National Ground Water Association
Comments on
FY 2022-2026 EPA Strategic Plan, Draft, October 1, 2021

Federal Register Notice: 86 FR 54448

Agency/Docket ID No.: EPA-HQ-OA-2021-0403; FRL-9005-01-OCFO

Comments Due: November 12, 2021

Summary

The EPA Strategic Plan EPA's FY 2022-2026 Strategic Plan communicates the Agency's priorities and provides the roadmap for achieving its mission to protect human health and the environment. EPA's Strategic Plan includes a suite of long-term performance goals (LTPGs) that reflect the quantifiable outcomes the Agency will achieve for each strategic objective and cross-agency strategy by 2026.

Electronic Link: https://www.federalregister.gov/documents/2021/10/01/2021-21349/draft-fy-2022-2026-environmental-protection-agency-strategic-plan

Comments of the National Ground Water Association

With a focus on the responsible use and development of groundwater, the National Ground Water Association supports the Environmental Protection Agency Strategic Plan goal to "Ensure Clean and Safe Water for All Communities." In carrying out this goal, NGWA supports the states' management and control of their groundwater resources, recognizing that the environmental and public health protection programs of the EPA affect both the quality and quantity of groundwater managed and controlled by states.

While the overall approach in water management of the EPA Strategic Plan is appropriate, the following factors should be incorporated into and/or amplified in the plan:

Groundwater Protection

NGWA significantly finds groundwater protection in the draft plan associated with providing safe drinking water, protecting and restoring watersheds, addressing uncontrolled releases of hazardous substances, and reducing waste, which are all appropriate actions that the

Association strongly supports. We believe that the role of underground injection control under the Safe Drinking Water Act that directly affects the quality of groundwater should be integrated in the approach of addressing releases of hazardous substances and providing safe drinking water, including potential effects of underground sequestration of carbon dioxide from power plants and other sources.

Per- and Polyfluoroalkyl Substances (PFAS)

NGWA applauds EPA's assertive steps to address PFAS and encourages further steps to control these substances, particularly in groundwater. NGWA is very concerned that public health researchers Guelfo and Adamson examined PFAS results from previous Unregulated Contaminant Monitoring Rule (UCMR) monitoring in detail[1] and found that approximately 50 percent of samples with reportable levels of one or more PFAS detections contained at least two PFAS compounds and 72 percent of detections occurred in groundwater. When detected, median total PFAS concentrations were higher in small community water systems (CWS) serving 10,000 or fewer persons (0.12 µg/L) than in large CWSs (0.053 µg/L). This PFAS level in small water systems is nearly twice the current Health Reference Level of 70 ppt. Also, significant in this regard is that 77 percent of all community water systems are small groundwater-supplied systems serving 10,000 or fewer people and have fewer resources to manage their water systems. [2,3] Ninety-seven (97) percent (93,807) of nontransient and transient noncommunity water systems are groundwater-supplied. [4]

Guelfo and Adamson also reported that large water systems serving more than 10,000 persons were 5.6 times more likely than small PWSs to have PFAS detections. Many large systems have groundwater sources for supplementary or backup water supply.

The EPA Strategy should develop a focus on addressing groundwater and surface water impacts of PFAS working with other Federal, State and local agencies and the private sector in pursuing protection of human health and the environment.

[1] Guelfo, J.L. and D.T. Adamson. 2018. Evaluation of a national data set for insights into sources, composition, and concentrations of per- and polyfluoroalkyl substances (PFASs) in U.S. drinking water. Environmental Pollution vol. 236 (May), pp.505-513.

[2] U.S. Environmental Protection Agency (USEPA). 2021. Drinking Water Government Performance Results Act Tool, Inventory. https://obipublic.epa.gov/analytics/saw.dll?PortalPages&PortalPath=/shared/SFDW/_portal/Public&Page=Inventory

[3] U.S. Environmental Protection Agency (USEPA). 2021. 18th Annual EPA Drinking Water Workshop: Small System Challenges and Solutions. https://www.epa.gov/water-research/18th-annualepa-drinking-water-workshop-small-system-challenges-andsolutions.

[4] U.S. Environmental Protection Agency (USEPA). 2021. Drinking Water Government Performance Results Act Tool, Inventory. https://obipublic.epa.gov/analytics/saw.dll?PortalPages&PortalPath=/shared/SFDW/_portal/Public&Page=Inventory

Water Reuse/Managed Aquifer Recharge

Water reuse is mentioned once on page 48 of the draft plan in connection with the Water Infrastructure Finance and Innovation Act loan program but the National Water Reuse Action Plan is not cited. EPA's role in advancing water reuse through research, demonstration projects and regulatory changes is significant. Enhanced aquifer recharge research supporting managed aquifer recharge in water-short communities can provide the basis for sustaining communities' health and economies.

