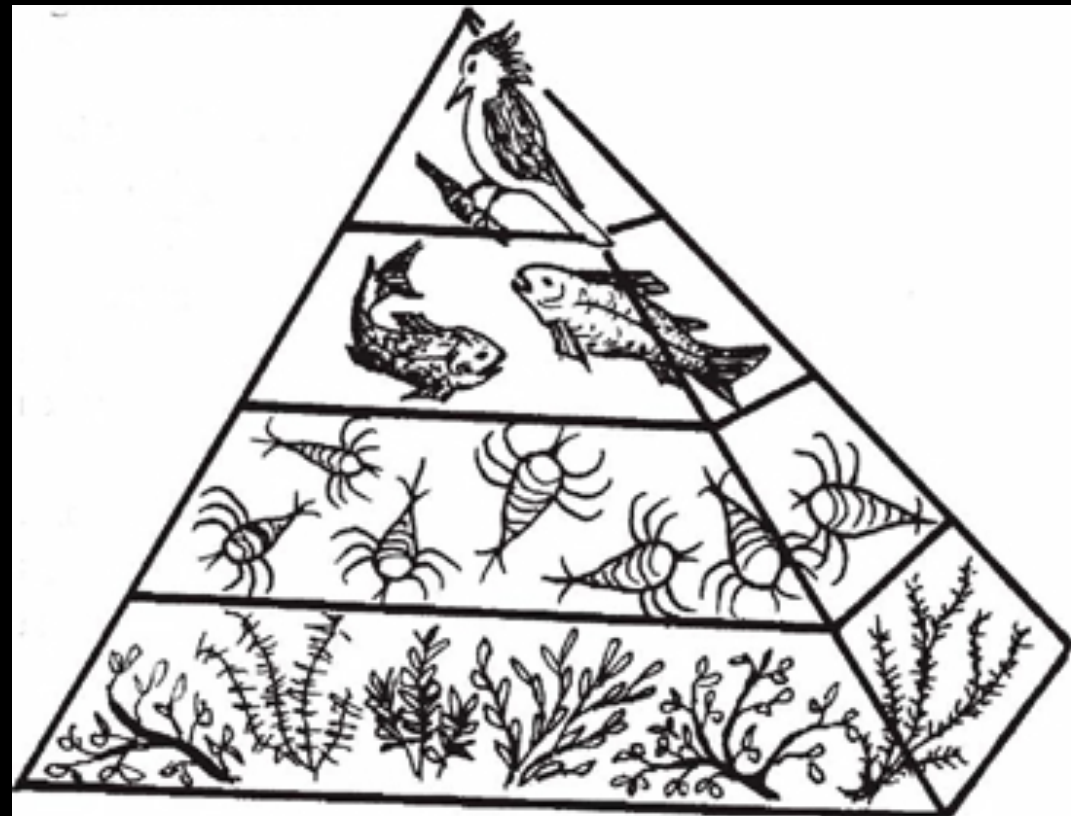




Carley Kratz
Program Director

Watching Wildlife in the Watershed

- A tour of one foodweb:
 - Benthic macroinvertebrates, or “bugs”
 - Fish
 - Birds of Prey



Aquatic Habitat

- Preserving habitat helps sustain all species of wildlife in the watershed
- Woody debris form important habitat for “bugs” and for fish



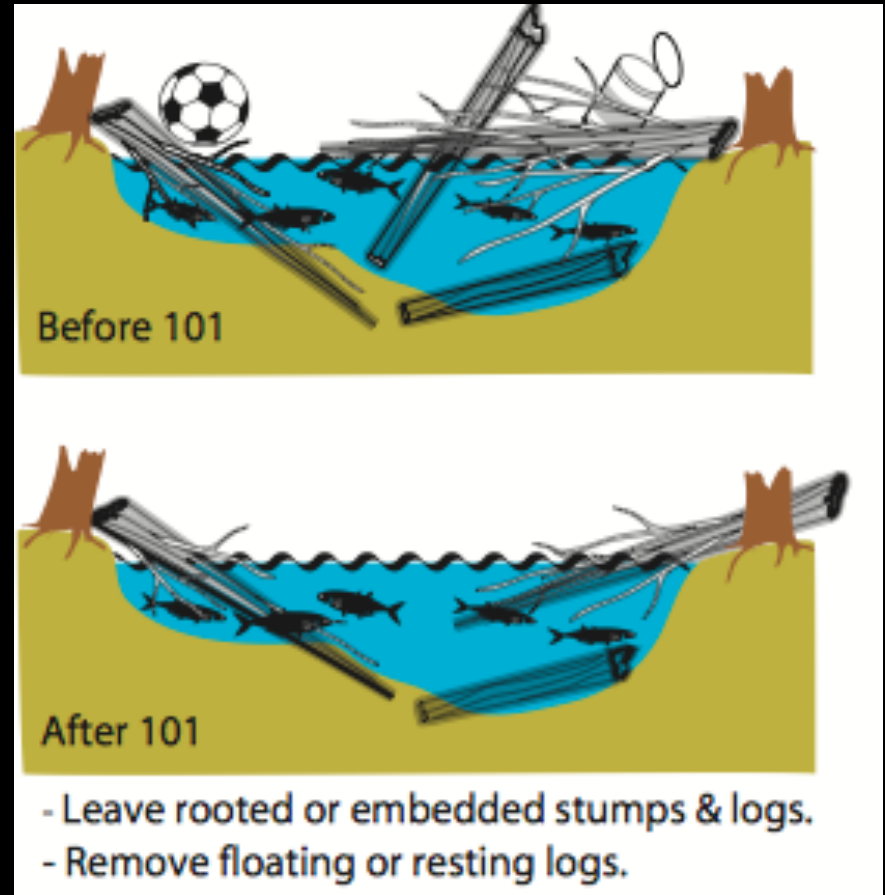
Log-Jams

- Woody debris also causes log-jams
 - Makes the river more difficult to access
 - We want our local citizens to get out and enjoy the river
 - Taking ownership of the River Raisin will help inspire stewardship behaviors
 - Log-jams can also cause significant flooding and erosion

