

# FRIENDS of *Great Salt Lake*

150 South 600 East, Ste. 5D, Salt Lake City, UT 84102

[www.fogsl.org](http://www.fogsl.org)

Volume 30 Number 2

Summer 2025

---



*"A Moment to Observe"*  
watercolor by Abi Roberts

---

The mission of FRIENDS of Great Salt Lake is to preserve and protect the Great Salt Lake ecosystem and to increase public awareness and appreciation of the Lake through education, research, advocacy, and the arts.

[www.fogsl.org](http://www.fogsl.org)

# EXECUTIVE DIRECTOR'S MESSAGE

---

## THE TROUBLING AND CHALLENGING STATE OF OUR LAKE BEGS THE QUESTION: HOW COMMITTED ARE WE TO SAVING GREAT SALT LAKE?

*“The decisions we make today will have a huge impact on the Lake and its future, as well as on the quality of life Utahns have historically enjoyed.”*

–Brian Steed, GSL Commissioner

Just a few years ago, it wouldn't have occurred to me to even ask that question. Great Salt Lake was the cause célèbre and was finally getting some much-deserved attention. The Lake was constantly in the press; there were symposia and summits focused on it; the Legislature was passing an avalanche of bills aimed at saving it; and, there seemed to be no end of money that the State was willing to throw at the problem. But after a few years of this, mostly things have become disappointingly quiet.

I know. We all have a short attention span and there's a lot that's been going on in the political landscape.

But still...

I've said this before, but that brief burst of attention almost made up for the previous 25 years where FRIENDS was one of the few organizations even paying attention to the Lake. Almost. But it won't be enough to actually save the Lake going forward. I know that it's difficult to come to grips with the fact that saving the Lake can't be done in a handful of years—regardless of how many laws are changed or how much money is spent. Saving the Lake can't be done in a year, or ten years, or even a lifetime. It certainly can't be done in a political attention cycle. In fact, I'm sorry to say, the continual challenge of saving Great Salt Lake will be a legacy that our generation will pass on to the next, and they to the ones that follow. “Protecting the Lake in Perpetuity” means just that—it will always need someone to stand up for it.

Don't get me wrong—I remain confident that “we” will figure this out and will do whatever it takes to save the Lake, but right now it seems like a lot of folks have moved on. One of the signs pointing to this is the Great Salt Lake Commissioner's recent demotion. No, Brian Steed hasn't stepped down from his role as Commissioner, but HB 520 moved the Commissioner's office from what was essentially a cabinet-level position that reported directly

to the Governor and the Legislative leadership, to what is effectively a division-level position within the Department of Natural Resources.

You know, I have all the faith in the world in Joel Ferry, the Executive Director of the Department of Natural Resources. Joel is absolutely committed to saving the Lake, and the Commissioner's work won't miss a step under his leadership, but Joel is not always going to be in that position. What if the next Executive Director isn't as committed to the Lake? More importantly, what does this change say about our collective dedication to doing whatever it takes to save the Lake?

But what's more concerning to me is what's happening—or rather not happening—with the Commissioner's 10-year Strategic Plan. At last November's Great Salt Lake Advisory Council meeting, the Commissioner, briefed the Council on his intermediate timeframe Strategic Plan on what he hopes the State can achieve by the 2034 Olympics. That plan includes specific conservation goals, including a 10% reduction in water use across the board resulting in additional conserved water of about 250,000 acre-feet by that date.

Those savings won't be enough to get the Lake to the low end of the healthy level of 4,198', as identified in the GSL Commissioner's *January 15, 2024 Great Salt Lake Strategic Plan*, but they will get us to 4,195', moving us much closer towards a healthy level. To put that 250,000 acre-foot number in perspective, it gets us on track to achieve the additional 770,000 acre-feet inflow that the Great Salt Lake Strike Team estimates will be necessary to reach a healthy level by 2054, which is the Commissioner's stated goal.

Word on the street, however, is that publication of the plan is being held back by State leadership because it's being viewed as too aggressive—at least from a political perspective. What that means for the Commissioner's plan is anyone's guess, but I can tell you that it leaves me with a sinking feeling.



If anyone thought that saving the Lake would be easy, they haven't been paying attention. Every single one of the saline lakes around the world is being depleted because they depend on inflows that have been diverted for human use. Yes, every single one. Great Salt Lake is no different. The challenge we face is that there are no success stories when it comes to saving saline lakes; only failures with dire consequences. If saving these lakes were easy, everyone would have done it, but nobody has. The question is: are we different? Is our society willing to make the sacrifices that will be needed to save OUR Lake? When the world shows up at our doorstep in 2034, will we be the shining example in the desert, or be just like everyone else—unwilling to do what has to be done?

Meanwhile, as State leadership contemplates the Lake's future, the required due diligence to address existing and future needs of Great Salt Lake must continue. Implementation of existing legislative measures that generate data and funding that drive informed and responsible management decisions is critical. Included in that legislative toolbox is the development of a GSL Basin Integrated Plan (HB429). The goal of the plan is to ensure a resilient water supply for Great Salt Lake and all water uses including people and the environment, throughout the watershed as Utah continues to grow. And as stated in the workplan "The GSL Commissioner plays a pivotal role in leading the development of the GSLBIP by fostering collaboration, promoting science-based decisions, and overseeing the integration of the plan with the overall strategy for the Great Salt Lake's sustainability."

The ongoing work of established GSL institutions and resources like the GSL Advisory Council, the GSL Salinity Advisory Committee, the GSL Ecosystem Program, the GSL Technical Team, the GSL Watershed Enhancement Trust, the GSL Strike Team, the Utah Geological Survey, the U.S. Geological Survey, and the development of the GSL Comprehensive Management Plan by the Division of Forestry, Fire & State Lands, just to name a few, continue to raise public awareness and watershed wide engagement in the collective work that's required to address the Lake's future. But all of this effort will be for naught if State leadership ignores the findings and recommendations on what it will take to save the Lake. This shouldn't be a game of "Mother May I" where political winds are tested at each step along the way before permission is granted to move forward.

It's time to get down off our horses and walk this through together.

We're at a crossroads now and—like it or not—it's up to our State leadership to do what they were elected to do: lead. The Commissioner was put in place to guide the State in the direction we need to go to save the Lake. And, he and his team have done a remarkable job in a very short period of time. Now it's time for the State to give him the support he needs to do what he was hired to do: Save the Lake. He has had the courage to show us the way forward, but do our leaders have the courage to lead us there?

The fact is that we need goals to work toward, and a roadmap on how to reach those goals—we can't just wing it and hope for the best. That roadmap is what the 2034 Strategic Plan is supposed to be, and I fully expect State leadership to give the Commissioner the support he needs to move us in the right direction. Will it be easy to achieve those goals? No, of course not. Will we have to make difficult choices, put up with inconveniences, fundamentally change the way we use our water? Yes, yes and yes.

This is the time to rush forward in support of the Lake—not fall back. It's the time to show courage—not worry about political minefields. The optimist in me whispers that this is just a stumble, not a trend. But I don't know if that's true.

The decisions and investments we make today will determine the legacy we leave future generations. Will we leave them a healthy Lake, full of life and vibrancy? Or will we leave them with a dusty, toxic mess along with the bill to clean that mess up?