Stormwater Control and Management

Stormwater control is addressed several times and notably on page 53 to support aquifer recharge. Stormwater control measures are primarily for reducing and eliminating pollution to surface waters. Stormwater pollutants include sediment, nutrients, bacteria, pesticides, metals, petroleum by-products and emerging contaminants.[5] EPA's principal regulatory approach to control stormwater is stormwater infiltration to the subsurface.[6] Research has shown that the groundwater impact of this means of stormwater disposal is not well understood.[7] EPA should devote resources and research to addressing appropriate best management practices for stormwater control that are protective of groundwater quality. As extreme weather from climate change increases volumes of stormwater in humid areas in the future, this consideration will become more significant. EPA should focus near-term efforts on providing

[5] U.S. Environmental Protection Agency. 2020a. New Interim Strategy Will Address PFAS Through Certain EPA-Issued Wastewater Permits; Press Release of Nov 30, 2020. https://www.epa.gov/newsreleases/new-interim-strategy-will-address-pfas-through-certain-epa-issued-wastewater-permits; U.S. Geological Survey (USGS). 2021. Runoff: Surface and Overland Water Runoff. https://www.usgs.gov/special-topic/water-science-school/science/runoff-surface-and-overland-water-runoff?qt-science_center_objects=0#qt-science_center_objects.

[6] U.S. Environmental Protection Agency (USEPA). 2020b. MEMORANDUM, SUBJECT: Implementation of Integrated Planning in Accordance with the 2019 Water Infrastructure Improvement Act (WIIA), FROM: Sally Gutierrez, Acting Director, Water Permits Division, TO: Water Division Directors, Regions 1-10, Dated December 3, 2020. https://www.epa.gov/sites/production/files/2020-01/documents/wiia_integrated_planning_implementation_memo_december_2019_508.pdf

[7] Environmental Protection Agency. 2018. The Influence of Green Infrastructure Practices on Groundwater Quality: The State of the Science, EPA/600/R-18/227, https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=342610; National Academies of Science. 2019. Improving the EPA Multi-Sector General Permit for Industrial Stormwater Discharges. https://www.nap.edu/catalog/25355/improving-the-epa-multi-sector-general-permit-for-industrial-stormwaterdischarges; Environmental Protection Agency. 2020. The Influence of Stormwater Management Practices and Wastewater Infiltration on Groundwater Quality: Case Studies. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/143. https://cfpub.epa.gov/si/si_public_record_Report.cfm?Lab=CESER&dirEntryId=350152; Environmental Protection Agency. 2021. Enhanced Aquifer Recharge of Stormwater in the United States: State of the Science Review (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-21/037F. https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=352238

technical assistance and guidance to communities to ensure that infiltration systems design and implementation are protective of groundwater quality, particularly for communities that rely on groundwater for water supply. NGWA's analysis of EPA data shows that at least 1,500 communities that have or will be given permits to implement stormwater control measures are coincident with groundwater-supplied community water systems, potentially affecting 36.4 million people.[8] Nearly half of these communities are served by small groundwater systems serving 10,000 or fewer people, typically having fewer resources to respond to water or other issues.[9] Additionally, large surface water-supplied systems often have supplemental groundwater wells.

The geology of the United States influencing groundwater and its vulnerability to contamination is complex.[10] Sites of potential stormwater infiltration should be investigated to determine potential impacts to groundwater quality.[11] An assessment of the continental United States for vulnerability from subsurface placement of wastewaters and fluids by shallow underground injection found significant to moderate vulnerability of groundwater for 60 percent of the land area.[12] The studies supporting these points along with the expert reviews of stormwater infiltration impact potential to groundwater quality indicate that careful hydrogeologic evaluation and engineering design must be applied to match infiltration technologies to site specific hydrogeology so as not to endanger groundwater supplies. This is a strategic water policy issue, as groundwater contamination from vulnerable infiltration sites may not reach water supply wells for tens of years but may be costly to treat and remediate once well water contamination occurs. Remediation of Superfund sites (excluding very large or complex sites) may range in cost from $12-30 million in 2020$US.[13]

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[8] U.S. Environmental Protection Agency (USEPA), Stormwater Branch, Personal communication of August 26, 2020. Nationwide inventory of MS4 permittees in 2009. (The inventory of permittees does not include any small Phase II communities that were brought into the program as part of the 2010 census.);
U.S. Environmental Protection Agency (USEPA). 2021. Drinking Water Government Performance Results Act Inventory Report.
https://obipublic.epa.gov/analytics/saw.dll?PortalPages&PortalPath=/shared/SFDW/_portal/Public&Page=Inventory

[9] U.S. Environmental Protection Agency (USEPA). 2021. 18th Annual EPA Drinking Water Workshop: Small System Challenges and Solutions. https://www.epa.gov/water-research/18th-annual-epa-drinking-water-workshop-small-system-challenges-and-solutions.

