

# **MIDSTREAM WATER MANAGEMENT: U.S. HYDRAULIC FRACTURING STRATEGIES, SOLUTIONS, & OUTLOOK, 2019–2028**

Publication Date: November 2019

## **Table of Contents and List of Exhibits**

## About This Focus Report

The US\$17 billion per year water-for-hydraulic fracking landscape in the U.S. continues its evolution, shaped by the mercurial oil & gas markets and geopolitical forces influencing production and water management strategies. Within this unsettled context, upstream energy companies, financial investors, and midstream water solutions providers have identified water as a critical lever to mitigate operating costs and risks.

Bluefield's water-for-fracking forecasts present a 10-year outlook, including water volumes and expenditures, for supplies, transportation, treatment for reuse, and disposal. The 14 major basins in the U.S. demonstrate the high variability from region to region.

### Report Features

- In-Depth Analysis of 14 Basins
- +55 Midstream Water Company Profiles
- Ten-Year Forecasts, 2019-2028
- Macroeconomic Drivers: Energy Prices, Rig Counts for Oil & Gas
- Regulatory Drivers & Policy Landscape
- Water Management Volumes (BBL): Supply, Transport, Treatment, Disposal
- Water-Related Mergers & Acquisitions
- Financial Investor, Pure-play Water Firm, and Technology Vendor Strategies

## Bluefield Takeaways

- **Permian Basin continues driving drilling and midstream activities.** The Permian has become the upstream oil sector's engine, representing 54% of the annual total water management demand. Of this, four counties: Eddy, Lea, Loving, and Reeves make up 79% of the Permian total. In contrast, the gas rich Appalachia basin: Marcellus & Utica make up 13% of water management spend.
- **Market evolution against a backdrop of relative stability.** M&A over the last year highlight scaling interest of domestic and foreign financial investors in water for hydraulic fracturing. Bluefield has identified 28 transactions so far in 2019.
- **Low hanging fruit identified in transportation equation.** Given that transportation spend for supply and disposal represents 49% of the 10-year total financial investors have

zeroed-in on pipeline investments and midstream water management.

- **Regulatory shifts on the front lines.** Straddling the Texas and New Mexico border, Permian Basin operators on the New Mexico-side will be required to step-up their recycling of produced water. In 2018, new legislators moved to enforce produced water recycling.
- **Still young, fracking sector maturing with experience.** With oil prices stabilizing from US\$50/bbl to US\$60/bbl, companies across the industry value chain, from E&Ps, midstream water players, and investors, are honing their positions via M&A and organic growth to capture forecasted gains.

## TABLE OF CONTENTS

This is a preliminary version of the report's Table of Contents. Bluefield Research reserves the right to add to, alter, or subtract from this Table of Contents upon publication.

### Section 1: Report Summary

#### Section 2: Scope & Research Methodology

- Mapping the U.S. Shale Basins & Plays
- Unconventional Oil & Gas Production
- Key U.S. Unconventional Oil & Gas Plays & Water Trends
- Oil & Gas Spot Prices and Trends
- Monthly Rig Count by Basin
- Drilled but Uncompleted Well Inventory Builds
- Basin Water Stress & Water Footprint
- Federal Policy Landscape
- State and Local Policy Overview
- Spend Across Hydraulic Fracturing Water Supply Chain

#### Section 3: Market Drivers & Landscapes

- Forecast Methodology
- Water Management Sensitivities and Critical Inputs
- Market Outlook Scenarios from 2018 to 2028
- Water Management Spend by Category, 2011-2028
- Annual Water Management Spend by Basin
- Total Water Supply Demand in a Steady State, 2019-2028
- Produced & Flowback Water Volume by Basin

### Section 4: Market Forecasts & Sensitivities

- Water Player Positions
- Midstream Water Competitive Positioning
- M&A Trends by Company Type
- Water-related M&A Activity
- Private Equity Investors Target Water Pure-plays
- Permian Private Equity Investments Across the Value Chain
- Market Share Positions: Supply, Collection & Disposal Assets
- Permian Basin Water Transfer Projects

#### Five Key Questions Answered in the Report

- What is the size of the water-for-fracking sector by spend and volume?
- How are midstream water companies positioned by activity (e.g. supply, transport, treatment, disposal)?
- What regulatory and competitive factors are shaping the ten-year forecast?
- Which water service providers have received capital injections?
- Which basins are demonstrating increased produced water recycling?