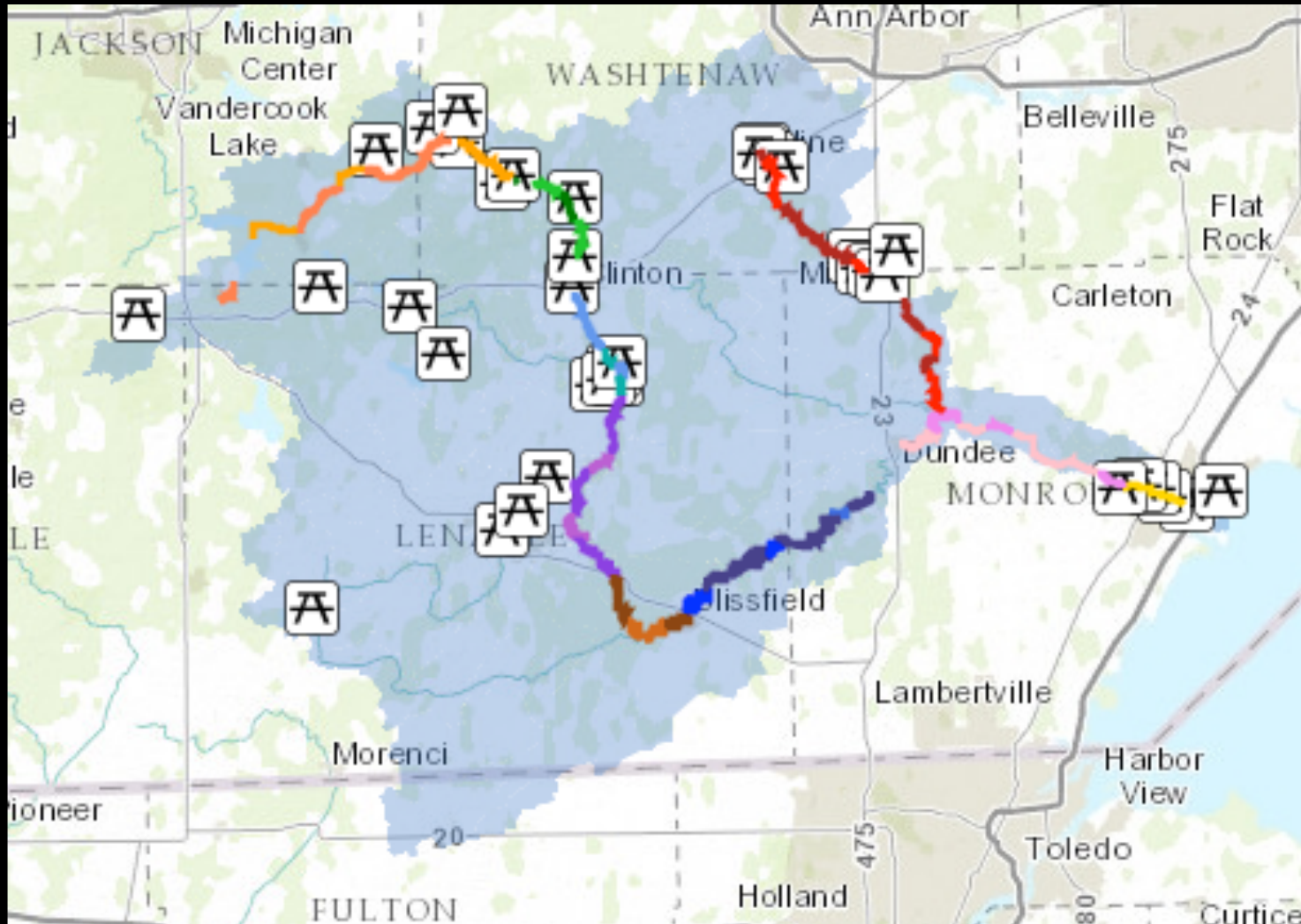


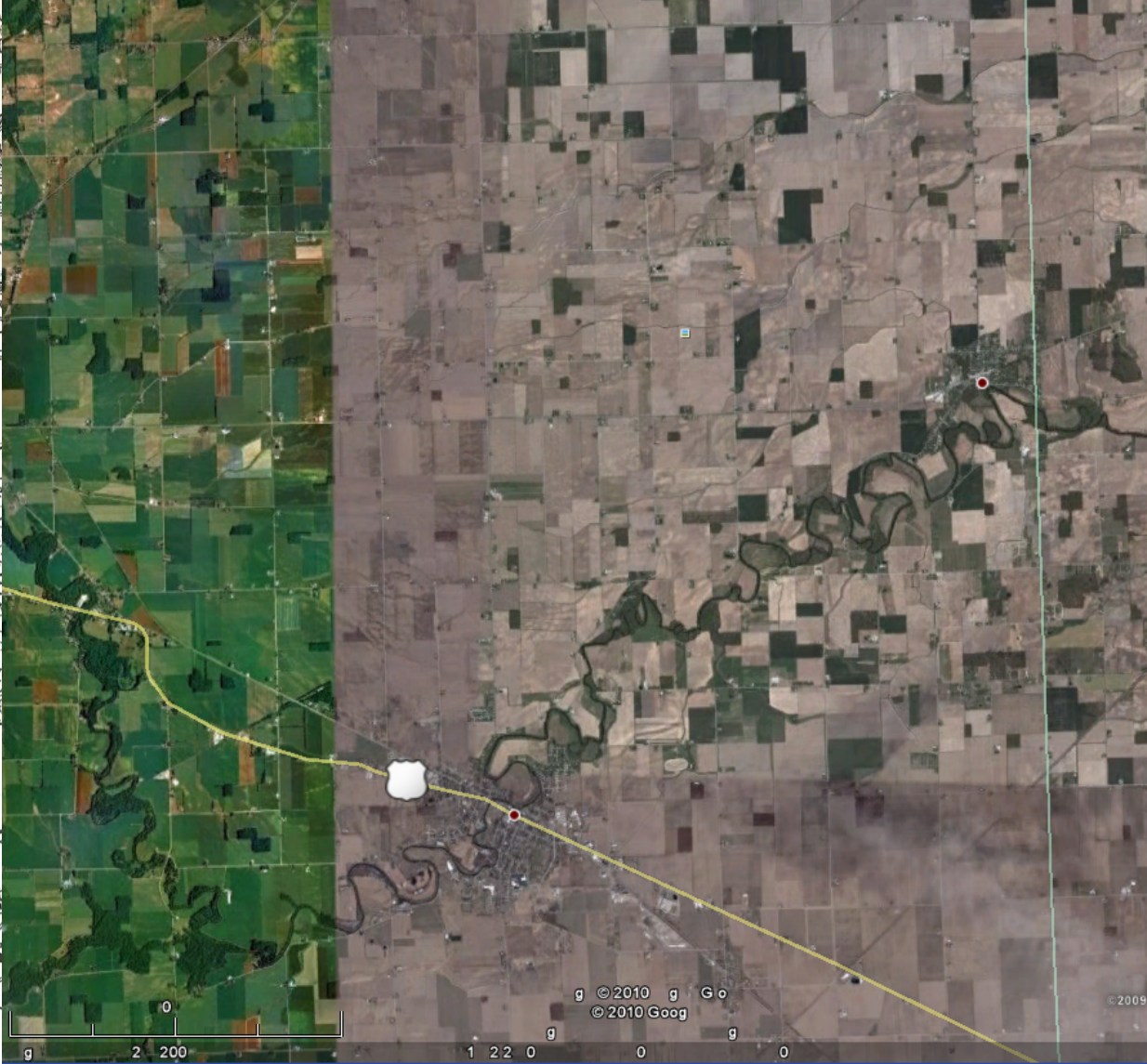
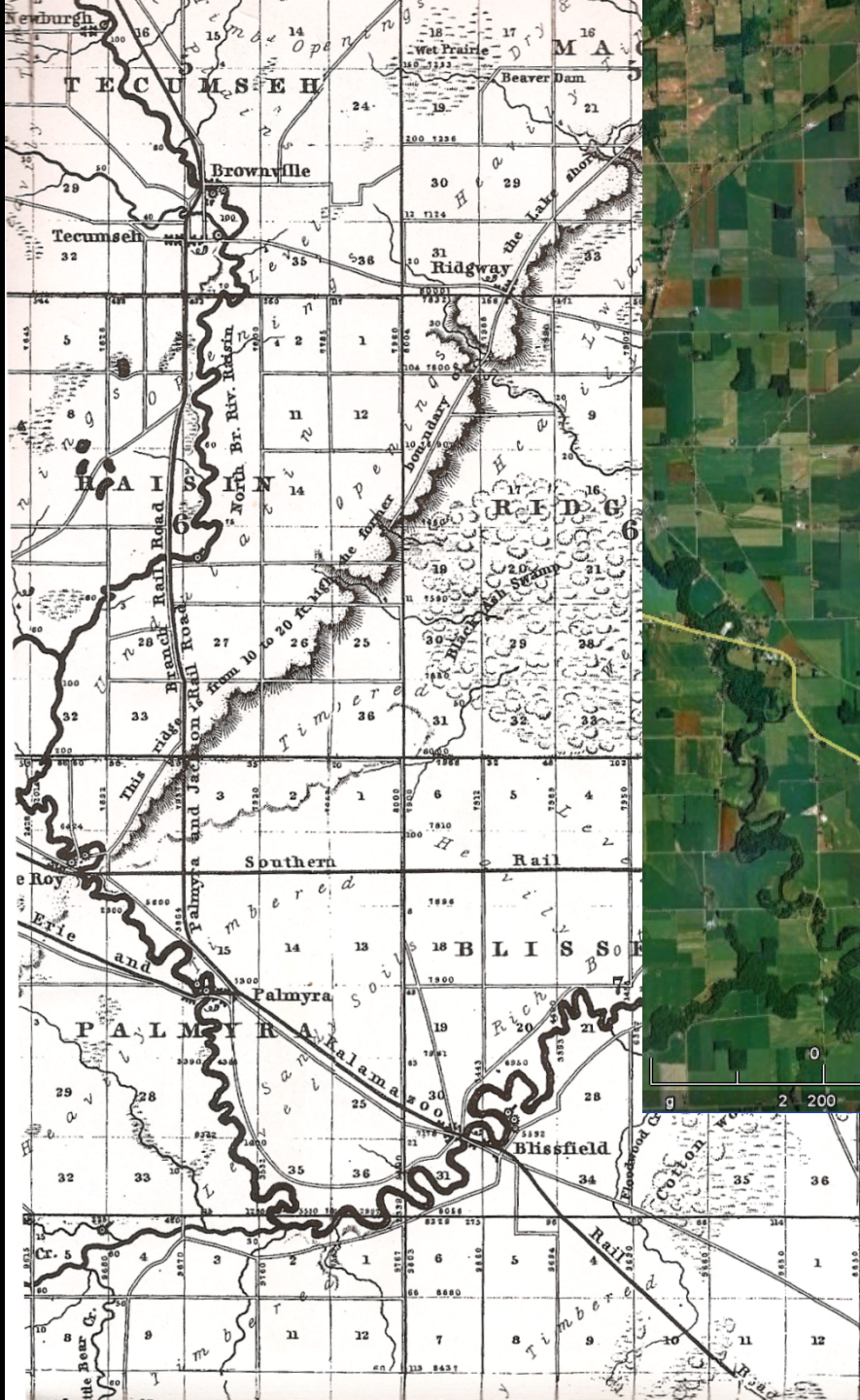
Woody Debris Management 101

