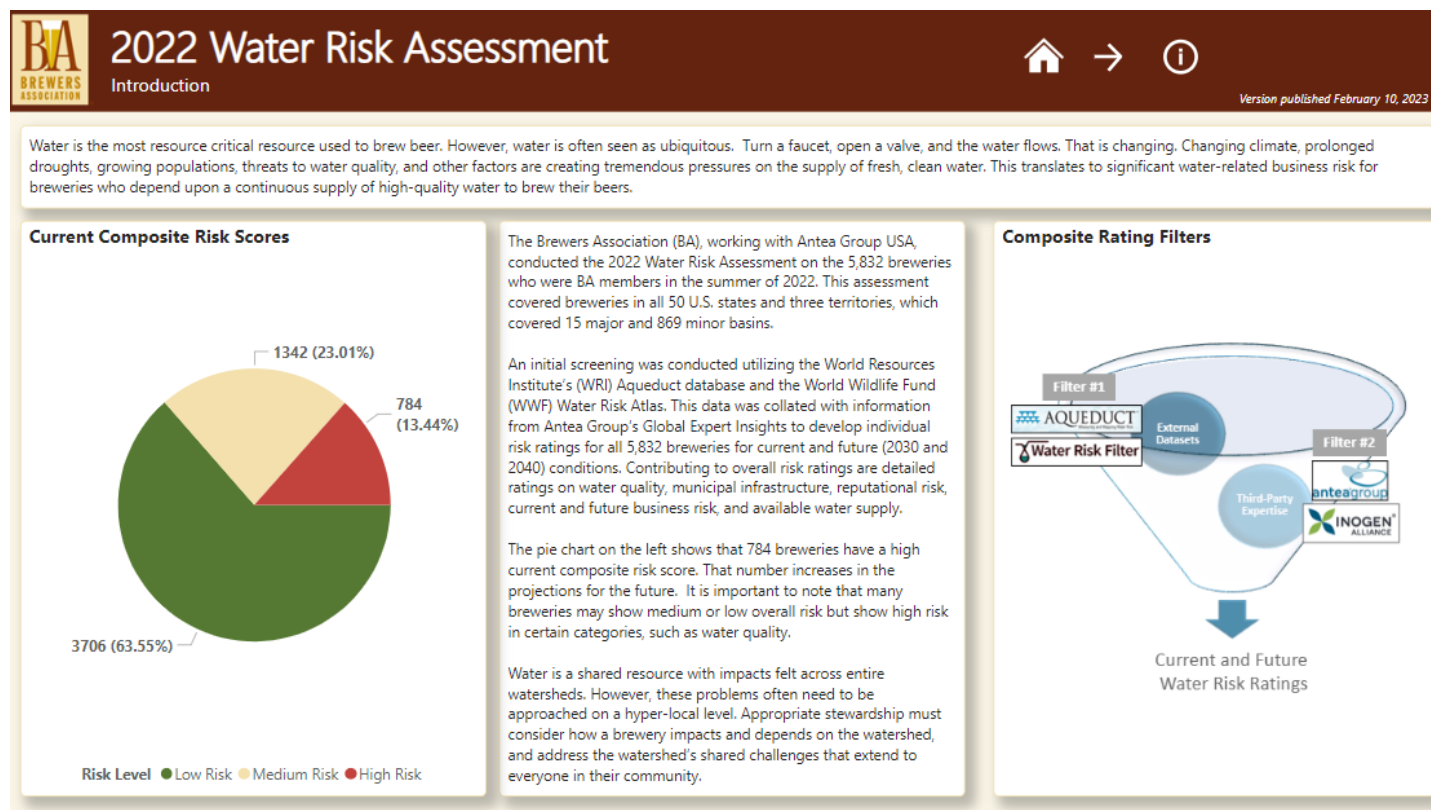




Water Risk Assessment Tool:

Usage & Navigation Guide

Introduction Usage



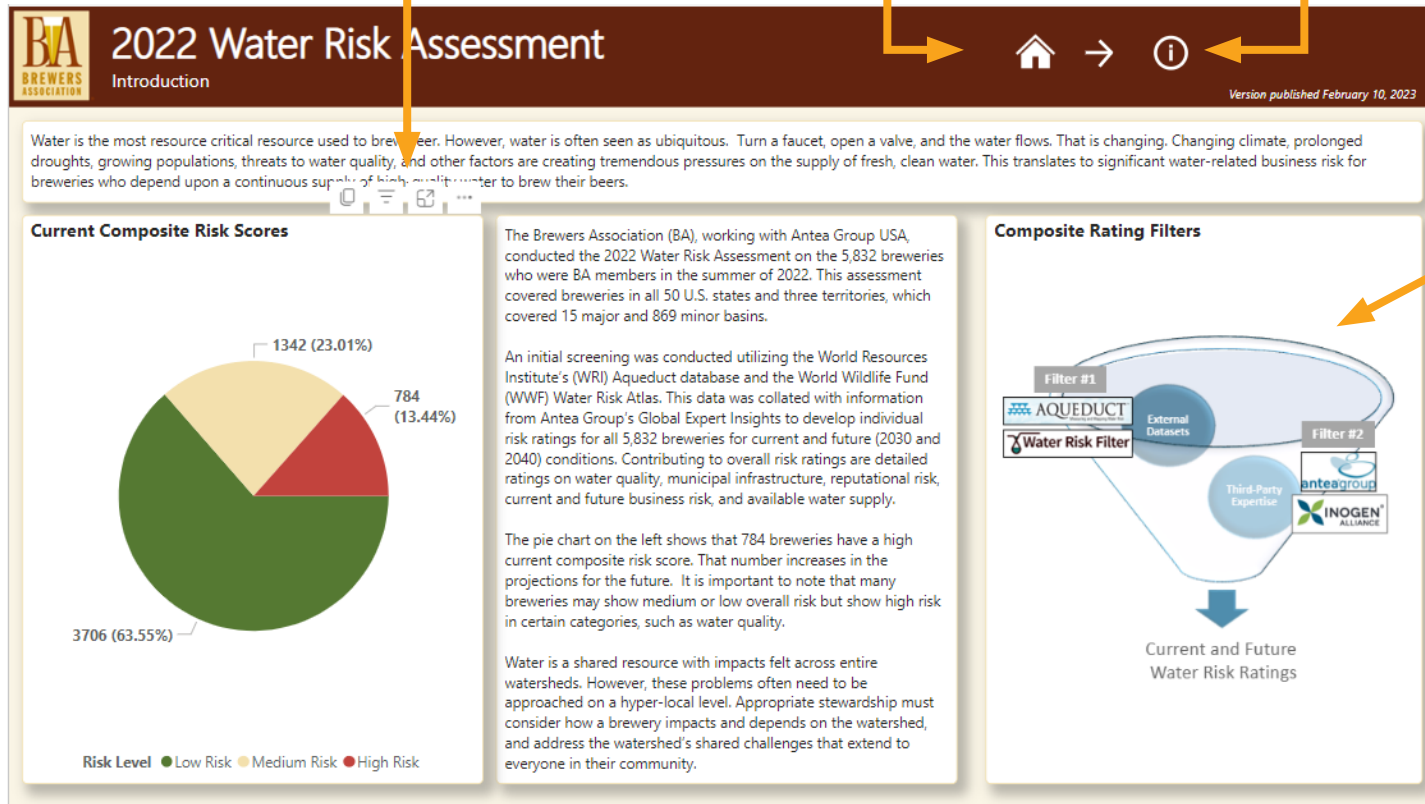
The Introduction is the landing page for the Water Risk Assessment Tool and how users will access content within the assessment. From left to right there is an overall snapshot of the 2022 water risk for the 5,832 craft breweries used in the assessment, background information and purpose of the assessment, and the methods and filters used to complete the assessment, which are expanded upon in detail on subsequent assessment pages.

