

Irrigation Companies: Perspectives in the Great Salt Lake Basin

Descriptive report of interview and survey findings



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Executive Summary

In an effort to better understand the water management practices of Utah irrigation companies within the Great Salt Lake Basin, interviews and surveys were conducted with company representatives. These discussions aimed to capture insights across a variety of key topics related to water resource management. The topics covered include:

- Interactions with other entities involved in water management
- Perceptions of risks related to water management
- Challenges faced in water management
- Company priorities and decision-making processes
- The perception of company voice and influence in water governance
- Time horizons considered in water resource planning
- Perceptions and attitudes toward the state of the Great Salt Lake

Both the interview and survey methods are described briefly below, followed by a summary of the findings organized by question theme.

The primary purpose of this report is to share high-level findings and key takeaways with those having an interest in water management within the Great Salt Lake Basin.

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This report is based upon Bailey Holdaway's Masters research thesis project. The entire thesis can be found [here](https://digitalcommons.usu.edu/etd2023/509/) (https://digitalcommons.usu.edu/etd2023/509/).

Interviews and surveys have been approved by Utah State University's Institutional Review Board under protocols #13983 and #14530.

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Methods

Irrigation companies within the Great Salt Lake Basin (Figure 1) were invited to participate in interviews and surveys between March 2024 and January 2025. A total of 18 interviews were conducted with representatives from Utah irrigation companies across the Great Salt Lake Basin. Figure 2 showcases the geographic coverage of completed interviews. From interview findings, a survey was designed to assess irrigation companies in the Great Salt Lake Basin more broadly. There were 45 completed responses from irrigation companies across the basin (Figure 3).

