



Ceres

Feeding Ourselves Thirsty
Tracking Food Company Progress
Toward a Water-Smart Future
Executive Summary

feedingourselfsthirsty.org

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Water risks and the food sector

The \$5 trillion global food and agribusiness sector operates at the center of the world's growing water crisis. Highly dependent on large volumes of cheap water supplies, food companies are also among the first to feel the financial heat of climate change, as rising average global temperatures and shifting weather patterns make fresh water scarcer and agricultural production more volatile.

For an industry that uses more than 70% of the world's fresh water to grow crops, feed livestock and process ingredients, these are undeniable threats. The UN projects that in order to meet the food needs of a world population of 9.8 billion, the demand for water will increase by 20-30% by 2050. A recent MSCI analysis of food companies in its All Country World Index (ACWI) found that \$415 billion in revenue may be at risk from lack of water availability for irrigation or animal consumption, while \$248 billion could be at risk from changing precipitation patterns affecting current crop production areas.

Food companies are not only at risk due to water scarcity, they are also responsible for it. Agriculture is rapidly draining aquifers in many regions of the world, and meat production is one of the biggest polluters of watersheds globally.

This updated, third edition of *Feeding Ourselves Thirsty* provides investors with guidance and relevant data for evaluating the water risk management of 40 major companies in the **Agricultural Products, Beverage, Meat, and Packaged Food** industries. It also tracks their progress in managing their water risks as compared to performance in 2017 and 2015. This analysis can help food companies manage their water risks more effectively, which is critically important to their bottom lines.



2019 Key findings

- Of the 35 publicly traded companies evaluated, 77% now specifically mention water as a risk factor in their financial filings, up from 59% in 2017.
- Despite this growing awareness, effective management of water risk still lags, with an average overall company score of 38 out of 100. Meat companies, which are particularly vulnerable to water risks, also continue to do the least to manage them.
- Food companies can make their supply chains more resilient by supporting sustainable farming practices in the watersheds where their most significant commodity inputs are sourced. Yet 37% still lack goals to source crops in ways which reduce impacts on water use and quality. Additionally, existing goals often lack clear definitions, implementation plans and measurements of progress.
- By supporting farmers' transitions to more sustainable methods of production, companies can fortify their supply chains against the extremes in weather that are increasingly frequent due to climate change. Yet less than half of companies evaluated provide any form of financial support to growers to encourage adoption of more resilient agricultural practices such as efficient irrigation, low-till/no-till, cover-cropping, optimized fertilizer application or diverse rotations.

As ***Feeding Ourselves Thirsty*** shows, food companies need to do more, both faster and more boldly, to meet the challenges posed by the global water crisis, protect their bottom lines and return value to investors.