Now more than ever it feels like we need to rededicate ourselves to this cause, this mission, this exercise in community self-preservation. Are we moving in the right direction? Yes, but the effort doesn't feel quite equal to the moment. It's time to lengthen our stride, to kick it up a notch (or two), to win more friends to the cause. As the GSL Commissioner's office has advocated: *Conserve. Dedicate. Deliver.* We can do it—we must do it—together.

WE GO!  
In saline and solidarity,

Lynn de Freitas  
Executive Director



# FRIENDS' ORGANIZATIONAL STATEMENT

Founded in 1994, FRIENDS of Great Salt Lake is a membership-based nonprofit 501c3 with the mission to preserve and protect Great Salt Lake ecosystems and increase public awareness and appreciation of the Lake through education, research, advocacy, and the arts. The long-term vision of FRIENDS is to achieve comprehensive watershed-based restoration and protection for the Great Salt Lake ecosystem.

FRIENDS of Great Salt Lake sponsors programs related to our mission statement: Lakeside Learning, the Doyle W. Stephens Scholarship, the Great Salt Lake Issues Forum, and the Alfred Lambourne Prize.

Lakeside Learning facilitates 2.5 hour inquiry-based educational field trips for 4th grade students. The trips combine informal environmental education strategies while incorporating science, technology, engineering, art and math (STEAM) to reinforce the Utah Common Core State Science Standards. Lakeside Learning emphasizes learning through participation.

Within the research component of our mission, we sponsor the Doyle W. Stephens Scholarship for undergraduate or graduate research on Great Salt Lake ecosystems. Established in 2002, the scholarship supports students in new or on-going research focused within the Great Salt Lake watershed. Recent project winners span the effects of changing salinity on microbialites to the impacts low water levels in Great Salt Lake have on Utah's air quality.

FRIENDS is actively involved in advocating for Great Salt Lake. Every two years, FRIENDS hosts the Great Salt Lake Issues Forum to provide focused discussions about the Lake for a variety of stakeholders including policy makers, researchers, and industry leaders. Each Forum engages the community in constructive dialogue regarding the future of Great Salt Lake.

In 2014, FRIENDS established the annual Alfred Lambourne Prize for creative expressions of our Inland Sea in the categories of visual art, literary art, sound, and movement. FRIENDS celebrates the relationship between local artists and one of Utah's most precious natural resources, Great Salt Lake. Through artistic expressions, we enhance our capacity to build awareness about the Lake and our need to preserve and protect it for the future.

FRIENDS maintains a Board of Directors and Advisory Board composed of professionals within the scientific, academic, planning, legal, arts, and education communities.

Staff members include: Lynn de Freitas, Executive Director; Rob Dubuc, General Counsel; Holly Simonsen, Membership & Programs Director; and Katie Newburn, Education & Outreach Director. Photo: *Killdeer* by Gary Crandall.



## On The Cover:

### *A Moment to Observe*, watercolor by Abi Roberts

"As an Environmental Educator for FRIENDS of Great Salt Lake, I have found great joy in helping provide the students in our Lakeside Learning field trip groups with the opportunity to build a personal connection with the environment around them. I painted this picture using a photo that I took on the Observation Deck during one of our GSL State Park Lakeside Learning field trips as a reference. Taking these students to the observation deck is always one of my favorite parts of the field trips. It's exciting to watch them, so full of wonder and curiosity, as they gaze out at the vastness of the Lake; many for the first time! It's a great opportunity for them to experience the intricacies of our environment first-hand and to realize its beauty. We know that when people establish those touch-points with nature early on, they are more likely to become active and caring stakeholders in the future. The intelligence and curiosity of children is an important and inspiring part of the community effort to protect the Lake and educate our community about its importance. No matter how many field trips I help lead, it always makes me grateful to share these moments with the kids we teach."





*we disappear with the lake*  
oil on paper  
by Lindsay Elise

# AN OPTIMISTIC PERSPECTIVE ON THE FUTURE OF GREAT SALT LAKE

Skiing the greatest snow on earth on the Wasatch crest, Great Salt Lake is just a few miles away. Although the climate and ecosystems are extremely different, these environments are intimately connected through the snowmelt that is the ultimate sources of water for the Lake. On its journey to the Lake, melt water supports forests, wetlands, streams, rivers, and humans who have inhabited the region for millennia. Over the last 150 years, active management and water diversions have supported extensive agriculture, emerging industries, and growing communities. For some, water that made it to the Lake was considered wasted. We now recognize that the water that makes it to the Lake provides habitat for local and migrating species, supports mineral and brine shrimp industries, moderates local climate, and protects the urban population from wind born dust exposure. Furthermore, we are beginning to recognize indigenous water rights in the basin. Given these competing demands for this water, at a recent meeting, Lynn asked me why I am optimistic about the future of Great Salt Lake. Answering that question involves taking a broad view of the Great Salt Lake watershed and the unique geographic, socio-political, and scientific landscape of the region.

The challenges associated with increasing water demand, a decreasing and more variable supply, and a legal framework for water allocation developed a century ago are common throughout the West. Water managers in Utah and across the West have done an amazing job distributing limited water resources, resulting in a broad public expectation that clean water is always available at the turn of a tap. These distribution systems have resulted in an economic output in the western United States that, taken alone, would be the third largest economy in the world. However, the legal and physical infrastructure we have today was not built for the challenges of a rapidly growing population, changing climate, and historical inequities in who received water. A defining characteristic of this historical infrastructure is that management largely is siloed into regions or activities that represent artificial boundaries in the flow and cycling of water. We've now reached a point where addressing the challenges

of providing water into the future requires integrated solutions across these boundaries—spanning water



From the top of the Wasatch, photograph courtesy of Brian Male

source areas to water uses— including the benefits of water in natural ecosystems like Great Salt Lake.

The Great Salt Lake watershed is an ideal location to develop the integrated solutions and broad expertise to address these challenges, and to export that expertise to the western U.S. and semi-arid regions worldwide. With snowcapped mountains, growing urban areas, irrigated agriculture, and extensive natural areas like Great Salt Lake, within sight of each other, our watershed is large enough to share the challenges of the larger western U.S., but small enough us to know each other and share institutions. This is in contrast to the Colorado, Rio Grande and other western watersheds where the challenges of water management cross multiple state and national borders fostering arbitrary divisions between water sources and water consumption which ultimately hinder progress. Over 1400 miles separate the snowpacks in the headwaters of the Colorado River from the marshes at the river delta. In contrast, Great Salt Lake is a few miles from the snowpacks that sustain it. Unlike larger basins, the proximity of water source to water use can facilitate the realization that we are in this together—avoiding the pitfalls of approaching water resource management as a “zero sum game”. Although un-



derstandable given the value of water to all that we hold important, such a mindset will only continue to result in tragedies like Owens Lake, resulting in new problems (dust), and kicking longer term water supply issues down the road wherein they will be harder and more expensive to fix. If done right, the Great Salt Lake watershed can serve as case study for developing new understanding of water cycle, emerging technology, and novel solutions to water management.

