

Straight TALK

by *John A. Arway*

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Sesquicentennial (150th) Anniversary 1866–2015

On March 30, 2016, the Pennsylvania Fish & Boat Commission (PFBC) will commemorate and celebrate the 150th anniversary of our founding in 1866. A convention was held in Harrisburg in 1866 to investigate water pollution being caused by the wholesale logging of Pennsylvania's forests and the impacts caused by sedimentation of our mountain lakes and streams. There were also serious concerns about the reduction of American Shad runs in the Susquehanna River. This discussion resulted in Governor Andrew Curtin signing the law, Act of March 30, 1866 (P.L. 370, No. 336), that named James Worrall Pennsylvania's first Commissioner of Fisheries. In 1925, Act 1925-263 established the Board of Fish Commissioners. Then, in 1949, Act 1949-180 officially established the Pennsylvania Fish Commission as an agency and described its powers and duties. The Commission appointed Charles A. French as its first executive director in 1949, and in 1991 under Act 1991-39, the Pennsylvania Fish Commission became PFBC.

Over the last 150 years, the Commission has evolved from a one man operation funded solely by the general fund to an agency with a complement of 432 staff funded by anglers and boaters through license and registration fees and the federal excise taxes on fishing and boating equipment. Our mission has broadened a bit from our original one, but we are still focused on protecting, conserving and enhancing our aquatic resources and providing fishing and boating opportunities.

I would like to take this opportunity to highlight some of our major accomplishments over the past 150 years and conclude with my optimistic view of the future for our next 150 years.

Susquehanna River dams

In 1867, the first fishway was constructed at the Columbia (Wrightsville) Dam (built in 1840) on the Susquehanna River as the first attempt to restore anadromous fish runs to the Susquehanna River. Then, along came Conowingo (1929), Holtwood (1910), Safe Harbor (1931) and York Haven (1904) dams, which have been major impediments to migratory fish since they were built. In the 1950s, the resource agencies implemented a program to restore access for migratory fish to the upper Susquehanna River basin, focusing on American Shad. In response to harvest declines that signaled critically low fish stock levels, fishing for American Shad in the Chesapeake Bay region was closed (Maryland in 1980 and Virginia in 1994). Although Executive Director Ralph Abele (1972–1987) fought passionately to have fish passage installed at these dams and built a shad hatchery at Van Dyke along the Juniata River to assist the restoration process, we continue to fall short of our migratory fish restoration goals of 2 million American Shad and 5 million river herring spawning upstream of the York Haven Dam. The American Shad stock in the Susquehanna River improved slowly and made an impressive comeback by 2001 when over 200,000 adult shad were counted at the Conowingo Dam fish lifts. Table 1 shows the recent numbers of American Shad passing the four major downriver dams with only 43 American Shad passing York Haven Dam in 2015. The 2010 Susquehanna River Anadromous Fish Restoration Cooperative (SRAFRC) Migratory Fish Management and Restoration Plan for the Susquehanna River Basin identifies poor efficiency of fish passage measures and facilities; low hatchery production in recent years; low numbers of spawning fish accessing quality habitat; poor young-of-year recruitment upstream of Conowingo Dam; ocean and Chesapeake Bay mortality; turbine mortality and predation as the major causes of this decline. In recent years, the Holtwood Dam underwent a \$400 million expansion, and the owners committed significant resources towards improving fish passage. At the York Haven Dam, plans are in place for a nature-like fishway to be built, which would be the largest of its kind in the eastern United States to allow shad and other species to freely migrate. A new operating

TABLE 1. Summary of Shad Passages (1997–2015)

YEAR	Conowingo	Holtwood	Safe Harbor	York Haven
2015	8,341	5,286	3,896	43
2014	10,425	2,528	1,336	8
2013	12,733	2,503	1,927	202
2012	22,143	4,238	3,089	224
2011	20,571	21	8	0
2010	37,757	16,472	12,706	907
2009	29,272	10,896	7,994	402
2008	19,914	2,795	1,252	21
2007	25,464	10,338	7,215	192
2006	56,899	35,968	24,929	1,913
2005	68,853	34,189	24,425	1,772
2004	109,360	3,482	2,109	219
2003	125,135	25,254	16,646	2,536
2002	108,001	17,522	11,705	1,555
2001	193,574	109,976	89,816	16,200
2000	153,546	29,421	21,079	4,675
1999	69,712	34,702	34,150	--
1998	39,904	8,235	6,054	--
1997	90,971	28,063	20,828	--

Conowingo fish ladder was built in 1991 but didn't pass fish until 1997. Holtwood and Safe Harbor came online in 1997, and York Haven in 2000.

