PARK FOUNDATION

Investment Portfolio Water Analysis

A report on Park Foundation's water investments, water risks, solutions investments, and shareholder opportunities.

Daniel Apfel and Jon Jensen
June, 2015

About this Report

This report was prepared in 2015 as an internal document for discussion by the Park Foundation Board of Directors. This version is being published as a public document for the purposes of helping others understand Park Foundation's consideration of the Foundation's explorations on the issue of further integrating water risk and values into our investment portfolio.

About the Authors:

Dan Apfel is a Senior Associate with the Croatan Institute and former Executive Director of the Responsible Endowments Coalition (REC). REC is a student based advocacy organization focused on encouraging colleges and universities to invest their endowments responsibly.

Jon Jensen is Executive Director of the Park Foundation and serves as the primary staff interface for the Foundations' mission related investing work. Among several foundation-related affinity group appointments, he served as founding chair of Confluence Philanthropy and served on the board until spring of 2016. He also serves on the advisory committee for Ceres Investors Water Hub.

Park Foundation Portfolio Water Analysis
September 2015

Executive Summary

The following report looks at the relationship to water risk and impact of the Park Foundation's entire investment portfolio. In this analysis, we examine how each of the portfolio managers analyze water, identify potential challenges, areas of mission alignment, and possible opportunities for reducing risk and increasing impact. Overall, we find that:

1. The Park Foundation has already taken significant steps to reduce water risk through its current ESG (Environment, Social and Governance) screens and the addition of public-sector water solutions investments.
2. While there are a few analytical tools available for assessing water risk at the company level, the field is still in development.
3. Nonetheless, additional opportunities exist for the Foundation to increase the sophistication of its risk assessment and water solutions investing.
4. The Foundation should continue to examine the portfolio to ensure investments fit the Foundation's mission.
5. There are opportunities for the Foundation to initiate shareholder resolutions that highlight water risk in select sectors.
6. The Foundation has opportunities to educate other foundations and investors on water investing.

A summary of recommendations is in **Appendix A**.

Project Background

This report was commissioned by the Park Foundation in the summer of 2015 with the following goals:

1. Characterize and understand the dimensions of water investments in the portfolio.
2. Assess the various tools available to calculating "water risk" in the portfolio.
3. Survey shareholder engagement in water risk, and suggest new shareholder actions on water.
4. Identify any other opportunities emerging from the research process.

The Foundation commissioned consultant Dan Apfel to conduct this work from June to

August 2015. It included examination of fund managers, specific investments, review of literature, and conversations with leaders in the field. A list of individuals contacted and documents reviewed is located in **Appendix B**. Dan Apfel conducted the research and the bulk of writing this report. Jon Jensen provided supervision, edits, and content additions.

Portfolio and Analysis Overview

The Park Foundation has been shifting towards a responsible or environmental, social, and governance (ESG) based investment process and strategy since 2010. The Foundation's goals include support for the mission, integration of values, and long-term investment returns. As part of this process Park Foundation retained an investment consultant, RBC SRI Wealth Management Group, with a long history making socially responsible investing (SRI) related investments, and with their support, developed an ESG investment policy. During this period, Park Foundation has made a shift from its prior investment practices. The Foundation has screened out companies that do not align with its mission investments, chosen managers integrating environmental, social, and governance issues, publicly divested from fossil fuels, and more recently, made targeted investments related to Park's programmatic areas of concern, primarily water and climate change. In particular, over the last two years the Foundation has started to focus on water related-issues in its investments.

In 2012, the Foundation developed a screening policy related to water to ensure that investments were not made in those companies whose activities most clearly contradict Park's program priorities, such as those participating in, for example, the privatization of water utilities. In 2014 that policy was revised to also encourage identifying companies that "proactively invest in solutions", including "sustainable water infrastructure," improving and protecting drinking water, and water use in agriculture.

This report summarizes the examination of water in the Park Foundation's portfolio, how it might improve mission fit and financial performance on issues related to water, and opportunities for using involvement in water investment issues to encourage other investors, especially philanthropic foundations, to take water issues, including risk, more seriously.

We found that the Park Foundation has already substantially limited water risk in its own portfolio by choosing responsive ESG fund managers, making a small allocation to a water fund that serves to limit risk, and in screening out some of the most at risk investments through negative screens for water issues and climate change. In the areas of shareholder engagement, and influencing other investors, Park has the opportunity to increase its work and impact. While the report does not extensively look at opportunities for positive water investment, there is also room for growth in that area.

I. Water Risk and the Park Foundation Portfolio

Informal Assessment

In this section, we provide a simple qualitative assessment of water risk incorporation throughout Park's portfolio to examine how managers are taking water risk into consideration. This section compiles water risk by manager, based on conversations with Park's managers and investment consultant, the RBC SRI Wealth Management Group. This informal assessment indicates that managers of more than 50% of the portfolio by value incorporate some consideration of water risk into their investment decisions (Fig 1). Additionally, some managers look for "solutions" in water and other areas, with the belief that these companies will perform well financially. Finally, the Foundation has invested approximately 3% of its portfolio in Kleinwort Benson Investors' (KBI) water strategy, that invests in companies providing "solutions" to water problems that align with the Foundation's mission. Companies in the KBI portfolio are reducing water waste, increasing efficiency, and attempting to deal with other water problems. The hope is that supporting these companies increases the flow of investments to solve these problems while providing strong financial returns to the foundation as water scarcity and risk increase. The following two charts show (1) an overall breakdown of the portfolio by whether managers incorporate water risk into their investment decisions and (2) a table of managers with the qualitative assessment of how they are integrating water risk based on the information provided by the managers in public and private documents and private conversations

This analysis suggested five categories of water risk incorporation. From most water-risk related to least, the portfolio managers fall into:

- **Targeted Water Solutions**: Managers (i.e., KBI) targets water solutions as a specific investment area.
- **Incorporates Water Risk**: Managers listed as "incorporates" water risk consider water when they are making investment decisions as an ESG issue as well as a financial risk and opportunity issue. The specifics of inclusion in the investment strategy vary.
- **Limited Incorporation + Overlay**: These managers, according to RBC, consider, to some extent, water and other ESG issues in their investing. RBC overlays these (and all other managers) with Park's screens when purchase decisions are made to ensure that companies meet screens.
- **Overlay:** RBC uses its negative screening and best-in-class assessment to incorporate limited water risk assessments when recommending inclusion of each new company in the portfolio.
- **N/A:** The cash portion of the portfolio may have ESG impacts, but is not at risk from water issues. The shareholder engagement account is listed as not applicable because it has been purchased for mission related reasons, and is

exempt from risk/return requirements.

