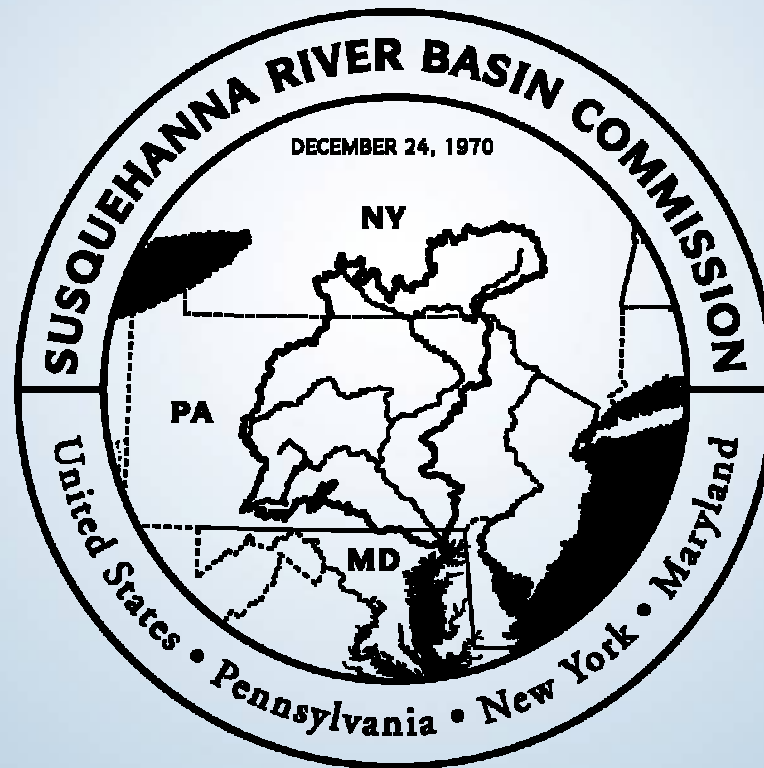


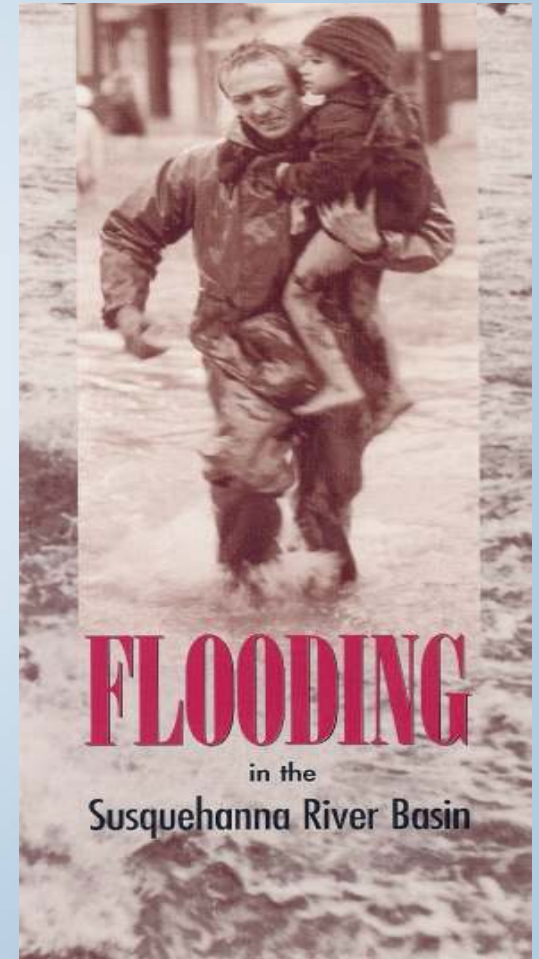
# Environmental Review of SRBC Water Withdrawal Applications



November 6, 2008  
Water Quality Advisory Committee

# Commission Programs

- Flood Forecast and Warning System
- Monitoring and Assessment
- Public Education and Outreach
- Water Resources Planning
- Drought Coordination
- Regulatory Program



# Commission Regulation

- Consumptive water use definition (§806.3)
  - The loss of water transferred through a manmade conveyance system or any integral part thereof (including such water that is purveyed through a public water supply system), due to transpiration by vegetation, incorporation into products during their manufacture, evaporation, *injection of water or wastewater into a subsurface formation from which it would not reasonably be available for future use in the basin*, diversion from the basin, or other process by which the water is not returned to the waters of the basin undiminished in quantity.

# Commission Regulations

- Projects requiring review and approval
  - Consumptive water use §806.4(a)(1)
    - 20,000 gpd/30-day average (600,000 gallons)
  - Approval by Rule §806.22(e)(i) public water supply
  - Water withdrawals §806.4(a)(2)(iii)
    - 100,000 gpd/30-day average (3,000,000 gallons)
    - Any project which involves a withdrawal from a groundwater or surface water source and which is subject to the requirements of §806.4(a)(1) regarding consumptive use.

# Commission Regulation (cont'd)

*Approval by rule for consumptive uses.*

-Consumptive water use §806.22(e)

Any project whose **sole source of water for consumptive use is a public water supply** withdrawal, may be approved under this paragraph (e) in accordance with the following, unless the Commission determines that the project cannot be adequately regulated under this approval by rule.

