February 21, 2012

U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC), Water Docket MC 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: Riverkeeper, Inc., NY/NJ Baykeeper, Inc., Hackensack Riverkeeper, Inc., Long Island Soundkeeper and Lake George Waterkeeper, Inc. Comments on EPA Draft Recreational Water Quality Criteria, Docket No. EPA-HQ-OW-2011-0466

Dear Sir/Madam:

Please accept the following comments on behalf of Riverkeeper, Inc., NY/NJ Baykeeper, Inc.,Hackensack Riverkeeper, Inc., Long Island Soundkeeper and Lake George Waterkeeper, Inc. ("Commenters") in response to the Environmental Protection Agency's (EPA) publication of the draft Recreational Water Quality Criteria (RWQC) in the Federal Register on December 21, 2011. Our organizations work to protect waterways used by millions of people every year for recreation, not only on designated public beaches but along the entire length of the Hudson River Estuary, New York Harbor, and the rivers and bays of northern New Jersey. These waters provide essential public benefits, and marine recreation is a critical part of our local economy. Unfortunately, recreation in polluted water results in numerous cases of gastrointestinal illness, including diarrhea, nausea, vomiting, and eye, ear, skin and respiratory infections.

In order to address this impact, it is essential that EPA base its development of criteria on the best scientific evidence available, as well as a clear understanding of how and when the public recreates in primary contact waters. Unfortunately, the draft RWQC fail to meet this simple standard. While Commenters support the EPA's decision to expand the applicability of the draft RWQC to include all waters currently designated as suitable for primary contact recreation, we have considerable concerns about other key aspects of the draft criteria.

Commenters oppose the fundamental elements of the draft RWQC, because they will not improve protection of public health related to primary contact recreation in designated waters and they will not improve water quality in the short or long term.

On the contrary, the draft RWQC appears to maintain the status quo of the EPA's 1986 criteria, despite clear evidence that those criteria actually cause more illness than EPA predicted. The draft RWQC also allows states far too much flexibility to "comply" with recreational water quality standards by resorting to the use of a 90 day seasonal average, rather than requiring the use of a 30 day geometric mean. States and municipalities, such as New York City can claim to be in compliance with water quality standards only because compliance is based on averaging out weekly samples over a 90 day period. Under this extended sampling timeframe, even multiple instances of spikes in fecal contamination, such as those that occur in areas impacted by chronic combined sewer overflows, would be deemed in compliance and suitable for recreation.

This approach blatantly ignores the reality of how the public recreates in our public waterways – **no one swims in average water.** The draft RWQC proposes to eliminate the Single Sample Maximum (SSM) standard in favor of the "STV" which would weaken protection of public health by allowing exceedances 25% of the time before public advisories or beach closure would be required. It also fails to establish a complete baseline of sampling protocols, giving states the leeway to design a sampling regime that ensures compliance rather than protects public health. The draft RWQC also fails to establish a clear plan for implementing QPCR technology, which would significantly improve the ability of public health officials to make "real –time" decisions to protect public health. Finally, Commenters are concerned that the draft RWQC does not adequately assess the health risks to children and other vulnerable populations from exposure to contaminated water.

The Commenters strongly urge EPA to revise the draft criteria to establish a clear, enforceable baseline that will result in better sampling, better public notification, and regulatory compliance measures leading to investments in infrastructure that will actually improve water quality, not maintain the status quo. The Clean Water Act (CWA) is a "technology-forcing" statute that relies on advances in scientific knowledge and water pollution technology to inform periodic improvements in water quality standards and effluent limitations, with the ultimate goal of restoring our nation's waters to "fishable, swimmable" conditions. The draft RWQC fail to

meet this framework, and must be revised in order to comply with both the spirit and the letter of the Clean Water Act.