- Important to manage log-jams in an ecologically responsible manner
 - Use the Clean and Open Method
 - Contact DEQ to obtain proper permits when required



Exploring Water-Trails in the River Raisin Watershed





World's "crookedest" river makes for a more challenging paddle.



NATIONAL WATER TRAILS SYSTEM

<http://www.nps.gov/WaterTrails/Trail>



MICHIGAN'S GREAT LAKES *Water Trails*



www.michiganwatertrails.org





Michigan Heritage Water Trails

[Site Help](#) [Info](#) [History](#) [Standards](#) [Tasks](#) [Trails](#) [Planner](#) [Links](#)

- Michigan Heritage Watertrails highlight historic landmarks using signage and guide books
- The River Raisin has a rich cultural history dating back to the 1700's

<http://wmich.edu/glcms/watertrails/index.htm>

Michigan Flatwater Paddling and Canoeing

<http://www.trails.com/stateactivity.aspx?area=10685>



Where Do We Go From Here?

- Summer 2015
 - Woody Debris Management Campaign
- Many options available
 - Which water-trails do we apply for?
 - Where are historically important areas?
 - How can we make the experience better for paddlers?



Adopt-A-Stream



- Collection of benthic macroinvertebrate “bugs”
- Each Spring and Fall since 2002
- Canary in the coal mine
- If you’ve been out with us before, please join us for Stream Search Day on May 2nd
- Anyone is welcome to come to Bug ID Day on May 9th

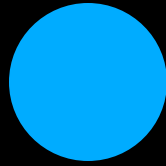
Group 1 (sensitive species that die in low oxygen conditions)

Hellgrammites

Mayfly naiads

Gilled snails

Stonefly



Group 2 (somewhat sensitive species)

Alderfly

Beetle adult

Beetle larva

Black fly

Clams

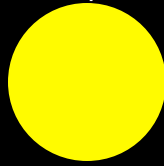
Crane fly

Damselfly

Dragonfly

Hydropsychidae

Scuds



Alderfly larva



Crane fly larva



Dragonfly larva





Midge larva



Mosquito larva
(note their breathing tubes for gathering atmospheric oxygen)

Group 3 (tolerant of low oxygen conditions)

