

**Summary of Public Comments and Agency Responses on the
Draft 2022 303(d) List of Water Quality Limited Waters (303(d) List)**

The New Jersey Department of Environmental Protection (Department) received four comment document submissions on the 2022 Draft New Jersey Integrated Water Quality Assessment Report (Integrated Report) and 303(d) List. The comment summaries and Department responses are provided below.

Commenters:

1. Keith Fritschie, Trout Unlimited (TU)
2. Will Ruocco, Brick Township Municipal Utilities Authority (BTMUA)
3. Sally Ehlers
4. New Jersey Future (NJF)

The comments received and the Department's responses are summarized below. The number(s) in parentheses after each comment identify the respective commenter(s) listed above.

General Support

1. COMMENT: The Integrated Report's coverage of critical environmental issues, including the State Concerns/Recommendations section on climate change impacts, harmful algal blooms, total dissolved solids, chlorides, and perfluorinated alkylated substances (PFAS) is commended. (3)
2. COMMENT: The state's efforts in monitoring and safeguarding our water resources is appreciated. (3)
3. COMMENT: The efforts of the Department to improve the presentation of water quality information through the Integrated Report web page layout, the interactive StoryMap, and the StoryMap's additional parameter level displays is applauded. The new display on the web page provides a more straightforward presentation of water quality assessments and parameter results, and the commenter appreciates the statewide overview update. (4)
4. COMMENT: The compilation of a comprehensive report on the status of New Jersey's surface water quality is appreciated. The consideration of continuous temperature data from the USGS's EcoSHEDs database in the 2022 Integrated Report which, coupled with other data sources, has identified additional Assessment Units (AUs) as thermally impaired in this listing round is supported. (1)

RESPONSE TO COMMENTS 1, 2, 3, AND 4: The Department acknowledges the commenters' support and input on the 2022 Integrated Report.

Water Quality Data and Spatial Representation

5. COMMENT: Station number "NF14" is listed in "HUC 02040301030040 / Metedeconk R SB (Rt 9 to Bennetts Pond)". The sample site lies along the North Branch of the Metedeconk River, in "HUC 02040301020050 / Metedeconk R NB (confluence to Rt 9)". This may affect listing determination. (2)

RESPONSE: The commenter is correct that NF14 is associated with HUC 02040301020050, Metedeconk R NB (confluence to Rt 9) and this correction was made to the GIS coverage and StoryMap.

6. COMMENT: Closely located sites should be grouped and reviewed to match assessment information. Example station numbers: AN0506, 01408123, BTNA, and BT01. Some of these locations have mismatched designated use attainments, for example: 01408123 is attaining for potable water supply designated use, but BTNA and BT01 are non-attaining for this designated use. This may affect listing determination. (2)

RESPONSE: As explained in the 2016 New Jersey Integrated Water Quality Assessment Methods document (Methods Document), data is evaluated at the station level and the designated use assessment is conducted for the entire AU. For AUs with multiple stations, the Department merges data from sites factoring in location and surface water quality standards stream classification and reviews any unmatched details in station groupings. In reference to the stations mentioned by the commenter, the stations were combined in the cluster represented by BT01. The Department will endeavor to improve the display of these situations in a future Integrated Report.

7. COMMENT: Station TR7-2 in HUC 02040301030030 is located on an ephemeral stream. This may affect dissolved oxygen (DO) listing determination. (2)

RESPONSE: The Department acknowledges that stations on ephemeral streams may affect listing determination. Ephemeral streams in general are not monitored due to their unpredictable flow and the absence of flow gages to determine adequate water levels for water quality assessments. According to the Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B-1.5(c)3 "Water quality criteria are expected to be maintained in intermittent streams during all natural flow conditions. When an intermittent stream does not contain natural flow of sufficient magnitude to determine water quality, the criteria to be maintained in the intermittent stream will be those pertaining to the measurable natural flow immediately downstream of the intermittent stream." In this case, since the exceedances of the criteria occurred during periods that low flows are expected, the monitoring stations downstream on the South Branch Metedeconk River are used to determine water quality in the AU (e.g. HUC 02040301030030).

8. COMMENT: DO impairments are severely underestimated in the Integrated Report. This underestimation is likely due to daytime grab samples being used to identify whether the DO concentration is below the minimum standard. "Sunrise sampling" or diurnal monitoring should be utilized to broaden the DO impairments. The Department has a fair number of continuous DO monitoring stations; it would be helpful to know if they are used for the impairment list. (4)

RESPONSE: The Department uses quality assured, readily available grab and continuous monitoring results for water quality assessment. It is understood that for many waterbodies the lowest DO levels are during the pre-dawn hours. Typical morning and afternoon grab sampling efforts may not capture the minimum concentration that can be acquired by continuous monitoring. However, due to the limited number of

continuous sample equipment, discrete sampling is regularly performed for site monitoring. Over the last ten years, the Department has significantly increased its capacity to conduct diurnal monitoring and expects continuation of this growing trend in the future.