Organizational Background

Riverkeeper is a member-supported watchdog organization dedicated to defending the Hudson River and its tributaries and protecting the drinking water supply of nine million New York City and Hudson Valley residents.[1] For more than 44 years Riverkeeper has been New York's clean water advocate. We have helped to establish globally recognized standards for waterway and watershed protection and serve as the model and mentor for the growing Waterkeeper movement that includes nearly 200 Keeper programs across the country and around the globe. Since 2006 Riverkeeper, in partnership with scientists from Columbia University and Queens College, CUNY, has been testing water quality along the 155-mile Hudson River Estuary and reporting that data to the public online. In 2011 we released our first report on sewage contamination in the Hudson River, "*How Is the Water?*" based on 2000+ water quality samples collected from 2006-2010.[2] The report reveals that sewage contamination remains a widespread and under reported problem in the Hudson River Estuary. We have found sewage contamination at every one of our 75 testing locations. The levels of contamination vary enormously over time and by location.

Overall water quality in the Hudson failed the U.S. EPA guideline for safe swimming 21% of the times we sampled.[3] By comparison, water quality samples collected at beaches nationwide failed 7% of the times sampled during the same time period. During and after rainfall the frequency of unacceptable sewage samples increases in all the regions and at all the types of sites we sample, but not at every individual location. Overall the percent of samples that were unacceptable increased from 9% in dry weather to 32% in wet weather – a threefold increase. Our study found contamination is higher near the shoreline and at tributaries where water quality samples were unacceptable 24% and 34% of the time respectively. Mid-channel sites, where many state and city agencies collect water quality samples, had the best water quality.

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[1] For more information please see Riverkeeper's website, www.riverkeeper.org, last accessed February 21, 2012.

[2] Riverkeeper's *How is the Water?* Report is attached hereto as Attachment 1, and can also be found online at http://www.riverkeeper.org/wp-content/uploads/2011/08/RvK_How-Is-the-Water_2006-10.pdf

[3] *Id.* at 3.

NY/NJ Baykeeper is a 501(c)(3) not for profit environmental advocacy organization with its principle place of business in Keyport, NJ.[4] NY/NJ Baykeeper's mission is to protect, preserve and restore the ecological integrity of the Hudson-Raritan estuary – the most urban estuary on the planet. Since 1989, NY/NJ Baykeeper staff members have served as citizen-advocates for the greater New York Harbor, including Newark Bay, Jamaica Bay and Raritan Bay. Baykeeper stops polluters, champions public access, influences land use decisions and restores habitats- benefitting the natural and human communities of the watershed. Baykeeper's signature initiative has been our oyster restoration program, which studies ways to return the keystone species to the estuary. In 2010, our oyster operations were shut down in New Jersey in large part because of pathogenic pollution and the state DEP's fears that oysters could be poached and cause human illness. Baykeeper's oyster operations in New York waters are greatly curtailed because of pathogenic pollution. Reducing pathogen pollution in the Hudson Raritan Estuary is a prime organizational goal for NY/NJ Baykeeper.

Hackensack Riverkeeper is a 501(c)(3) not for profit environmental advocacy organization with its principle place of business in Hackensack, NJ. The Primary Mission of Hackensack Riverkeeper is to provide representation for the natural living resources of the Hackensack River. This representation is manifested in the Hackensack environmental advocacy, education and conservation programs. The focus of Hackensack Riverkeeper is to protect and defend the environmental quality of the ecosystem of the estuary, river and watershed and the quality of life for the people and other creatures that inhabit the Hackensack River Watershed. Hackensack Riverkeeper operates a paddling center on the Hackensack River in Secaucus that provides access to the Hackensack River for recreators throughout the summer months. Poor water quality in the Hackensack threatens our staff and guests' health and depresses our

[4] Hackensack Riverkeeper and NY/NJ Baykeeper have been closely involved in the development of a New York City Harbor TMDL and have filed a lawsuit against the New Jersey DEP for rejecting a petition to revoke its illegal Combined Sewer Overflow Permit. New Jersey's permit does not require that permittees not contribute to the violation of water quality standards, does not require best technology, does not require meeting several of the minimum CSO controls and has no long-term control plan. Thus, many of the assumptions made within these criteria and upon which EPA relies for adequate protection of public health simply do not exist in New Jersey. Information on NY/NJ Baykeeper can be found at http://nynjbaykeeper.org/. Information on Hackensack Riverkeeper can be found at http://hackensackriverkeeper.org/. Both sites were last accessed February 21, 2012.

business. Reducing pathogen pollution in the Hackensack River Watershed is a prime organizational goal for Hackensack Riverkeeper.