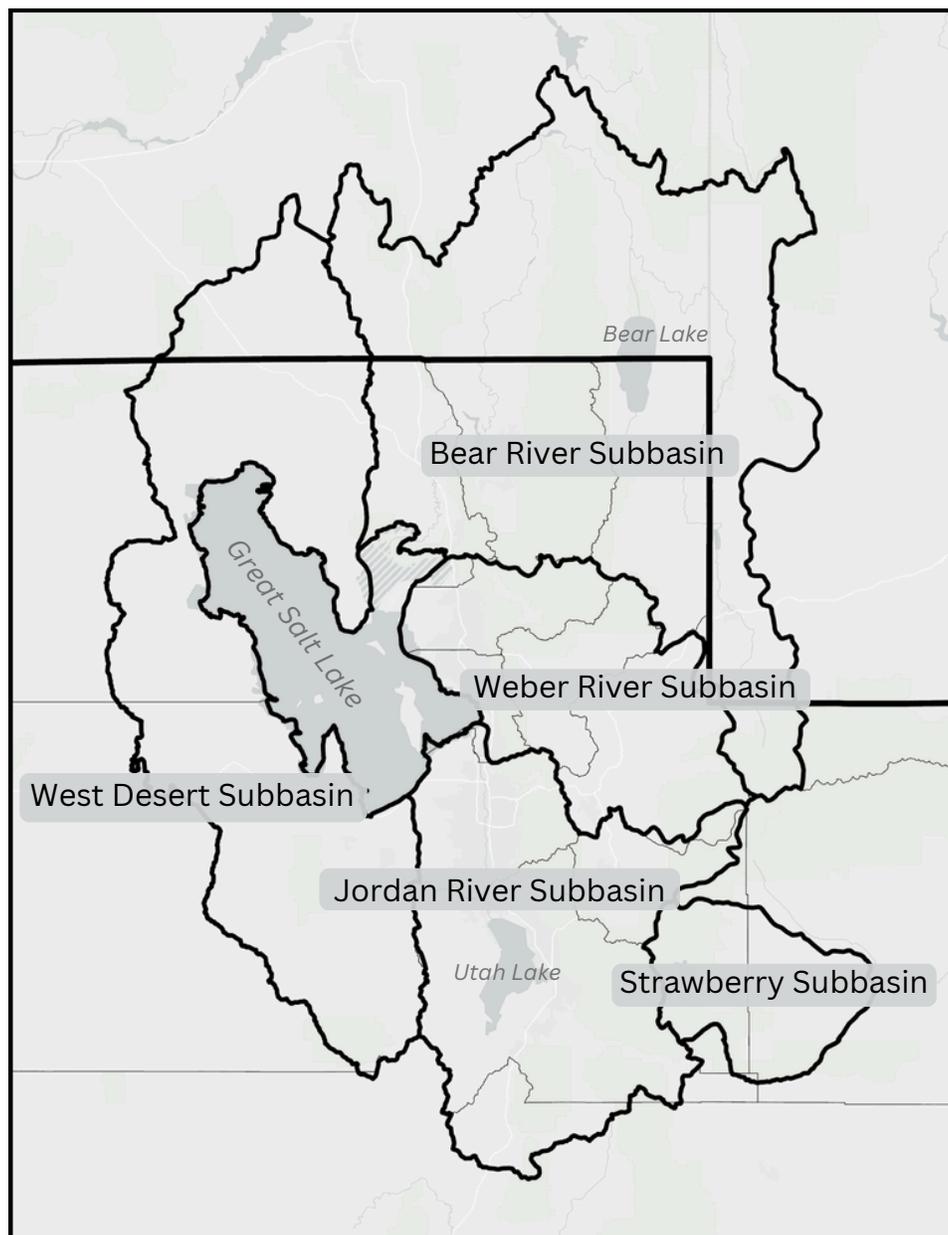


Figure 1. Great Salt Lake Basin and Subbasins

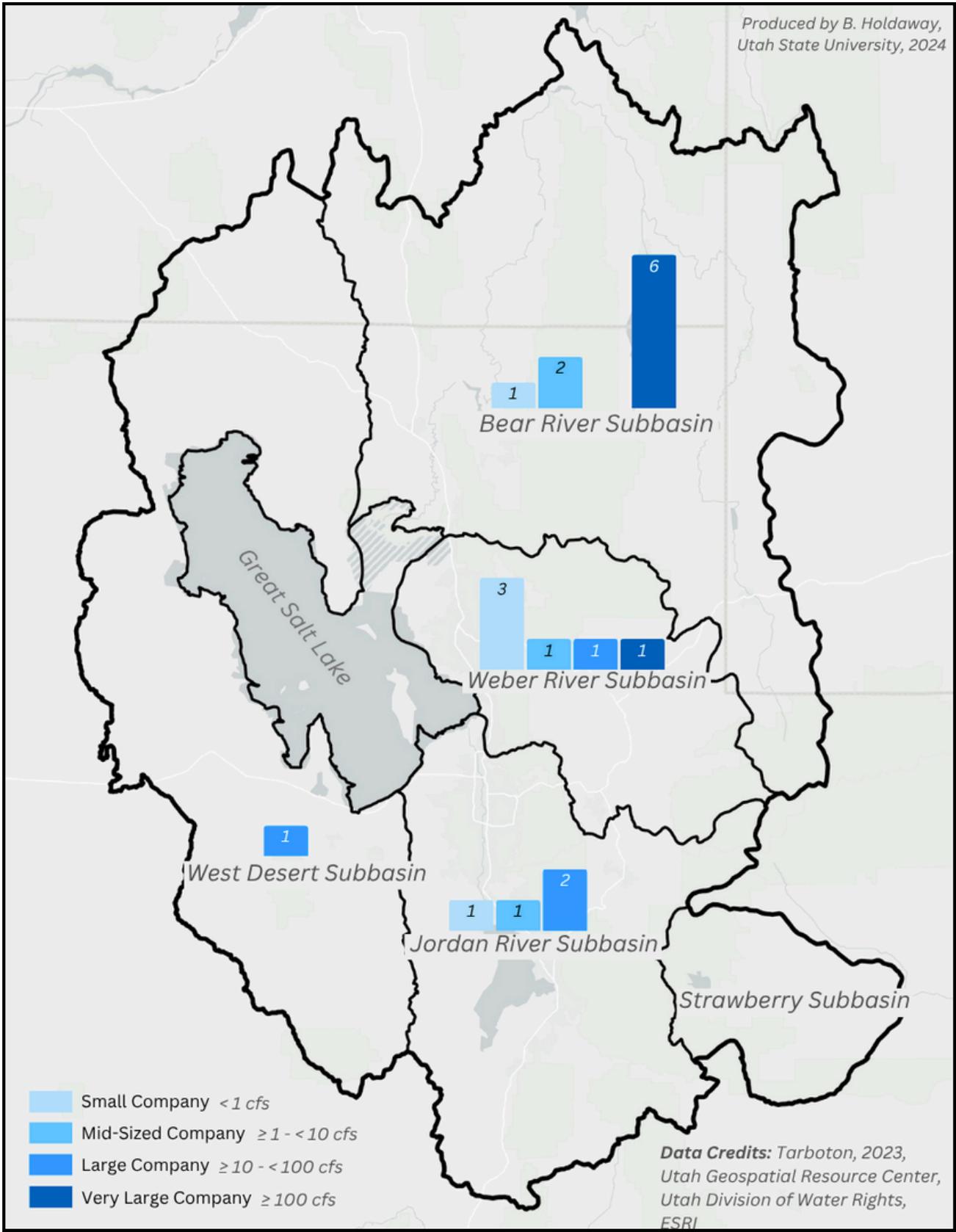


Figure 2. Interviewed irrigation companies by subbasin

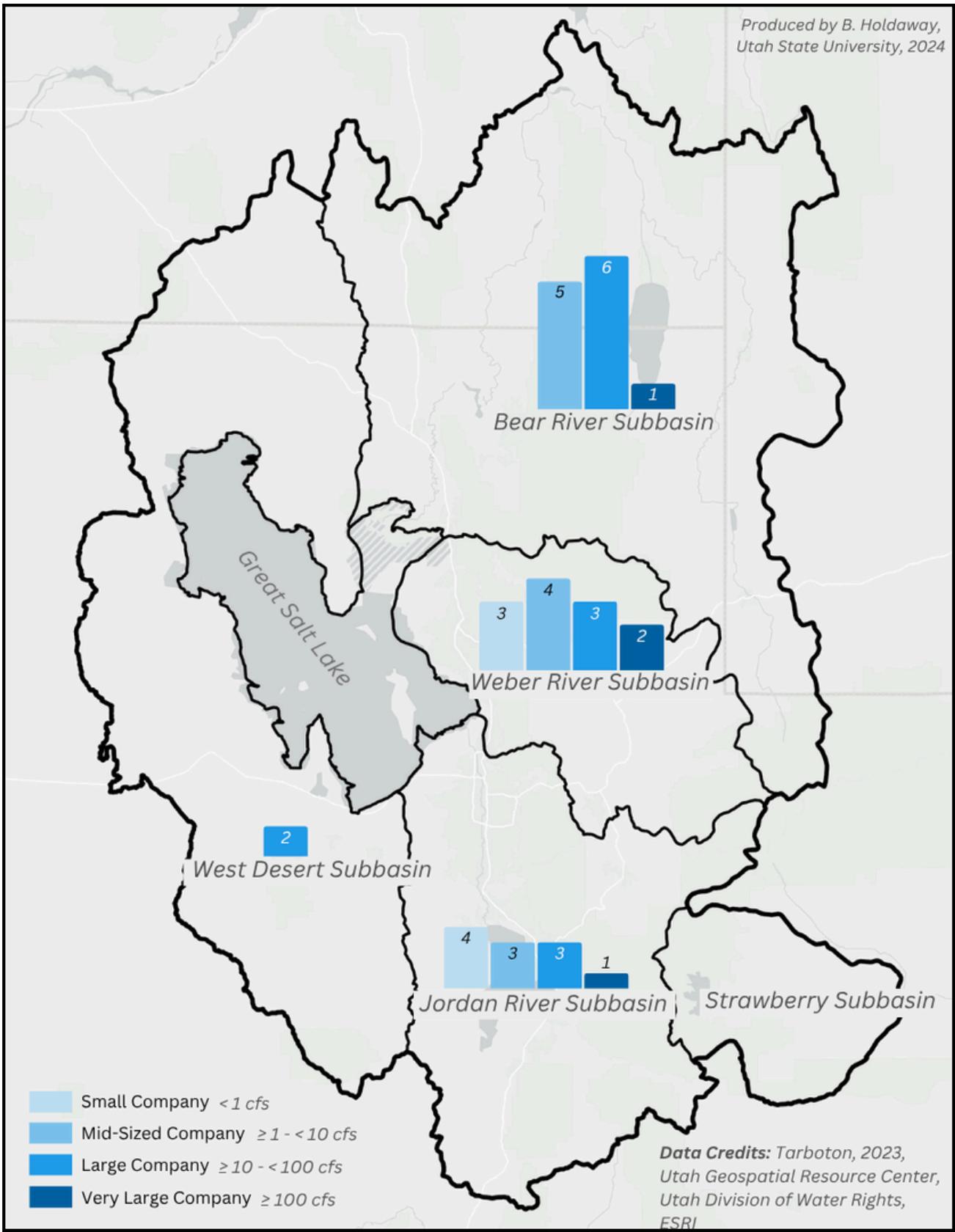


Figure 3. Irrigation company survey participation by subbasin

Findings

This project examines the role of irrigation companies in water management, specifically within the Utah portion of the Great Salt Lake Basin, with a particular focus on how their risk perceptions and decisions impact water management practices.

Findings are organized by topic area. These include interactions, risk perceptions, challenges, priorities, water governance perspectives, and Great Salt Lake perceptions. Each section highlights the top interview themes and the relevant survey results. Quotes from interviews are shared with identifying information redacted to maintain promised confidentiality. Each quote includes the associated company's relative size and subbasin for added context.

Section 1. Interactions

In interviews, company representatives were asked to describe their interactions with other entities. Specifically, representatives were asked to describe what these interactions looked like. The main themes emerging from interviews were planning with others, difficult relationships, and necessitated interactions, as described with quotes below.

Planning

Some representatives identified that many of their company's interactions primarily focus on logistics and planning. Some representatives particularly mentioned the planning that they do with other entities on water delivery.

"A farmer or the city will call the water master, and say, "Hey, we're gonna water the park. We're gonna water the cemetery. Can we do that on Tuesday?" We'll say, "Well, maybe let's wait till Wednesday, because Tuesday's a city day and we might not have enough water," so we have to coordinate that" (*Mid-sized, Bear River subbasin*).

"And so, you know, we've got agreements with companies, that they pay depending on, you know, their proportionate amounts of, you know, what it costs to do projects" (*Small, Jordan River subbasin*).

"We try and work with planning and zoning through the city so that they don't issue building permits that conflict with access to irrigation canals and stuff" (*Small, Weber River subbasin*).

Difficult Relationships

Many company representatives discussed conflicts with with other entities. These relationships also arose as a challenge for companies and sometimes limit their ability to get work done (see page 19 for more discussion on challenges).

“I mean, we're in a fight with (redacted entity) right over here with their farm of them putting a fence alongside one of our a bunch of our irrigation ditches. I've told them three or four times that you can't have it there. You've gotta put the fence outside of our right of way. And they went ahead and built it anyway. Last summer, when the last time they came to use the irrigation water, I told them they couldn't have it. They says, "Why?" And I says, "Because you built the fence where I told you not to build it." Well, it got into being quite a fight with 'em. And as of right now, they haven't moved the fence” (*Very large, Bear River subbasin*).

Necessitated Interactions

For some irrigation companies, interactions are necessitated by shared personnel or proximity to one another.

“Well, we have to be kind of in relationship with (Irrigation company A) and (Irrigation company B) because we share the river. The three companies have primary right to it. And we're each allotted the same amount of water. And so we have to kinda get along because we're dividing it up equally when there's not that much water” (*Very Large, Bear River subbasin*).

