

Our Water Quality: Streams and Stream Protection in the 7th Congressional District of Pennsylvania

The quality of a region's surface waterways is one key element affecting the health, safety, convenience, and aesthetic enjoyment that people can experience there. Waterways furnish public water supplies, convey flood flows, disperse wastes, transport people and goods, provide habitat for fish and wildlife, and offer recreational opportunities to Commonwealth residents and visitors. Clean streams lined by woods increase property value.

Rights and Goals

The **Pennsylvania Constitution**, Article 1 **Declaration of Rights**, Section 27, declares:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

The **Pennsylvania Clean Streams Law** [Act 394 of 1937, as amended, 35 P.S. 691.1 *et seq.*] establishes requirements for protecting streams in the Commonwealth from pollution. For a generation, fishable and swimmable waters also have been a nationwide minimum goal of the **Clean Water Act** [the Federal Water Pollution Control Act of 1972, P.L. 92-500, as amended, 33 USC 1311 *et seq.*], which recognizes the primary right and responsibility of the States to control water quality. Polls today show that the aims of the **Clean Water Act** remain popular. Yet there remains a vast gap between goals on paper and facts on the ground. Some of the worst instances of pollution have been cleaned up, but the fishable/ swimmable goal remains far from reality in much of the 7th Congressional District.

Uncomfortable Facts

Water quality today varies dramatically across small distances, especially within a diverse area as large as the 294 square-mile 7th District of Pennsylvania, which includes parts of three suburban counties west of Philadelphia. The largest part of the District is in

Delaware County, with smaller parts in Chester and Montgomery Counties. The year 2,000 census population of the 7th Congressional District was nearly 650,000. Its population density of 2,210 persons per square mile (or 3 people per acre on average) varies greatly from place to place within the District. Dense aggregations of people stress localized water resources and pose difficulties in maintaining environmental quality including clean water. Private entities are reluctant to absorb the costs of water quality protection when the benefits are shared with the public at large, even where technical measures now exist. In recent years awareness has been growing about the more generalized water quality impacts of air pollution, acid rain, and manmade climate change which exacerbate local water quality problems in this District as well as across great rural expanses of the Commonwealth, the nation, and worldwide.

The 7th Congressional District contains all or part of twenty-five municipalities, whose boundaries intersect with more than 100 recognized watersheds. Those independent municipalities have adopted a patchwork quilt of ordinances that affect water quality through their land use and development controls. Few Pennsylvania municipalities regulate water quality directly, as would be necessary to fill gaps in environmental protection at the State and Federal level, or have joined with neighboring municipalities on a watershed basis to regulate water quality cooperatively. Each county has a conservation district that regulates erosion and sediment control from land disturbances, and thereby can significantly affect local water quality. Yet the public benefits from water quality still are displaced by the private gain from water pollution to those who in return contribute to political decisionmakers in the District and the Commonwealth.

The 7th Congressional District today is traversed by about 825 linear miles of State-recognized watercourses, natural features inherited from its rugged Appalachian piedmont and the flatter Atlantic coastal plain topography along the Delaware River. That means there are nearly 3 stream miles per square mile of land area on average across the District. Along the eastern and southern margins of Delaware County, numerous tributaries have been piped or otherwise modified by land development over the past three centuries, but there still are many more streams visible on the land surface within this District than in adjacent Philadelphia County, where only the very largest watercourses remain exposed above ground.

Apart from the Schuylkill and Delaware Rivers, virtually all streams within the Chester and Delaware County

sections of the 7th District rise within the District itself--- hence their water quality can be greatly affected by local governments. Several Montgomery County and a few Chester County streams flow into the District from outside sources.

Commercial navigation of economic importance is restricted to the Delaware River and the Schuylkill River. Only the larger named streams within the 7th District are large enough to support recreational boating. Dammed reservoirs may or may not be assigned the same classification as the streams that supply water to and drain water from them.

Table 1. Stream Quality in the 7th Congressional District of Pennsylvania, 2008.