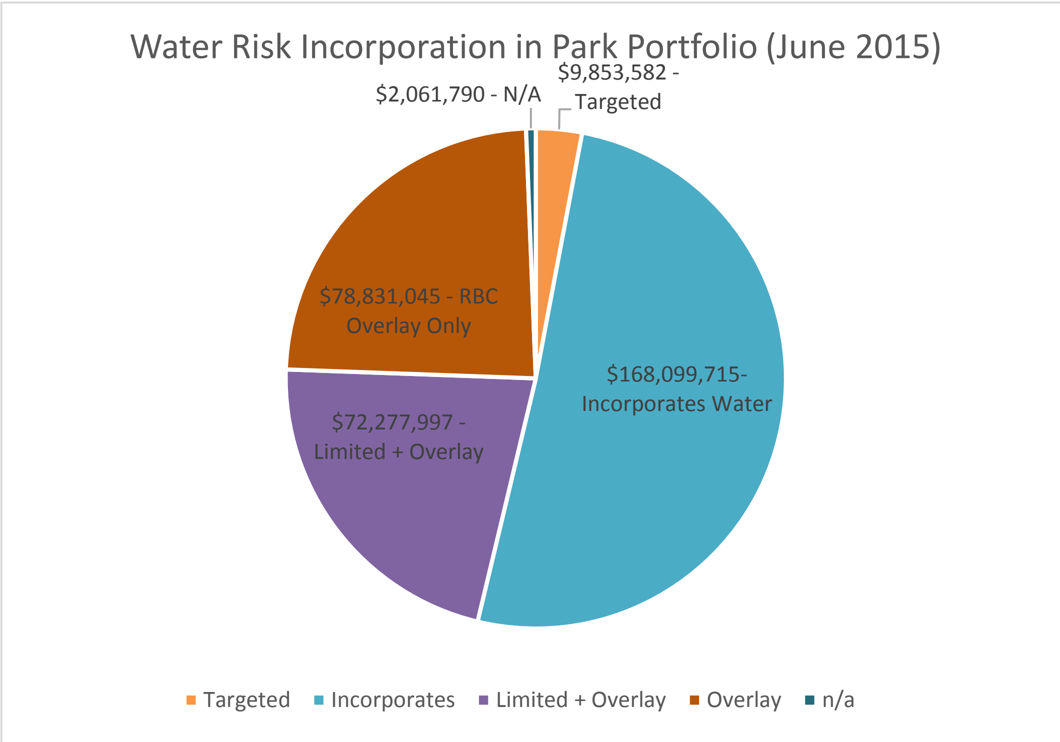

Figure 1: Water Risk Integration

Water Risk Integration by Manager

Investment Vehicle	Asset Type	Water Risk Integration
KBI	Public Equity	Targeted Water Solutions
Generation Climate	Public Equity	Incorporates
Boston Common	Public Equity	Incorporates
Walden	Public Equity	Incorporates
Trillium	Public Equity	Incorporates
Generation Asia	Public Equity	Incorporates
Generation	Private Equity	Incorporates
North Sky	Private Equity	Incorporates
SJF	Private Equity	Incorporates
Generation II	Private Equity	Incorporates
DBL	Private Equity	Incorporates
Walden Bonds	Fixed Income	Incorporates
Granite	Public Equity	Limited Incorporation + Overlay

McDonnell	Fixed Income	Limited Incorporation + Overlay
Eagle	Public Equity	Overlay
Apex	Public Equity	Overlay
Aberdeen	Public Equity	Overlay
Templeton Global	Fixed Income	Overlay
Shareholder	Public Equity	Programmatic Purchase (n/a)
Cash	Cash	No ESG risk (n/a)

Overall Risk Assessment

This analysis shows that Park Foundation is doing much of what it can as an asset owner within the limits of its standard investment allocations to directly reduce water risk in its portfolio. To further align with its mission Park Foundation may choose to increase allocations to water solutions which would provide further protection against water problems globally. Financial analytics may be useful to further understand water risk throughout Park's portfolio. Even so it is important to recognize that water risk, while an important challenge for some portfolio companies, likely only comprises a small part of the overall risk profile of Park's portfolio.

II. Understanding Companies' and Portfolio Water Risk

Companies & Water Risk

Individual companies and their securities may face different types of risk, be it from market or economic changes, technology, or resources and environmental factors, like climate change, or water. Water risk can affect companies different, depending on their business and their location. This section attempts to share how water risk may be relevant to Park's portfolio. Some examples of financial risk related to water usage across companies:

- **Food and beverage companies** may face rising costs or shortages of important products in their supply chain because agricultural producers may not be able to access water for their crops, reducing supply, especially depending on the locations of their producers. Companies extracting water for bottled water (i.e., Nestle, Coke, Pepsi) can face reputation risk and public pressure that can affect their ability to do business and extract water.

- **Semiconductor manufacturers** need substantial amounts of high quality clean water for manufacturing. Loss of access to clean water can drive up costs or require expensive changes in location of facilities.

- **Oil and gas hydrofracking** companies use substantial quantities of freshwater in their activities. As less water is available generally, they may be forced to limit water usage, forcing them to use more expensive processes to recycle water, use new technology or move rigs to new sites, affecting their profits.

- **Companies polluting drinking water** or other water supplies can face fines or other charges.

Water risks can be hard to quantify and it can be especially difficult to analyze how they translate into individual equity performance. The number of companies reporting on water is severely limited. This is especially true for companies in the Global South and companies outside of the largest 1,000 companies globally. Even for larger companies that do take positive action on water and report on water usage and risk, the data they make available often does not reach into their supply chains or disclose exposure at the regional level. For example, a company may report on water use in making a beverage, but not on the water used in the process of making the corn syrup that sweetens it.

Water, unlike climate change, is often a regional issue. In fact, a substantial portion of water risk is often a manifestation of climate change at a local level. Some regions and "sub-regions" do not face water shortages and are unlikely to face serious water access challenges in the short-term. Other regions face increasing water scarcity and/or flooding risks. While tools developed by research companies like Trucost attempt to model data for water use based on industry level and even location information, the data remains very limited and often cannot account for specific regional data related to a particular company. The difference in the location of a factory from Arizona to Michigan, for example, could be substantial. Even the difference in two different locations in California may face substantially different water challenges. These locational issues, especially when applied to suppliers, can have substantial impact on the risk profile of a company.

One of the major reasons that data is limited is the primary reliance on voluntary corporate disclosures. CDP Water, which requests details from major companies on through an annual voluntary questionnaire, asks only 1,000 companies for responses. Of the companies that do respond many do not provide a substantial amount data—and most do not address their supply chains. Of Park Foundation's 300+ portfolio companies, for example, only 72 have been sent questionnaires by CDP, while an even smaller number have answered as of the initial writing of this report.

Even with access to all of the relevant data it would be difficult to assess the water risk companies face because water is, for most companies, only a small part of the risks they face. That is, of the wide variety of issues affecting a corporation's equity valuation, water may be a minor factor. This means the degree to which water risk is material to a company's performance and share price remains a question for debate. Full access to information would mean a greater ability to assess price and regulatory changes related to water at different geographic scales. Without that information, company level water-risk assessment is a substantial challenge and is often based on a series of extrapolations from broad industry information.

Portfolio and Water Risk

While water risks affect individual security performance, data availability makes water risk difficult to measure. The complications of regional variation and corporate management variation compound the difficulty of making accurate evaluations of water risk at a portfolio level.

As mentioned earlier, climate change is a related environmental risk factor being taken into consideration in portfolio risk management. In the climate example, one major element of reducing risk in the portfolio is based on the concept of a "carbon bubble" This analysis is based on the knowledge that the world must reduce our emissions or face dramatic consequences. It follows, therefore, that reducing exposure to ownership of fossil fuel related investments will protect investors at the point when the world makes the decision to reduce its reliance on fossil fuels. These greenhouse gas-emitting fuels will not be extracted, burned, or transported, and investor asset valuations will fall substantially. As such, they are "stranded assets".

Water's risk profile is dissimilar to this "bubble" analysis. While the world substantially overuses fresh water in aggregate, many regions do not face water shortages. Unlike with carbon asset risk, a water user in southern California would have a substantially different risk profile than one in Ithaca, NY, both because of water availability and because of the large variation in regulation and pricing regimes that might be put into place in different areas. This means that a "divestment" or underweighting plan simply based on water intensity would not typically have the same result for a portfolio as it would with carbon. Water is also different from carbon in a simpler way: humans will continue to need fresh water into the distant future.

Instead, other ways of dealing with climate risk—those dealing with mitigating the effects of climate change and limiting its impacts may be more applicable. Other methods for dealing with climate risk in investor portfolios include:

- Selecting managers who include climate performance in security selection (and encouraging managers to do so);
- Making allocations to managers who allocate to investments that should perform well implementing solutions to climate change;
- Engagement with companies in the portfolio, and;
- Engagement on the issue with policymakers.

Each of these methods is applicable to dealing with water risk in Park Foundation's portfolio. The first two have a likely impact on medium-term portfolio returns with regard to water risk. Engagement with companies in the portfolio could have some impact on risk, especially as it helps to shift companies across industries towards becoming "outperformers" allowing further diversification across the portfolio. In the short term the first two strategies are most useful for reducing portfolio risk in Park's portfolio. The Park Foundation has already implemented these strategies to some extent. In the water risk framework these strategies are:

- **Using managers who include water performance in security selection.** Managers doing this will look at issues other managers may ignore and will hopefully choose companies that have lower water risk and better water management, reducing water risk in the portfolio. These managers should be able to find and implement some knowledge of water risk unavailable to the staff at a foundation of Park's size.