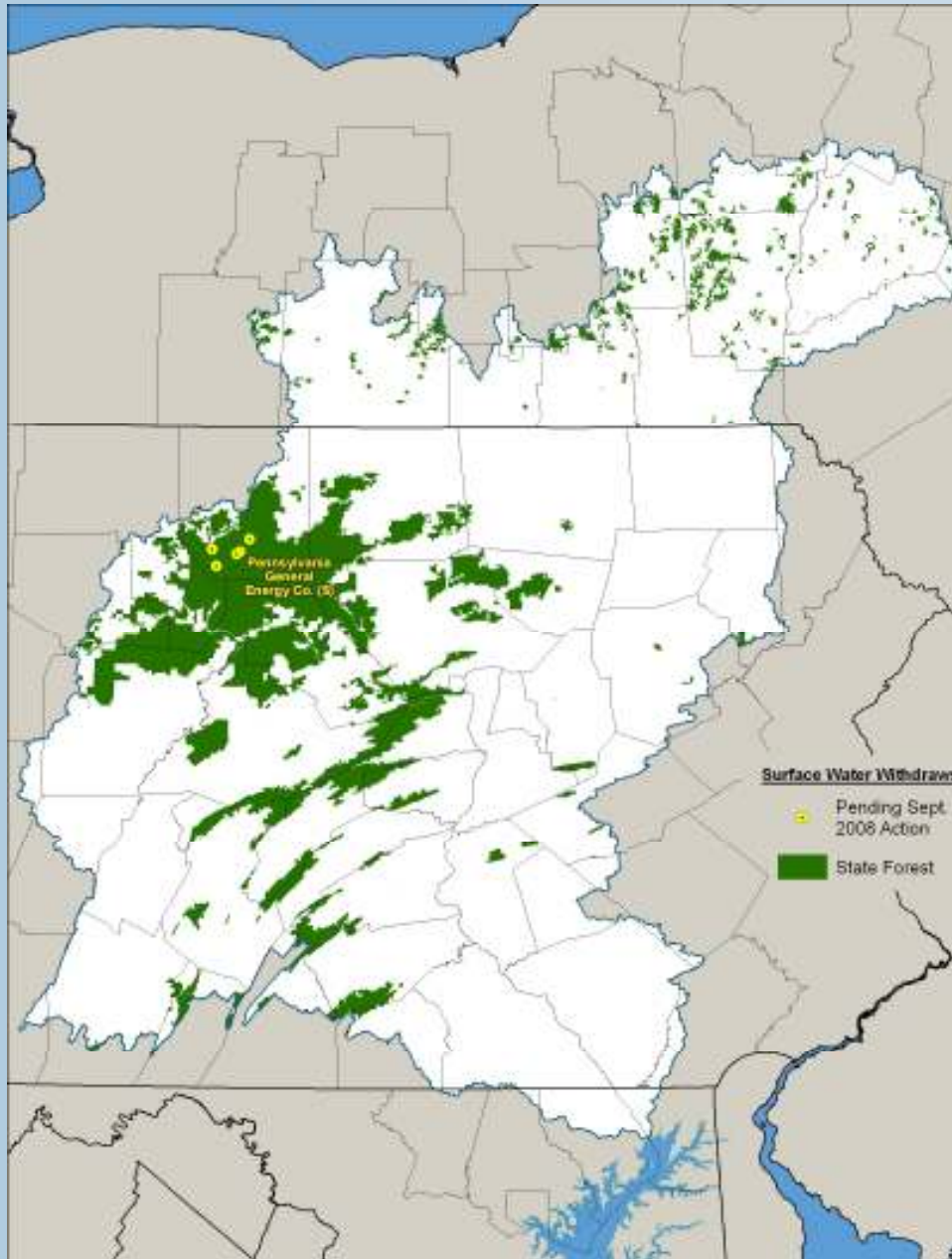
# Proposed Rulemaking

- Natural gas well development projects would be regulated on a drilling pad basis.
- It would allow for the use of wastewater discharge, mine pool water and other lesser quality waters, as well as other approved sources.
- Approvals would require metering, daily use monitoring and quarterly reporting, and must comply with the Commission's consumptive use mitigation requirements.
- Production fluids and brines utilized for subsequent fracs would have to be accounted for, but not included in the consumptive use calculation so as to incentivize re-use.
- Projects would be required to demonstrate compliance with state and/or federal law for the treatment and disposal of flow-back or produced fluids.
- Approvals would have a term of five years and be nontransferable.



# Coordination

- PADEP, NYSDEC, MDE, USACE, PFBC
- Federal Register
- Project sponsors required to notice the host state, county, and municipality, contact contiguous landowners, and publish locally