Introduction Navigation

Focus mode option to view a section in a larger format

Navigate to assessment pages using buttons

Hover over the info icon for a brief description



General methodology and filters used to create composite risk scores

Glossary Usage

2022 Water Risk Assessment

Glossary

←
🏠
→
ℹ️

The World Resources Institute (WRI) Aqueduct's global water risk mapping tool helps companies, investors, governments, and other users understand where and how water risks and opportunities are emerging worldwide. The Atlas uses a robust, peer-reviewed methodology and the best available data to create high-resolution, customizable global maps of water risk.


The World Wildlife Fund (WWF) Water Risk Filter is a corporate and portfolio-level screening and prioritization tool to enable companies and investors to assess and respond to water risks now and in the future. The Water Risk Filter is based on freely available external, peer-reviewed datasets, which are reviewed and updated annually, drawing upon the latest research and best available data.

Risk Category	Description	Scoring
Groundwater Table Decline	Groundwater table decline measures the average decline of the groundwater table as the average change for the period of study (1990–2014). The result is expressed in centimeters per year (cm/yr). Higher values indicate higher levels of unsustainable groundwater withdrawals.	<0 cm/y Low (WRI Score 0–1) 0–2 cm/y Low–Medium (WRI Score 1–2) 2–4 cm/y Medium–High (WRI Score 2–3) 4–8 cm/y High (WRI Score 3–4) >8 cm/y Extremely High (WRI Score 4–5)
Interannual Variability	Interannual variability measures the average between-year variability of available water supply, including both renewable surface and groundwater supplies. Higher values indicate wider variations in available supply from year to year.	<0.25 Low (WRI Score 0–1) 0.25–0.50 Low–Medium (WRI Score 1–2) 0.50–0.75 Medium–High (WRI Score 2–3) 0.75–1.00 High (WRI Score 3–4) >1.00 Extremely High (WRI Score 4–5)
Seasonal Variability	Seasonal variability measures the average within-year variability of available water supply, including both renewable surface and groundwater supplies. Higher values indicate wider variations of available supply within a year.	<0.33 Low (WRI Score 0–1) 0.33–0.66 Low–Medium (WRI Score 1–2) 0.66–1.00 Medium–High (WRI Score 2–3) 1.00–1.33 High (WRI Score 3–4) >1.33 Extremely High (WRI Score 4–5)

Risk Category	Sub-Category	Description	Scoring
Water Scarcity	Aridity Index	The Global Aridity Index is a global climate data for the 1970–2000 period, related to evapotranspiration processes and rainfall deficit for potential vegetative growth, based on the implementation of a Penman-Montieth Reference Evapotranspiration (ET0) equation. It provides information about the potential availability of water in regions with low water demand, thus they are used to account for deserts and other arid areas in risk assessments	1 = Very Low Risk 2 = Low Risk 3 = Moderate Risk 4 = High Risk 5 = Very High Risk
Water Scarcity	Available Water Remaining (AWARE)	Available Water Remaining (AWARE) measures the available water remaining in a given river basin relative to the world average, after human and aquatic ecosystem demands have been met. This indicator is based on the Water Use in Life Cycle Assessment (WULCA) to quantify the potential of water deprivation to either humans or ecosystems (for the year 2010) and serves in calculating the impact score of water consumption in Life Cycle Assessments or to calculate a water scarcity footprint as per ISO 14046.	1 = Very Low Risk 2 = Low Risk 3 = Moderate Risk 4 = High Risk 5 = Very High Risk
Water Scarcity	Baseline Water Stress	Baseline water stress measures the ratio of total surface and groundwater withdrawals to available renewable water. This indicator is based on model	1 = Very Low Risk 2 = Low Risk 3 = Moderate Risk

The Glossary page includes terminology from the WRI Aqueduct Water Risk and WWF Water Risk filters (Filter #1) used to calculate the composite risk scores. When reviewing the corresponding filter pages, refer to the glossary for a better understanding of the various types of risk categories used in making risk calculations.

