

April 13, 2011

Delaware River Basin Commission  
c/o Carol Collier, Executive Director  
P.O. Box 7360  
25 State Police Drive  
West Trenton, NJ 08628-0360

**RE: DRAFT NATURAL GAS DEVELOPMENT REGULATIONS**

Dear Delaware River Basin Commissioners:

The Nature Conservancy welcomes the opportunity to comment on the Delaware River Basin Commission's proposed rule-making for natural gas development. We appreciate the time and thought the Commission and staff have dedicated to developing the draft regulations. They are an important framework to identify, avoid, minimize, and mitigate negative environmental impacts as natural gas is explored and developed in the Delaware Basin. Our comments are intended to strengthen and improve the regulations for the benefit of people and nature.

The Nature Conservancy's mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. For over 50 years, the Conservancy has based its work on sound science and strong partnerships with public and private interests. We work with partners across the United States and in over 35 countries, and we draw on that experience as we comment on these regulations. We have ongoing conservation efforts from the Delaware headwaters in the Catskill Mountains to the estuarine wetlands and marine areas of Delaware Bay. This letter represents the comments of Conservancy chapters in all four Delaware Basin states.

The Nature Conservancy recognizes that there are a broad range of issues that need to be addressed to protect public health, property, and the environment from impacts associated with natural gas development. Waste water disposal, for example, has received growing attention for the serious risks it poses to human and environmental health. The Nature Conservancy's comments in this letter, however, are limited to issues where the Conservancy has data and/or direct experience, most notably water sourcing and well pad locations. The Nature Conservancy's comments on the DRBC's December 9, 2010 draft regulations for natural gas development do not prejudice the Conservancy's comments on these and other important issues in future natural gas regulatory proceedings in any jurisdiction as new data and experience emerge. We therefore reserve the right to make additional comments as we deem appropriate.



## WATER SOURCES

The Nature Conservancy believes the draft rules for water sources will help reduce potential impacts from water withdrawals. Several draft rules should be strengthened or clarified, including:

- 7.4 (d)(1)(x). **Invasive species control plan** (p. 39). It would be helpful to define what criteria would be used by the DRBC Executive Director to determine whether an Invasive Species Control Plan (ISCP) is required for water withdrawal sites. Given the relatively poor data on the geography of invasive aquatic species, the Commission should consider using some portion of the permit review fees to support better mapping and inventory – perhaps by the Natural Heritage Programs in Pennsylvania and New York - of ecologically and economically damaging aquatic invasive species in the Marcellus region of the Delaware Basin. This data could then be used to determine whether an ISCP is required. This clarification is also needed for 7.4 (e)(3)(i) on p. 44.
- 7.4 (d)(1)(xi) **Pass-by flow requirement** (p. 39). A pass-by flow requirement is well suited to protect seasonal low flows in rivers and streams throughout the basin. We support the DRBC's inclusion of a pass-by flow requirement. However, we recommend that the DRBC develop a pass-by flow requirement that is based on flows needed to sustain the aquatic ecosystems of the basin. The Q7-10 flow has been used to designate the lowest stream flow into which a pollutant discharge can be allowed based on assimilation capacity. Its application to in-stream flow protection for other ecological purposes has long been criticized<sup>1</sup>. We recommend that the DRBC develop a pass-by flow requirement based on the ecological needs of the aquatic ecosystems of the Delaware basin. A pass-by flow requirement that varies monthly or seasonally will account for seasonal differences in stream flow and water availability. If regulations are finalized before an ecologically-based pass-by policy can be developed, we recommend that the DRBC include language that states that a pass-by flow requirement shall be a condition of the permit and that the pass-by should be determined consistent with the DRBC policy or guidance for determining a pass-by, or a more stringent value recommended by the appropriate host state agency (as currently stated in the draft regulations). With this addition, we still recommend that the draft regulations clarify that the pass-by flow requirement should never be less than the Q7-10 in order to be consistent with conditions established through other water quality permitting programs.
- 7.4 (e)(4)(i). **Hydrogeologic report** (p. 45). Some distance or threshold should be established for “nearby” which is not defined in reference to wells, perennial streams, and wetlands to be included in the hydrogeologic report.

---

<sup>1</sup> Annear, T., I. Chisolm, H. Beecher, A. Locke, and 12 other authors. 2004. Instream flows for riverine resource stewardship, revised edition. Instream Flow Council, Cheyenne, WY.



## WELL PAD LOCATIONS

The Nature Conservancy commends the Delaware River Basin Commission for taking a comprehensive approach to the siting of well pads and associated infrastructure in its draft regulations. The location, design and operation of this infrastructure pose significant risks to the integrity of watersheds in areas where deep shale gas formations are developed. A comprehensive planning approach is an effective way to avoid unintended and unsustainable cumulative impacts on water quality and flow from the proliferation of well pads, pipelines, roads, and other infrastructure. Recommendations for improving the draft regulations include:

- 7.5 (b)(4)(i, ii, vi, vii). **Siting restrictions** (p. 49). The risks posed by the use of large amounts of chemicals and the large area of earth disturbance that characterize deep shale gas production justify requirements for appropriately protective setbacks. Given the absence of scientific data that could be used to justify a specific distance that will minimize risk from spills, well blowouts, and erosion and sediment control measure failures, a distance of 500 feet from water bodies and wetlands may be sufficient in most cases. Site-specific conditions may justify greater or lesser setbacks in specific cases. As scientific data become available that may indicate greater setbacks are necessary to reduce risk to water bodies, we encourage the Delaware River Basin Commission to consider this information. Setbacks less than 500 feet may also be justifiable in other cases when the project sponsor can demonstrate that the “requested siting conditions would be equally or more protective of the water resources of the basin...” These conditions can be considered in the request for a variance outlined in 7.5 (b)(9)(ii)(A).
- 7.5 (b) (9)(ii)(A). **Variances** (p. 50). It is not clear what criteria might be used to evaluate whether a well pad siting restriction constitutes an “undue” burden for the project sponsor. We recommend that guidance on what might constitute an undue burden be included here.
- 7.5 (c). **Natural Gas Development Plans (NGDPs)**. Recent analysis by The Nature Conservancy, Audubon Pennsylvania, and Western Pennsylvania Conservancy has demonstrated that integrating conservation features – including habitat for sensitive species and large forest patches – into the planning and development of Marcellus gas well fields could significantly reduce habitat fragmentation, surface disturbance and associated impacts. The Nature Conservancy strongly supports the use of Natural Gas Development Plans (NGDPs) for companies with leaseholds greater than 3,200 acres or planning to develop five natural gas well pads within the basin. For cases where a project proponent develops more than one NGDP for their lease holdings because of disparate geography or other reasons, the Commission should specify a minimum size for the separate NGDPs (a minimum of 3,200 acres for any NGDP seems appropriate).
- 7.5 (c) (3)(iii). **NGDP Constraints Analysis Map** (p. 54). The Constraints Analysis Map should also include a subsection (C) for sensitive environmental features including important forest patches and Natural Heritage Sites that include globally rare species (e.g., G1-G3 species) that may not be listed as federally or state endangered or threatened. As with subsections (A) and (B), the project proponent should provide justification for why well pads and other infrastructure cannot avoid important forest patches and Natural Heritage Sites with globally rare species. The Nature Conservancy is



willing to share data it has developed on the distribution and conservation value of forest patches in the Delaware watershed with the Delaware River Basin Commission and with energy companies.

- 7.5 (e) (1-6). **NGDP Approval by Rule** (p. 55). The Nature Conservancy supports the Approval by Rule provisions for the NGDPs. We believe these provisions will strongly encourage project proponents to avoid or minimize damage to important natural features that protect water quality and site hydrology. The rule should be strengthened by adding an 8<sup>th</sup> subsection, "It must not be located in a Natural Heritage Site with globally rare species, as that term is defined by these regulations."
- 7.5 (h)(1) (vi)(D). **Mitigation, Remediation, and Restoration** (p. 61). The draft regulations defer to host state requirements for mitigation, remediation, and restoration. State reclamation/restoration requirements may not adequately address situations where forest clearing has occurred. To help maintain water quality and site hydrology, The Nature Conservancy recommends that forested areas disturbed for natural gas development be restored to a forest condition using native species.

## **SENSITIVE FRESH WATER HABITAT DESIGNATION**

The Nature Conservancy believes that some streams and waters, such as those with native brook trout populations and rare aquatic species, may require greater protection from excessive water withdrawals and risks posed by well pad and gas infrastructure development. The Commission could identify certain stream classes or designated uses with high ecological value or high sensitivity and incorporate special protections for these systems in the regulations. The Nature Conservancy is prepared to work with Delaware River Basin Commission and the member states to help identify rivers and streams with high ecological value. Such designations would be applicable to the regulations for both water sources and well pad locations.

## **CUMULATIVE IMPACTS**

The Nature Conservancy believes there is tremendous value in trying to determine the scientific basis for cumulative impact thresholds with respect to water flow, water quality, and habitat condition. The science and data to establish cumulative impact thresholds is poorly developed in most of these areas now. Already, The Nature Conservancy is in discussions with Delaware River Basin Commission staff on how to identify ecological thresholds for water withdrawals in the Delaware Basin for all uses (including natural gas development). The Nature Conservancy is also prepared to work with Delaware River Basin Commission to identify thresholds for forest loss and fragmentation that could affect water flow and quality.

Should the Commission or its staff have questions about The Nature Conservancy's comments on the draft natural gas regulations, please direct them to Nels Johnson, Pennsylvania Deputy State Director, in the Conservancy's Harrisburg office. He can be reached at (717) 232-6001 x108 and [njohnson@tnc.org](mailto:njohnson@tnc.org).

Sincerely,

A handwritten signature in black ink that reads "Bill" followed by a stylized flourish.

William Ulfelder, New York State Director

A handwritten signature in black ink that reads "Bill Kunze" in a cursive style.

William Kunze, Pennsylvania State Director

A handwritten signature in black ink that reads "Barbara" followed by a stylized flourish.

Barbara Brummer, New Jersey State Director

A handwritten signature in black ink that reads "Roger Jones" in a cursive style.

Roger Jones, Delaware State Director

cc: John Cook, Lise Hanners, Jimmie Powell, Bruce Runnels, Michael Lipford