FRIENDS of *Great Salt Lake*

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The Calm by Lance Partridge 2014

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.

Executive Director's Message

Contemplating the Yin and Yang of Great Salt Lake – How Committed Are We When Lake Levels Go Down?

"I want to have enough water so we can turn those damn pumps on again."
- The late Governor Norm Bangerter (1933- 2015)

I would add a bittersweet amen to that, Governor.

I think it was the spring of 2003 when FRIENDS hosted a field trip to the West Desert Pumping Project (WDPP) aka the "Bangerter Pumps". In our never-ending pursuit of Great Salt Lake discoveries, we went to satisfy our curiosity about a fairly controversial project in the 80's that had become famous. Famous because it provided an engineering solution of mythological proportions that enhanced the Lake's natural evaporation process by mechanically expanding its surface area out into the west desert. As part of an extensive flood control program that was being implemented to address a rising Great Salt Lake, the project was awarded the 1988 Civil Engineering Achievement of Merit by the American Society of Civil Engineers. Awesome, dude!

Such measures aren't totally foreign to our relationship with Great Salt Lake. The railroad had already made its statement in the 1950's by constructing the infamous causeway that continues to divide the system into two ecologically distinct parts – the North and South Arms. There's evidence that even Brigham Young considered ways of "spilling" the Lake into the west desert to increase evaporation back in 1873 when it peaked at 4,211.5'. But the WDPP was then, and is now, symbolic of how we regard the importance of the Lake's economic and ecological values in the scheme of our modern day existence. And in that context, it also demonstrates how willing we are to persist in a tug of war relationship that defines our cultural interface between what we do and don't want from Great Salt Lake.

As a shallow, terminal lake at the bottom of a 35,000 sq. mi. drainage basin with no natural outlet, a series of wet years will intensify any upward trending of the Lake's elevation. The Lake rebounded from a record low of 4,191.3' in 1963 and, despite a brief dry cycle in the 1970's, rose 20 feet over the course of 24 years. With that rise and an abbreviated evaporation season in 1982, the Lake's briny waters spread out on its natural floodplain impacting a range of lakescape and landscape uses. Its surface area had nearly doubled to about 3,300 square miles. And between 1982 and 1987 (remember the river down State Street in 1983?) its volume had tripled to nearly 30 million acre-feet resulting in another historic high elevation of about 4,211.85' mean surface level.

For 25 years between 1940 and 1965 when the Lake was low, development on and around the Lake had escalated. Now, given the circumstances of these high water conditions much was at stake. Potential targets included the Salt Lake International Airport, extractive industries like minerals and brine shrimp, wildlife management areas and important habitat, public utilities such as wastewater treatment operations, roads and interstate highways, railroads and causeways, harbors and other recreational facilities, productive farmland, tourism, businesses, backyards and basements in neighborhoods, and anything else that happened to be in harm's way from a swelling Great Salt Lake. Damages from this larger Lake were estimated at $1billion.

This kind of fluctuation of the Lake is considered within the range of its historic hydrologic cycle. However with such a stunning inundation of water at every turn, in the June 1999 report from the Utah Division of Water Resources and Utah Department of Natural Resources, The Great Salt Lake West Desert Pumping Project: Its Design, Development, and Operation, the Lake was characterized as "being out of control", "on a destructive rampage", and "plagued those who have utilized its shores." Such a significant challenge from our inland sea impelled the state to step up to protect the health, safety and economic interests that were now at risk. And it was very ready, willing and able to do so.

By the late 1970's quite a lot of attention had already been given to the concept of a West Desert Pumping Project as part of alternative flood control measures. In December 1983, the Utah Division of Water Resources released A Final Report West Desert Pumping Alternative-Great SaltLake concluding that such a project was feasible. A WDPP would consist of a pumping plant, a system of canals and ponds, containment dikes and a return brine conveyance system. The extent of its footprint would go

well beyond its state sovereign lands jurisdiction to include public lands, lands owned by the BLM and the US Air Force Target Range. Various permits, right-of ways (ROW), and agreements would have to be secured for a project of this scope to be constructed.

In 1984, the Southern Pacific Railroad causeway was breached to relieve the growing water differential that was banking up on the causeway from the collective inflows of the Bear, Weber/Ogden, and Jordan Rivers into the south arm. This breach dropped the elevation about one foot. Following the usual regulatory process, an Environmental Impact Statement was created, including Diking and No Action Alternatives. The final Record of Decision came in July 1986 and a 50-year ROW was granted by the BLM to the state on June 20, 1986 to "construct, operate, maintain and terminate" the WDPP. The USAF also granted the state a short-term emergency access that terminated at the end of the pumping period.

In special session, the Utah Legislature authorized $71.7 million for HB 6 – the flood control bill. The bill supported an array of immediate and long-term flood control measures that included the West Desert Pumping Project. More ominously, it also included funding for future feasibility considerations for dams and upstream storage, particularly on the Bear River that provides the lion's share of inflows to Great Salt Lake.

