

Water pollution has many sources. Up to half of all pollutants come not from factories or wastewater treatment plants, but from many diffuse sources resulting from our own everyday activities. For example, dog waste left on the ground or chemicals sprayed on your lawn can get washed into the nearest waterways by the next rain. Pet waste and pesticides in your yard may not seem like they could have a large effect on local streams and lakes, but our waterways receive stormwater from thousands of backyards. What we do in our own yards and our own communities can make all the difference to the quality of our lakes and streams.

***What is Storm Water Runoff?***

Water that does not soak into the ground or evaporate is called stormwater runoff. Stormwater runoff flows over the ground surface and then into storm drains and ditches that empty directly into our local waterways. Stormwater runoff volumes are greater in cities, villages, and other developed areas because water can't soak through the pavement, rooftops, and concrete.

***What is Storm Water Pollution?***

Stormwater runoff conveys more than just water to streams, rivers, and lakes. Rain and snowmelt carry dirt, grease, trash and more from roads, parking lots and other hard surfaces into storm drains and ditches, and these empty directly into our waterways. Storm water also carries excess nutrients, like phosphorus, which turns our lakes and streams green and smelly and harms fish. The way to protect and clean our waterways is to make sure only rain—and nothing else—goes into the storm drains and ditches.



What goes in here....



Flows out here.....

## Top Ten Things You Can Do to Keep Area Waters Clean



### **Be a Pooper Scooper: Pick Up After Your Pets**

You can flush pet waste down the toilet, bury it 4-6 inches deep in the yard or dispose in a specially designed composter. Do not put it in your vegetable garden or compost that will be used for your garden.



### **Keep leaves and grass clippings out of the gutter and storm drains**

Use leaves and/or grass clippings as mulch, or add it to a compost pile. Clippings and leaves can also be tilled directly into gardens or flowerbeds. Check the City website to find out when the next leaf, brush and grass clipping pick up is.



### **Conserve Water: Keep Your Rain**

Maximize infiltration in your yard by directing rainwater away from paved areas. Plant a rain garden filled with deep-rooted grasses and wildflowers to maximize water absorption into the ground. If you don't have a rain garden, aim downspouts to grassy areas or into a rain barrel.



### **Practice Careful Car Care**

Regularly maintain your car and fix any oil, radiator or transmission leak as soon as you see them. If you change your own oil, make sure to take the used oil to a recycling collection site. Never pour it behind the garage, on the driveway to kill weeds or down the storm drain. Also, consider using a commercial car wash, or wash your car on your lawn to prevent car-washing detergents from washing down the storm drain.



### **Don't overfeed your lawn**

Test your soil before buying and applying fertilizer to your lawn. Most lawns don't need phosphorus, so don't pay for something you don't need. If soil tests show that your lawn does need fertilizer, apply according to manufacturer's instructions. Don't "double the dose".

### **Be a watershed watchdog**

If you see a potential stormwater problem, such as clogged storm drains, trash in the gutter, pollutants washing into or discharging from storm sewers, or uncontrolled erosion from construction sites, contact your City public works department.



### **Use a proper container for trash and recyclables**

Don't put trash into the street or gutter where it can be washed into the storm sewer system and then to local waterways.



### **Keep soil in your yard and out of our waterways**

Bare soil easily washes into the storm drains. Cover exposed soil with seed and mulch as soon as possible. Cover piles of soil for your yard or garden with a tarp until you're ready to use it. If you're building a home, choose a builder who takes extra care not to track mud onto the streets, and who installs and maintains practices that prevent soil from washing off your lot during construction.

### **Make Friends With Your Watershed**

Join a local watershed or conservation group and help clean up Spring Creek. Friends of Scenic Lodi Valley, and Trout Unlimited are a couple example of local groups working to keep area waterways clean

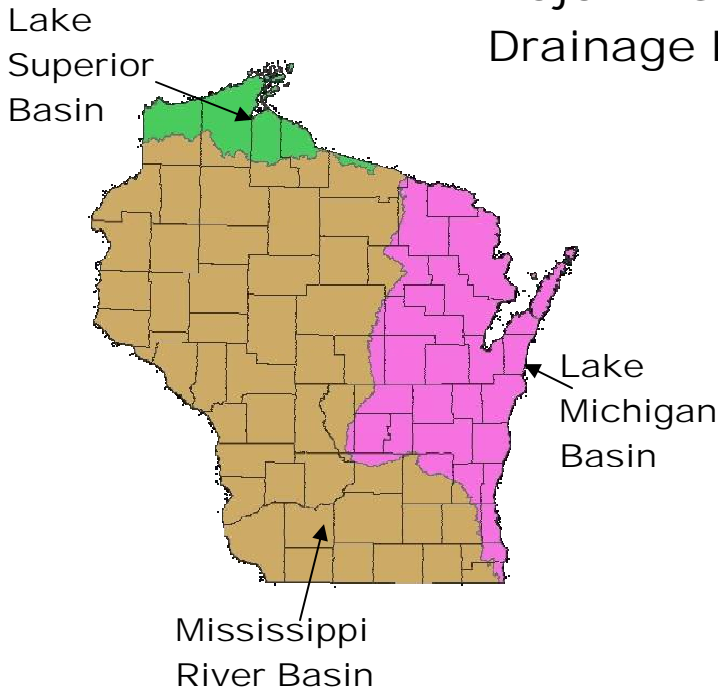
### **Kick Your Chemical Dependency**

Use non-toxic alternatives to conventional household chemicals whenever possible. When not possible, properly dispose of hazardous household chemicals such as oil-based paints, cleaning chemicals, pesticides, solvents, batteries and disinfectants. Never dispose of hazardous chemicals or wash paintbrushes in the storm drain. INSERT INFO ABOUT LOCAL HAZWASTE DISPOSAL PROGRAM