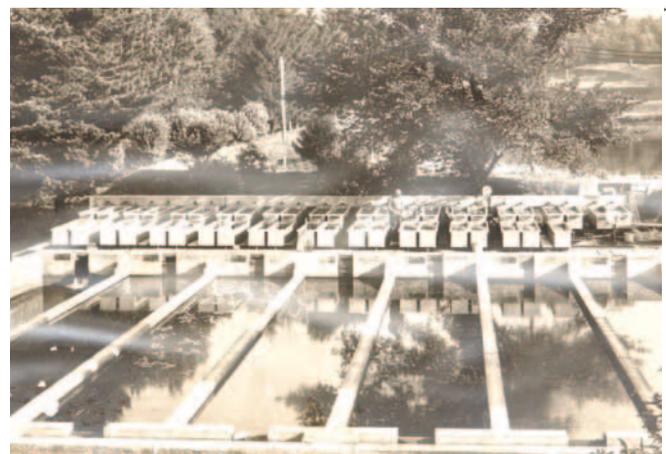
license application is pending at the Conowingo Dam, and the future of shad restoration in the Susquehanna River is dependent upon the improvements to fish passage that may be required. Therefore, there is still work to be done if we ever expect to fulfill the dream of seeing a fishable population of American Shad return to the Pennsylvania portion of the Susquehanna River.

State fish hatcheries

In 1870, Thad Norris, a private citizen, purchased 450 bass taken from the Potomac River and relocated them to their new home on the Delaware River near Easton. This action resulted in others doing the same thing on the Susquehanna and Schuylkill rivers and other waters throughout Pennsylvania, creating the naturalized fisheries we still enjoy today. In 1873, the "State Hatching House" was built in Lancaster County near Marietta on Hoover's Spring, which is one of the famous Donegal Springs. John P. Creveling was appointed as superintendent. In 1875, the legislature appropriated \$5,000 to purchase and build the Western Fish Hatchery in Corry, and William Buller was appointed as superintendent. The Western Hatchery received the first shipment of Brown Trout eggs from Germany in 1886. Funding to construct other state fish hatcheries followed Pleasant Gap (1903), Pleasant Mount

or Wayne (1903), Union City (1905), Tionesta (1928), Reynoldsdale (1928), Huntsdale (1932), Bellefonte (1933), Linesville (1939), Benner Spring (1952), Tylersville (1963, originally a federal hatchery), Oswayo (1968) and Fairview (1978). Big Spring State Fish Hatchery was constructed in 1970 and closed in 2001. Our system of state fish hatcheries has been upgraded, over time, with state-of-the-art wastewater treatment plants and updated fish culture equipment to produce and stock over 5.1 million adult and fingerling trout and over 47 million cool and warm water fish in Pennsylvania waters in 2014. In 1879, the United States Fish Commission provided Pennsylvania Common Carp to culture, but in 1895, the agency abandoned carp culture in favor of black bass. In 1888, Rainbow Trout were first stocked in the Susquehanna River and then in 1892, the Commission had the railcar "Susquehanna" built to transport fish around Pennsylvania for stocking. In 1904, over 90,000 frogs and more than 10.2 million Chain Pickerel were stocked. In 1907, Commission staff experimented with raising freshwater Pearl Mussels and stocked over

80,000 Coho Salmon in the Lackawaxen Creek drainage. In 1912, the Commission hatched over 500,000 Muskellunge eggs at Union City and first stocked Muskellunge fry in the waters of Pennsylvania. In 1917, electric lights were installed at fish hatcheries, and in 1928, the Bureau of Research was established. In 1932, the United States Bureau of Fisheries started the Cooperative Nursery Program with 21 sportsmen groups receiving 450,000 Brook Trout eggs and fingerlings. In 1962, the Pennsylvania Fish Commission took over the



Nursery tanks at Pleasant Mount State Fish Hatchery.

photo-PFBC archives



Chicago World's Fair entrance, 1893

program for Pennsylvania and established the Cooperative Nursery Branch in 1965. Peak participation occurred in 1992 with 192 nurseries. Today, there are 162 nurseries actively participating in the program. In 1958, Kokanee Salmon eggs were hatched at Pleasant Mount and stocked experimentally in eight lakes. In 1969, the Soviet Union provided the Fish Commission with Amur Pike eggs, which were hatched and grown into fingerlings and subsequently stocked in Glendale Lake, Cambria County, making it the only lake in the United States where anglers could catch this species of fish and Pennsylvania the only place in the world where Muskellunge, Northern Pike, Amur Pike and three species of pickerel could all be caught.

