

**2021 Comprehensive Plan for the Water Resources
of the Susquehanna River Basin**

Public Comments and Commission Responses

June 17, 2021

The Susquehanna River Basin Compact requires the Commission to plan for the immediate and long-range development and use of the water resources of the Basin. The Comprehensive Plan provides an overarching framework for the Commission to manage the Basin’s water resources and serves as a guide for all Commission programs and activities. The Commission has developed an updated Plan that will become effective on July 1, 2021, the year that marks the halfway point in the 100-year Compact. This updated Comprehensive Plan outlines the vision, needs, and strategy for effectively managing the water resources of the Basin during the period from 2021 to 2041.

The Commission accepted public comments on a Draft 2021 Comprehensive Plan for the Water Resources of the Susquehanna River Basin from December 18, 2020 through February 19, 2021. Commission staff conducted additional stakeholder outreach webinars to review key components of the Draft 2021 Comprehensive Plan on January 25 and 27, 2021. As required by the Compact, a formal public hearing on the Comprehensive Plan update was also held on February 4, 2021.

The Commission has addressed and/or responded to public comments submitted, and presented a final 2021 Comprehensive Plan for commissioner adoption at its June 2021 quarterly business meeting. This document serves as a response to public comments received.

York County Planning Commission

Comment:

YCPC appreciates the opportunity to provide comments on the SRBC Draft Comprehensive Plan update:

1. Page 4 first sentence under VISION should be edited to say “The Commission envisions a clean...”
2. Page 22, under objective A-5... “improve understanding of the link between land use decisions and local water resources”. Efforts to improve this understanding also need to be accompanied by efforts to improve taking the responsibility that goes with making those land use decisions.
3. Page 28, last sentence in objective D-4... swap words adapting and best to read ”...assist with adapting best management measures.”

Response:

The Commission appreciates the comments submitted by York County Planning Commission, pertaining to our 2021 Comprehensive Plan. Accordingly, Commission staff has made the suggested

revisions to the Vision, Objective A-5, and Objective D-4 portions of the Plan.

Pennsylvania Fish and Boat Commission

Comment:

1. Numerous components of the SRBC Plan overlap with the goals of PFBC, specifically implementing protective ecological flow recommendations; monitoring and improving fish passage; improving invasive species tracking; and predicting water needs under climate change. PFBC is enthusiastic about SRBC's implementation of The Nature Conservancy's (TNC) ecological flow recommendations throughout the basin. These guidelines provide important aspects of ecosystem protection (e.g. seasonality of flows) not included in previous guidelines focused solely on meeting a single low flow criterion. We look forward to working with SRBC to implement this more progressive flow management, monitor for positive ecological responses, and hopefully incorporate its use in other water management applications (e.g. hydropower) and within other resource agencies across the state.
2. PFBC looks forward to collaborating with SRBC on developing and implementing management strategies that protect our important aquatic resources from climate change. We appreciate that this critical concern has been incorporated into all aspects of the SRBC Plan. PFBC welcomes any opportunities to work with SRBC to evaluate how changing water availability and thermal regimes will impact species distribution and abundance, populations of rare, threatened and endangered species, and recreational fishing and boating activities.
3. We would like to draw attention to several passages in the Plan that could benefit from minor modification. The first is on Page 21 which states, "Water supply throughout the Basin is generally adequate to satisfy existing demands." While this may be the case for human water consumption, PFBC is aware of many instances where flow protection for aquatic species has been sacrificed in favor of human water needs. We recommend modifying this statement to specify that water supply is "...adequate to satisfy existing human demands."
4. Stemming from this suggestion, PFBC would support a comprehensive assessment of water resource adequacy across the basin. This may include an assessment of cumulative withdrawals, consumptive use, discharges and identifying areas where permitted passby flows are below protective limits. This could be useful to: identify where state agencies are successfully protecting instream resources while meeting human demand; characterize spatial patterns in inadequate water supply to support human and aquatic needs; prioritize areas that could support additional withdrawal without impacting aquatic species in proximity to those areas that may be stressed by withdrawals; and inform management under impending climate change and population growth. It could also provide an opportunity to estimate the financial costs of rectifying water need discrepancies and prioritize those most achievable.
5. PFBC is also concerned that Figure 10 is misleading. We suggest that the lower 229 miles of the Susquehanna River is not free flowing nor fully accessible, and despite supporting dams that "provide fish passage" the success of this passage is low. TNC's ecological flow report states

that, “Because these [Conowingo, York Haven, Safe Harbor, Holtwood, and Muddy Run] dams create multiple physical barriers between the majority of the Susquehanna River basin and Chesapeake Bay, access to 98% of historic diadromous fish spawning habitat is severely restricted.” PFBC suggests providing a modified figure that more accurately depicts success rates of fish passage throughout the basin.