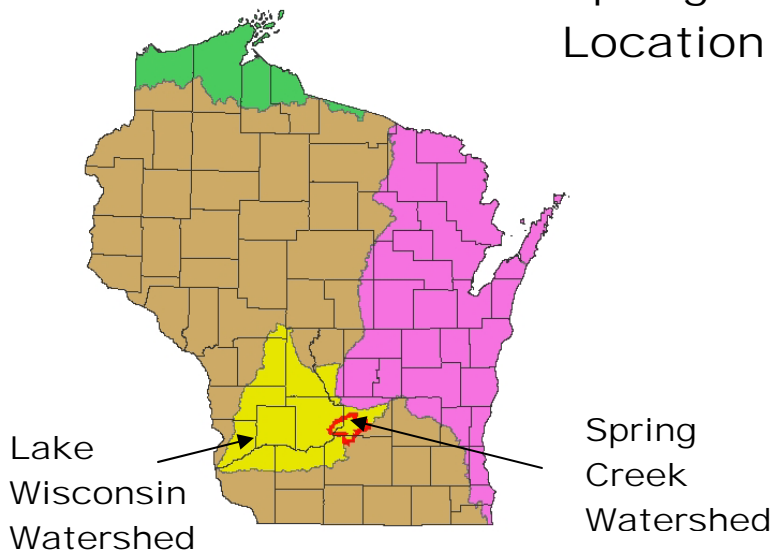
***What is a Watershed?***

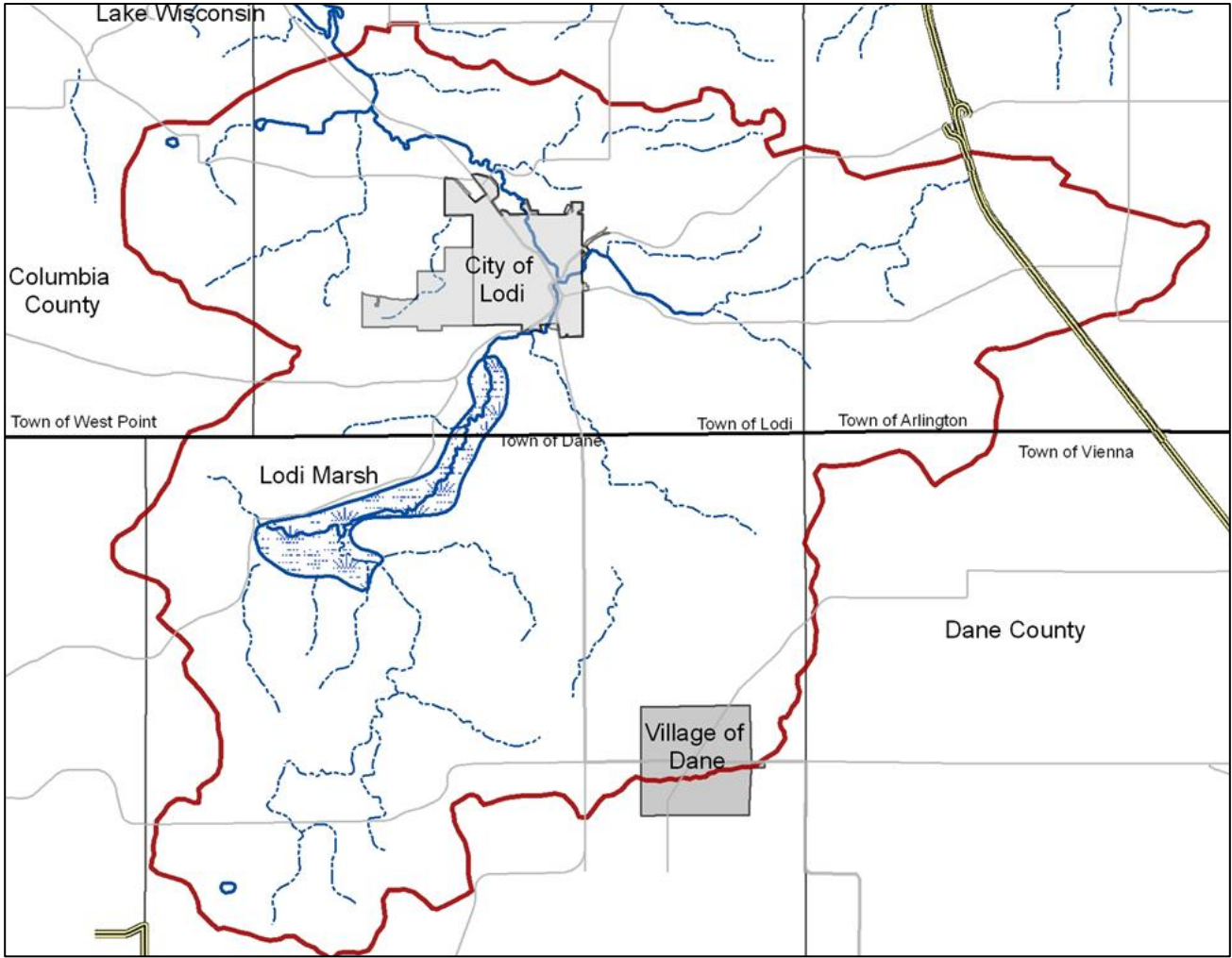
A watershed is an area of land than drains to a particular waterway, be it a lake, stream or river. Your neighborhood, school and workplace are all part of watershed; the roads we drive on and the parks we play in are also part of a watershed. The City of Lodi is located in Spring Creek Watershed. Spring Creek watershed is part of the Lake Wisconsin Watershed. The Lake Wisconsin Watershed is part of the Mississippi River Basin, the area that ultimately drains to the Mississippi River.

**Major Wisconsin  
Drainage Basins**



**Spring Creek Watershed  
Location**





Spring Creek Watershed

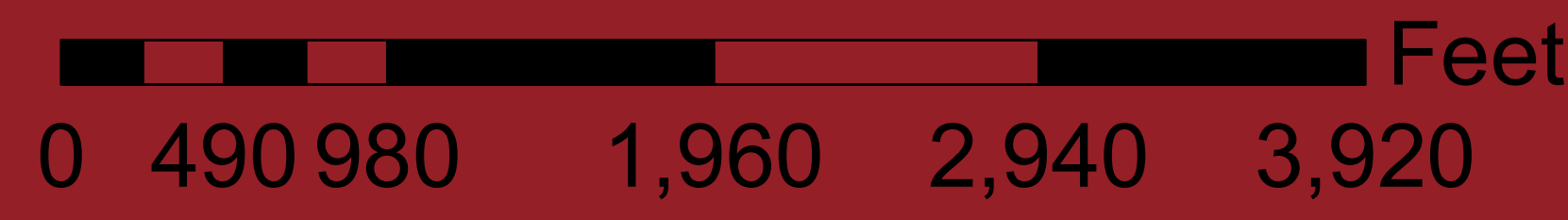
# Hydrologic Soil Group Map

City of Lodi  
Columbia County, Wisconsin



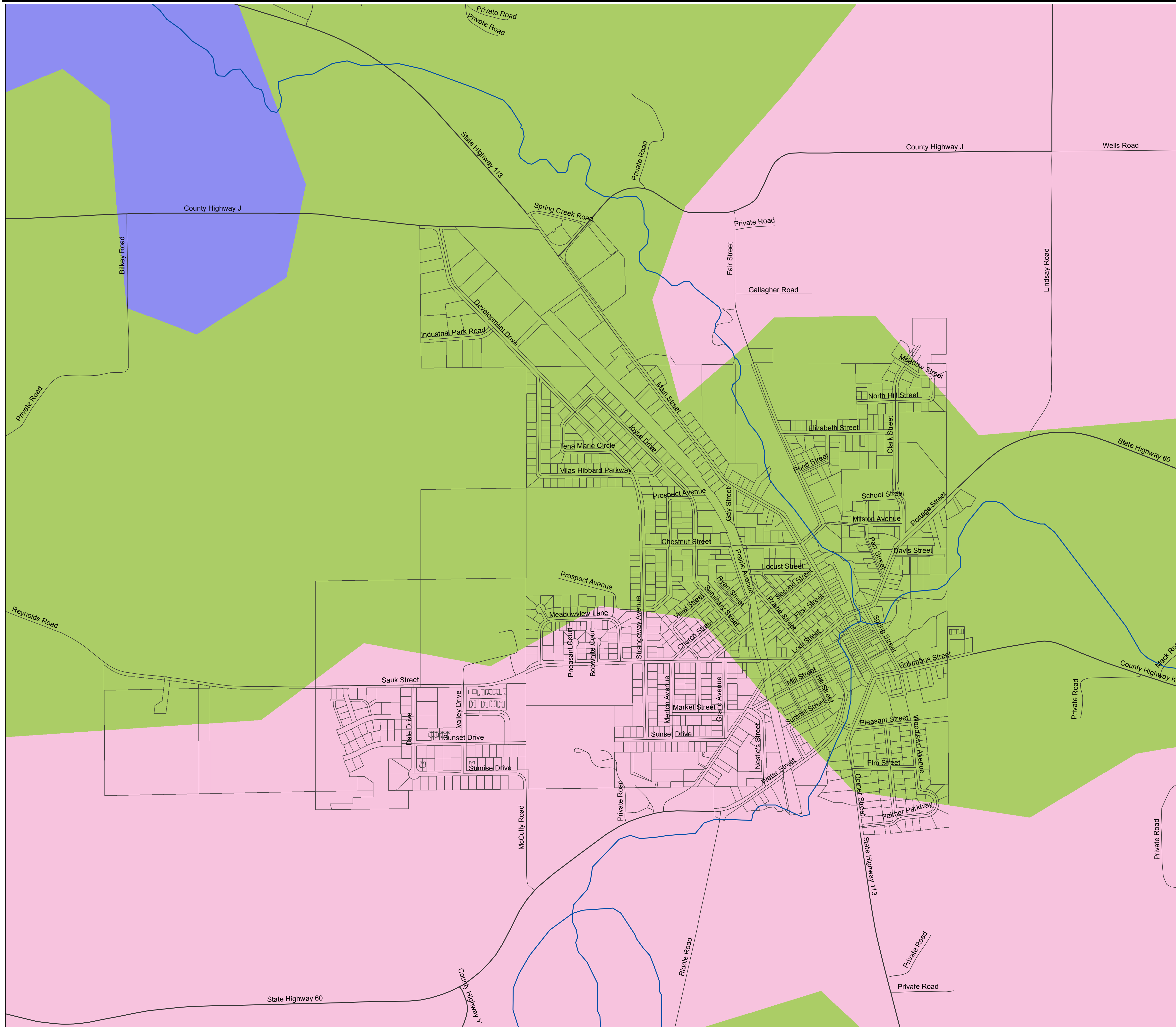
**Legend**

- Spring Creek
- Hydrologic Soil Group**
- A
- B
- C
- D
- Other Soil



# Pre-Settlement Vegetation Map

*City of Lodi  
Columbia County, Wisconsin*



### Legend

- Spring Creek
- WDNR\_OriginalVegetation**
- Forest**
  - Aspen, white birch, pine
  - Lowland Hardwoods
  - Sugar maple, basswood, Oak
  - Oak
  - Pine
- Prairie/Grassland**
  - Brush
  - Prairie
- Water/Wetlands**
  - Marsh, sedge meadow, wet prairie
  - Swamp Conifers
  - Water