The following are Commenters' key concerns and recommendations regarding the draft RWQC.

EPA should require the use of a minimum 30 day geometric mean (GM) and withdraw the proposal to allow up to a 90 day GM/seasonal average, which would weaken public health protection.

The draft RWQC recommends "States to select a duration for both the GM and the STV between 30 and 90 days." Draft RWQC at 39. EPA asserts that this will be more consistent with the epidemiological data, which was collected on a "seasonally basis." *Id.* EPA also voices concern that using a shorter duration than 90 days, coupled with less numbers of samples, could increase the chance of error. *Id.*

Commenters strongly disagree with this recommendation, because it will not increase the protection of the public from exposure to contamination, and it will allow states and municipalities to rely on a 90 day GM to claim compliance with water quality standards when, in fact, waterbodies in their jurisdiction are frequently polluted and unsafe for recreation. Under a 90 day GM system, a waterbody could have multiple exceedances of contaminant levels and still not exceed the GM. This is particularly problematic in waterways impacted by chronic pollution from combined sewer overflows (CSO) such as New York Harbor, the Hudson River and East River. CSO pollution tends to occur in 'pulses' following rainfall events, when the CSOs are triggered and will continue to flow until the local wastewater treatment plant regains the capacity to treat the flow.

Current water quality regulatory criteria for sewage indicators in New York are based entirely on a geometric mean approach. In addition, the single sample maximum approach is used for determining beach closures at official beaches, but exceeding the maximum, while it can close a beach, does not automatically trigger a formal regulatory response; despite the fact a violation of a SSM is a violation of an enforceable water quality standard, and thus a violation of the Clean Water Act. Based on Riverkeeper's ongoing Hudson Estuary water quality sampling program (which now includes over 5 years of sampling with more than 2000 water samples from 75 locations evaluated for fecal indicator bacteria), sewage contamination in our system is highly intermittent. It is therefore not uncommon for individual locations to frequently exceed the single

sample threshold on individual sampling dates, while still remaining below the longer-term geometric mean standard. This scenario is likely to occur in other regions of the nation.

Commenters frequently encounter situations where the regulated entity, e.g. the city or sewer district, can correctly state that the water quality for a particular location is acceptable with respect to the federal and state guidelines – even though swimmers can episodically be exposed to extremely high levels of sewage contamination and associated risk of illness at that location. In order to address this fundamental shortcoming, EPA should mandate the use of a 30 day GM, coupled with the continued use of a SSM "never to be exceeded" standard that, if exceeded, results in a regulatory response and compliance measures that will improve water quality, not simply restrict public access to the polluted resource when necessary, as the current system does.

EPA Region 2 has also expressed support for using a 30 day GM, as shown in the Table below, excerpted from a presentation from March 18, 2010, "Suggested Pathogen Criteria/TMDL Approach for NY/NJ Harbor."[5] In it, EPA compares a 30-Day Geometric Mean and a 90-Day (Seasonal) Geometric Mean for 13 waters in the NY/NJ Harbor and makes the case for a 30-day Geometric Mean as a superior method for protecting public health. In the presentation 10 out of the 13 waters tested failed the 30-day geometric mean and but only 1 failed the 90-day geometric mean using the same data set. EPA Region 2 Administrator Judith Enck also expressed support for the 30 day geomean in correspondence with environmental advocacy groups and in a letter to the Environmental Commissioners of New York and New Jersey.[6]

[5] March 18, 2010, "Suggested Pathogen Criteria/TMDL Approach for NY/NJ Harbor," EPA Region 2. The complete presentation is included herein as Attachment 2.

