



# Natural Gas and Water Access

**John Arway, Executive Director**

**Mission:** To protect, conserve, and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities



- Mission: Protect, conserve, and enhance the Commonwealth's aquatic resources\* and provide fishing and boating opportunities
- Aquatic Organism = fish, amphibians, reptiles, and “any plant or animal that grows or lives in or upon the water”

# Rely on Fishing Licenses, Boat Registrations, and Related Federal Funds to do Almost Everything we do . . .



## PENNSYLVANIA BOATING HANDBOOK



[www.fishandboat.com](http://www.fishandboat.com)

PA's Fishing & Boating Opportunities

**SOUTHEAST REGION GUIDE**

Counties: Berks, Bucks, Chester, Delaware, Lancaster, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill

[www.fishandboat.com](http://www.fishandboat.com)



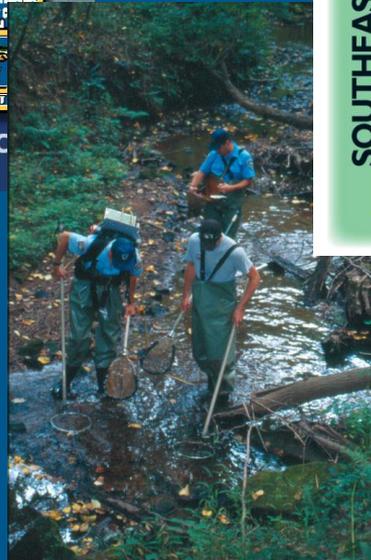
Pennsylvania Fish & Boat Commission

## 2010 Annual Report

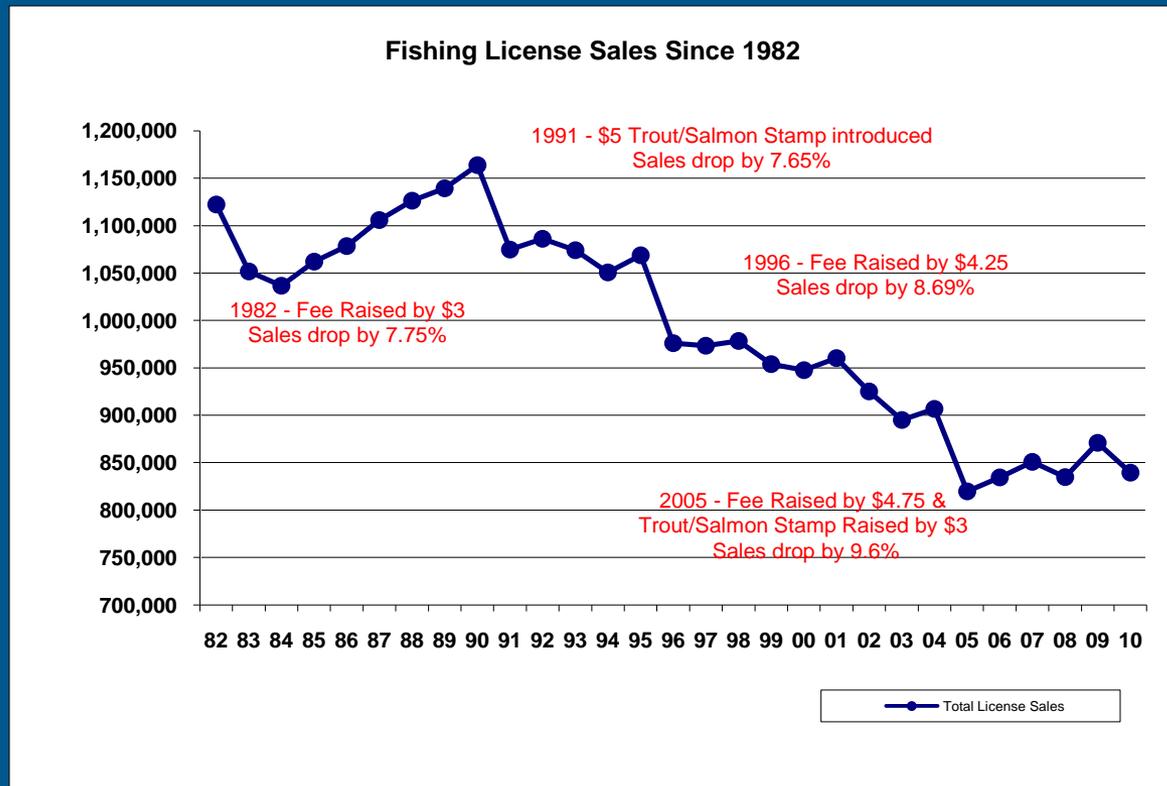


[www.fishandboat.com](http://www.fishandboat.com)

### SNAKES of Pennsylvania



# Declining License Sales



# Alternative Funding: Four Major Concepts



# License Flexibility

**PENNSYLVANIA FISHING LICENSE**  
This side must be displayed on an outer garment.

 **11**  
**RESIDENT**

SIGNATURE \_\_\_\_\_  
License valid for PA Residents only License Not Valid Until Signed P1

My signature certifies under penalty of law, the information contained on this license is true and correct.

