APLD

Alliance to Prevent Legionnaires' Disease

WATER WELLNESS SUMMIT REPORT

2025 | Protecting our Public Water from Source to Tap

October 2, 2025 | Washington, D.C.

INTRODUCTION

The October 2nd 2025 Water Wellness Summit in Washington, DC brought together thought leaders across multiple disciplines, including, public health, policy, and water distribution utilities, engineering, water testing and management, cooling technologies, and the legal system to address ways to protect communities through a comprehensive, source-to-tap approach to prevent Legionnaires' disease and ensure the delivery of safe, clean water.

Leaders from water-related industries provided detailed presentations that underscored the fact that Legionnaires' disease and other waterborne illnesses are not isolated incidents, but the result of systemic vulnerabilities in water infrastructure, building management, and ineffective regulatory oversight. Clean drinking water requires coordination across every link in the distribution system chain, from treatment and distribution until it leaves a consumer's tap. The Summit emphasized that preventing Legionella growth is a public health and moral imperative.

Presenters detailed ways in which the implementation of practical water system management along with legislative and regulatory updates can effectively address the country's water distribution system to minimize the risk of pathogens in our drinking water. Throughout the day, they highlighted the integration of new standards, best practices, and innovations designed to control Legionella and prevent cases of Legionnaires' disease.

The presentations showcased New Jersey's landmark 2024 Legionella prevention law (P.L.2024, c.66), regulatory and statutory improvements in Illinois (Public Act 102-0004 (2021), Public Act 102-0960 (2022), and Public Act 103-0833 (2024)), the Environmental Protection Agency's (EPA's) Microbial and Disinfection Byproducts (MDBP) Working Group of the Clean Water Council recommendations, utility-side best management practices, and plumbing design strategies that can help reduce Legionella growth. Equally important, integrated source-to-tap partnerships among utilities, regulators, and building managers were shown to be critical for effective water safety.

INTRODUCTION

A coordinated responsibility across the entire water system from reservoirs to individual fixtures is needed to ensure human health and promote the highest indoor environmental quality.

Together, the Summit demonstrated how policy and regulation can directly improve public health outcomes when paired with data, improved water system management, and advocacy. In short, source to tap solutions address Legionella growth and prevent cases of Legionnaires' disease. Through collaboration, measurable progress in disease prevention and system resilience is achievable.

The Summit also reinforced why the delivery of clean water remains vital to public health and welfare. Presentations by patient advocates reminded everyone that behind every regulation proposed and every data point discussed, lives are at stake. Legionnaires' disease patients and families are too often lost in discussions about controlling Legionella. But, their stories transform the discussion from issues focused on technical compliance to shared responsibility. Patient advocates called on all involved in water distribution to work to ensure that no more preventable deaths occur.

The 2025 Water Wellness Summit clearly established that we must bring together the best available science, policy, water distribution design, and compassion to create a future where the delivery of clean, safe water is a guaranteed standard of public health. If everyone does their part, we can turn the lessons learned from tragedy into sustained disease prevention.

In addition to summaries and key takeaways from Summit presentations, we are pleased to provide the opportunity to review individual presentations from the Summit. Please click on the title of each presentation on the pages that follow to view each presentation.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

A Summary of the November 2023 Report of the USEPA Microbial and Disinfection Byproducts (MDBP) Working Group

Andrew Kricun, PE, Principal, Moonshot Missions
Co-Chair, Microbial and Disinfection Byproducts Rule Revisions Working Group, National Drinking Water Advisory Council, EPA

Andrew Kricun, P.E., the co-chair of the EPA's Clean Water Advisory Council's Microbial and Disinfection Byproducts (MDBP) Working Group, outlined the working group's effort to help the EPA strike a balance between preventing waterborne pathogens like Legionella and minimizing disinfection byproducts. Comprised of regulators, utility professionals, environmental advocates, and scientists, the MDBP Working Group developed 13 key recommendations to strengthen national drinking water protection. These include setting a minimum national disinfectant residual standard, improving premise plumbing safety, and addressing disinfection byproducts of emerging concern. The group also urged better source water protection, inspection of storage tanks, and new guidance on chloramination to control nitrification and byproduct risks.