<u>Quality Class</u>	<u>Stream Miles</u>	<u>%</u>
Ordinary	450	54.5
Non-Attaining	231	28.0
High Quality	131	16.0
Exceptional Value	12.5	1.5
All	824.5	100.0

Typical Streams of Ordinary Quality

About 450 miles of ordinary streams, just over half the total in the 7th District (54.5%, compared with 50% of streams Statewide), currently meet typical categories of Pennsylvania Department of Environmental Protection (PADEP) water quality classification---neither highly polluted nor associated with resources deemed worthy of special protection. These streams typically support or contribute to fisheries, although some of them have experienced serious degradation of their aquatic biota.

Non-Attaining (Polluted) Waterways

The 231 miles of **Non-Attaining** streams represent 28% of the District’s streams, as compared with 19% of assessed streams across the Commonwealth as a whole. These waterways have been classified by PADEP as not attaining their designated uses at the present time. That is, they are human-polluted waterways not supporting the designated uses that they otherwise should support (for example, Warm Water Fisheries). Polluted waterways comprise **all** of the Delaware River and Schuylkill River mainstem segments in and near the 7th Congressional District. The Delaware River’s tidal estuary forms part of the southernmost District border next to the State of Delaware. The larger degraded streams in the **Delaware County** section of the District include non-tidal segments of Naaman Creek,

Marcus Hook Creek, Chester Creek, Crum Creek, Trout Run, Little Crum Creek, Stony Creek, Muckinipattis Creek, Hermesprota Creek, Darby Creek, Naylor’s Run, and Cobbs Creek. Major public improvement projects like I-95, I-476, and Philadelphia International Airport have been implemented with only the most cursory attention to alternatives and to impacts on the 7th District environment, and their minimal efforts at “mitigation” have been feeble, contributing to non-attainment of water quality in streams and wetlands.

The Schuylkill River, the Delaware River’s largest tributary, forms the western boundary along the northern section of the District. Schuylkill River **Non-Attaining** tributaries in the **Montgomery County** section of the District include Gulph Creek, Crow Creek, Indian Creek, Skippack Creek, Stony Creek, Doe Run, Donny Brook, and Schoolhouse Run. Within the 7th District in **Chester County** are Taylor Run, Plum Run, and upper Chester Creek, plus lowermost Valley Creek along the Montgomery/Chester County boundary and lower Brandywine Creek along the Delaware/Chester County boundary.

East of the 7th District, virtually all of the remaining watercourses in Philadelphia County and southern Bucks County are **Non-Attaining**, as are the majority of streams in southeastern Montgomery County including nearby Indian Creek, Mill Creek, Plymouth Creek, Diamond Run, Sawmill Run, and upper Stony Creek.

Just outside the District in Chester County are major segments of two **Non-Attaining** waterways, each known as Valley Creek. Farther from the District are **Non-Attaining** streams of the Red Clay Creek, White Clay Creek, and Big Elk Creek watersheds in southwestern Chester County.

Within the 7th District most direct discharges from industrial and municipal point sources have been controlled to some extent, but not eliminated entirely, and they play a role in preventing the attainment of designated uses in the impaired waterways. The principal ongoing threat to water quality today in the District consists of general urban runoff bearing pollutants from roads, pavements, businesses, lawns, and residences. The polluted water in **Non-Attaining** segments of some small streams may become sufficiently diluted by tributaries that designated water uses can exist downstream, but the more typical pattern is for water quality to decrease downstream across the entire metropolitan region. Forested riparian buffers, the wider the better along the stream banks, can help greatly

in protecting stream quality, but they typically are not required by local ordinances across the District.

Special Protection Waters¹

As determined primarily by chemical and biological tests, the PADEP has identified two classes of “extra quality” waters that warrant special protection against degradation from human activities. Fewer than one-third of all Pennsylvania stream miles qualify as **Special Protection Waters**, and most of them are found in watersheds consisting of the most pristine and remote forested lands that remain in the Commonwealth. Some wetlands and other waters are habitats for rare plants and animals whose very survival is in question. Human activities have taken a heavy toll on Pennsylvania streams, and the **Special Protection Waters** that remain are priceless surviving relics of our natural heritage. Today the highest attained uses recorded since November 1975 in any stream are supposed to be controlling. Registration of development projects under several PADEP general permits for minor stream obstructions ostensibly is disallowed in **Special Protection** watersheds, where more detailed individual permit applications subject to public notice are required instead. Yet fills and obstructions are not regulated at all by PADEP in headwater streams with drainage areas smaller than 100 acres, even in streams designated as **Special Protection Waters**. Wetlands, to be afforded any **Special Protection** at all, must be identified on a case-by-case basis as having exceptional ecological significance.