Education, information and outreach

The Commission participated in the 1893 Chicago and 1904 St. Louis world fairs with live fish displays. The first issue of the *Pennsylvania Angler* magazine was published in December 1931 and cost 50 cents compared to today's price of \$3.00. In 1984, the legislature established the first Fish-for-Free Day, and the first issue of *Boat Pennsylvania* was published. The Commission created a presence on the Web in 1996 with www.fish.state.pa.us, Twitter in 2010 and Facebook in 2012. In 2001, online (Internet) sales of fishing licenses began, and the sales system was updated to a point-of-sales system in 2006. The Commission was given the authority to sell multi-year and reduced-cost licenses in 2012, which resulted in 3- and 5-year fishing licenses being offered for sale in 2013, a new voluntary youth license to fund youth fishing programs was introduced in 2014, and the first special mentored youth trout day began in 2013. A metal fishing license button was reintroduced in 2014 as a voluntary license display option. Fishing license prices were reduced by \$1.00 for the first time in history as an attempt to increase license sales and a



Shad Hatchery, Bristol, PA

free FishBoatPA mobile application (app) for smart devices was introduced in 2015. The Save Our Susquehanna (S.O.S.) campaign was initiated in 2015 to increase public awareness and funding for projects to help a declining Smallmouth Bass fishery in the Susquehanna River from Sunbury to York Haven.

Fisheries

In 1907, the *Commodore Perry*, a 70-foot steam tug, was built for the agency's use on Lake Erie, and in 1913, it assisted in raising Perry's flagship *Niagara* from Misery Bay. In 1924, agency staff began performing stream surveys to classify waters to manage fisheries based on scientific principles. Daily creel limits were first set in 1925 for trout (25), bass (10), Walleyes (10), pickerel (15) and Muskellunge (3). Today's general creel limits (consult the *Pennsylvania Fishing Summary* for sizes and exceptions) are trout (5), bass (6), Walleyes (6), pickerel (4) and Muskellunge (1). Fisherman's Paradise was opened in 1934 and attracted almost 3,000 visitors. The "Paradise" grew in popularity to where it hosted almost 35,000 visitors in 1950 and was then made a Fish-for-Fun area in 1962. In 1946, the Commission acquired a mobile biological laboratory for fisheries research and management. In 1956, uniform fly-fishing only regulations were established. The *Perca* fisheries research vessel was launched at



These photographs show the main section of a fish stocking truck that was converted with windows to display fish by the Commission at various events, beginning in the 1960s. Later, two display trailers took the place of this altered stocking truck and were in use into the 1980s. In a majority of those instances when the fish were displayed, PFBC employee "Bobby" Ross was responsible for both the care and transport of the fish.

Lake Erie in 1959, and Governor David L. Lawrence signed Act No. 673, which established the opening day of trout season as the first Saturday after April 11, which continues today. In 1969, the start of the opening day of trout season changed from 5:00 AM to 8:00 AM due to complaints from landowners. Also, in 1969, the Commission created the Wilderness Trout Stream (WTS) program and added 75 streams in 1972. Today, 105 stream sections are included in the WTS program, which qualify for the Pennsylvania Department of Environmental Protection's (DEP) Exceptional Value (EV) special protected water use classification, which represents the highest protection status provided by the Commonwealth. In 1970, the Brook Trout was named the official state fish. In 1971, Chinook Salmon smolts were released into Lake Erie tributaries. The Commission received authority for regulating reptiles, amphibians and aquatic organisms in 1974. The world record Amur Pike was caught from Glendale Lake in 1976, and the Commission promulgated the first regulations for organized snake hunts. The Commission adopted Operation FUTURE (Fisheries Utilization Through User Resource Evaluation) in 1981, and as explained by former Director Abele, "(This) marks a formally declared shift in the philosophy and mission of the Pennsylvania Fish Commission from recreation first to resource first. This truly makes the Pennsylvania Fish Commission a conservation agency." Resource First was adopted by the Board of Commissioners as an agency motto in 1987 and then as an operation philosophy in 2008. An early regional opening day for trout season in southeastern Pennsylvania counties was initiated in 2007.