This may seem “pollyannaish,” especially as the news is dominated by real and present threats, but we already have seen progress arise from shared experiences in the Great Salt Lake watershed. People from diverse backgrounds recognize that it is in all of our best interests to maintain a healthy Lake and the economic, climate, ecosystem, and air quality benefits it provides. Progress may be slower than we’d like, but we’ve seen new State support for agricultural efficiency, secondary water metering, cloud seeding, and facilitating the development of water markets. We’ve seen local efforts at turf reduction, efficient plumbing, water treatment and reuse, and increasing public engagement and awareness. And we’ve seen an increase in state, local, and NGOs working together. Helping to inform these efforts, we seen the establishment of the Great Salt Lake Strike Team (<https://gardner.utah.edu/great-salt-lake-strike-team/>), which represents a unique partnership of academic researchers from the University of Utah and Utah State University working with state agencies and leadership. These efforts have helped put existing knowledge to work toward new approaches at management, and also identified areas where new data, research, and knowledge is needed.

Utah and the Great Salt Lake watershed are fortunate to have incredible expertise at our universities, colleges, and state agencies. The historical investments local, state, and federal partners made in data collection, research, education, and basic and applied research, provide a foundation for addressing the growing challenges of maintaining a thriving society in a water-limited world. Forward looking investments by state and local agencies have resulted in Utah having the longest and most complete records of weather, climate, and streamflow for our local waterways anywhere in the world. These data, collected over the past 125 years, are paying dividends in predicting water supply which helps inform efficient allocation and management. We arguably know more about snowmelt-derived water resources in Utah than anywhere



To Great Salt Lake, photograph courtesy of GSL Basin Integrated Plan

in the world. Recently, the State has begun investing in new data and research that similarly will help us address individual challenges in maintaining both the Lake and the economic, environmental, and social sustainability of surrounding communities. Continued investment in these partnerships between universities and the State will allow rapid translation of research into decision making while also allowing the State to become a national leader in generating solutions and educating future generations of water resource professionals.

These geographic, socio-political, and scientific characteristics don't ensure that we will save the Lake, but they form a solid foundation on which to build. It still requires work to integrate the data, knowledge, tools, and political will to move from a zero sum game to new approaches that support multiple uses of our water supply. There is not one simple, quick fix to the challenges we face. We need an iterative process of putting new ideas to work: evaluating results to see what works and what doesn't, and revising those ideas to continually do better. We know so much more than when the waters originating in the Wasatch and Uinta mountains were first allocated in the 1800's. I am optimistic that we can put our knowledge and expertise to work to save Great Salt Lake and export our knowledge beyond our borders.

Paul Brooks,  
Professor, Geology & Geophysics at the University of Utah, and member of the Great Salt Lake Strike Team



# NUMEROUS CHALLENGES FACE

## PUBLIC WATER SUPPLIERS

Public water suppliers are currently facing many challenges which include the following: 1) Aging infrastructure, 2) Drought & climate change, 3) Population growth and urbanization, 4) Funding and regulation, and 5) Cybersecurity threats. There are many other challenges facing public water suppliers and one of the most challenging in Utah is water scarcity, which includes the local issue of a shrinking Great Salt Lake (GSL). There has been much attention given to the water level status of the GSL over the last several years.

The majority of the water used by a household is outdoors on lawns and gardens. I would suggest that outdoor water use is impacting the health of the GSL. We know that 65-70% of the water used in a residential

setting is used outdoors. The water used from outdoor sprinklers is relatively shallow irrigation, it may penetrate the surface 8 to 12 inches or so. I would surmise that it does not typically reach the underground aquifers that are hundreds of feet underground. Consequently, most of this water is lost to the system through evapotranspiration, causing much of this water to be depleted, not making it back to the natural system. On the other hand, indoor water use is very friendly to GSL since 95% of the water used indoors returns to the natural system and eventually into GSL. Thus, it is imperative that we reduce outdoor irrigation.

New developments are occurring throughout the District. The question typically posed is where is water going to come from to supply this new development?

We have a limited future supply of water available. The next large importation project planned to bring water to the District is the Bear River Project. The future of this project is currently uncertain. It is possible that a smaller version of this project could be built that primarily utilizes water indoors which has relatively little impact on the GSL. If this project does not get built, then further changes and reductions in water conservation will be necessary.

This District has a responsibility to deliver water to its contract holders. The water that is delivered to contract holders is either from surface water or groundwater sources. The District currently owns 22 large groundwater wells and can augment its supply



Pineview Reservoir, photograph courtesy of Weber Basin Water Conservancy District



of surface water with groundwater wells. Water right holders along the Weber and Ogden river systems are delivered water by the river commissioner based on the priority of their water right. In drought or lean years, the water rights are cut to ensure the water will last to the end of the season.

The District has a plethora of water conservation projects that are currently being deployed. The District is concerned that individuals are installing turf today that the District will likely pay to remove tomorrow. We currently have a large turf incentive program where we are purchasing turf from individuals. We are also installing secondary water meters throughout our system. We have been installing meters at a very rapid pace to try and get them installed before the American Rescue Plan Act funds dry up at the end of 2026. This is not an easy project, especially when many of these current meters are in backyards. Many of these backyard meters have obstacles such as trees, sheds, swimming pools, swing sets, dog runs, etc. that make them extremely difficult to access.

There has been much discussion about how much turf should be installed in a landscape. We have lately been focused on non-functional turf. If you only walk on turf to mow it, then you likely do not need that turf in your landscape. We call that non-functional turf because it is really not serving a purpose. Also, in areas where turf is necessary, low water-use turfs should be used. Low water-use turfs use 70% less water than Kentucky Blue Grass. Tahoma 31 is a variety of Bermuda grass that uses much less water. This grass also looks great in the summertime. It just takes a little longer to wake up from its winter's nap than Kentucky Blue Grass.

Some people have asked me, "Why don't you release more water to the GSL, then all of our problems would be solved!" It is not quite that simple. Currently the reservoirs are full in the Ogden and Weber drainages. June 1st is typically the peak of our storage after the spring runoff period. The current storage in all our reservoirs combined in northern Utah is 530,000 acre feet. An acre foot is enough water to cover a football field with water that is one foot deep. We measure large volumes of water in acre feet. If I were to release all this water to GSL from our reservoirs, all

530,000 AF, that water would last 3 months in GSL then evaporate. What are people going to drink over the next few months until it hopefully starts raining in the fall to start filling up the reservoirs again? GSL is shaped like a plate and is very shallow and the more water that gets into GSL, the more evaporation occurs due to the increase in surface area. It is not shaped as a bowl like many other lakes and reservoirs. Last year, for example, we received virtually no rain in September and October and our soil moisture in the



Growth, photograph courtesy of L. de Freitas

watershed started the water year in a huge deficit. This is not good news for the spring runoff the following year. If the soil moisture starts low in the fall, then the soil soaks up the runoff the next spring before it runs off into streams and reservoirs.

Public water suppliers are currently facing many challenges which include the following: 1) Water scarcity, 2) Supplying water for new development, 3) Development of water conservation programs, 4.) Implementation of low water use turfs, and 4) Delivering water to Great Salt Lake. As we work together as communities with a collective purpose to tackle these challenges, we can be successful in having water for future generations. Collaboration among key stakeholders and increased public education will be critical to ensure Utah has an adequate water supply moving forward.