9. COMMENT: Temperature attainment status appears incorrect for some EcoSHEDs stations in the 2022 Integrated Report StoryMap. For example, the West Portal Creek station (WPORTC) in HUC 02040105160050 is reported as “Attaining” for temperature. By contrast, the station data in EcoSHEDs indicates that the 19°C Trout Production criterion for the rolling 7-day average of the daily maximum was exceeded at least 45 times during summer 2020. Therefore, it seems that the WPORTC station should be non-attaining for temperature, and consequently HUC 02040105160050 also should be non-attaining for temperature. As noted in previous Integrated Reports, the Department should review these stations and AUs and identify them as thermally impaired. The 2022 Integrated Report considers many dozens of other EcoSHEDs sites in northern New Jersey (including the trout-rich headwaters of the Raritan River); these stations may all require further review for attainment status. (1)

RESPONSE: Temperature is one of a suite of parameters used by the Department to assess and determine if aquatic life general and aquatic life trout designated uses are being met. To utilize all readily available data as required by the Clean Water Act to support Integrated Report decision-making, the Department has incorporated the temperature data from the EcoSHEDs database into its 2022 assessment process. In doing so, the Department inadvertently conducted one-step review of the EcoSHEDs temperature data rather than comparing it against the 7-day rolling average as pointed out by the commenter. The Department has re-evaluated the data and 24 AUs will move from Sublist 2 (AU is fully supporting the designated use but is not supporting all applicable designated use(s)) to Sublist 5 (one or more designated uses are not supported or are threatened by a pollutant(s), that requires development of a TMDL) upon adoption of the 2022 303(d) List. Five additional adjustments were made in the re-evaluation. These are summarized in the table below and appear in the list of Department administrative revisions at the end of this document.

Assessment Unit (HUC14)	Assessment Unit Name	Parameter	Aquatic Life General Draft to Final Description	Aquatic Life Trout Draft to Final Description
HUC02040105080010	Bear Brook (Sussex/Warren Co)	Temperature	2 - No change	Change - 2 to 5
HUC02040105080020	Bear Creek	Temperature	2 - No change	Change - 2 to 5
HUC02040104090020	Clove Brook (Delaware R)	Temperature	2 - No change	Change - 2 to 5
HUC02030105010020	Drakes Brook (below Eyland Ave)	Temperature	2 - No change	Change - 2 to 5
HUC02040104150010	Flat Brook (Tillman Brook to Confluence)	Temperature	2 - No change	Change - 2 to 5
HUC02040105090050	Furnace Brook	Temperature	2 - No change	Change - 2 to 5
HUC02020007010050	Hardistonville tribs	Temperature	2 - No change	Change - 2 to 5
HUC02040105050030	Jacksonburg Creek	Temperature	Change - 2 to 3	Change - 2 to 3
HUC02030105050030	Lamington R (Furnace Rd to Hillside Rd)	Temperature	2 - No change	Change - 2 to 5
HUC02030105050020	Lamington R (Hillside Rd to Rt 10)	Temperature	2 - No change	Change - 2 to 3
HUC02040105140040	Merrill Creek	Temperature	2 - No change	Change - 2 to 5
HUC02040105150090	Mine Brook (Morris Co)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160040	Musconetcong R (75d 00m to Rt 31)	Temperature	2 - No change	Change - 2 to 5

HUC02040105160070	Musconetcong R (below Warren Glen)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160020	Musconetcong R (Changewater to HancesBk)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160050	Musconetcong R (I-78 to 75d 00m)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160030	Musconetcong R (Rt 31 to Changewater)	Temperature	2 - No change	Change - 2 to 5
HUC02040105150100	Musconetcong R (Trout Bk to SaxtonFalls)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160060	Musconetcong R (Warren Glen to I-78)	Temperature	2 - No change	Change - 2 to 5
HUC02040105040090	Paulins Kill (Stillwater Vil to PK Lake)	Temperature	2 - No change	Change - 2 to 5
HUC02040105090020	Pequest R (Cemetery Road to Drag Strip)	Temperature	2 - No change	Change - 2 to 5
HUC02040105140030	Pohatcong Ck (Edison Rd-Brass Castle Ck)	Temperature	2 - No change	Change - 2 to 5
HUC02030105010070	Raritan R SB (StoneMill gage to Califon)	Temperature	2 - No change	Change - 2 to 5
HUC02040105060010	Stony Brook (incl UDRV)	Temperature	2 - No change	Change - 2 to 5
HUC02040104110010	UDRV tribs (Dingmans Ferry to 206 bridge)	Temperature	2 - No change	Change - 2 to 5
HUC02040104240010	Van Campens Brook	Temperature	2 - No change	Change - 2 to 5
HUC02030103100050	Ramapo R (Crystal Lk br to BearSwamp Bk)	Temperature	2 - No change	Change - 5 to 3
HUC02040105100040	Beaver Brook (below Hope Village)	Temperature	2 - No change	Change - 2 to 3
HUC02030105050010	Lamington R (above Rt 10)	Temperature	2 - No change	Change - NA to 3

10. COMMENT: Nitrate impairments are virtually non-existent throughout the state. The Department is spending a significant amount of time on reducing nitrate discharge concentrations at wastewater treatment plants. The Department should focus on other parameters that are likely more seriously impaired. (4)