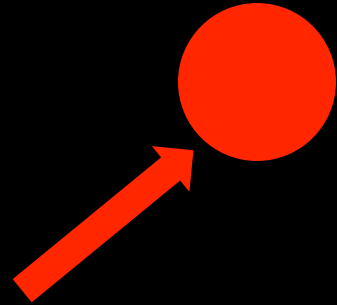
Aquatic worms

Leeches

Midges

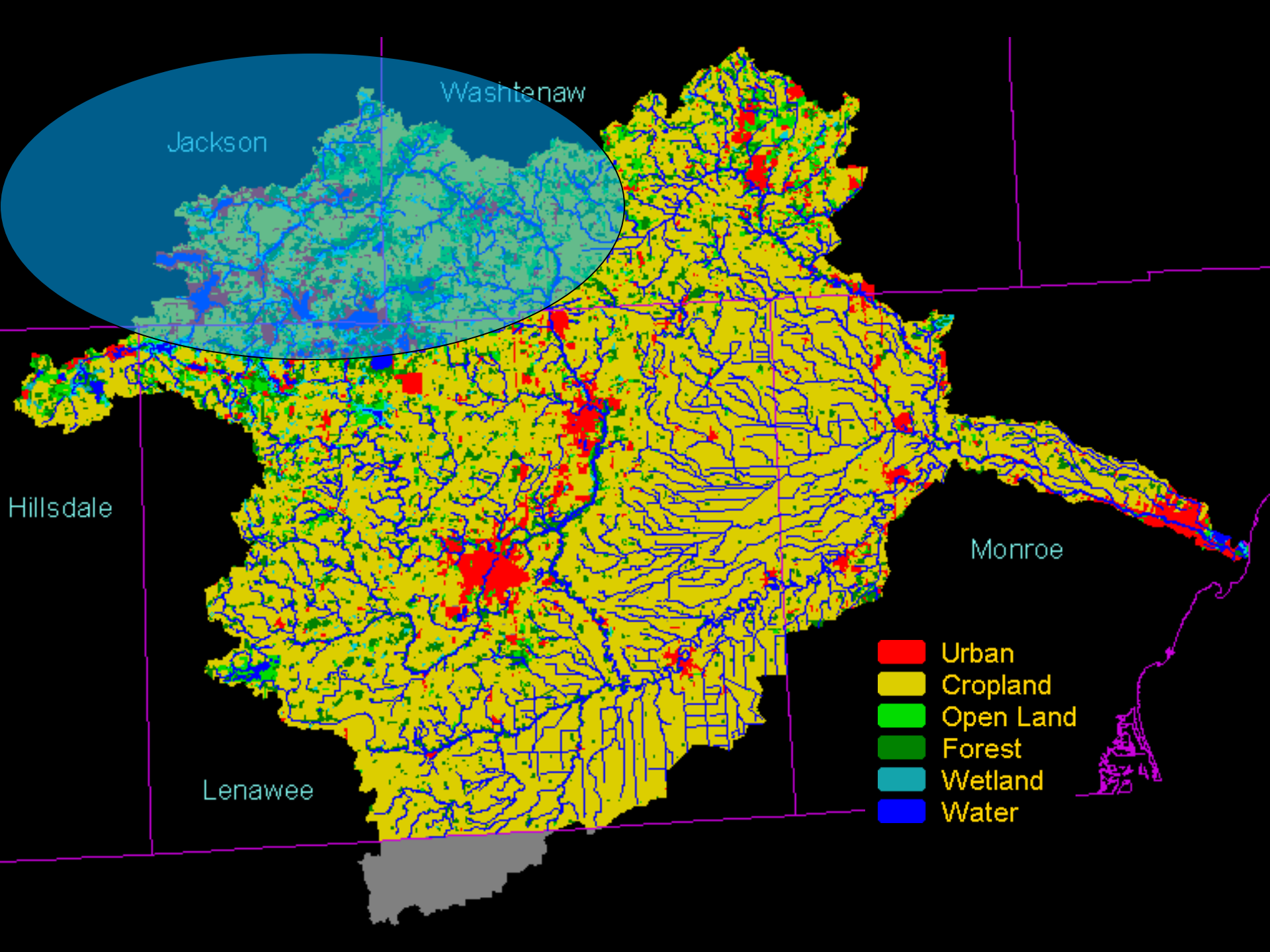
True bugs

Other fly larva



Giant water bug
(True bug)

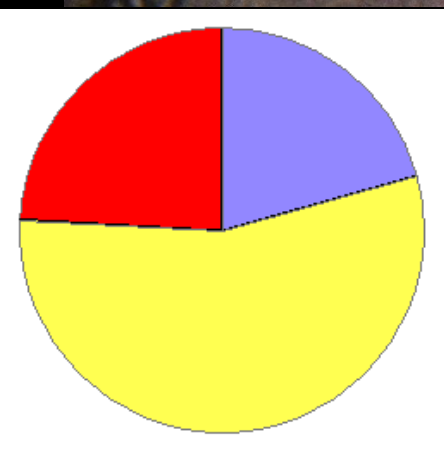




RR5 – Upper River Raisin (above Manchester)

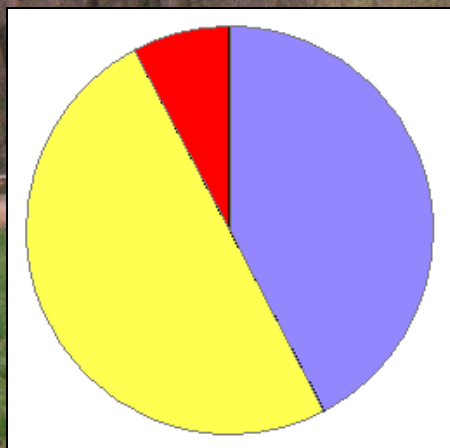


Spring 09



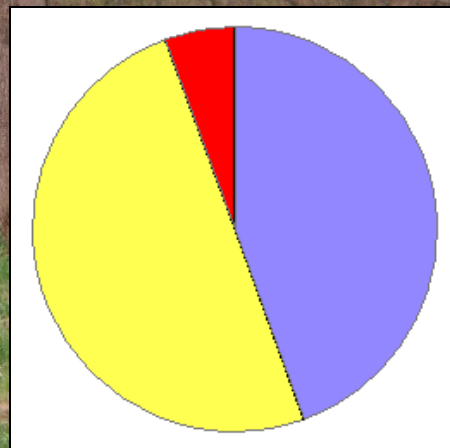
6:29

Fall 09



11:36

Spring 10



8:18

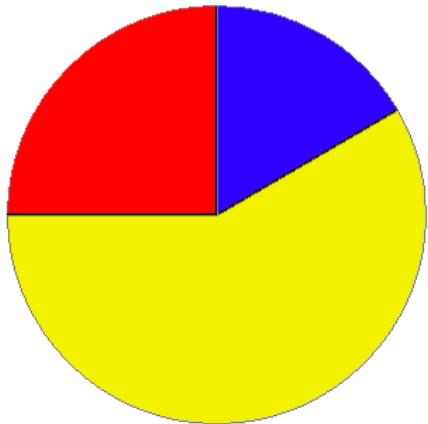
Fall 10



8:30

RR5 – Upper River Raisin (above Manchester)