Dashboard Navigation




2022 Water Risk Assessment


Dashboard Navigation

[←](#)[Home](#)[→](#)[Info](#)


This dashboard has been developed to support the Brewers Association with a water risk screening across the United States. The dashboard summarizes the data sources and is structured around the following report pages:




Risk Overview - This report page provides users with a high level visual of risk results based upon external data sources including the World Resources Institute (WRI) Aqueduct Water Risk Atlas, the World Wildlife Fund (WWF) Water Risk Filter, and Antea Group's assessment of each location. The map is interactive and allows users to visualize high, medium, and low risk sites by color.




Facility Summary - This report page provides users with a summary of key data specific to an individual facility.



Aqueduct Water Risk Atlas Scores - This report page provides users with a summary of calculated results for World Resources Institute Aqueduct Water Risk Atlas risk scores.



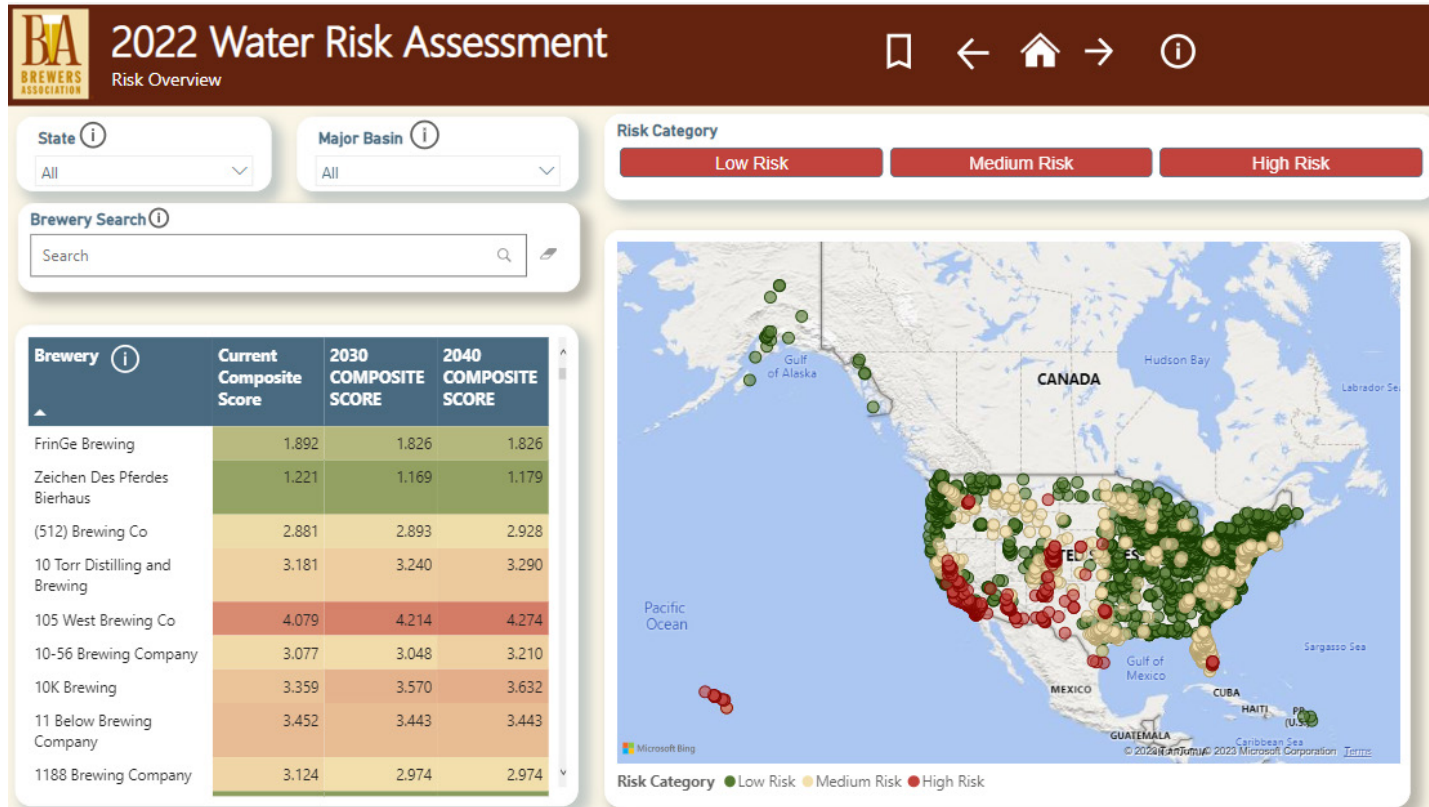
WWF Water Risk Filter Scores - This report page provides users with a summary of calculated results for the World Wildlife Fund Water Risk Filter risk scores.



Antea Group Scores - This report page provides users with a summary of the Antea Group Risk scoring. Local insights are also available once the user selects a facility from the interactive table.


The Dashboard Navigation page provides an overview of the layout for the subsequent five pages within the assessment tool along with a brief description of what content is included within the page. Click on the image to navigate to that page or use the arrow buttons at the top to access the page of interest.

Risk Overview Usage



On this page, filter by state, major water basin, risk category, and/or a specific brewery name using the affiliated boxes and drop downs. Multiple filters can be applied at a time. The map on the right will adjust according to the filters put in place.