- **Allocating to managers who invest in solutions to water scarcity and pollution.** Companies that are working to reduce water usage and solve water scarcity issues stand to perform well as water becomes more expensive in different regions or clean water access becomes a problem. A company that provides technology or services to repair water pipelines, for instance, stands to grow its business (and likely increase its value) as companies and governments providing water are willing to invest more in reducing leakage. As other, highly resource intense industries possibly lose value, these investments may outperform.

Portfolio Water Footprinting and Risk

Although we have discussed risk in an abstract way in the preceding section and noted many of the challenges with evaluating water risk, there are tools available to help investors develop a better understanding of their exposure to water risk and water issues in their portfolio. One of those methods is water footprinting. Water footprinting evaluates water intensity in the portfolio. This method compares the water usage intensity of an investor's portfolio to a benchmark. Park Foundation has footprinted its portfolio's water intensity twice to date. Footprinting can provide a useful guide and help to tell the story of how a particular portfolio differs from the marketplace at large. Unfortunately, the information from this kind of data is limited. Appendix D offers summaries of the available water research tools.

In this evaluation, we have found that the tools data providers offer include the "operational risk" and "usage" of water in the portfolio. Yet it is not clear that this translates to financial risk in a meaningful way for many companies (i.e., risk to the stock prices.) As discussed earlier, because the data is limited, these footprint analyses across a portfolio are not necessarily helpful to assess financial risk. Instead, it may be useful for portfolio managers to understand the overall water exposure of their investment portfolios, and to continue to expand usage of company level data. A number of ESG managers already use these tools when making investment decisions.

Appendix C summarizes Park Foundation's publicly traded and private water investments.

III. Evaluation of Selected Water Risk Tools

This section contains a short summary of different water risk tools, some hypothetical costs, and the utility of applying them to the Park Foundation's investment portfolio, with a specific focus on equities.

At the end of 2014, RBC worked with MSCI to apply a water footprinting report for the Park portfolio. As this is included in Park's contract with RBC, it could be useful to monitor the results of this report on an annual basis. MSCI also has access to Sustainalytics reports and information, which could be used to examine any companies or areas of concern in further depth.

There are several publicly and privately available tools for examining water risk in an investment portfolio that are now available to investors. Each data provider utilizes its own methodology and has its strengths and weaknesses. **Appendix D** briefly describes each of the systems that apply specifically to water. There are also many more systems that look at ESG risk in general or other forms of ESG risk that might be indirectly relevant to water risk. This analysis does not examine these tools. CDP-Water is the main source of data in this area—but the data is purely voluntarily and provided in response to CDP's survey requests. Analysis from data providers may be built partially on this data but may have more information on water intensity. These systems (e.g., Trucost) may include less information on company activities and practices.

The assessment of analysts that the authors spoke with is that the data is "not there yet" for a true portfolio assessment, especially for using this information to understand how water risk may relate to stock performance. Rather, it can be a helpful guide for managers when evaluating companies, and it could be useful for managers to use footprinting to look at their set of holdings and put it in the context of their investable universe. At the asset owner level, using these tools to provide a meaningful grade to the entire portfolio relies on data with too many gaps in company coverage and regional information, and too many accuracy issues, to be valuable for much other than in the broadest context.

As part of this process we had conversations with data providers and asked each of these companies to provide scores on a list of 10 companies that chosen from the portfolio based on their industries. Because of the screens already applied by the Foundation, most of these holdings are in the food sector. The scoring systems provided by each research firm differ substantially, but the end results are relatively similar except for a few companies, from one or two firms. We have attached this data in the appendices "company water risk assessment." One possible next step is to compare this data for food and beverage companies provided by these research firms to the data provided in Ceres food and beverage industry report that is more granular (and is only available for this sector).

For a summary of water risk assessment tools see **Appendix D.**

Next Steps for Park's Portfolio

Suggested Actions for Further Understanding Water Risk / Mission Alignment

It may be helpful in the short-term to focus on increasing the Foundation's understanding of water incorporation and risk in the investment portfolio. Some possibilities for doing this include:

- Ask all of Park's investment managers provide an annual list of "positive water investments."
- Ensure all of Park's managers understand the water investment policy, and clarify the policy if there are any questions.
- Ask RBC to provide the Foundation with simple information related to water on all investments in industries with high levels of possible water risk that they recommend either approved for or excluded from the portfolio.
- Ask RBC to annually footprint water in the portfolio, for the purposes of understanding the change in the footprint which may help develop an understanding of the tool's usefulness and possibly inform other opportunities for limiting risk in the future.

It may also be valuable to clarify the water screening process. For example, wastewater and water utility screens have substantial implications for the water portfolio. Looking at those implications and whether specific companies conflict with Park's values may help to narrow or clarify which companies are being screened and why. It might also help to provide clarity on RBC's process for screening different companies from the portfolio.

IV. Shareholder Engagement: Water

Background

Water is a major issue in the direct business and supply chains of sectors throughout the economy in the United States and globally. As discussed earlier, water's crucial role as a necessity for drinking, but also agriculture and other uses, means that water poses a major financial risk to companies in addition to being a major societal issue. Yet many or even most companies do not recognize this risk, or, if they do, most are not taking adequate action to mitigate this risk, as defined by a variety of scoring systems.

For many years, investors have been using the tool of shareholder engagement to encourage companies to improve their practices in different areas. Sustainability, for instance, has been a major issue in corporate engagement for more than a dozen years. Thousands of engagements have taken place and hundreds of resolutions have been filed encouraging corporations to take sustainability seriously. Those resolutions include encouraging companies to create board level sustainability policies to reporting on the impacts of mountaintop removal coal mining. While the limitations of shareholder resolutions continue to be debated, they have the potential to help increase companies', other shareholders', and the public's awareness of water related issues.

Based on analysis of a compilation of shareholder engagements related to water, done by Ceres, only a very small number of resolutions pertain specifically to action on water. A much larger number reference water in some way, but are not specifically targeting water or drinking water. Instead, these resolutions are part of the vast number of resolutions that deal with issues of environmental sustainability and governance in a way that might lead companies to deal with the issue of water as part of a broader sustainability plan.

The next section includes a brief examination of the recent history of shareholder engagement and resolutions on water, as well as some opportunities that exist in the space.

Track Record of Shareholder Engagement on Water

As mentioned above, water has primarily been raised as an issue as part of other sustainability concerns in engagements and resolutions. From conversations with investors engaging these companies, this is at least in part because there is so little information available and because investors believe asking for a sustainability report will allow them to target the areas of highest concern to each company.

Even so, a few investors have made a concerted effort to engage on water issues over the last few years, encouraging disclosure and risk mitigation practices. These engagements have focused on few companies. In some cases investors who have been engaging for many years with the same company claim credit for major improvements. At Campbell

Soup Co., for example, the company has, with investor pressure and support, implemented a human right to water policy and is working on changing practices to meet the goals it has set out.

Engagements

Engagements are primarily dialogues with specific companies with the goal of persuading them to voluntarily improve their practices. The shareholder engagements targeting water that are mentioned above have been, and continue to be, led by three different investor coalitions. Each has a slightly different perspective, and while there is some overlap between investors and target companies, all are engaging independently. Additionally, CDP-Water has been calling for disclosure related to water. They are:

- **Interfaith Center on Corporate Responsibility (ICCR)** – ICCR's water shareholder engagement has been ongoing for at least five years and is one of the priorities that members chose to continue in a recent strategic planning process. The program generally has two goals, encouraging companies to follow the CEO Water Mandate/SHIFT water practice and disclosure guidelines, and encouraging companies to create a human right to water policy. ICCR's practice generally includes ongoing engagements with companies by groups of investors, sometimes over many years. ICCR has selected 10 target companies for the water engagements and each has a lead investor.