6. In Priority Management Area B (Water Quality), PFBC recommends specifically calling out salinization as a water quality issue of concern in the basin. With widespread application of road salt, increased urbanization and runoff, climate change, and brine discharges, this is a water quality issue that we are only beginning to understand.
7. Successful implementation of SRBC’s Plan will depend on adequate staff and funding not just within SRBC but within all state resource agencies working as part of this concerted effort. Effectively addressing many of the issues presented in the Plan will require scientifically rigorous monitoring and surveying, modelling, and tool development. We hope that a collaborative working relationship between PFBC and SRBC will help overcome some of these challenges, but also recognize that efforts to meet aspects of the Plan may need to be prioritized according to limited budgets and resources.

Response:

The Commission appreciates the comments submitted by the Pennsylvania Fish and Boat Commission, pertaining to our 2021 Comprehensive Plan. We also look forward to increased collaboration on important water resource management initiatives including ecological flows, fish passage, invasive species, water use and availability, and climate change.

We did not modify the first sentence of the Current State under Priority Management Area A - Water Supply as recommended. This is because subsequent sentences acknowledge that there are specific areas of the Basin identified as having competing water uses and/or limited water availability, particularly during droughts. The section also notes that there are individual water supply systems and sources with known challenges.

Expressed support for a comprehensive assessment of water resource adequacy across the Basin, including an evaluation of cumulative withdrawals, consumptive use, discharges, and areas where permitted passby flows are below protective limits, has been partially satisfied via the Commission’s Cumulative Water Use & Availability Study (<https://www.srbc.net/our-work/programs/planning-operations/cumulative-water-use-availability.html>). Still, the Commission is interested in coordinating with the Pennsylvania Fish and Boat Commission to more closely examine specific watersheds or areas of concern to ensure water resources development is occurring in a sustainable manner that strikes an appropriate balance between satisfying water supply demands and protecting aquatic species.

As suggested, Figure 10 - Fish Passage in Susquehanna River and Tributaries, has been modified to depict dams with and without fish passage facilities vs. river miles open to fish passage in the lower Susquehanna River. The Commission is committed to continuing important work with the Pennsylvania Fish and Boat Commission and other Susquehanna River Anadromous Fish Restoration Cooperative partners to restore native migratory fish to historic ranges in the Basin.

The Current State under Priority Management Area B - Water Quality has been amended to call out increased chloride levels in streams as another water quality issue of concern only beginning to be fully understood, as recommended.

The Commission agrees that successful implementation of its Comprehensive Plan depends greatly on adequate staff and funding for the Commission and its partner agencies, including the Pennsylvania Fish and Boat Commission. Increasing effective collaboration between our agencies will help to eliminate redundancy and better leverage our collective expertise to address current and future water resources management challenges.

Trout Unlimited, Pennsylvania Council

Comment:

1. Priority Management Area B: Water Quality: The goal of Priority Management Area B: Water Quality that “waters throughout the basin exhibit good quality” is vague. Given the text following the goal statement, we assume that “good” means that water quality to be at least at the level to allow for the attainment of designated and existing uses under state and federal Clean Water Act programs; however, TU requests the Commission provide clarity relative to this definition.
2. Objective B1 in Priority Management Area B: Water Quality addresses improving water quality monitoring throughout the basin. We suggest that in addition to the methods listed as mechanisms to achieve improvement, the addition of monitoring stations should also be considered as an additional method as data from additional stations may be needed to achieve the outcomes described in the Plan.
3. The term “higher quality waters” is used in Objective B2 in Priority Management Area B: Water Quality. Given the text following the statement, we assume this term to include those categories of waters defined under each jurisdiction’s antidegradation policy/regulations to require additional protections under the federal Clean Water Act and state regulations. We also recognize that each jurisdiction has a different classification system for these waters such that the terms are not consistent throughout the basin. Thus, we suggest clarity is needed relative to this definition.
4. We suggest that Objective B4 in Priority Management Area B: Water Quality be reworded as “Remediate abandoned mine drainage and reclaim abandoned mine lands”.
5. Priority Management Area D: Watershed Management: Objective D3 is a critical objective for preserving critical habitats for trout; we commend the Commission for its inclusion in the Plan.
6. Objective D4 in Priority Area D: Watershed Management should be expanded to include connectivity for all species, not just those that are migratory. Trout are often isolated within a watershed by inadequate or improper culvert placements or other structures that present physical

barriers to (local) migration/movement.