# Stormwater Runoff & Nonpoint Source Pollution



*Impacts on Lodi Spring Creek and its Watershed*

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# Healthy Fish Habitat



*Image Source: MSA Professional Services*

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# Badlands



*Image Source: Wisconsin Department of Natural Resources*

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## Home Construction Site



*Image Source: Wisconsin Department of Natural Resources*

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## Home Construction Site



Image Source: USEPA

## Storm Inlet



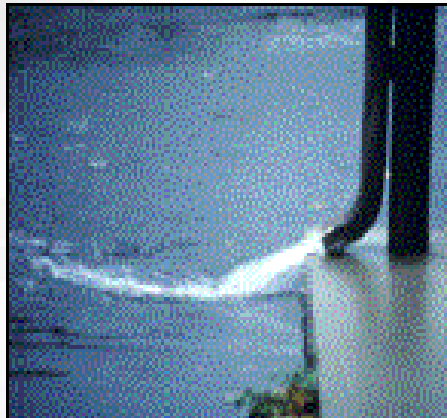
*Image Source: Wisconsin Department of Natural Resources*

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# Stormwater Runoff is *Not* Treated



Runs off  
impervious  
surface



Enters storm  
drain system



Discharged to  
creek

# So, What Goes in Here....



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Image Source: BragaVision Media



.....Flows Out Here



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Image Source: BragaVision Media

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# What is a Watershed?

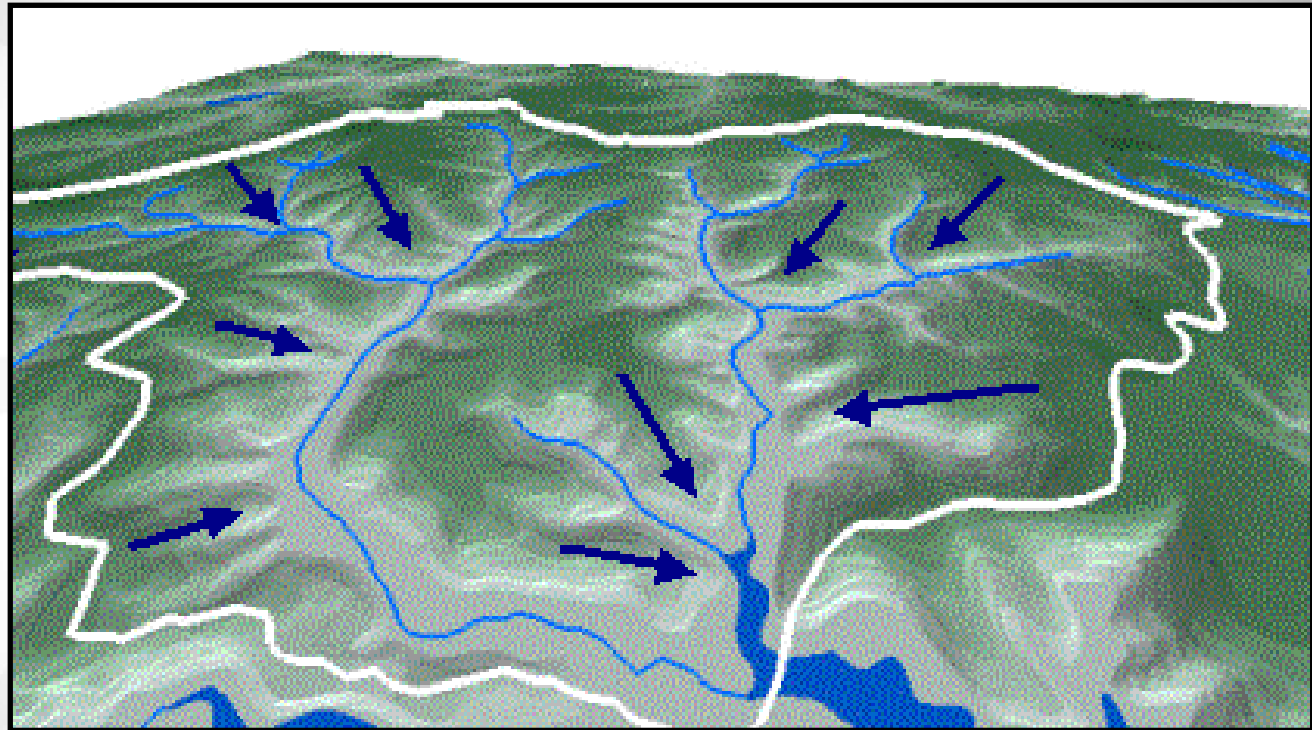
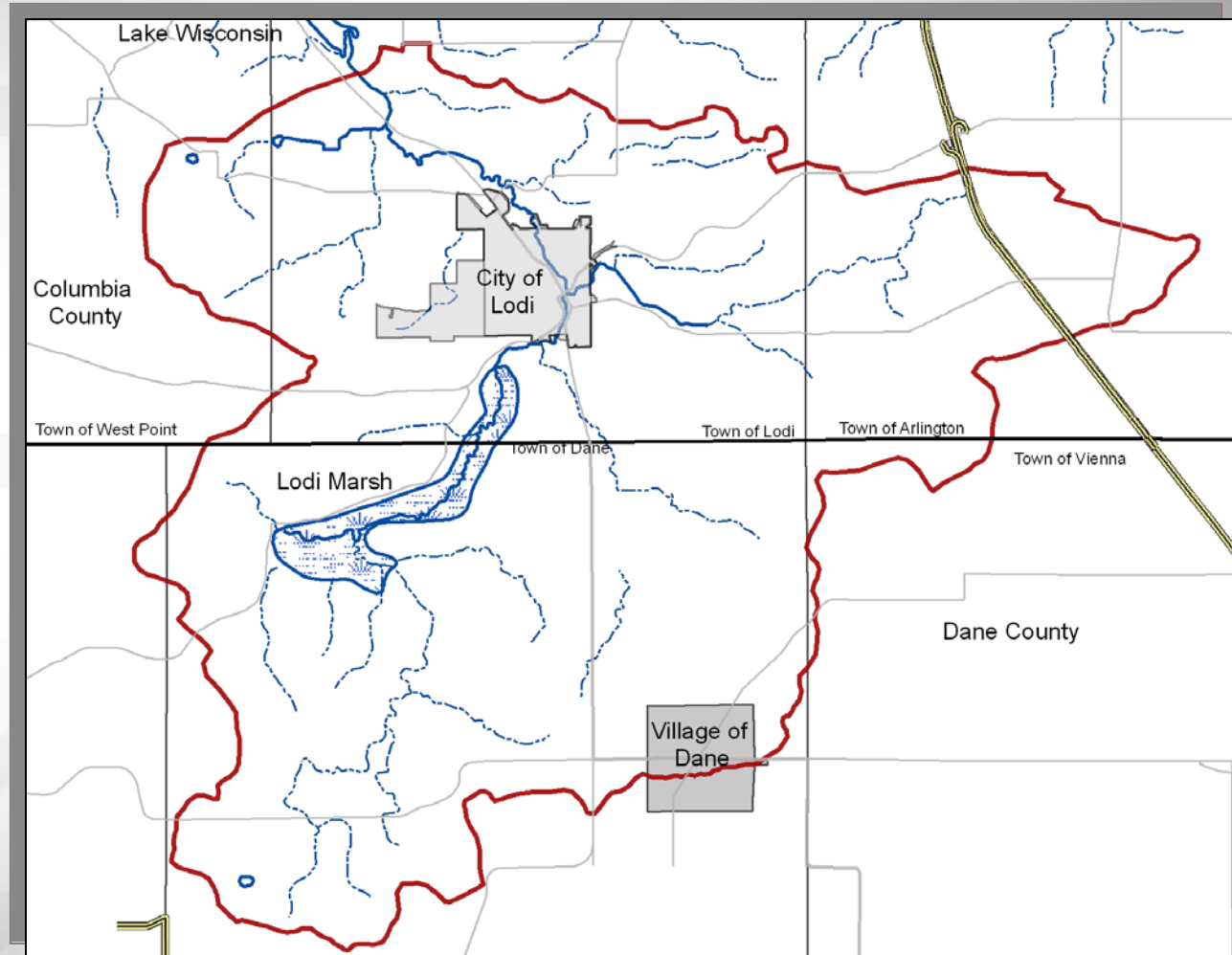