Law enforcement

The Act of June 3, 1878 forbade fishing on Sunday, and in 1937, House Bill No. 6 made Sunday fishing lawful again. In 1878, Fish Wardens Ludwick, Lowe and Hoover were paid \$50. In 1901, there were 12 Fish Wardens, and in 1902, Special Wardens (now Deputy Waterways Conservation Officers (DWCOs)) were created. In 1909, a law was passed forbidding "the emptying into any waters of the Commonwealth any waste deleterious to fish," making the agency one of the oldest water pollution enforcement agencies not only in Pennsylvania but in the entire nation. In 1913, Governor John K. Tenner signed into law the first controls on motorboating requiring motorboats to have mufflers. In 1915, fish wardens and deputies were given arrest powers. In 1919, non-resident fishing licenses

were first sold for \$5.00 to 50 non-resident anglers. Bradford County Fish Warden William E. Shoemaker was shot and killed on August 25, 1921, and in 1958, Lycoming County Fish Warden Raymond Schroll drowned attempting to rescue his partner. Both were inducted into the National Law Enforcement Officers Memorial in Washington D.C. In 1921, the "Resident Fish License Law" was passed and over 200,000 licenses were sold to citizens over 21 years of age (age reduced to 18 in 1923 and then to 16 in 1925) for \$1.00 in 1922. This was the beginning of the agency becoming self-dependent on user fees. The first fishing license button was introduced in 1923, and resident license fees were increased to \$1.50 in 1928. Today's fishing license is \$21 with an



Warden Raymond L. Schroll Jr. Warden William E. Shoemaker



A Waterways Conservation Officer (WCO) at Fisherman's Paradise, Centre County

optional \$8 Trout Stamp and \$8 Lake Erie stamp, not including the electronic processing fee. The Fish Commission received authority in 1931 to charge a boat registration fee of \$1 per cylinder for internal combustion motors and \$2 for electric motors. Today's registration fees are \$9 per year for unpowered boats and \$13 to \$26 for motorboats ranging from less than 16 feet to more than 20 feet. What a bargain. In 1941, trolling was prohibited from a motorboat, which was then changed in 1944 to again allow trolling on rivers. In 1942, a prohibition was added to regulation for operating a motorboat while intoxicated. In 2015, PFBC Waterways Conservation Officers (WCOs) had 91 Boating Under the Influence arrests. In 1956, carp fishing with long bow and arrow was legalized. Rules of the road boating regulations were amended to prohibit water-skiing within the provisions of the 100-foot rule. In 1957, Fish Wardens received the authority to enforce littering. Fish Wardens were retitled Waterways Patrolmen in 1969. A major recodification of the Fish and Boat Code occurred in 1980 and provided limited police powers to Waterways Patrolmen. Act 1984-16 changed the name of Waterways Patrolman to Waterways Conservation Officers, and in 1984, the first female Waterways Conservation Officer, WCO Sally A. Corl, was hired. A peak law enforcement workforce occurred in 1995 with 106 WCOs and 340 DWCOs. Today, we have 98 WCOs and 77 DWCOs. In 2000, operators of personal watercraft were required to complete a safe boating course, and in 2003, it became mandatory for all persons born on or after January 1, 1982 to possess a boat safety certificate to operate a boat with a motor over 25 horsepower.

The future

Over the course of the next year, I hope that you, my fellow anglers and boaters, will join in our commemoration of the last 150 years. It will be a great time to learn about our agency's contribution to the health of Penn's Woods and Waters and celebrate the fact that our 86,000 miles of streams, nearly 4,000 lakes and reservoirs, over 404,000 acres of wetlands and 63 miles of Lake Erie shoreline are still home to more than 25,000 species of known plants and animals, and perhaps, many thousands more yet to be identified. These facts demonstrate the enormity and complexity of the challenges that face PFBC as we strive to fulfill our legislative and Constitutional duties to protect, conserve

and enhance our Commonwealth's aquatic resources.

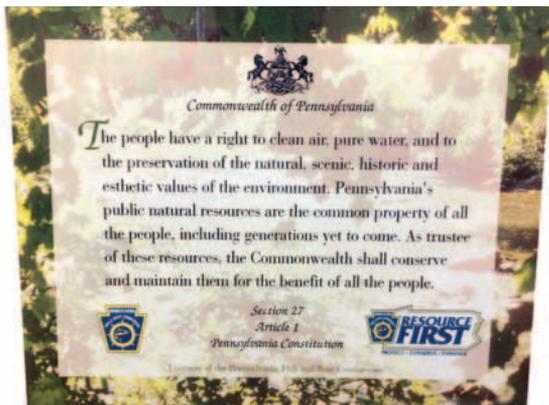


photo-PFBC archives

The Commission received authority in 1931 to charge a boat registration fee.