Risk Overview Usage



2022 Water Risk Assessment

Risk Overview

State ⓘ
All ▼

Major Basin ⓘ
All ▼

Brewery Search ⓘ
creature comforts 🔍

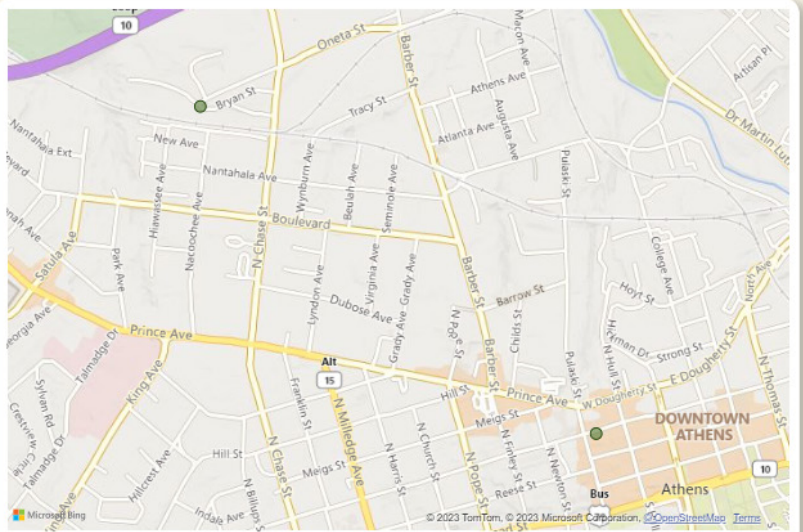
Brewery ⓘ	Current Composite Score	2030 COMPOSITE SCORE	2040 COMPOSITE SCORE
Creature Comforts Brewing Co.	2.546	2.551	2.551
Creature Comforts Production Facility At Southern Mill	2.546	2.551	2.551

Risk Category

Low Risk

Medium Risk

High Risk



Risk Category ● Low Risk

Start on this page when performing a brewery facility water risk review. Search for a specific brewery or one that can be used as a reference point in the “Brewery Search” box. Note the current (2022) composite risk score, the 2030 composite risk score, and the 2040 composite risk score. These scores are calculated using the Aqueduct Water Risk Atlas, WWF Water Risk Filter, and the Antea Group scores, as shown on the Introduction page within the Composite Rating Filters section.

Risk Overview Navigation

2022 Water Risk Assessment
Risk Overview

Filter by state or major water basin

Clear filter button

Clear all filters on screen button

Filter by a specific brewery site

Filter by risk category

Composite scores at time of risk assessment (2022) and anticipated future water risk

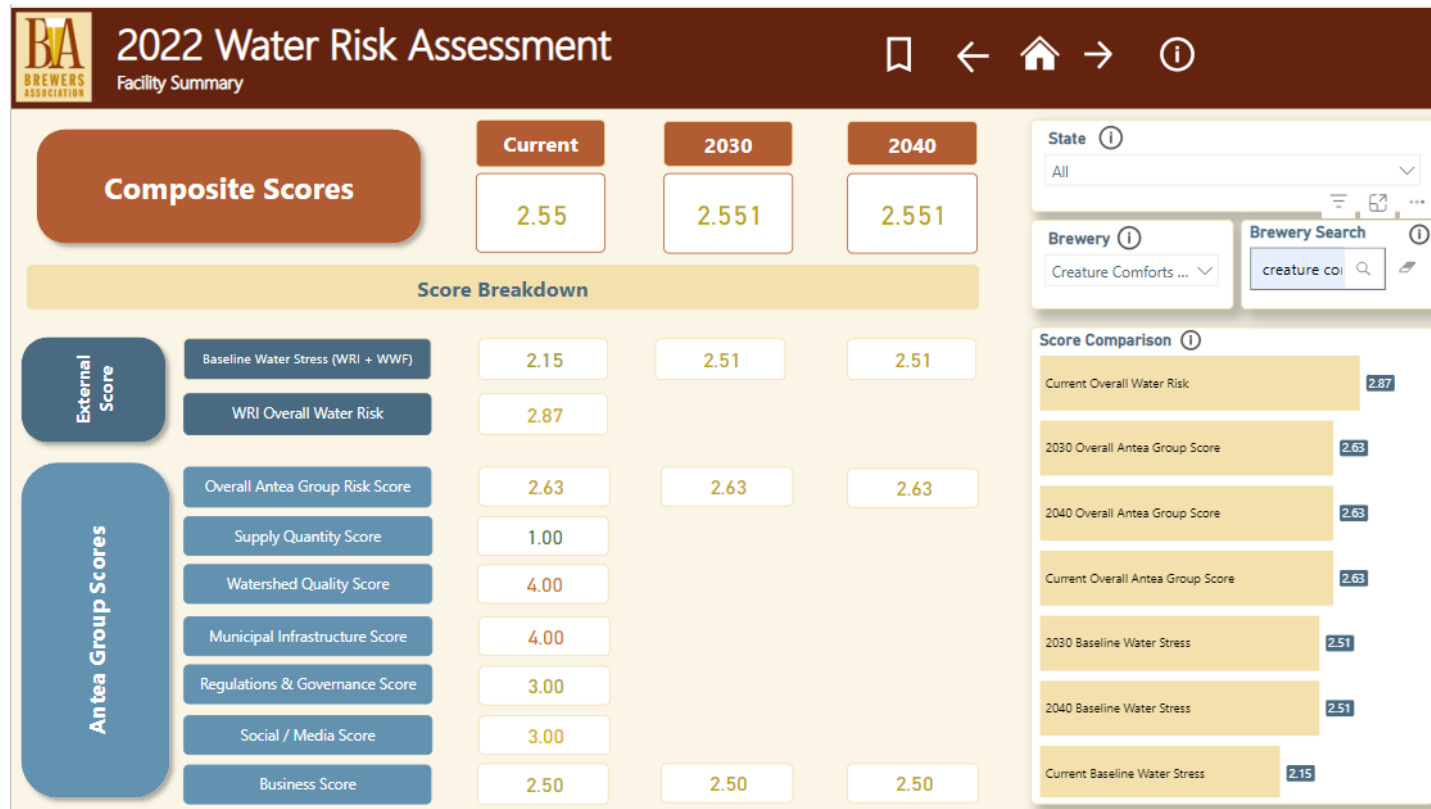
Brewery	Current Composite Score	2030 COMPOSITE SCORE	2040 COMPOSITE SCORE
FrinGe Brewing	1.892	1.826	1.826
Zeichen Des Pferdes Bierhaus	1.221	1.169	1.179
(512) Brewing Co	2.881	2.893	2.928
10 Torr Distilling and Brewing	3.181	3.240	3.290
105 West Brewing Co	4.079	4.214	4.274
10-56 Brewing Company	3.077	3.048	3.210
10K Brewing	3.359	3.570	3.632
11 Below Brewing Company	3.452	3.443	3.443
1188 Brewing Company	3.124	2.974	2.974

Risk Category: Low Risk, Medium Risk, High Risk

Risk Category: Low Risk Medium Risk High Risk

Map showing risk distribution across the United States and Canada. Legend: Low Risk (Green), Medium Risk (Yellow), High Risk (Red).