“So the water master we have for the company, he's also the water master for (Irrigation Company). And so, and that's on purpose because people have shares in both. And then you can coordinate these terms and the reservoir shares flow down the same channel that the creek shares flow down. And so the two need to work together quite closely to keep everything fair and coordinated” (*Mid-sized, Bear River subbasin*).

“We also are divided into delivery areas called water distribution systems. We do become friends or the best of enemies with the distribution system because people just down the block, so to speak on the river” (*Very Large, Bear River subbasin*).

Survey participants were asked to rate how often their irrigation company interacts with various entities. Local agriculturalists and city/town residents as being the most common interactions (Figure 4). Participants were then asked to specify three specific entities that they feel are the most important. Figure 5 shows the various clusters of entities mentioned as the important for the company.

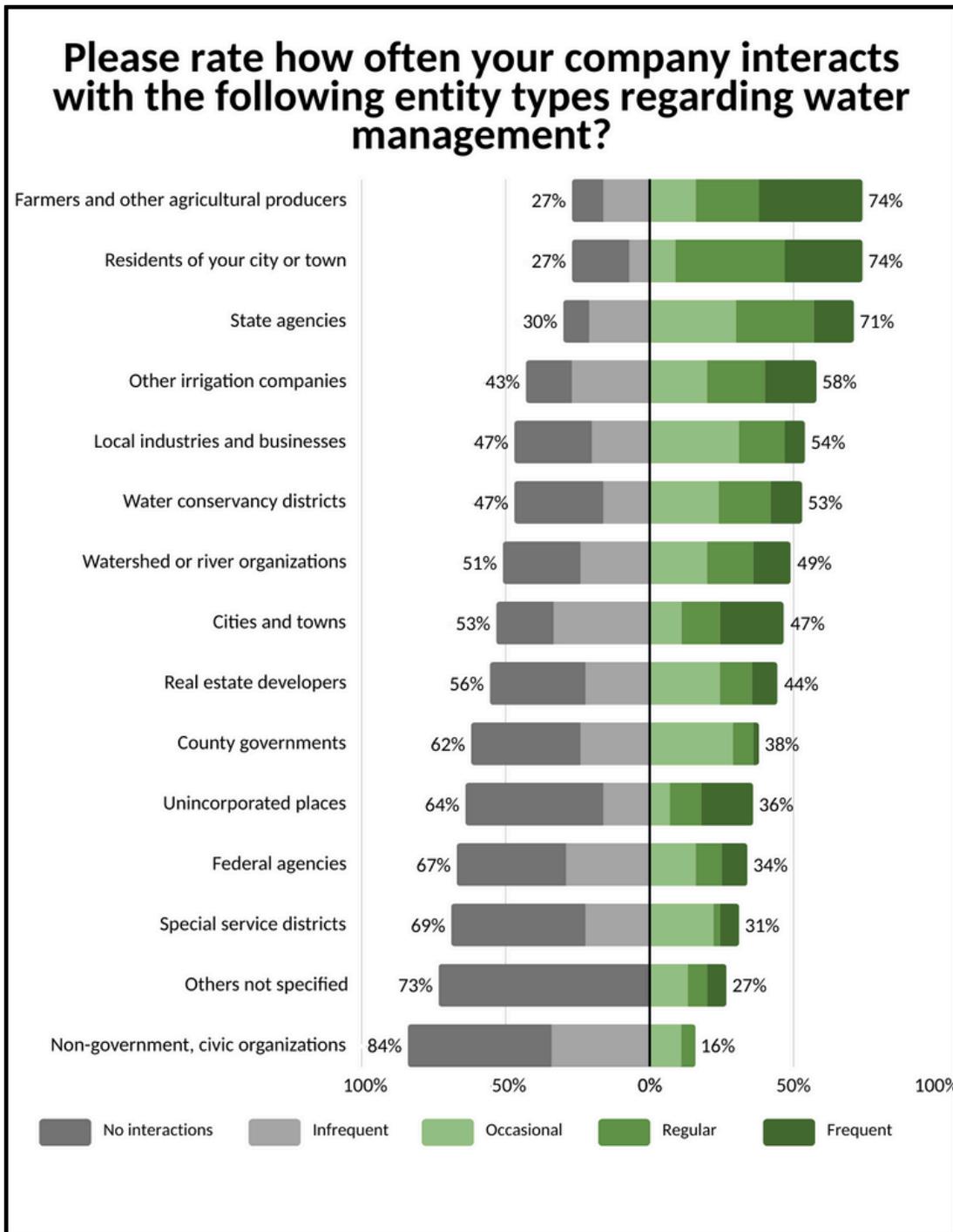


Figure 4. Company interactions with other entities.

Please list 3 specific entities that your company interacts with that are the most important as they pertain to your company's water management.



Figure 5. Entities mentioned as most important interactions. For entities listed that might identify participants (i.e., specific irrigation companies or cities), these entity category types are generalized.

Section 2. Risks

Irrigation company participants were asked in interviews what risks they saw out ahead in the future, specifically in regards to water management. Top risks identified from interviews were growth and development, safety, and water rights adjudication.

Growth

Company representatives discussed concerns that with continued growth and development in the region, water resource availability will be limited. Additionally growth was associated with encroaching on open, agricultural spaces, which worries many representatives.

“Now, you know, there's an exponential amount of demand and you know, such a limited amount (of water)” *(Small, Jordan River subbasin).*

“With the growth... the risk I see coming is we're not gonna have the water to supply.” *(Very large, Weber River subbasin).*

“Another thing for us is growth means risk as well because ... (it used to be) if the canal overtop(ped) they just got free irrigation. Now canal overtops we've watered up 30 basements and that makes you real popular” *[Said with a sarcastic tone] (Very large, Bear River subbasin).*



Safety

Often in a related theme to growth, company representatives cited concerns around safety. Specifically with growth in traditionally agricultural places, it was mentioned that there is more opportunity for people to interact with canals and other irrigation infrastructure, leading to safety concerns.

“Because of the development around us, the kids playing in our canals and in everything. You know, the last thing I want to see is a kid drowned in one of those canals” (*Very large, Bear River subbasin*).

Additionally, multiple interviewees cited a 2009 event in Logan, Utah, where a canal failed, killing three individuals, as a wake-up call for how companies operated their canals. Company representatives recognized the tragedy of that incident and did not want it repeated ever again.

Interviewees were also concerned about the legal and litigious consequences of what would happen if they were a company that operated a canal that failed or if someone were to drown in one of their canals.

Water Rights Adjudication

Many company representatives discussed concerns about losing water rights. Specifically, interviewees mentioned that if they conserve water, they may end up losing that water right due to Western US water law’s ‘use it or lose it’ principles.

“If we don’t know where our water’s going, we could be subject to re-adjudication” (*Very large, Bear River subbasin*).

“And if you’re done with the water, you know, the state wants to take it, or a city would like to take it. Everybody would like to have that water.” (*Small, Jordan River subbasin*).

“Some of the things that really we worry about is the Great Salt Lake and as we become more creative with water and show that efficiency gains and things like that, that people will assume that we don't need the water and then they'll try to take it. That would be an extreme breach of trust. I certainly hope it doesn't happen but it's something we really worry about” (*Small, Weber River subbasin*).

“Well, the legislature talks about all these things that they're going to do to if I conserve water. That we could lease our water. Our big concern right now is you have to use your water right or lose it. And we have no way to use it because we put in a pipe to conserve water. So, we feel like we're being penalized for doing what's right” (*Small, Weber River subbasin*).

“It's kind of a Catch-22 as we want to use enough that we can maintain it (water rights), but we don't want to be looked at as, ‘Well, you're wasting water!’” (*Small, Jordan River subbasin*).

The survey asked participants to assess the level of risk they feel is posed by various risk elements (using a scale of ‘Not a Risk’ to ‘Major Risk’). State policies and drought were identified as the highest risk factors, although many participants from irrigation companies rated a broader range of issues as additional and significant risks to their water management (Figure 6).