[6] Correspondence between Judith Enck and various NGOs, and letter from Judith Enck to NYSDEC Commissioner Joe Martens and NJDEP Commissioner Bob Martin, included here as Attachment 3.

CSO Reductions Needed To Meet Beach Act-based 35 ENTEROCOCCI per 100 mL			
WATERBODY	30 Day Max Geometric Mean	Seasonal Geometric Mean	END POINT(S) MET
East River Zones 1,2		Attained	Seasonal
Hudson River Zones 3,4	Attained	Attained	30 day max/Seasonal
Harlem River Zones 1,3,4		Attained	Seasonal
Upper Bay Zones 6,7	Attained	Attained	30 day max/Seasonal
Lower Bay Zones 6,13	Attained	Attained	30 day max/Seasonal
Kill Van Kull Zones 8,9		Attained	Seasonal
Upper Arthur Kill Zones 8,9		Attained	Seasonal
Arthur Kill Zones10,11		Attained	Seasonal
Passaic River Zone 16			
Hackensack River Zone 15		Attained	Seasonal
Newark Bay Zones 8,9,15,16		Attained	Seasonal
Raritan River Zone 12		Attained	Seasonal
Raritan Bay Zones 14		Attained	Seasonal

Riverkeeper's study has documented similar patterns throughout the Hudson River Estuary of locations that suffer periodic high pulses of sewage contamination but show acceptable water quality when viewed using a geometric mean. A prime example is Gay's Point Park in Coxsackie, NY, where people swim in the Hudson all summer long. Our data shown below for this location from 2008 – 2010 shows an acceptable geometric mean of 16, however, the single sample data shows a wide fluctuation in sewage contamination levels with 22% of the samples failing the single sample guideline for safe swimming.

Location: Gay's Point, Coxsackie, NY

Sample Date	Entero per 100/ml	Water Quality
July 17, 2008	7	Acceptable
August 9, 2008	613	Unacceptable
September 17, 2008	11	Acceptable
October 23, 2008	10	Acceptable
May 15, 2009	1	Acceptable
May 16, 2009	1	Acceptable
June 12, 2009	6	Acceptable
July 31, 2009	1203	Unacceptable
Aug 24, 2009	>2420	Unacceptable
Sept.17, 2009	13	Acceptable
October 23, 2009	8	Acceptable
May 25, 2010	4	Acceptable
June 18, 2010	14	Acceptable
July 19, 2010	5	Acceptable
August 21, 2010	3	Acceptable
August 23, 2010	10	Acceptable
September 14, 2010	8	Acceptable
Oct. 16, 2010	116	Unacceptable[7]

[7] Sample data is excerpted from Riverkeeper's Water Quality Sampling website, accessible at http://www.riverkeeper.org/water-quality/locations/greene-columbia/gays-point-midchannel/

EPA should maintain the use of the Single Sample Maximum (SSM), withdraw the proposed Statistical Threshold Value (STV), and require exceedances of the SSM result in regulatory enforcement and compliance, such as the modification of effluent limitations and development of TMDLs for impaired waters.

The draft RWQC proposes using a statistical threshold value (STV) in place of an SSM, which would permit up to a 25% exceedance rate allowance for recreational waters, and would give states the flexibility to measure the 75% compliance rate for periods up to 90 days, equal to the timeframe for the GM.[8] Commenters strongly and unequivocally oppose the STV proposal, because it is clearly a weaker standard than an enforceable SSM, and would significantly increase the number of exceedances allowed before a beach or other recreational waterbody would be closed. In simple terms, using the STV would subject the public to a one in four risk of recreating in polluted water every time they go to the beach – rather than an improvement of the criteria, this is an abdication of EPA's responsibility to periodically revise the criteria to reflect the most current science and protect public health.