Facility Summary Usage



The Facility Summary page breaks down the details of how the current and future composite scores were calculated and are visualized at the top of the page. The dark blue external scores represent Filter #1 (baseline water stress and WRI overall water risk). The light blue Antea Group Scores represent Filter #2 and is broken down into seven risk categories. Scores are visualized in the "Score Comparison" panel from highest to lowest scores. Users can search by state and/or a specific brewery facility.

Facility Summary Navigation



Visualization of composite scores from Risk Overview page

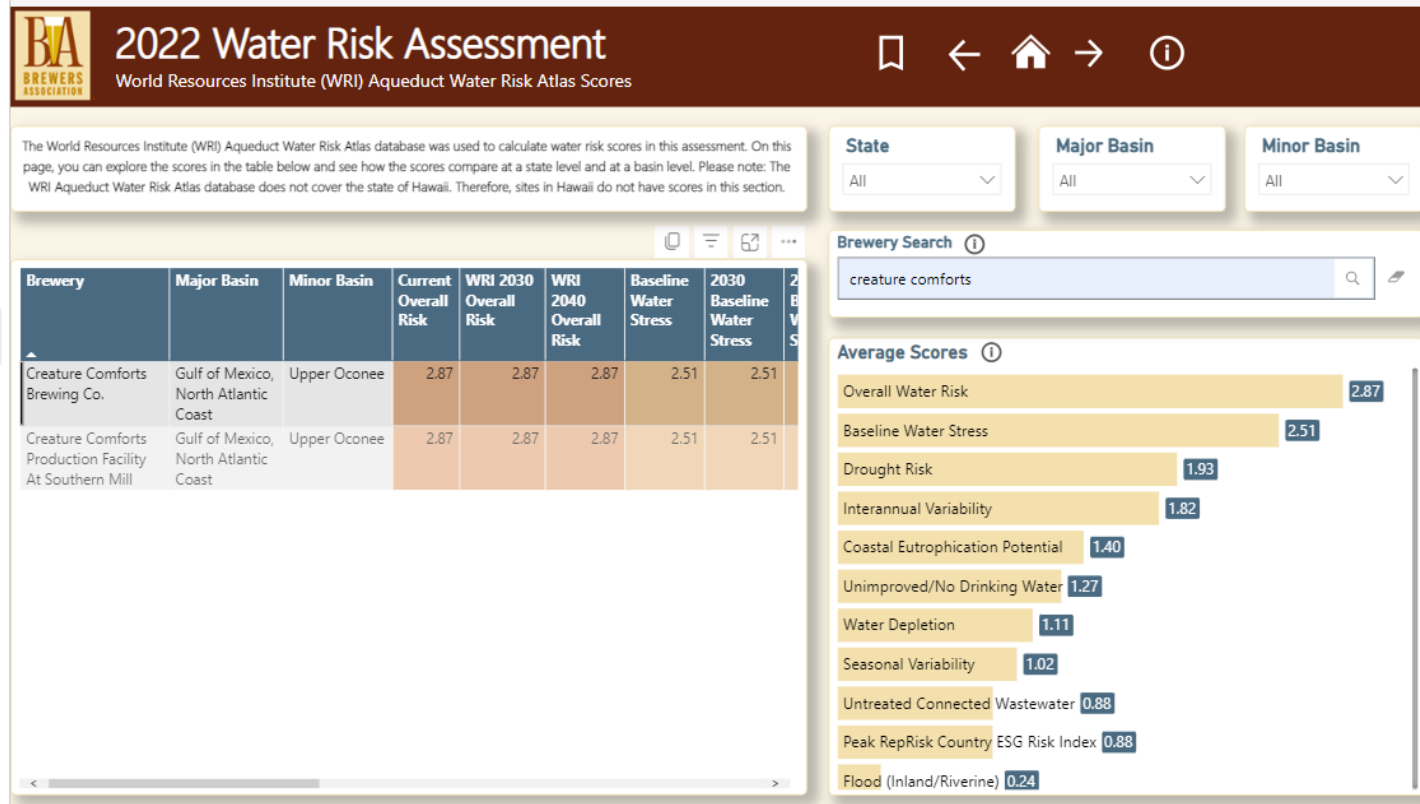
Filter #1 from WRI and WWF

Filter #2 includes seven risk categories

Filter by a specific brewery site

Scores from Filter #1 and Filter #2 ranked and visualized

World Resource Institute (WRI) Aqueduct Water Risk Atlas Scores Usage



The WRI Aqueduct Water Risk Atlas Scores page provides the specific risk category scores used to calculate the WRI's current overall risk which is used to calculate the composite risk scores. Users of this tool should take care to review the specific risk categories and scores to understand appropriate mitigation actions and strategies for their facility. It is possible for a composite risk score to be labeled as "low", while risk scores in these detailed categories are "high", or visa versa, and may be of consequence to a business. Detailed risk category scores are ranked and visualized within the "Average Scores" panel.