7. We suggest Objective 5 in Priority Area D: Watershed Management be modified to recognize and address that aquatic invasive impacts can include impacts attributable to invasive plants.
8. General comments: The Commission should consider the addition of specific objectives relative to reintroduction of key species into the basin, such as aquatic mussels that have previously been extremely limited in distribution or extirpated. These reintroductions will provide additional ecosystem functions as mussel/fish host relationships can be reestablished and water quality benefits of filtering by mussels can be realized.
9. Cold water is integral to healthy trout and other aquatic organism populations. However, cold water habitats also play a key role in mitigation of rising water temperatures, including those due to climate change, on a watershed scale. We suggest the Commission incorporate deliberate coordination of strategies within different priority areas the plan, such as protection of forested areas and establishment of riparian buffers (Objective 2D), and protection of groundwater sources to allow for continued cold water inputs into streamflows (Objective 1D). Climate change and its impacts cut across all subject areas of the Plan and, thus, must be addressed in an interdisciplinary and deliberative fashion.
10. We understand that the plan is a framework for implementation activities and workplans for the Commission in the coming years, and, as such, is quite general. This generality limits the ability to comment on aspects of implementation of the Plan that will be the key to its effectiveness. We look forward to seeing and commenting (as opportunity presents) on annual Water Resources Programs which the Commission states it will use to implement activities to address objectives in the draft plan.

Response:

The Commission appreciates the comments submitted by the Pennsylvania Council of Trout Unlimited, pertaining to our 2021 Comprehensive Plan.

We did not modify the Goal under Priority Management Area B - Water Quality as recommended. This is because the subsequent Vision section provides clarity and context with respect to the definition of good quality. The Vision is that the waters of the Basin will meet or exceed water quality standards and are able to support desired water supply, aquatic life, and recreational uses.

Objective B-1 has been amended to highlight adequate geographic coverage as another method of improving water quality monitoring. Ensuring that existing monitoring stations provide sufficient spatial distribution for monitoring water quality throughout the Basin may be equally or more important than the incorporation of additional monitoring stations.

Objective B-2 has been amended to add clarity relative to the term higher quality waters. The rationale provided under Objective B-2 has been modified to specify applicability to waters classified as having excellent water quality or use designations requiring special protections. This revision further clarifies the definition of higher quality waters with respect to the objective without delving into the differences

in stream classification systems across Basin states.

We did not reword Objective B-4 as recommended. For sake of brevity, we feel remediate is an adequate action verb for addressing both abandoned mine drainage and abandoned mine lands.

Objective D-4 has been amended to include improving habitat connectivity for trout and other native species measures, which will help to restore Basin aquatic ecosystem conditions overall.

We did not modify Objective D-5 as suggested. We feel that use of the term aquatic invasive species implicitly covers non-native plants, animals, and other organisms that have evolved to live primarily in aquatic habitats.

Objective D-4 has been amended to include supporting aquatic mussel reintroduction, which will help to restore Basin aquatic ecosystem conditions overall.

Objectives D-1 and D-2 have been amended to emphasize the importance of protecting and/or enhancing groundwater recharge, stream baseflow, forested areas, and riparian buffers to help offset climate change impacts to cold water habitats.

As alluded to in the Pennsylvania Council of Trout Unlimited's comments, the 2021 Comprehensive Plan will be implemented through the Commission's annual Water Resources Program and associated budget. We developed an updated Water Resources Program for fiscal years 2022 - 2024 and budget for fiscal year 2022, which were adopted at our June 2021 quarterly business meeting. These products outline the priority projects and initiatives planned to be undertaken by the Commission, and the estimated cost and method of financing them, to effectively implement the Comprehensive Plan and achieve its goals and objectives. The Commission looks forward to future input from Trout Unlimited regarding priority projects to include in its annual Water Resources Program.

Protect Northern PA

Comment:

We are writing as Pennsylvania residents. Pennsylvania is one of three states in this compact and the one with the most watershed area, and the only one of the three with a resident natural gas-extraction industry. We have a major concern: The Plan claims *Climate change is a cross-cutting challenge that is addressed in the objectives identified within each priority area*. However, we don't see any proposals to address the root cause of climate change: carbon emissions and the role of the natural gas industry in increasing carbon emissions.