From start to finish of the operation – April 10, 1987 to June 30, 1989, the pumps moved over 2.73 million acre-feet of Great Salt Lake water. The surface of the Lake dropped about 14.5" shrinking its shoreline by approximately 50,000 acres. In the first year of operation 1.4 million acre-feet of water - equivalent to 40% of the total level decline- was pumped. Even now, opinions vary about when and how long the pumps should have operated but there is consensus that the strategy was beneficial in addressing the flooding.

Springtime is normally the time of year boats are lowered into the harbor at the Great Salt Lake Marina. This year, boats are being lifted out for dry dock/storage until perhaps 2017. Slip renters are being encouraged by Harbormaster Dave Shearer to arrange for all boats with a draft over 3' to be pulled out in preparation for the long awaited dredging that will finally begin on July 1. Although Great Salt Lake recreation contributes about $135.8 million annually to Utah's economy, the $1.5 million for dredging required significant arm-twisting of Utah legislators to commit money from the Sovereign Lands Restricted Funds (that's what this fund is for) to provide some relief. But without additional funding support from the State Parks Park Fees Restricted Funds (sic) dredging wouldn't be happening.

Many of these boats haven't been able to leave their slips for almost a year and sailors are preparing for a record low Lake elevation of 4,191.3' this summer. Shearer suggests that a snowpack of 140% or more is necessary for the Lake to rise enough in 2016 to make it suitable for navigation again.

Meanwhile, in the North Arm (4,192.4') where Lake levels are typically 1.5' lower, the 3rd largest breeding population of American White Pelicans in North America is returning to Gunnison Island to produce the next generation of birds. The island is no longer surrounded by water. That means the population is vulnerable to land access predators.
The island and pelicans are protected under Utah law. How are the Division of Wildlife Resources, and Division of Forestry, Fire and State Lands proposing to meet this jurisdictional responsibility?

We know from other saline systems in the region and around the planet that upstream water diversions and climate change have contributed to lower water levels. In some cases, such as California's Owens Lake, lakes have dried up completely. Exposed lakebeds create dust and air quality problems that influence health and quality of life issues. At Owens Lake, millions of dollars are now being spent on trying to put water back into a system that has become notorious for its high levels of PM10.

Back in the '80's Utah was ready, willing and able to take the initiative to protect economic interests that are generated by the Lake, protect the health and safety of its population, and address important ecological attributes like habitat restoration and protection.

Why aren't we doing that now? The situation is the same: low water levels threaten economic interests, threaten the health of our citizens, and threaten critical habitat. It is time to act. At the very least $1.3 billion is at stake.

In saline,

Lynn

PS.

Thanks for being there for the Lake.

Friends Organizational Statement

FRIENDS of Great Salt Lake is a membership-based non-profit 501c3 organization founded in 1994. The mission of FRIENDS is to preserve and protect the Great Salt Lake Ecosystem and to increse 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 has a very active Board of Directors and an Advisory Board consisting of professionals in the scientific, political, literary, eduction, and broadcast communities. The organization sponsors an array of programs, activities, and materials in pursuit of its mission.

Every two years, FRIENDS hosts the Great Salt Lake Issues Forum to provide a focused discussion about the Lake for policy makers, researchers, planners, industry and other stakeholders. The goal of each Forum is to encourage constructive dialogue about the future of the lake's ecosystem and its resources, and to illuminate the complexities involved in research, management and planning for the lake.

The Friend of the Lake award, given at each forum, acknowledges a citizen, business or organization working to promote Great Salt Lake awareness in the community.

In 1997, Bruce Thompson was hired as Education Director to initiate a regional education project designed to enhance both the knowledge about and care for the future of Great Salt Lake. Bruce wrote and produced a live-narrative slide-show program "The Lake Affect: Living Together Along the Shores of Something Great." The program is now available on DVD.

In 1998, the Utah Chapter of the Wildlife Society awarded FRIENDS the Conservation Achievement Award..

In 2000, Project SLICE, a 4th grade curriculum using Great Salt Lake as a system of study, was initiated. The Lakeside Learning field trip program, a component of SLICE, continues to grow.

In 2002, the Doyle W. Stephens Scholarship Award was established. The scholarship provides support to undergraduate and graduate students engaged in new or on-going research that focueses on Great Salt Lake.

In 2002, Lynn de Freitas was awarded the outstanding volunteer educator award by the Utah Society for environmental Education.

In 2006, FRIENDS was the recipient of the Calvin K. Sudweeks Award from the Utah Water Quality Board for outstanding contibutions in the water quality field.

Janessa Edwards, hired in 2014 as Education & Outreach Director, is working to strenghten the Lakeside Learning Field Trip Program and FRIENDS community outreach.