It is unclear what EPA is relying on to assert that the proposed STV will be protective of public health. For example, assuming 25% exceedance criteria, one would have to acknowledge that the public would be exposed more often to polluted water than if the SSM were in place, and required waterbody closures after a single exceedance. Has EPA calculated the increased rate of illness under this scenario?

Commenters strongly urge EPA to withdraw the STV proposed standard and maintain the use of the SSM, with the following clarifications to the criteria; SSM would be a 'never to be exceeded' standard – a single exceedance would not only require immediate resampling and/or closure of the affected recreational water, it would trigger a formal regulatory response, which could range from the development of a TMDL, to enforcement action or permit modification that would include a schedule of compliance, or requirement to conduct studies to determine the source of the pollution spike, if unknown. These are meant as illustrative examples and not a complete list of regulatory actions. State regulators have broad discretion to tailor their enforcement efforts to suit the problem – the development of compliance schedules in SPDES permits for wastewater treatment plants to develop CSO Long Term Control Plans is one example of this inherent enforcement flexibility.

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[8] Draft RWQC at 40.

Requiring the use of a SSM with real regulatory weight behind it is entirely consistent with the "technology forcing" nature of the CWA – as scientific and technical knowledge improve, EPA and state regulators are required to periodically review their assumptions and update them to reflect new information, and to integrate that information into enforceable compliance measures that require polluters to modify their behavior and invest in infrastructure improvements to improve water quality and thereby improve protection of public health. This is a fair and equitable approach to addressing chronic water pollution, because it asks the same of the polluter as it does of the public. When a SSM is exceeded and a beach is closed, the state requires the public to modify its behavior to protect public health. Shouldn't the polluter also be required to modify its behavior proportionately, to achieve the same goal?

EPA should establish baseline sampling protocols for the SSM and GM that will provide accurate water quality data in a timely way to drive both public health protections and regulatory compliance initiatives that will improve water quality.

The draft RWQC does not specifically establish a minimum sampling protocol for states to follow for either the SSM or the GM, beyond the recommendation that samples be taken on a weekly basis. Commenters are concerned that states and other regulated entities will use this lack of a baseline protocol to avoid conducting regular sampling that is needed to determine water quality in both the short and long term, particularly if the EPA's proposal to expand the applicability of these criteria to all waters designated for primary contact recreation is finalized. EPA should recommend that states require at least weekly sampling for the 30 day GM, and daily sampling for the SSM during the bathing season, and weekly in the off season. Sampling should be conducted at regular intervals at the same locations, to ensure that sampling results cannot be skewed by only sampling on dry weather days or only in certain locations.

Setting a baseline set of sampling protocols is critical to ensuring a consistent level of public health protection across the country. As it stands, the draft RWQC, with its allowance for a 90 day GM, STV with 25% exceedance allowance in place of an enforceable SSM, and no specific baseline sampling protocols represents a stunning failure by EPA to make any progress in improving water quality standards for recreational waters. Commenters urge EPA to carefully consider how this combination of weak or nonexistent requirements could potentially work in combination to cause backsliding in water quality across the country.

EPA should establish a clear timeframe for implementing the use of rapid method/qPCR sampling technology and the development of predictive models for recreational waters.

In the draft RWQC, EPA acknowledges that the Enterococcus qPCR method A is anticipated o to provide increased public health protection by permitting timely notification to swimmers of levels of FIB that exceed the site-specific criteria value.[9] EPA also cites the limited experience with the use of qPCR in the field, but recommends site specific assessments by states prior to adoption into state WQS for beach monitoring.[10] However, EPA does not cite any studies that show problems with qPCR technology, or examples of waterbody types in which qPCR has been found to be ineffective. Based on this lack of negative data, Commenters recommend that EPA conduct its own assessment of the relative merits of adopting qPCR for use in these criteria, including the increased protection of public health its use would afford, versus the risk attendant with having to modify the use of qPCR subsequently if deficiencies are found during its implementation.

