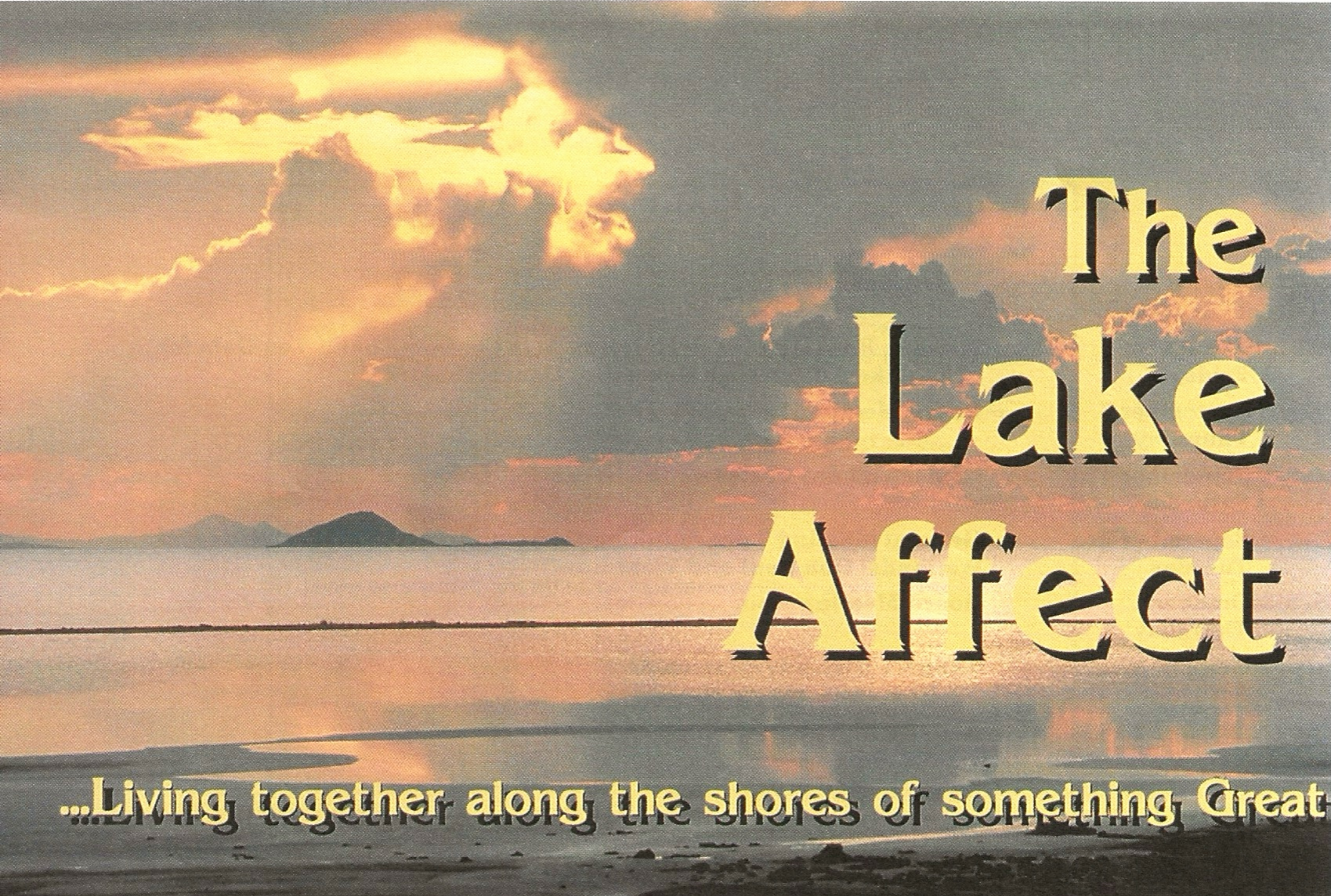


FRIENDS OF GREAT SALT LAKE

P.O. Box 2655, Salt Lake City, Utah 84110
Volume 4 Number 4

FOGSL@xmission.com (801) 582-1496
Summer 1998



The Lake Affect

...Living together along the shores of something Great

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, and advocacy.