Looking toward the future of your company's water management, how much risk do you feel is posed by the following factors?

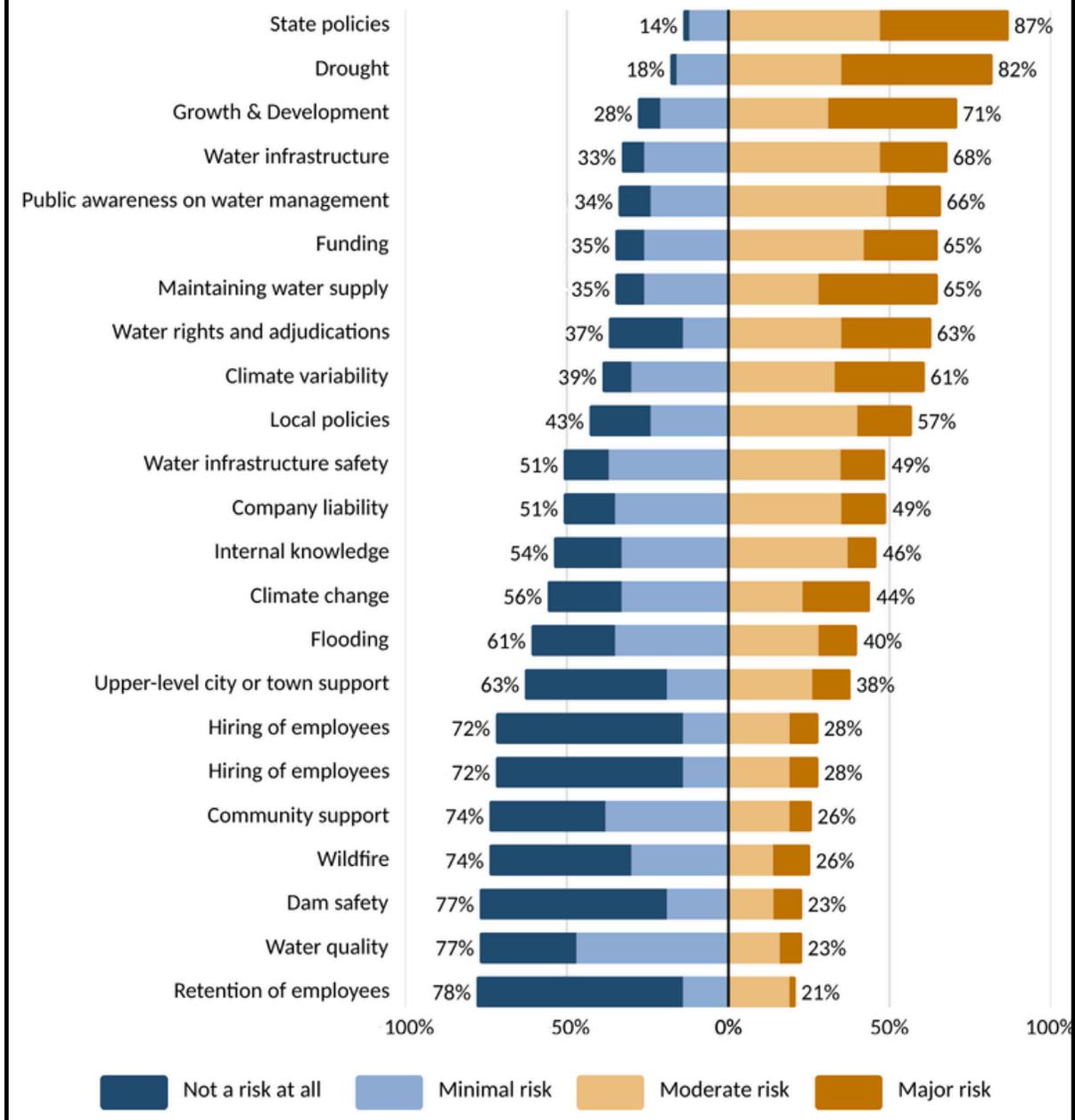


Figure 6. Company risk perceptions

Section 3. Priorities & Decisions

In interviews, company representatives were asked to identify company priorities and what they make decisions about. System maintenance and water supply were key areas of company focus.

System Maintenance

A majority of responses from irrigation company representatives indicated that they focus largely on maintaining or improving their current system in order to deliver water to shareholders.

“We were truly a pioneer-esque system... (A)nd the problem is that I'm replacing and making macro changes to a system that's 150 years old” (*Very large, Bear River subbasin*).

“Yeah, we just-, we can't get the stream to the end of the ditch... Like I say, it's spring-fed, so some years, there's more water than others. And in those lean years, we didn't even have enough water to get it to the end of the ditch. Yeah, so those folks down there didn't get water. Because we're losing so much of it as it heads down the ditch. (If) we get it in the pipe, that should assure us to get the water to the end of the ditch” (*Mid-sized, Bear River subbasin*)

“(W)e're trying to improve our infrastructure. We have a lot of outdated infrastructure, and we have quite-- we've updated quite a bit. So, the (canal) was previously taking out water below the power plant at (redacted reservoir), and now it takes it out at the same diversion point as (city A), (city B), (city C). And we were able to do that because we put it all in a pipe and it's all now pressurized irrigation rather than open channel” (*Very large, Bear River subbasin*).



Water Supply & Conservation

Some representatives discussed that in addition to maintenance and system improvements, their company also worked to improve water resources in general through water conservation efforts.

“We've updated or upgraded quite a bit of it over since I started doing it in 2016. But, at one point I did a study. We have over 400 miles of pipe in the ground. And I don't- I just don't know how many feet we're doing a year of it, but it's quite a bit. That's some infrastructures. We're just getting rid of our leaks, getting rid of our seepage, starting to save more water. And we've noticed a benefit. Our own crews, they're not out as much at night fixing leaks or we're not having to shut off big areas and we're saving more water upstream in the reservoir.” *(Very large, Weber River subbasin).*

“Yeah, well, being a plumber, I've always been aware of water conservation. I think that's always been one of my top goals with the irrigation company. And my position is to, you know, how can we improve the system, make sure people aren't wasting water? Make sure that the water that we pump, we're doing it efficiently” *(Mid-sized, Jordan River subbasin).*

“And our goal is the ag, making sure that our shareholders have water for their yards and their gardens, and then leaving water in the river where we can, to benefit the fish, (and) the Great Salt Lake.” *(Mid-size, Jordan River subbasin)*



Survey participants were asked to rate the level of priority for various factors that were originally identified in interviews. Results show that most companies have a wide range of priority areas focusing on many aspects of water management (Figure 7).

