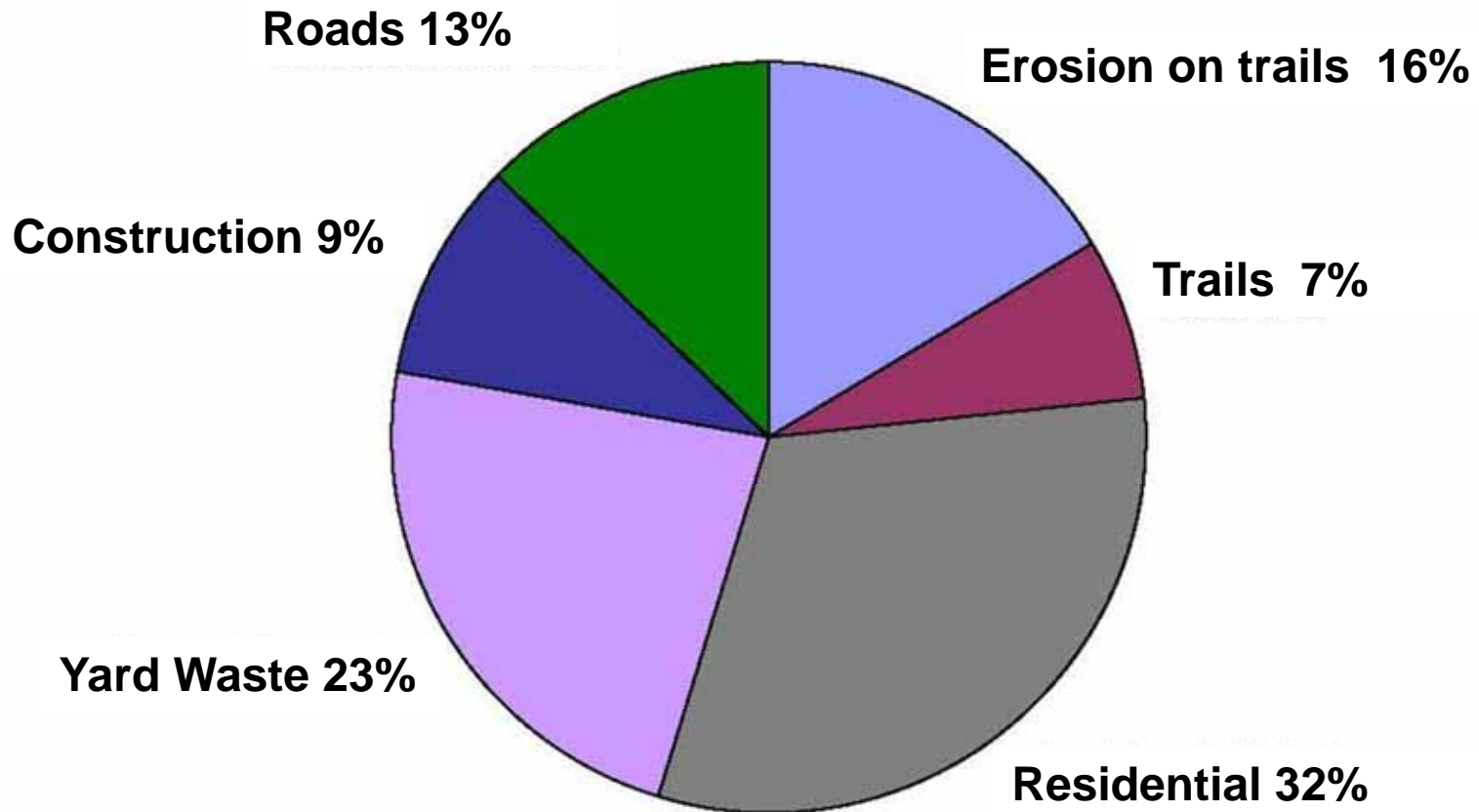


# Vegetative Buffers



# Pollution Sources

Percentage of Sites By Land Use



# Common Residential Problems

- Piles of grass clippings



# Common Residential Problems

- Piles of grass clippings
- Bare soil



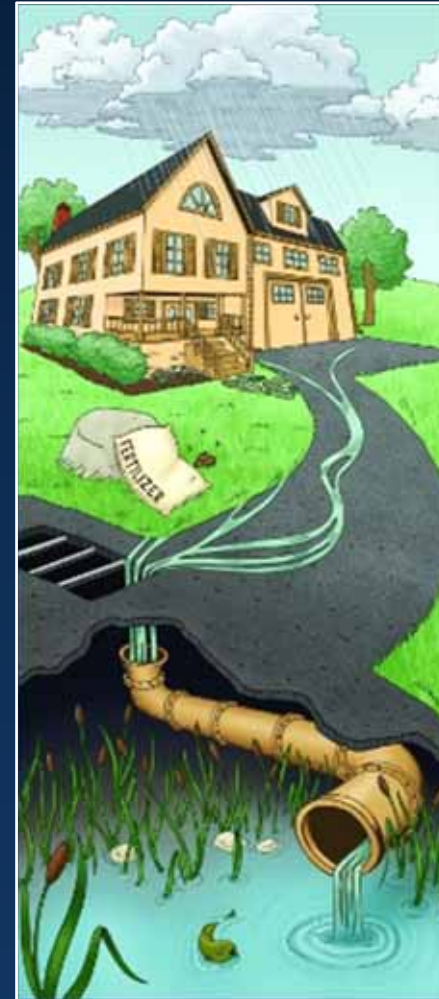
# Common Residential Problems

- Piles of grass clippings
- Bare soil
- Streambank erosion



# Common Residential Problems

- Piles of grass clippings
- Bare soil
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- Polluted runoff from lawns and driveways



# Common Residential Problems

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- Bare soil
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- Polluted runoff from lawns and driveways
- Pet waste



# Common Residential Problems

- Piles of grass clippings
- Bare soil
- Streambank erosion
- Polluted runoff from lawns and driveways
- Pet waste
- Invasive plants



# Common Residential Problems

- Piles of grass clippings
- Bare soil
- Streambank erosion
- Polluted runoff from lawns and driveways
- Pet waste
- Trash dumping
- Lack of vegetation next to stream



# Recommended Solutions - Residential

- Reduce use of fertilizers and pesticides




# Recommended Solutions - Residential

- Reduce use of fertilizers and pesticides
- Encourage growth of new, native vegetation




# Recommended Solutions - Residential

- Reduce use of fertilizers and pesticides
- Encourage growth of new, native vegetation
- Utilize new stormwater manual



### Why Worry About Stormwater?




Rain gardens are a beautiful alternative to letting water just run across your lawn.

The City of South Portland has been awarded funding from [Casco Bay Estuary Partnership](#), to develop resources regarding stormwater and small lot development.