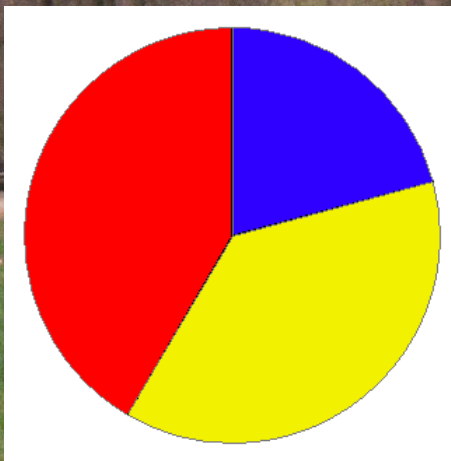
Spring 11



2:12

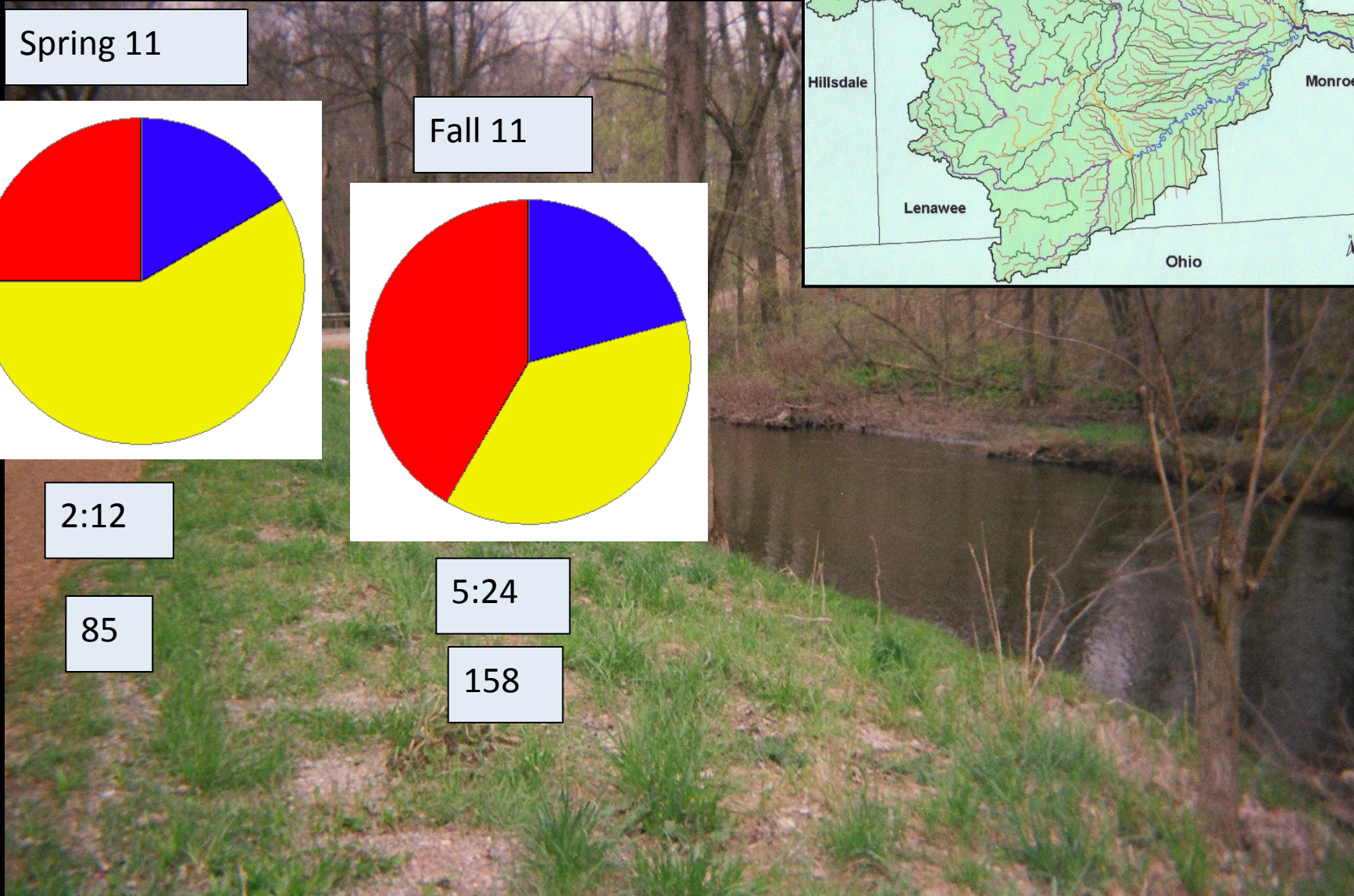
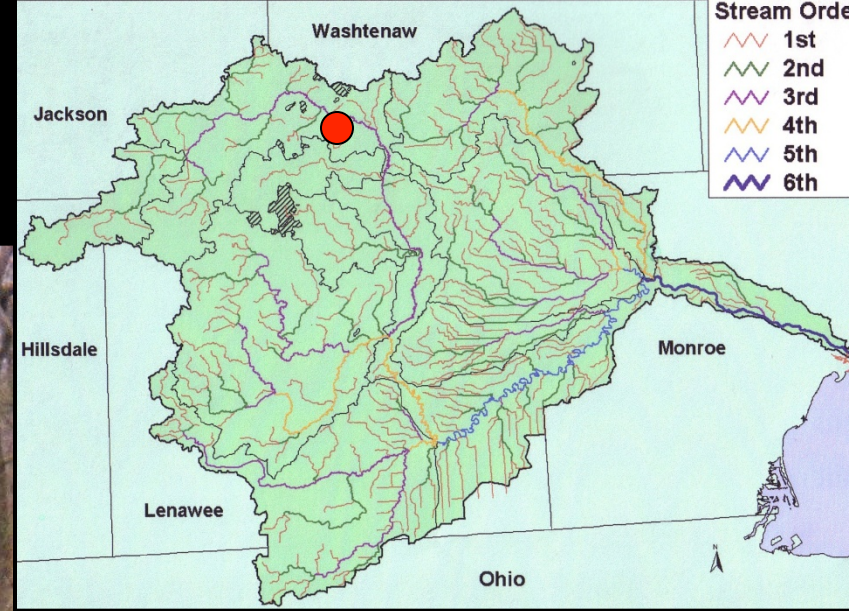
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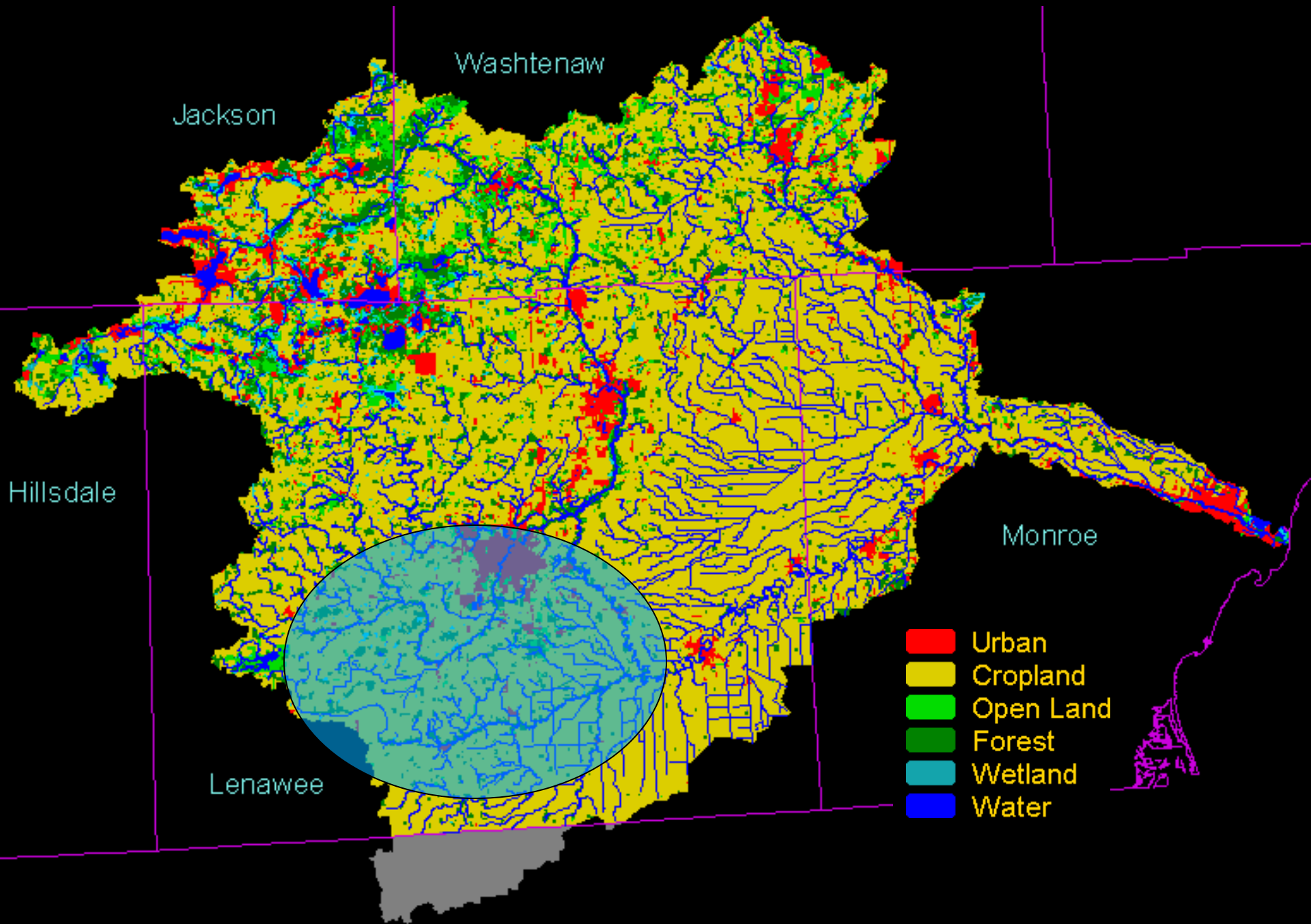
Fall 11