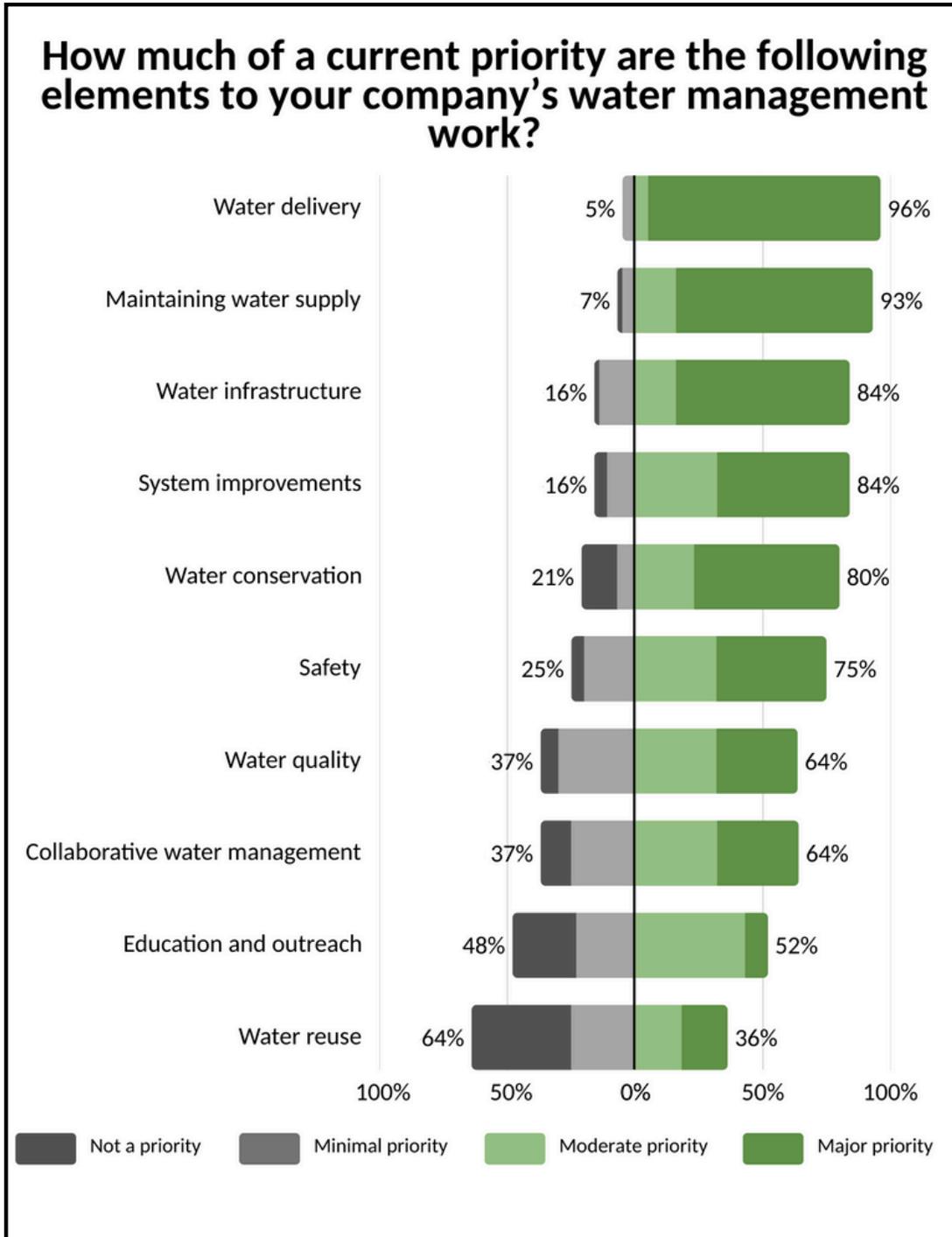


Figure 7. Company priority areas

Section 4. Time Horizons of Decisions

Company representatives were asked about the timescales of their decision-making processes in both interviews and surveys. Interviewees emphasized decisions made in the short (<1 year) and long-term (>5 years), while survey responses primarily indicated that irrigation companies operate within a mid-term time frame (1–5 years; Figure 8).

An additional survey question asked if their company’s approach to water management has changed in the last five years. Around two-thirds of participants said that their company’s approach has changed at least to some degree in the last five years (Figure 9).

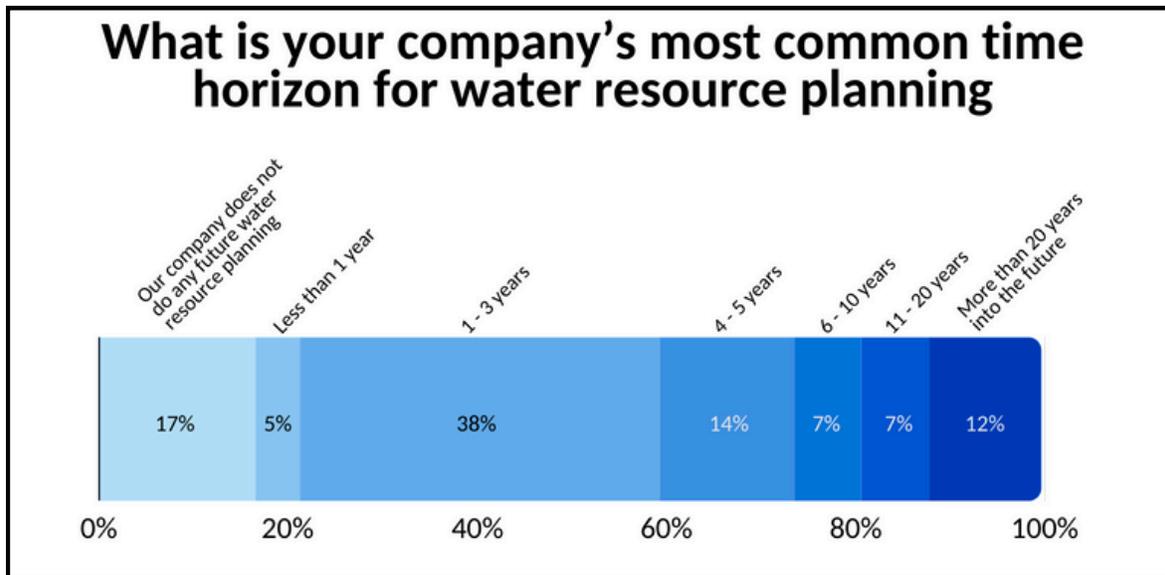


Figure 8. Company planning time horizons

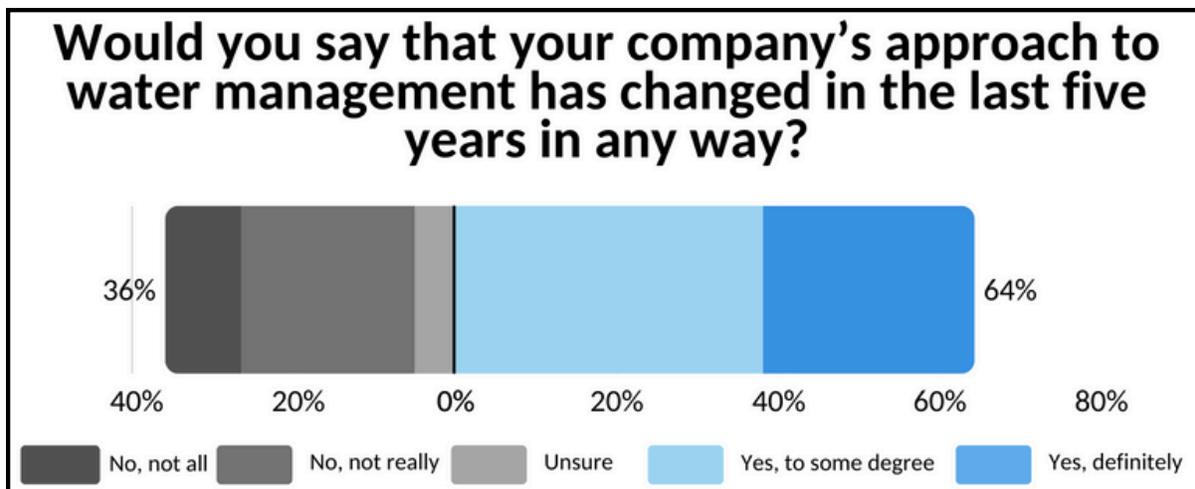


Figure 9. Company changes to water management

Section 5. Challenges

Company representatives were asked to discuss what challenges their company faces when it comes to water management. Funding, bureaucracy, and various internal challenges arose as key challenge areas that often slowed, hindered, or prevented company efforts around water management.

Funding

Company representatives from almost all irrigation companies discussed how funding slowed or even limited their ability to get work done.

“I would say our number one roadblock is budget. Budget and funding” (*Large, Jordan River subbasin*).

Some company representatives discussed that due to limited financial resources, their company seeks out grants and loans. However, other companies mentioned that due to limited staffing and time, the ability to seek out these external funding opportunities is also constrained.