These resources will include an introduction to stormwater, why it is so important to South Portland, what permit requirements small developers face, and detailed guidelines to how to meet those requirements while effectively protecting South Portland's streams and coast.

These resources will be posted to this web site as they are developed through the end of March 2011. Please contact Fred Dillon at Water Resources Protection, 347-4138 or [fdillon@southportland.org](mailto:fdillon@southportland.org), for comments or questions on this project.

[What is Stormwater?](#)  
[Permit Requirements](#)  
[Stormwater Solutions](#)  
[Stormwater Links](#)

 [Stormwater Manual Workshop Presentation](#)

**Stormwater Manual**  
[What is Stormwater?](#)  
[Permit Requirements](#)  
[Stormwater Solutions](#)  
[Stormwater Links](#)  
[Overview of Systems](#)



# Recommended Solutions - Residential

- Reduce use of fertilizers and pesticides
- Encourage growth of new, native vegetation
- Establish no mow zone next to stream



# Recommended Solutions - Residential

- Pick up after your pet and dispose of it in the trash or flush it down the toilet



# Recommended Solutions - Residential

- Pick up after your pet and dispose of it in the trash or flush it down the toilet
- Direct gutter downspouts to a rain barrel, rain garden or vegetation



# Recommended Solutions - Residential

- Wash your car on the lawn or at a car wash



# Recommended Solutions - Residential

- Wash your car on the lawn or at a car wash
- Never dump anything down a storm drain



# Trout Brook Opportunities

- Healthy Brook Trout population
- Low Temperatures
- High restoration potential
- Removal of Combined Sewer Overflow