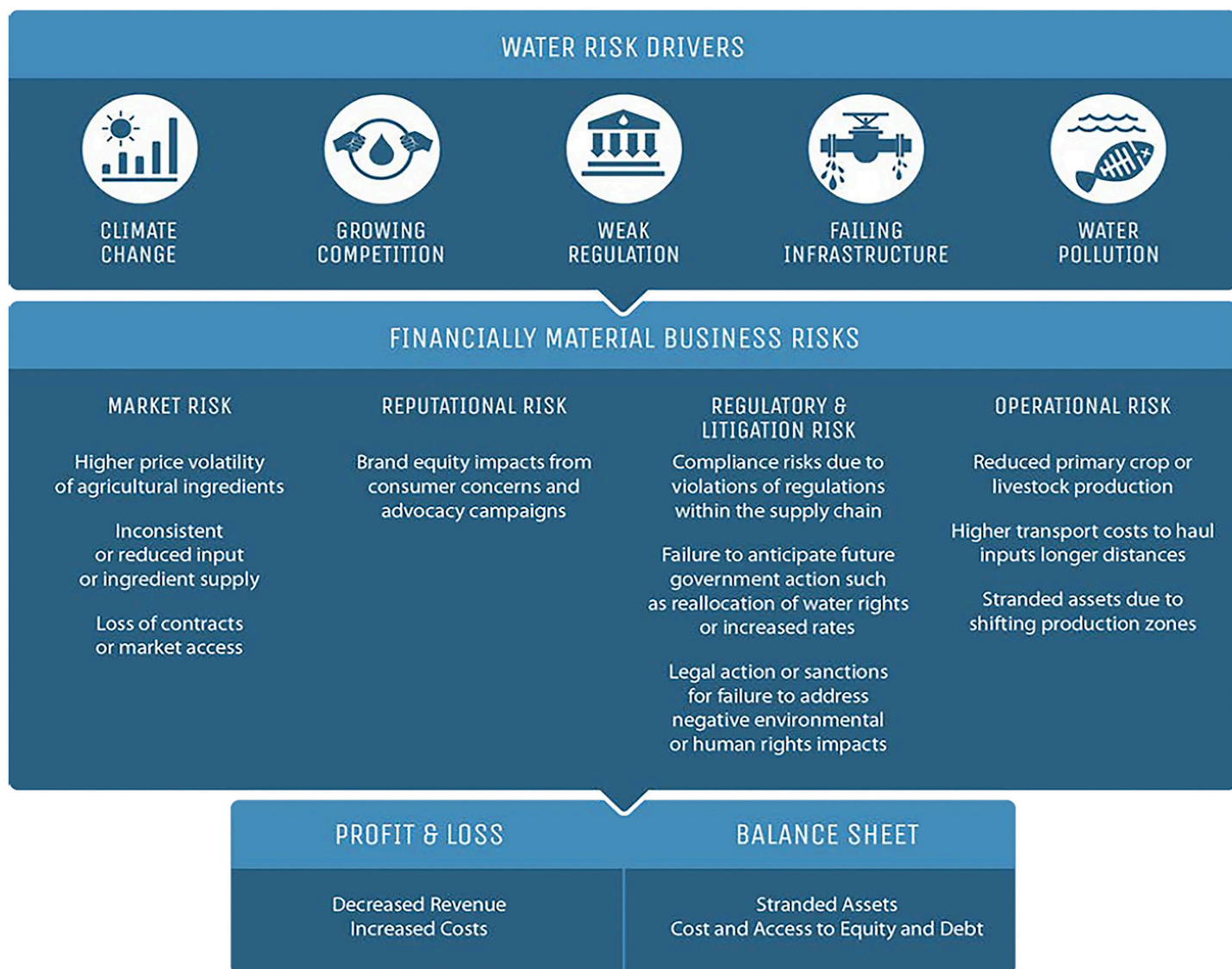


Water risk and its impacts: select case studies

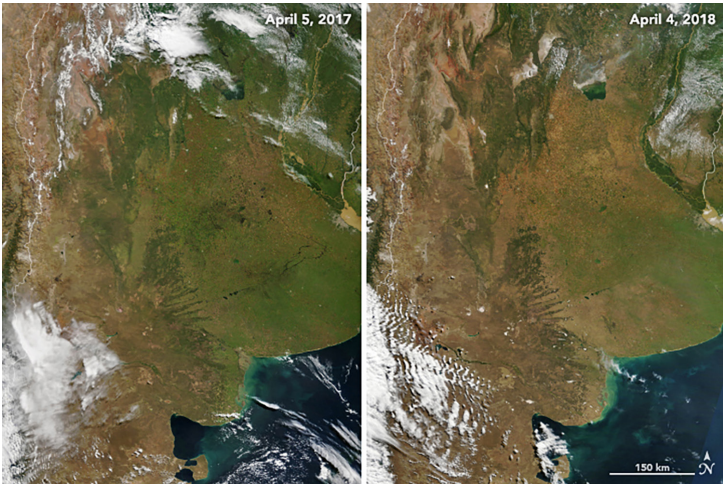
While climate change is one of the leading drivers of water stress, other risk drivers also endanger the industry’s precarious water security and lead to material business impacts. These risks include: growing competition for water, weak regulations, failing infrastructure and pollution.