## TABLE OF CONTENTS (Continued)

### Section 5: U.S. Basin Profiles & Forecasts

- Ardmore Woodford
- Arkoma Woodford
- Barnett
- Canna Woodford
- DJ-Niobrara
- Eagle Ford
- Granite Wash
- Haynesville
- Marcellus
- Mississippian
- Permian
- Utica
- Williston

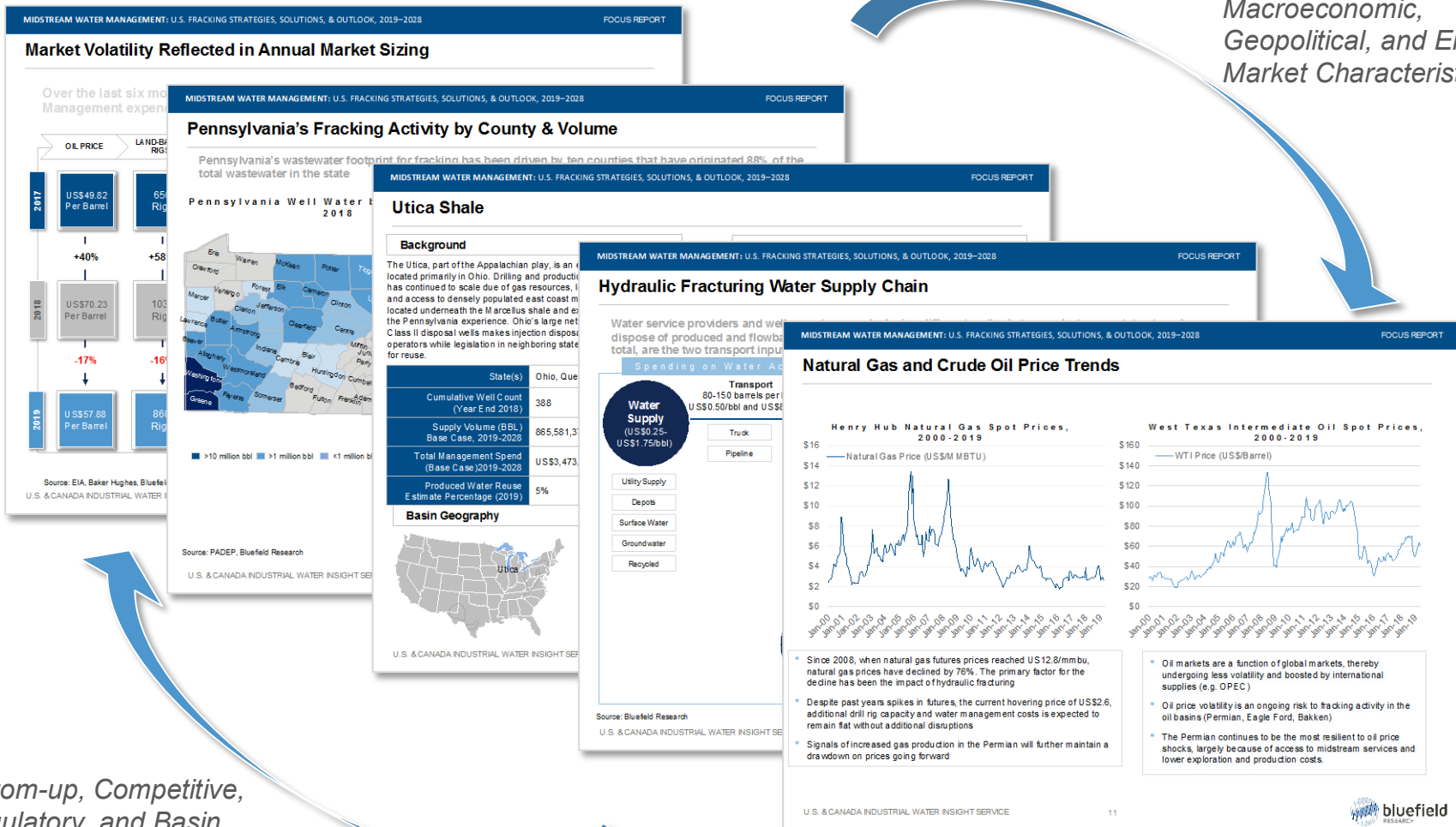
### Section 6: Company Profiles

- American Water
- Antero Midstream
- Aqua America
- Aquatech International
- Aqua Terra Water Management
- Basic Energy Services
- Bison Oilfield Services
- BlackBuck Resources
- BNN Energy
- Bluejack Energy Solutions
- Bosque Systems
- Breakwater Energy Partners
- Caliber Midstream
- Covanta (Advanced Waste Services)
- Cudd Energy Services
- De Nora
- Eagleclaw Midstream
- Enservco
- EQM Midstream Partners
- Eureka Resources
- Evolution Midstream
- Evonik
- Evoqua
- EVX Midstream Partners
- Felix Water
- Fluid Delivery Solutions
- Freestone Midstream
- Goodnight Midstream
- Gravity Oilfield Services
- H2O Midstream
- Hess Midstream Partners
- Hillstone Environmental Partners
- Hydro Recovery
- Key Energy Services
- Lagoon Midstream
- Layne Water Midstream
- Milestone Environmental Services
- Momentum Midstream
- NGL Energy Partners
- Noble Midstream Partners
- Nuverra Environmental Solutions
- Oasis Midstream Partners
- Oilfield Water Logistics
- On Point Oilfield Holdings
- Palisade Pipeline
- Purity Oilfield Services
- Rattler Midstream
- Reserved Environmental Services
- RRIIG Water Solutions
- San Mateo Midstream
- Select Energy Services
- Solaris Water Midstream
- Stallion Oilfield Services
- Summit Midstream Partners
- Trinity Environmental Services
- Veolia
- WaterBridge
- Waterfield Midstream
- Waterstone Resources
- XRI Blue

## METHODOLOGY

Bluefield's transparent research methodology empowers clients to make stronger strategic decisions backed by a thorough understanding of critical inputs & assumptions driving the ten-year forecast.