Bureaucracy

Funding was often cited in association with challenges around bureaucracy, but not always. Challenges were found at a range of bureaucratic levels. At higher levels, irrigation company representatives mentioned tension or conflict with state and federal agencies.

“It's mostly bureaucracy. Case in point, we are looking at doing a \$25 million project. By the end of the decade, it's going to enclose our canal in the canyon area. A government program called (redacted program name). And because it's such a large program they do require an EIS (Environmental Impact Statement) clearance for the project. So, you're spending more than \$25 million worth of federal money. And the unfortunate thing about it, we're knee-deep in federal bureaucracy now, so we put it in in 2020. And we are now just hopefully getting ready to publish the Environmental Impact Statement. And I mean, it's really frustrating, particularly this last year. Like we've gotten all the approvals that were needed, and I just don't know, we haven't made any forward progress in the last 12 months. I don't really like to talk poorly about people. But it's a barrier to entry that the large federal programs are kind of like a like a freight train. Once they're up to speed it's got a lot of power behind it, but it takes a long time to speed it up and slow it down” (*Very large, Bear River subbasin*).

“And then we ran into a great big wall called the [redacted agency]. And this was a while back, during COVID, and we're doing Zoom meetings, and you got [redacted agency] employees thinking they're being real smart, asking all these stupid questions of other alternatives so they don't have to get off their ass and change their plan. They don't wanna do anything. Five years later, here we are. Same deal. I mean, they're hiding behind their apron strings of the government. There's no accountability for any of those guys. They're not even responsible enough to pick up the damn phone. So, I usually pay my annual rent. It was due recently, and I purposely did not pay it. So, about 30 days later, I get a real ignorant letter from [redacted agency]: ‘You are in non-compliance of your permit. We will start legal proceedings against you.’ Now, I went and paid it. But here, they can put me on a timeline and say, ‘You gotta pay it’” (*Large, Weber River subbasin*).

At a lower levels, some company representatives discussed how challenges arose from interactions with local cities and towns.

“There's two different philosophies. City people don't understand what a farm is and what needs to be done and how it needs to be done” (*Very large, Bear River subbasin*).



Internal Challenges

Some company representatives discussed that factors such as their failing infrastructure were difficult obstacles to managing water. Other internal factors such as conflict with or resistance from shareholders were something that slowed or hindered company efforts.

“We had some obnoxious shareholders. For money reasons and just being the way they were. And we overcame that. It was just obvious what we needed to do. And so, after a while and stuff, they saw the light and went ahead and we did it.”
(Small, Bear River subbasin).

“And so, then you get into a fight with the shareholders of why are you raising the assessment all the time. See, we've had to — because of the way things are — we've had to retain us an attorney. We've had to retain us an engineering firm and everything else, you know, because then you start telling an individual that you can't do this and you can't do that, and then they'll sue you! Well, your only choice is to legally protect yourself. And so, then the cost of operating the system is even more. I mean, I always say people and farms don't get along!” *(Very large, Bear River subbasin).*

Water Supply

Some representatives brought up challenges posed by a lack of water resources. More specifically, these representatives discussed how with declining water supplies, they are not able to deliver water to their shareholders.



Survey participants were asked to rate the extent to which various factors presented challenges, using a scale from 'Not a Challenge' to 'Major Challenge' (Figure 10). These factors were derived from interviews with irrigation companies. The survey identified structural barriers, water supply, and funding as the most significant challenges.

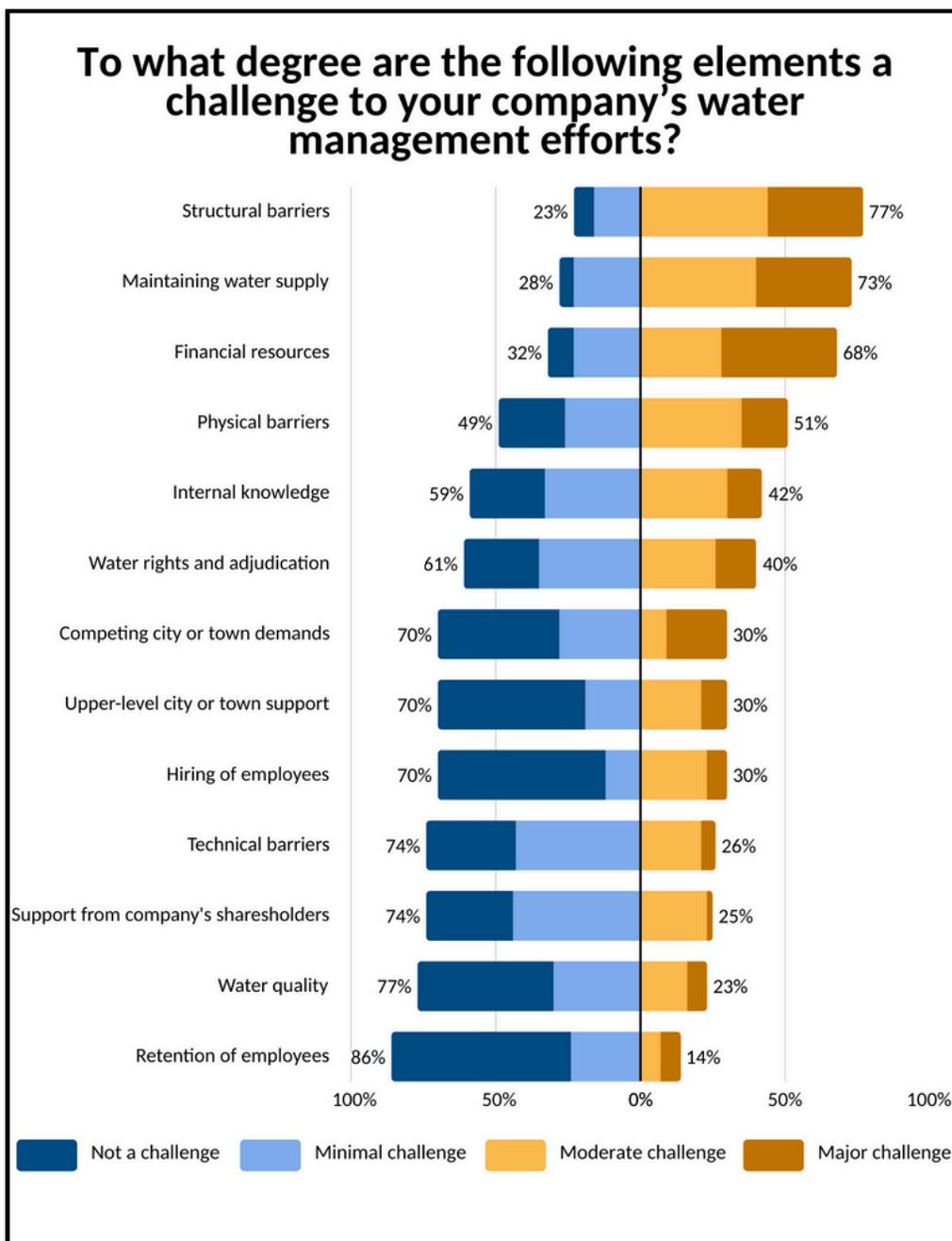


Figure 10. Company challenges

Section 6. Governance

Company representatives were asked whether or not they felt their company had a seat at the table when it came to water governance. From interviews, three main themes arose related to not having a seat at the table, being represented through others, and yes, having a seat at the table, but at a cost.

No Seat at the Table

Some company representatives discussed how their company did not have a seat at the table when it comes to basin- and state-wide water governance. Some mentioned that they were not aware of where the table was but would like to have a seat.

“No. We're a small fish in a big pond. You know, just a small fish” (*Small, Weber River subbasin*).

“They're trying to make it so hard for us small water companies to survive. It's getting pretty tough” (*Small, Weber River subbasin*).

“I would say it's little non-existent right now. I don't know where the table is. If I knew where the table was, I'd raise my hand to have a seat there” (*Mid-size, Jordan River subbasin*).