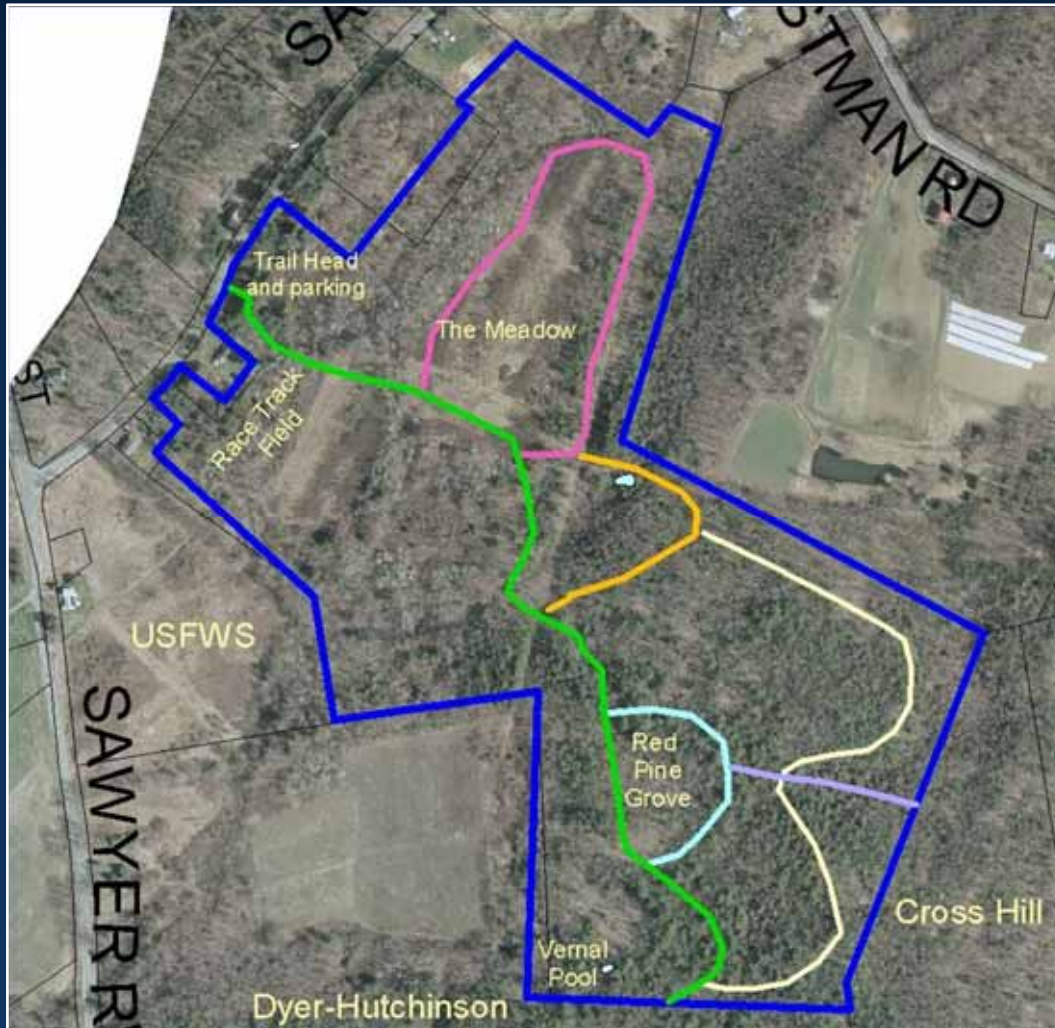


Great things are happening...

## Mill Creek Master Plan



Great things are happening...



## Winnick Woods



Winnick Woods Trail Head



Great things are happening...

**Sawyer Marsh**



# Great things are happening ...



- Cross Hill open space
- Trout Brook Preserve
- Conservation Commission - Wetland Compensation Fund





# Next Steps - Workgroups

- Residential/Neighborhood Workgroup Goal
  - Identify how to promote the increased use of conservation practices to reduce stormwater impacts from residential activities



# Next Steps - Workgroups

- Stream Workgroup Goal
  - Identify and prioritize restoration projects along the stream corridor and within the stream, itself



# Next Steps...

- Breakout Sessions

