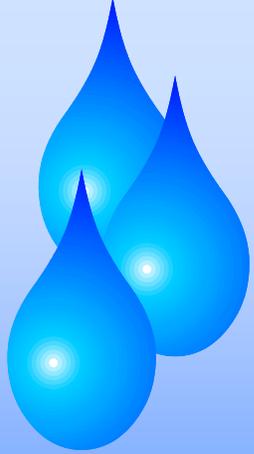


Partnerships: The Key to Successful Volunteer Monitoring Ventures in Pennsylvania

Cheryl Snyder

Citizens' Volunteer Monitoring Program

**Pennsylvania Department of
Environmental Protection**

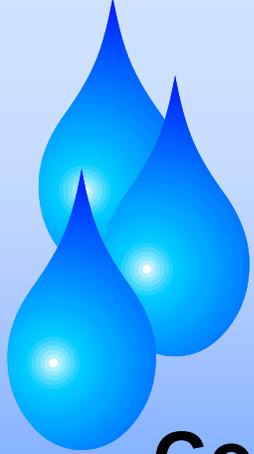


Volunteer Monitoring in Pennsylvania

180+ known groups

- **Watershed Associations**
- **Senior Environment Corps**
- **Lake Associations**
- **School groups**





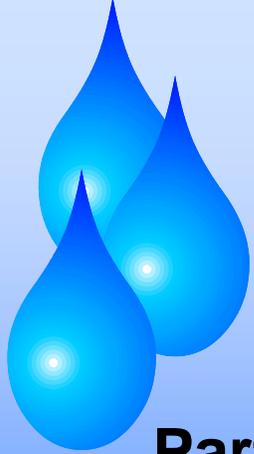
Citizens' Volunteer Monitoring Program (CVMP)

Goals

- **Help citizens know their water resources better**
- **Give DEP a better understanding of water resources by showing volunteers collect quality data**

Activities

- **Technical assistance and guidance**
- **Watershed Snapshot**
- **Study design**
- **Workshops and conferences**



CVMP Lake Program

**Partnership between Clean
Lakes, CVMP, volunteers**

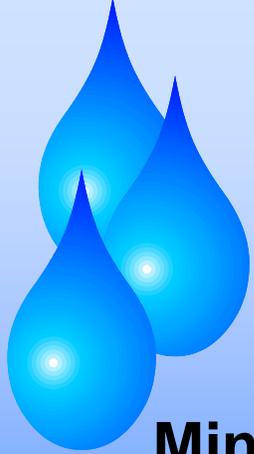
Includes:

- **Water quality sampling**
- **Aquatic plant mapping**

Future may include:

- **Bacteria sampling**
- **Fishery info**





CVMP Lake Program - WQ Sampling Regime

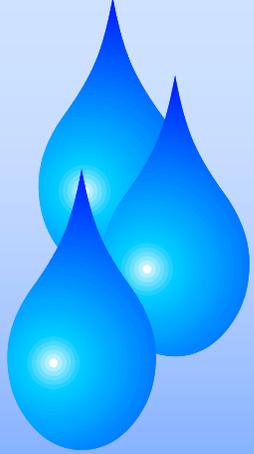
Minimum 3X/year

- Deepest and other
- 1m below surface and 1m above bottom
- Before noon

Collect in situ:

- Dissolved oxygen
- Water temperature
- pH
- Secchi depth





CVMP Lake Program - WQ Sampling Regime

Collect for lab analysis:

- **Total nitrogen**
- **Total phosphorus**
- **Total suspended solids**
- **Alkalinity**
- **Chlorophyll a**