The original 1970 Compact (2) states, *the purposes of this compact are to promote interstate comity; to remove causes of possible controversy*. An important source of controversy is unconventional gas development (fracking). The Commission was formed in 1972, when there was no unconventional gas development. Since that time, New York, one of the three states in the Compact, banned fracking in 2015, after careful study. (3)

The Compact, talks about “Inherent Values.” *Inherent Values. The signatory parties agree that it is a purpose of this compact in effectuating the conservation and management of water resources to preserve and promote the economic and other values inherent in this historic and the scenic and other natural amenities of the Susquehanna River Basin for the enjoyment and enrichment of future generations, for the promotion and protection of tourist attractions in the basin, and for the maintenance of the economic health of allied enterprises and occupations so as to effect orderly, balanced, and considered development in the basin.*

The Compact lacks mention of public harm. We now know, what we did not know in 1970, that runaway gas extraction is a major cause of carbon emissions and climate change, and therefore is not an “inherent value” to be preserved.

The draft Comprehensive Plan acknowledges the need to update the plan periodically to address *emerging* issues and challenges. (4) Climate change is more than an emerging issue. It is here and now.

We are in a climate emergency. Clearly, to get to a state of carbon neutrality over the next 20 years, gas production will need to be greatly curtailed. Your Plan must promote that end. All hands on deck! **If you are not part of the solution, you are part of the problem.** All agencies (local, federal, state, interstate), as well as corporations, must engage in introspection as to how their decisions and actions promote the climate apocalypse ---or slow and reverse it.

We disagree with the SRBC’s inclusion of “natural gas” among the water resource “needs” it should address over the next two decades (excerpt below). Sure, gas extraction is here presently, and the SRBC will continue to sell water to the gas industry in the short term. However, ensuring an adequate supply of water for natural gas over the next two decades is wholly inconsistent with “ecosystem stewardship” and where we need to be as a region, nation, and world.

*Fulfilling the vision means addressing diverse, complex water resources needs, now and in the future. These needs are interconnected and continually evolving, requiring integrated and adaptive water resources management approaches to ensure water demands are met while balancing public health and safety, economic development, and **ecosystem stewardship**. They include, for example: **ensuring adequate water supply** for electric generation, public water supply, manufacturing, mining, **natural gas**, agriculture, and recreation;*

In 2016 we already knew that climate change was increasingly affecting weather patterns, including droughts and floods. (5) PA will see more droughts in summer and fall due to climate change. Water resources will have to be conserved. Excessive and unnecessary consumptive use, like fracking, is incongruent with this emerging reality.

The overarching *need* is to disincentivize fracking as rapidly as possible. That is your urgent and paramount mission. There is no mystery as to why New York decided to disallow fracking in 2015, after studying it. Pennsylvania has now had a decade of experience, with much environmental harm to show for it. Natural gas is no longer the “bridge fuel” to a clean energy future.

Presently, gas is so plentiful and cheaply extracted in Pennsylvania that the industry has caused pipelines and LNG export terminals to be built to take away the excess U.S. gas (estimated at about 20% of U.S.

gas production.) The cheapness of gas spurs infrastructure for exports, causing Pennsylvania to be a major driver of worldwide gas use, disincentivizing adoption of clean energy technologies. Why not make gas more expensive so less is exported and less is fracked? The fracking industry predicts it will increase its gas production by 14% percent in the next year. The increased gas production will go to international exports. (6)

The pie chart on page 12 shows a significant amount of total basin-wide consumptive use going to gas. Alarmingly, the chart for 2040, does not show much of a decrease. **Does the SRBC think we should be fracking in 2040 at the same rate as 2017?** One would rather see the 2040 pie chart show a narrow sliver of gas consumptive use.

By allowing cheap water to the fracking industry, SRBC will be a part of the problem. **Cheap water to the gas extraction industry subsidizes fracking.** We see that you have outlined prices for water permits and consumptive use. (7) SRBC can be part of the solution we need. The SRBC needs to price water to the fracking industry commensurate with the environmental and social harm. The SRBC can help us get to minimal natural gas extraction. SRBC can price water for fracking at a rate that drives up the price of gas relative to renewables. We see you have different prices of permits – why not have tiered pricing for the consumptive use, rather than the flat rate of \$.33?

In summary, we are in a *climate emergency*. You must be part of the solution.

As responsible stewards, we hope you will look at your mission broadly and responsibly. Be leaders who can break from the past in the face of new information and changing risks. Seriously consider your ability to ameliorate those risks. If this body does not consider its obligation to reduce gas extraction, who will?