Darren Hess, Assistant General Manager,  
Weber Basin Water Conservancy District



# THE GAME IS AFOOT:

## WHAT WAS THE CAUSE OF EXTENSIVE & SUDDEN DEATH OF WETLAND MACROPHYTES IN IMPOUNDED WETLANDS?

An unforeseen and devastating proportion of underwater plants have suddenly died off along the southern shore of Great Salt Lake during fall 2023. Heavy rains and an untimely algae bloom may have disrupted the seasonal production of food and habitat in these ponds before the fall migration started. These underwater plants, known as submerged aquatic vegetation (SAV), provide food in the form of seeds and tubers for waterfowl and habitat for the macroinvertebrate community, and benefits such as oxygen production and nutrient assimilation. The wetlands they inhabit act as a filter for pollutants and sponge for smoothing hydrology. When functioning properly, the water that leaves these wetlands is often cleaner than when it enters.

When underwater plants die off too early, it greatly diminishes migrating waterfowl from using ponds and signals that damage to both aquatic life

and recreational water quality is likely occurring. The unusual die-off of underwater plants is putting more pressure on already struggling Great Salt Lake wetlands and reduces wildlife habitats that depend on this ecosystem. Approximately 1500 sq km of wetlands surrounding the Great Salt Lake supports 338 species of migratory birds, which represents 8-11 million visiting birds every year, offering food and resting space. There is nowhere else in the Intermountain West that can provide a comparable refueling habitat. Early die-off has long been a concern of wetland managers because submerged aquatic vegetation is critical to support migratory waterfowl, but the die-off in 2023 was so rapid and expansive it was unprecedented to managers with decades of experience in Great Salt Lake wetlands.

For more than a century, Utah duck clubs or similar non-governmental organizations own or actively manage about 40,000 acres around the Great Salt Lake for waterfowl hunting and have played a key role in preserving Great Salt Lake wetland ecosystems. When duck club managers at the Rudy, North Point, and New State Duck Clubs noticed these die-offs and fewer waterfowl using their ponds, they knew something was wrong. They reached out to wetland and water quality specialists at the Utah Geological Survey (UGS) and the Division of Water Quality (DWQ) to help investigate the cause of the



Submerged aquatic vegetation monitoring in GSL wetlands, photograph courtesy of Jeff Richards





*Duck Season*, photograph by Gary Crandall

submerged aquatic vegetation die-offs. In 2024, The Division of Water Quality and Utah Geological Survey applied for a Tech-Team Grant through the Division of Forestry, Fire, and State Lands (FFSL), and have been collecting data and SAV observations for the past year, with a final report due in June 2025.

Scientists have long studied submerged aquatic vegetation to measure the health of impounded wetlands through the condition of SAV, since it is critical to wetland function, it remains to be seen what environmental factors drive its growth or decline. This is due to the complexity of the ecosystem and the limitations of visiting a wetland at a single point in time. Water pollution is suspected to be a critical factor, and this wetland study included frequent water chemistry collection from the Jordan River tributaries supplying the wetlands, as well as collection in the ponds during run-off events. We had hoped that if upstream water quality contaminants continue to trigger SAV die-off, sampling upstream would identify causes and allow us to pursue immediate mitigation. Water chemistry sampling was combined with regular monitoring of SAV health and coverage. Approximately every two weeks, duck club managers noted the species, health, and cover of SAV, creating a great dataset of how

SAV, especially sago pondweed (*Stuckenia pectinata*), grows and decomposes over the summer. Such a dataset would not have been possible without the collaboration of wetland managers.

Although this study is currently ongoing, initial observations suggest that unlike the previous year, SAV remained healthy throughout the growing season in 2024. While this preliminary investigation did not coincide with a catastrophic SAV die-off, it was successful in quantifying background conditions which will improve the ability to identify anomalous conditions in future investigations. Although unsuccessful in applying for a subsequent GSL Tech Team grant, the Division of Water Quality, Utah Geological Survey, Division of Forestry Fire & State Lands, and the duck clubs are committed to finding resources to continue monitoring these wetland habitats, identifying pollution impacts, and mitigating the causes to protect the critical habitat they provide.

Ben Holcomb,  
Utah Division of Water Quality Manager,  
Water Quality Standards & Technical Services  
Section



# PLEASE MAKE ME GREAT AGAIN

---

I used to spread deep-in my proud reflections  
beneath an endless desert sunset  
dripping in streaks of tangerine and ruby  
buoyant in salted memories of life  
a vast inland sea with divine potential  
anchoring horizons to a freshpromised land  
where refugees settled—escaping persecution

but now I am worn beyond ancient bones  
hollowed out in petrifying depression  
to a withering squint of Great Salt Lake  
and I no longer feel so great—  
I'm discarded—a dying remnant of the forgotten  
who fed winter skies with masses of snow  
and energized rivers—overhead and underneath

my flat pewter greens and crimson salts  
vanish in fuming echoes of a fading vale  
a white flux of bitter dearth smears my sad story  
as avarice suffocates me in angry climates  
I am withering in a strange time  
that drifts as a molecule of earth-time  
inside a generation that bares no mercy  
and chains me in vacant steel clouds of denial

your ancestors labored to escape here  
to bring me a lasting prosperity  
but my dwindling source of cold water  
is drawing upon its last bucket  
my skeleton is vaporizing into mists  
of a daunting world-void of sympathy  
yet overflowing in self-preservation

I once thought you could rescue me  
heal my splaying shores of encrusted salt  
with transfusions of a watery melody  
remedies that could also save your health  
but with all your learning and keen intellect  
you neglected nature's compassion  
for you and for me

I shudder in wakes of gloomy dawns  
speculators and poachers have diverted  
and drained the sanctity of my spirit  
as I weep dry tears of dust-swallowed  
from a century of adulterating industry  
the fevered fervors of my mother earth  
will eventually carry my sands of ages  
into the promises of another hopeful land

so-are you prepared to join the others  
children of creation—who are fleeing home  
because of a crisis of climate chaos  
who once had hope in people and authority  
but are left alone in the bitter ravages of  
tempests, fires, floods, and dearth  
battles that inundate the poor and stricken  
in a politics that they do not understand

I pray your romance over verdant sods  
and exclusive golf courses of exclusion  
wilt beside my persecuted sacrifice  
for as my timid shores gently ebb  
into shadows of your mega-manic metallic noise  
and my wandering tranquility evaporates  
into the lavender realm of lost lakes  
please grasp what my lake effect truly means  
while you prepare to become refugees—  
all over again

-Doug W. Evans

## About this Poem:

*This is a lucid companion poem to my Utah Lake poem. The State of Utah was settled and built beside a famous ancient inland sea. A sea troubled by the impacts of development, water diversions, and climate change. When this Great Salt Lake evaporates away as the last humble lake and neighbor to our society, we may finally take notice. We will notice that it took much better care of us than we did of it. And its loss will undoubtedly affect our health and prosperity in ways we are only beginning to fathom—a realization we will grasp long after we have had a chance to maintain its greatness.*

Featured during the 2023 Alfred Lamboune Arts Program



# GREAT SALT LAKE MAP



Basemap: USGS. Water level shown depicts approx. 4189'. For reference only.