In 2014, FRIENDS of Great Salt Lake awarded the First Annual Alfred Lambourne Prize to Dr. Marden Pond, Sound Artist, for his musical composition entitled "Sanctuary."

On the Cover

The Calm by Lance Partridge (watercolor on paper) 2014

"I take pleasure in the view of the Great Salt Lake from Antelope Island. Looking out to the west on a calm evening, the lake is like glass. The sky and water melt into each other so much, one can hardly see a horizon line. This painting depicts the glass like lake in the calm before the gathering storm."

If you are interested in cards or prints of this painting or would like to see other works from this artist, contact Lance Partridge at: lwpwatercolor@gmail.com.

Creative Expression Inspired by Our Inland Sea

Lake Affect, by Darryl Erdmann
Submitted for the 2014 First Annual Alfred Lambourne Prize

17th Annual Great Salt Lake Bird Festival

Gears up with David Allen Sibley

The 2015 Great Salt Lake Bird Festival promises another fantastic program of field trips, workshops, and family events. And the icing on the cake for our 17th annual Festival - May 14-18th - is Keynote Speaker David Allen Sibley.

Festival attendees have several incredible opportunities to interact with Sibley, America's most gifted contemporary painter of birds, and the author and illustrator of The Sibley Guide to Birds (2nd edition released in 2014). Sibley will offer a workshop at 3 p.m. on Friday, May 15, followed by a book signing. He will also co-lead two field trips on Saturday, May 16, and conclude the day as the keynote speaker at the Festival's Dutch Oven Dinner.

Dinner tickets to hear David Allen Sibley are on sale now at www.GreatSaltBirdFest.com; just click the "Register Now" button. Be sure to check back again starting at 9 a.m. MST on March 2 for all field trip registration. Many trips fill up fast—so log in early to get your preferred spots.

As always, the Festival offers a full slate of family activities on Friday evening and all day on Saturday. The "Birding Is for Families" theme is carried out in the first workshop on Saturday morning, offered by author and birder Bill Fenimore. Saturday workshops are free and feature many live birds.

Another great feature of the Festival is the annual Student Art Contest. The contest is open to Utah students in preschool through 12th grade. In recent years, the festival has received several hundred exceptional entries from students all over the state. All student art is on exhibit at the Festival from 12–7 p.m. on Friday, May 15,and from 10 a.m. –6 p.m. on Saturday, May 16.

The Festival hosts a vendor fair on Friday afternoon and all day Saturday. Interested vendors—both businesses and nonprofit organizations—should fill out the vendor application found online at www.GreatSaltBirdFest.com.

We want to thank all of the Festival volunteer members of the planning committee - past and present- for their hard work. The Festival is truly a result of their passion for sharing the unique bird life and habitat around Great Salt Lake. We are also grateful to our sponsors who support advertising, operations, the Student Art Contest and field trip locations. Thank also to the Utah birding organizations who have taken the Festival "under their wings" and supported

David Allen Sibley courtesy of Erinn Hartman

us in many ways. And many, many thanks to the best field trip guides in Utah, who have offered their expertise and shared their time and efforts to make sure our guests have a memorable experience. Finally, to all of you who support this very important effort that brings awareness and appreciation to the Great Salt Lake Ecosystem which is extremely well deserved.
Happy birding!

Neka Roundy, Festival Chair
neka@daviscountyutah.gov 801-451-3286

Digital Archives Include a Saline Treasure Trove

Records about the Great Salt Lake and the surrounding environs abound in digital form, in the Western Waters Digital Library (WWDL) and the Mountain West Digital Library (MWDL). These two sites aggregate and make available digital material that primarily originates from western universities. In the case of MWDL many of these institutions are situated along the Wasatch Front. These two sites offer an incredible depth and breadth of material about western water generally and the Great Salt Lake specifically.

The MWDL (http://mwdl.org) started in 2001 with the concept to digitally capture and make available historical and contemporary materials about the mountain west. This site has grown exponentially and now houses almost 1 million items, primarily about our region. In 2003, a group of western university research libraries launched what was entitled The Western Waters Digital Library (http://westernwaters.org), under the sponsorship of the Greater Western Library Alliance (GWLA). GWLA is a consortium consisting of 35 academic research libraries located in the Central and Western United States. Utah representatives to GWLA are Utah State University, University of Utah and Brigham Young University. WWDL's original mission was to gather core research materials on four major western river basins: the Columbian, Colorado, Platte, and Rio Grande river basins.

This mission has expanded to include the Great Basin.

In 1998, the Western Water Policy Commission, in its final report, suggested that water data should be collected and archived on a river basin basis and every effort should be made to make the data easily available to all basin agencies and to the public. The WWDL was created, in part, to respond to this call for documenting water in the Western United States. The University of Utah and GWLA agreed to a working partnership to host the aggregated collections from 28 different institutions.