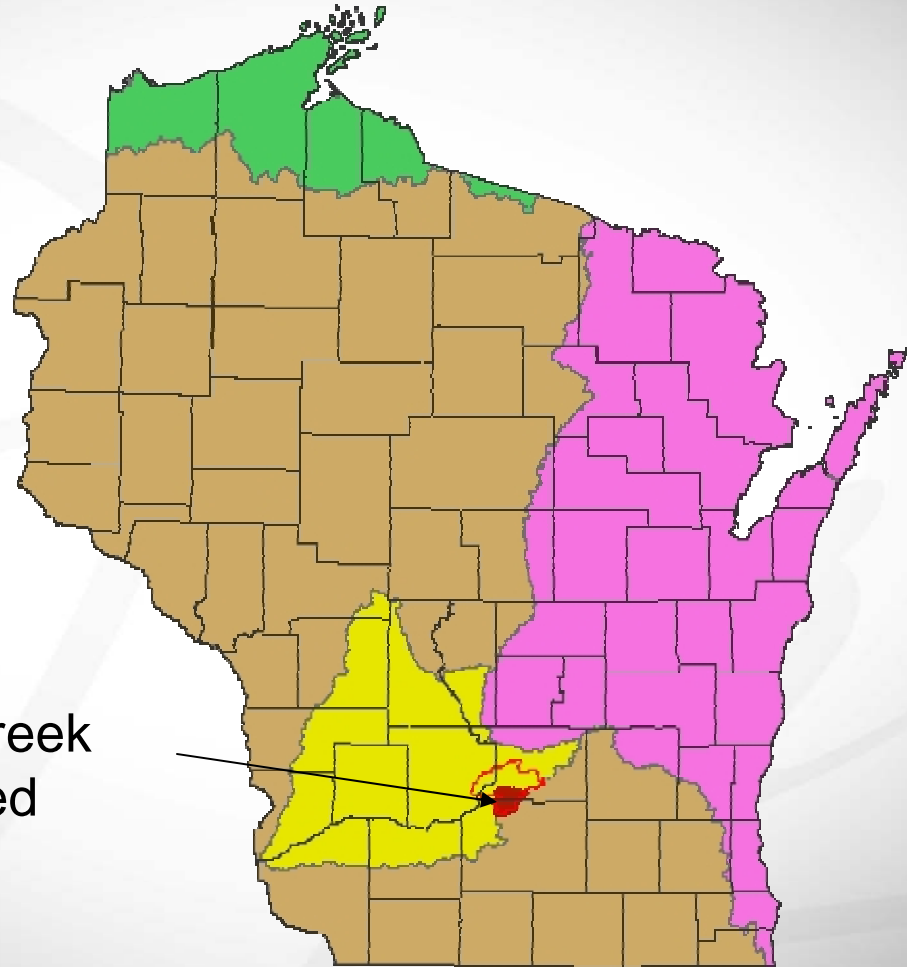
Image Source: -Center for Watershed Protection

# Spring Creek Watershed



# Spring Creek Watershed

Spring Creek  
Watershed



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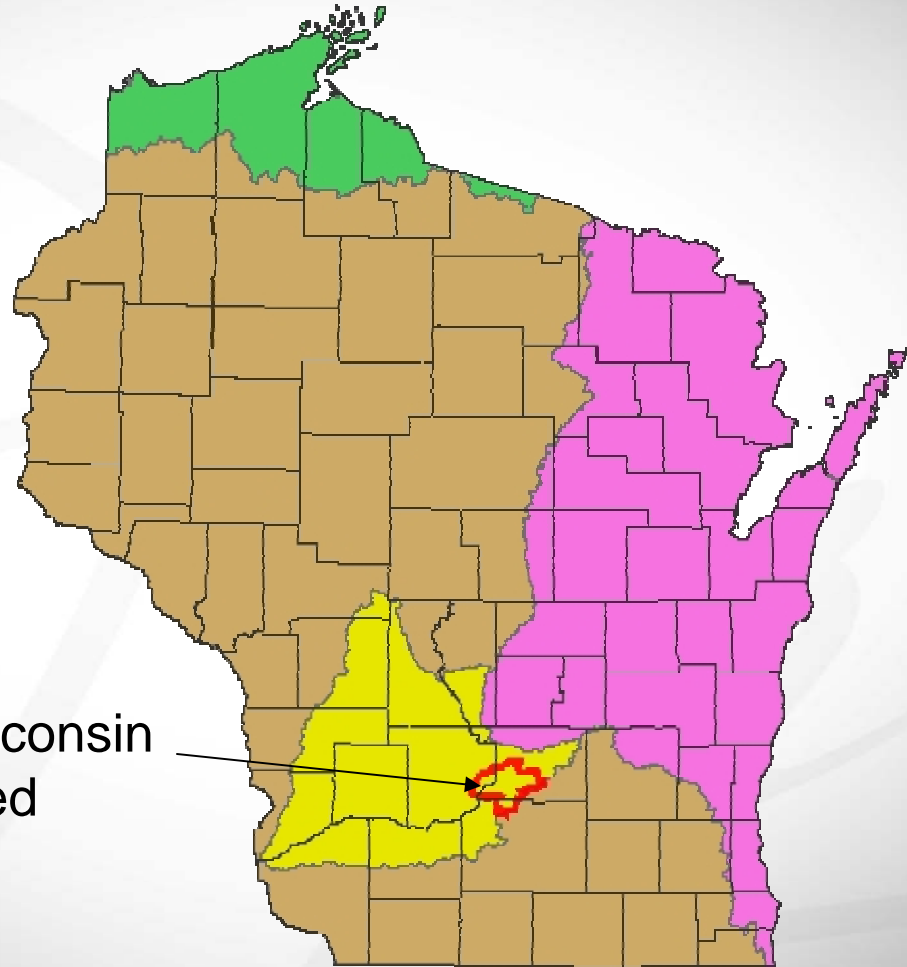
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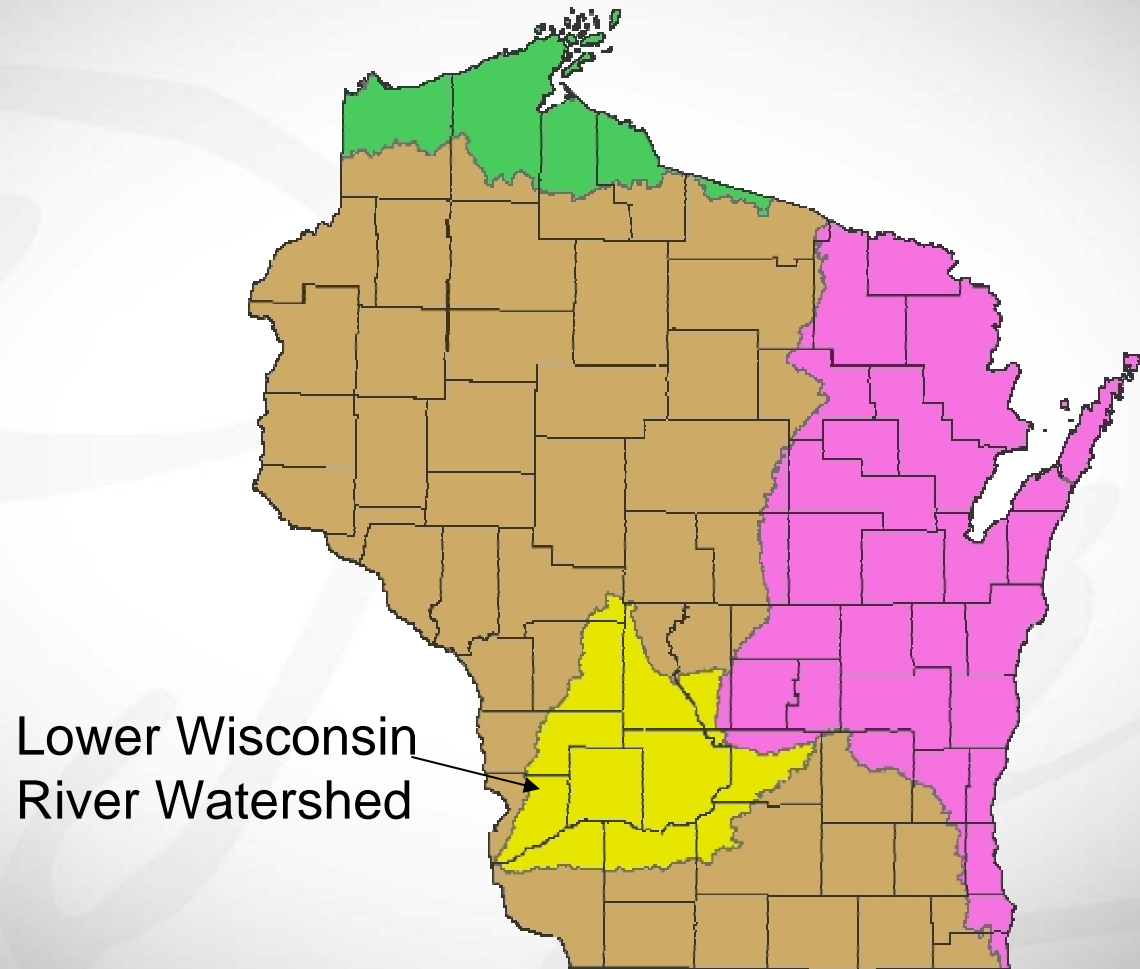
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# Lake Wisconsin Watershed

