What is a watershed?

A watershed is an area or ridge of land that separates waters flowing to different rivers, basins, or seas.

The Lower Raritan Watershed/Watershed Management Area (WMA9)

At 352 square miles, the Lower Raritan Watershed/WMA9 includes the Watchung Mountains to the Northwest, the coastal plain to the Southeast and the lowest point of the watershed at Perth Amboy / the Raritan Bay.
Issues in the Lower Raritan Watershed

**2012 - Impervious Cover**
Lower Raritan Watershed

**2010 - Population Density**
Lower Raritan Watershed

**Known Contaminated Sites**
Lower Raritan Watershed

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Impervious cover for each HUC-14 in the LRWP were calculated using a weighted average. As impervious cover in sub-basins increases, stream health is negatively impacted by decreased water quality, disruptions in water quantity and thermal stress.

Census blocks are divided by visible features and non-visible boundaries, and are used to tabulate population data. Blocks with low population density are generally dominated by agriculture and natural lands, while higher population blocks are most often urban areas.

Active SRP sites have remediation that is ongoing. RAP sites have restricted uses and may or may not be undergoing remediation. Pending sites have confirmed contamination, but a formal evaluation of the extent of the contamination has yet to be performed.
New Brunswick, NJ USA - Raritan River, Route 18 & Hope VI Public Housing flooding after Hurricane Irene, 2011
Lower Raritan Watershed Partnership, formed in 2015

Founding Motivations:

- Improving water quality for human health and food security (fishing for consumption)
- Improving access to the Raritan for canoe/kayak/recreation
- Improving public understanding of the watershed and flooding impacts
- Improving habitat & ecological health
- Offering opportunities for stewardship & community building
- Informing sustainable development
“Restoring the Raritan through science and stewardship”

Our founding perspectives:

We look at restoration in a landscape (watershed / catchment) context.

We see opportunities to marry ecological science to land use planning, art and innovation (diverse partnerships).

We strive to cultivate a culture of science and stewardship in the LRW.
## Monitoring Priorities: Citizen Science Water Quality Assessment

<table>
<thead>
<tr>
<th></th>
<th>Ongoing Goals</th>
<th>Mid Term Goals</th>
<th>Long Term Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Habitat</td>
<td>- Community Education/Stewardship</td>
<td>- Identify sites for erosion control</td>
<td>- Better understand climate change impacts</td>
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<tr>
<td>Assessment</td>
<td>- Identify sites for clean-ups</td>
<td>- Identify sites for restoration</td>
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<tr>
<td>Benthic/</td>
<td>- Community Education/Outreach</td>
<td>- Inform &quot;total maximum daily load&quot; (TMDL) development</td>
<td>- Expand protection designation for portions of the Lower Raritan</td>
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<tr>
<td>Macroinvertebrate</td>
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<td>Monitoring</td>
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<td>Pathogens/ Chemical</td>
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<td>- Inform recreation/public access</td>
<td>- Improve understanding of landscape interventions for pollution reduction</td>
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<tr>
<td>Monitoring</td>
<td></td>
<td>- Inform TMDL development</td>
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<tr>
<td>Fish Tissue Sampling</td>
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<td>- Develop fish consumption advisories</td>
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</tbody>
</table>
#lookfortheriver
Lyell’s Brook Recreated, New Brunswick, NJ USA

Lyell’s Brook / Tan Pit Brook

Lyell’s Brook Recreated: A Green Infrastructure Corridor to the Raritan River
...to re-orient the citizens of New Brunswick towards their river(s), historical and future sources of industry and well-being in the city...

Downspout routes correspond to lost/buried tributaries
#lookfortheriver programming (summer camp)
Recreated Lyell’s Brook, New Brunswick, NJ USA

Stormwater infrastructure mapping

“Scavenger Hunt” for wetland obligate and facultative plants in areas with buried streams

“Virtual” recreation of habitat connections
#lookfortheriver
New Brunswick, NJ USA – “Spring Street”

New Brunswick’s Ferren Mall on “Spring Street” 2015

New Brunswick – “Spring Alley” 1886

New Brunswick’s Spring Street Demolition Site, 2017 (note sump pump drainage)

Spring Street Plan 2017: Buildings cover entire footprint

Environmental History can, and should, inform development planning

Spring Street Plan 2018: attentive to landscape history, including water features
Project WADES: Watershed Sculpture Project Stewardship & Art
Thank you!

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Image: “Watershed Sculpture Project 2018” credit, Jamie Bruno, LRWP “Trash Troubadour”