The recommendations further emphasize equity, capacity, and data improvement. The report called for targeted assistance to ensure environmental justice communities and low-income utilities can comply with new standards, the creation of a permanent low-income water assistance program, and support for state agencies overseeing implementation. Additional measures focus on closing data gaps across all parts of the water system from source to premise plumbing and updating definitions and testing methods for groundwater under the direct influence of surface water. The presentation concludes that these actions, submitted to the EPA in November 2023, represent a unified roadmap toward safer, more equitable, and better-managed drinking water nationwide.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- The MDBP Working Group report developed 13 national recommendations to balance pathogen control, including Legionella, while minimizing disinfection byproducts and adverse health impacts.

- The MDBP Working Group report focused on distribution system equity to ensure low-income and environmental justice communities that are often the most prone to Legionella-related issues benefit from reforms.

- MDBP Working Group report advocated for data-driven policy, a national disinfectant residual up to 0.5 mg/L of Chlorine and up to 0.7 mg/L of Chloramine, improved monitoring, and sustainable assistance for water utilities.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

Water Age is the Problem: Now What?!

Gary Klein
President, Gary Klein and Associates

Gary Klein discussed strategies to reduce water age and control Legionella and other opportunistic premise plumbing pathogens through better plumbing design and operation. Both design deficiencies, such as long pipe runs, oversized systems, and stagnant zones, and poor operational practices can contribute to loss of microbial control. He emphasized a combination of active controls like flushing, disinfection, and regular maintenance, and passive controls, including right-sized plumbing, minimizing dead-ends, and piping layouts that shorten the distance from water source to point of use.

All of these issues work together to ensure efficient and safe water delivery. By reducing pipe length and using appropriate diameter piping and right-sizing based on actual peak flow data rather than outdated design standards, Mr. Klein proved that it is reasonable to have a "time-to-tap" goal to deliver hot water within 10 seconds and limit water waste to no more than one cup per use. Current design standards can overestimate flow rates by up to 27 times, causing unnecessary water volume and stagnation. The presentation concluded with practical recommendations, including the use of non-aerated fixtures, pressure-compensating flow regulators, and optimized layouts, to enhance efficiency, conserve energy, and maintain microbial safety in both hot and cold water systems.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- Long pipe runs and oversized premise plumbing systems are key contributors to microbial growth and water quality loss.
    - Reduce distance from source to use.
    - Locate high frequency use fixtures at the end of the plumbing branches.
- Right-sizing plumbing designs and using real flow data can minimize water age and improve energy efficiency.
- Fixture optimization and maintenance can reduce stagnation and improving time-to-tap performance.
    - Minimize dead ends and sediment accumulation
    - Use non-aerated stream nozzles

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

Water Quality: The Fifth Pillar of Indoor Environmental Quality

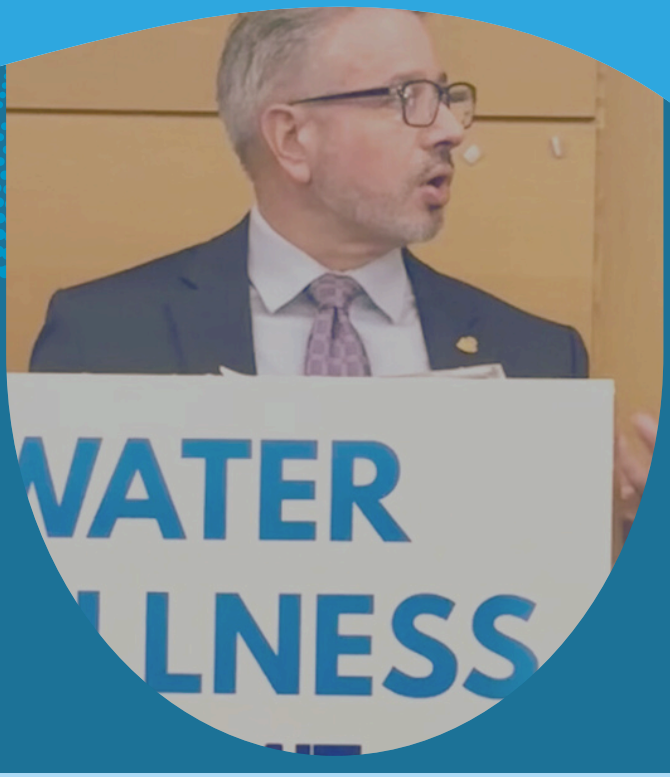
Bill McQuade, PE, LEED AP, CDP, Fellow ASHRAE
President, ASHRAE