Great Salt Lake historic average elevation 4,200' (1847-1986).
  Approximate average elevation Fall, 2022 4,189'.

This map shows the contrast between the historic elevation average of 4,200' (1847-1986) and the current elevation of 4,189' (Fall 2022). It shows that islands, bays, habitat values, navigation and open water have been lost/compromised due to a declining elevation.



# SLC INTERNATIONAL PREPARES FOR THE FUTURE

Salt Lake City Department of Airports (SLCDA) is taking bold yet responsible steps toward meeting the demands of the region’s growing and increasing global passenger base. Salt Lake City International Airport (SLC) has experienced continued growth in domestic and international passenger demand recently highlighted by Delta Air Lines’ announcement of a nonstop flight to Seoul, South Korea starting June 12, 2025.

SLCDA is prioritizing infrastructure improvements that balance operational needs with environmental stewardship. At the center of this effort is the proposed extension of Runway 16L-34R (the Center Runway), which will not only accommodate heavier long-haul aircraft for international operators but will also provide increased efficiency to all carriers operating at SLC by allowing the existing fleet to avoid using max performance takeoff procedures.

The aviation activity forecast for SLC anticipates a growing demand for direct flights to several international markets, which re-

quire larger, heavier aircraft. Given the high elevation and maximum mean temperature, as well as existing obstructions to the north, some aircraft currently operating out of SLC take weight penalties in warm dry months of the year. In fact, the Airbus A321, an aircraft used by most airlines at SLC and equates for roughly 15% of all air carrier operations, starts taking weight penalties at 80 degrees Fahrenheit with the current runway lengths. This issue is compounded when you add wide-body, long-haul aircraft to the fleet mix.

SLC’s forward-thinking planning is evident in our progress. **Figure 1** provides a timeline of the past 60 years of capacity planning for SLC and the remaining steps necessary to implement this major airport infrastructure project.

SLCDA is completing a comprehensive justification study that will validate past studies and help determine the most effective and environmentally responsible option to meet the current and future demands. This study

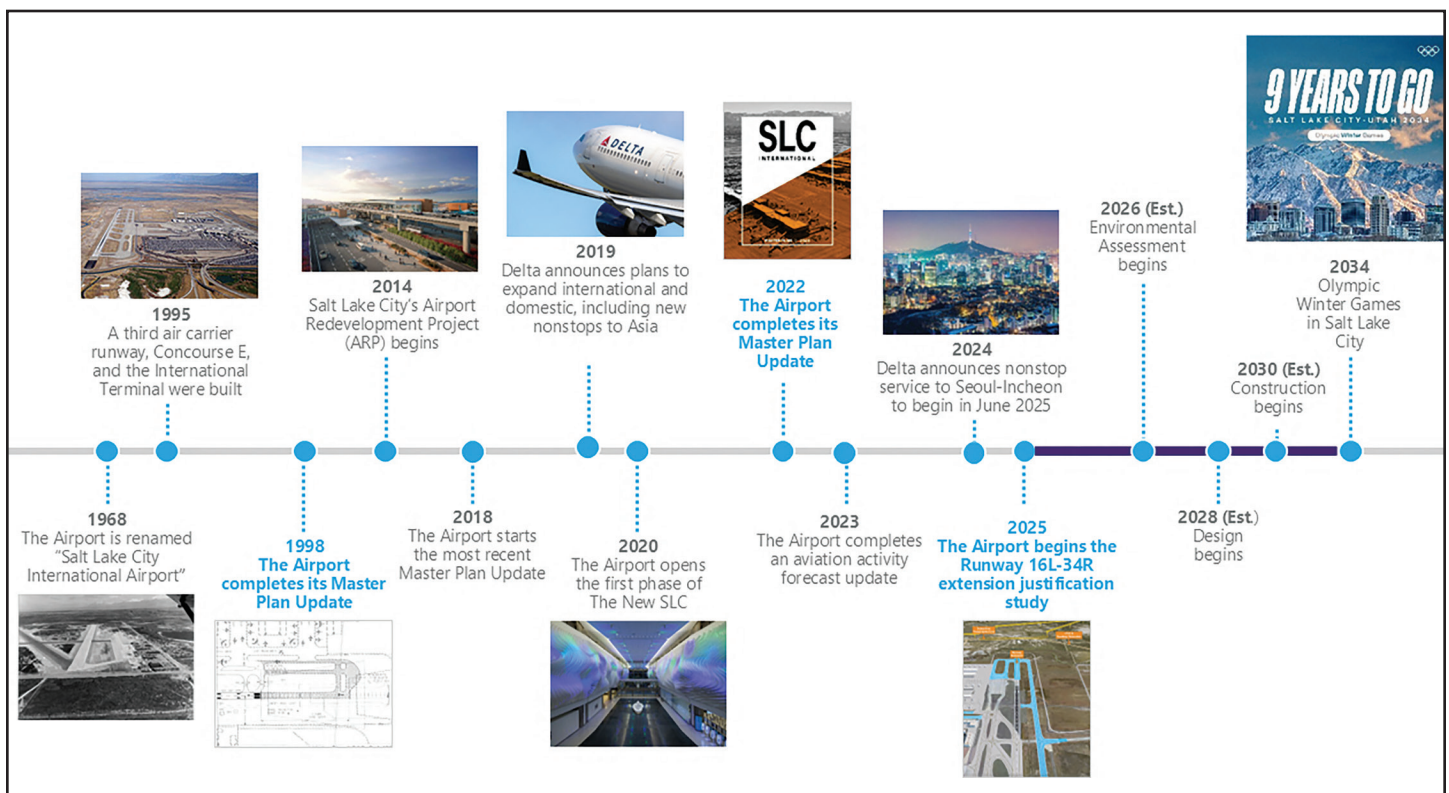


Figure 1: Timeline of SLC progress, courtesy of Brady Fredrickson





Salt Lake City International Airport aerial view, photograph accessed via Google

will take the lessons learned from the 2022 SLC Airport Master Plan study and develop the specifics regarding runway length, elevation, departure surfaces, and airspace. Some of the complexities of this study are displayed in **Figure 2** showing the different

airspace considerations associated with the runway departure airspace that must be protected.