The very best 4% of stream miles in the Commonwealth are classed as **Exceptional Value (EV)** waters.² Some are habitats for endangered or threatened species. Water

¹ Recognized **Special Protection Waters** in Pennsylvania now are legally protected from degradation as a result of successful litigation during the 1990s against PADEP in Federal court by the Raymond Proffitt Foundation seeking implementation of the nationwide minimum Clean Water Act requirements [see 25 Pa. Code Chapter 93.4a *et seq.*]. Recognition of streams that qualify for antidegradation treatment has proceeded slowly, with about 86,000 miles of Pennsylvania streams assessed to date. Pennsylvania has more stream miles than any other State except Alaska, which has 15 times more land area.

² *Designated-use EV* streams are shown on State lists and databases, and recently recognized *attained-use EV* streams are made known through public notices in the *Pennsylvania Bulletin*. Absent from public lists and maps are any Pennsylvania wetlands or thermal springs classed as **Surface Waters of Exceptional Ecological Significance** that would be entitled to protection as **EV** waters (see Appendix 1).

quality in **EV** streams today is supposed to be protected against any degradation, even by discharges meeting all otherwise applicable standards, although development is not prohibited within watersheds that drain to **EV** streams.

The next best category is the **High Quality** segments of streams having various designated uses, which represent 27% of all assessed stream miles in Pennsylvania. **High Quality (HQ)** streams are supposed to receive protection from degradation only slightly less stringent than that afforded **EV** streams. Only in those cases where strong socioeconomic justification outweighs the decreased water quality, are discharges to be allowed that would impair an **HQ** stream’s high-quality resources. Designated uses (on paper) “must” be protected, as in all streams. As might be expected, the spatial distribution of **Special Protection Waters** within and near the 7th Congressional District differs dramatically from the pattern of **Non-Attaining** streams across the Philadelphia metropolitan area---nearly a mirror image reflecting development density.

High Quality (HQ) Streams in the District

High Quality (HQ) streams are more abundant than **EV** streams in Pennsylvania, as would be expected, given their more inclusive defining criteria (Appendix 1). **HQ** streams span an array of habitat types. In the highest elevations these **Special Protection Waters** typically are designated **HQ-CWF** (High Quality-Cold Water Fisheries). Farther downstream, they are **HQ-TSF** (High Quality-Trout Stocking Fisheries) where temperatures may be too high for trout to survive in summer, and then **HQ-WWF** (High Quality-Warm Water Fisheries), the same natural geographic progression that applies to non-EV and non-HQ designated uses of surface waters flowing downhill across the Commonwealth.

HQ streams include 131 stream miles (16% of the 7th District total; 59% of the Statewide average proportion of **HQ**), of which 52 miles are **HQ-CWF** and 79 miles are **HQ-TSF**. Within the 7th District **HQ-CWF** and **HQ-TSF** streams cluster in both Chester County and Delaware County in the upper watersheds of Crum Creek and Ridley Creek. Some of the Ridley Creek watershed in Delaware County is within the Ridley Creek State Park. There are no **HQ** streams in the Montgomery County section of the District. (There are no recognized **HQ-WWF** streams anywhere east of Lancaster County in southeastern Pennsylvania, including the 7th District.)

In Chester County at the westernmost tip of the 7th District, Broad Run headwaters are **HQ**. Just across the Schuylkill River from the northern part of the District in

northern Chester County are several **HQ** streams including Pickering Creek, French Creek, Stony Run, and Pigeon Creek. There are no **HQ** streams in Philadelphia County or southern Bucks County. Unami Creek and Ridge Valley Creek in Bucks and Montgomery Counties are **HQ** but distant from the 7th District, as are three small **HQ** tributaries of the Delaware River in northeastern Bucks County.