Over 150 species of plants and animals have been lost from Pennsylvania and 664 others are species of greatest conservation need and are detailed in our State Wildlife Action Plan—90 birds, 19 mammals, 65 fish, 22 reptiles, 18 amphibians and 450 invertebrates. The major threats have been identified as residential and commercial development (15 percent), energy production and mining (13 percent), pollution (13 percent), invasive and other problematic species, and genes and diseases (12 percent).

We currently have a population of 12,763,536 people that continues to increase on a fixed amount of land, 45,333 square miles.

As of 2015, 83,438 miles of streams and rivers, out of a total of 86,000 miles, have been assessed by the Pennsylvania Department of Environmental Protection staff for aquatic life use support and approximately 19 percent (15,882 miles) do not fully support healthy aquatic communities. Furthermore, some of these waters are still not fishable or swimmable. We have the nation's 16th largest river, the Susquehanna River, which drains nearly half of Pennsylvania's land area and has been identified as a major contributor to the impairment of the Chesapeake Bay. The Susquehanna River currently supports a Smallmouth Bass fishery in distress with bacteria infecting young bass producing mortality rates of 10- to 70-percent (2005–2015). Adult bass have been found with cancerous tumors, other open sores and lesions, intersex conditions (male bass with egg precursors and hormones, which should only be found in female bass), and black spots that aren't understood (blotchy bass syndrome or melanosis). There is something wrong with the Susquehanna River, and we need to admit it and begin working on a plan to solve its problems. We also know that 15,882 miles of our streams and rivers and 37,761 acres of our lakes are not attaining their aquatic life uses because of the current and legacy impacts from agriculture and coal mining creating siltation, metals, nutrients and organic enrichment of our waters.

Aldo Leopold (1887–1948) recognized the importance of land ethic in his writings and teachings; however, our society is still trying to balance the importance of a strong economy with the value of a healthy environment.

“The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land. In short, a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such.”—Aldo Leopold (1887–1948).

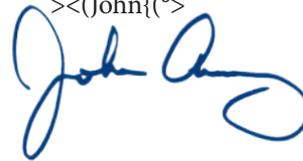
Our future is bright but not without challenges. We have made substantial progress over the last generation by cleaning up our waters so that we can now say that we have more waters to fish today than when we were children. However, yesterday’s challenges were simple compared to the environmental and natural resource challenges that we face in the future. Today’s challenges include cancerous tumors, bacterial infections, blackspot and intersex Smallmouth Bass in the mighty Susquehanna River; rapidly expanding deep natural gas development across Pennsylvania and the uncertainties about fracking; the Brook Trout being compromised by changing climate; invasive species out competing native species; our lakes, rivers and the Chesapeake Bay clogged with nuisance algae blooms that lower oxygen to dangerous levels for fish and other aquatic life; less people, including our legislators, fishing, boating and recreating outdoors, and we can’t forget about our obligation to restore American Shad to the mighty Susquehanna River. Unfortunately, I can’t promise you the same thing that Executive Director Bielo promised anglers in his “Turn of a Century” article in 1966. He was able to promise doubling the acreage of fishable lake waters from 57,000 acres in 1966 to 111,000 acres in 1975 because of a Commonwealth commitment to fund and build new lakes. Today, we have a similar funding commitment, but it is to repair and maintain those same historic dams, which have since become unsafe and high-hazard. This commitment will insure that our children and grandchildren will continue to have a place to fish in Pennsylvania.

Our new challenges will no longer be at the local scale but will require much different solutions at the watershed, regional, national and even global scales. We will have to work across disciplines and use the appropriate science to diagnose the problems, apply the engineering skills to develop the solutions and have the political will to create the laws and provide the funding for the solutions. It won’t

be easy, but I am confident that our next generation will have the knowledge, skills, abilities and the guts to get it done right. Perhaps, we will finally come to recognize that a healthy economy and a healthy environment must co-exist and the adoption of a land ethic will no longer be optional as Leopold professed.

Your Director,

><(John{(<^>



As part of the Trout In the Classroom program, a regional trout release and educational programs were held at the Ned Smith Center for Nature and Art in Millersburg on May 18, 2012.



photo: Spring Gearhart



photo: Ted Walker

Adam Spangler, Southcentral Regional Education Specialist, introduces fishing to participants at a family fishing event held at Fuller Lake, Cumberland County.

Get questions answered.
Share your ideas.



The mission of the Pennsylvania Fish & Boat Commission is to protect, conserve and enhance the Commonwealth’s aquatic resources and provide fishing and boating opportunities.