The 2022 SLC Airport Master Plan identified four options to extend a runway at SLC and

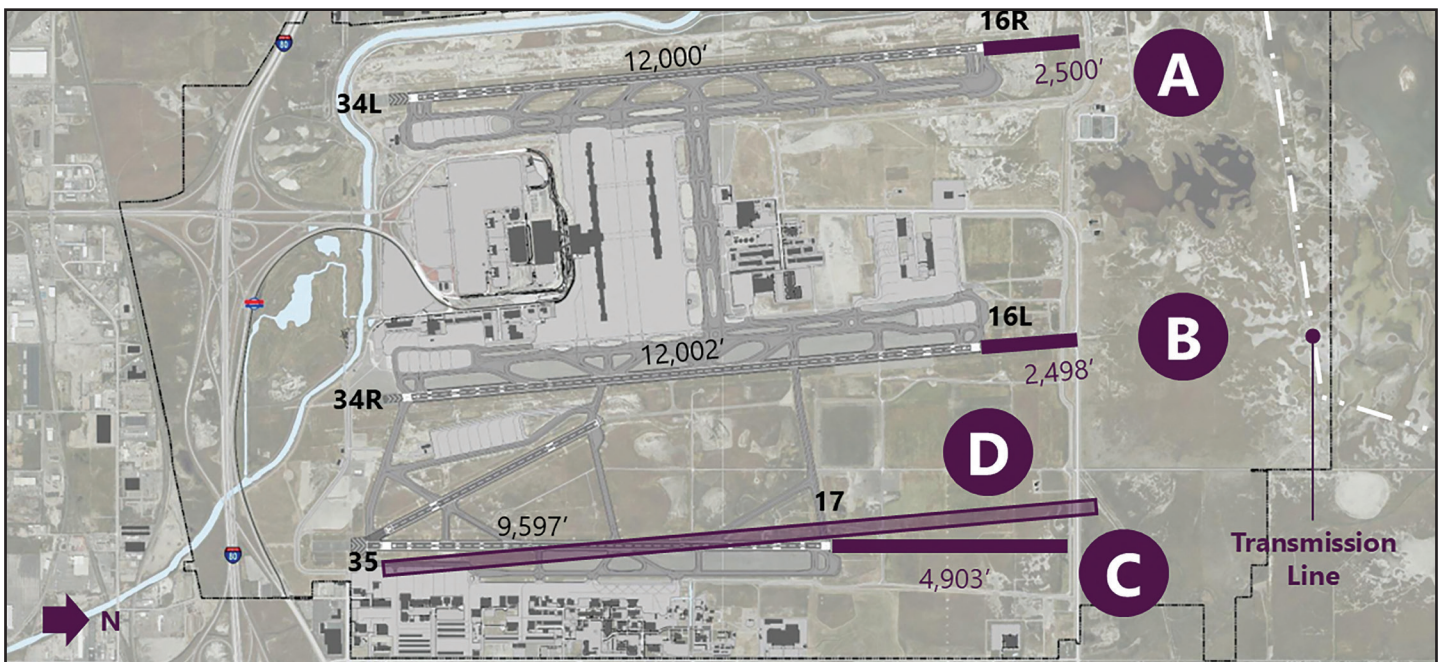


Figure 2: Airspace Considerations, courtesy of Brady Fredrickson



# SLC INTERNATIONAL PREPARES FOR THE FUTURE

## (CONTINUED)

determined that extending the Center Runway to the north was the most cost effective, operationally sound, and environmentally

airport and runway improvements are vital to ensure SLC meets current and future aviation demands, while avoiding the need

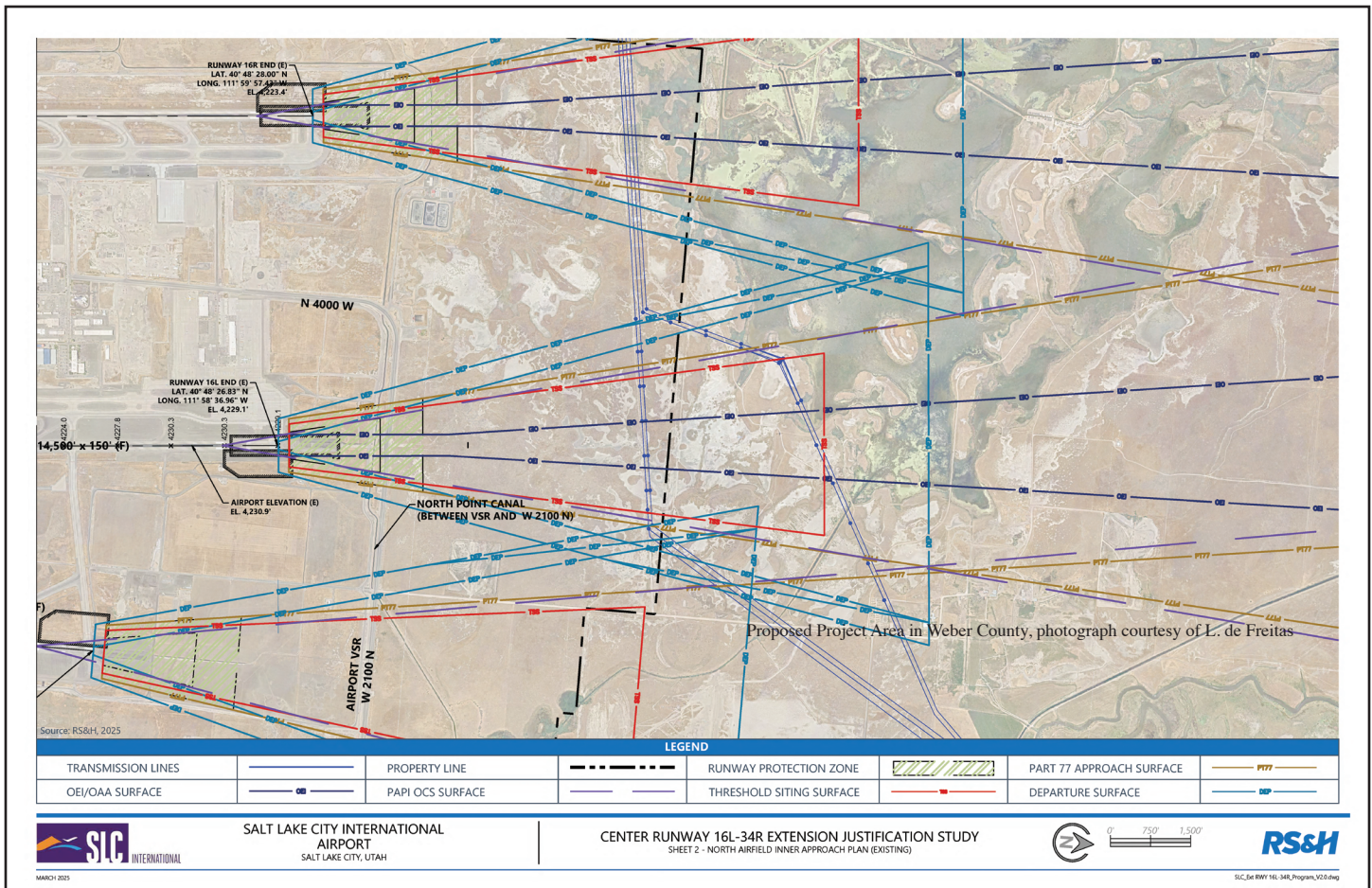


Figure 3: Four primary runway alternatives, courtesy of Brady Fredrickson

beneficial option. **Figure 3** illustrates the four primary runway alternatives that were evaluated in the 2022 Airport Master Plan Update. The selected alternative impacts the least amount of wetlands—approximately just one acre—and avoids the need for major realignments or new land acquisitions that could disrupt sensitive ecosystems. In addition, this option is more conducive to operating near high-voltage power lines and avoids extensive construction in those areas. The proposed extension will add roughly 2,500 feet to the north end of the Center Runway, significantly increasing the ability for wide-body aircraft—like the Airbus A350—to take off at full capacity year-round. These

for significant aircraft route compromises or passenger load restrictions.