  As a member of ICCR, Park Foundation has joined ICCR's water group and participates in calls each month. It could help set priorities, and participate in collective engagements. The program has approximately 10 very active participants and up to 50 engaged participants. ICCR coordinates with Ceres on engagement and resolution filing, but has not coordinated with UNPRI (see below). Most of the leaders are faith-based funds, including Tri -State Coalition of Responsible Investors (a Park Foundation grantee) and Mercy Investments.

- **Ceres** (also a Park Foundation grantee) has been engaging on climate and sustainability issues for many years and has recently been engaging corporations on water issues. Their program has a particular focus on water utilities, oil and gas, and agriculture. Their primary focus is on giving corporations the tools to assess their own water stewardship and risk. Ceres shareholder work has been somewhat coordinated with UNPRI and relatively closely coordinated with ICCR. They have highlighted the poorest performing companies in each of the sectors listed and members are prioritizing engagements with those poorest performing companies first. Ceres also manages an "investor water hub" group, which allows asset owners and managers to engage with each other on taking water risk and opportunities into account when making investments. That group is less focused on shareholder engagement. In the spring of 2017 Ceres plans to release a “Water Investors Toolkit” (working title) to assist investors in evaluating water investments.

- **Principles for Responsible Investment (UNPRI)** -- UNPRI recently has chosen water as one of its main issues for its collaborative dialogues. UNPRI is particularly looking at the food and beverage, retail, agriculture, and apparel industries’ water use issues. They recently commissioned a study by World Wildlife Fund and PricewaterhouseCoopers looking at the companies with the riskiest operations in their supply chains in these areas. The engagement group of 40 investors has selected 54 target companies— 39 food and beverage, 8 apparel, 4 retailers, 3 agricultural products). The goal is to target these companies with letters and initiate dialogues, and possibly resolutions in some cases, over the next 18-24 months (into 2017). They are tracking performance based on a baseline of currently available information and hope to improve companies’ performance on disclosure and risk mitigation implementation guidelines. To participate in the dialogue an investor should be a PRI member, though investors can join the dialogue for up to twelve months while considering membership. PRI membership requires annually filling out the PRI’s disclosure survey.

- **CDP-Water** and its group of investor signatories (617 signatories) are encouraging companies to disclose water issues via the CDP Water Survey. CDP’s engagement does not go beyond encouraging companies to respond to the water questionnaire.

Resolutions

Resolutions are formal requests for company action that are placed on the proxy for voting at a public company’s annual meeting. As noted above, water been a central issue in only a limited number of resolutions. In an even fewer number has “water stewardship” or “water risk” been the primary issue. In early 2015, Ceres put together a spreadsheet of all resolutions that mentioned water between July 2003 and May 2014. Of the 238 resolutions listed:

- 75 mentioned water in the “resolved clause” which is where the company is specifically asked to act
- 11 had some relationship to fracking
- 163 resolutions mentioned water only in the “whereas clause” where the proponent of the resolution explains the background and reasoning behind the resolution
- 32 resolutions have had a primary focus on water issues. Of those:

- 10 targeted an electric utility or coal mining company (6 companies);
- 4 targeted a food or agriculture company (3 companies including Coke and Pepsi);
- 3 targeted oil & gas (2 companies);
- Other industries targeted were consumer goods, chemicals, and a water utility (Aqua America);
- 9 asked for a policy around the "human right to water";

Most of these resolutions deal primarily with the issue of water pollution. Other than the "human right to water" resolutions, there have been few resolutions that have encouraged companies to look specifically at water withdrawals and usage or access to water, as it relates to drought, freshwater access, and drinking water. This list only comprises engagements that have gone to the resolution stage, and does not include other forms of engagement. Only the resolutions themselves have been tracked, therefore we were unable to determine the specific results of any of these engagements.

Other Engagement Activities

There have been many other engagement activities outside of the investor coalitions listed where no shareholder resolution has been filed. A number of other groups have been actively engaging companies on water. Some of these are:

- SRI managers have been actively engaging companies on water issues, including Boston Common Asset Management and Calvert Funds. Some, but not all, of these engagements have been part of the above groups, and some have led to resolutions.
- As You Sow (and other investors including SRI's) have led a number of engagements on water pollution related to fracking, coal ash, and ocean toxics.

Overview of Park Foundation Engagements

Park Foundation has not directly participated in any corporate dialogues because it is a relative newcomer to the area and limits of staff time and expertise. It has supported engagement dialogues on corporate water stewardship via grantee Tri-State Coalition for Responsible Investment's (Tri-State CRI) which provides shareholder engagement with companies in the food and beverage and energy sectors to address the impacts of business operations on water use and quality. Through dialogues with corporate leadership, shareholder proposals, and advocacy, Tri-State CRI has specifically encouraged companies to: (1) adopt policies and practices that recognize and respect the human right to water; (2) develop best practices for water stewardship to effectively manage water use and discharge in the context of water stress and concerns about quality; and (3) publicly report on their water risk management.

The Foundation has also been engaged in shareholder resolutions through intermediaries for a number of years. These engagements have happened in two ways—first and foremost through supporting As You Sow to engage using the Foundation's shares. These resolutions have primarily been related to hydrofracking and climate change and have primarily targeted fossil fuel companies, utilizing the Shareholder Action account created expressly for this purpose.

The other resolutions, and by extension, engagements, that Park Foundation has been involved in, have been led by its asset managers. In 2014 and 2015 Walden Asset Management and Trillium Asset management have co-filed resolutions on Park Foundation's behalf. Most of these resolutions have focused on sustainability and climate change. Park Foundation has also lent its shares for use by activists from grantee Corporate Accountability International to attend shareholder meetings. For example Corporate Accountability representatives have attended Coca–Cola annual meetings to challenge them as a part of their water-related campaigning.

Next Steps for Shareholder Engagement

There are a substantial number of opportunities to use the tools of shareholder engagement to further access to clean water, address freshwater pollution, and encourage companies to deal with other water issues. Using shareholder engagement as a tool, Park Foundation should endeavor to raise the profile of foundations using their investments to engage on water issues, support its grant making activity, and enhance the visibility of the movement for responsible investing among foundations. Choosing public actions strategically and helping to tell the story of why the Foundation is taking these actions could help spur other foundations and investors to learn about and join in engagements. It also has the potential to raise the profile of water issues to investors of all kinds. In particular, it might be useful to work with a communications firm to help support planning for and telling the story of Park's engagements and impact in this area. Telling Park Foundation's story might help raise the profile of the water issue. Some suggestions for next steps for the Foundation include:

Learning

- **Participate in ICCR, Ceres, or UNPRI water groups** to learn about and collaborate with other investors. Using their resources and knowledge can help ensure that Park's engagements have maximum impact. The primary downside of this process is that ongoing participation in these groups is likely to be time-intensive.

Engagement & Resolutions

- **In the near-term, Park could conduct engagements by filing 1-2 shareholder**

resolutions on issues specifically targeted to water privatization or overuse by agriculture. These would utilize stocks already in the portfolio. Agriculture consumes 70% of the freshwater used annually and contributes substantially to water risk and drinking water scarcity. It makes the most sense to choose companies already in the portfolio (Coke, Pepsi, Keurig Green Mountain, Whole Foods, UNFI or fossil fuel related companies) and work with ICCR, PRI, As You Sow, or Ceres, that will help to raise the public profile of the effort.

For maximum effect influencing companies and other shareholders, Park Foundation could remain closely involved with the engagement. (ICCR in particular has signaled interest in Park filing resolutions on water group target companies) A Park Foundation leader and grantee representative attending the annual meeting to present the resolution might draw substantial attention to the effort. As You Sow, Ceres, or a consultant could lead the engagement and file the resolution on Park's behalf, and then provide support and training for attending the annual meeting. Alternatively, an asset manager whose portfolio holds one of the companies on behalf of the Park Foundation might be willing to partner on a project like this.