Because the Great Salt Lake is such a critical geographic feature of the Great Basin region, these two sites contain voluminous documents about the Great Salt Lake specifically and also about the river basins and surrounding regions that impact the lake. Currently in the Western Waters Digital Library the primary collection related to the Great Salt Lake is the Bear River Watershed collection. This collection, created by Utah State University, represents over 1,000 items, including historic photographs of the Bear River Bird Refuge, reports from the USU water lab and a myriad of other material. In addition one can find water reports about Great Salt Lake Region from various other institutions. The University of Utah and Utah State University are currently mounting an initiative to document the hydrology of the Great Basin in the Western Waters collection.

The Mountain West Digital Library on the other hand has over 2,000 items when searching with the subject term Great Salt Lake, plus thousands more items when one searches ancillary topics – such as Bear River, High Uintas, Weber basin, Willard Bay, Kennecott Copper, Union Pacific Railroad, etc.

In addition the institutional repositories – Digital Commons (http://digitalcommons.usu.edu) at Utah State University and USPACE (http://uspace.utah.edu) at the University of Utah contain thousands of scientific documents relating to the lake and the surrounding areas. Digital Commons at Utah State houses most of the University Water Lab reports. Both of these repositories hold their respective university's theses and dissertations which contain historical and scientific information about Great Salt Lake.

Questions about these collections or individuals interested in donating material about the Great Salt Lake can contact Brad Cole, Interim Dean, University Libraries, Utah State University at brad.cole@usu.edu or Dr. Gregory Thompson, Associate Dean for Special Collections and Archives, Marriott Library, University of Utah at greg.c.thompson@utah.edu.

Airboat at Bear River Migratory Bird, 1928 courtesy of Bear River Watershed Collections, USU Libraries

The Importance of Water for Great Salt Lake

Thinking About Its Future

American White Pelicans, Great Salt Lake by Rosalie Winard 2011

My high school English teacher gave me one nugget of advice as I was leaving her class on the last day of school. She stated that my writing skills were such that I should seriously consider becoming an engineer; math was certainly my strong suit. About the only thing I remember from her class is the works of a poet named Ogden Nash. Two of my favorite lines from his poems are:

1. "People who have what they want are fond of telling people who haven't what they want that they really don't want it.

2. "Just when you think that at least the outlook is so black that it can grow no blacker, it worsens."

Water in the Great Salt Lake Basin can be likened to these two lines.

- Someone has claimed every bit of water.
- What little bit that goes down stream still has a water rights holder who would really like it back.

Great Salt Lake (GSL) would like a bit of water, but is often told line 1 above. "It is really the 'water rights' holder's water and you really don't need it anyway. You will get enough from another source." A lot of the surface water that reaches GSL is water that just can't be used because it isn't needed at the time it flows by. Bear River flows accounts for more than half the water that flows into GSL. Here is where quote 2 above comes in. Just when you think the flows can hardly get worse, a dam is proposed to capture that off-season water so it can be used upstream during the summer. Loss of any water to the Lake is challenging. Before it is taken from the Lake, the full impact the loss creates should be identified.

The Great Salt Lake Advisory Council sponsored two studies a couple of years ago. One study was about the ecology and one was about the economy of the Lake. We know from these studies that a healthy ecosystem supports a healthy economy. At 1.3 billion dollars, 7,700 jobs and the habitat for a whole bunch of Lake critters, we should understand how these are impacted before we take any more water from this system. Bluntly put, with water scarcity a new norm, all decisions should take into account the greater good for the State of Utah before new projects proceed.

Does it make sense to remove water for landscape maintenance at the expense of jobs or the ecosystem? Will lower Lake levels create air quality problems? Can we adjust in other areas to sustain the Lake at a healthy level? These are all tough questions, but they need answers before we make change or build dams.

Governor Herbert has established a State Water Strategy Advisory Team to plan for the future of water in Utah. Currently the State has a goal of 25% reduction in water use off the year 2000 baseline. If we meet this goal it will postpone when new sources of water are needed. If the goal is changed to 35% reduction the timeframe for additional water is pushed out even further. With a bit of help from agriculture and we may not even need new water development.

In a poll conducted by Envision Utah, the majority of those polled expressed a willingness to conserve to preserve the environment (I am sure this includes Great Salt Lake).

Will these levels of conservation require effort?
"Yes"
Can we make such adjustments? The answer is "yes" again.
We just have to want to.
Perhaps understanding the real economic and environmental price we pay for new water development will motivate us. Conservation may be cheap compared to the new water development.

The price of inaction and inaccurate information is unacceptable when decisions so important are being made.

A sustainable Great Salt Lake ecology and its vibrant economy need to be secure for the future.