World Resource Institute (WRI) Aqueduct Water Risk Atlas Scores Navigation

The screenshot displays the '2022 Water Risk Assessment' interface. At the top, a dark brown header contains the 'BA BREWERS ASSOCIATION' logo, the title '2022 Water Risk Assessment', and the subtitle 'World Resources Institute (WRI) Aqueduct Water Risk Atlas Scores'. Navigation icons (bookmark, back, home, forward, info) are on the right. Below the header, a text box explains the data source and notes that Hawaii is excluded. To the right of this text are three filter dropdowns: 'State' (set to 'All'), 'Major Basin' (set to 'All'), and 'Minor Basin' (set to 'All'). Below these is a 'Brewery Search' bar containing the text 'creature comforts'. The main content area is divided into two sections. On the left is a table with columns: 'Brewery', 'Major Basin', 'Minor Basin', 'Current Overall Risk', 'WRI 2030 Overall Risk', 'WRI 2040 Overall Risk', 'Baseline Water Stress', '2030 Baseline Water Stress', and '2040 Baseline Water Stress'. It lists two entries for 'Creature Comforts'. On the right is a 'Average Scores' section with a horizontal bar chart showing scores for various risk categories. Annotations with orange arrows point to specific features: 'List of the detailed risk categories' points to the table; 'Filter results by state, major water basin, and/or minor water basin' points to the filter dropdowns; 'Filter by a specific brewery site' points to the search bar; 'Scores of detailed risk categories ranked and visualized' points to the bar chart; and 'Scroll horizontally to view the table of detailed risk category scores' points to the horizontal scrollbar at the bottom of the table.

2022 Water Risk Assessment
World Resources Institute (WRI) Aqueduct Water Risk Atlas Scores

The World Resources Institute (WRI) Aqueduct Water Risk Atlas database was used to calculate water risk scores in this assessment. On this page, you can explore the scores in the table below and see how the scores compare at a state level and at a basin level. Please note: The WRI Aqueduct Water Risk Atlas database does not cover the state of Hawaii. Therefore, sites in Hawaii do not have scores in this section.

State: All
Major Basin: All
Minor Basin: All

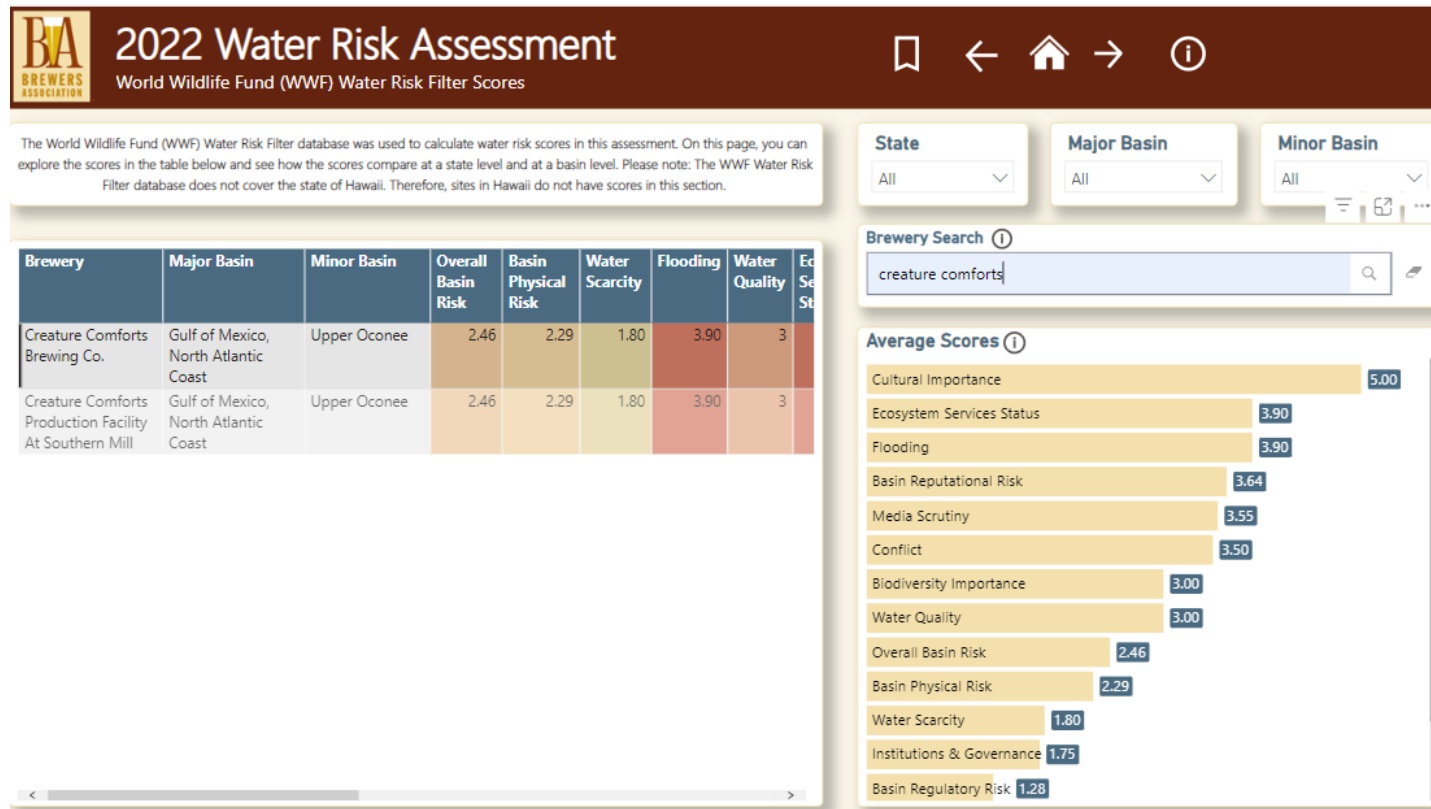
Brewery Search: creature comforts

Brewery	Major Basin	Minor Basin	Current Overall Risk	WRI 2030 Overall Risk	WRI 2040 Overall Risk	Baseline Water Stress	2030 Baseline Water Stress	2040 Baseline Water Stress
Creature Comforts Brewing Co.	Gulf of Mexico, North Atlantic Coast	Upper Oconee	2.87	2.87	2.87	2.51	2.51	
Creature Comforts Production Facility At Southern Mill	Gulf of Mexico, North Atlantic Coast	Upper Oconee	2.87	2.87	2.87	2.51	2.51	

Average Scores

- Overall Water Risk: 2.87
- Baseline Water Stress: 2.51
- Drought Risk: 1.93
- Interannual Variability: 1.82
- Coastal Eutrophication Potential: 1.40
- Unimproved/No Drinking Water: 1.27
- Water Depletion: 1.11
- Seasonal Variability: 1.02
- Untreated Connected Wastewater: 0.88
- Peak RepRisk Country ESG Risk Index: 0.88
- Flood (Inland/Riverine): 0.24

World Wildlife Fund (WWF) Water Risk Filter Scores Usage



The WWF Water Risk Filter Scores page provides the specific risk category scores used to calculate the WWF's overall basin risk which is used to calculate the composite risk scores. Users of this tool should take care to review the specific risk categories and scores to understand appropriate mitigation actions and strategies for their facility. It is possible for a composite risk score to be labeled as "low", while risk scores in these detailed categories are "high", or visa versa, and may be of consequence to a business. Detailed risk category scores are ranked and visualized within the "Average Scores" panel.