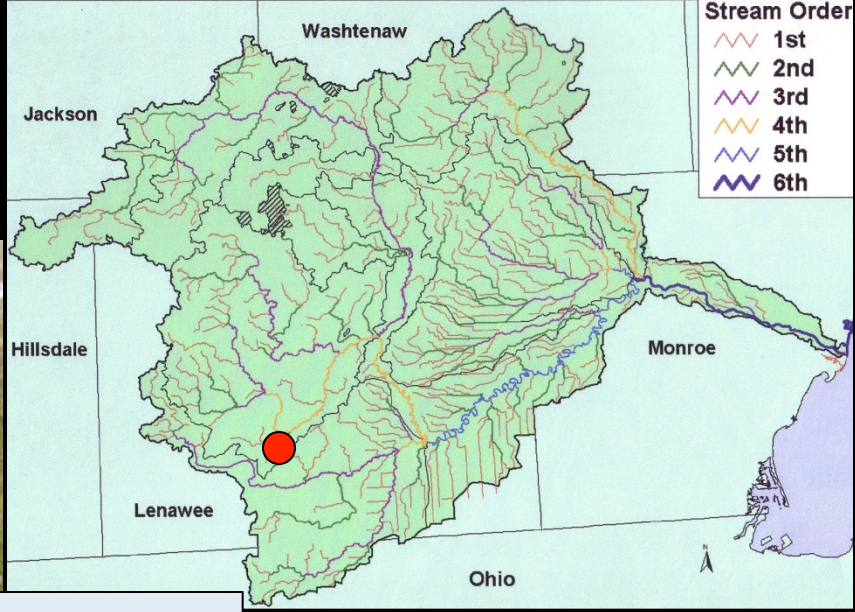
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158

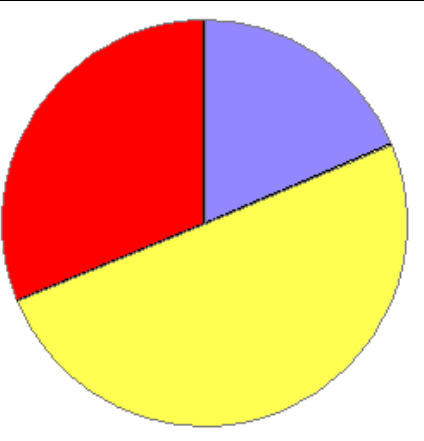




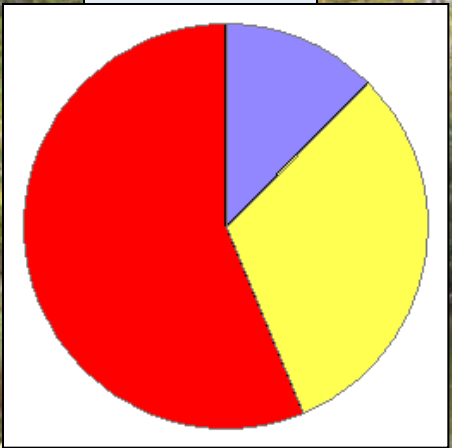
SBR2 – South Branch River Raisin (above Adrian)



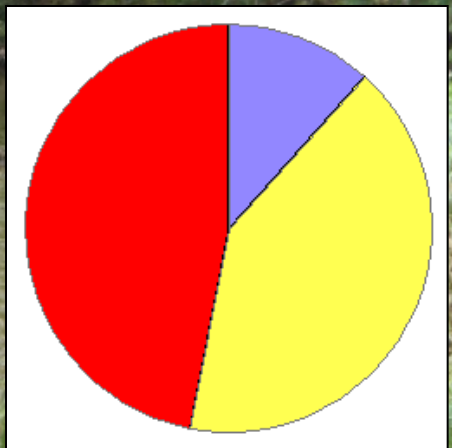
Spring 09



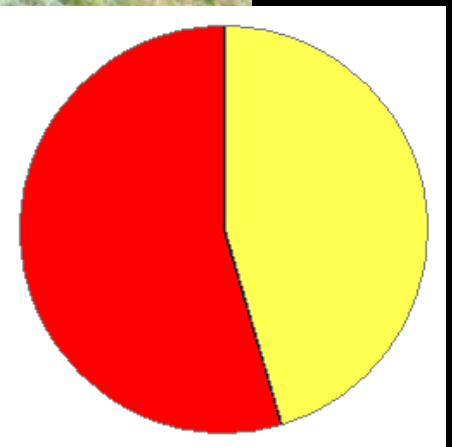
Fall 09



Spring 10



Fall 10



3:16

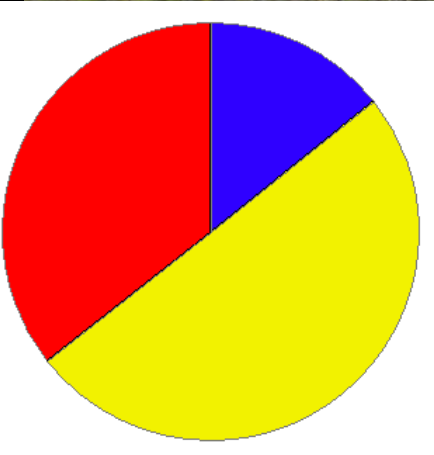
2:16

2:17

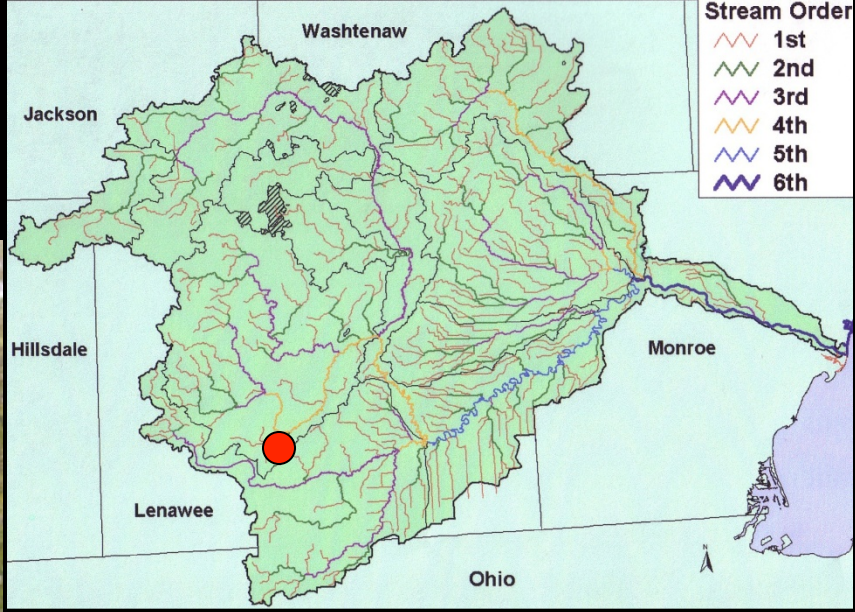
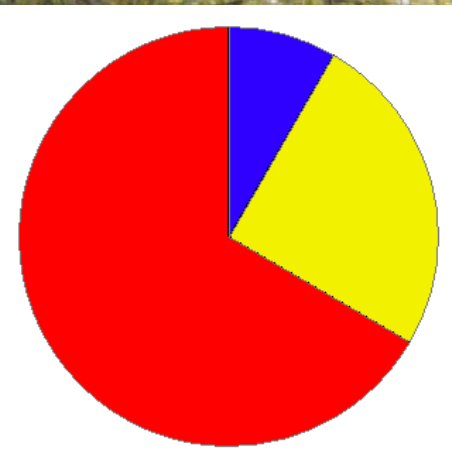
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SBR2 – South Branch River Raisin (above Adrian)