RESPONSE: Nitrate is a toxic pollutant regulated for human health at N.J.A.C. 7:9B-1.14(f)(7). The nitrate SWQS applies to all waters designated for public water supply which regulates the waterbody with the understanding that people may ingest the water. Wastewater discharge permits issued through the New Jersey Pollution Discharge Elimination System (NJPDES) program are established to ensure SWQS and designated uses are protected, attained, and maintained. As a nutrient, nitrate can cause both drinking water and aquatic life impacts. The current standard of 10 mg/l is reflective of drinking water designated use to protect human health. Although human health exceedances are infrequent, long-term trends are showing increasing nitrate levels throughout the state (see <https://dep.nj.gov/wms/bears/integrated-wq-assessment-report-2022/statewide-water-quality-2022/#statewide-long-term-trends>). In addition to the human health impacts, nitrate contributes to the eutrophication of New Jersey's waters which is a major cause of degraded aquatic ecosystems. Nitrate reductions are an important part of the Department's efforts to provide safe, clean water to protect New Jersey's health, quality of life and economy. The Department will continue to address the many impacts on water quality through its programs, rules, and regulations, including adopting Total Maximum Daily Load (TMDLs) to reduce pollutant contribution for impaired parameters.

11. COMMENT: Ammonia impairments in New Jersey are minimal. This is a considerable improvement from historical data. The commenter applauds the Department for regulating the discharge of ammonia. (4)

RESPONSE: The Department appreciates the commenter's recognition for successes in water quality improvement due to implementation of its regulatory programs.

12. COMMENT: Total phosphorus (TP) impairments are shown throughout the state. The Department should differentiate between places with TP greater than 0.1 mg/l and places where phosphorus is causing actual impairments. The SWQS for TP allows for concentrations above 0.1 mg/l if eutrophication impacts are not observed. (4)

RESPONSE: New Jersey's SWQS TP criteria of 0.1 mg/l and its narrative nutrient criteria at N.J.A.C. 7:9B-1.14(d)4ii were promulgated to prevent eutrophic impacts in streams and rivers such as objectionable algal densities, nuisance aquatic vegetation, diurnal fluctuations in DO or pH, and detrimental changes to the composition of aquatic ecosystems. The TP criteria are the most appropriate general values for use as water quality criteria. The Department recognizes that in some cases these criteria may be more, or less, stringent than necessary to protect the designated use. For that reason, the SWQS allow for the development of watershed-specific monitoring, translators, and/or site-specific criteria through adopted TMDLs (see N.J.A.C. 7:9B-1.14(g)).

Monitoring for effects of eutrophication and tying it to detrimental concentrations of TP in different waterbodies is challenging and requires significant time and resources. The Department would be happy to coordinate with any organization to help them establish a monitoring plan to determine if exceedances of the criteria are causing eutrophic impacts.

13. COMMENT: Clarification is requested for new 303(d) listings and delistings on the web page. The charts provided on the web page are difficult to decipher. For example, the "Northeast Designated Uses Changes from 2020 to 2022" chart appears to show 28 new waterbodies that do not support the water supply designated use. The delistings side of the graph is equal to the new-listings side of the graph for every designated use. The Department should clarify what the graph demonstrates. (4)

RESPONSE: The Department has focused on improving the Integrated Report by presenting water quality results in clear, easy to read charts with downloadable data tables that were used to create the charts. Visualizations such as with the "Designated Uses Changes from 2020 to 2022" charts in the Statewide and Northeast Region results tabs have been clarified with an added explanation of the report results.

An updated explanation was added to the "Designated Uses Changes from 2020 to 2022" charts: "The chart above shows the delistings and new listings for each designated use. For example, between 2020 and 2022, Aquatic Life General had 21 less "Insufficient Data" AU listings and an additional 10 "Full Support" AU listings and an additional 11 "Non-Support" AU listings. The number of delistings and new listings usually are the same number except for Recreation Primary that had 21 delistings and 15 new listings. This difference reflects six "Insufficient Data" listings that changed to "Not Applicable" since these AUs had only Recreation Secondary uses. Aquatic Life Trout had the same situation where an "Insufficient Data" listing shifted to "Not Applicable" since there were no trout waters in the AU."

Total Maximum Daily Loads and Watershed-based Plans

14. COMMENT: Sandy Hook Bay (east of Thorns Creek) has been listed on the 303(d) List since 2014 for fecal coliform, with no apparent action plan in place despite its designation for shellfish use. This is of particular concern due to frequently observed individuals crabbing in Sandy Hook Bay with potential health impacts. The state is strongly urged to promptly develop and implement a comprehensive plan to address fecal coliform pollution in this area. (3)

15. COMMENT: The commenter understands the potential sources of fecal coliform pollution, such as stormwater runoff, sewage discharge from recreational boats, and animal waste, and urges the state to develop a more transparent and direct plan to address this pollutant. Clear and effective strategies are vital to ensure the protection of our water resources and the well-being of our communities. (3)

16. COMMENT: Include guidance on the Integrated Report's connection to municipal separate storm sewer systems (MS4) permit compliance. The Integrated Report lists impaired waters and, therefore, which waterways require TMDLs. TMDL implementation plans are an important inclusion to MS4 permits. This connection should be included in the Integrated Report. (4)

17. COMMENT: Of the 17 approved watershed-based plans, not one addresses urbanized areas in New Jersey. This validates the need for high-quality watershed-based plans and improvement plans and projects in these areas. (4)