References

1. Draft Comprehensive Plan <https://www.srbc.net/our-work/programs/planning-operations/docs/draft-comprehensive-plan-2021.pdf>
2. Susquehanna River Basin Compact <https://www.srbc.net/about/about-us/docs/srbc-compact.pdf>
3. The 2015 report of the state of New York https://www.dec.ny.gov/docs/materials_minerals_pdf/findingstatevhf62015.pdf
4. Vision. The Commission envisions a clean, sustainable, and adequate water supply in the Susquehanna River Basin that supports a range of human, economic, and ecological needs. Through collaborative partnerships and coordinated action, as well as use of the best science, water resources in the Basin will be managed effectively to meet existing and emerging challenges in the face of changes to the landscape and climate extremes. As a result, Basin communities will be able to reliably depend on their water supply for a range of uses, be better prepared and able to mitigate the impacts from floods and droughts, and benefit from healthy aquatic ecosystems and enhanced recreation <https://www.srbc.net/our-work/programs/planning-operations/docs/draft-comprehensive-plan-2021.pdf>

5. Rising temperatures and shifting rainfall patterns are likely to increase the intensity of both floods and droughts <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-pa.pdf>
6. Northeast production could climb 4.6 Bcf/d (14%) over the next five years. <https://rbnenergy.com/headed-for-heartbreak-northeast-gas-markets-slow-march-toward-more-takeaway-constraints> Pennsylvania’s gas output reached approximately one fifth of the total U.S. production. <https://www.eia.gov/todayinenergy/detail.php?id=35892> LNG exports support gas prices. <https://www.offshore-energy.biz/eia-lng-exports-rise-to-boost-henry-hub-prices/> Low prices accelerate both consumption and exports. <https://www.reuters.com/article/us-usa-gas-kemp/column-us-gas-market-tightens-despite-mild-winter-kemp-idUSKBN29V1ZP> U.S. exports of liquefied natural gas (LNG) set a new record in December. <https://www.eia.gov/naturalgas/weekly/>
7. REGULATORY PROGRAM FEE SCHEDULE. Effective January 1, 2021 <https://www.srbc.net/regulatory/fee-schedules/>
 TABLE 1. PROJECT REVIEW AND MODIFICATION FEES
 Unconventional Natural Gas or Other Hydrocarbon Development:
 New Application \$ 8,075
 Renewal Application \$ 2,075
 Modification of an Approval \$1,125
 TABLE 3. CONSUMPTIVE USE MITIGATION FEE Standard Fee \$0.33 per 1,000 gallons consumed

Response:

The Commission appreciates the comments submitted by Protect Northern PA, pertaining to our 2021 Comprehensive Plan. Since many of the comments regarding natural gas development are similar or related to those submitted by the Sierra Club, the Commission addressed both sets of comments through a joint response on natural gas development found after the following comments provided by the Sierra Club.

Sierra Club, Pennsylvania Chapter

Comment:

Stream impairment sources should include fracked gas infrastructure: Fracked gas infrastructure, including well pads, pipelines, compressor stations, and waste storage facilities, should be added as a criteria in the list of stream impairments. According to the Commission’s gas development fact sheet¹, hydraulic fracturing can impact “public water supplies and the integrity of surface and groundwater” and “is cause for concern, both from a water quantity and water quality perspective”. The listed impacts include:

- Impact of water withdrawals on small, remote forested streams, often home to wild trout and other sensitive species
- Potential for water contamination resulting from poor casing or inadequate grouting of well bores, or from flooded or leaking waste holding pits

- Runoff from well pad sites, pipelines and unpaved roads
- Gas migration into streams and nearby water wells
- The handling and disposal of fluids that return to the surface after hydraulic fracturing (flowback)
- Disturbance of sensitive lands adjacent to water bodies
- Spills

Additionally, according to the EPA, aquatic resources have the potential to be impacted by many gas infrastructure development activities, including waterbody crossings, clearing, blasting, and water withdrawals for hydrostatic testing². Nearly 5,500 unconventional wells on roughly 2,000 well pads were drilled in the Susquehanna River Watershed between 2007 and 2017.³ In a 2017 presentation, The Nature Conservancy outlined that shale gas companies could drill 27,600 additional wells in the Susquehanna River basin by 2030, which would result in approximately 6,900 well pads.⁴ These additional 4,900 well pads represent 31,850 acres of disturbed lands for the pads and access roads alone. Overall, the Nature Conservancy believes that up to 110,000 acres of forested land could be cleared in the Susquehanna River Watershed by 2030. In addition to well pads and access roads, one must also account for the impacts of associated pipelines. Estimates suggest that 12-15 acres of gathering line are installed per acre of well pad. Fracked gas infrastructure is a substantial impact to Basin waterways and should be tracked accordingly. We ask that the Commission include the impacts of fracked gas infrastructure in the list of stream impairment sources included in the Plan.