The draft RWQC also notes that use of qPCR could provide additional protection for children, since the availability of real –time data would enable families to make well-informed decisions about whether to go in the water on a particular day.[11] As an example, the draft RWQC notes that qPCR has been a useful tool for beach monitoring in the Great Lakes.[12] Commenters urge EPA to consider accelerating the pace of qPCR implementation, given its demonstrated benefits in terms of rapid sampling results and correspondingly improved public communication capability.

Commenters also support the development of predictive models for recreational waters to supplement culture based sampling methods, until such a time when sampling rates and testing ability allows real time decisions on actual data. As EPA notes, these models utilize existing data, are relatively inexpensive, and can significantly enhance public notification efforts. notification efforts.[13]

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[9] Draft RWQC at 46.

[10] *Id.*

[11] *Id.* at 31.

[12] *Id.*

[13] *Id.* at 49.

EPA's acceptable level of risk for recreational waters allows an illness rate of 1 in 28 recreational water users. This is unacceptably high, it fails to meet EPA's legal mandate under the Clean Water Act to establish criteria that protect human health, and it assumes no net improvement in water quality from the 1986 criteria.

We object to EPA protecting ambient water quality standards instead of human health. As the DRWQC states, "The illness level of 8 cases of HCGI per 1,000 recreators corresponds to an estimated 36 cases of NGI per 1,000 recreators based on a translation of the definition of NGI to HCGI using a factor of 4.5 (U.S. EPA, 2011a)."[14] "EPA's 2012 RWQC recommendations, if adopted into State WQSs, will correspond to the same level of water quality associated with the previous 1986 criteria recommendations,"[15] *even though that level of water quality caused more illness than expected.* To summarize the DRWQC, the EPA conducted new studies that demonstrated 4.5X the expected illness under the 1986 standard. Instead of making 8 illnesses per 1,000 the target rate for new standards, EPA kept the standard and accepted the increased illness rates. This seems to explicitly protect the expectation of polluters instead of protecting human health as directed by Congress.

Commenters' concerns reach beyond EPA's decision to move from a 0.8% illness rate to at 2.8% illness rate without explanation for the acceptability of either rate. The DRWQC supposedly protect the public from URIs, Rashes, eye ailments, ear aches and infected cuts and "these other illnesses occur at a lower rate than GI illness."[16] If those problems occur at lower rates than GI illness, they should be added to the illness rate acceptable to EPA in these criteria. Thus the rate EPA finds acceptable is not 28/1000, it's 28 + URIs + rashes + eye ailments + earaches + infected cuts/1000. According to Wade et. al, that would be URI 57/1000 + rash 27/1000, eye irritations of 29/1000 + 42-48/1000 earaches.[17] This illness rate would seem to be 183-189/1000, an illness rate of 18.3%. This is almost 23 times the expected illness rate that EPA found acceptable in 1986.

If EPA is going to accept higher illness rates than in the past, that decision should be supported by evidence in the record. But after looking through the DRWQC and even the

[14] *Id.* at 28.
[15] *Id.*
[16] DRWQC page 16 at 764
[17] DRWQC page 16 at 765

Experts Report[18] (which contains an entire chapter on acceptable risk), Commenters found nothing that explained EPA's decision that any of the various illness rates were protective of human health. If the purpose of the draft RWQC are to protect human health, why are 8 cases of HCGI per thousand acceptable? Why not 2? Why not 200? What makes that acceptable? What methodologies determined these rates to be acceptable? If these rates are acceptable on average, what about peak pathogen days?

Moreover, the Criteria seem to address threats from mild cases of gastrointestinal illness, which, granted, are probably the most common outcome. EPA fails to address the rarer cases of life threatening illness from waterborne pathogens, and does not go so far as to estimate at what level more serious, potentially life threatening illnesses would be acceptable in the draft RWQC.

EPA's assessment of health risks to children and other vulnerable populations is inadequate, and wrongly supports draft criteria that will not provide sufficient protection from exposure to waterborne pathogens.