Lake Wisconsin  
Watershed



# Lower Wisconsin River Watershed



Lower Wisconsin  
River Watershed

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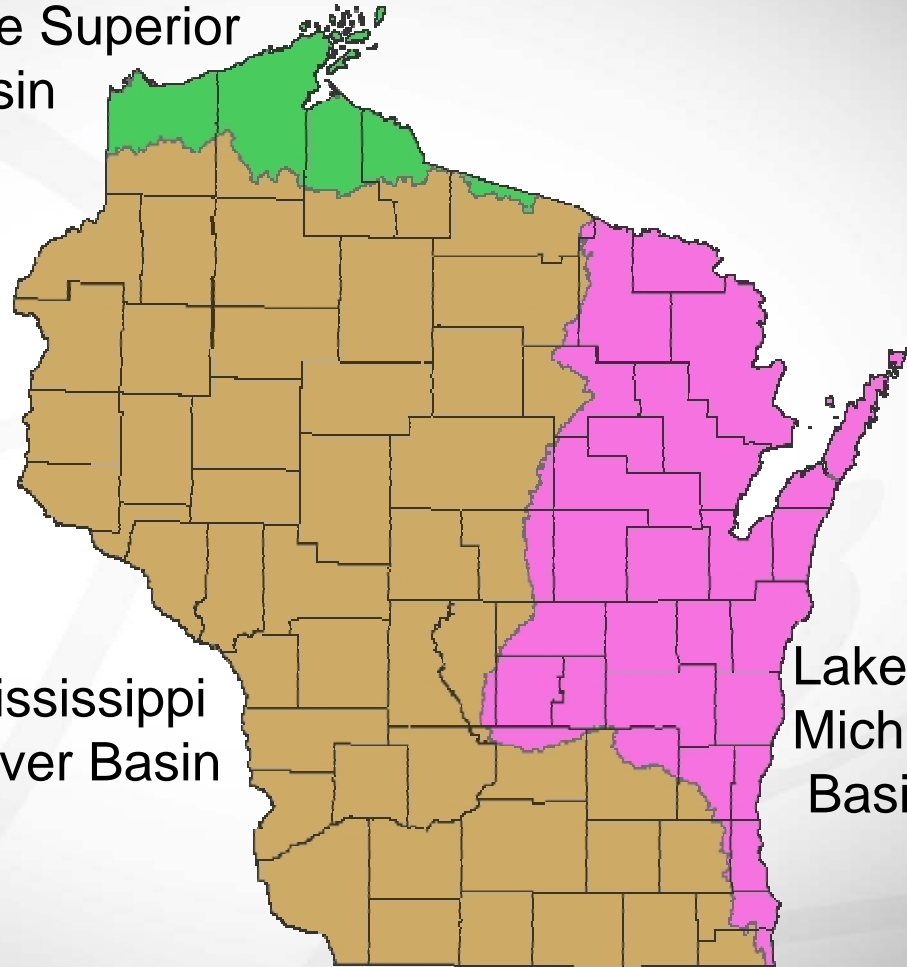
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# Wisconsin Major Drainage Basins

Lake Superior  
Basin



Mississippi  
River Basin

Lake  
Michigan  
Basin

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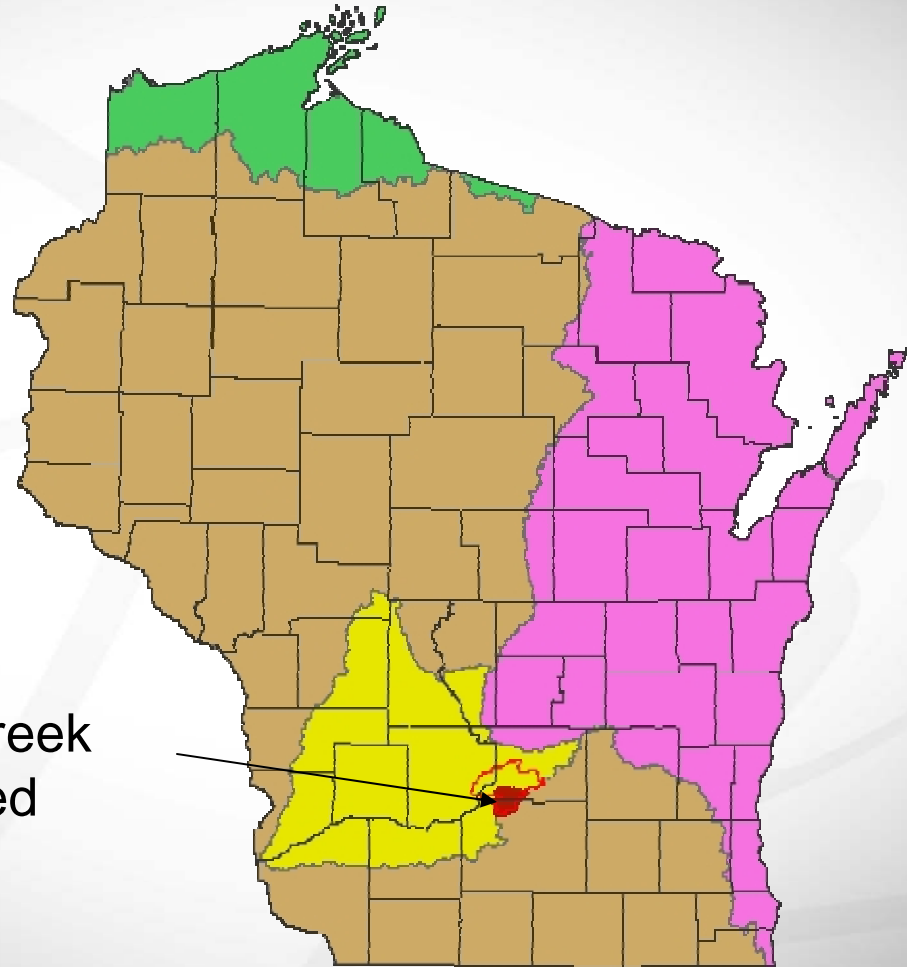
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# Spring Creek Watershed