Leland Myers is Chair of the Great Salt Lake Advisory Council

"Simplicity" Jeff Clay | Clayhaus Photography

Trying to Piece a System Back Together

An Update on the Owens Lake Front

Two significant steps in the long process of defining the long-term future of California's Owens Lake took place in December of 2014. Within the space of a week, a California court entered a stipulated judgment which resolved years of extremely contentious litigation between the Great Basin Air Unified Pollution Control District and the City of Los Angeles regarding the nature and extent of the city's obligation to control dust emissions from the Owens lakebed and the Owens Lake Master Project Advisory Committee completed its recommendations for a plan the guide the Department of Water and Power operations on the lake.

It has been nearly twenty years since the first orders were issued requiring the Los Angeles Department of Water and Power to control the emissions of fine dust particles (pm10s) from the desiccated playa which resulted from the diversion of the inflow to what was the natural Owens Lake.

The court judgment ends a series of lawsuits between the Air District and the City by fixing a maximum number of acres on which Los Angeles will be responsible for controlling pm10 emissions. This will allow the city greater flexibility in developing and demonstrating the effectiveness of dust control methods which require the application of a reduced volume of water to the lakebed while the City acknowledges the validity of prior orders of the District and provides assurances that those orders will be complied with in full. As the litigation regarding dust control orders played out, a group of more than thirty stakeholder groups has been engaged in a process of creating a vision for the lake.

The process began in 2008 and has continued with the objective of creating a master project which will encompass all future work by the City of Los Angeles on the lakebed. Early on, the stakeholders adopted three equivalently valued objectives: ongoing effective control of particulate emissions, reduction of the volume of water placed on the lake to achieve that control and protection of the hemispherically significant avian habitat resources which developed at the lake as a result of the use of water as a dust control measure.

The Advisory Committee adopted a suite of detailed recommendations aimed at achieving these goals and increasing public education, access and recreation opportunities at the lake. The recommendations were adopted by the committee through a consensus process and have been forwarded to the City of Los Angeles which will prepare the form project proposal and related environmental documents.
Initial release of the proposed mater project which will undergo review under the California Environmental Quality Act is expected in June of 2015. Completion of that process and related permits and approvals is expected to extend into 2016.

The stakeholders document includes proposals for the transition of water-dominant dust control practices to alternatives which will yield substantial savings in overall water use, documentation of existing habitat values and a mechanism for measuring impacts to those values which may result from dust control transformations, and mechanisms for assuring that no net loss of habitat for any of six identified bird species guilds will result from implementation of the project. As the CEQA analysis unfolds, the habitat working group of the Advisory Committee will continue to meet and develop protocols for monitoring and adaptive management so that those protections will be up and in place at the time that the first steps are taken to change the landscape of the lake bed.

These two actions represent the first steps in what is hoped will be a process of collaboration at Owens Lake. For many years, valuable time, money and expertise has been spent on fighting about the lake; now those resources can be devoted to achieving a mutually developed vision of this valuable saline lake.

Peter Pumphrey is the President of the Eastern Sierra Audubon Society

For more information Google Owens Lake Master Project

Numerous pipes carry fresh water from the Los Angeles Aqueduct to Owens Lake where it is distributed as a dust control method photo courtesy of Rosalie Winard

Numerous pump stations and electrical boxes sit on the Owens Lake bed as part of the dust control infrastructure photo courtesy Rosalie Winard.

Owens Lake photo courtesy of Rosalie Winard

Great Salt Lake Education

Community Service and Education meet on Antelope Island

Spring at Great Salt Lake is a special time. Life is in early bloom everywhere you look, from the young pickleweed working its way through the salty soil to the returning migrant birds poking around the playa searching for the perfect nesting spot. It is the season of new beginnings, of new cycles.

On March 28th, FRIENDS had the opportunity to participate in a unique service project with several community partners. The Loveland Living Planet Aquarium, Starbucks, The Water Bearer Foundation, local Boy Scouts and FRIENDS of Great Salt Lake worked with the Utah Division of Forestry, Fire & State Lands (FFSL) to foster a new cycle of land use.

There is a section of wetlands just before the entrance to Antelope Island State Park that has suffered from years of neglect due to the fact that there is an easement on the land that allows target shooters to practice here. But that easement does not allow for the right to pollute Utah's precious wetlands. The ground is covered in orange clay pigeon shards, shotgun shells, and lead based ammunition that seeps into the soil and can drastically affect the ecosystem.

The call for action was loud and clear.

Before any physical work took place, FRIENDS wanted to find a way to incorporate aspects of education and sustainability into the project. The partnership with FFSL made it possible for us to do just that. FFSL restricted access to the area and posted new regulations, allowing for non-lead based ammunition only. This action is a start to a sustainable change in the way this land is used.

On the day of the service project we joined forces with 50 other volunteers from the various community organizations and got to work! And work we did. We raked, shoveled, and hauled bucket after bucket of tiny pieces of trash out of the wetlands. At times we were on our hands and knee picking out the pieces that our rakes missed. It was frustrating work but spirits were lifted when a generous stranger, who spotted us working, brought coffee and donuts for the volunteers! This individual was an older gentleman who would only say he loved the Lake and appreciated the work we were doing before getting into his truck and driving away. This random act of kindness motivated the group to keep working despite the heat and bugs that had joined the party by afternoon.