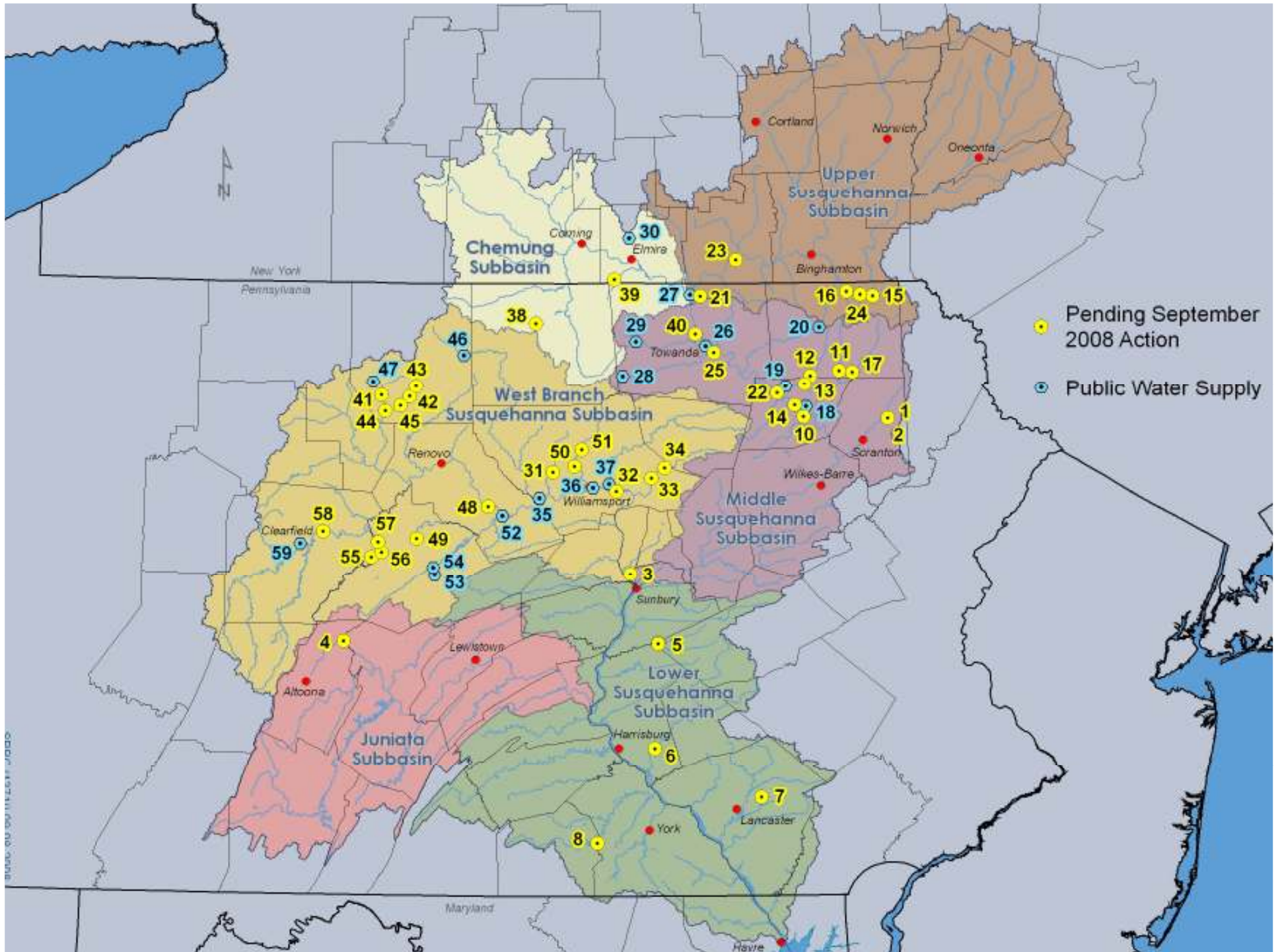


# Commission Regulation

## Water withdrawals §806.4(a)(2)(iii)

- (2) The Commission may deny an application, limit or condition an approval to ensure that the withdrawal will not cause significant adverse impacts to the water resources of the basin. The Commission may consider, without imitation, the following in its consideration of adverse impacts: **Lowering of groundwater or stream flow levels; rendering competing supplies unreliable; affecting other water uses**; causing water quality degradation that may be injurious to any existing or potential water use; **affecting fish, wildlife or other living resources or their habitat**; causing permanent loss of aquifer storage capacity; or **affecting low flow of perennial or intermittent streams**.