Spring Creek  
Watershed



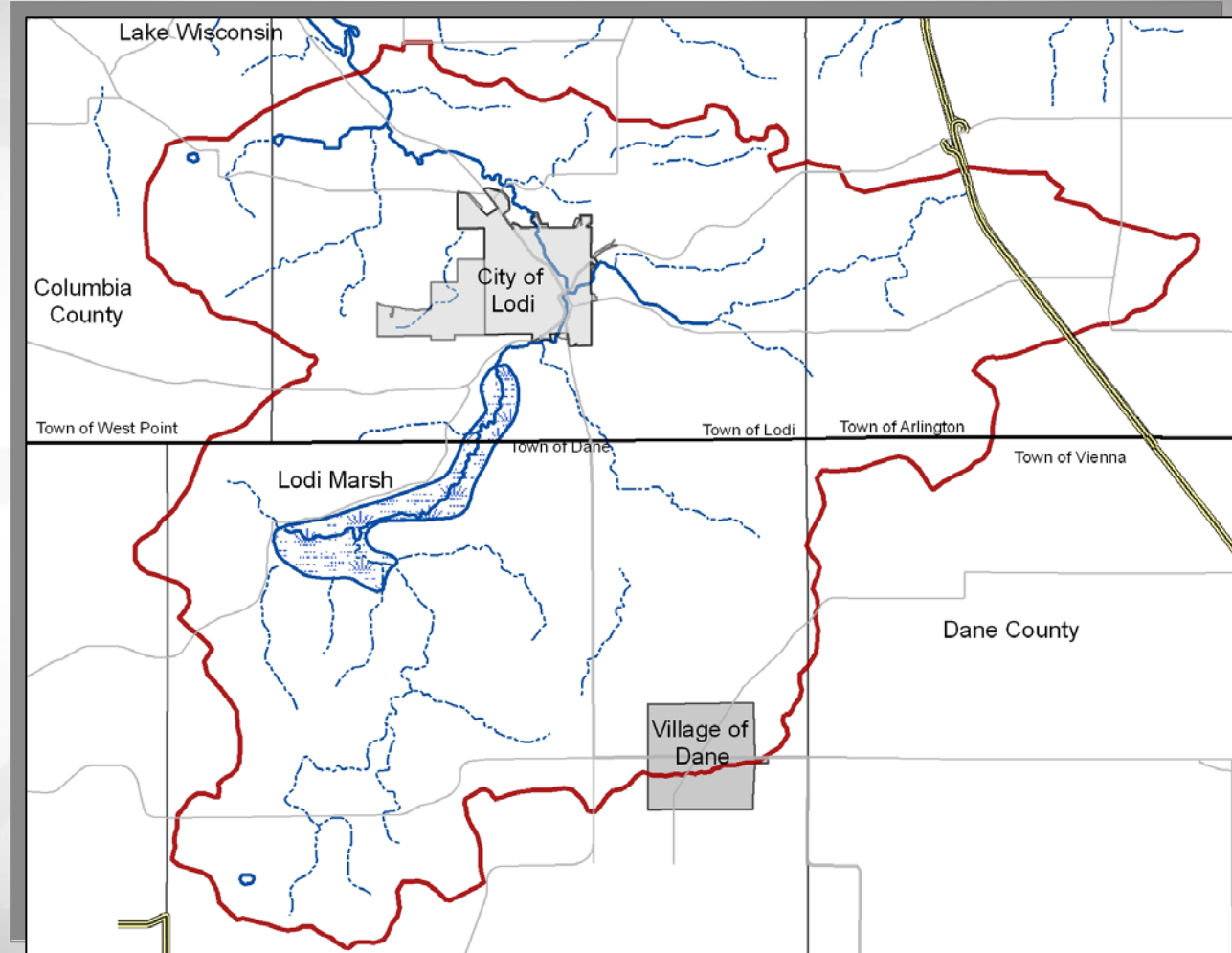
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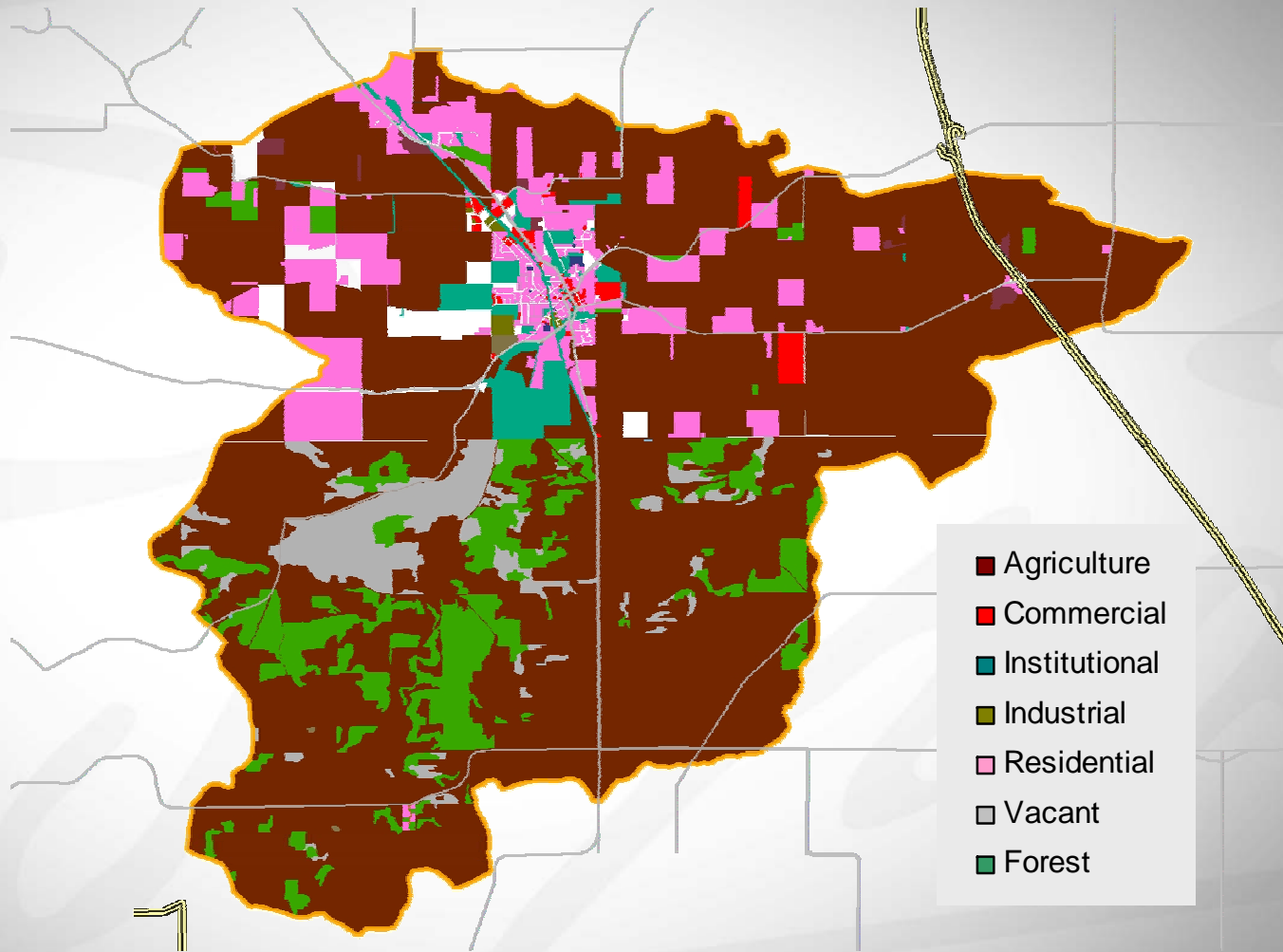
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# Spring Creek Watershed