*Top-Down  
Macroeconomic,  
Geopolitical, and Energy  
Market Characteristics*



*Bottom-up, Competitive,  
Regulatory, and Basin  
Characteristics*

## LIST OF EXHIBITS

### Section 2

- Oil Price Impacts Across the Energy and Water Supply Chains, 2017-2019
- Lower 48 States Shale Basins & Plays
- Gas Production by Key Basin
- Oil Production by Key Basin
- Key Shale Plays and Water Usage
- Water Usage per Well by Basin
- Natural Gas Futures Contracts, 2000-2019
- Crude Oil Futures Contracts, 2000-2019
- Average Monthly Horizontal Rig Count in Key U.S. Shale Basins, 2011-2019
- Drilled but Uncompleted Wells, 2013-2019
- U.S. Drought Monitor, 2014-2019
- Federal Policies & Exemptions
- Recent Changes in Federal Policy
- State Policy Mechanisms
- Spending on Water Across the Supply Chain

### Section 3

- Water Management Forecast Options
  - Water Management Spend Sensitivities 2011-2028
  - Total Water Management Spend by Category (Base-case Midstream Water), 2011-2028
  - Water Management Spend by Category, 2019-2028
  - Water Management Spend by Basin (Base-case Midstream Water), 2011-2028
  - Water Required by Basin (Base-case Midstream Water), 2011-2028
- Produced & Flowback Water Treatment Volumes by Basin (Base-case Midstream Water), 2011-2028

### Section 4

- Logo Display
- Competitive Positioning
- M&A and Dollar Spend (Millions, 2015-2019)
- M&A
- Private Equity Investments

- Miles of Supply Pipeline
- Miles of Disposal Pipeline
- Disposal Capacity (BBL,000)
- Permian Basin Water Transfer Projects

### Section 5

- Basin Profiles & Forecasts:
  - o Background
  - o Geography
  - o Rig Count (Base Case) and Water Supply (Barrels)
  - o Water Management Spending Forecast

### Section 6

- Company Profiles:
  - o Background & Positioning
  - o Recent Activity
  - o U.S. Hydraulic Fracturing Footprint

## MIDSTREAM WATER MANAGEMENT: U.S. HYDRAULIC FRACTURING STRATEGIES, SOLUTIONS, & OUTLOOK, 2019–2028

Publication Date: November 2019

### ORDER FORM

Please complete the order form below and email the completed form to [waterexperts@bluefieldresearch.com](mailto:waterexperts@bluefieldresearch.com) or order online at [bluefieldresearch.com](http://bluefieldresearch.com).

**REPORT PRICE: US\$3500**

**PAYMENT METHOD**

☐

CREDIT CARD

☐

INVOICE / PURCHASE ORDER

NAME AS APPEARS ON CREDIT CARD \_\_\_\_\_

CREDIT CARD NUMBER \_\_\_\_\_

EXPIRATION DATE \_\_\_\_\_ CVV CODE \_\_\_\_\_

TOTAL CHARGE (US\$) \_\_\_\_\_ SIGNATURE \_\_\_\_\_

**BILLING ADDRESS**

FIRST NAME \_\_\_\_\_ LAST NAME \_\_\_\_\_

COMPANY \_\_\_\_\_ COUNTRY \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

EMAIL \_\_\_\_\_ PHONE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

[Terms and conditions](#)





## ABOUT BLUEFIELD RESEARCH

**Headquarters:** Boston, United States

**Website:** [www.bluefieldresearch.com](http://www.bluefieldresearch.com)

**E-mail:** [waterexperts@bluefieldresearch.com](mailto:waterexperts@bluefieldresearch.com)

**Telephone:** +1 617 910 2540

**Twitter:** @BluefieldWater

Companies across the value chain are developing strategies to capitalize on opportunities in water but are often challenged by a lack of high quality, reliable intelligence. Bluefield bridges this gap with actionable, data-backed analysis that is supported by a transparent research methodology and ongoing access to our global team of water experts.

As an independent insight firm focused exclusively on water & wastewater in the municipal and industrial sectors, executives rely on our suite of insight services to validate assumptions, address critical questions, and strengthen strategic planning processes.

Bluefield works with key decision-makers at utilities, project development companies, industrial companies, engineering firms, technology vendors, manufacturers, and investment companies, giving them tools to execute growth strategies.

Bluefield does not charge or exchange goods with industry players for inclusion in its research. The firm retains editorial control and the right to express fact-based opinions that are not influenced by clients.