RESPONSE TO COMMENTS 13, 14, 15, 16 AND 17: Fecal coliform impairment is a statewide issue. The Department's strategy to address coastal water quality is through weekly monitoring to protect the health and safety of recreational bathers from elevated levels of bacteria. Local health authorities perform routine weekly sampling at all primary coastal recreational beach monitoring stations beginning mid-May until they close for the season. Samples are analyzed for Enterococci, a fecal indicator of bacteria that is generally not harmful itself but indicate the possible presence of pathogenic (disease causing) bacteria, viruses, and protozoans that live in animal and human digestive systems. Local health authorities submit and verify water quality monitoring data through the Department's web-based Beach Monitoring System. The system automatically determines if an exceedance has occurred at a beach and generates beach action notifications (advisories/closures) for beaches that have opened for swimming for the season. Resamples are performed in conjunction with a sanitary survey, which identifies possible pollution sources that need to be addressed. In addition, an extensive pathogenic indicator sampling effort exists for determining New Jersey water quality compliance with the National Shellfish Sanitation Program (NSSP). The NJDEP's Bureau of Marine Water Monitoring classifies shellfish growing waters and determines whether and how the harvest of shellfish from those waters must be restricted to protect the public from health risks associated with the consumption of shellfish. Details on this program and closures in NJ waters are provided to the public (<https://dep.nj.gov/wms/bmw/national-shellfish-sanitation-program-nssp/>).

Regarding 303(d) Listed pathogen impairments, the Department will evaluate newly identified pathogen impairments to determine the most appropriate management approach, which includes deciding whether to associate them with existing TMDLs or to develop new ones. Although existing TMDLs were developed based on certain pathogenic indicators, the management processes and implementation measures required to meet the designated use remain applicable.

In January 2023, the Department renewed each New Jersey municipality's MS4 permit with a shift towards watershed level planning. The permit mandates among other requirements the development of a watershed improvement plan. This provides an opportunity for the individual municipality to address improvements to waterways that have water quality impairments and TMDLs. The watershed improvement plan will cross reference TMDL Implementation Plans. The Department's Watershed and Land Use program will provide guidance that clarifies this connection.

The web-based Integrated Report provides a link to water quality programs that work to protect and restore New Jersey waters. "Stormwater Permitting and Management" (i.e. MS4) information is provided on the "Water Pollution Control Programs" tab in the Integrated Report. The Department works closely with the MS4 program on water quality issues. One example of this collaborative effort is the TMDL look-up tool. To increase MS4 implementation of TMDLs, the Department provides easily accessible information at the municipality level. To find more information on this tool visit: <https://dep.nj.gov/njpdess-stormwater/municipal-stormwater-regulation-program/tmdl/>.

The Department's previous requests for proposals for its Water Quality Restoration Grants to Mitigate Nonpoint Source Pollution see <https://dep.nj.gov/wlm/watershed/319-grants/completed-projects/> include the development of 9 element watershed-based plans in water regions that align with the rotating basin approach used in the Integrated Report and is not limited regarding urban versus nonurban areas. The Watershed and Land Use website at <https://dep.nj.gov/wlm/watershed/319-grants/completed-projects/> displays a map depicting the locations and types of projects that been completed throughout the State between 1997 and 2023. In addition, all of these projects (which include watershed-based plans) may be viewed through their new Watershed Restoration Application tool and user guide found on their webpage.

These grants provide a funding opportunity for municipalities, counties, and watershed associations to develop 9 element watershed-based plans to address fecal coliform and/or pathogen and other impairments in a watershed of interest. Municipalities, watershed associations, and other eligible entities that represent urban areas are encouraged to apply for future funding.

Recovery Potential Screening Tool and Temperature TMDL Development

18. COMMENT: Publication in this Integrated Report cycle of the indicators and weightings used in the Recovery Potential Screening (RPS) tool to communicate the development of the Department's TMDL priority list is appreciated. However, a single set of RPS indicators is inadequate to prioritize action across a suite of designated uses and water quality parameters for which individual indicators may be irrelevant. It is assumed that the use and current configuration of the RPS tool requires EPA oversight; however, the Department's New Jersey Fish and Wildlife, Bureau of Freshwater and Biological Monitoring, and other science partners should be consulted to establish RPS factors specific to temperature TMDL prioritization (and other uses/parameters) in future reporting cycles. (1)

RESPONSE: The Department utilizes the RPS tool to help identify and prioritize AUs for nonpoint restoration and protection efforts and continues to collaborate with USEPA on this customized tool for New Jersey. The New Jersey version includes many statewide indicators to produce an overall picture. Although the RPS tool was not used for TMDL prioritization, it can help identify areas where impairments are primarily by nonpoint sources of pollution or regulated stormwater sources. The Department will take the commenter's suggestion under advisement in its next revision to the RPS tool.