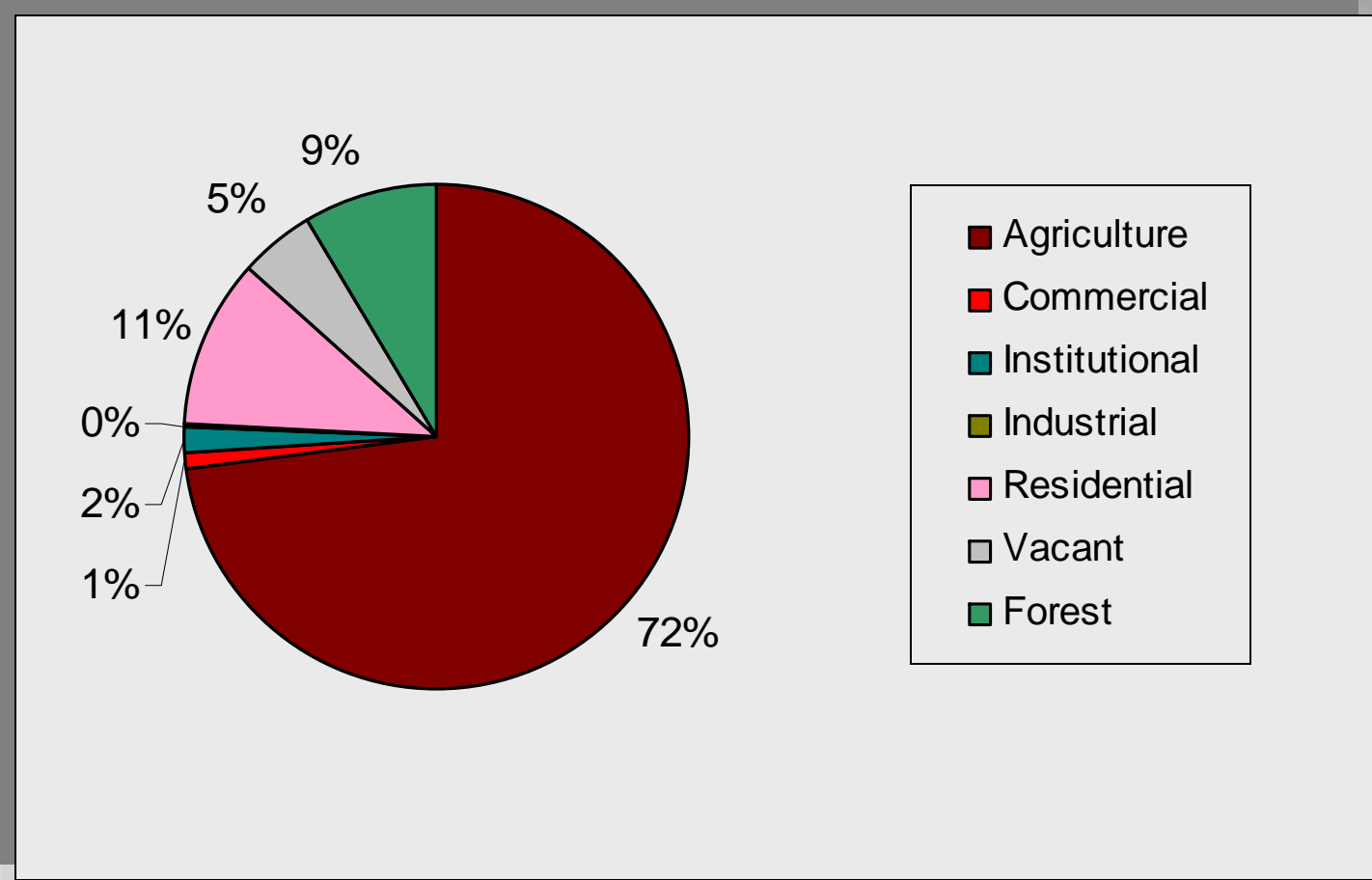




# Watershed Land Use



# Watershed Land Use



# Non-Point Source Pollution

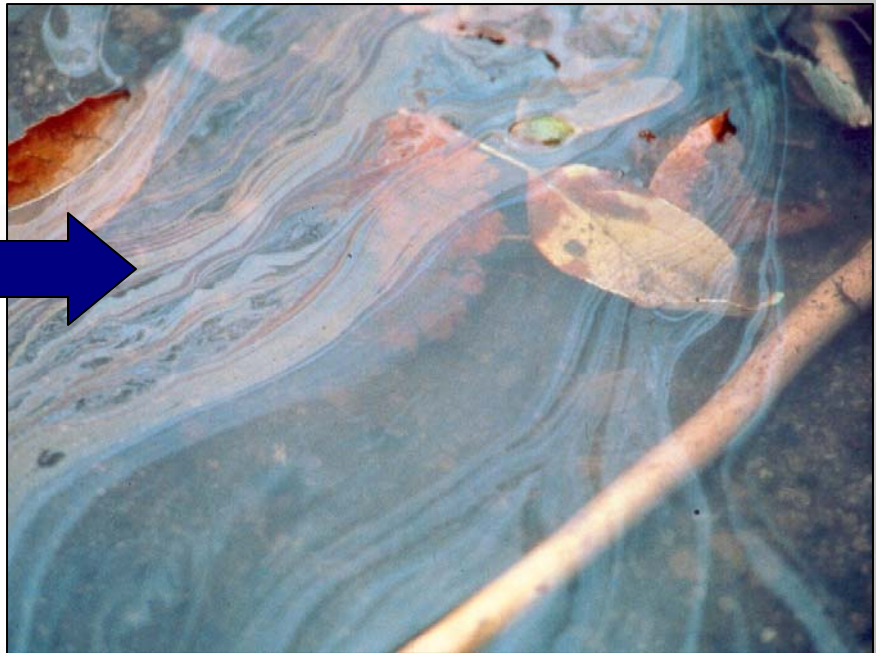


Image Source: Center for Watershed Protection (left) Wisconsin DNR (right)

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# Impacts of Non-Point Source Pollution



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Image Source: Wisconsin Department of Natural Resources  
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# Impacts of Non-Point Source Pollution



*Image Source: Wisconsin Department of Natural Resources*

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## Spring Creek

- Boasts some of the best trout populations per mile in the three county area.
- Classified as a Cold II Stream— *“a cold water stream capable of supporting coldwater fish and other coldwater aquatic life, with some natural reproduction, however, some stocking is necessary to maintain fisheries.”*
- Between 1985-1988 the DNR completed over a mile of habitat improvement work between the sewer plant and the park.



Sources:

WDNR, Lower Wisconsin State of the Basin Report, July 2002

Larson, Tim, Management of Trout Fishery of Lodi Creek, January 2005.