Spring 11



Fall 11

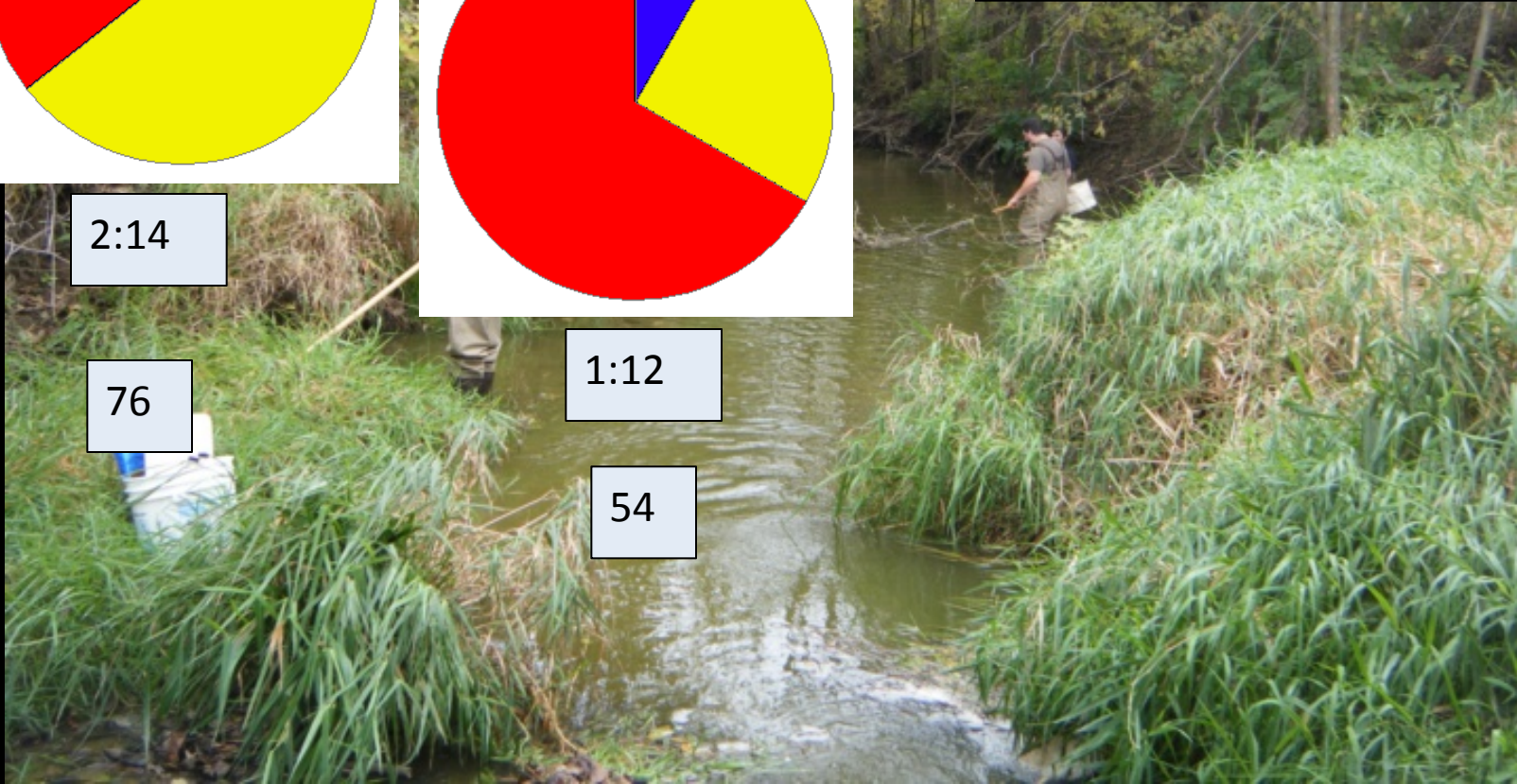


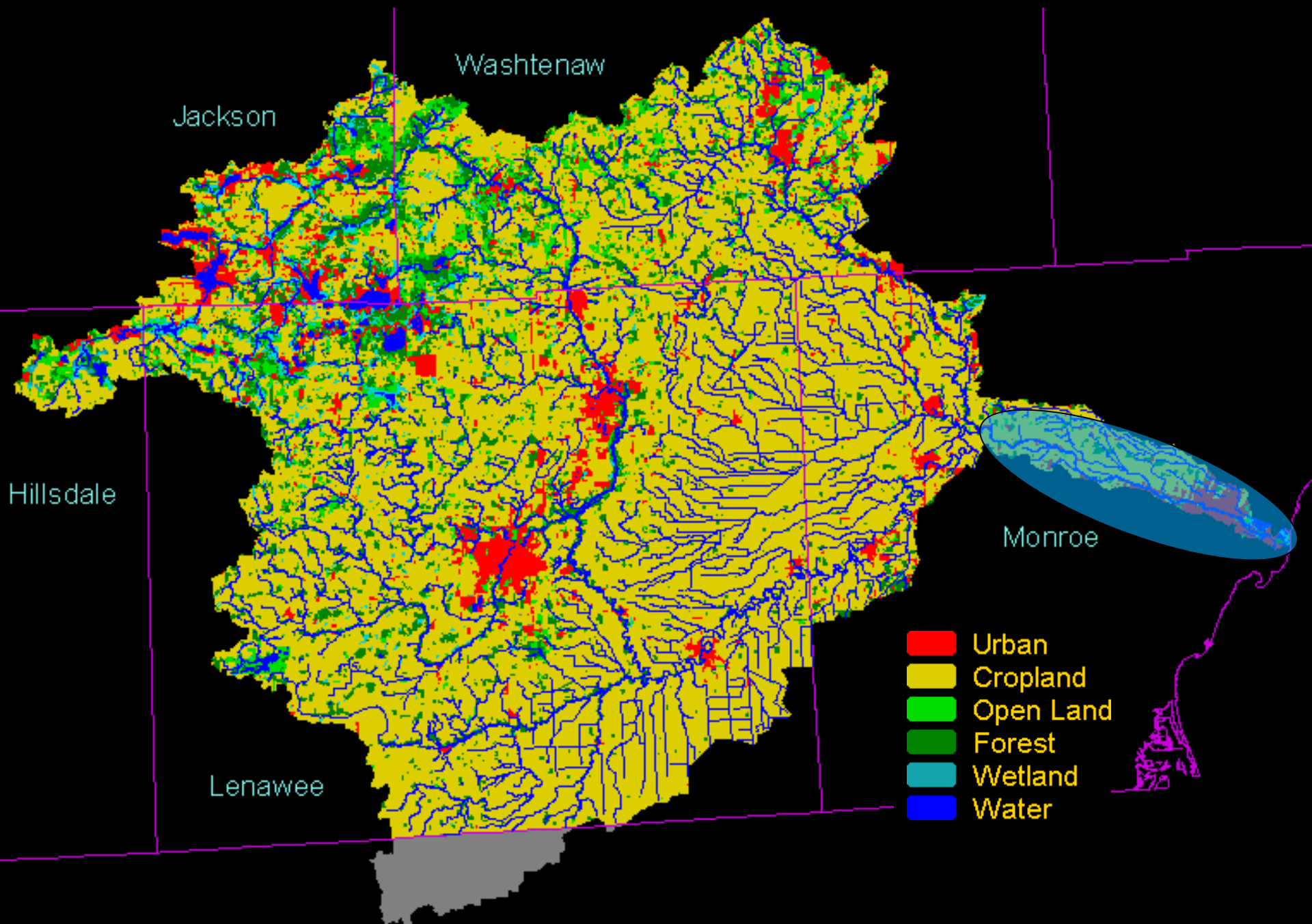
2:14

76

1:12

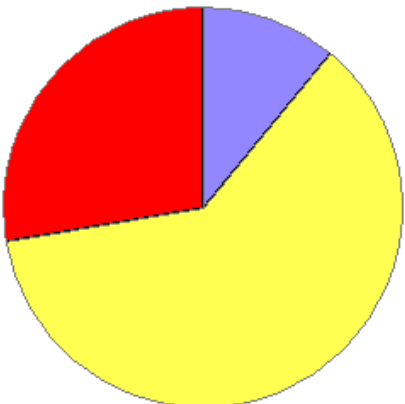
54





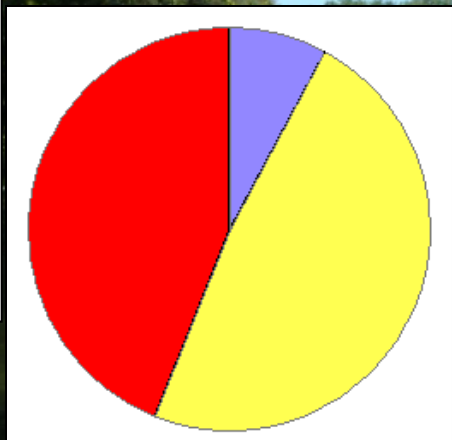
RR2 – Lower River Raisin (Ida-Maybe Road)

Spring 09



2:18

Fall 09



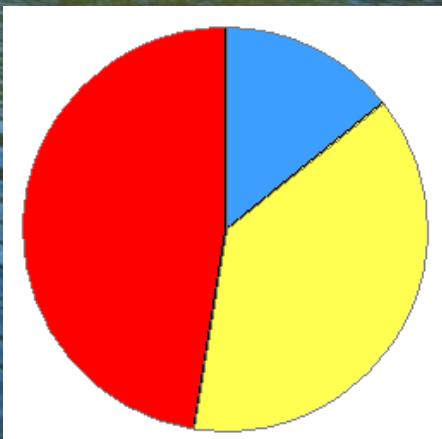
2:25

Spring 10

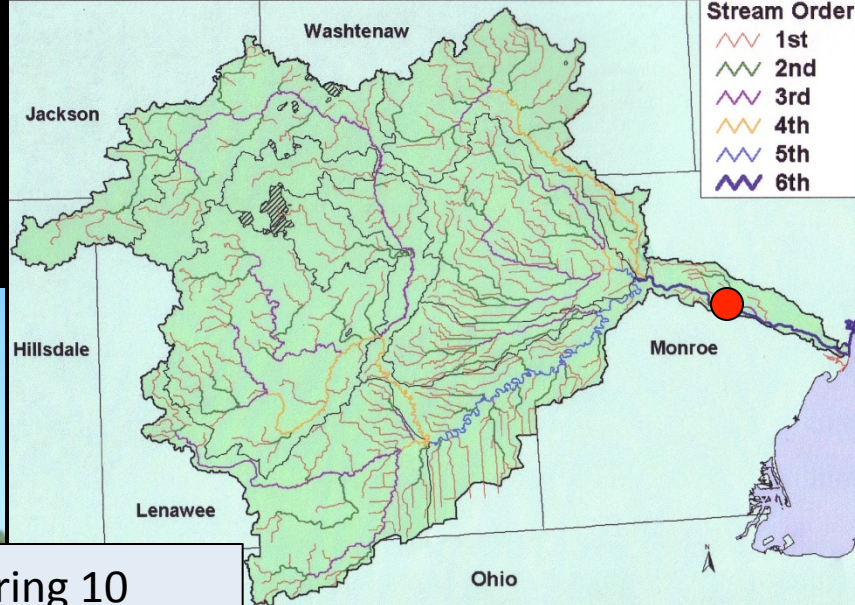


3:17

Fall 10



3:21