The financial fallout of these risks is increasingly evident. Some 91% of the publicly traded companies benchmarked cited water scarcity or climate change as risk factors in their annual reports. These are just some of the examples of how these risks have materialized over recent years:

WATER ISSUES IMPACTING THE FOOD SECTOR



Case study: 2017-2018 drought in Argentina

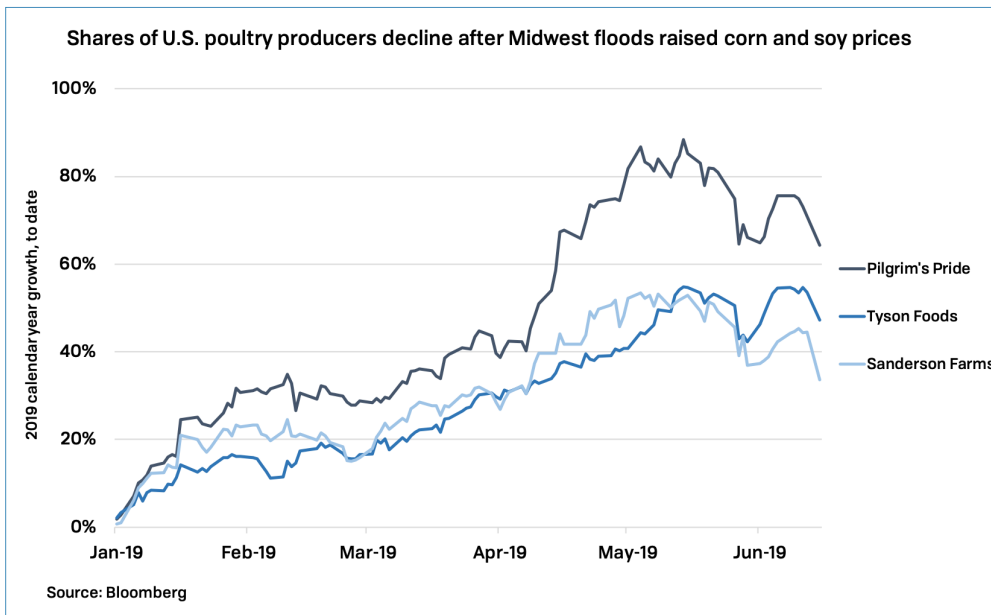


Pictured, Argentina before and after a drought throughout the summer of 2018. The drought reduced the global supply of soybeans, one of the primary commodities used for livestock feed.

- **Olam International** reported a 36% decline in Q2 profits from Q2 2017, citing a 14.8% fall in net-operating income within its edible nuts, spices and vegetable ingredients segment as its peanut farming business suffered drought conditions in Argentina.
- As a result of the drought and global trade tensions, **Tyson Foods** cited an \$89 million increase in feed costs as one reason for declining operating income throughout fiscal 2018.
- **Sanderson Farms** saw its third-quarter feed costs rise 5.8% per pound relative to Q3 2017.

Case study: 2019 flooding in the American Midwest

- Global commodities trader **Archer Daniels Midland** estimated that disruptions from the 2019 floods reduced its Q1 2019 pre-tax operating profit by \$50-60 million. This amounted to a 10-12% hit to the firm's Q4 2018 net income.



- The floods caused millions of acres of corn and soybeans to go unplanted, driving up futures prices for the primary ingredients for livestock feed. From mid-May to mid-June 2019, shares of **Tyson Foods** fell 4.8%, while shares of **Pilgrim's Pride Corp.** and **Sanderson Farms Inc.** fell more than 11% over the same period.

Throughout the Spring of 2019, severe flooding in the Mississippi River basin inflicted billions of dollars in damages on farmers, agribusinesses and meat companies reliant on the production and transportation of commodities throughout America's farm belt.