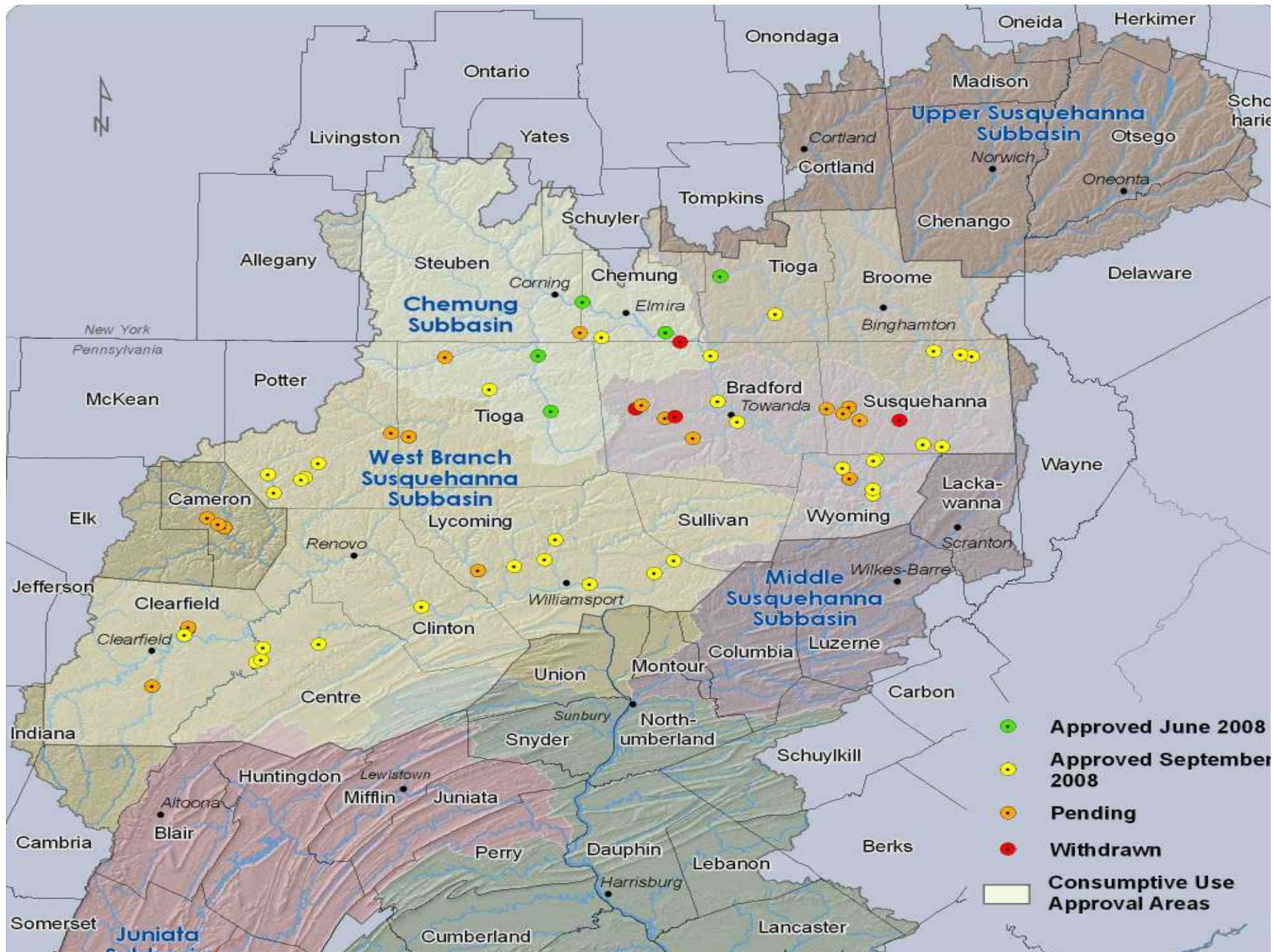




- Pending September 2008 Action
- Public Water Supply

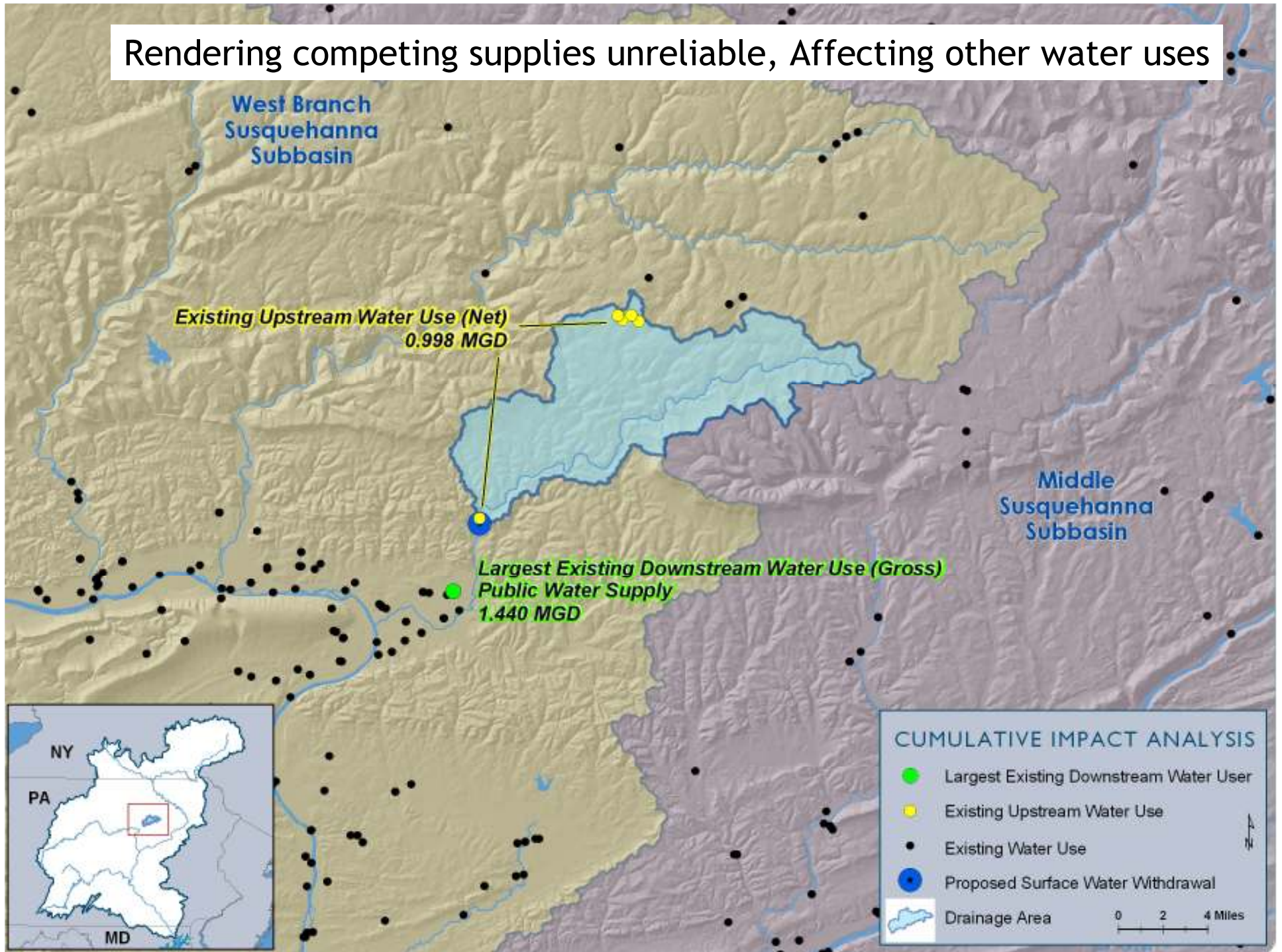
00000-110711-00-00-0000







# Rendering competing supplies unreliable, Affecting other water uses



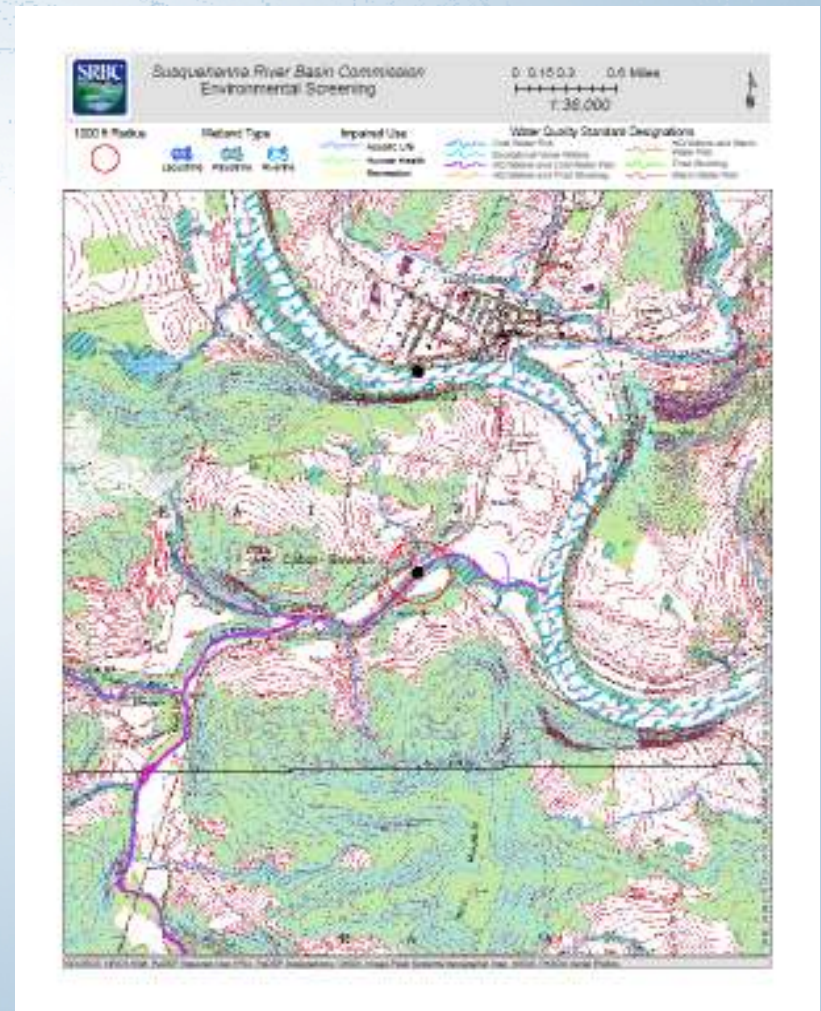


# Affecting fish, wildlife or other living resources or their habitat



# Environmental Screenings

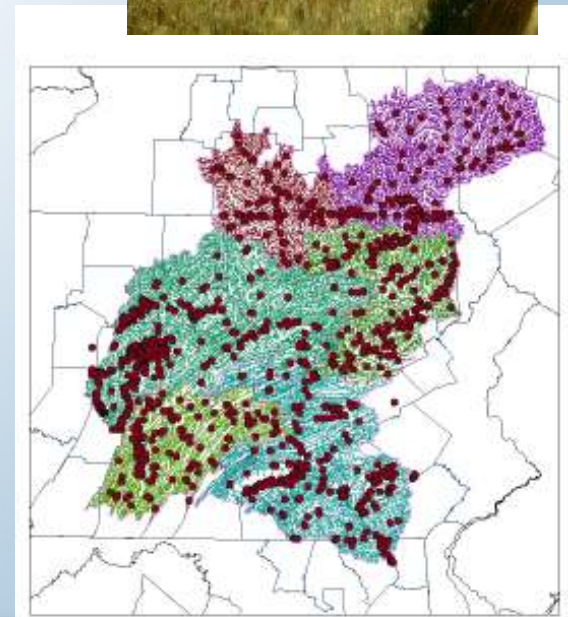
- Surface and Groundwater Withdrawals
- Stream Classifications
  - Special Protection
  - Wild Trout Fishery
- 303(d) List or PWL Status
  - Type of Impairment
  - TMDL Development





# Environmental Screenings - continued

- Adjacent Wetlands
- Wild/Scenic Rivers
- Natural Diversity Inventory Search
  - PFBC
  - PADCNR
  - USFWS