**PENNSYLVANIA FISH & BOAT COMMISSION**

Issued: 05/02/2011 10:32 Agent: 000323 Trans: 001191614 Terminal: 4879722  
**DO NOT DETACH**

**CID#: 006-194-849**

**FISH N BOAT**  
1601 ELMERTON AVENUE  
HARRISBURG, PA 17110 USA  
DOB: 05/05/1977 F 6'2" GREEN

101 RESIDENT ANNUAL  
152 COMBO TROUT/SALMON LAKE EPIE

 006194849

NON-REFUNDABLE - DO NOT LAMINATE  
EXPIRES 12/31/11 UNLESS OTHERWISE NOTED

Issued: 05/02/2011 10:32 Agent: 000323 Trans: 001191614 Terminal: 4879722 \*\*\*



# Reimbursement for Commission Services

## 20,000 Envelopes

257 US ACOE 404  
Permits

13 DEP Water Allocation  
Permits

2900 PNDI  
Reviews

325 Triploid  
Grass Carp  
Permits

50 PennDOT Projects  
(including 130 Stream and  
Wetland encroachments)

69 Blasting Permits

623 DEP Stream and  
Wetland Encroachment  
Permits

902 Aquatic Herbicide  
Permits

680 Timber Rattlesnake Hunt  
Permits

2 FERC Hydropower Licenses

135 Scientific Collectors  
Permits

99 Lake Drawdown  
Permits

12 Landfill  
Projects

142 Mining Permits

*Numbers per year*

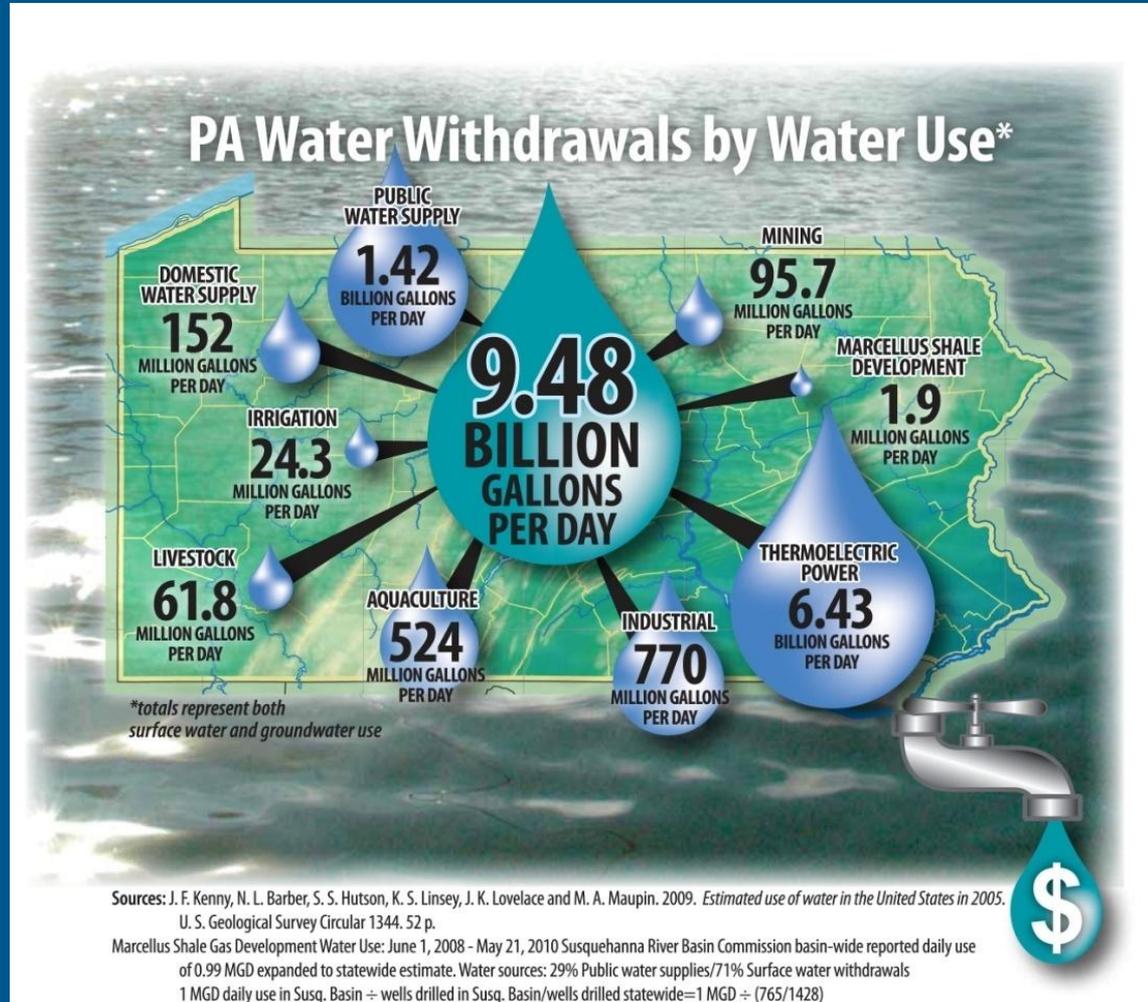
# Consumptive Use & Degradation Fees

*Pennsylvania Angler & Boater  
January/February 2011*

**Straight  
TALK** by *John A. Arway*

*Executive Director  
Pennsylvania Fish & Boat  
Commission*

**Highway Robbery**



# Natural Gas and Water Access

## Straight TALK

by John A. Arway  
Executive Director  
Pennsylvania Fish & Boat Commission



### An Executive Decision

A recent decision by our Board of Commissioners approved a staff recommendation for me to move forward with evaluating the sale of water access at Pennsylvania Fish & Boat Commission (PFBC) properties and the leasing of natural gas beneath these properties. Some of you may question the merits of this action in light of the Commission's Resource First mission and liken it to selling your birthright for a mess of pottage. I know I did when I first started thinking about the idea. Some natural gas companies contacted us, and they needed to know whether we wanted to lease our properties or not. Since PFBC land is not in large parcels (we only have a total of 43,000 acres statewide), they could drill gas on adjacent properties with or without us. The reality is that this industry is here to stay, and if you believe otherwise, all you have to do is look at the drilling records, which show that 5,000 new Marcellus wells were drilled last year. There are plans to drill over 5,000 more this year. The primary question is what do we do to minimize the damage from the inevitable?