19. COMMENT: The commenter requests a status update on temperature TMDL development. In its 2018/2020 Integrated Report's response to public comments, the Department indicated that it was "preparing a technical approach for developing TMDLs for temperature impairments." It is heartening to hear that the Department is considering temperature TMDL development after a nearly 20-year break since the Pequannock Temperature TMDL, as 1) temperature is the cause of 77% of Aquatic Life-Trout designated use impairments, and 2) modeled 40-yr temperature increases on New Jersey's designated wild brook trout fisheries suggest that temperature thresholds for wild trout persistence are being rapidly approached or surpassed. Is there a departmental technical approach for developing temperature TMDLs? (1)

RESPONSE: The Department continues to work to address all impairments on the 303(d) List. The Department addresses pace and TMDL development considerations in the Vision Document see Appendix G of the Integrated Report. In the Methods Document, NJDEP describes the procedures used to rank and prioritize assessment unit/pollutant combinations for TMDL development. In accordance with the Clean Water Act implementing regulations, the priority ranking shall specifically include the identification of waters targeted for TMDL development in the next two years. Factors considered for TMDL ranking include severity of the pollution; TMDL complexity regarding data or modeling needs; spatial extent of the actual or threatened exceedance/impairment; efficiencies that could result from grouping TMDLs on a drainage basis or parameter or leveraging other ongoing water quality studies, including shared waters and degree of public interest. The Department will review the ranking and prioritization for TMDL development and make any changes in a future update to the Methods Document. In addition, USEPA has put forth new guidance on the development of Vision priorities, entitled "2022-2032 Vision for the Clean Water Act Section 303(d) Program ", thus the 2024 Integrated Report will contain a new Vision Document and priorities for the development of TMDLs, Restoration and Protections Plans which will include addressing temperature impairments. TMDL prioritization may also be affected by resources such as additional monitoring needs for TMDL development and availability of models capable of addressing impairments.

The Department has been reviewing the scope and extent of temperature impairments in various waterbodies and noted that the causes of exceedance of the applicable temperature criteria vary. Some of the violations are due to the natural condition and delisting will be the effective measure to remove them from the 303(d) list. Given the variability in the causes of these temperature impairments, no single technical approach will be suitable for all situations. Consequently, the Department is in the process of establishing a contract to develop a waterbody-specific approach to address these temperature impairments resulting in a Temperature Technical Approach document. AUs deemed appropriate for TMDL development will be identified in a future 2 Year Schedule accompanying a biennial 303(d) List.

20. COMMENT: Trout Unlimited has identified the Flat Brook, South Branch Raritan, and the Musconetcong/Pohatcong/Lopatcong as "Priority Waters" for targeting restoration and protection activity through its prioritization process. Each of these watersheds contain thermally impaired AUs that might serve as appropriate pilot watersheds for temperature TMDL development. The Flat Brook has a robust existing temperature dataset, a preponderance of dammed tributaries and degraded riparian areas (Little Flat Brook), and a preliminary trout-focused conservation plan that might be leveraged for TMDL development and scenario planning. (1)

RESPONSE: The commenter's suggestion aligns with the Department's plan to develop temperature TMDLs that will be identified in the Temperature Technical Approach document as appropriate to do so. The experience and knowledge of the commenter and organization will enhance the effectiveness of temperature impairment management.

21. COMMENT: Temperature resilience should be considered when prioritizing TMDL development. The commenter suggests that the Department consider the number of trout production stream miles attaining the temperature criterion as an explicit ecological indicator in its RPS tool prioritization. Those streams that currently attain temperature standards are key resilience elements for the Aquatic Life – Trout designated use, as they serve as source populations to re-populated degraded habitats. These resilient stream elements may not be captured by percent intact watershed or riparian zone metrics alone. (1)

RESPONSE: The Department appreciates the commenter's suggestion and will review this ecological indicator idea as part of the next version of the RPS tool.

Nonpoint Source Pollution/Miscellaneous

22. COMMENT: The Department should identify what is human-caused and what is naturally occurring to focus efforts on water quality improvement from the state, municipalities, watershed associations, and other stakeholders. Human-caused water quality impairments and naturally occurring impairments should be differentiated by the Department to guide water quality improvement efforts. For example, many streams do not meet the requirements of the water supply designated use because of arsenic due to bedrock geology. Conversely, if an industry releases arsenic to a local stream, that should be identified and remediated. Another example is E. coli in forested areas due to the presence of wildlife. Disturbing natural areas to implement certain stormwater best management practices (BMPs) is not advised in natural areas, and those efforts should be focused elsewhere. (4)

RESPONSE TO COMMENTS 21: The Department incorporates natural conditions in its water quality assessments to determine water conditions. The SWQS at N.J.A.C. 7:9B-1.5(c)1 states that, "The natural water quality shall be used in place of the promulgated water quality criteria..." except for human carcinogens, however, the information required to determine natural conditions is not usually available. In situations where information is available to determine natural water quality conditions and the water quality criteria is exceeded, the pollutant is not listed on Sublist 5 as an impairment. For human carcinogen impairments such as arsenic where natural conditions are the cause, the impairments are assigned to Sublist 5A to easily identify natural condition exceedances. If natural conditions are not justified, the arsenic impairment remains on Sublist 5 for development of a TMDL or unless other pollution control requirements obviate the need for a TMDL (see 40 CFR 130.7(b)(1)). For pathogens where causes can be from various sources, special monitoring and lab methods that identify wildlife, livestock, and human pathogens is required. This type of analysis is not regularly used in monitoring networks but is applied in pollutant trackdown studies as appropriate.

