



Water Assessment by Merge Impact (WAMI)

WAMI is a water quality standard designed to support transparent water impact from downstream to upstream channels. Merge Impact supports collecting water quality data from downstream consumption to upstream sources. Water quality includes measurement and analysis on soil water capacity, aggregate stability, potable water analysis, and non point source collection.

WHAT IS BLOCKCHAIN? HOW DOES IT IMPACT WAMI?

Simply put, blockchain does not enhance transparency - it enhances the validity and integrity of transparency data by de-centralizing data storage and removing the likelihood of creating data silos - a situation where data is buried in a mess of other ag data and generates little to know value within the supply chain. For the WAMI, blockchain is used to ensure the origin and validity of comprehensive environmental & production outcome data.

WHO IS MERGE IMPACT?

As the first and only blockchain-powered agricultural measurement and data solution, Merge Impact connects brands to fully verified regenerative and organic supply chains while providing regenerative and organic farmers with comprehensive field-level measurement and ecosystem services. With Merge Impact's tools that help to measure, validate, and monetize climate initiatives, sustainability goals are well within reach. Here at Merge Impact, we're excited to go on this journey with you. Whether you're a farmer, a brand, or a consumer, supply chain transparency and trust are the future of food.

About WAMI

BACKGROUND AND DESCRIPTION

Accurate measuring and reporting of H2O quality is essential to rural health, and the safety of our food system. WAMI provides guidance and data collection infrastructure for professionals, supply chains, and farmers. WAMI supports supply chain impact transparency via production impact on downstream H2O quality. Collected data will be correlated with farm system data to support farmer adaptations from data discovery.

SCOPE

As part of a comprehensive soil sampling plan, Merge will report water quality data according to stakeholder needs in the following categories:

- ✓ Soil H2O
- ✓ Downstream Community H2O
- ✓ Potable Farm H2O
- ✓ Non Point Source H2O

PRODUCER OPPORTUNITIES

When Merge Impact deploys WAMI, rural communities are positively impacted through tracking water quality from production systems upstream. Producers gain valuable insights from local testing to determine if water sources are compromised or causing downstream complications. Tile, irrigation, well, and stream data provide valuable information that ensures farm and community health are transparently connected.

By creating changes to upstream water quality, producers may be eligible for water quality credits. Data collected from producer systems and water quality provide ecosystem markets with high integrity data on blockchain.

CONSUMER VALUES

Consumers can purchase products using WAMI and know their investment in the product goes towards improving water systems and preserving nature. While WAMI is part of a larger transparency product (MIST), consumers can see the local water impact and its connection to their food purchase.

Considerations

Additional measurements may be requested to be included in a custom protocol. WAMI data may be utilized to satisfy product claims, ecosystem market insetting opportunities for supply chain stakeholders, and farm/ranch-level offset opportunities.

Protocol Outcomes

SOIL H2O

SUMMARY

Measuring soil water attributes like holding capacity and aggregate stability positively impacts downstream water quality. Improved soil moisture holding capacity reduces surface runoff, lowering the risk of nutrient leaching and soil erosion. This, in turn, minimizes the transport of sediments, pesticides, and fertilizers into water bodies, maintaining aquatic ecosystems' health. Enhanced aggregate stability promotes better water infiltration and aeration, encouraging the natural filtering and purification processes in soil. By managing these soil attributes, agricultural practices can reduce pollution, protecting water resources and contributing to sustainable watershed management.

- ✓ Measurement
 - Soil moisture holding capacity
 - Soil aggregate stability
- ✓ Impact
 - Know resilience to moisture stress
 - Observe erosion potential

DOWNSTREAM COMMUNITY H2O

- ✓ Total Coliforms
- ✓ Nitrates
- ✓ pH
- ✓ Ammonia
- ✓ Total Chlorine/Free Chlorine

SUMMARY

Measuring downstream community water quality provides valuable insights into the effectiveness of upstream land and water management practices. By monitoring parameters like nutrient levels, sediment loads, and presence of contaminants, stakeholders can identify potential pollution sources, assess their impact, and track trends over time. This data-driven approach enables informed decision-making, allowing for the development and implementation of targeted conservation and remediation strategies upstream. Changes may include modifying agricultural practices, promoting soil and water conservation, and implementing better waste management. Ultimately, these efforts contribute to improved water quality, benefiting both the environment and human health, and promoting sustainable watershed management.

NON POINT H2O

SUMMARY

Testing non-point source water quality helps identify diffuse pollution sources, like agricultural runoff. By monitoring parameters such as nutrient concentrations and sediment loads, stakeholders can assess the impact of these sources on downstream water quality. This information enables targeted mitigation strategies, including best management practices and land-use planning, to reduce pollution from non-point sources. Consequently, it contributes to improved downstream water quality, protecting aquatic ecosystems and ensuring safer water resources for human consumption and use.

- ✓ Total Coliforms
- ✓ Nitrates
- If downstream issue present:
 - ✓ pH
 - ✓ Ammonia
 - ✓ Biological Oxygen Demand

POTABLE FARM H2O

✓ Total Coliforms

✓ Nitrates

If downstream issue present:

✓ pH

✓ Ammonia

If treated water supply

✓ Total Chlorine/Free Chlorine

SUMMARY

Testing potable farm water safeguards human and animal health by identifying contaminants like pathogens, chemicals, and heavy metals. Regular water quality assessments help detect potential hazards, ensuring that drinking water meets safety standards. Prompt detection allows for corrective measures to prevent waterborne diseases, reducing health risks for both humans and animals. By maintaining clean water sources, farms can promote the overall well-being of their livestock, enhancing productivity, while also protecting the health of farmworkers and their families.