Believe me, I did not reach my decision without much thought, analysis and consternation. In fact, you should know that a number of years ago, I gave a talk at a scientific meeting and presented a formula called "Arway's Equation for Governmental Decision Making." Since I was trained as a scientist, I analyze things in a quantitative, systematic way and use deductive reasoning for my decisions. The idea behind my equation came from a book called "Chaos," which is based upon a form of mathematics called fractal geometry made popular by a mathematician by the name of Mandelbrot in the 1960s. Mandelbrot's fractals were simple, self-repeating equations that could be used to put some order in disorder. His equations could be used to simulate things like snowflakes, mountain ranges and river networks. So, I decided that I would use the same concept to try to put order in the disorder of government decisions using simple linear algebra in the following equation:

$$\begin{aligned} & \text{a (The Science)+b (The Economics)+c (The Politics)} \\ & \text{+d (The Social)+e (WWRD)} \\ & \text{=The Decision} \end{aligned}$$

Where a, b, c, d and e are weighting factors based upon the importance of the variable in the decision.

I concluded that we have sufficient science (a) to understand and prevent or minimize the risks. After all, we had oil and natural gas development in our Commonwealth since Colonel Drake drilled the first oil well in Titusville in 1859. The Pennsylvania Department of Environmental Protection (PA DEP) reports that 325,000 oil and gas wells have been drilled in Pennsylvania since 1859 and approximately 88,300 are still operating wells. I spent much of my early career with the PFBC studying the impacts of shallow oil and gas brine discharges to streams in Northwest Pennsylvania and have confidence that we can control the impacts if we use the proper science in combination with our laws, regulations and policies.