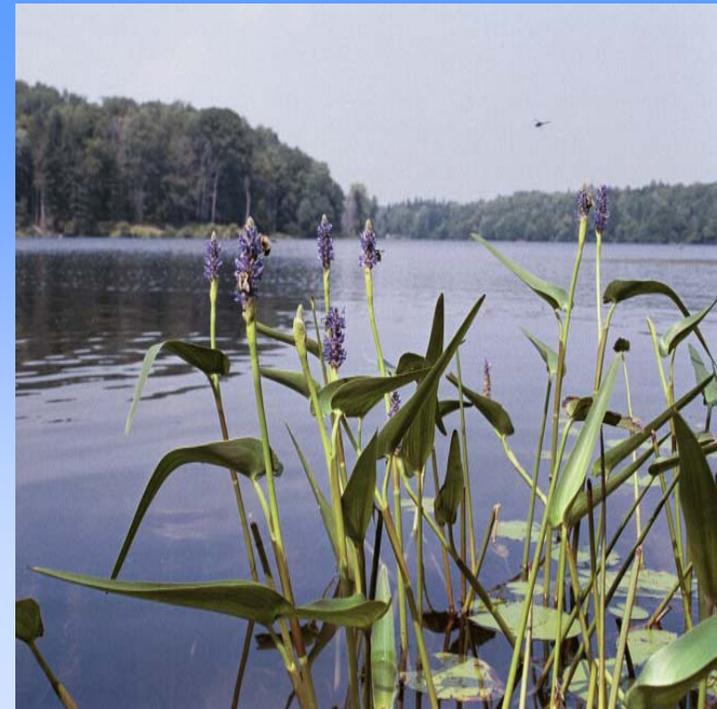


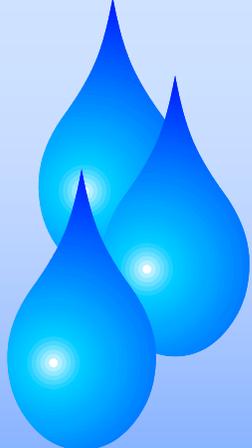


CVMP Lake Program - Macrophyte Surveys

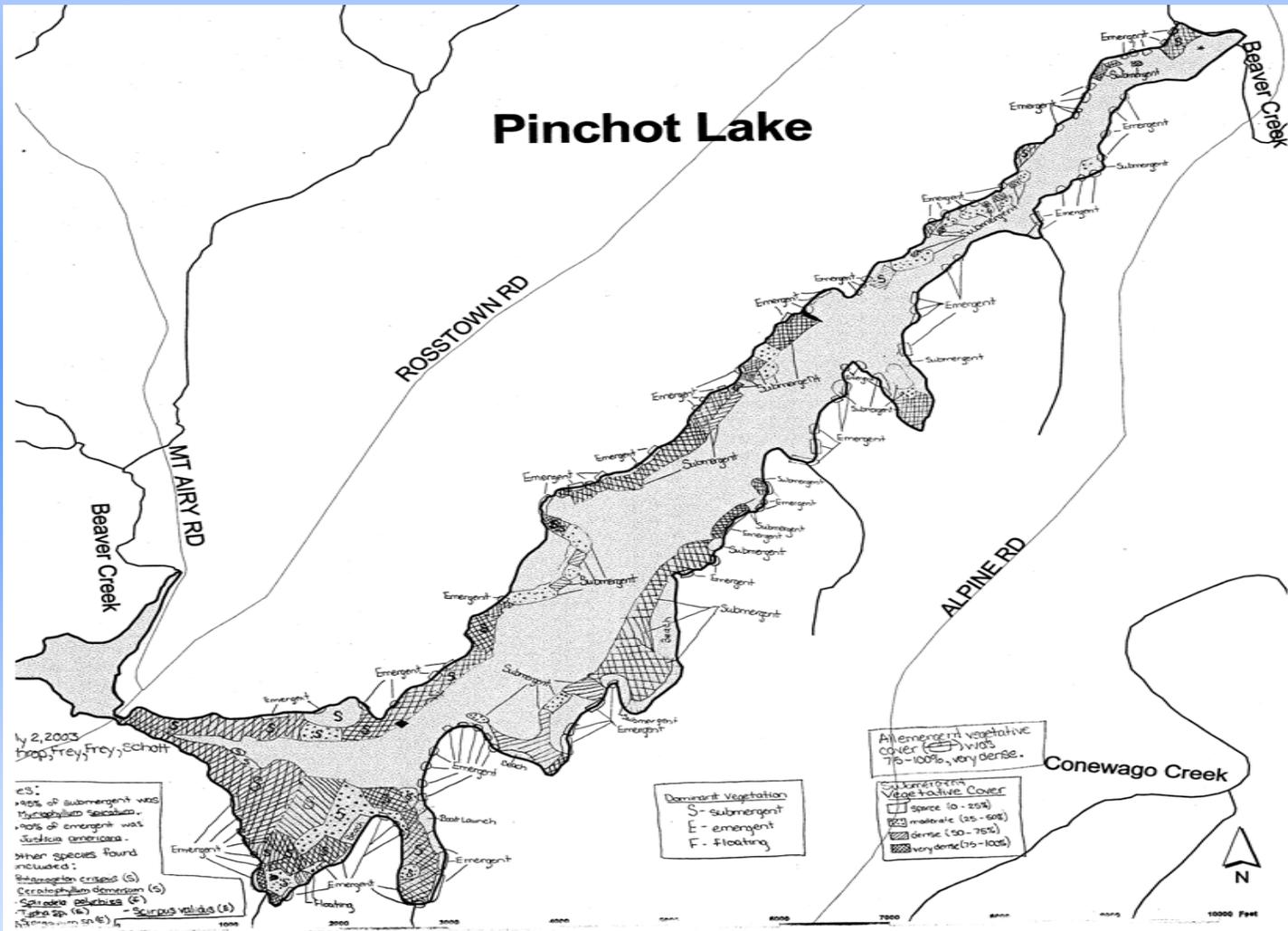
On an outline of the lake shoreline, mark the coverage and density of:

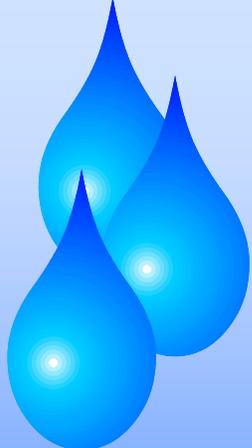
- **Floating plants (F)**
- **Submerged plants (S)**
- **Shoreline (emergent) plants (E)**





CVMP Lake Program - Aquatic Plant Map





Bacteriological Monitoring Project

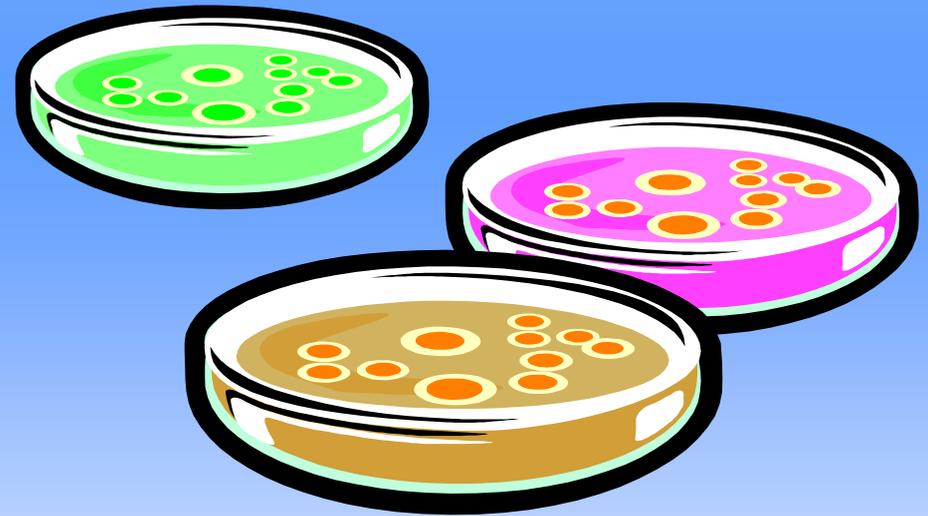
Partnership between
Assessments and
Standards, CVMP,
volunteers

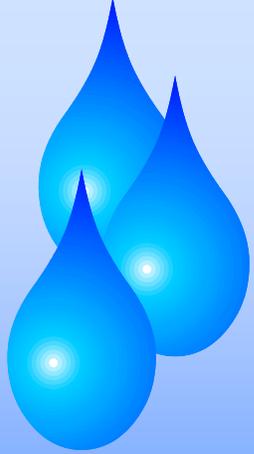
400 stream segments

- 2 sites per segment
- 2 thirty day periods – 5 grabs

Bacterial indicators

- Fecal coliforms
- *E. Coli*
- *Enterococci*





Bacteriological Monitoring Project

2001 - Philadelphia SEC and DEP pilot

2002 - Five volunteer groups trained

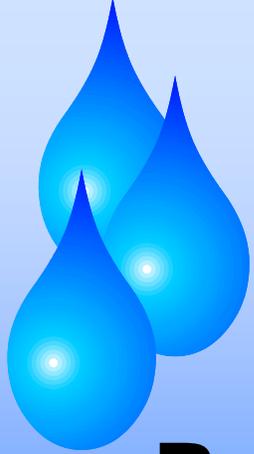
2003 - Seven volunteer groups trained



Bacteriological Monitoring Project

Results:

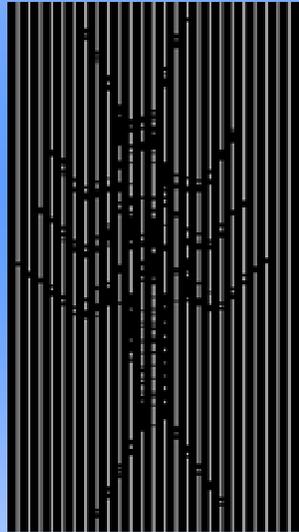
- **Philadelphia Sewer Authority working cooperatively with SEC to identify leaking sewer lines**
- **Data reviewed for use in 305(b)/303(d) process**
Data used from two groups for listing, others need more info