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Calendar

August 6, Thursday	Board Meeting 7 pm
August 14, Friday	7:15 pm, Rose Wagner Performing Arts Center - Thank You Gala for "The Lake Affect" with Repertory Dance Theatre
September 3, Thursday	Board Meeting 7 pm
September 12, Saturday	Cruise - all day cruise on the Great Salt Lake
September 22, Tuesday	General Meeting 7 pm, "Linking Communities, Migratory Birds and Wetlands" Don Paul and Vicki Roy.
October 1 Thursday	Board Meeting 7 pm
October 3, Saturday	Adopt-A-Highway cleanup
October 27, Tuesday	General Meeting: Election of 1999 board

NOTE: General Meetings are held at the Sugarhouse Garden Center, Located in Sugarhouse Park next to Highland High School. Board meetings are held at the Salt Lake County complex on 2100 S. State St., Room S3009 (South Bldg.) All members are encouraged and welcome to attend.



President's Message

Last January, I arrived for a Friends board meeting at “our room” in the County Complex. There was already a meeting in progress. I dashed off to find the security guard, who had the schedule to resolve the conflict. After some doing (it’s not easy to locate one man in a building that big) I found him. According to his list, a new schedule was in place, and now Friends of Great Salt Lake was displaced. ‘Now, just give me a minute,’ he said, as he scanned his room roster. “Afterall, we should be able to make room for the Great Salt Lake, shouldn’t we?” I was touched by the innocence of his comment, and stunned over its irony.

In the fray over “who wants the alignment where”, the issue begs many questions. Why would we want a highway that creates such harm to the Lake’s ecosystem? How could such a thing possibly “protect” the wetlands by first destroying at least 160 acres of them for its own construction? Why would we want to spend money on a transportation idea that ultimately “dead ends” in its return on investment to the residents along the Wasatch Front? By its very nature, this project dictates damage to wetlands, farmlands and open space, regardless of which alignment is selected. In the big picture of things, because of its impacts on the Great Salt Lake ecosystem, the proposed Legacy West Davis highway is no longer just a local issue; it’s a global one.

Brooks Carter, in his infinite wisdom as Chief Regulatory Officer for the Army Corps of Engineers working to support the 404 (b)(1) Guidelines of the Clean Water Act, informally rejected the locally preferred alignment C because of the number of wetlands impacted by this route. As a result, UDOT plans to appeal to the national leaders of the Corps and congressional leaders. As predicted, the level of involvement and controversy has escalated, and that’s where you come in. **THE LAKE NEEDS YOUR HELP.**

It’s letter time, once again, on behalf of the Lake. Please express your opinions about why we need better answers to our transportation needs than just another highway. Emphasize the importance of Great Salt Lake as a vital component in the Western Hemispheric Shorebird Reserve Network. We can do a lot better in planning for the future and protecting those values we hold dear by integrating alternative transportation systems with sound land use planning. You’ll find good information on our web site at www.xmission.com/~fogsl to help you compose your thoughts. Write to Mr. Michael Davis. He is the next level of authority of the Army Corps, and we need to get his attention on this matter. Please send a copy of your letter to me. I’d like to see it.

Write to: Michael Davis
Assistant Deputy Secretary of Civil Works
Department of the Army
108 Army Pentagon, Room 2E570
Washington, D.C. 20310-0108

On another global note, Friends and Great Salt Lake Audubon met with the Salt Lake Olympic Organizing Committee to discuss ways of involving the Great Salt Lake as a part of the Olympic welcome mat. Afterall, we have the greatest snow on earth because of the lake effect, right? Great Salt Lake also provides a wonderful example of avian Olympians-in the millions; migrating birds that travel from the southern hemisphere north to Great Salt Lake, and beyond. SLOC is eager to work with us and others representing the Lake to develop educational opportunities during the Olympics. That’s good news! My best regards, Lynn de Freitas

"We can find happiness in protecting the world around us not only because we cherish it for its awesome beauty, power, and mystery, but because we cherish our fellow humans, those who live today and those who will live tomorrow." Jacques-Yves Cousteau 1910-1997