Prioritizing climate change is not compatible with approvals for gas infrastructure water needs and uses. We applaud the Commission for acknowledging that “climate change is a cross-cutting challenge” and that they strive to reflect this in the objectives identified within each of the priority areas.⁶ If the Commission plans to address climate change, it cannot do so by continuing to approve water withdrawal applications and consumptive water use applications for well pads, pipelines, compressor stations, and waste storage facilities. Climate change is inextricably linked to the extraction, use, and development of fossil fuels, including fracked gas⁷ and the SRBC must consider the direct, indirect, and cumulative effects of gas infrastructure projects on water resources of the Susquehanna River Basin, up to and including denying applications for water withdrawals and consumptive use.⁸

Underneath the SRBC Compact 3.10 Referral and Review, Section 4

- “The commission shall approve a project if it determines that the project is not detrimental to the proper conservation, development, management, or control of the water resources of the basin and may modify and approve as modified, or may disapprove the project, if it determines that the project is not in the best interest of the conservation, development, management, or control of the basin's water resources, or is in conflict with the comprehensive plan.”⁹

By placing gas infrastructure into its stream impairment sources, the Commission can explicitly take actions to prevent and mitigate the effects of these projects in the Basin as dictated by the Compact. As climate impacts grow larger, more formidable and more frequent, the Commission should also consider more stringent measures to protect the quality, as well as the quantity, of water resources within the Basin and work in collaboration with its partners to ensure potable water for residents of the Basin (and

residents utilizing the out-of-basin diversions) for years to come.

Reducing water withdrawals is critical to the protection of water resources, both in quantity and quality. In the Draft 2021 Comprehensive Plan, six of the ten areas with the highest consumptive use (Table 2) are also later classified as having “very poor” or “poor” water quality indexes (Figure 7).

- “Very poor” - Conestoga River
- “Poor” - Upper Swatara Creek; Lower Swatara Creek; Lower Conewago Creek; Codorus Creek; Octoraro Creek.

According to the Environmental Protection Agency (EPA), “water withdrawals can affect stream flow, recreational and biological uses, and result in impacts to stream and wetland habitat”. Furthermore, they recommend additional analysis of the “cumulative impacts to water quality, headwater streams, high quality and/or sensitive aquatic resources”¹⁰. On page 97 of the current Comprehensive plan, the Commission states: “For geologic reasons, the unconventional gas industry is primarily developing within relatively small watersheds located on the Appalachian Plateau of Pennsylvania. Water withdrawals from these smaller watersheds are in contrast to withdrawals from the larger watersheds located further south within the basin in which most other water users have historically been located.” Shale gas development requires “large volumes of water” and “the drilling and development of each production well uses, on average, between 4 and 5 million gallons of water.”¹¹ The SRBC acknowledges that these “quantities can be significant relative to the headwater settings where development has predominantly occurred.”¹² If shale gas development continues expanding in the Basin, these water withdrawals could have a significant impact on water resources.

The Commission should also consider the anticipated impact of future water withdrawals from fracked gas wells needed to supply larger shale gas development projects — like pipelines— when reviewing withdrawal permits related to these projects.¹³ Continuing to allow large water withdrawals necessary for the gas industry to function will have a substantial effect on these smaller watersheds and surrounding ecosystems, especially where watershed resources are already impaired. The Commission must reduce the amount of water withdrawn by the gas industry for consumptive use far more than the 3mgd projected in this draft plan.

Finally, the Commission regulates all water withdrawals and consumptive water uses for gas development in the Basin, and as gas wells, pipeline projects, and other fracked gas infrastructure projects seek water withdrawals and consumptive water use applications, the Commission should take into account the prior violations of fracked gas activity in the area of the withdrawal¹⁴ given the demonstrated potential for impact to water quality.

The tactics of water reuse and treatment of “capturing runoff” should be outlined. Under the “Water Supply” Priority Management Area, the Commission outlines an objective to “expand water conservation and reuse practices”. The Sierra Club advises against reuse practices of fracking water as it contains chloride, bromide and radium, all known carcinogens and radioactive materials. Additionally, the Commission outlined plans to have an “increased focus on capturing and treating

runoff using best management practices”. Caution and restraint should similarly be exercised in areas near gas infrastructure or landfills that accept fracking wastewater and solids. According to a Public Herald investigation in 2019¹⁵, water and sewage treatment facilities, and landfills in Pennsylvania have demonstrated an inability to remove fracking salts, metals, and radioactive elements from their water and leachate.¹⁶ For example, in 2017, the Belle Vernon sewage treatment facility’s microorganisms were being killed off by fracking chemicals found in the leachate the facility was accepting from the nearby Westmoreland Sanitary Landfill. About 40% of the landfill’s waste since 2010 had been solid oil and gas waste. Some of the radium made its way through the landfill and the sewage treatment plant to the Monongahela River and surpassed EPA limits.¹⁷ Landfills within the Susquehanna River Basin also collect large amounts of oil and gas waste, like the Keystone Landfill in Lackawanna County.