- **Longer term, Park Foundation could acquire stocks to hold in the Shareholder Action Account for water engagement purposes**. Initial recommendations might include Tyson Foods, General Mills, Doctor Pepper- Snapple, and Monster Beverage. Hain Celestial may also be a company of interest that Park already owns and scores very poorly on water, per information from Ceres. These companies all have large water impacts and potentially large risks, according to either ICCR and UNPRI. All are U.S. based companies where shareholder resolutions are possible. Veolia and Nestle are potential targets for engagement, but filing resolutions with international companies can be substantially more complicated than with U.S. companies.

- **Engagement and resolutions filed at Aqua America, American Water,** and other water utilities might draw press attention but are less likely to help improve industry standards because there are not many companies in the industry and the next steps on water privatization issues are less clear.

Grantmaking & Grantees

- **Offer water-related grantees the opportunity to use Park Foundation's shares** to file shareholder resolutions along with small amount of technical assistance service from a provider, and create a small fund for travel expenses to meetings. Park might also allow the provider to help activists use Park's shares to attend meetings to dialogue with company executives.

- **Consider developing new goals around corporate responsibility grant making** to focus on developing responsible investing and shareholder activism practice and engagement related to water. New grants could focus on helping thoughtful activists use the tools of responsible investing and raising the profile of responsible investing related to water.

V. Telling Park Foundation's Water Investing Story

The Foundation has a compelling story to tell, particularly to other Foundations who may be seeking similar integration of mission and investments around water. Park's story is very much a "work in progress" but that in itself is still instructive who may be earlier in the process of integrating water issues into their investment decisions.

It may be useful to work with a consultant or other expert to help carefully craft a narrative around Park's investments in water. That story might include:

- Discussing manager integration of water
- Examining specific companies with positive intent
- Discussion of Park's goals when making investment decisions related to water
- How Park evaluates its manager's effectiveness in considering water on an ongoing basis

In particular, it would be very helpful to have a clear description of why and how investment-related decisions are made the way they are in order to tell this story. It may be useful to consider the value of telling the story as an "investor" considering risk issues rather than one of a foundation trying to align its values and investments with grantmaking, possibly making it accessible to a larger part of the financial and philanthropic community, who continue to invest from a "finance first" perspective. Support from a communications consultant might help Park to tell the story in a way that is cohesive and compelling.

Summary – Defining Beliefs and Clarifying Objectives

Throughout this project a number of possible options for Park Foundation's water investing have been raised. These include reducing financial risk, increasing mission alignment, and encouraging other foundations and investors to focus on and understand water use and water risk in investments.

To increase investors understanding of these issues, Park Foundation could consider clarifying its own objectives related to water investing. The primary question that the Foundation might consider is "why do we care about water in our investments?"

Some other questions the Foundation might consider answering include:

- How do we balance financial risk issues and mission investing criteria when we incorporate water in our investments?
- What will be most informative to other investors?
- What actions can we take in our portfolio that will help us to achieve our goals and tell a clear story?

It may be useful to clarify these goals in order to help the Foundation further make decisions in the investment portfolio. Once goals and outcomes have been agreed on, decisions could more easily be made with regard to specific investments.

In fact, it may be useful to clarify the Foundation's ESG guidelines as "investment beliefs." Investment beliefs are a statement that accompanies the investment policy statement and helps to distinguish assumptions that are made about investing generally and in relation to ESG issues, values, and financial value. While some foundations form strategic committees and long-term strategic planning processes to arrive at decisions in this way, a shorter process might involve interviewing all the Foundation's stakeholders about their goals, and then considering two-three scenarios for paths forward. These beliefs could then guide Park's decision making in this area.

Appendix A: Summary of Recommendations Provided to the Park Foundation's Investment Committee

A. Portfolio Water Risk and Investing

1. Develop more extensive guidelines on water for fund managers.
2. Consider a statement of beliefs to undergird guidelines.
3. Require managers to actively use these guidelines and report annually on water risk management and water solutions investments.
4. Increase investments in water solutions investments.
5. Consider water footprinting of portfolio and track on an annual basis.
6. Ask investment consultant to provide sectoral water risk overviews on a periodic basis.

B. Shareholder Engagement and Resolutions

1. Increase participation in water shareholder collaboration such as ICCR's water group, possibly including joining select dialogues.
2. Consider utilizing existing holdings for a few water resolutions, possibly on privatization or agricultural water use.
3. Acquire select set of stocks for future water resolutions.

C. Grantmaking

1. Offer select grantees use of Park stocks for resolutions. Combine with technical assistance and support for staffing.
2. Consider developing new goals and guidelines around corporate water stewardship grantmaking.

D. Outreach

1. Consider publication of "Park Foundation's story" – lessons learned in addressing water investing and risk. Consider retaining communications advisor for support in this process.
2. Continue participating as a speaker on Park's water investing at philanthropy sector gatherings and other appropriate venues.

Appendix B: Relevant Documents Reviewed, List of Conversations and Interviews

Documents Reviewed

1. Freyman, Monika, Collins, Siobhan, Barton, Brooke. Investor Handbook for Water Risk Integration: Practices & Ideas Shared by 35 Global Investors. Ceres. Boston, MA: March 2015.

   Overview of how investors are thinking about water risk. Mostly focused on how to evaluate, engage, and buy and sell companies.

2. EIRIS. A drought in your portfolio: are global companies responding to water scarcity? EIRIS Water Risk Report, June 2011.

   Overview of state of play in the water field, EIRIS's findings from their research, and a limited description of their process.

3. Roberts, Eliza. Barton, Brooke. Feeding Ourselves Thirsty: How the Food Sector is Managing Global Water Risks. Ceres. Boston, MA: May 2015.

   Ceres water risk specifically detailing agriculture sector. Includes some data on a limited number of companies.

4. Knight, Zoe, et al. Water: resilience in a thirsty world: Where to focus and what to look for with this slippery issue. HSBC Global Research. January 2013.

   Covers water risk and use in HSBC covered companies globally. Also includes list of what companies they consider to be intelligently addressing water.

5. CDP. From water risk to value creation: CDP Water Report 2014. CDP. 2014. https://www.cdp.net/CDPResults/CDP-Global-Water-Report-2014.pdf

   Overview of CDP water responses. Highlights challenges and opportunities and some best practices across different sectors including why companies are addressing water risk.

6. Multi-Stakeholder Roundtable on the Human Right to Water. ICCR. May 2013. New York. http://www.iccr.org/system/files/reportpub_prop_attachments/2013ICCR_MultiStakeholderRTontheHu manRightToWater.pdf

Notes from a multi-stakeholder meeting with companies on the human right to water.

7. Statement of Principles and Recommended Practices for Corporate Water Stewardship. ICCR. January 2015. http://www.iccr.org/sites/default/files/2012WaterStatementOfPrinciples.pdf

8. UNPRI, WWF, PwC Germany. PRI-Coordinated Engagement on Water Risks in Agricultural Supply Chains – Investor Guidance Document. 2015.

   Outlines the PRI collaborative engagement research, assumptions, and purpose as well as how they arrived at the company list they are using in general terms.

9. Price of Water Scarcity: Interview with Deane Dray. May 2015. https://www.rbcinsight.com/WM/Share/ResearchViewer/?SSS_7FCF5078C4BE2D24BB5A37E28C42D0B

   Discussion of Water Risk in companies and investments and how to profit from trends related to water.

10. Thematic Investment Research. Generation Investment Management. Water Perspectives. Generation Investments. https://www.generationim.com/media/pdf-generation-thematic-research-v14.pdf. Chapter 6. 2006.

    Generation's assessment of opportunities and risks in water investments.

11. Ryan, Catherine and Sheldon, Matthew. Investing in Water: Accessing a Compelling Opportunity. Kleinwort Benson Investors. http://www.calvert.com/NRC/literature/documents/WP10001.pdf?litID=WP10001

    Overview of KBI's water strategy.