World Wildlife Fund (WWF) Water Risk Filter Scores Navigation

The screenshot displays the '2022 Water Risk Assessment' interface. At the top, the title '2022 Water Risk Assessment' is followed by the subtitle 'World Wildlife Fund (WWF) Water Risk Filter Scores'. Below this is a descriptive paragraph about the WWF Water Risk Filter database. The interface includes three filter dropdowns: 'State' (set to 'All'), 'Major Basin' (set to 'All'), and 'Minor Basin' (set to 'All'). A 'Brewery Search' bar contains the text 'creature comforts'. Below the filters is a table of detailed risk scores for two breweries. To the right of the table is a horizontal scrollbar. Further right is a section titled 'Average Scores' which displays a horizontal bar chart of scores for various risk categories. Annotations with orange arrows point to specific elements: 'List of the detailed risk categories' points to the table; 'Filter results by state, major water basin, and/or minor water basin' points to the filter dropdowns; 'Filter by a specific brewery site' points to the search bar; 'Scores of detailed risk categories ranked and visualized' points to the bar chart; and 'Scroll horizontally to view the table of detailed risk category scores' points to the scrollbar.

2022 Water Risk Assessment
World Wildlife Fund (WWF) Water Risk Filter Scores

The World Wildlife Fund (WWF) Water Risk Filter database was used to calculate water risk scores in this assessment. On this page, you can explore the scores in the table below and see how the scores compare at a state level and at a basin level. Please note: The WWF Water Risk Filter database does not cover the state of Hawaii. Therefore, sites in Hawaii do not have scores in this section.

State
All

Major Basin
All

Minor Basin
All

Brewery Search
creature comforts

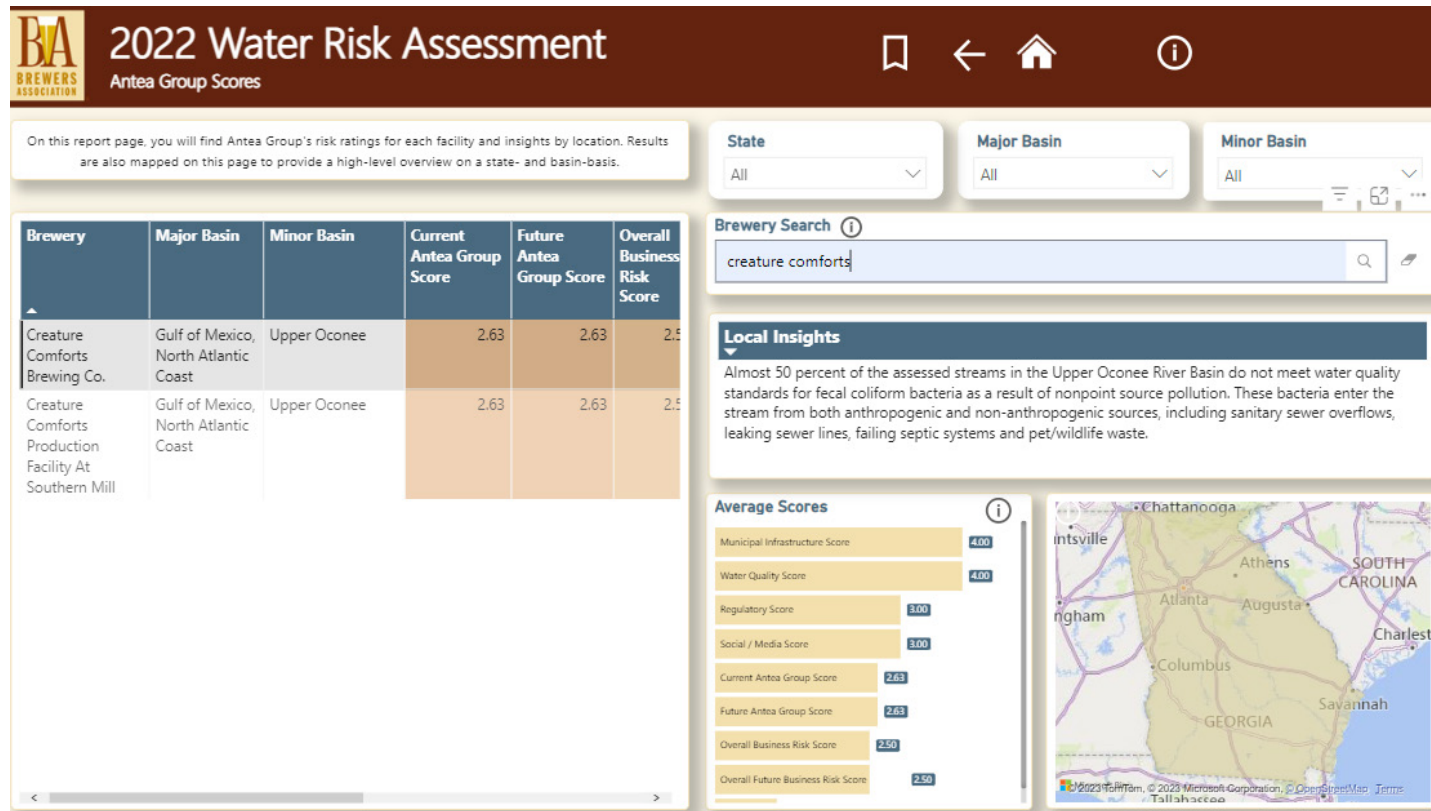
Brewery	Major Basin	Minor Basin	Overall Basin Risk	Basin Physical Risk	Water Scarcity	Flooding	Water Quality	Ecosystem Services Status
Creature Comforts Brewing Co.	Gulf of Mexico, North Atlantic Coast	Upper Oconee	2.46	2.29	1.80	3.90	3.00	3.90
Creature Comforts Production Facility At Southern Mill	Gulf of Mexico, North Atlantic Coast	Upper Oconee	2.46	2.29	1.80	3.90	3.00	3.90