Represented Through Others

Some companies discussed that while their company does not have their own seat at the table of water governance, they are able to be represented by others.

Specifically, companies cited the Utah Rural Water Users Association as a key entity that not only represented them, but also provided advice and funding opportunities.

“You know the small companies have got to group together through an organization like the Rural Water Users Association so that we can be heard in the legislature. Cause, you know, I've written my legislator, my senate, and my representative about a couple of items. You never hear back from them. Never. Just crickets” (*Small, Weber River subbasin*).

Have a Seat, But at a Cost

Other companies mentioned that while they have a seat at the table, there were costs that were required to be able to participate.

“We’ve invested an extreme amount of time to be at the table instead of on the menu” (*Very large, Bear River subbasin*).

“Only when we actively say there's a problem and stand up for ourselves. They don't come looking for us” (*Mid-size, Weber River subbasin*).

A couple of companies that did have a seat at the table of water governance discussed that because of the time and effort that they have put in to being at the table, they now have the ability to represent other companies.

“Big companies like ours definitely pull a lot of weight. I get phone calls all the time from people all the time and they'll thank us first of all for being there. And then they'll kind of express their concerns. And I feel really fortunate that I get to represent people” (*Very large, Bear River subbasin*).

Surveys asked a related question. Company representatives were asked to rate their level of agreement or disagreement with statements on water governance as shown in Figure 11. Survey results highlight that only a few companies feel they have a seat, or feel they are represented by others who are at the table.



Do you agree or disagree with following statements on water governance?

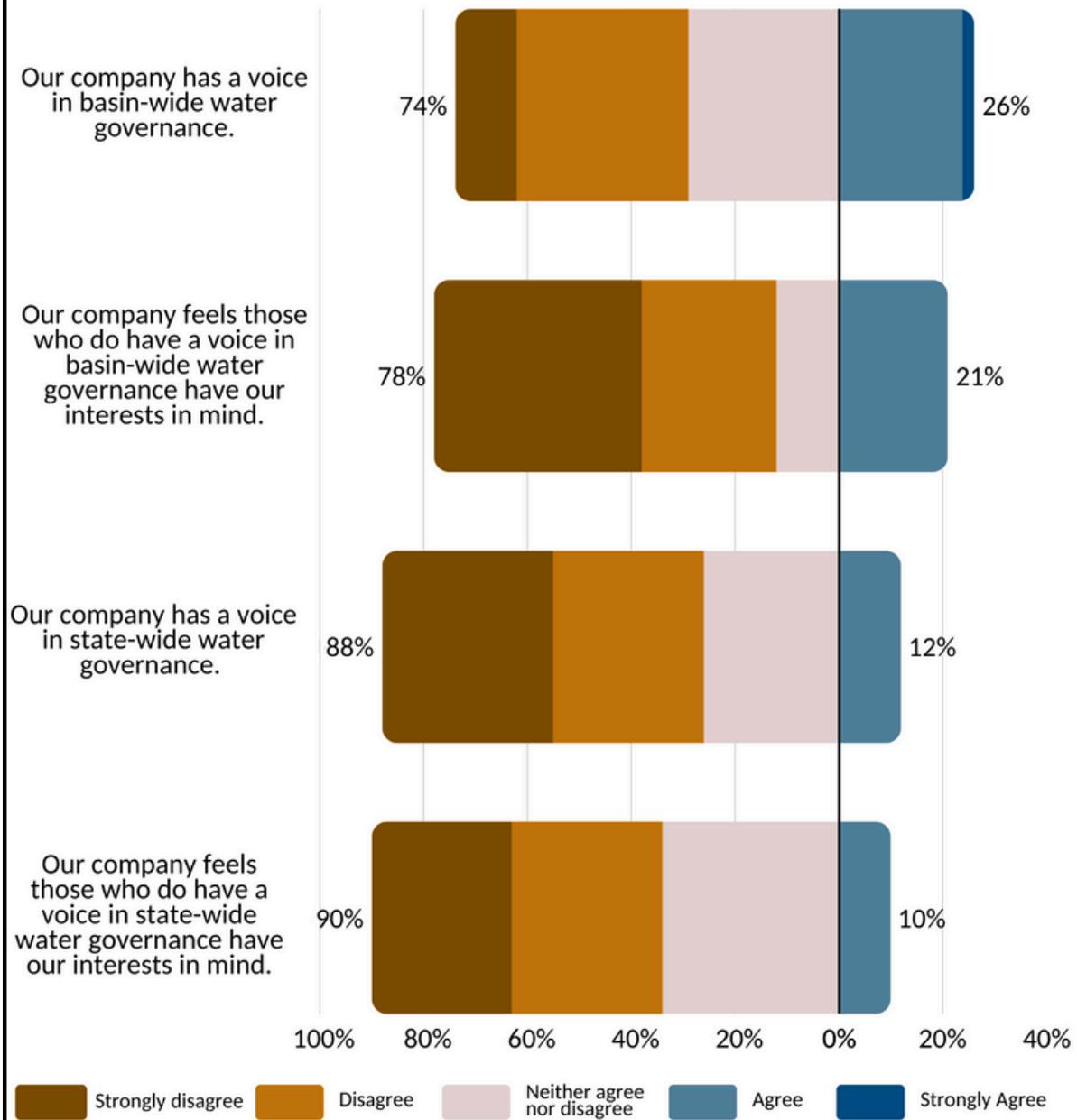


Figure 11. Company governance perspectives

Section 7. Great Salt Lake Perspectives

When asked about their company’s perspective on the Great Salt Lake, interviewees brought up a range of topics including apathy, not being at fault for Great Salt Lake problems, and discussing opportunities that are arising around the Great Salt Lake but will likely come with growing pains.

Apathetic

A minority perspective, but an important one to highlight, was that of general apathy towards the Great Salt Lake and the issues it faces.

“We have nothing to do with the Great Salt Lake” (*Mid-size, West Desert subbasin*).

“The only way that Salt Lake is gonna get filled is if Mother Nature wants to do it.” (*Very Large, Bear River subbasin*)

Problems are Not Their Fault

Many company interviewees expressed that while the Great Salt Lake and the associated water resources are a concern, the blame for the issues should not be aimed at irrigation companies or agriculture generally.

“And here's something that is a hard pill to swallow. But it needs to be said. So, our water rights have not changed. They have not expanded since they were established. And some of the old rights on the river were established prior to 1870. Our rights were established in 1870. The (company) was established in about 1920. So, our water rights have not expanded in all that time. And, in fact, they have gone down 'cause some of those rights have been sold for other uses. And so, in my view, we are not the problem” (*Mid-sized, Bear River subbasin*).



“I think there is a lot of misinformation as far as agriculture. I believe that the agriculture industry and just the alfalfa industry is a \$9 billion industry in Utah*. And that's significant. And so, I don't know why we consider exporting alfalfa as a bad thing when we can export whatever else we want without any really repercussions or slandering. And so, I think, and to be honest with you, most of the ag producers that I've worked with are quite a bit more conscientious stewards of water. And 'cause they don't want to over water 'cause then that hurts their production too. And so, they're more conscious of watering the correct amount... But alfalfa and hay production is very necessary in the food chain and the supply” (*Very Large, Bear River subbasin*).

*In actuality, the alfalfa industry in Utah represents closer to \$390 million as of 2020 (Hilton & Gentillon, 2021).

“I mean, we've had the right to that water for 100 and some odd years, a long time before them, and to blame us for it is ludicrous. I mean, it just doesn't make any sense. What about all the people in the industries and all the other things that have increased their usage of the water? I mean, they're not getting the water out of the sky. I mean, they're either pumping it out of the ground or out of a river or a spring or somewhere else that- that was originally going to the Great Salt Lake. We're just an easy scapegoat because there's so few of us. We don't have the lobbyists that are down there in the state capital wanting to build this or do real estate or development of that sort. So, sure, 'Let's blame the guy that doesn't say anything, that doesn't have the money down here contributing to my campaign’” (*Very Large, Bear River subbasin*).