SLC’s focus on sustainability and the efforts to reduce emissions have already had a positive impact on the valley’s air quality, and the proposed runway extension will further decrease emissions at the airport. SLC’s emission reductions are currently at 40,000 metric tons of Green House Gases annually. SLCDA has created a policy requiring the airlines to transition from gas powered Ground Support Equipment (GSE) to electric GSE; reducing aircraft taxi times with the new airport layout; and providing aircraft centralized preconditioned air. The



runway extension will add to the airport's emission reductions by allowing aircraft to use reduced thrust departures and lowering fuel consumption. All these initiatives highlight SLCDA's commitment to a development strategy that minimizes environmental impacts while maximizing community and operational benefits.

The airport is proactively addressing critical environmental considerations through detailed drainage and utility studies, ensuring stormwater is managed responsibly and existing infrastructure is adapted to support the runway extension with minimal disruption. Roadways like 2100 North will be carefully realigned to avoid wetlands while continuing to serve both airport operations and surrounding developments. Energy and communication lines will be protected, and construction plans call for responsible phasing and scheduling to minimize environmental and operational disruptions, especially during critical migratory and weather-sensitive periods.

As part of the Federal National Environmental Policy Act (NEPA) process, SLC will engage in public consultations and conduct robust studies to evaluate noise, air quality, and wildlife impacts. This process is more than a regulatory requirement; it is an opportunity for SLCDA leadership to collaborate with the community and refine the project to reflect shared values of sustainability and safety. By completing construction in time for the 2034 Olympic Winter Games, SLC will showcase not just its capacity for growth, but its commitment to doing so responsibly.

By balancing the technical requirements of aviation with the ecological sensitivities of the Great Salt Lake region, SLC is proving that world-class service and environmental integrity can go hand in hand. This project will ensure SLC can continue to safely serve the region as a premier global aviation hub.

Brady Fredrickson,  
Director of Salt Lake City Department of  
Airports Planning & Environmental

---

## SAVE THE DATES FOR OUR 2025 FALL FUNDRAISER & 2026 GREAT SALT LAKE ISSUES FORUM

---



**FRIENDS  
of Great Salt Lake**  
*invites you to our*  
**Fall Fundraiser**

Save The Date to Join Us  
Thursday, October 9, 2025  
from 6:00-9:00 PM  
The Garden Place  
This Is The Place Heritage Park

\$50 per person

Dinner Buffet • Open Bar  
Live Music  
Opportunity Drawing



**FRIENDS  
of Great Salt Lake**  
Presents our 15<sup>th</sup> biennial  
Great Salt Lake Issues Forum  
May 6-8, 2026

To Preserve And Protect in Perpetuity:  
How Are We Doing? Part 2





**HOW TO REACH US**  
FRIENDS of Great Salt Lake  
150 South 600 East Suite 5D  
Salt Lake City, UT 84102  
website: [www.fogsl.org](http://www.fogsl.org)

**BOARD OF DIRECTORS**  
President: Rose Smith  
Vice President: Kelly Hannah  
Secretary: Gen Green  
Molly Blakowski  
Kristen Bonner  
Coryna Hebert  
Heather Holmes  
Sarah Stevens  
Glenda Woodring

**STAFF**  
Executive Director:  
Lynn de Freitas  
[ldefreitas@xmission.com](mailto:ldefreitas@xmission.com)  
General Counsel:  
Rob Dubuc  
Membership & Programs Director:  
Holly Simonsen  
[snowyegret@fogsl.org](mailto:snowyegret@fogsl.org)  
Education & Outreach Director:  
Katie Newburn  
[pelican@fogsl.org](mailto:pelican@fogsl.org)

**ADVISORY BOARD**  
Robert Adler  
Genevieve Atwood  
Jim Carter  
Luke Garrott  
Steve Simms  
Ella Sorensen  
Terry Tempest Williams  
Wayne Wurtsbaugh

Submission Deadlines:  
Sept. 16 (Fall)  
Dec. 16 (Winter)  
Mar. 16 (Spring)  
June 16 (Summer)  
Submit articles and  
images for consideration  
to Lynn de Freitas at  
[ldefreitas@xmission.com](mailto:ldefreitas@xmission.com)

**LAKE FACT:**  
Q: What is the one numeric water  
quality standard for the Lake?  
A: The amount of selenium measured in bird  
eggs found in Gilbert Bay is the only numeric  
water quality standard for the Lake (although  
DWC has recently published a numeric ceiling  
for discharges of salinity by mineral extraction  
companies).

## THANKS FOR MAKING A DIFFERENCE

Memberships and Donations received between  
January 10-June 31, 2025

Kanetha Adams	David Eckhoff	Beth Lingenfelter	Neka Roundy
John Aldrich	Patricia Edgington	Susan Loffler	Christine Rumsey
Kathleen Kingsbury & John Alley	Julie Edwards	Michelle MacKenzie	Mitsu Salmon
Amy Ames	Jenever Fegely	Zach Marben	Hanna Saltzman
Ashlyn Anderson	Kathleen Ferdon	Amy May	Donald & Julia Schmidt
Dustin Anderson	Jeff Foott	Jeff McCreary	Samuel Schmidt
Paul Anderson	Jennifer Fortin	Ted & Carolyn McGrath	Francesca Schorer
Aaron Austin	Becky Jo Gesteland	Hannah McIlwain	Brenda & Lee Schussman
Gregg Auwaerter	Joshua Gibson	Melinda McIlwaine	Todd Schuster
Mahmudur Aveek	Will Gies-Barton	Ian Wade & Ginger McKenna	Harold Sears
Kaleo Awana	Mary Giles	Andrew McLellan	Micheal Shepard
Karen Backstrom	Greg & Caitlin Gochnour	Mitchell Menlove	Stuart Siegel
Christine Baczek	Raymond & Susan Grant	Rebecca Menlove	Marcus Simon
Stephanie Klein & Larry Baer	Laura Gray	Adam Mercer	Abigail Simons
Mark Baer	Jack Greene	Chris Merritt	Jeanne Le Ber & Ray Smith
Sam Baldrige	Marissa Groce	Sharah Meservy	Kathy & David Sorensen
John Barbuto	Elijah Grubb	Richard Middleton	Allison South
William Barnes	Bill Heesch & Judy Gunderson	Jack Moe	Ali Soweidan
Janet Barnette	Susan Hall	Jennie Morgan	Ann Spear
Kimberly Beck	Bruce Hamilton	Kristen Morley	Helga & Max Stamp
David Bennett	Bill Hanewinkel	Alice Morrison	Joan Steed
Gay Lynn Bennion	Bret Hanna	Craig Mortensen	Tatiana Stemkovski
Sabrina Beynon	Dave Hanscom	Joseph Morzinski	Margo Stevens
Klaus Bielefeldt	David Hanson	John Mull	Amanda Stewart
Molly Blakowski	Steve & Marsha Harmon	Caroline Nebhan	Linda Bonar & John Stratton
Roger Borgenicht	Coryna Hebert	Sally & Bob Neill	Kathryn Strike
Mary-Clare Bosco	Sue Hendricks	Camille Nelson	Emily Stromness
Steve Boulay	David Herbst	Sarah Nelson	Marlin Strum
Sajatah Boyle	Scott Herstik	Shirley Nelson	Andre Szlendak
Elvena Brady	Joseph Hicks	Katie Newburn	Jean Tabin
Laila Bremner	Christopher Hoagstrom	Tanya & Thomas Newburn	Braxton Thornley
Joseph Broschinsky	Janelle Hollis	Sally Newbury	Sylvi Traeden
Yaeko Bryner	Laura Hoopes	Tyler Nielsen	Carla & Charlie Trentelman
Alli Burdick	Heidi Hoven	Rosalie Niemann	Stephen Trimble
Megan Burns	Peter & Margo Hovingh	Lara Oles	David & Liz Turner
Marion Call	Jim Jacobs	Karen Oliver	Amy Valdez
Em Capito	Adam Jacobsen	Mike Olsen	Abby VanBuren
FL Carter	Robert Jellison	Sean Paul	Janice Vander Molen
Jean Francois S. Van Huele &	Larrin Jensen	Greg Pearson	Diana Varrey
Susan Chasson	Paul Jewell	Wesley Peebles	Siri Vlasic
Carlynn Christian	Pamela Johnson	Laura Pennock	Denise Vilven
Kristina & Micheal Christopherson	Loreen Jones	John Perkins	Matthew Waibel
Claire Clark	Eric Kamisher	William Petersen	Kody Wallace
Glenda Cotter	Ellen Leonard & John Kammerdiener	Steven Glaser & Camille Pierce	Joy Emory & Patrick Watson
Christy Cottrell	Tracy Karp	Elizabeth Pinborough	Suzanne & Lynn Wawrinofsky
Christy Curtis	Shannon Kelliher	Bruce Plenk	Pete Webb
Spencer Dean	Jennifer Kenley	Danielle Poirier	Marisa Weinberg
Graham & Leanne de Freitas	Linda Ketelaar	William Preatt	Richard Bullough & Kirsten Whetstone
Joan Degiorgio	Julia Miller & Ken Kraus	Annie Putman	Andy White
Samantha Deseelhorst	Nathan Krueger	Jana Quilter	Damian Wilbur
Krysta Dimick	Christopher Kruger	Mari Ransco	Terry Tempest Williams
Jamie Doxey	Cherie Lambourne	Erica Reifenberg	Glenda Woodring
Kim Duffy	Gerald Lazar	David Richardson	Justin Wright
Sam Dunford	Carmen Lecluyse	Brad & Lynette Rix	
Ronald Dunn	Deborah Lewis	Brandy Rosen	
Jess Cleeves & Tim Dwyer	Scott Lewis	Linda Roth	