[10] U.S. Environmental Protection Agency (USEPA). 1987. DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings. EPA/600/2-87/035.

[11] National Academy of Sciences (NAS). 2019. Improving the EPA Multi-Sector General Permit for Industrial Stormwater Discharges. http://nap.edu/25355.

[12] Pettyjohn, W.A.; M. Savoca; and D. Self. 1991. Regional Assessment of Aquifer Vulnerability and Sensitivity in the Conterminous United States. Environmental Protection Agency, Office of Research and Development, Ada, Oklahoma. EPA/600/S2-91/043. https://nepis.epa.gov › Exe › ZyPURL.cgi?Dockey=30003U3Q.TXT.

[13] U.S. Government Accountability Office (USGAO). 2010. EPA's Estimated Costs to Remediate Existing Sites Exceed Current Funding Levels, and More Sites Are Expected to Be Added to the National Priorities List. [Note: USGAO study costs converted to 2020$US.]

Groundwater Conveyance of Pollutants to Jurisdictional Waters

The EPA response to the Supreme Court decision in County of Maui v Hawaii Wildlife Fund (No. 18–260, April 23, 2020)[14] regarding the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program is not incorporated in the draft plan. This decision significantly recognizes the advances in the science of hydrology in the last 50 years and how this science should be addressed in the water pollutant discharge permit program. This decision strategically connects groundwater and surface water in EPA's regulatory processes to protect human health and the environment. The effect of this decision on EPA regulatory and not-regulatory processes should be part of the plan. The SCOTUS decision has strategic implications and provide an opportunity and pathway to recognize the science supporting a "one-water" approach to EPA and other Federal water policy.

Superfund

A major objective of the Superfund program is to return contaminated resources to beneficial use. The draft plan addresses reuse of contaminated land but does not mention remediation for groundwater reuse. This is a significant oversight as many Superfund sites have contaminated groundwater, resulting in communities' losses of water supply. As extreme weather and climate change put pressure on resources, this loss of availability and resilience in usable groundwater will affect the health and wellbeing of communities relying on groundwater and the water quality of aquatic ecosystems receiving groundwater discharge to surface waters.

Basis of NGWA Interests in the EPA Strategic Plan

NGWA, the largest trade association and professional society of groundwater professionals in the world, represents over 10,000 groundwater professionals within the United States and internationally. NGWA represents four key sectors of scientists and engineers; water infrastructure contractors; manufacturers of groundwater equipment; and suppliers delivering equipment for installation and use. NGWA's mission is to advocate for and support the responsible development, management, and use of groundwater.

Over 34 million people in the United States rely on private wells and 87 million are served by groundwater from community water systems. Seventy-one percent of groundwater withdrawn is for irrigated agriculture. Additionally, forty percent of baseflow of streams is contributed from groundwater discharge through streambeds.

NGWA views groundwater and the subsurface as a significant natural resource that should be sustainably managed for current and future use. The subsurface environment should be

[14] U.S. Supreme Court. 2020. County of Maui, Hawaii V. Hawaii Wildlife Fund et al. April 23, 2020. https://www.supremecourt.gov/opinions/19pdf/18-260_jifl.pdf

considered from an integrated resource perspective. The resources extant in the subsurface environment with proper management can provide fresh groundwater for drinking, industrial and manufacturing applications, food production, and ecosystem support.

A concise summary of the position of the National Ground Water Association on groundwater protection and use is:

- Control of potential and active sources of contamination should be a national objective, reducing the need for remediation of groundwater.
- Aquifers should be protected from degradation recognizing that nondegradation may not be economically and technically practical in many circumstances.
- Groundwater quality should be protected for existing or potential beneficial uses.
- The expanding emphasis on the need and usage of groundwater resources will require improved management, planning, and policy tools based on sound science to provide the nation with safe, reliable water supplies in light of larger swings in precipitation and associated increased demands caused by heat and drought.

Thank you for the opportunity to review and comment on this draft Strategic Plan.

For further information and follow up, please contact:

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