Growing Pains

A few irrigation company representatives mentioned that with more media and public attention on the Great Salt Lake in recent years, there are more opportunities for better, holistic water management. However, these same companies identified that there might be challenges in navigating the road ahead.

“Well, with the Great Salt Lake, we make a lot more decisions than we'd like to. What's the saying, 'A crisis shouldn't be wasted' I think? And I think canal companies are far more active in recent years, particularly those in the Great Salt Lake Basin than they've ever been before. They've been energized because they know that if they don't improve their operational practices, they'll move from being at the table to being on the menu” (*Very Large, Bear River subbasin*).

“It's like anything in society these days it's whose opinion do you trust or believe in? Because you'll see the farmers and they say, ‘No, we're not using that much water,’ and ‘It's the sprinkler people’ or ‘It's the golf course’. Everybody's pointing the finger at somebody else. What I've noticed this year, for the first time, is everybody seems to be more willing to work together and say, ‘Okay, we'll give a little bit.’ You know, The Church (The Church of Jesus Christ of Latter-Day Saints) said they'll give a little bit of water. You know, everybody seems to be chipping in a little bit. But trying to get everybody on the same page without saying, ‘Well, you're the biggest user, you should be responsible for filling the lake up again’ is gonna be hard.”

Survey participants were asked to rate the degree to which their company considered the Great Salt Lake in relation to their company’s water management practices, using on a scale from ‘Never’ to ‘A Great Deal’ (Figure 12). Additionally, participants were asked to indicate whether three Great Salt Lake scenarios would have an effect on the company’s water management strategies (Figure 13). Overall, just over one-third of survey participants said they consider the Great Salt Lake at least somewhat. Less than a third indicated any lake scenario as affecting strategies.

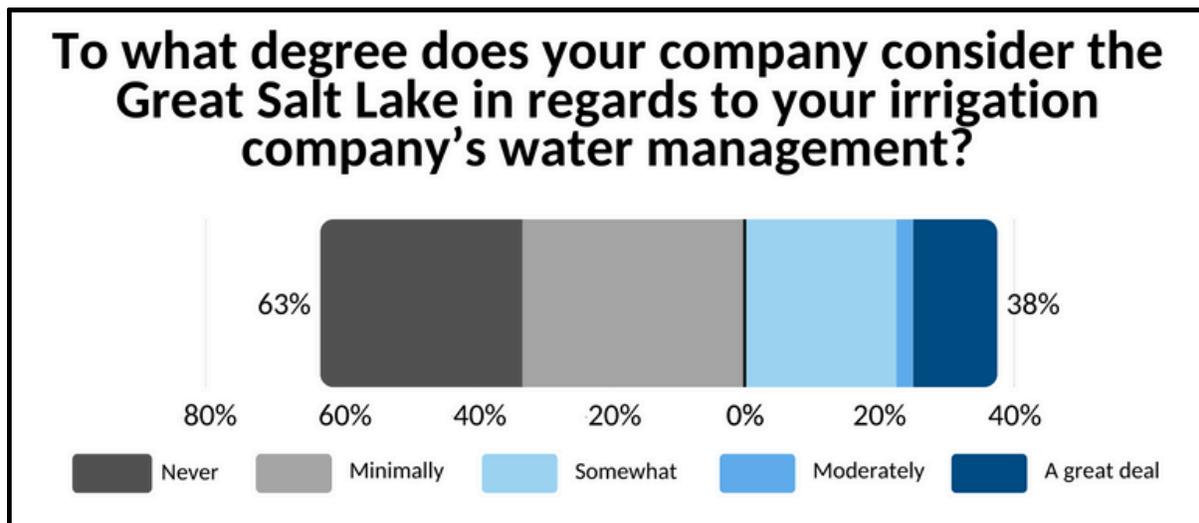


Figure 12. Company consideration of the Great Salt Lake



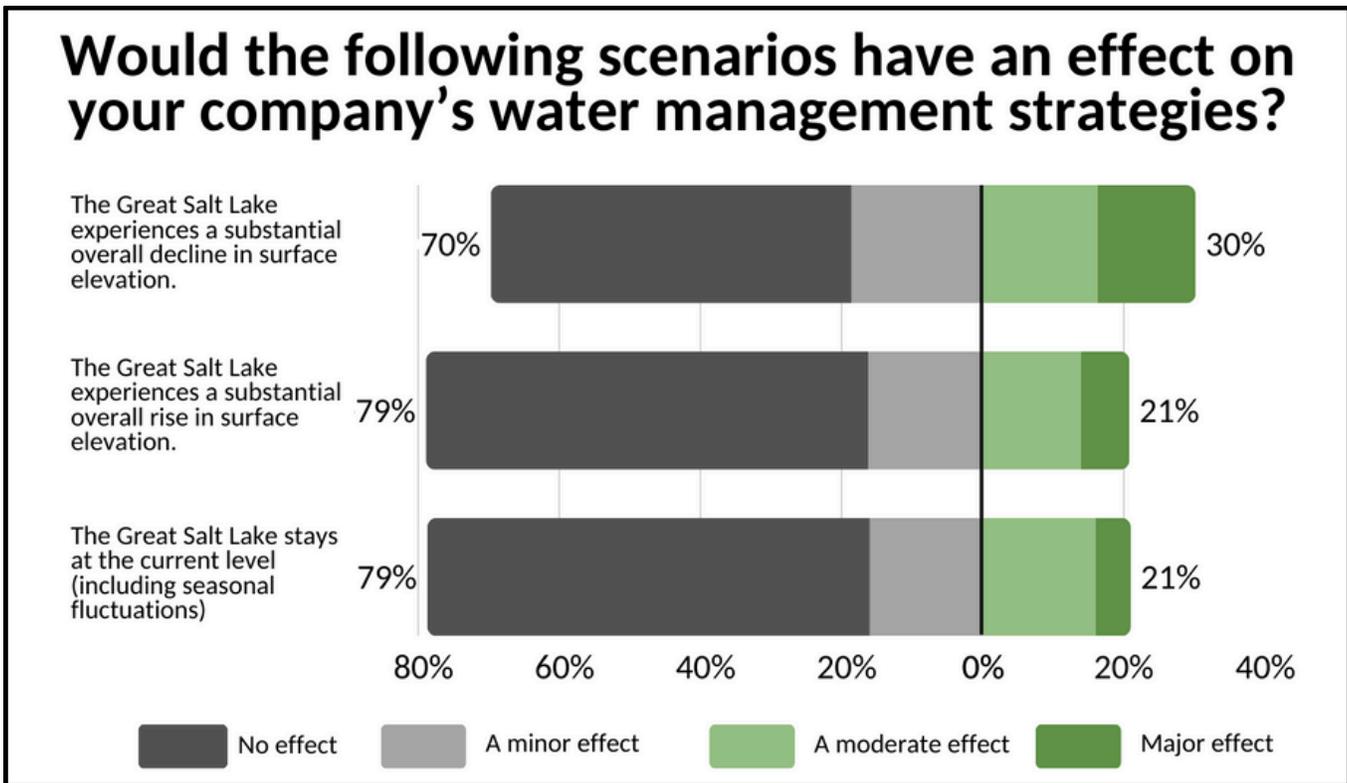


Figure 13. Great Salt Lake scenarios

Conclusions

Findings from this project showcase the wide range of focus areas that Utah irrigation companies are working on as well as the various risks and challenges that these companies encounter when working to manage water. Many of the interviewed and surveyed companies do not feel they have a seat at the table. Furthermore, many companies do not consider the Great Salt Lake in their water management.

These findings have potential implications on state- and basin-wide water governance. Specifically with regards to how future policies and actions are implemented and how water management entities like irrigation companies will respond and participate.

For further discussion and conclusions please refer to the full thesis on the project which can be found [here](https://digitalcommons.usu.edu/etd2023/509/) (https://digitalcommons.usu.edu/etd2023/509/).

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