  - PGC
- Any Additional Water Quality Issues
  - Aquatic Nuisance Species





# Aquatic Resource Surveys

- No data available
- Obsolete information
- Special protection stream
- Background data
- Correct protection level
- Pass-by occurrence



# Aquatic Resource Surveys - Protocol

- Basic site information
- Macroinvertebrates
  - D-frame nets
  - ICE protocol
  - Genus level ID
- Fish
  - Depletion surveys
  - Community Structure
  - ID, enumeration, measurements
  - PFBC/PADEP hybrid

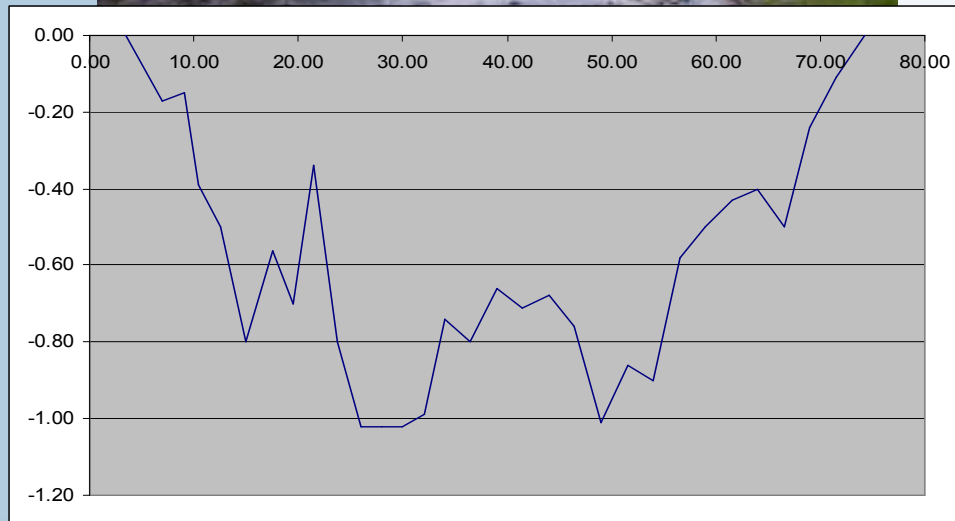




# Aquatic Resource Surveys - Protocol



- Discharge measurements
- Physical habitat assessment
  - RBP parameters
  - Substrate types
- Water chemistry
  - DO, pH, conductivity, temperature, alkalinity
- Photographs