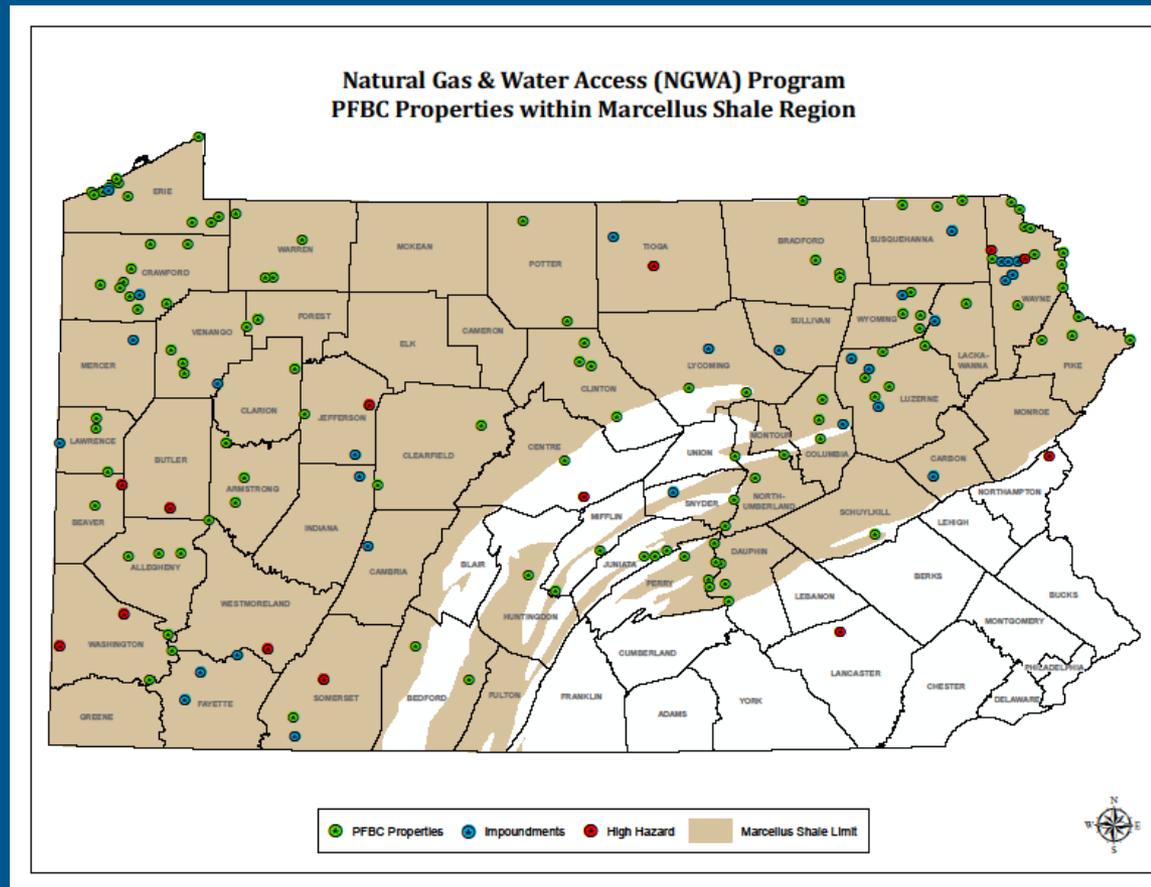
The economic analysis (b) told me that the benefits were worth the costs (risks), since they will be drilling these wells with or without us. There was also some risk of possibly losing our natural gas anyway since simple physics tells us that gases flow from a high-pressure zone (under PFBC properties) to a low-pressure zone (areas around us after they are drilled). Another factor that I considered was that we have 16 high hazard dams, many located within the Marcellus Play (see the map on the next page), that need repaired. I don't have the funds to fix them. These revenues would help me continue to provide those resources and the recreation they provide far into the future.

On the political front (c), our Board asked me to visit with the Governor's Office and the minority and majority leaders of the Game and Fisheries Committee in the House and Senate, which I did, and I either received support or was told to proceed, but use caution.

I have also discussed these issues with many sportsmen and conservationists (d), and we will solicit Board approval in open public session for all natural gas leases before they occur. We will only be looking at non-developmental leases (no wells or well pads on PFBC property) and have been told that leasing our land could actually reduce the number of wells drilled around our land if we do not lease. I have the authority as Executive Director to move forward with

# PFBC-Controlled Land & Water

- ~14,000 Acres Within Marcellus Region (~43,000 Statewide)
- 40 Impoundments Within Marcellus Region



# Natural Gas

- **Adjoining Properties are Under Lease**
- **Irresponsible to Allow One Molecule of your Natural Gas to be Taken Without Compensation**
- **No Drilling on PFBC Properties**
- **Model agreement**
  - ***[www.fish.state.pa.us/ngwa.htm](http://www.fish.state.pa.us/ngwa.htm)***