Case study: 2018 water pollution in North Carolina

Pork producer and processor **Smithfield Foods** was repeatedly linked to widespread overflowing of its North Carolina operations' lagoons containing hog waste in the aftermath of 2018's Hurricane Florence.

The breaches occurred as Smithfield was already facing several nuisance lawsuits from North Carolina residents claiming that the odors and potential diseases caused by hog waste disposal entitle them to damages.

Cumulatively, four separate federal juries have ordered the company to pay nearly \$100 million in compensatory and punitive damages to date.



A livestock farm in eastern North Carolina photographed by Waterkeeper Alliance in the aftermath of Hurricane Florence. Rick Dove/Waterkeeper Alliance

2019 Benchmarking results

Feeding Ourselves Thirsty 2019 Company Ranks and Scores

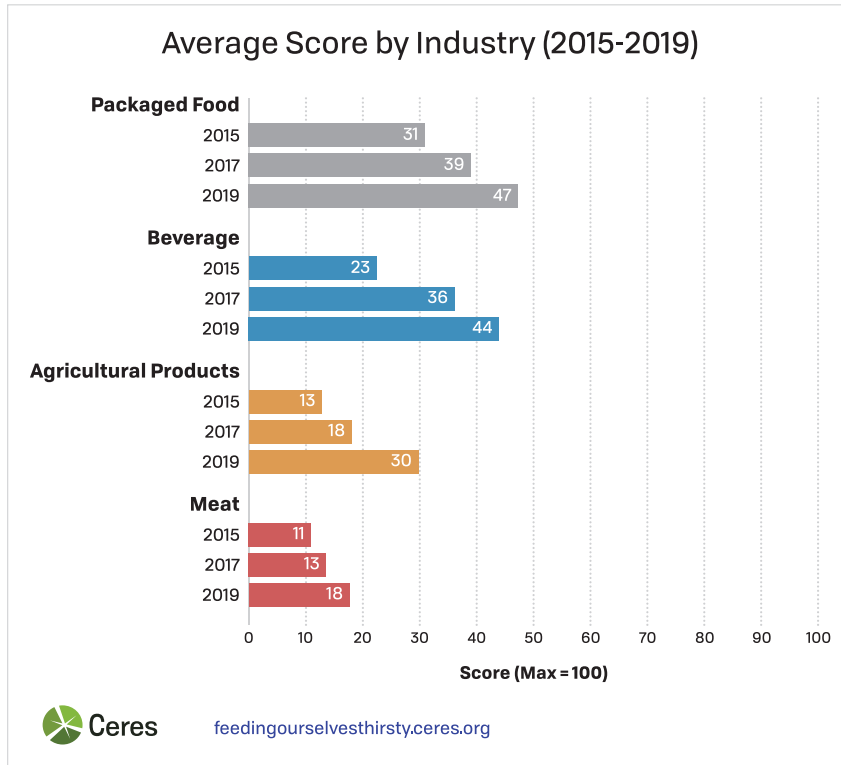
■ Packaged Food ■ Beverage ■ Agricultural Products ■ Meat

RANK	COMPANY	SCORE	SCORE DELTA	RANK DELTA
1	Unilever	87	+14	↑1
2	Nestlé	85	+3	↓1
3	General Mills	77	+9	↑3
4	The Coca-Cola Company	75	+4	↓1
5	PepsiCo	74	+4	↓1
6	Diageo	72	+4	↓1
7	Danone	69	+4	-
8	Kellogg Company	69	+14	-
9	Mars	68	+27	↑4
10	Molson Coors Brewing Company	60	+13	↑1
11	Campbell Soup	56	+6	↓2
12	Anheuser-Busch InBev	55	+13	-
13	Olam	55	+6	↓3
14	Mondelēz International	42	+12	↑2
15	Archer Daniels Midland	40	+24	↑12
16	Ingredion	39	+18	↑5
17	Smithfield Foods	38	+5	↓2
18	J.M. Smucker	36	+2	↓4
19	Keurig Green Mountain	35	+10	↓1
20	Bunge	35	+19	↑8