Average Scores

- Cultural Importance: 5.00
- Ecosystem Services Status: 3.90
- Flooding: 3.90
- Basin Reputational Risk: 3.64
- Media Scrutiny: 3.55
- Conflict: 3.50
- Biodiversity Importance: 3.00
- Water Quality: 3.00
- Overall Basin Risk: 2.46
- Basin Physical Risk: 2.29
- Water Scarcity: 1.80
- Institutions & Governance: 1.75
- Basin Regulatory Risk: 1.28

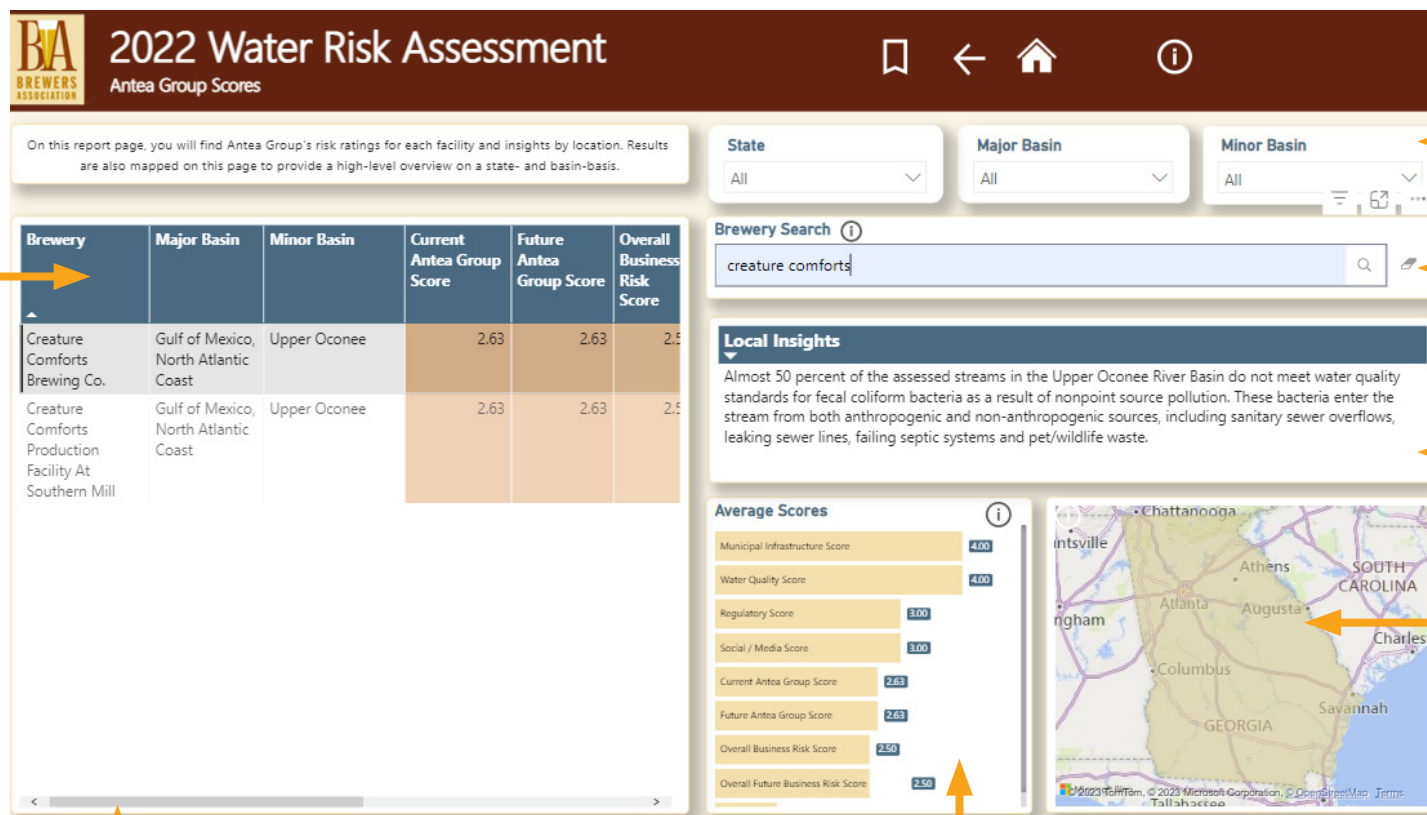
Scroll horizontally to view the table of detailed risk category scores

Antea Group Scores Usage



The Antea Group Scores page provides the seven specific risk category scores (detailed on the Facility Summary page) used to calculate the Antea Group's current and future risk scores and are used in the composite risk score calculations, along with expert local insights. Users of this tool should take care to review the specific risk categories and scores to understand appropriate mitigation actions and strategies for their facility. It is possible for a composite risk score to be labeled as "low", while risk scores in these detailed categories are "high", or visa versa, and may be of consequence to a business. Detailed risk category scores are ranked and visualized within the "Average Scores" panel.

Antea Group Scores Navigation



Filter results by state, major water basin, and/or minor water basin

Filter by a specific brewery site

Valuable local insights

Map of associated searched facility area

List of the seven detailed risk categories outlined on the Facility Summary page

Scroll horizontally to view the table of detailed risk category scores

Scores of detailed risk categories ranked and visualized