Bill McQuade, the 2025-26 ASHRAE President, emphasized that true indoor environmental quality (IEQ) extends beyond air, light, temperature, and acoustics to also include clean water. The presentation highlighed the global and national scale of waterborne health risks with over 785 million people worldwide lacking access to clean drinking water, while in the United States 7 million people annually suffer from waterborne diseases, costing over $3 billion to the economy. Mr. McQuade reviewed the July 2025 Legionnaires' outbreak in New York City, which followed several days of heavy rains and flooding to demonstrate how environmental conditions and infrastructure vulnerabilities can foster Legionella bacteria growth. Contaminated water does not arise spontaneously within the water distribution system or premise plumbing. It spreads when systems create ideal conditions for waterborne pathogens. As a result, the need to address contamination proactively at the source rather than chasing outbreaks downstream is a necessary public health protection.

Mr. McQuade also warned that problems often emerge within building plumbing, when factors like water age, temperature, flow stagnation, and biofilm create breeding grounds for Legionella and other pathogens. Managing these risks requires an integrated, "source-to-tap" partnership among utilities, regulators, and building managers. Effective water safety requires proactive design, ongoing maintenance, and coordinated responsibility across the entire water system from reservoirs to individual fixtures to ensure human health and indoor environmental quality.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS



- Water safety is a core element of indoor environmental quality, alongside air, light, and thermal comfort.
- Legionnaires' outbreaks are linked to environmental and systemic factors. As such, we must focus on prevention strategies, not reaction to outbreaks and cases of Legionnaires' disease.
- A comprehensive source-to-tap partnership between utilities, regulators, and building managers is needed to eliminate Legionella risks. The leading national standard for mitigating Legionella risk in buildings has been published by ASHRAE, Standard 188.

> ***"Clean water is not automatically delivered to consumers. It is earned through sustained commitment and shared accountability."***

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

Compliance with SDWA Regulations

Deborah Vacs Renwick, PE
SDWA Compliance Manager, WSSC Water

Deborah Vacs Renwick, PE, the Safe Drinking Water Act Compliance Manager at WSSC Water, provided an overview of WSSC Water's scale, performance, and compliance achievements while serving 1.9 million residents across 1,000 square miles in Prince George's and Montgomery Counties. WSSC Water operates one of the largest combined water and wastewater utilities in the United States. The utility delivers 162 million gallons per day and maintains over 11,000 miles of combined water and wastewater infrastructure. The utility has not had a single drinking water quality violation during its 107 years of operation.

Ms. Renwick highlighted WSSC Water's comprehensive distribution system monitoring program, which includes over 400 monthly samples across 102 sites testing for coliform bacteria, chlorine, pH, temperature, and conductivity, plus regular disinfection byproduct and lead/copper rule sampling. Despite challenges from a vast distribution system and resulting water, WSSC Water maintains compliance using free chlorine disinfection without the need for Chloramine-based disinfection. The presentation also discussed simultaneous compliance challenges from managing microbial and disinfection byproduct risks, while preparing for the implementation of new regulatory requirements.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- WSSC Water's comprehensive distribution system monitoring program, which includes over 400 monthly samples across 102 sites testing for coliform bacteria, chlorine, pH, temperature, and conductivity, plus regular disinfection byproduct and lead/copper rule sampling.