Letter from Friends of Great Salt Lake to US Army Corps of Engineers

June 9, 1998

Brooks Carter
U.S. Army Corps of Engineers
1403 South 600 West
Woods Cross, Utah 84010

Art Champ, P.E.
U.S. Army Corps of Engineers
1325 J Street
Sacramento, CA 95814-2922

re: The Proposed Legacy West Davis Highway and the Locally Preferred Alternative (LPA)

Dear Messrs. Champ and Carter:

Friends of Great Salt Lake is a nonprofit organization whose mission is to preserve and protect the Great Salt Lake ecosystem and to increase public awareness and appreciation of the Lake through education, advocacy, and research.

In principle, we oppose the Legacy West Davis Highway because we believe that there are better alternatives for the transportation needs of the greater Wasatch Front. We can't build our way out of congestion. Highways promote urban sprawl and exacerbate the air quality problems we already experience. We also believe in the preservation of open space, farmlands, and the wetlands of the Great Salt Lake ecosystem and feel that to protect these values, integrated land use and transportation alternatives should be considered as practicable alternatives to the Legacy West Davis Highway.

Integrated land use and transportation alternatives involve planning for development by designing compact, walkable communities and incorporating improved mass transit options within these communities. This provides the incentive for people to move away from being totally auto-dependent. As long as we continue to maintain a focus on cars and highways in the way transportation spending currently takes place, we cannot achieve integration of community development and improved transportation choices. If these options were implemented in conjunction with the expanded improvements on I-15 North, improvements on existing arterials, and commuter rail, they could well preclude the need for the Legacy Highway.

Although UDOT has been unwilling to admit that if this first segment of the Legacy Highway is built, then the other segments would follow, it was recently announced by the Wasatch Front Regional Council that the northern portion of the highway (Farmington to Ogden) has been included in their long range transportation plan. It could be assumed that if this proposed highway is permitted, the additional segments will eventually be built.

The Locally Preferred Alternative (LPA) of the proposed Legacy West Davis Highway is the most environmentally damaging alternative of all those considered, and will destroy hundreds of acres of quality wetlands of the Great Salt Lake ecosystem. Above and beyond the direct impacts to air and water quality, wetland and wildlife resources, visual quality, and noise associated with the highway itself, there would be significant secondary impacts resulting from commercial and industrial growth on the so-called "developable" lands to the east of the LPA. The threat of parceling out precious wetlands bit by bit for development would constitute a major leap toward the demise of one of the most unique and valuable ecosystems in the western hemisphere. Designated as part of the Western Hemispheric Shorebird Reserve Network, the Great Salt Lake ecosystem provides habitats for a vast array of shorebirds, waterfowl, and raptors. Included are 33 species of shorebirds, the world's largest breeding population of California gulls, 11 active pairs of peregrine falcons, the only staging area in the interior United States of marbled godwits, the world's largest breeding population of white-faced ibises, the home of the only bald eagle nesting site in Northern Utah, one of the three largest colonies of white pelicans in western North America, the world's largest



assemblage (representing 55% of the entire breeding population west of the Rocky Mountains) of the snowy plovers, the world's largest populations of Wilson's phalaropes and eared grebes, and waterfowl populations that are approximately 30% (3 to 10 million) of the ducks of the Pacific and Central Flyways.¹ From a global perspective, these kinds of long range staging habitats are scarce. The Great Salt Lake is paramount in this role.

There is an inverse relationship between the quality of wetlands and their proximity to development. Those furthest away from development have minimal degradation and thus are considered prime habitats for nesting and staging sites for wildlife. The implementation of the LPA would maximize the loss of high quality wetlands along the eastern shore of Great Salt Lake, while also creating significant encroachment on the flood plain of the Lake. Impacts from the LPA would also sacrifice portions of the Farmington Bay Waterfowl Management Area, internationally recognized as important to shorebirds and the chosen site to dedicate the Western Hemispheric Shorebird Reserve.