The Commission emphasized environmental justice (EJ) lens without detailing tactics. The Commission has placed an emphasis on EJ communities and considerations, which we appreciate, but has not demonstrated what actions they will take or any changes to their approach. The Commission also notes that it will “support more equal treatment of Basin communities”. We contend that EJ communities have different needs from other areas, needs that must be met by the Commission in accordance to its charge, so we ask the Commission to consider reframing their approach to strive for equity, not equality. To begin accomplishing this, the Commission should include concrete and measurable outcomes it will meet to achieve this goal, including, but not limited to:

1. assessing all decisions made by the Commission regarding applications or operations within EJ areas and accordingly making any adjustments to the Commission’s practices to ensure that activities by the Commission help alleviate, not exacerbate, the issues experienced by residents of environmental justice, including impacts to water quality or concentration of impacts in environmental justice areas;
2. ensuring ease of access to all information of Basin activities, public hearing notices hosted in multiple locations in multiple languages, as well as increased public participation opportunities, including a minimum of thirty days notice for comment periods, hearings, and meetings;
3. ensuring that the Commission — given its level of cooperation with local state, and federal agencies, partners, and stakeholders — is meeting its responsibility to the public and to residents in EJ areas by providing residents and stakeholders with open and timely access to information;
4. and making decisions grounded in any feedback given by residents and stakeholders in EJ areas.

In closing, while many of the priority areas issued in the Plan are necessary to the health and wellness of the Susquehanna River Basin, the Commission needs to have stronger language and consideration around the impacts of the gas industry. Gas infrastructure should be included as a stream impairment, and large water withdrawals needed to support the industry should be reduced over time. Flooding and drought mitigation are not the only considerations when speaking of climate change, the Commission should also be focusing on causes of climate change within the basin. The Commission must also strengthen its commitment to meeting the needs of residents living in environmental justice areas, including increasing opportunities for public participation, ensuring access to information, and making decisions based on the feedback from and needs of environmental

justice areas. We appreciate this opportunity to comment on the Susquehanna River Basin Commission (SRBC) Draft Comprehensive Plan and look forward to continuing to engage with you on our shared commitment to the Basin.

1 <https://www.srbc.net/our-work/fact-sheets/docs/natural-gas-development.pdf>

2 https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/pennsylvania-chapter/ASP_Filings/20160815%20Joint%20Comments%20to%20Susquehanna%20River%20Basin%20Committee%20Regarding%20Water%20Withdrawal%20Permits.pdf

3 <https://www.fractracker.org/2017/02/susquehanna-river-basin-impacts-intro/>

4 This analysis assumes four wells per pad, a relatively conservative number given recent trends where up to a dozen wells are being drilled on a single pad.

5 http://www.chesapeake.org/stac/presentations/208_Johnson.pdf

6 <https://www.srbc.net/our-work/programs/planning-operations/docs/draft-comprehensive-plan-2021.pdf>

7 <https://www.vox.com/energy-and-environment/2019/8/15/20805136/climate-change-fracking-methane-emissions>

8 https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/pennsylvania-chapter/ASP_Filings/2016-08-

15%20Joint%20Comments%20to%20Susquehanna%20River%20Basin%20Committee%20Regardin

g%20Water%20Withdrawal%20Permits.pdf

9 <https://www.srbc.net/about/about-us/docs/srbc-compact.pdf>

10 FERC Docket No. CP15-138-000, Accession No. 20160706-0052 (“EPA DEIS Comments”)

11 <http://srbc.net/programs/docs/NaturalGasInfoSheetJan2013.PDF>

12 http://srbc.net/planning/assets/documents/CWUAS_Report_20160812.PDF

13 https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/pennsylvania-chapter/ASP_Filings/2016-08-

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14 <https://www.fractracker.org/2017/02/susquehanna-river-basin-impacts-intro/>

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Response:

The Commission appreciates the comments submitted by Protect Northern PA and the Pennsylvania Chapter of the Sierra Club, pertaining to our 2021 Comprehensive Plan. The following response on natural gas development addresses the main themes expressed by both organizations. The response after that addresses comments from Sierra Club on environmental justice.