# PFBC Press Release

## **Fish and Boat Commission Establishes Natural Gas Leasing and Water Access Programs**

*March 7, 2011*

**Harrisburg, PA – In a decision designed to minimize environmental impacts while maximizing revenues and enhancing benefits for all users of the Commonwealth’s aquatic resources, the Pennsylvania Fish and Boat Commission today approved the establishment of a non-developmental Natural Gas Leasing program and a Water Access program on properties it controls.**

# **Meeting with Conservation Group Leaders on March 8, 2011**

**PA Bass Federation**

**Federation of Sportsmen's Clubs**

**Trout Unlimited**

**Western Pennsylvania Conservancy**

**Chesapeake Bay Foundation**

**American Rivers**

**PennFuture**

**Audubon Pennsylvania**

**Wildlife for Everyone Endowment Foundation**

**Pennsylvania Land Trust Association**

# Public Interest

**Fish commission to lease waterways for gas drilling**

By [Richard Gazarik](#), TRIBUNE-REVIEW

Sunday, July 10, 2011

Fish and Boat Commission to sell gas leases

By KEVIN BEGOS

Tuesday July 12, 2011

PITTSBURGH (AP) –

**Katy Dunlap, Trout Unlimited's Eastern Water Project Director for Trout Unlimited, a non-profit based in Arlington, Va. also voiced concerns. "It is imperative that the Commission provide meaningful opportunities for public input, above and beyond the normal public comment opportunities afforded at Commission meetings," she said. "And we won't know what potential impacts there may be, unless we have an opportunity to review each lease and its conditions upfront."**

# Legislative Interest

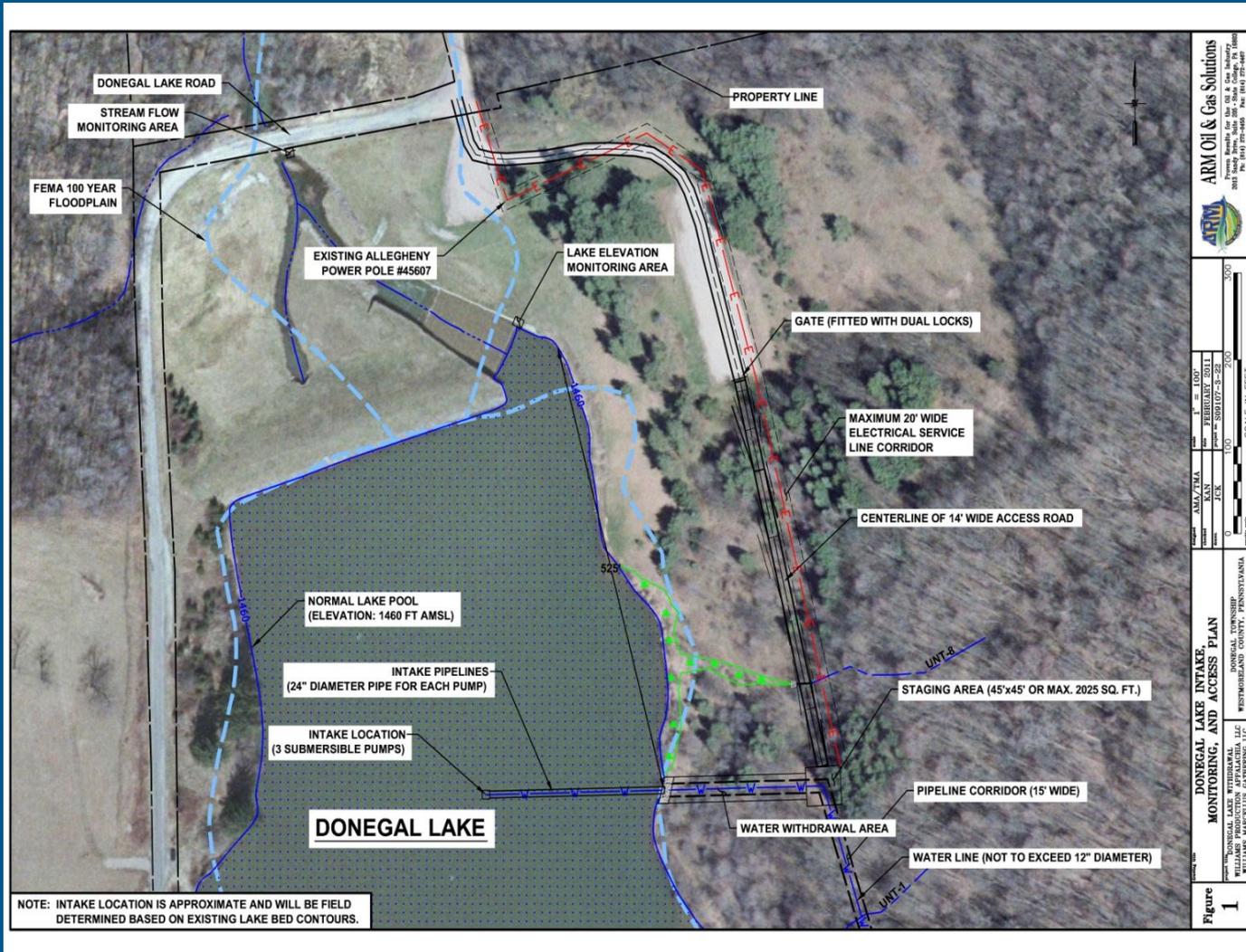
**Rep. Gerald Mullery**  
D-119th District  
Luzerne County