### Corporate, Foundation, and Grant Support from:

American Online Giving Foundation, Anonymous,  
Blackbaud Giving Fund, Cargill, Community Foundation of Utah,  
Daffy Charitable Fund, Eggal Foundation,  
Fanwood Foundation, Great Salt Lake Audubon,  
the estate of Kathleen Kaufman, Liason International,  
Mochi Kids, Network for Good, Patagonia, Quarters Arcade,  
Salt Lake City ACE, Salt Lake County ZAP,  
SmartGo Foundation, Suzanne Stensaas Fund,  
Taos Community Foundation, XMission



# MAKING A DIFFERENCE

## HOW WE DO OUR WORK—THANKS TO YOU

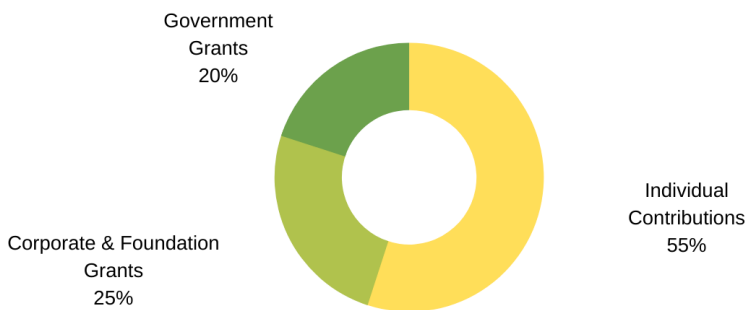
### Our Funding

As a 501(c)(3) nonprofit, FRIENDS of Great Salt Lake relies upon the generosity of our members, individual donations, foundations, and grants. Individual memberships and donations provide the bulk of our funding at approximately 55% of our annual revenue. Foundation donations and corporate grants generate 25%, and government grants generate 20%.

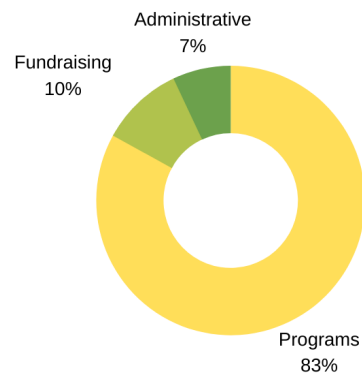
With an annual operating budget of under \$400,000, FRIENDS of Great Salt Lake spends a majority of funds on Programming (83%), including our Education Programs, The Doyle Stephens Research Program, Advocacy Programs, and the Alfred Lambourne Arts Program. Fundraising costs average 10%, and administrative expenses 7%.

FRIENDS of Great Salt Lake is a member of Utah Nonprofits Association (UNA). We operate with a Donor Bill of Rights, a Conflict of Interest Policy, a Gift Acceptance Policy, and adhere to UNA's Standards of Ethics. Access our IRS form 990 and our Annual Reports on our website.

Income



Expenses



**ALFRED LAMBOURNE ARTS PROGRAM**

celebrating artistic representations of **GREAT SALT LAKE** in visual arts, literary arts, movement, and sound

Friday, September 5  
6:00-8:30 PM  
Sorenson Community Campus Gallery

Allison Spencer, American Avocet



**INTERNATIONAL COASTAL CLEANUP**

Help remove trash from Great Salt Lake's southern shores

**SEPTEMBER 13, 2025**  
9AM-12PM  
Meet at Great Salt Lake State Park

**REGISTER AT [FOGSL.ORG/ICC](http://FOGSL.ORG/ICC)**





Presorted First Class  
US Postage Paid  
Salt Lake City, UT  
Permit # 15

FRIENDS of  
Great Salt Lake  
150 South 600 East  
Suite 5D  
Salt Lake City, UT  
84102  
www.fogsl.org

## PLEASE SUPPORT FRIENDS of GREAT SALT LAKE

Yes! I want to purchase a membership to  
FRIENDS of *Great Salt Lake*

\$30 Household   
\$20 Senior

I would also like to make additional donations to:

Send payment to:  
FRIENDS of Great Salt Lake  
150 S. 600 E., Ste. 5D  
Salt Lake City, UT 84102

Unrestricted   
Education   
Research   
Advocacy   
Arts   
Total Donation

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

E-Mail: \_\_\_\_\_

Total Membership Fees and Donations \$ \_\_\_\_\_

I do NOT wish to receive a paper newsletter  
(Our newsletter is available for download at [www.fogsl.org](http://www.fogsl.org))

Remember, all membership fees and donations are  
tax-deductible to the extent allowed by law.-



*On the Beach*, digital collage by Vincent Mattina  
Featured during the 2024 Alfred Lambourne Arts Program