7th District Exceptional Value Streams

The primary biological evaluation criteria for **EV** streams reflect the kinds and numbers of streambed (benthic) organisms present. Important in their own right as the base of the aquatic food web and recyclers of nutrients, benthic organisms effectively provide long-term insight into stream water quality whose chemistry and flow may vary over time with weather conditions. **EV** streams must meet **HQ** standards plus additional requirements. Some **EV** streams are associated with State and Federal lands dedicated to resource protection. There currently are three recognized **EV** streams within the 7th District. One is in the upper Crum Creek basin in Chester County, surrounded by **HQ** segments of Crum Creek and Ridley Creek. The second is the lowermost section of Valley Creek that forms part of the Montgomery/ Chester County boundary and the 7th District boundary within Valley Forge National Park. This Schuylkill River tributary was classed as **EV** in response to a major public campaign to recognize its association with Valley Forge National Park, led by the Raymond Proffitt Foundation.³ The third, recently recognized **EV** stream is a small tributary in the central Crum Creek basin known as Holland Run, in the geographic center of the District. The only **EV** stream identified to date in Delaware County, Holland Run is surrounded by **Non-Attaining** streams. These three **EV** streams combined represent about 12.5 stream miles (1.5% of the District total; less than 40% of the Statewide average of **EV** stream miles in proportion to all Pennsylvania watercourses).

East of the District there are no **EV** streams at all in Philadelphia County or Montgomery County. The only **EV** streams recognized in Bucks County are Tinicum Creek and Cooks Creek, tributaries of the Delaware

³ This Valley Creek is unusual in having an **EV** classification despite serious chemical contamination from the Paoli rail-yard and other sources that renders its fish unfit for human consumption and thus prevents attainment of its designated uses. Valley Forge Trout Unlimited and other groups in the Valley Creek Coalition led a major public campaign to get Valley Creek listed as **EV** and subsequently sued PADEP to require treatment of new stormwater discharges into it.

River remote from the 7th District. Northern Chester County hosts several **EV** streams, including Birch Run, sections of French Creek, and Rock Run in the Schuylkill River drainage near French Creek State Park. Central Chester County has small **EV** stream segments in the East Branch White Clay Creek (some impaired at present by agricultural runoff) and East Branch Brandywine Creek watersheds. Likewise, there are small **EV** streams in far southwestern Chester County such as Barren Brook, Black Run, and tributaries to Octoraro Creek in the Susquehanna River basin, distant from the 7th Congressional District.

Unknown Stream Resources

There are likely to be additional streams within the 7th Congressional District that deserve **Special Protection**, but perhaps not many more. Until they have been formally recognized, streams warranting **Special Protection** cannot be afforded appropriate water quality protection when permit approvals for new or renewed discharges or for construction activities are sought. Too often permits are registered or granted despite the absence of comprehensive information on the stream biota to be affected. Like fish and other wildlife in general, the streambed organisms that define **Special Protection Waters** are public property subject to protection by the State on behalf of the people as a whole. But in order to be protected, they first have to be known to exist in a particular body of water!

To date, all **HQ** and **EV** streams in the 7th District have been identified to PADEP by the public. Valley Creek was championed by the Valley Creek Coalition. The Willistown Conservation Trust petitioned PADEP in 2000 to redesignate certain segments of the upper Crum Creek basin which it believed warranted **HQ** or **EV** protection. The **EV** Holland Run mainstem was discovered almost by accident in 2005, when the Marple Township Environmental Advisory Board was requested by local residents to examine potential impacts from a major proposed residential subdivision.

PADEP responds to requests from the public to examine streams that may warrant Special Protection status, conducts its own sampling of each stream, and upgrades the attained uses for segments that meet its established criteria before recommending official designation by the Environmental Quality Board. PADEP's own ongoing search for **Special Protection** waters is a slow process focused primarily on rural watersheds. Securing actual protection of these watersheds by PADEP and its permittees is a slow process that has required case-by-case litigation.