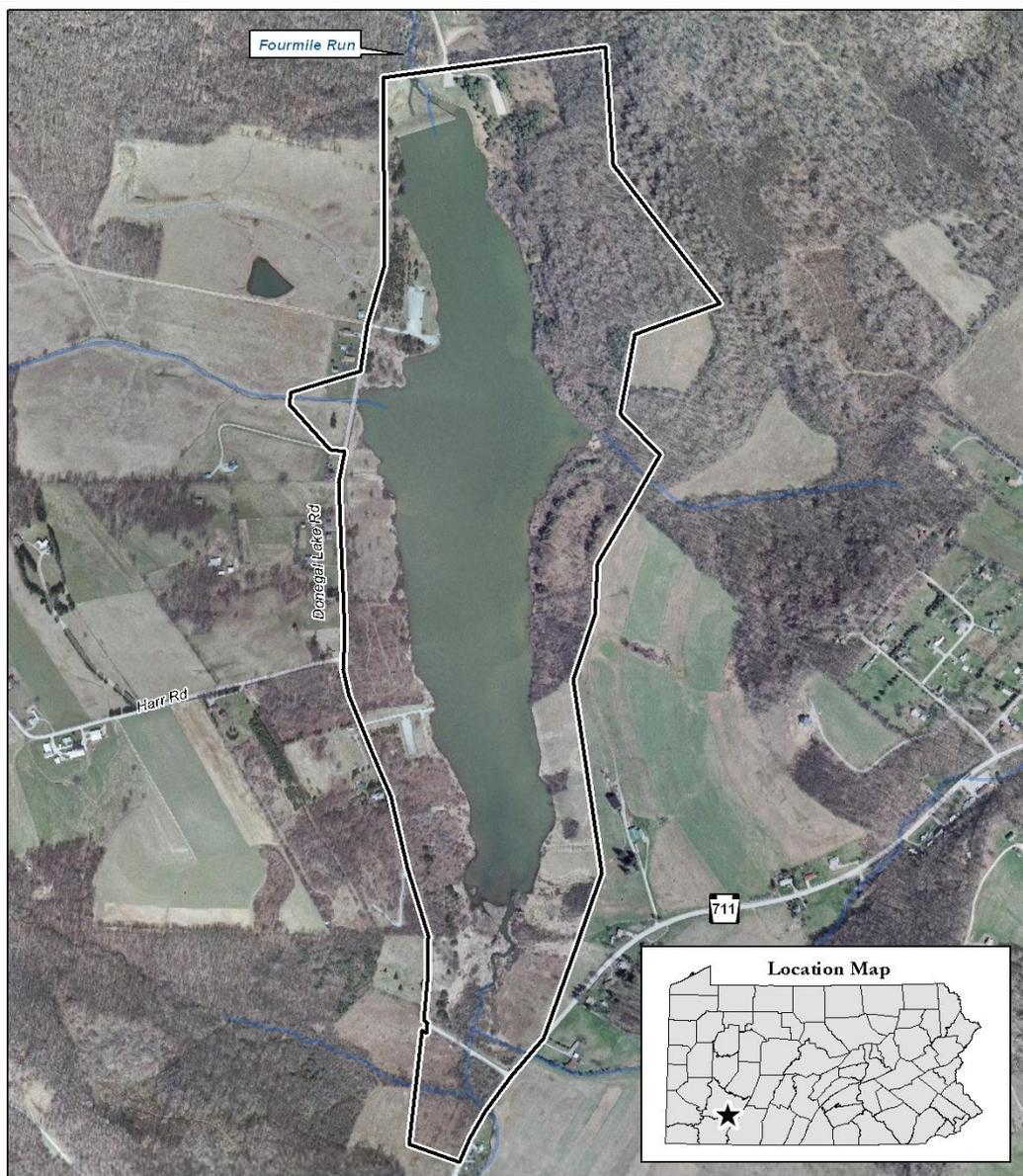
*Tell me what you think about gas leasing on state waterways*