- Large distribution systems have unique challenges, including water age and disinfectant maintenance, but by being utilizing proactive strategies the water distribution system can be managed safely and effectively.

- Methods utilized to remove PFAS from drinking water can also assist in the removal of disinfectant byproducts (DBPs).

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

MODERATED PANEL DISCUSSION

Moderator: Robert Bowcock, Managing Director, Integrated Resource Management

Panelists:
Gary Klein
Andrew Kricun
Bill McQuade
Deborah Vacs Renwick

The 2025 Water Wellness Summit Panel Discussion featured Robert Bowcock as the moderator and included the morning session presenters as panelists.The panel discussed the intersection of water quality, infrastructure design, regulatory policy, and public health protection.

The discussion focused on creating a “source-to-tap” framework for managing water safety, emphasizing collaboration among engineers, public health professionals, and utilities to address aging infrastructure, microbial risk, and water system efficiency as integrated parts of sustainable public health.

The panel reinforced the need for honest notifications and disclosures with consumers about water quality and the need for continued collaboration. The panel also reviewed issues related to the ongoing delays in disinfectant Byproduct rules, PFAS, and what entities, including utilities, business groups, and regulators, can do better to assist building owners and consumers, and the need for consumers, particularly large water users, to more accurately calculate actual water usage.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- Experts across policy, design, operations, and planning explored integrated Legionella prevention strategies.
- There is a need for cross-sector collaboration between regulators, utilities, engineers, and advocates.
- Shared responsibility and transparency are essential to achieving clean water delivery.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

State Efforts to Address Legionella Control and Disease Prevention

Illinois: A Chronology of Regulatory & Legislative Action to Prevent Legionnaires' Disease (2017-2025)

Jon Leleu, Esq.
Attorney/Lobbyist, Argentum Partners

Mr. Leleu outlined how Illinois transformed its public water regulations and healthcare protections in response to multiple high-profile Legionnaires' disease outbreaks, including at the Quincy Veterans Home and in McHenry County. Beginning in 2017, the Illinois Environmental Protection Agency (IEPA) launched a rulemaking process that consolidated outdated regulations and focused on improving disinfectant residuals, nitrification control, and water storage management. The resulting Part 604 regulations, adopted in 2019, established minimum chlorine residual standards, required nitrification action plans, and mandated recordkeeping and turnover of stored water. Early compliance data showed strong operator adaptation and a 35.7% reduction in total coliform positives, confirming measurable improvements in system health and water quality.

Subsequent legislation in Illinois expanded protections beyond utilities. Public Act 102-0004 (2021) required hospitals and nursing homes to develop and maintain Legionella testing policies, while Public Act 102-0960 (2022) and Public Act 103-0833 (2024) mandated that utilities notify healthcare facilities and first responders of planned or unplanned water disruptions. Together, these actions created a modern, "source-to-tap" defense model combining infrastructure oversight, healthcare accountability, and transparent communication. The Alliance to Prevent Legionnaires' Disease (APLD) played a pivotal role in supporting the rules and positioning Illinois as a national model for proactive waterborne disease prevention. The state's next steps include publishing disruption notice data, tracking healthcare water management plans, and evaluating case trends to measure continued success.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- Illinois transformed from a state plagued by Legionella-related issues into a national model for Legionella prevention through regulatory modernization and legislation.
- The state has a well-documented success from its updates with a more than 35% reduction in total bacteria positive tests following new standards and nitrification control plans.
- Highlighted the role of APLD advocacy and interagency collaboration in achieving sustainable, enforceable water safety reforms.

> ***"From Illinois to New Jersey, proactive and science-driven policies show that prevention is achievable."***

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

A Source to Tap Approach to Managing Legionella: A Review of New Jersey P.L.2024, c. 66

Tom Leach, Esq.
Leach Policy Management

Tom Leach reviewed New Jersey's new Legionella control law, P.L.2024, c.66 (Senate Bill 2188). The presentation traced the state's response to rising Legionnaires' disease cases from 2019-2023, leading to comprehensive source-to-tap law, which requires public community water systems to maintain minimum disinfectant levels, implement distribution system maintenance plans, and report water disruptions alongside strong regulatory changes that require the establishment of best practices, guidance, and enforcement rules to improve water safety and transparency.