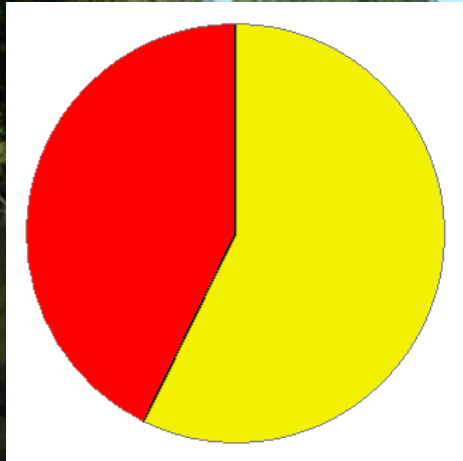


RR2 – Lower River Raisin (Ida-Maybe Road)

Spring 09

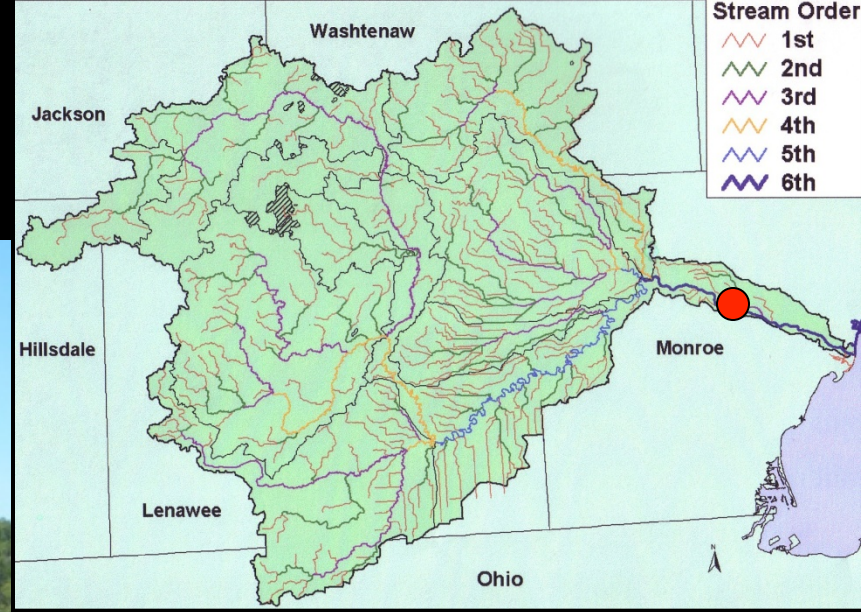
Fall 09

No Data



0:14

162



Activity Update

- Analyzing data in combined data-set from 2002-2014
- All raw data has now been compiled in an electronic format
- Incorporate GIS mapping of land-use into data analysis
- Multivariate statistical analysis to examine long-term trends in relation to weather