**Rep. Michael Hanna**  
D-76th District  
Clinton County

**I want to know how YOU feel about this issue. How do you think the commission should raise additional revenue to cover the \$36 million shortfall for dam repairs? Should it lease waterways across the state for natural gas drilling? Or would you support an increase in fishing license and boating registration fees to raise the needed revenue? Or is there another solution?**

# Donegal Lake Water Access Agreement





Aerial Photo Date: March 15th, 2006



# Donegal Lake

Donegal Twp., Westmoreland County  
Acreage: 232.56 +/-

# Water Access

- **Minimize truck traffic**
- **Minimize impacts to other surface waters**
- **Strict monitoring and environmental requirements**
- **No impacts to anglers and boaters**



# Water Withdrawals

- Donegal Lake- Williams Production Co. ( withdrawal from Donegal eliminates need to withdraw from Four Mile Run).
- Loyalhanna Creek- CNX Gas Co, LLC
- Shade Creek- Chesapeake
- Youghiogheny River- Phillips Exploration, Atlas Resources
- Beaver Run Reservoir- CNX, Great Oak Energy
- Nemaquin Lake-Triana Energy
- Monongahela River- Energy Corporation of America, EQT, Range Resources, Antero Resources, Chesapeake, Atlas Resources
- Whitely Creek- Range Resources
- Isabelle Lake- Atlas Resources
- Deer Valley Lake- EQT



*Provided by DEP- Southwest Region*

# General Environmental Safeguards

- **No adverse impact to fish**
- **Does not impact public use**
- **Compliance with environmental laws and regulations**
- **Erosion and Sedimentation Control Plan**
- **Williams will recycle at least 90% of water**



# How much is Williams paying the PFBC?

- **\$10,000** when agreement was executed
- **Annual payments totaling \$68,000 over five years**

**PLUS**

- **\$5.00** for each 1,000 gallons withdrawn
- **5-Year Option**



# When may withdrawals take place?

- **Seasonal restrictions**
  - **Protect reptiles, amphibians and fish**
  - **Only when water flows over spillway from October 16 – March 14 and May 15 – June 30**
  - **Up to six inches below spillway the rest of the year**
- **No withdrawals opening weekend of trout season**
- **Potential exceptions for biological and dam safety reasons**

# How will Williams access the property and transport the water?

- Access road
- Electrical corridor
- Pipeline corridor
  - No excavation
  - No impact to the public, wildlife, or aquatic life



# How will the withdrawals take place?

- **Staging area**
  - 185-foot setback
  - Temporary structure to house equipment
  - No more than 5 gallons of fuel
- Minimal shoreline disturbance
- Protect existing riparian buffers



# Withdrawals (continued)

- **3 submersible pumps that supply an underwater pipeline**
- **PFBC criteria to protect aquatic life**
  - **Surface Water Intake Design Criteria to Reduce Aquatic Species Impacts**
  - **Biosecurity Measures for Commission Operations, Facilities, and Equipment**
- **Buoys when less than 4 feet from surface**



# How will lake elevation and streamflow be monitored?

- Lake elevation – at spillway
- Streamflow – under Donegal Lake Road
- Instantaneous and daily
- Remote access to the data
- PFBC may access the devices