Future Environmental Protection

Like all public resources in our democracy, protection of Pennsylvania streams for the common public benefit requires sustained vigilance by the general public and by organized environmental groups. Once a stream has become degraded, its restoration is always costly, politically unlikely, and technically difficult. Stormwater detention basins (that have been required for several decades to reduce flooding) typically yield minimal benefit for water quality. Serious efforts to restore **Non-Attaining** streams to their designated uses in the District are not slated to occur for another decade, and may be postponed. Meanwhile, concerned groups organize annual stream cleanup sessions within the 7th Congressional District. Many tons of rubbish collected from District streams have been transferred to landfills. In some municipalities small labels have been installed at street inlets reminding residents that storm drains should never be used for waste disposal. Increasing numbers of discreet signs are appearing at road crossings naming the stream beneath the bridge or culvert and facilitating the public's ready comparison of mapped data with actual locations on the ground.

The preservation of remaining **Special Protection Waters** is a never-ending concern, especially in suburban watersheds such as the 7th Congressional District where most land is privately owned and sprawling development continues to generate private profits. Systematic protection can begin only after surviving **EV** and **HQ** waters have been identified and officially designated, a task for which PADEP staff need all the help they can get. Petitioners have achieved real results by urging PADEP to upgrade the classification of qualifying stream segments in the 7th District and elsewhere across the Commonwealth. Some of the petitions to recognize additional **Special Protection Waters** have been submitted by environmentally aware high school students, a hopeful sign for the future. Meanwhile, Pennsylvania municipalities that seek to increase the protection of streams meeting chemical or biological standards for **HQ** waters can designate such streams as "local resource waters" and provide protective measures, thereby making them eligible for **EV** status and the more stringent PADEP discharge requirements that apply to **EV** streams. To date few municipalities have done so.

Work is underway at several colleges within the 7th District to study and install best management practices such as artificial wetlands and groundwater recharge basins to improve water quality, but such efforts are in their infancy and confined primarily to public parks and school grounds. New technology such as porous pavements and green roofs still is scarce in the District.

If, but only if, the remaining unrecognized streams with resources warranting **Special Protection** are appreciated by residents and brought to the attention of PADEP and county conservation districts, can their irreplaceable natural ecosystems have any chance to survive indefinitely for the benefit of future generations of Pennsylvanians. Residents should look for forested watersheds relatively little affected by roads, storm sewers, wastewater discharges, and commercial or residential land uses. Streams that remain clear rather than muddy after thunderstorms may be good candidates, and the presence of many kinds of juvenile insects attached to the undersides of fist-sized rocks in the streambed is an important clue. There are still a few heritage streams warranting **Special Protection** but not yet recognized in the 7th Congressional District. Candidate streams and wetlands should be brought to the attention of watershed organizations, local environmental groups, municipalities, and land trusts, and through them to PADEP. Help from qualified scientists should be sought to support requests to upgrade classification of waters.

County and State officials generally pursue major, unanticipated, discrete pollutant discharges of oil, mud, or other toxic materials that result in fish kills and gain media publicity, and they may impose significant fines on responsible parties if public indignation is sufficient. Such agencies, however, often must be prodded to focus on less glamorous environmental protection when engaged in the everyday process of approving routine applications from powerful special interests for construction projects and wastewater discharges, even those affecting **Special Protection Waters**.

Residents concerned with stream protection in their immediate environment should focus primarily on elected officials in their local municipalities, where most land use power is formally vested in Pennsylvania. Local land use controls can be exercised only (1) after strong ordinances have been enacted and (2) where vigorous enforcement reflects the desires of the voting public rather than violators. Because most streams within the 7th District rise locally, especially in Delaware County and Chester County, there is maximum opportunity here for effective local control of water quality at the municipal level. Adjacent municipalities are authorized by the Municipalities Planning Code (Act 247 of 1968, P.L. 805, as amended) to cooperate in environmental protection. The Delaware River and Schuylkill River, which rise in distant jurisdictions and are affected by many activities remote from the 7th District, are much less amenable to local efforts by District municipalities to protect their water quality.