23. COMMENT: In 2023, the commenter submitted MS4 permit comments that the MS4 Tier A permit should include a general monitoring requirement to establish baseline information and to track pollution loads over time. In doing so, the Department could strategically increase its monitoring based on locations with high concentrations of impaired waterways and overburdened communities (OBCs). Ideally, permittees would review monitoring data to understand their municipality's contribution to pollutant loading for impaired streams as it develops the watershed improvement plan. If this requirement is not

included in the MS4 permit, the Integrated Report provides an opportunity to make the connection between water quality improvement projects and pollutant load reductions over time. (4)

RESPONSE: Although MS4 permits do not currently have a water quality monitoring requirement, the Department along with many other partner monitoring organizations have created extensive monitoring networks throughout the state to capture water quality conditions. Since 2006, when the Department started using HUC 14s as the basis for assessment, the number of unassessed designated uses caused by insufficient data declined from 38% to 18%, the number of AUs with at least one designated use assessed rose to 97% statewide, and the number of AUs where all the designated uses are assessed increased from over 35% to 62% statewide. As more data sources are identified, the Department has developed Quality Assurance Project Plans (QAPPs), offered training for both QAPPs construction and water sampling techniques, and assisted with USEPA Water Quality Exchange (WQX) data entry. Although this monitoring does not target MS4 loads, it does provide an ever-expanding representation of the state's water quality. Tracking pollutant loads is a complex and resource intensive effort. Only through a collaboration of efforts is this feasible on a statewide level. The Department does implement site-specific monitoring to determine pollutant loads especially at impacted shellfish harvesting areas, at beach closures, in trackdown studies, and in TMDL and restoration efforts. The Department will continue to strive to improve the monitoring networks to better identify current, improving, and declining water quality conditions.

Examples of water quality improvement projects and pollutant load reductions are documented as part of EPA's Nonpoint Source Pollution Success Stories. New Jersey's fourteen projects highlight waterbodies identified as being primarily nonpoint source-impaired and having achieved documented water quality improvements. The Nonpoint Source Success Stories may be viewed at <https://www.epa.gov/nps/success-stories-about-restoring-water-bodies-impaired-nonpoint-source-pollution>. Projects described on these pages have received funding from CWA Section 319(h) and/or state funding sources dedicated to mitigating nonpoint source impairments.

24. COMMENT: Total Dissolved Solids (TDS) and chloride are shown to be increasing. A greater emphasis must be placed on controlling road salting in MS4 permits. (4)

RESPONSE: The Department agrees that controls for road salting are necessary to reduce loading of TDS and chloride. The web report section on Water Pollution Control Programs includes a link to the Bureau of Stormwater Permitting and Water Quality Management Planning that links to the MS4 permit requirements for Tier A, Public Complexes, and Highway Agency permittees (<https://dep.nj.gov/njpdcs-stormwater/municipal-stormwater-regulation-program/>). Several permit requirements directly address managing road salt, including salt storage, good housekeeping, and sweeping up piles of excess salt and de-icing materials after storm events. In addition, Optional Measures of the MS4 permits promotes voluntary prevention or reduction of stormwater pollution for smart use of salt and other de-icing materials. Several Optional Measures related to winter salt use are suggested in the stormwater guidance documents (<https://dep.nj.gov/wp-content/uploads/njpdcs-stormwater/tier-a-chapter-6.pdf>, <https://dep.nj.gov/wp-content/uploads/njpdcs-stormwater/public-complex-guidance-chapter-11.pdf>, and https://dep.nj.gov/wp-content/uploads/njpdcs-stormwater/highway_guidance_full.pdf). Many more BMPs can be found from organizations such as <https://www.clearroads.org/>.

The Department also engages in the coordination efforts to better quantify road salting impacts on water quality and to develop salt reduction strategies: in 2011, the Department's Bureau of Freshwater and Biological Monitoring (BFBM) initiated a seasonal monitoring project, titled Stream Monitoring for Effects on Water Quality by Road Salt Application, which later expanded and continues to be a year-round study (https://www.nj.gov/dep/wms/bfbm/sw_specialprojects.html); funded by the Department, the New Jersey Watershed Watch Network program launched the New Jersey Salt Watch in December 2020 to encourage volunteers to monitor the effects of winter road salting on our freshwater streams and lakes. Since then, about 550 volunteers have collected more than 3,000 chloride measurements across the state, helping to fill in gaps in our understanding of the extent of this issue (<https://njwatershedwatch.org/road-salt/>); participation in New Jersey Salt Watch, among other activities, can earn municipalities Sustainable Jersey points for the action titled Winter Best Practices to Reduce Road Salt Impacts, which encourages and provides guidance for municipalities to voluntarily improve winter salt practices (<https://www.sustainablejersey.com/actions/#open/action/607>).