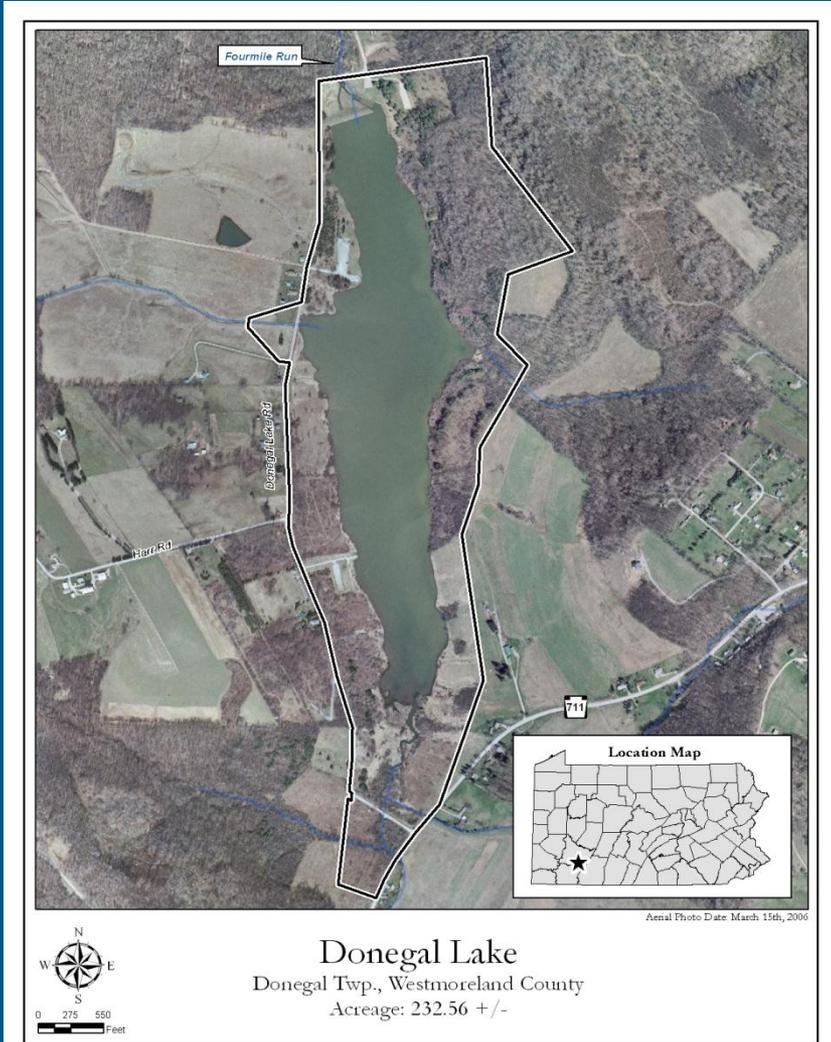


# What happens if there is a problem?

- PFBC may inspect activities and records
- \$5,000 daily penalty for exceeding maximum withdrawal rates
- If environmental damage occurs; cease withdrawals, mitigate damage, and restore impacted areas
- Insurance and performance bond

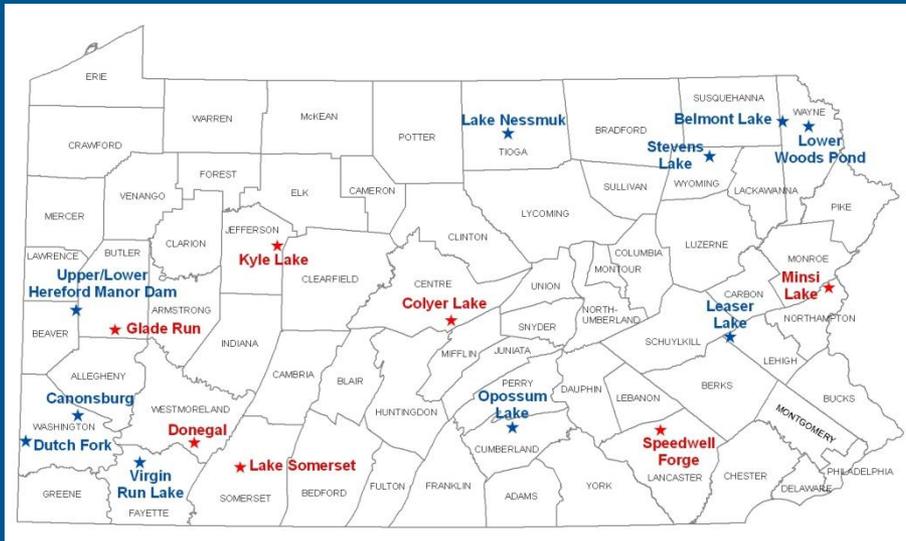


# Site Restoration



# How Will the PFBC Use the Money?

- **Criteria**



- **18 High Hazard Dams**

- **7 unfunded**

- **People impacted**

- **Cost**

- **Urgency**

- **Local support**

- **Economic impact**

- **Fishing and boating**



[\*www.fish.state.pa.us/ngwa.htm\*](http://www.fish.state.pa.us/ngwa.htm)

[\*www.fishandboat.com\*](http://www.fishandboat.com)