Conservation groups and the public interest bar have played a vital role in compelling minimum environmental protection to be enforced through the courts at the State and Federal level. They must continue to do so in the future. The regulation afforded by State and Federal levels of government alone, however, often does not suffice to maintain local environmental quality, even in **Special Protection Waters**, and is no substitute for constant, proactive vigilance at the municipal level.

The protection of Pennsylvania streams is primarily a local responsibility of residents and must be implemented via their local elected officials. Ordinances must be put in place prior to the submission of subdivision plans for review. It is too late for a municipality lacking environmentally protective ordinances to try to regulate an unnecessarily destructive constructive project, once plans for that project have been submitted. Forested streambank buffers are a necessary first step, along with stringent requirements for stream inventory and assessment prior to municipal approval of modification of small watercourses. Followup monitoring of stream

conditions is necessary if the success of measures to protect their quality ever are to be credibly evaluated. PADEP seldom requires such monitoring, even in **Special Protection Waters**. State elected officials should be pressed to close regulatory gaps and to protect **EV** wetlands more consistently.

Municipalities could fill existing gaps in the State and Federal environmental controls on development in small watersheds, but this issue has attracted relatively little public attention. Unless this situation changes, the few remaining, unique biological communities of heritage streams in the 7th District are unlikely to persist into the lifetimes of our children and grandchildren. The historic success of poor planning, bureaucratic arrogance, and expansion of private profits at the expense of common resources and the public at large do not bode well for stream protection in the 7th District or the Commonwealth as a whole. Enforcement of stream and wetland protection in Pennsylvania likely will continue to be driven by litigation for the foreseeable future.

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Appendix 1. Pennsylvania Special Protection Waters Defined

A High Quality Stream (HQ) [25 Pa. Code 93.4b(a)] is recognized by its

1. Chemistry:

Water quality is better than suitable for designated uses, as shown by monitoring to have quality >99% of the year that is better than applicable limits for 12 listed parameters* (based on minimum 12 months of data); **OR**

2. Biology:

(a) Biota is found by PADEP to have a grab sample integrated benthic invertebrates score at least 83% that of an appropriate **EV** reference stream's contemporaneous score using current PADEP rapid assessment methodology (or other biological data warranting **HQ** designation); **OR**

(b) Stream is a **Class A wild trout stream** classed by Pa. Fish & Boat Commission, after public notice and comment, as meeting biomass standards for naturally produced trout large and abundant enough to support sport fishing.

*Applicable chemical parameters defining High Quality waters:

Dissolved oxygen	Temperature	Aluminum	pH
Iron	Dissolved arsenic	Dissolved nickel	Ammonia nitrogen
Dissolved copper	Dissolved lead	Dissolved cadmium	Dissolved zinc.

Applicable quantitative limits are set forth at 25 Pa. Code 93.7, Table 3 (relating to specific water quality criteria) or otherwise authorized by §93.8a(b) (relating to toxic substances). High Quality waters must be better than the required minimum standard limits for the twelve listed parameters.

Appendix 1 (continued).

An Exceptional Value Stream (EV) [25 Pa. Code 93.4b(b)] **EITHER:**

1. **Meets** at least one **HQ** standard (as listed above), **PLUS** meets at least one of the following six requirements:
 - (a) Is located in a National Wildlife Management Area, or State Game propagation or protection area; OR
 - (b) Is located in a State Park Natural Area or State Forest Natural Area, National Natural Landmark, Federal or State Wild River, Federal Wilderness, or National Recreation Area; OR
 - (c) Is an outstanding National, State, or regional resource water, or a local resource water for which local governments have adopted water quality-protective measures along the watershed corridor; OR
 - (d) Is a surface water of exceptional recreational significance; OR
 - (e) Is found by PADEP to have a grab sample integrated benthic invertebrates score at least 92% that of an appropriate **EV** reference stream's contemporaneous score using current PADEP rapid assessment methodology; OR
 - (f) Is a wilderness trout stream designated by Pa. Fish & Boat Commission, after public notice and comment, in order to protect native trout and maintain wilderness aesthetics and ecosystem; **OR**
2. **Is** a surface water of **exceptional ecological significance**.