A second burst of motivation came in another unexpected form. A group of hunters who had come out to practice only to find the area flooded with volunteers. Rather than complain about their plans being ruined, they were interested in what was going on and the new regulations that would impact them. Then they grabbed some rakes and started working alongside us. It was a great educational moment with a group of people who regularly use the area, and who can help spread the conservation message to other hunters.

At the end of the day we looked around at what we had accomplished with pride and with hope for the future conservation of Great Salt Lake wetlands.

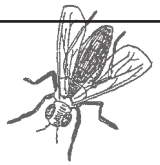
To find out about upcoming service projects and how you can get involved, contact FRIENDS Education and Outreach Director Janessa Edwards at @pelican@fogsl.org.

Photos courtesy of The Loveland Living Planet Aquarium

Great Salt Lake At A Glance

Courtesy USGS

Dr. Ephydra - We Welcome Your Questions Via Email or Phone



E • phy' • dra, a noun; a genus of two species of brine flies that live on the bottom of the Great Salt Lake as larvae and pupae, and along the shores of the Lake as adults.

Low Lake Conditions at the GSL Marina and Preparing for Dredging

This is an edited email that was sent to slip renters at the GSL Marina from Dave Shearer, Harbormaster – March 23, 2015.

It was good to see so many faces at the Antelope Island outing this last Saturday. I hope we were able to pass on some helpful information about dredging, snowpack and Lake levels. It's time to face some very hard facts of where we are right now.

Good news first - $1.5M has been allocated by the legislature for dredging the Great Salt Lake Marina in fiscal year 2016. $500,000 came from State Parks Park Fees restricted funds, $1M from State Lands restricted funds. Fiscal year 2016 begins July 1st so dredging efforts cannot begin until then.

And now for the hard, realistic facts. We have had an abysmal winter snowpack. Today our snowpack is 57% and dropping fast. Yet the Lake is not rising very fast at all. We have probably already topped out for the year at 4,194.1'asl. That means we only came up 1' this year instead of the normal 2'. We are likely to lose 2.8' of Lake level this summer bringing us to a new historic low of 4,191.3'. That will leave us 1.6' at the marina mouth and about 3 - 3.5' inside the marina by fall. By late May anyone with a draft of 4' or more will be stuck in the marina. By late June anyone with a draft of 3.5' or more will be stuck in the marina. By late July anyone with a draft over 3' will be stuck in the marina. By late July there will only be about 1' of water depth at the launch ramp. By the time we can realistically dredge there will be about 3' of water in the south basin of the marina. The west basin will be lost to the sailboats.

I encourage any vessel with a draft over 4' to pull out on the April 23rd Crane Day. If you don't pull by then you'll likely become stuck in your slip within a month or more, and you won't be able to get to the crane much after mid-May. Please consider that if you're stuck in your slip, we can't dredge it. I further recommend anyone with a draft over 3' to pull out sometime in mid-May to early June. We will keep you posted on the Lake level and likely Crane Day for the smaller draft boats in the coming month. On April 1st, winter rates will be charged for those boats currently trapped in the marina.

The Lake level outlook for next year is also grim. By fall, the reservoirs and ground water will be so low that most of next year's snowpack will go into replenishing them rather than to Great Salt Lake. We would need a snowpack of 140% or more for the Lake to have a net rise next year. I know this is horrible news and that it brings an extra burden to slip renters in de-rigging boats, paying for crane time and scrounging up trailers, stands or cradles. But things will hopefully look much brighter after dredging is done.

Current Plan

The original plan calls for dredging the whole marina and cutting a new path across the reef in an area known as the REEF CHANNEL. This is in line with the marina mouth and heading directly towards Promontory. This path is only .5 miles of dredging as opposed to 1.7 miles of dredging the DEEP CHANNEL. The cost of dredging the whole marina and the REEF CHANNEL was estimated at $1.175M. That might leave enough money to modify the breakwall's dogleg and make it a sea wall instead. And it might help mitigate future silting inside the marina but might still mean periodic maintenance of silting at the mouth. The estimated cost for modifying the mouth was $400,000.

The marina was originally dredged to 4188' back in 1980 - 6' lower than the current Lake level. I have talked to a couple of dredgers who are confident they can dredge deeper than that but we won't know how successful dredging will be until it is actually completed.

There are lots of things to do before dredging. We've lost B dock and will begin to lose C dock this spring. We'll be relocating boats from those two docks to other slips, and move as many boats into the south basin as possible this spring. This will minimize boats being stuck in their slips as well as free up the west basin for dredging work.