The law also expanded state responsibilities to investigate all Legionnaires' disease cases, maintain a public case database, and run education campaigns. Owners and operators of at-risk buildings like hospitals, senior housing, and large residential complexes must develop water management programs consistent with ASHRAE 188-2018 by late 2026, with penalties for violations. The law does not mandate strict Legionella testing or create new agencies. It marks a major shift toward proactive prevention through coordination between water systems, health agencies, and building operators.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- New Jersey enacted a comprehensive, source-to-tap law mandating disinfectant residuals, maintenance plans, and reporting for public water systems.
- The Law puts standards in place for water distribution system management to mitigate risks posed by Legionella and other waterborne pathogens and requires certain building owners to implement ASHRAE 188-compliant water management programs by 2026.
- New Jersey now has the most integrated approach to Legionella control by balancing regulation, public health, and utility operations to ensure public health and welfare.

> ***The signing of New Jersey's law is a historic step toward curbing rising cases of Legionnaires' disease. It creates a true, comprehensive, source to tap approach to legionella control and disease prevention.***

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

Not One More Victim...Why We Must Act Now

Gwen Hanlon
Family Advocate

Gwen Hanlon, a powerful patient advocate delivered an urgent and emotional call to action focused on preventing further loss and suffering from Legionnaires' disease and other waterborne illnesses. In recounting the impact of her husband Kevin's contracting Legionnaires' disease while undergoing treatment for lung cancer at a top New York City hospital leading to his tragic death, Gwen shared the human impact behind the statistics, urging policymakers, industry leaders, and health officials to implement meaningful prevention measures now rather than in response to the next outbreak.

Gwen's message aligned with a broader theme of accountability, compassion, and urgency in the public health community and reinforced that protecting clean water is not just a technical or policy issue, but a moral responsibility.

Gwen called on every state to ensure case investigations, notifications, and accountability. Clean water is a human right and we need a sustained efforts to prevent Legionella in water systems, transparency for early diagnosis, and community education on risks.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- Gwen delivered a passionate advocacy message for immediate, unified action to prevent further Legionnaires' disease cases.
- Water safety is a moral imperative, not just a regulatory responsibility.
- Urged policymakers and facility owners to act before tragedy strikes another family.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

Small Group Discussions on Source to Tap Solutions

The 2025 Water Wellness Summit included a small group discussion session where attendees reviewed the day's presentation content, ideas for future legislative and regulatory action, and other next steps to advance meaningful Legionnaires' disease prevention strategies throughout the country. These discussions guided the development of this report and its call to action. Key topics raised during the discussion session include the need for ongoing and improved collaboration, updated notification standards related to Legionella bacteria risks, and better Legionella-related training for building owners and operators. Equally important, the discussion highlighted the need for additional resources for epidemiological investigations of Legionnaires' disease cases and assurances that every case of the disease is thoroughly investigated.

KEY DISCUSSION TAKEAWAYS

- Continued, enhanced collaboration among stakeholders is needed to strengthen nationwide Legionnaires' disease prevention efforts.
- Updated Legionella risk notification requirements and expanded training for building owners and operators is necessary to ensure a true source to tap disease prevention framework.
- There is a critical need for additional resources to support water distribution system infrastructure improvements and thorough epidemiological investigations of every Legionnaires' disease case.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

Beyond a Statistic: Why Every Case of Legionnaires' Disease Matters

Jill Akre
Patient Advocate

Jill Akre, a Legionnaires' disease survivor, reviewed both epidemiological data and her personal perspective on the human toll of Legionnaires' disease. Jill highlighted a rise in confirmed Legionnaires' disease cases during the time period when she was infected, from 98 in 2017 to 152 in 2018, the highest ever reported in Minnesota and a 55% increase year over year. Among these cases, nearly all patients (97%) were hospitalized, with over a third requiring intensive care and one in five needing mechanical ventilation. Jill noted that the vast majority of these cases (92%) were sporadic rather than outbreak-related, though notable clusters occurred in a senior living facility and a hospital.