Additional, Related Definitions [25 Pa. Code 93.1]

Surface water of exceptional ecological significance—A surface water which is important, unique or sensitive ecologically, but whose water quality as measured by traditional parameters (for example, chemical, physical or biological) may not be particularly high, or whose character cannot be adequately described by these parameters. These waters include:

- (i) Thermal springs.
- (ii) Wetlands which are exceptional value wetlands under 25 Pa. Code 105.17(1) (relating to wetlands).**

Surface water of exceptional recreational significance—A surface water which provides a water-based, water quality-dependent recreational opportunity (such as fishing for species with limited distribution) because there are only a limited number of naturally occurring areas and waterbodies across the State where the activity is available or feasible.

**25 Pa. Code 105.17(1) reads as follows:

“(1) ***Exceptional value wetlands***. This category of wetlands deserves special protection. **Exceptional value wetlands** are wetlands that exhibit one or more of the following characteristics:

Appendix 1 (concluded).

“(i) Wetlands which serve as habitat for fauna or flora listed as “threatened” or “endangered” under the Endangered Species Act of 1973 (7 U.S.C.A. §136; 16 U.S.C.A. §§4601-9, 460k-1, 668dd, 715i, 715a, 1362, 1371, 1372, 1402 and 1531—1543), the Wild Resource Conservation Act (32 P. S. §§5301—5314), 30 Pa.C.S. (relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code).

“(ii) Wetlands that are hydrologically connected to or located within 1/2-mile of wetlands identified under subparagraph (i) and that maintain the habitat of the threatened or endangered species within the wetland identified under subparagraph (i).

“(iii) Wetlands that are located in or along the floodplain of the reach of a wild trout stream or waters listed as exceptional value under Chapter 93 (relating to water quality standards) and the floodplain of streams tributary thereto, or wetlands within the corridor of a watercourse or body of water that has been designated as a National wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A. §§1271—1287) or designated as wild or scenic under the Pennsylvania Scenic Rivers Act (32 P. S. §§820.21—820.29).

“(iv) Wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources, that maintain the quality or quantity of the drinking water supply.

“(v) Wetlands located in areas designated by the Department as “natural” or “wild” areas within State forest or park lands, wetlands located in areas designated as Federal wilderness areas under the Wilderness Act (16 U.S.C.A. §§1131—1136) or the Federal Eastern Wilderness Act of 1975 (16 U.S.C.A. §1132) or wetlands located in areas designated as National natural landmarks by the Secretary of the Interior under the Historic Sites Act of 1935 (16 U.S.C.A. §§461—467). “

Pennsylvania has implemented far less protection for its wetlands than for its streams. PADEP regulations purport to afford **Special Protection** only to those wetlands that have been specifically designated as having **Exceptional Value**. It is difficult to raise concerns for **EV** wetland protection, inasmuch as no maps or listings of **Exceptional Value Wetlands** in Pennsylvania are available to PADEP permit reviewers or to the public, not even for those **EV** wetlands known to have been designated in some 150 permits. After more than 30 years of administering applicable laws, PADEP has yet to designate any EV wetland pursuant to Criterion iv above, despite the presence of nearly 10,000 public water supplies and about 3 million private drinking water wells in the Commonwealth. It is likely that **EV** wetlands often are overlooked. Wetlands that qualify as **Exceptional Value** under one or more of the preceding criteria must be brought to the attention of PADEP, usually by the public, in every individual and general permit application throughout the Commonwealth, if PADEP is to be persuaded to make the final determination of

existing use protection demanded by 25 Pa. Code 93.4c(a)(1)(iv).

Individual permit applications to affect wetlands and other waters generally receive public notice. But PADEP waives regulation of most obstructions in streams and non-wetland floodways in watersheds smaller than 100 acres. Moreover, activities claimed to comply with general permits normally are not reviewed at all, but merely registered by PADEP. Municipalities and counties are afforded notice of general permit registrations as required by Act 14, but general permit registrations are no longer noticed to the public in the *Pennsylvania Bulletin*. It can be difficult for the public to provide PADEP with relevant information, as encouraged by antidegradation requirements [25 Pa. Code 93.4c(1)(iii)] when there is no permit review process.