This May we are bringing in an excavator to dig out parts of the berm near each of the docks in the south basin so that gangways can settle down instead of bottom out. Being higher than the docks, and it will allow the docks to fall straight down rather than bottom out on the berm and begin twisting and buckling. We'll also try to cut out part of the lower shelf of the breakwall to widen the marina mouth some until dredging can begin.

What Happens Next?
We need to get all boats with drafts over 3' out of the marina before they become stuck in their slips. Please, please consider pulling out this spring or summer while you still can so that we can be as successful with dredging as possible. This would be a good time to do maintenance on your boats.

Because of the amount of money involved Division of Facilities, Construction and Maintenance (DFCM) will manage the initial process of bidding for engineers and dredgers. Parks will work closely with the engineer on where, how deep, and what to do with the spoils. The engineering firm will be responsible for all Army Corps permits and environmental issues. After engineering is complete, a bid will be put out for a contractor following all DFCM rules and criteria. Once construction begins Parks will oversee the project until completion. One option is to purchase the dredge equipment. To sum it up the project will strictly follow all DFCM guidelines and will be Design/Bid/Build.

Crane Day and Storage
Crane Day is still Saturday, April 23rd and possibly April 24th depending on the demand which is high right now. Two cranes will be on site –one at the top of J dock and able to accommodate 120-240 tons. The other will be stationed where boats are being stored on stands and cradles. Please get your stands and cradles ordered and RSVP for crane spots ASAP!

Drafts of less than 4' might be able to wait until June before pulling out. We'll monitor Lake levels and keep you informed. We'll try to have three to four trailers available to put boats on temporarily so that we can shuttle the boats that don't have trailers, over to the storage area where the second crane will lift you off the trailer and put you on stands or cradles. Costs for each pick could be anywhere from $75 to $300 dollars (estimate only!) depending on how many boats sign up and how long each boat takes to put on trailers and stands.

We will begin storing boats in the south parking lot between the dumpsters (entry area) and the Marina Office. Monthly costs will be $25.00. If we run out of room in the south parking lot we will start storing boats in the west parking lot against the fence line for the docks. For those that will be pulling out but do not want to give up your slip for fear of not getting your slip back, do not worry. We will not rent out your slip. We may move a boat into it temporarily in order to accommodate dredging efforts. But we will reserve your slip and no cost to you.

Not All is Doom and Gloom – Trend Change
It isn't the end of the world. Or should I say it isn't the end of Great Salt Lake. Some studies indicate that the Lake has actually dried up three times in the last 10,000 years. I have also been studying the Lake for some time now. What doomed us this year was storm track. The storms just didn't come over the Lake this year. We had a high pressure camped over us all winter pushing the storms over the top of Utah or destroying them all together as they hit the high pressure. The storms WILL return. Remember 4 years ago? We came up a record 5'. And it felt like winter would never end. The Lake kept rising all the way into July. One long-term study indicates that the Lake will begin an upswing in lake elevation in 2017.

Please feel free to email or call me. Thank you. Dave

Boats in the Harbor by Charles Uibel

Discovering Our Lake

Breeding Raptors and Citizen Science Around the Great Salt Lake

An adult male Northern Harrier flying over the Great Salt Lake Shorelands Preserve
Image courtesy of Neil Paprocki

Spring around the Great Salt Lake is always an exciting time for us raptor-geeks at HawkWatch International (HWI).

Many raptors around the Great Salt Lake are among the earliest birds to start breeding activities. Even before the famous flocks of migratory waterfowl and shorebirds descend upon the lake, raptors are establishing their breeding territories, building nests, and laying eggs.

The unique network of natural areas and variety of habitats around the lake supports large numbers and diversity of breeding raptors. Raptors breeding in Great Salt Lake ecosystems include wetland-water associated species like Northern Harriers and Bald Eagles, shrubland-grassland associated species like Short-eared Owls and Golden Eagles, and agricultural-suburban associated species such as American Kestrels, Red-tailed Hawks, and Swainson's Hawks.

Ample prey abundance is one of the crucial factors associated with nesting success in raptors, and the variety of habitats around the lake support a variety of raptor prey species. Small mammals, waterfowl, shorebirds, songbirds, and insects all make up substantial proportions of a raptor's diet during this critical time of year when eggs are being laid and hungry young mouths demand feeding.

While resources for many may seem plentiful, two raptor species calling the Great Salt Lake home are not doing so well. Populations of American Kestrels and Short-eared Owls are declining, and the HWI staff is working with a large team of citizen scientists to study and, hopefully help conserve these two species that need our help.

The American Kestrel is a small but colorful hole nesting falcon. They belong to a group of species we call secondary cavity nesters, meaning they rely on other species (woodpeckers) or processes (tree rot) to create nesting cavities, as they are unable to excavate their own. Being a secondary cavity nester has its drawbacks however. Human forestry practices that have reduced the number of large old trees that tend to have hollows and removal of cavity bearing snags (dead trees) have caused a reduction in natural cavities in many areas. On top of this Kestrels face increased competition for the limited natural cavities that remain from invasive species such as the aggressive European Starling.