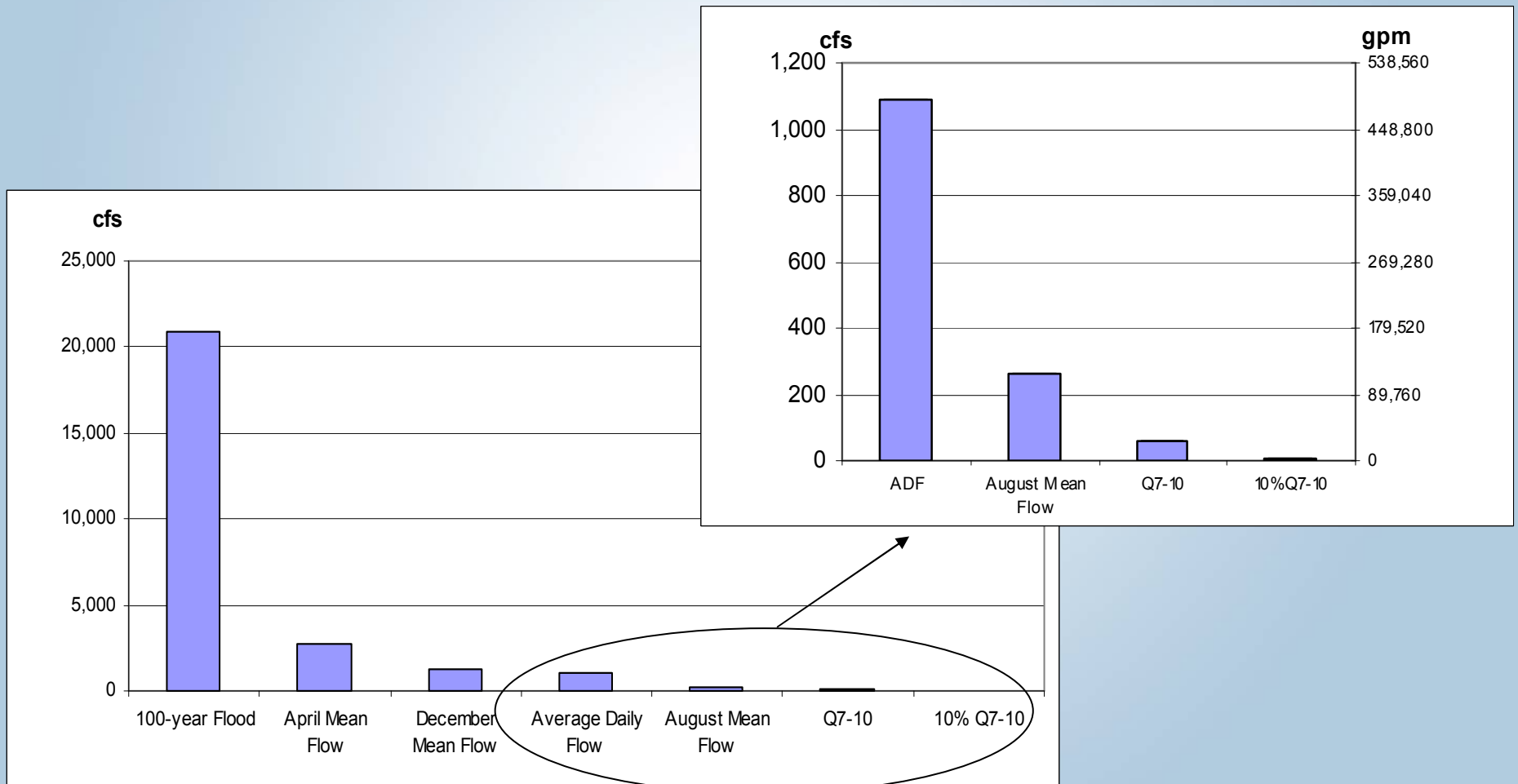
# Aquatic Resource Surveys - Results



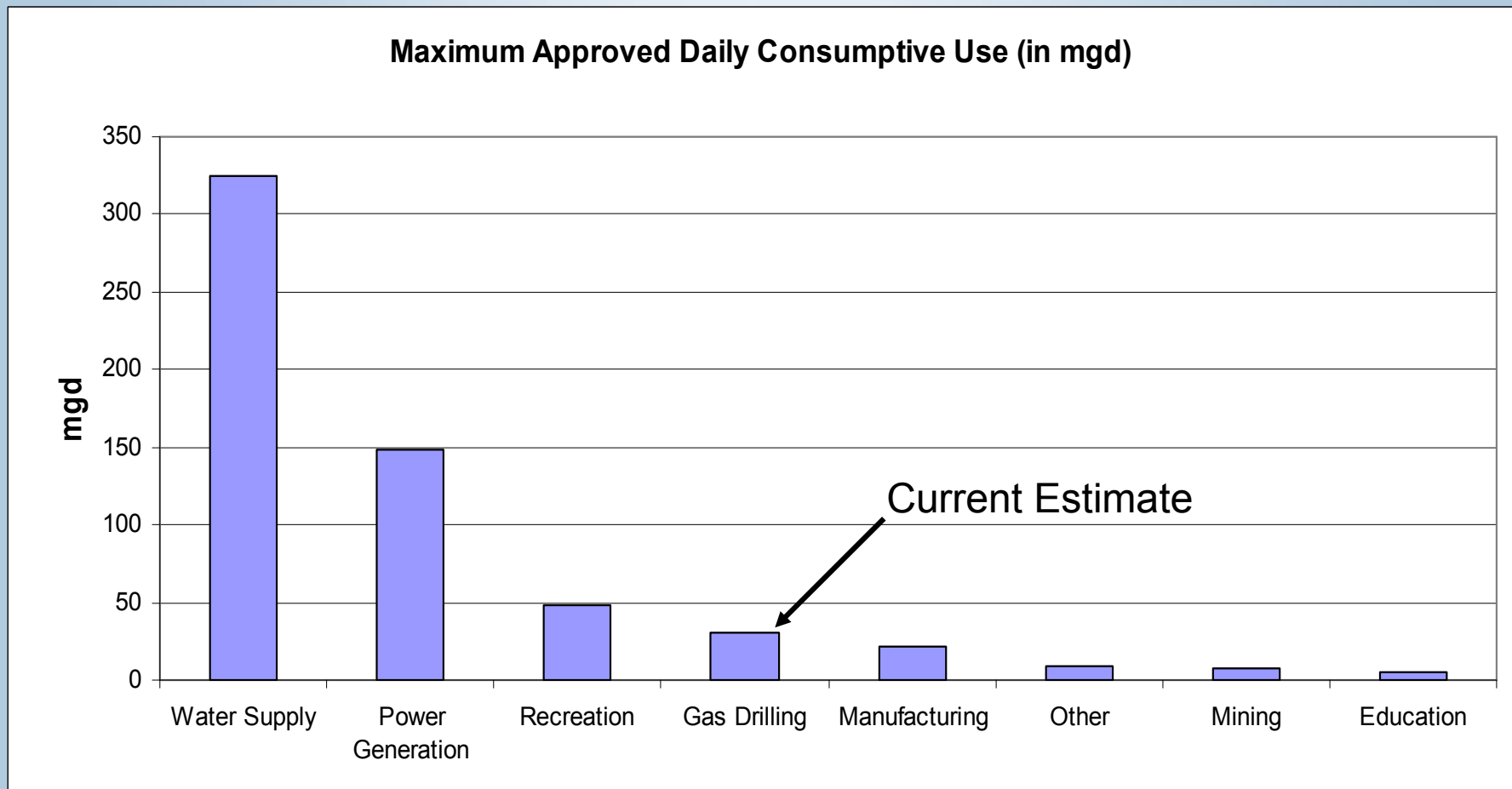
- Ensure correct protection level
- Possible stream re-designation
- Database expansion
- Background data for enforcement

Common Name	Scientific Name	Pass 1	Pass 2	Pass 3	Total
rainbow trout	<i>Oncorhynchus mykiss</i>	3	1	0	4
brown trout	<i>Salmo trutta</i>	29	8	9	46
brook trout	<i>Salvelinus fontinalis</i>	0	1	0	1
smallmouth bass	<i>Micropterus dolomieu</i>	2	0	0	2
white sucker	<i>Catostomus commersoni</i>	26	16	9	51
mottled sculpin	<i>Cottus bairdi</i>	51	33	36	120
marginated madtom	<i>Noturus insignis</i>	9	5	3	17
banded darter	<i>Etheostoma zonale</i>	3	2	2	7
river chub	<i>Nocomis micropogon</i>	17	2	2	21
fallfish	<i>Semotilus corporalis</i>	1	6	2	9
creek chub	<i>Semotilus atromaculatus</i>	2	2	4	8
central stoneroller	<i>Camptostoma anomalum</i>	0	4	3	7
cutlips minnow	<i>Exoglossum maxillingua</i>	24	15	4	43
longnose dace	<i>Rhinichthys cataractae</i>	29	20	15	64
blacknose dace	<i>Rhinichthys atratulus</i>	116	36	34	186
common shiner	<i>Luxilus cornutus</i>	0	1	1	2
	Total =	312	152	124	588