25. COMMENT: Beach closures from summer 2023 for several beaches, including Highlands Rec Center, River Beach, and Maxon Beach, were placed under swimming advisories due to elevated levels of fecal coliform bacteria. If instances like this increase with increased heavy rain events resulting from climate change, the closure of beaches due to elevated levels of fecal coliform poses health risks and public concerns as well as economic risks by impacting tourism, local businesses, and property values. The Department should encourage the implementation of preventative measures now. (3)

RESPONSE: The Department agrees that clean water and safe recreation are very important. During the 2023 beach season, a total of 3,844 ocean, bay, and river water quality samples were collected and analyzed from the New Jersey's beaches. A total of 42 advisories and three closures were issued due to exceedances of the bacterial standard. Typically, beach seasons with greater rainfall amounts correlate to more advisories and bacterial exceedances. Data from the 1980's show much higher yearly rates of beach closings. For example, in 1988, ocean beaches were closed over 800 times, most frequently due to bacteria exceedances. Improvements and upgrades to sewage treatment plants discharging into the ocean have significantly reduced the number of closures over time. Since 2010, approximately 1% of the samples from ocean beaches and 10% of the samples from bay and river beaches exceeded the primary contact recreation standards.

The reduction of nonpoint source pollution through the State rules and guidance for stormwater management are expected to provide increasing improvements to New Jersey's waterways. The Department has required implementation of many preventative measures through the NJPDES MS4 Permits. Some of these permit requirements include pet waste, wildlife feeding, litter control, improper disposal of waste, yard waste, and illicit connection ordinances. Good housekeeping requirements include street sweeping, storm drain inlet and catch basin inspection and cleaning, and outfall inspections. These measures in conjunction with outreach and education requirements prevent pollutants from entering our storm sewer collection system and waterways. In addition, after every exceedance additional resamples are required to determine the extent and duration of the problem, and certified health inspectors are required to conduct a water and shoreline investigation to ensure the health and safety of beachgoers. New Jersey's Beach Monitoring Program was developed to alert staff of acute and chronic low concentration water quality problems to prioritize and implement pollution source track down resources, as necessary. The Department has committed to implement a pollution source track down strategy in

partnership with the Division of Water Monitoring, Standards and Pesticide Control's Bureau of Marine Water Monitoring, the Department of Health, local health authority and local government at recreational beaches that the Department identifies with persistent water quality problems.

More information about the Coastal Cooperative Monitoring Program or the water quality at your favorite beach, can be found at njbeaches.org where beach conditions, advisories, closings, and the reasons for beach closings are posted daily during beach season. For more information on source tracking see nj.gov/dep/bmw/pollutiontracking.html. For beach monitoring trends see <https://dep.nj.gov/wp-content/uploads/dsr/trends-beach-monitoring.pdf>.

Environmental Justice

26. COMMENT: It would be beneficial to expand upon the Integrated Report narrative to connect urbanization, historic industrial uses, and overburdened communities (OBCs) with water quality issues. This connection could assist municipalities and regions as they target locations for water quality improvement projects. A display of compounding impairments that exist throughout the state could communicate the urgency of addressing water quality in OBCs. (4)

RESPONSE: The Department appreciates the suggestion. As stated in the 2022 web Integrated Report, "Water quality conditions for several designated uses show slightly higher percentages of nonsupport. This is both an artifact of the more complete monitoring coverage and the notable elevated density of development and human-based, historical, and ongoing pollutant sources in northeastern New Jersey." The Department will review how to enhance details on compounding impairments in urban areas in the next Integrated Report. Staff coordination between multiple programs in the Department continues to be very important to addressing these impairments and other water quality issues.

27. COMMENT: The StoryMap tabs for each designated use and parameters are helpful, and the assessment overview is a great addition. New Jersey's low-income communities and communities of color historically have been subjected to a disproportionately high number of environmental and public health stressors, including water pollution. The Northeast Water Region is a prime example of compounding public health issues. The region is the most densely populated area in the state, with a history of substantial industrial uses. Including the OBC data layer would be beneficial in the display of the Integrated Report StoryMap. (4)

RESPONSE: The Department agrees with incorporating the OBC data layer to display water quality assessment findings in these areas and has added the OBC layer to the StoryMap.

Other Comments

28. COMMENT: The commenter appreciates the consideration of emerging issues, including climate change, harmful algal blooms (HABs), and PFAS in the Integrated Report. Climate change negatively impacts HABs, TDS, and chlorides. (4)

RESPONSE: The Department recognizes that climate change impacts on water quality are significant, and regulations and policies need to address and mitigate the impacts of this issue. Additional information on climate change and actions the Department is implementing can be found on the Department website,

<https://dep.nj.gov/climatechange/>. Additionally, the Department proactively addressed PFAS impacting drinking water by adopting maximum contaminant levels several years before USEPA's implementation in its Drinking Water Rules see <https://dep.nj.gov/pfas/drinking-water/>.