Interviews and Conversations Conducted

1. Chris Fowle, CDP
2. Marcella Pinilla, Mercy Investment
3. Divya Mankikar, Trucost
4. Morgan Gillespy, CDP
5. Monika Freyman & Brooke Barton, Ceres
6. Cary Krosinsky, Columbia Earth Institute, Network for Sustainable Financial Markets

7. Matt Zalosh, CIO, Lisa Hayles, Constantina Bichta

8. Heidi Soumerei, Walden Asset Management

9. Sarah Smith, Sustainalytics

10. Catherine Chen & Amberjae Freeman, RBC

11. Jon Jensen, Park Foundation

12. Darrell Tovey, EIRIS

13. Dakota Gangi, CDP

14. Nadira Narine, ICCR

15. Gemma James, Paul Chandler, UNPRI

16. Andy Behar, As You Sow

17. Upmanu Lall, Columbia Earth Institute Center on Water

18. Stephen Viederman, Independent Expert

19. J. Carl Ganter, Circle of Blue

20. Marc Roberts, Water Asset Management

21. Peter Adriaens, Equarius Risk

Appendix C: Park Water Investment Spreadsheets – Publicly Traded and Private Equities

The spreadsheet "**Park Portfolio Detail – Water Investments**" is a list of all the investments that appear to be substantially related to water in some way or seem to be investments of concern related to Park's screens. This list was developed by pulling from a full list of all the investments in Park's portfolio. In the private holdings, every holding was examined based on the year-end report provided by asset managers, and assessed whether their work constituted a water stewardship investment. In the public equity space sectors that seemed most related to water stewardship were examined including industrials, utilities, and chemicals. Also examined were all the investments in the KBI water portfolio.

In each the companies were ranked by their relevance to "water stewardship"—whether they help to solve problems related to water or have a relatively direct positive water impact. Not included are companies that are high performing in industries related to water like food or agriculture. Also assessed were whether there are concerns about the company in relation to water or Park Foundation's other criteria. The private company spreadsheet provides a rating relative to concerns while the evaluation of public equities provides a simpler yes or no. That is because of the screening criteria already applied to the public portfolio. This analysis is based on the author's subjective assessment of their industry, their products, and their focus on water.

Concerns

Publicly Traded Companies

In the publicly traded investments, there are a small number of companies in the KBI portfolio that appear to contradict some of Park's screening criteria related to water. From Park's most up-to-date (as of 2014) water screening policy:

> *Park Foundation is concerned with issues related to water, including bottled water and the privatization of water resources. Park Foundation feels comfortable investing in companies that operate in the areas of consulting, engineering, construction, technology and equipment as they relate to the water sector. Conversely, Park Foundation wishes to avoid investing in those companies whose business activities are vertically integrated within the water sector and whose business line includes operations and/or maintenance of water and wastewater treatment utilities. It is also concerned about companies that are involved in public private partnerships that may be antithetical to Park's water program guidelines and will evaluate these on a case-by-case basis. This is a screen that is under development. As Park Foundation becomes more comfortable with the implementation of this screen, it may consider putting*

further restrictions on dedicated utilities that operate also in public-private partnerships.

Park Foundation would like to avoid investing in companies that manufacture bottle water.

Some of the companies held own or operate water and wastewater utilities. Others may contractually maintain wastewater plans for utilities—these have not generally been included.

While some of these may violate the screen, as utilities, they may be particularly focused on sustainability or other initiatives. This may be of consideration when further improving & developing the screening criteria. It is not clear that all wastewater or water utilities are negative. Some may be investing substantial resources in improving water systems and delivering clean water and may not be supporting privatization. KBI would have more information about these companies in their portfolio.

Private Companies:

There are a few companies in the Foundation's private holdings that raise concern with regard to the Foundation's ESG policy. Primarily these are companies related to the fossil fuel industry in some way. In the following assessment, companies marked as "high concern" are those which Park Foundation would prefer to screen from its portfolio . In particular, two companies currently building pipelines, one to transport Marcellus Shale gas, and one to transport Bakken oil sands crude on the east coast are held by sub-managers of one private equity fund. The dollar amount of these investments is small. Activists are actively fighting both these pipelines. The rest are primarily oil and gas services companies—much smaller equivalents to a Halliburton-like business—that present some concerns. If these companies do their job well, they might lessen the impacts of the fossil fuel industry. This analysis is not of sufficient depth to provide substantial analysis of these companies' operations.

In a conversation with Park Foundation's investment consultants, it was emphasized that Park Foundation cannot screen its investments in private equity vehicles as these are commingled. In this case the sub-managers of the North Sky Capital Clean Tech Strategy may be the managers of concern. Once an investment in North Sky is made, Park does not control the investments, and since they hire sub-managers, North Sky does not even control the investment decisions. It is unlikely that the total dollar amount of these investments is substantial. We recommend that the Foundation have a conversation with North Sky and the company and/or sub-manager about concerns. It may be worth engaging with North Sky in the future about their manager selection decisions before making further investments in their funds. The vast majority of the fund's investments are in areas that are in alignment with Park's goals. Only a small number of investments contradict those goals..

Park Foundation - Water Solutions Investments - Publicly Traded

Company Name	Water Stewardship	Concerns	About	Country	GICS Sector	GICS Sub-Sector
SPIRAX-SARCO	High	no	Owns a pump company that makes wastewater treatment and other water pumps more efficient, among a variety of other products.	United Kingdom	Industrials	Machinery
ECOLAB INC COM	Medium	no	Water treatment including wastewater treatment. New technology etc. Maybe a positive. Also high water risk exposure. They unsurprisingly work with many industries that we would not be excited about-- but maybe in positive ways. This is only a "medium" for water, but is a very positive investment in general	United States	Materials	Chemicals
DANAHER CORP COM	High	no	Our products help protect the global water supply, ensure environmental stewardship, enhance the safety of personal data and improve business efficiencies. Our *Water Quality platform* provides instrumentation and disinfection systems to help analyze, treat and manage the quality of ultra-pure, potable, waste, ground and ocean water in residential, commercial, industrial and natural resource applications.	United States	Industrials	Industrial Conglomerates
ADVANCED DRAIN SYS INC DEL COM	High	no	Helps solve water management by developing pipes, filters and other products used in water and storm water, and wastewater management	United States	Industrials	Building Products
AMIAD WATER SYSTEM ORD	High	no	Specializes in developing and marketing environmentally-friendly filtration solutions for industrial, municipal, and agricultural use.	Israel	Industrials	Machinery
ARCADIS NV COMSTK	High	no	#1 international design firm in water	Netherlands	Industrials	Construction & Engineering

EBARA CORP NPV	High	no	Manufacturing of fluid machinery and systems, much of which appears to be for positive industries and that limit water risk including wastewater treatment and renewable energy	Japan	Industrials	Machinery
METAWATER CO LTD NPV	High	no	Equipment for drinking and wastewater treatment	Japan	Industrials	Machinery
MUELLER WTR PRODS INC	High	no	Clean water flow infrastructure experts	United States	Industrials	Machinery
XYLEM INC COM	High	no	Provider, enabling customers to transport, treat, test and efficiently use water in multiple industries.	United States	Industrials	Machinery
CALGON CARBON CORP COM	High	no	Sells activated carbon and other products for purifying drinking water	United States	Materials	Chemicals
HD SUPPLY HLDGS INC. COM	Low	no	HD Supply Waterworks is the nation's largest distributor of water, sewer, storm and fire protection products. We deliver the quality products and superior services our customers demand to get the job done. Our highly knowledgeable associates understand the specific needs of our customers and can be relied upon to provide personal touch service and local expertise	United States	Industrials	Trading Companies & Distributors
NEWALTA CORPORATION COMMON	Low	some	Newalta provides engineered environmental solutions that enable customers to reduce disposal, enhance recycling and recover valuable resources from oil and gas exploration and production wastes. Claims strong sustainability goals	Canada	Energy	Energy Equipment & Services
ACEA SPA	Medium	utility	Public utility which deals with drinking water, wastewater, and energy. Claims strong sustainability plan	Italy	Utilities	Multi-Utilities
AEGION CORP 10	Medium	no	Aegion's companies are global leaders in infrastructure protection and provide proprietary technologies and services for the corrosion protection of industrial pipelines and for rehabilitating and strengthening sewer, water, energy and mining piping systems, buildings, bridges and tunnels and waterfront structures	United States	Industrials	Construction & Engineering