Natural Gas Development

Established pursuant a federal-interstate Compact, the Commission is vested with the authority and responsibility to manage the water resources of the Basin at a major watershed scale through a power-sharing arrangement that includes the member jurisdictions of Pennsylvania, New York, Maryland and the Federal government. These signatory parties jointly exercise their powers of sovereignty over water resources management through their Commission actions. Utilizing its authority to manage withdrawals, consumptive uses and diversions of the waters of the Basin, the Commission has developed a regulatory program governing ground and surface water withdrawals, and consumptive use of that water. Under the program, the Commission has established appropriate thresholds and standards to ensure sustainable utilization of the resource, avoid conflicts between water users, prevent adverse environmental impacts, provide uniform and consistent management, and facilitate economic growth.

With regard to shale gas development, the Commission saw fit to develop specific regulatory provisions related to water withdrawals and consumptive use to address some of the unique aspects of this activity. Those provisions do not extend to all environmental aspects of shale gas development but rather are focused on quantitative issues associated with water resources management. Notwithstanding its broad authority under the Susquehanna River Basin Compact, and consistent with its approach to other industries, the Commission has taken the position that its signatory parties have the primary role in regulating the extraction of natural resources in their respective jurisdictions, and that includes shale gas.

In short, the Commission has a very important but focused role to play in managing the water availability and use for shale gas development. In accordance with the Compact, that role should be one that complements, not supplants, the primary role of the signatory parties and local government in regulating the full range of activities associated with that development, including but not limited to other issues raised related to land use zoning and control, wastewater/waste management, natural gas infrastructure, etc.

To date, through implementation of its regulations and policies, the Commission has successfully managed water availability and use by the shale gas industry, along with the many other public/commercial/industrial uses prevalent throughout the basin. Where there have been concerns with water availability during drier conditions, or at stream locations exhibiting higher water quality, the Commission has employed a variety of practices during the review of water withdrawal requests to ensure no adverse impacts to streamflows and the aquatic ecosystem. Those practices have included such practices as conducting aquatic ecosystem assessments in the vicinity of proposed withdrawals, including protections for sensitive species during any construction, and requiring withdrawals to cease under certain streamflow conditions (typically drier conditions). The Commission also conducted a basinwide water use and availability study, which it refreshes annually with more recent data that indicates water use by the industry can be accommodated now and into the foreseeable future given the management framework in place. However, the Commission certainly recognizes the need to track any changing conditions with regards to climate and land use/development, as well as changing patterns in water use by the industry, and continually assess any needs to adapt its management approach.

Beyond the general Compact references above directing the Commission to preserve and utilize the authorities of its members in managing water resources, there is very specific language contained in

Article 5, which sets forth the Commission’s role and authority in the area of water quality management, and clearly states “The legislative intent in enacting this article is to give specific emphasis to the primary role of the states in water quality management and control.” To that end, the Commission has deferred to the states for determining sources and causes of stream impairment under the Clean Water Act. As such, the Commission has focused on assisting its member jurisdictions with enhancing water quality management through non-regulatory activities in such areas as providing enhanced outreach/education, coordinating activities/initiatives among local/state/federal entities, as well as conducting water quality monitoring throughout the basin to ensure more uniform/consistent assessment of subbasin/basinwide conditions. A more specific example from the past decade was rapid deployment of an extensive real-time water-quality monitoring network to tracks conditions in areas undergoing shale gas development, which has since been expanded basinwide to track a range of water quality conditions over a range of settings, which will also capture any changes in stream conditions as a result of climate change.

In summary, the Commission focuses its role managing water resources to managing water withdrawals and use associated with natural gas development, but the Commission also recognizes and respects the roles the signatory parties play in regulating natural gas activities in their respective jurisdictions. To that end, as long as unconventional natural gas extraction is permitted to occur in the Susquehanna River Basin, the Commission will continue to manage the basin’s water resources in the best manner possible for balancing public, industry, and ecological needs.

Environmental Justice

The Commission appreciates the comments with focused attention on environmental justice (EJ) issues. The Comprehensive Plan is intended to serve as a high level planning document, and Commission staff did not develop detailed actions and outline in detail the desired outcomes and measures. Section 6, which covers implementation of the Comprehensive Plan, show how the Commission develops/updates annual Water Resources Program that outlines the more specific actions and measures defining how and what the Commission will do to advance progress on objectives listed under the Comprehensive Plan. As a “cross-cutting” theme in the Plan, the Commission will look to enhance its EJ efforts throughout its programs and employ a variety of tactics to engage the basin’s underserved and disadvantaged communities in more meaningful ways depending on needs, whether that be enhanced stakeholder outreach/engagement and/or extension of program services into more communities. In order to signal what possible actions the Commission may take depending on the Priority Management Area (PMA), staff did add some additional detail on what actions the Commission may take under its “Role” in each PMA section in the Plan. Lastly, the Commission recently adopted Resolution No. 2021-05 which outlines more specific actions the Commission is taking to enhance its EJ focus.