29. COMMENT: Perfluorinated alkylated substances (PFAS) should be included in future Integrated Reports. (4)

RESPONSE: The Department recognizes the importance of addressing this parameter. Currently, there are Ground Water Quality Standards (GWQS) and Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs) for PFAS. The Department intends to propose amending the SWQS at N.J.A.C. 7:9B to include fresh and saline human health criteria for three per- and polyfluoroalkyl substances (perfluorononanoic acid (PFNA), perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS)) in 2025, among other revisions. Additional details may be found at <https://dep.nj.gov/event/surface-water-quality-standards-swqs-stakeholder-meeting-20241121/>. The Department conducted five stakeholder meetings since 2022, the last stakeholder meeting being held on November 21, 2024. Moreover, the Department has conducted several studies to monitoring PFAS and continue to conduct targeted monitoring (see <https://dep.nj.gov/dsr/pfas/#phase2>) since 2015. In 2020, the Department expanded PFAS monitoring to include the entire network of 122 ambient surface water quality monitoring network stations. Twenty-eight PFAS compounds were sampled twice at 73 long-term fixed monitoring stations and 50 probabilistic (randomly selected) monitoring stations. Upon adoption of these standards and approved by USEPA, the Department will incorporate PFAS water quality assessments into the Integrated Report. The 2022 Integrated Report includes PFAS fact sheets, reports, and case studies conducted by the Division of Science and Research. This information may be found on the NJ Integrated Water Quality Assessment Report 2022 within the "State Concerns/Recommendation" tab at <https://dep.nj.gov/wms/bears/integrated-wq-assessment-report-2022>.

Summary of Agency Initiated Changes:

The Department administratively revised a number of assessment results based on careful consideration of the comments and data evaluation. The Department has made revisions in the following instances:

1. The assessment results for HUC02030103140070 Saddle River (below Lodi gage) in the draft 2022 outcome listed the fish consumption designated use as "not supporting", however; no parameter impairment appears on Sublist 5. The fish consumption designated use is "insufficient information".
2. The Department administratively revised two additional fish consumption results. The assessment results for HUC02030103140040 and HUC02030103140080 are listed as "not supporting" based on mercury monitoring results.
3. The Department administratively revised one dissolved oxygen finding. The assessment result for HUC02040301030030 is revised to full support based on monitoring results.
4. The Department appreciates the quality and quantity of the collected continuous temperature data that allows for detailed definition of the daily parameter fluctuations. Scripting has greatly assisted in determining water quality standard attainment/non-attainment. Further evaluation of the data and plots of this data resulted in changes summarized in the table below.

Assessment Unit (HUC14)	Assessment Unit Name	Parameter	Aquatic Life General Draft to Final Description	Aquatic Life Trout Draft to Final Description
HUC02040105080010	Bear Brook (Sussex/Warren Co)	Temperature	2 - No change	Change - 2 to 5
HUC02040105080020	Bear Creek	Temperature	2 - No change	Change - 2 to 5
HUC02040104090020	Clove Brook (Delaware R)	Temperature	2 - No change	Change - 2 to 5
HUC02030105010020	Drakes Brook (below Eyland Ave)	Temperature	2 - No change	Change - 2 to 5
HUC02040104150010	Flat Brook (Tillman Brook to Confluence)	Temperature	2 - No change	Change - 2 to 5
HUC02040105090050	Furnace Brook	Temperature	2 - No change	Change - 2 to 5
HUC02020007010050	Hardistonville tribs	Temperature	2 - No change	Change - 2 to 5
HUC02040105050030	Jacksonburg Creek	Temperature	Change - 2 to 3	Change - 2 to 3
HUC02030105050030	Lamington R (Furnace Rd to Hillside Rd)	Temperature	2 - No change	Change - 2 to 5
HUC02030105050020	Lamington R (Hillside Rd to Rt 10)	Temperature	2 - No change	Change - 2 to 3
HUC02040105140040	Merrill Creek	Temperature	2 - No change	Change - 2 to 5
HUC02040105150090	Mine Brook (Morris Co)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160040	Musconetcong R (75d 00m to Rt 31)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160070	Musconetcong R (below Warren Glen)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160020	Musconetcong R (Changewater to HancesBk)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160050	Musconetcong R (I-78 to 75d 00m)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160030	Musconetcong R (Rt 31 to Changewater)	Temperature	2 - No change	Change - 2 to 5
HUC02040105150100	Musconetcong R (Trout Bk to SaxtonFalls)	Temperature	2 - No change	Change - 2 to 5
HUC02040105160060	Musconetcong R (Warren Glen to I-78)	Temperature	2 - No change	Change - 2 to 5
HUC02040105040090	Paulins Kill (Stillwater Vil to PK Lake)	Temperature	2 - No change	Change - 2 to 5
HUC02040105090020	Pequest R (Cemetary Road to Drag Strip)	Temperature	2 - No change	Change - 2 to 5
HUC02040105140030	Pohatcong Ck (Edison Rd-Brass Castle Ck)	Temperature	2 - No change	Change - 2 to 5
HUC02030105010070	Raritan R SB (StoneMill gage to Califon)	Temperature	2 - No change	Change - 2 to 5
HUC02040105060010	Stony Brook (incl UDRV)	Temperature	2 - No change	Change - 2 to 5
HUC02040104110010	UDRV tribs (Dingmans Ferry to 206 bridg)	Temperature	2 - No change	Change - 2 to 5
HUC02040104240010	Van Campens Brook	Temperature	2 - No change	Change - 2 to 5
HUC02030103100050	Ramapo R (Crystal Lk br to BearSwamp Bk)	Temperature	2 - No change	Change - 5 to 3
HUC02040105100040	Beaver Brook (below Hope Village)	Temperature	2 - No change	Change - 2 to 3
HUC02030105050010	Lamington R (above Rt 10)	Temperature	2 - No change	Change - NA to 3