# Stream Impairment

## Stream Impairment Impacts

- Habitat
- Temperature

## Stream Impairment Sources

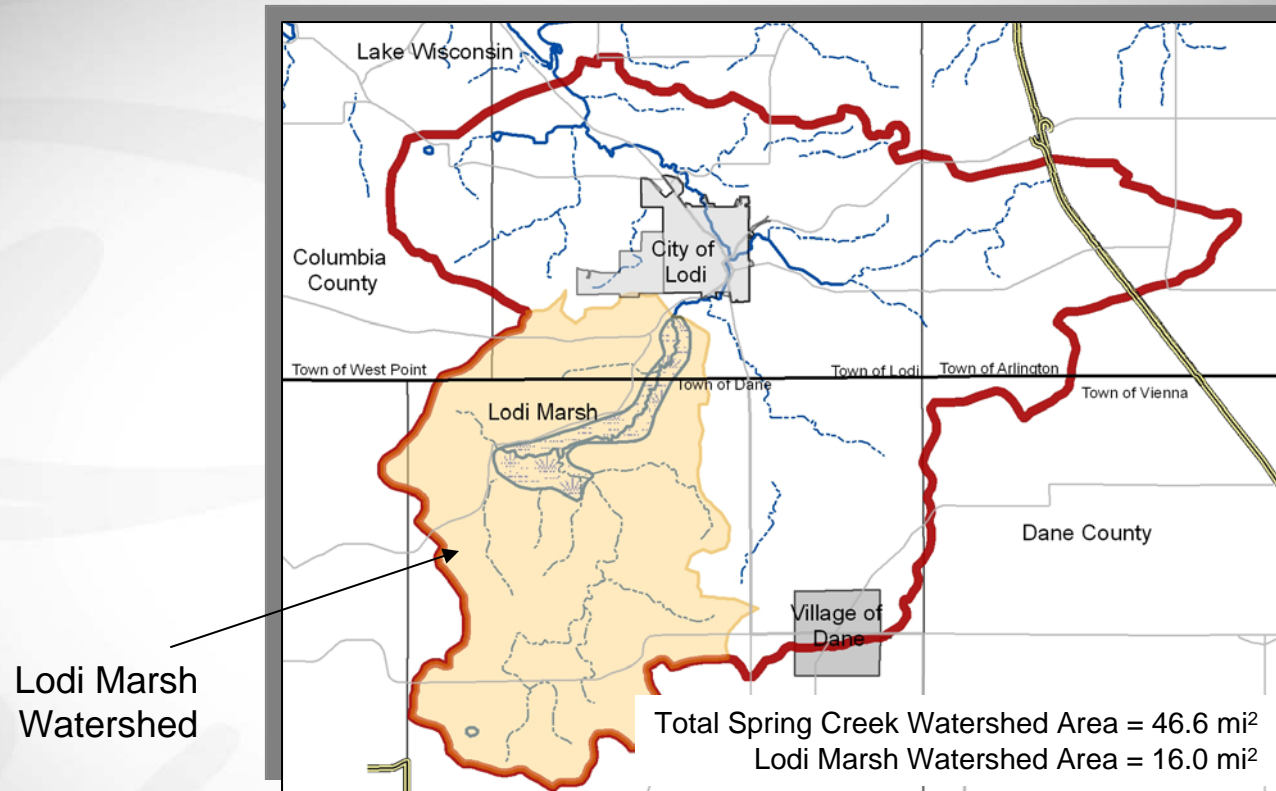
- Nonpoint Source Pollution
- Cropland Erosion
- Point Source Pollution
- Hydrologic Modification (dams, ditching)
- Streambank Pasturing



Sources: WDNR, Lower Wisconsin State of the Basin Report, July 2002

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# Lodi Marsh Area



Lodi Marsh  
Watershed

- *Lodi Marsh drains 34% of Spring Creek watershed.*
- *Soil loss in rural areas has been estimated to be 6.1 tons/acre/year.*
- *Within and upstream of Lodi Marsh, the creek is well buffered from agricultural impacts.*

Source: WDNR, Lower Wisconsin State of the Basin Report, July 2002.

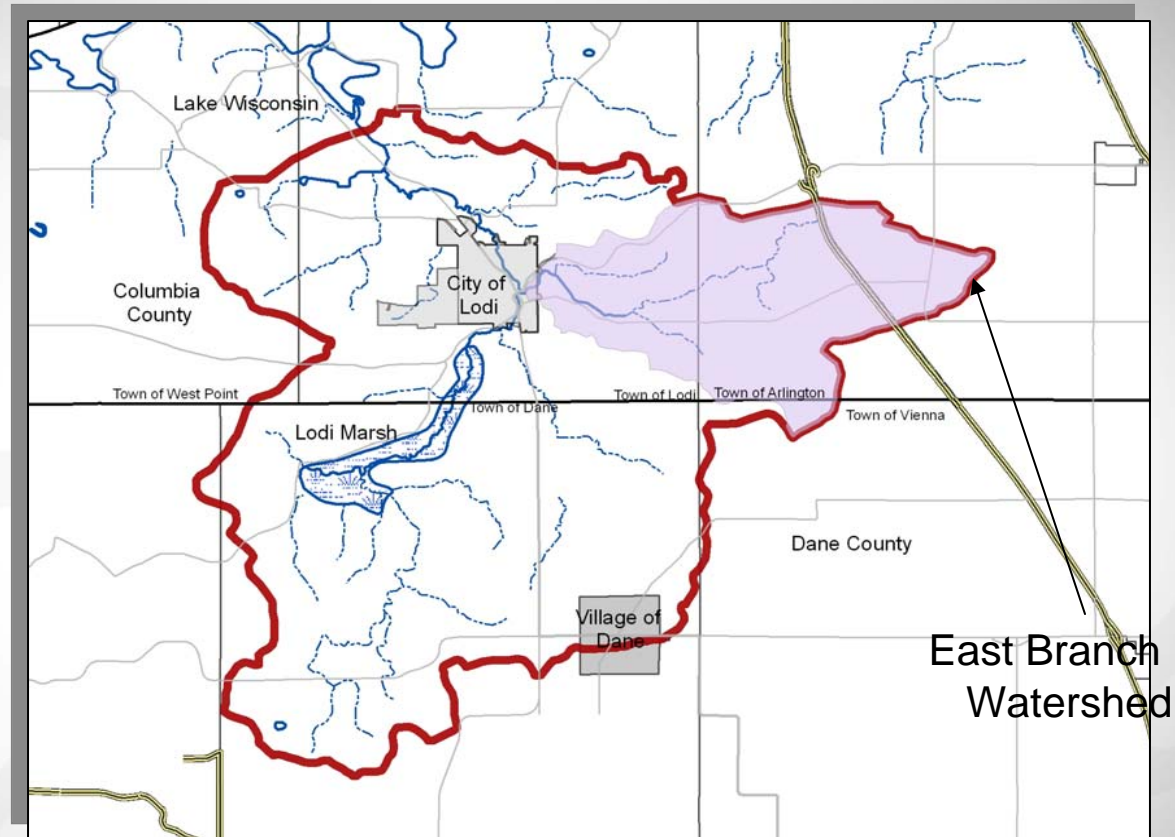
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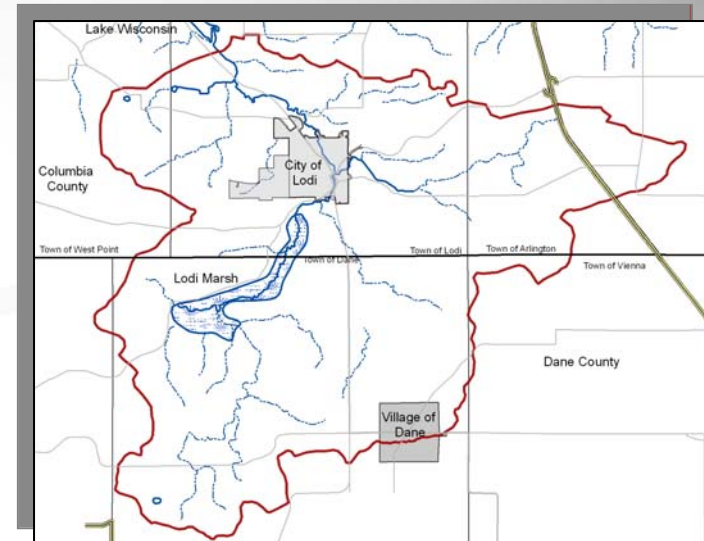
## East Branch



- Has the coldest water temperatures, which seldom exceed 60°F.
- Supports native brown trout population.

## Creek Segments

- Miles 1 through 4 are classified as an exceptional water resource
- Miles 7 through 11 are classified as “threatened”, meaning that there is a *“clear and imminent threat to existing use”*
- Downstream of Lodi there is a decline in natural reproduction of trout.
- When the watershed exceeds 8% pavement, the water temperature will be too warm to support a trout fish population



Sources: -WDNR, Lower Wisconsin State of the Basin Report, July 2002.  
-Tim Larson, DNR Fisheries, personal communication.

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## Silt Fence



*Image Source: -Wisconsin Department of Natural Resources*

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## Silt Fence



Image Source: USEPA

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# Erosion Matting



Image Source: USEPA

# Tracking Pad



Image Source: USEPA

# Grass Swale



*Image Source: Wisconsin Department of Natural Resources*

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# Detention Basin



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*Image Source: MSA Professional Services*

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## Bioretention Basin



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## Stream Buffer



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## No Buffer



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Image Source: USEPA

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# Wetland Preservation



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Image Source: MSA Professional Services

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