Jill shared her powerful personal survival story and challenged all attendees to recognize that each case represents a real person, not just a data point. She thanks attendees for their commitment to public health and reminded everyone that vigilance in detection, reporting, and prevention is vital to save lives. Her message reframed Legionnaires' disease not merely as a statistical or environmental problem, but as a deeply human challenge requiring compassion, awareness, and proactive public health action.

SUMMARY OF PRESENTATIONS AND KEY TAKEAWAYS

KEY DISCUSSION TAKEAWAYS

- Presented detailed Minnesota data trends, showing rising Legionnaires' cases and the importance of rapid detection and reporting.
- Nearly all patients (97%) were hospitalized, with over a third requiring intensive care and one in five needing mechanical ventilation. The vast majority of these cases (92%) were sporadic rather than outbreak-related
- Shared a personal survivor's perspective, transforming statistics into a human call for empathy, prevention, and accountability. Called for attention to all Legionnaires' disease cases, including the overwhelming majority which are sporadic and not tied to an outbreak.

CONCLUSION AND CALL TO ACTION

The shared message throughout the 2025 Water Wellness Summit was clear. Public health requires a data-driven and preventative approach to ensure water quality. Clean water, while assumed and expected, is not guaranteed. It is created through a sustained commitment and shared accountability. However, progress will only continue if collaboration occurs and all states follow the lead of Illinois and New Jersey, which have shown that that proactive planning, monitoring, and transparent communication can save lives and ensure clean water delivery. We all must focus on improving water management best practices from the treatment plant into every community and building.

The success achieved in Illinois and New Jersey should serve as a national blueprint, and are consistent with the EPA's MDBP Working Group's 2023 recommendations. Policy makers, utilities, and building owners must act now to expand these reforms nationwide, bridging the gaps between treatment, management, and public health oversight.

The 2025 Water Wellness Summit united national experts in engineering, public health, policy, and utility management around a single, urgent theme: the need for a comprehensive, source-to-tap approach to water safety and disease prevention. Across presentations from regulators, advocates, and technical experts, one common principle emerged – water quality is not guaranteed by treatment alone. Instead, it requires vigilance and coordination across every stage of delivery, from reservoirs and pipes to buildings and faucets. Preventing Legionnaires' disease and other waterborne illnesses is not only a scientific challenge but also a moral responsibility shared by utilities, environment and health officials, and building owners alike.

To build on these successes, policymakers across the country must prioritize source-to-tap legislation. Clear national standards for disinfectant residuals, water distribution maintenance, and public notification during disruptions should be adopted. Utilities must invest in training, system updates, and transparent data reporting. Building owners must implement water management plans consistent with ASHRAE 188 standards.

CONCLUSION AND CALL TO ACTION

Public health agencies should deploy real-time surveillance and data-sharing systems to detect outbreaks early. The path forward depends on collaboration and a sustained effort to ensure that science and operations are working in tandem to protect public health.

The call to action is urgent and must be shared by everyone. There must be a common goal of no preventable cases of Legionnaires' disease. As infrastructure ages and environmental conditions evolve, vigilance and innovation must become the new standard. Utilities must continue modernize and adopt new system best practices, regulators must ensure sustained disinfectant residual and treat the delivery of clean water not as a goal, but a fundamental right of all consumers. Equally important, advocates and survivors remind us that behind every case is a human story that demands compassion and accountability. The future of water wellness depends on everyone so that we can ensure that every drop of water delivered to the public is safe.

> ***"Given the right conditions, plumbing and distribution systems create ideal habitats for biofilm and waterborne illness. But the bacteria must arrive first and they come from the source water. So, the real question is this: will we keep chasing symptoms at the end of the system, or start protecting the source that feeds us all?"***