The draft RWQC are based on data derived from the general population but the Experts Report notes in its chapter on acceptable risk that key groups of the public have greater susceptibility to pathogenic pollution. These identified populations, children, elderly and immune-compromised, may not be well protected by EPA's standards.

Children

Children are likely more vulnerable than the broader population for many reasons. Indeed, EPA admits as much in great detail. Children have a stronger association between pathogen rates and illness, greater ingestion of water relative to body size, increased head and body immersion, increased hand to mouth contact, immature immune system, and typically stay longer in water.[19]

The Experts Report agrees that children are at greater risk than the broader population. Workgroup members felt that children are at a greater increased risk compared to all other life stages because of their behavior and possibly because of naïve immune status.[20] "Regarding behavior, children probably have higher exposures; that is, they are more likely to consume both marine and freshwater. Moreover, young children have significant hand-to-mouth and fecal-oral

[18] Report of the Experts Scientific Workshop on Critical Research Needs for the Development of New or Revised Recreational Water Quality Criteria, U.S. Environmental Protection Agency Office of Water, Office of Research and Development, Airlie Center, Warrenton, Virginia, March 26-30, 2007 (Hereinafter Experts Report)

[19] DRWQC page 30 at 1278

[20] Experts Report at 97-98

behavior that may lead to the consumption of contaminated substances. Very young children may also be more vulnerable to pathogens in recreational waters because they have never been exposed to these pathogens previously. Of note, preliminary, unpublished data from recent studies by EPA (NEEAR; Timothy Wade, EPA Office of Research and Development, personal communication, 2007) as well as results from other published studies appear to demonstrate an increased risk of GI illness and possibly respiratory illness for children from exposure to recreational waters, although this has not yet been formally reviewed."[21]

In the DRWQC, EPA sites conflicting evidence about whether their data on the whole support the hypothesis that children are at greater risk for illness from a given water quality threshold. It does note, however, that "In the NEEAR fresh water epidemiological studies, the association between GI illness and water quality, as measure by EPA's *Enterococcus* qPCR method A, was stronger among children (age 10 years and under) compared with the NEEAR general population, which also included children."[22] EPA's studies seem to relate only to the incidence of illness, not the severity of illness. This strikes Commenters as a significant failing throughout the draft RWQC. In particular, Commenters assume that with underdeveloped immune systems and smaller bodies, children are probably likely to be more severely ill than health adults, and are less likely to identify and communicate their illnesses than adults.

The Experts seem to share this concern. "Workgroup members believed that the apparent increased risk for children for acquiring GI and possibly other diseases from exposure to both fresh and marine recreational waters should drive the health risk assessment of any future recreational water criteria development efforts, assuming the current and future research continue to demonstrate their apparent increased risk."[23] Moreover, "Workgroup members emphasized that future recreational water criteria set on health risks and exposures of adults would not be sufficiently protective for children."[24] Instead, EPA has decided that children are adequately protected by criteria based on the larger population, with the caveat that "it is imperative that effective risk communication outreach be done to mitigate their exposure to contaminated waters effectively."[25]

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[21] Experts Report at 98
[22] DRWQC page 30 at 1275
[23] Experts Report at 99
[24] Experts Report at 99
[25] DRWQC page 31 at 1345

Reliance on "effective risk communication" is perhaps the most disturbing aspect of the draft RWQC.[26] Effective risk communication does not currently exist, and the draft RWQC fails to propose specific steps to develop or implement it. For example, despite pointing out the clear benefits of qPCR technology, EPA leaves it to states to move this technology forward rather than developing a plan to accelerate its validation and implementation.

Commenters appreciate the opportunity to provide EPA with our response to the draft RWQC, and urge EPA to adopt our recommendations, in order to improve water quality and protect public health, as the Clean Water Act requires.

Respectfully submitted,

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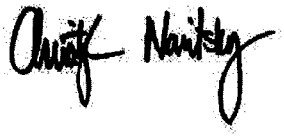

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