# Affecting low flow of perennial or intermittent streams



# Maximum Daily Consumptive Use







5.7 miles

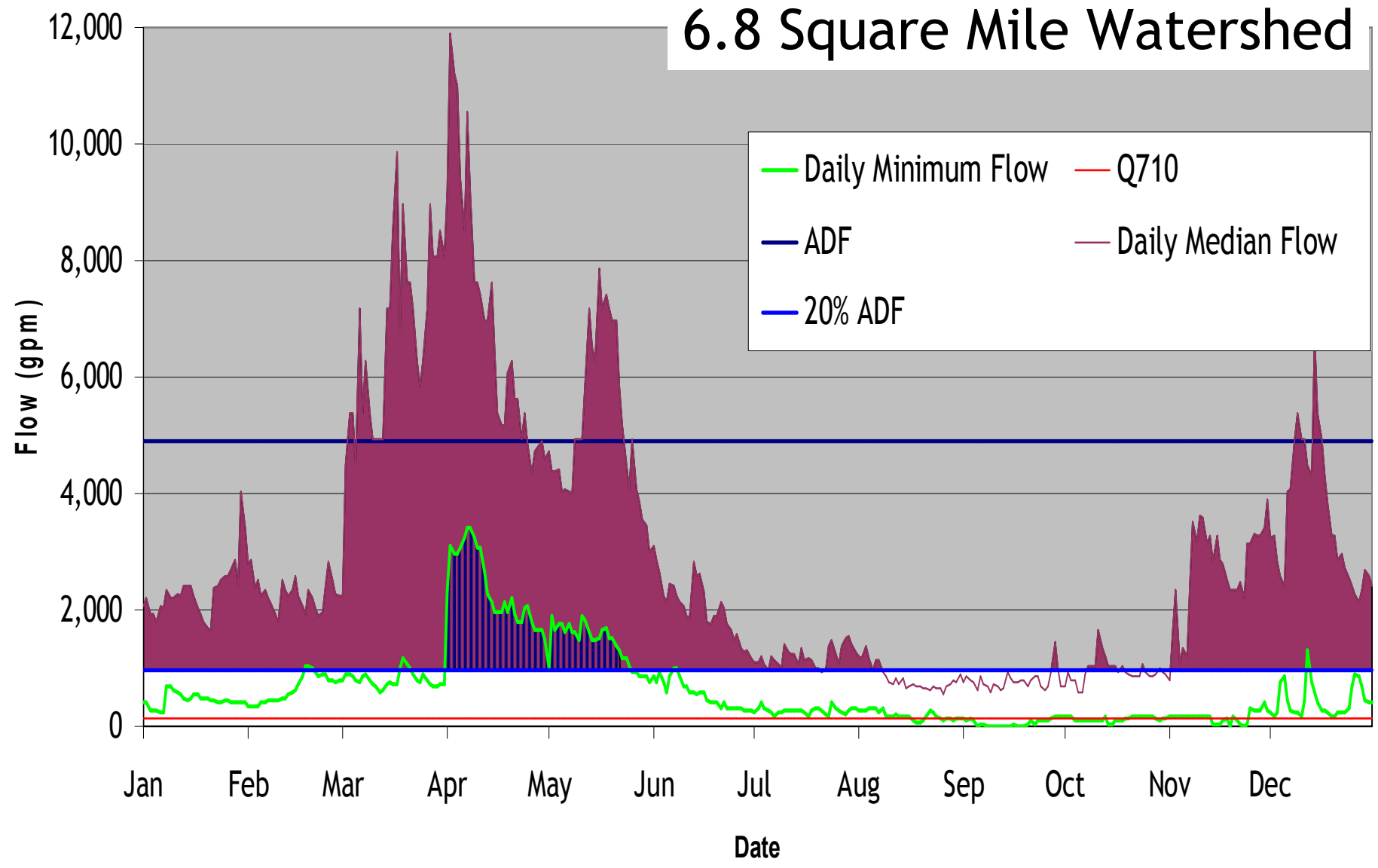




1.4 miles



# 6.8 Square Mile Watershed

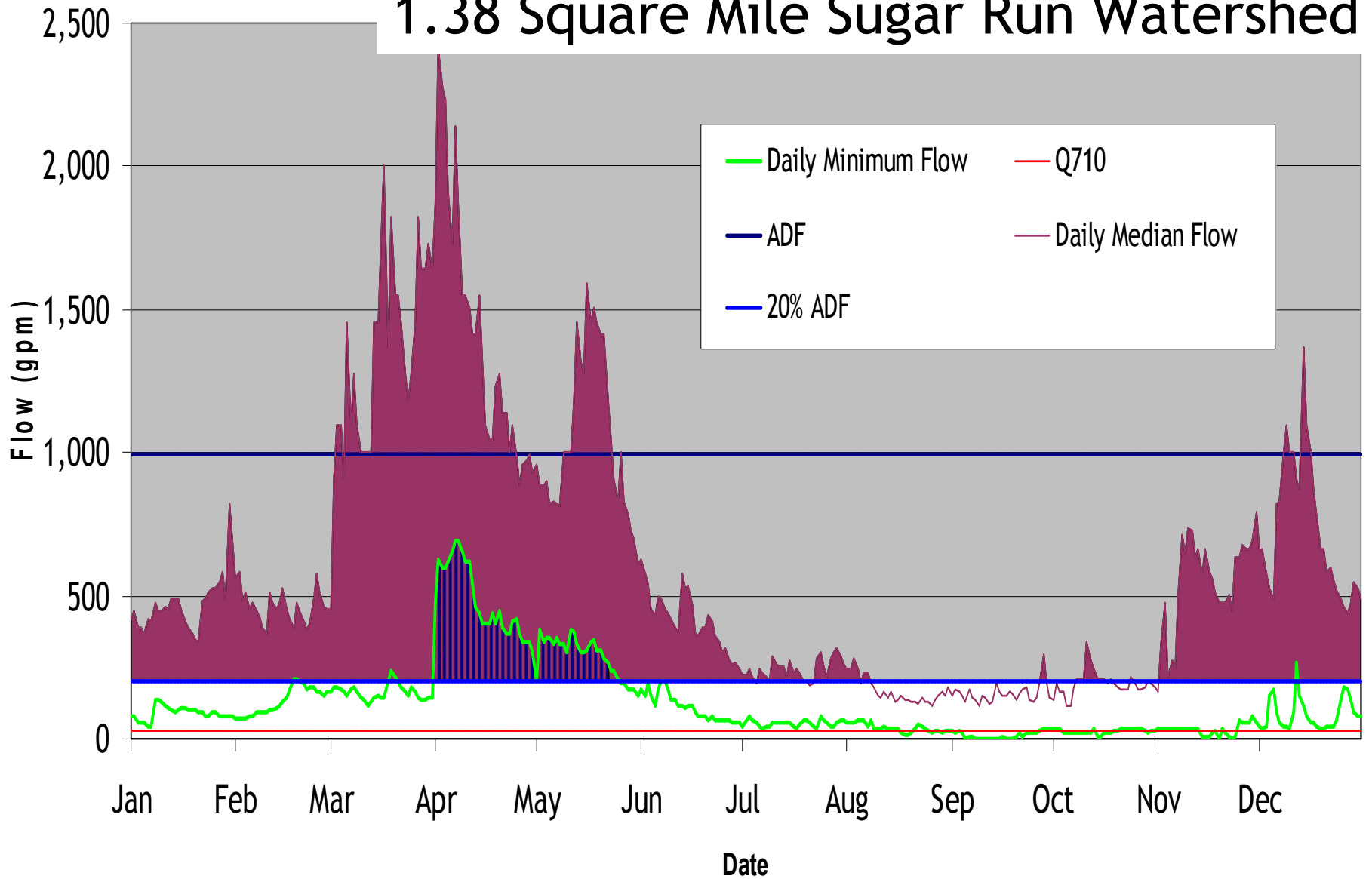




0.5 miles



# 1.38 Square Mile Sugar Run Watershed





# Environmental Review of SRBC Surface Water Withdrawals

Jennifer Hoffman

Section Chief, Monitoring & Assessment

717-238-0426 x 111

[jhoffman@srbc.net](mailto:jhoffman@srbc.net)



November 6, 2008