The philosophy of reconciliation ecology holds that the most effective way to preserve species and biodiversity in our human dominated world is to adapt our landscapes so that they contain essential habitat elements for different species. For secondary cavity nesters the essential element is nesting cavities and one way to create nesting habitat for some secondary cavity nesting birds, including American Kestrels, is to install nestboxes. By increasing nesting habitat, we can have an immediate, and measurable impact on populations of American Kestrels.

Each spring, HWI staff and citizen scientists monitor a growing network of Kestrel nestboxes located in various landscapes around the Great Salt Lake and along the Wasatch Front. Nest boxes provide additional breeding habitat for Kestrels, but also allow HWI scientists to study the landscape-specific reproduction and survival of this feisty falcon in wildland, agricultural, and urban settings. Next time you're out visiting Farmington Bay Waterfowl Management

A young citizen scientist from Ogden holds a nestling American Kestrel while HWI staff study the contents of its nestbox (in background). Image courtesy of Mike Shaw

Area or Antelope Island State Park, keep a look out for these small wooden boxes mounted on fence posts, trees, and buildings--they may be home to a nest of North America's smallest falcon.

Another species that HWI and others are concerned about is the Short-eared Owl. Owls in general are an often-understudied group of birds due to their secretive and nocturnal nature, but we know even less about the nomadic and unpredictable Short-eared Owl.

The Short-eared Owl is a widely distributed medium sized owl aptly named for its small "ear-tufts" that are not actually ears at all, but small feathers that can be raised and lowered similar to the larger ear-tufts seen on Great Horned or Long-eared Owls. These ear-tufts are thought to help roosting owls appear more like broken branches and also might be used to communicate silently with others based on different 'tuft posture'. Breeding around the Great Salt Lake, Short-eared Owls are best viewed in wetland and grassland habitats at dusk. Good areas for Short-eared Owls include Bear River Migratory Bird Refuge, Farmington Bay WMA, and the road to Promontory Point.

Unfortunately, recent scientific evidence suggests Short-eared Owls are experiencing range-ride, long-term population declines in North America. Habitat loss, fragmentation, and degradation of native wetlands and grasslands are thought to be the primary causes of this decline. A lack of effective monitoring has made studying this species difficult, and has likely played a role in 40 states, including Utah, listing the Short-eared Owl in state wildlife action plans. Currently the Short-eared Owl is listed as a Tier II Species of Concern in Utah. Each spring, Short-eared Owls perform elaborate courtship flight displays where males hoot and circle high into the air, then dive down, clapping their wings beneath their body. This courtship display makes owls highly visible to observers during twilight hours, and recently developed survey methods take advantage of this behavioral window. HWI, in partnership with the Utah Division of Wildlife Resources and the Idaho Bird Conservation Partnership, is launching a citizen science effort to track Short-eared Owl populations and identify critical habitats in Utah and surrounding states.

Beginning in early spring 2016, HWI will recruit citizen scientists from around the Great Salt Lake and across Utah to conduct twilight surveys for Short-eared Owls from 1 March – 30 April. Data from volunteers will be used to estimate the population size of Short-eared Owls in Utah, identify important areas and habitats within Utah for breeding Short-eared Owls, and will also be combined with similar data from surrounding states such as Idaho to better track population trends in the western US and to identify regions and habitats of greatest conservation priority for the species.

A Short-eared Owl perches on an old snag at Farmington Bay Waterfowl Management Area. Image courtesy of Jerry Liguori

Interested in learning more? Contact Dave Oleyar (doleyar@hawkwatch.org) about the American Kestrel project or HWI Neil Paprocki (npaprocki@hawkwatch.org) about the Short-eared Owl project.

FRIENDS of Great Salt Lake

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Sept. 16 (Fall)
Dec. 16 (Winter)
Mar. 16 (Spring)
June 16 (Summer)
Submit articles and images for consideration to Lynn de Freitas, ldefreitas@earthlink.net, or call 801-583-5593

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Thank you to The Great Salt Lake Brine Shrimp Cooperative for sponsoring the 2015 Doyle W. Stephens Scholarship

We want to thank Tom Alderwood and Alderwood Fine Art once again for hosting the 1st Annual Alfred Lambourne Prize celebration last September. We appreciated his time and generosity in sharing his lovely space for that event and to exhibit the work of the artists who participated.

Jeff Clay - Clayhausphotography.com - for his thoughtful silent auction donation at our 20th Anniversary Gala last October.

Framed landscape by Charles Uibel

Lake Fact:
How much water is being proposed for the Bear River Water Development Project if it comes to pass?

Answer: 220,000 acre feet.

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Gathering the Light Hunters by Charles Uibel