RANK	COMPANY	SCORE	SCORE DELTA	RANK DELTA
21	Constellation Brands	32	+13	↑3
22	McCormick & Company	32	+12	↑1
23	The Kraft Heinz Company	29	+20	↑12
24	Dr. Pepper Snapple Group	28	+18	↑8
25	Hormel Foods	28	+5	↓6
26	Conagra Brands	27	+6	↓4
27	Brown-Forman	26	-	↓10
28	Cargill	25	+8	↓3
29	Hershey	24	+2	↓9
30	JBS	22	+6	↓1
31	Tyson Foods	21	+10	↑2
32	Hain Celestial	17	-	↓6
33	Dean Foods	17	+4	↓2
34	Perdue Farms	15	+6	-
35	Flowers Food	14	-1	↓5
36	Fresh Del Monte	10	+2	-
37	Chiquita Brands	6	+5	-
38	Pilgrim's Pride	2	+1	-
39	Monster Beverage	1	+1	-
40	Sanderson Farms, Inc.	0	-	-

Performance improvements made

- The food sector improved its **overall management of water risk**, as the average score rose 52% since 2015 (22% since 2017).
- **The Beverage and Packaged Foods Industries continue to outperform** the Agricultural Products and Meat industries, though the Agricultural Products industry demonstrated the most improvement since the 2017 benchmarking.
- **Board oversight:** One-third of companies now charge their boards with overseeing water risks and strategies, up from just 10% in 2017.



- **Risk assessments:** More companies (67%) now assess water risks not only to their facilities, but also to their agricultural supply chains, whereas only 35% assessed supply chain risks in 2015.

Performance improvements needed

- **The Meat industry remained the lowest-performing industry:** Beef, pork, and poultry processors continued to disclose relatively little about how they plan to mitigate physical, regulatory and reputational risks stemming from climate change, water scarcity and water pollution.
- **Water targets:** While 90% of companies have set water use or efficiency targets for their operations, only a small portion have set more ambitious targets for areas of high water risk in their operations and supply chains.
- **Sustainable sourcing goals:** More than a third of companies (37%) still lack goals to source crops grown with less impact on water use and quality. Those that have sustainable sourcing goals typically lack clear definitions, implementation plans or performance metrics.
- **Supporting sustainable agriculture:** Less than half of companies provide any form of financial incentives to support farmers' adoption of more sustainable agricultural practices.

Recommendations for investors

Ensure proxy voting includes water risks.

Asset managers should review their institution's guidelines and policies to ensure support for relevant shareholder resolutions on water risk. Asset owners should engage fund managers to ensure such guidelines are in place and used.

Solicit improved disclosure of water risks.

Investors should call upon food sector companies to improve and standardize their water risk disclosures. Investors can join relevant investor working groups and dialogues, and support market-level reporting frameworks such as CDP's Water Questionnaire, GRI and SASB, among others.

Engage directly with company management.

Individual investors can use this analysis to engage directly with companies in their portfolios that are lagging in their water risk management. Investors can also join collaborative investor efforts on food sector water risks such as Ceres' Investor Network, ICCR's Water & Food groups, or the UN PRI's Water Risks in the Agricultural Supply Chain group. As a last resort, some investors may consider reducing their exposure to companies that fail to adequately manage material water risks.

Engage with Ceres' collaborative investor efforts on water risk.

Ceres' Investor Network and its associated member working group, the Investor Water Hub, supports investors' corporate engagement on water risk, providing resources to help investors evaluate and manage water risks in their practices and decision-making. The Investor Water Hub forum offers peer-to-peer sharing of water risk integration and engagement practices and develops methods to assess water risks and opportunities across asset classes.



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Ceres is a sustainability nonprofit organization working with the most influential investors and companies to build leadership and drive solutions throughout the economy. Through our powerful networks and advocacy, we tackle the world's biggest sustainability challenges, including climate change, water scarcity and pollution, and human rights abuses.