BEIJING ENT WATER	Medium	wastewater treatment-	Environmental design and consulting. Also "Currently, BEWG has owned and operated over hundreds of water supply plants and sewage treatment plants in China, Malaysia, and Portugal, with daily design water treatment capacity over tens of million tons per day."	China	Utilities	Water Utilities
CHINA EVERBRIGHT WATER LIMITED	Medium	limited information	China Everbright Water is involved in the environmental water business, including wastewater treatment, reusable water projects and wastewater heat pump projects in China.	China	Utilities	Water Utilities
CT ENVIRONMENTAL GROUP LIMITED	Medium	no	Focuses on Wastewater treatment services for private industry. Claims sustainability.	China	Utilities	Water Utilities
DANAHER CORP COM	Medium	no	conglomerate that owns a number of companies dealing with water usage and reducing water including purification, drinking water, etc.	United States	Industrials	Industrial Conglomerates
ENERCARE INC STK	Medium	no	Water heater rentals to homeowners and commercial service companies in Canada and sub metering. Sub meters reduce usage	Canada	Consumer Discretionary	Diversified Consumer Services
FLOWSERVE CORP COM	Medium	no	Leading provider of flow control products. As compared to Mueller, focuses beyond only water	United States	Industrials	Machinery
GEORG FISCHER AG	Medium	no	piping systems for water	Switzerland	Industrials	Machinery
MANILA WATER CO	Medium	utility/integrated water	full service water utility in Malaysia- talks about positive things	Philippines	Utilities	Water Utilities
METRO PACIFIC INVE PHP1	Medium	Limited information	invests in and owns water, sewerage facilities	Philippines	Financials	Diversified Financial Services
PALL CORP COM	Medium	no	filters, separation, purification products for water and many other uses	United States	Industrials	Machinery
PENTAIR PLC COM STK	Medium	no	water filters, pump systems, pool accessories, used in a variety of applications including oil/gas	United Kingdom	Industrials	Machinery
ROTORK	Medium	no	equipment used for water and other supply systems, valves, actuators, etc.	United Kingdom	Industrials	Machinery

SEMBCORP INDUSTRIE NPV	Medium	wastewater	water, wastewater services, also desal, electricity generation, and solutions for industry	Singapore	Industrials	Industrial Conglomerates
SPX CORP COM	Medium	no	equipment for liquid and other industrial applications including water	United States	Industrials	Machinery
TETRA TECH INC NEW COM	Medium	no	sustainable water solutions through engineering	United States	Industrials	Commercial Services & Supplies
TORO CO COM	Medium	no	turf company including water saving irrigation for golf courses	United States	Industrials	Machinery
YTL POWER INTL	Medium	utility	Owns water/wastewater utility in the UK. Claims to be sustainable/recognized for sustainable development.	Malaysia	Utilities	Multi-Utilities
ECOLAB INC COM	Medium	no	see above	United States	Materials	Chemicals
PENTAIR PLC COM STK	Medium	no	Manufactures water, pumps, filters, and pool accessories. They also manufacture equipment for wastewater treatment.	United Kingdom	Industrials	Machinery
ORMAT TECHNOLOGIES INC COM	Medium	no	Sustainable energy company with technology that specifically reduces water inputs in closed cycle systems.	United States	Utilities	Indep.Power & Renewable Electricity Prod
CALGON CARBON CORP COM	High	no	sells activated carbon and other products for purifying drinking water	United States	Materials	Chemicals
CLARCOR INC COM	High	no	make filters of all kinds, including a variety of filters for water purification, and sewage treatment	United States	Industrials	Machinery
WATTS WTR TECHNOLOGIES INC	High	no	equipment for filtering, and management of water, some other things	United States	Industrials	Machinery
LINDSAY CORPORATION COM	Medium	no	efficient irrigation and some other water services	United States	Industrials	Machinery
VALMONT INDS INC COM	Medium	no	limited--some irrigation equipment that could be good	United States	Industrials	Machinery

Key: Alignment Level: Green = High Blue = Medium No Color = Low

Park Foundation - Private Water Investments

Company/Investment	Stewardship/ Positive Impact	Concern Level	Business description relevant to water
As provided by manager reports	**Low/Medium/High**	**No/Low/ Medium/High**	**This information has been gathered from reports by the investment managers and quick website and google research.**
China Hydroelectric	Medium	Low	Operates hydroelectric power. Aims to become the largest aggregator of small hydro in China. Focusing on run-of-the-river facilities. Some dams. All less than 50 MW. No new construction it is making small hydro run well in a country where large hydro building is causing huge problems.
Alleghany Hydroelectric	Low	Low	2 plants totaling 30.4 MW hydro near Pittsburgh that sell to NYSEG. Both are run-of-the-river facilities.
Aqua Ventures & Seven Seas Water	Medium	Medium	Aqua Venture is a combination of Quench--marketer owner, of point of use water purification and dispensing systems for homes and offices. Seven Seas Water-turnkey water management. Seven Seas designs builds, manages power, desalination and wastewater plants for commercial enterprises and municipalities. This is mostly in the Caribbean and the middle east. They build and own the systems. This model has some questions because of desalinization and ownership. They do not have water rights as far as my limited research goes. It may be of concern because of the privatization issues.
Vayyar	Medium	No	Imaging sensors useful in a variety of applications including pipes. Specifically mentions reducing water leakage.
Renovate America	Medium	No	Provides homeowners with low-cost financing for renewable energy and water efficiency products. For water, they help owners buy new boilers, water efficient fixtures, graywater catchment systems, and improved sprinklers or irrigation. They also help finance artificial turf installation and drought efficient landscaping. Simple assessment seems that more money is going to energy efficiency and renewable energy.
Hayward Gordon		Low	Hayward Gordon makes industrial pumps, mixers, and filters wastewater, water treatment, and pipelines. It is not clear how much they have a focus on sustainability. They do not mention sustainability on their website.
AcousticEye	Low	No	Technology for evaluating tubes and pipes of all kinds more cheaply and efficiently. Could protect water resources by preventing leakage in some ways, save water in food and beverage, cooling in other sectors. Do not appear to have a focus on water but rather on industrial uses.
Agraquest (no more holdings)	Low	No	Biopesticides--potentially protect water as better alternative. Now owned by Bayer
Pure Technologies (PUR) (now a public company)	High	No	Partner with utilities to improve pipeline management through engineering, inspection, and saving money and water for those utilities (presumably public and private) that deal with water and wastewater. Also inspect oil and gas pipelines
Plant HealthCare PHC	Low	No	Provides biological plant fertilizers and pesticides that can reduce water pollution. One product which attracts Mycorrhizae fungi to the plants roots allowing plants to grow better in dry conditions and uptake water better, potentially reducing water use in agriculture.
Kingspan KSP	Low	No	Sustainable building products company. They offer solar and many other products that including runoff reduction, water management.