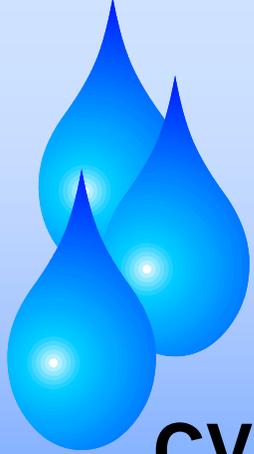


Pennsylvania Senior Environment Corps (PaSEC)

Partnership between DEP, Aging and EASI

- **25 Senior Environment Corps**
- **Monthly sampling – Physical, Chemical**
- **Twice a year – Macroinvertebrates, Habitat**



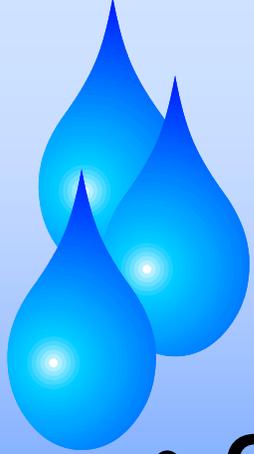


Pennsylvania Senior Environment Corps (PaSEC)

CVMP provides technical assistance and guidance:

- **Field manual / training manual**
- **EPA approved QAPP**
- **Trainings - designated trainers**
- **Database**
- **Partnerships - intergenerational**

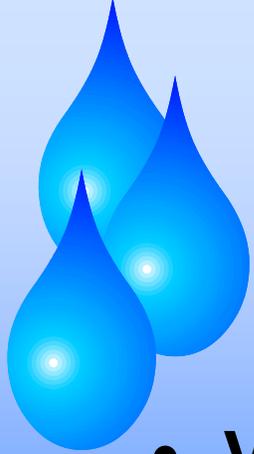




Challenges

- **Old attitude that only pros can do the job**
- **Money and staff needs**
- **Coordinating within and outside the agency**





Overcome Challenges



- **Visionary leadership**
- **Support since late 1996 (319 funding)**
- **Watershed Stewardship Act of 1999**
- **CVMP liaison within Department**
- **CVMP partnering with agency programs**
- **CVMP partnering with volunteers and service providers**

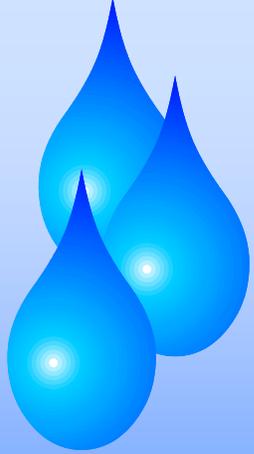


Program Benefits

State:

- **Manpower in a time of decreasing staff**
- **Volunteers provide eyes in areas not covered (83,161 mi)**
- **Lasting partnerships**



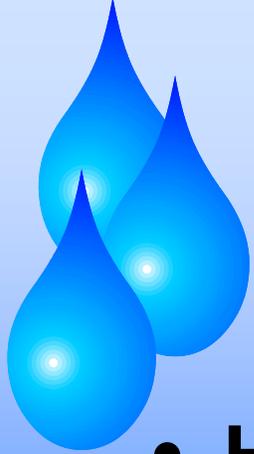


Program Benefits

Volunteers:

- Leaving a legacy for others
- Helping to reach goals, protect resources
- Access to equipment / expertise

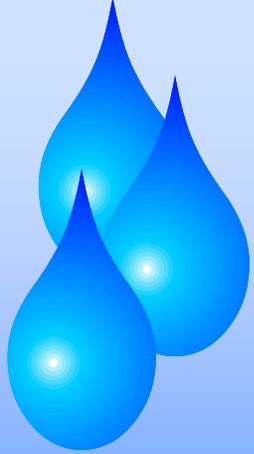




Lessons Learned

- **Have clear goals in mind – what will happen to data?**
- **Make sure volunteers know what is expected of them**
- **Some volunteers like “cookbook” approach, others want to design projects**





Volunteer Monitoring Makes a Difference

- Identifies and solves problems locally
- Involves people in real science
- Raises awareness
- Creates an informed constituency that knows the powers and limitations of science



