

Use of Screening Tool for Water Planning in Pennsylvania

William A. Gast

Chief, Division of Water Use Planning
PA Dept. of Environmental Protection

Email: wgast@state.pa.us

Phone: 717-772-4048

Water Resources Planning Act

- Act 220 - Dec 16, 2002
- Update of State Water Plan in 5 years and every 5 years thereafter
- Statewide data system
- Water use registration and reporting – public water supply, hydropower, withdrawals/uses > 10,000 gpd
- Water conservation technical assistance center

State Water Plan

- General plan contents
 - 16 elements
 - 9 considerations
- Six regional committees – 21-22 voting members
- Statewide Water Resources Committee – 24 voting members
- Critical Water Planning Areas

Critical Water Planning Areas

- Significant hydrologic unit where existing or future demands exceed or threaten to exceed the safe yield of available water resources
- Critical Area Resource Plans (CARPs)
- Criteria document under development

Significant Hydrologic Unit

- Generally, 15 square miles or larger
 - Limitations of USGS regression techniques
 - Consideration of broader watershed issues in Critical Area Resource Plan development
 - Multi-municipal participation in CARP

Existing or Future Demands

- Water use registrations – baseline data
- Projections – DRBC / consulting contractor
- Five-year for early identification
- Fifteen-year for identification in SWP process

Safe Yield of Available Water Resources

- Water available for withdrawal uses based upon water required for non-withdrawal or instream uses
- Assume during low flow conditions, ground-water withdrawals represent an equal reduction in surface water flow
- Withdrawal uses based upon total net unmitigated withdrawals from watershed
- Aquatic resources frequently determinative of instream flow requirements

Aquatic Resource Uses

- Class A carbonate trout streams – 5% habitat loss (surrogate 30% Q_{7-10} as total withdrawal)
- Class A noncarbonate trout streams – 5% habitat loss (surrogate 50% Q_{7-10} as total withdrawal)

Aquatic Resource Uses

- Class B trout streams – 10% habitat loss
- Class C and D trout streams – 15% habitat loss
- Protect against repeated acute dewatering of stream reaches (surrogate 50% Q_{7-10} as total withdrawal)

USGS Water Budget Tool

- GIS-based watershed budget tool
- Pour point hydrologic statistics based upon Q_{7-10} or percentage thereof
- Screening tool for preliminary identification of CWPAAs or areas requiring more detailed attention in the planning process