NewLeaf Symbiotics	Low	No	Produce bacteria that are supposed to increase plant hardiness and yield. They don't mention water specifically but this could help make plants drought hardier and grow with slightly less water or runoff.
Aemetis	Low	No	Renewable fuels and chemicals produced with microbes in place of petrochemical fuels which are often polluting and high-water intensity to produce. Products help to limit water usage in the production of these outputs.
Beijing Goldenway Biotech	Low	No	Use of microorganism technology to convert kitchen waste into microbial protein field and fertilizer additive. They also produce other natural fertilizers. These products might limit water usage. The products also provide an outlet for responsible disposal of waste. No English website.
Waste Resource Management	n/a	Low	Environmental services company formed to consolidate and vertically integrate non-hazardous liquid waste businesses. Limited information availability. This company is water relevant but it is not clear that they are changing the way these business are managed at all. The concern is that they may not be doing a good job with this waste.
Newterra	High	High	Leading provider of decentralized water and wastewater treatment solutions to the global mining oil, gas, and private development markets. The company says that it is creating smart and sustainable solutions for treating oil and gas mining wastewater for use by other water users including municipal and agricultural. I don't know enough about wastewater but this is of high concern based on current ESG/ water policies. If it is actually sustainable it seems potentially to be of high positive impact as well.
212 Resources	High	High	212 resources develops and operates fluid management systems for the treatment of water from drilling operations. The process the water from well drilling which allows it to be discharged supposedly in more safe ways. They are the largest wastewater treatment company in the Permian basin. Done well they could be a highly positive company but they only mention regulations and do not mention sustainability like Newterra.
Oilfield Water Logistics	Medium	Medium	Water services, supply, and transport reclamation for energy exploration and production industry. They buy water rights and gather water for use in fracking and gas drilling. They also do water treatment and own wells for disposing underground of water flow back. No mention of Marcellus services. As a good company they might have positive benefits. They do talk about the environment but I have concerns that they are serious. Buying water rights for fracking seems like a possible concern.
Energy Solutions	n/a	High	Consolidating the nuclear waste disposal industry.
Pilgrim Pipeline	n/a	High	Building a pipeline that ships Bakken oil-sands oil from Canada through Albany to NYC and other products back. Substantial fight ongoing by activists.
Meade Pipeline	n/a	High	Building a pipeline for Marcellus shale in PA. Some activists are fighting this pipeline.
Detechtion Technologies	n/a	Low	Optimization and fleet management for natural gas compressors used in field gathering and transimission pipelines.
Catapult Energy Services	n/a	Medium	Invests in startups in the oilfield services industry.
ENG Global	n/a	Low	Provides engineering, construction, field solutions, automation, to energy services sector
Signum	n/a	Low	Oilfield technology. Could protect water. Unknown.
Viking Oil Tools	n/a	Low	Fishing & thru tubing oilfield services.
Vac One Services	n/a	Low	Consolidating hydro-excavation market. Using water for excavation. Could be a good thing, some might be used for energy.
Managed Pressure Operations	n/a	Medium	Oilfield Services Company (possibly sold)
Environmental Drilling Solutions	n/a	Low	Provides mobile and skid mounted cuttings dryers, centrifuges and field crews to customers in the onshore oilfield sector. (sold-no ownership likely)

MS Energy Services	n/a	Medium	Drilling oil and gas wells and provides equipment for drilling.
Wellsite Rental Services	n/a	Low	Rents equipment for natural gas drilling. Operations in PA. Doesn't do drilling themselves.
Waste Resource Management	na/	Low	see above

Key: Pink = High Yellow = Medium Blue = Low No Color = None

Appendix D: Water Risk Assessment Tools

EIRIS

Data Availability: Proprietary
Coverage: 3,000 larger cap companies
Key Indicators: Water Risk Exposure, Water Risk Management Score, and Water Disclosure

EIRIS already performed a portfolio water audit report for Park Foundation two years ago. That audit looked at the entire portfolio but did not weight by holdings size or company size. EIRIS conducts these analyses using three sources of information, CDP Water, the company website, and company communications like corporate sustainability reporting. The universe that EIRIS covers is approximately 3,000 companies globally. They look for trends in water usage and awareness of operations to come up with scores in different areas for each company and assess whether companies have violations associated with them. The reports can also cover benchmarked performance analysis for a specific manager or the portfolio. The EIRIS methodology is exclusively based on public data, and uses no extrapolation to calculate other data.

MSCI

Data availability: Proprietary.
Coverage: Mixed coverage for MSCI ACWI.
Cost: Park has limited access through RBC.
Key Indicators: Water Risk Score, Water Management Score

Park had an analysis done of the portfolio using MSCI's data by RBC. That data covers areas very similar to EIRIS and arrived at very similar conclusions at a portfolio level. The data can also be used to analyze the portfolio or individual managers. Coverage remains limited but is the widest of any providers. The data scores companies in water stress and water management. Data availability varies with company size.

Sustainalytics

Data availability: Proprietary.
Cost: Some data available through RBC.
Coverage: On companies where water has been judged to be a substantial risk.
Key Indicators: Water Management Program, Water Intensity

Sustainalytics offers substantial company reports across the world including many languages. They source data from CDP, company publications, and conversations with companies. Their service is ESG focused and as such they do not offer a water footprinting capability or score every company for water. Instead, they have three top ESG issues for every company. When water is one of those issues – for the most relevant industries and sectors i.e. food and beverage or utilities—they can provide data on water and provide substantial background information. . This information is developed using both publicly available data and also occasionally incorporates responses directly to Sustainalytics in discussions with companies.

Trucost Portfolio Audits

Data Availability: Proprietary
Coverage: 5,500 companies mostly using an algorithm to fill in unavailable data.

Trucost "Portfolio Audits" are designed to examine a portfolio across asset classes and to help understand exposure to different risk factors and opportunities across the portfolio. The services cover a variety of environmental issues including water, and can regionally weight and provide engagement recommendations upon request. Trucost uses public data and uses a model to complete data gaps and can also bring in other data upon request. Unfortunately, the regional analysis is based on company of domicile (location of headquarters) instead of location of operations. They will provide overall intensity metrics, as well as peer/industry average for each one. They suggest we use the data to look at and assess managers' performance.

CDP – Water Program

Data type: Company
Data availability: Full access for signatories to data. Database format only available to Investor Members price: Free to signatories, investor membership with extra benefits:
Coverage: Public Company Respondents

72/329 US companies held in Park's portfolio currently have received requests for disclosure. 40 of those 72 companies participate by responding to the survey. Many food producers are not on the list of requests, as well as many utilities that may use large amounts of water.

The CDP Water Program provides company-level data on respondents to the CDP Water questionnaire. The data is only provided in survey form. It could be useful for specific company analysis and shareholder engagement but in this form does not appear useful to evaluate an entire portfolio. Access to tools making the data easier to use are available at a cost though it is not clear they would be useful without substantial additional evaluation. There are tools that will be available for more detailed analysis starting in October that come with some scoring uses. The scoring will be done by an outside partner and available to investor signatories on a company-by-company basis. Until there is more coverage this tool is probably only relevant for engagement with specific companies.

Equarius Risk Analytics
Data availability: Limited access
Data coverage: 80 companies and bespoke products

"Our proprietary analytics integrates curated corporate financials and ESG from original data providers (Bloomberg, FactSet, Thomson-Reuters, YCharts, MSCI) with science-based climate and watershed data (WRI-Aqueduct, WWF Water Risk Filter) and voluntary disclosed corporate sustainability risk information (CDP data, GRI reports, 10K)". Quantitative proprietary models are used to develop equity risk metrics and to design portfolio investment strategies addressing asset valuation and financial volatility risks resulting from operational risk exposures."

Equarius Risk Analytics offers Water Beta & WaterVAR tools that attempt to quantify financial risk from specific company related risks and their potential effect on stock price, something that no other company does. This product is really the only one on the market that attempts to deal with actual *financial risk,* and how it will affect stock prices. Other companies purely examine the risk levels without any analysis of whether or not that risk is material to a company's stock price. This information, when further available, or through bespoke research, could be used to do a broader financial analysis of the portfolio to assess financial water risks in equities.

Other Tools Related to Water Risk

This is not comprehensive, and these are only a small number of the very many tools developed primarily for companies and investors to use assessing operational risk for an individual company.

Ceres Aqua Gauge
Type: Tool
Data Availability: No Data other than through special reports

"The Aqua Gauge is an easy and efficient way for companies to assess, improve and communicate their corporate-wide water risk management approach and for investors to understand how well companies are managing water-related risks and opportunities." Aqua Gauge could be a useful tool but would require inputting of information directly. Information is not contained within the tool.

World Resources Institute – Aquarius

Data: Regional mapping of water stress data

Allows for mapping to examine water risk on a regional, country, and local level. System allows mapping of a variety of different kinds of risks. Is helpful for companies who are looking at supply chains and water risk. Park Foundation could use this to examine risks in particularly geographies if there was an area of investment concentration or mission alignment.