Predictably, the issues around this highway are politically charged and, doubtless, create pressure on the Corps of Engineers' decision whether or not to permit the highway under Section 404 of the Clean Water Act. The cities along the corridor have been led to believe that the LPA would "protect" the wetlands from the impacts of development by creating a "buffer". With this "buffer", they can develop properties to the east of the LPA. This argument is not only speculative, but highly inaccurate.

Our analysis is, first, that the creation of a "buffer" fails to "protect" the wetlands, and, second, that it is not feasible to consider all lands east of the LPA as "developable".

The combined characteristics of wetlands south and west of the Farmington Bay Waterfowl Management Area confirm that there are comparatively few undisturbed wetlands remaining in this area. Dikes and duck clubs predominate. This means that much of the overall character of the wetlands to the west of the LPA have already been impacted or manipulated in some fashion. Even if private land acquisitions for future mitigation designation could be achieved, the loss of prime, productive wetlands from the road construction alone would be irreplaceable. There is also a strong possibility that Union Pacific will consider moving its rail line to the western side of the highway. To accommodate heavy freight at high speeds, the radius of the track would need to be more gradual. This would push the rail line further to the west into more wetlands. Protecting the wetlands then becomes an oxymoron.

In 1996, Davis County endorsed the Davis County Wetlands Plan. This plan identified wetlands located within its jurisdiction, and designated a line west of most urban development as a Wetlands Conservation Zone. Lands within the zone would be preserved, and would also provide future mitigation potential for development outside of the zone. In return, regulatory requirements to facilitate development outside of the zone would be simplified.

A significant portion of the LPA falls within the Wetlands Conservation Zone, destroying about 160 acres there. Since the proposed mitigation ratio for the West Davis Highway is 10 to 1 (10 acres of newly created wetlands for every 1 acre destroyed) the highway would actually utilize all of those wetlands identified in the zone for its own mitigation purposes. As a result, this "package" would leave no suitable alternatives for wetlands mitigation for the future planned development in the areas east of the highway. Therefore, for the City fathers to believe that they can develop all properties east of the LPA is simply not true. The only areas remaining to mitigate for development in wetlands east of the highway would also be east of the highway, thereby diminishing the total area of developable land.

Friends of Great Salt Lake and other interested parties, have signed a letter (Title: Integrated Land Use / Transportation Alternatives to the Legacy Highway) which addresses mass transit and other transportation and land use options that, if implemented, could make the Legacy Highway unnecessary. These kinds of transportation options could minimize impacts on wetlands and other public resources, and make them practicable (cost effective, technologically available and logistically possible) in fulfilling the legal requirements of the Clean Water Act, as well as providing improved transportation between people, goods, and services.

We support the Corps of Engineers in its strong adherence to the Section 404 (b)(1) Guidelines. We also believe that the Corps will not permit a project that is not practicable. Transportation "solutions" that create extensive damage to the aquatic ecosystem are not solutions at all. There is too much at stake to support the logic of preserving wetlands by first destroying them.



Citizens Against Chlorine Contamination

Scott Endicott
June 20, 1998

Each year the United States Environmental Protection Agency collects reports on emissions of toxic chemicals from industrial facilities across the country. The agency compiles the data and publishes it under the title "Toxic Release Inventory", also known as the TRI database. The 1996 TRI data have just been released.

Since CACC volunteers follow emissions of MagCorp closely, we await the TRI data with interest. This year, MagCorp's emissions have increased again and their national rank as the worst emitter in the country remains unchallenged.

1995 and 1996 Toxic Emissions from MagCorp

Chemical	Emissions (lb/yr)		US Rank	
	1995	1996	1995	1996
Chlorine	58,150,000	59,150,000	1st	1st
Hydrochloric acid	6,140,000	6,140,000	2nd	1st
Total	64,339,080	65,311,364	1st	1st

Between 1995 and 1996 emissions of chlorine increased by one million pounds (500 tons), easily maintaining MagCorp's first place rank in emissions of chlorine. The next highest emitter of chlorine is Cabot Corp. of Tuscola, Il., which emits only about 2 million pounds of chlorine releases -- almost 30 times less than MagCorp.

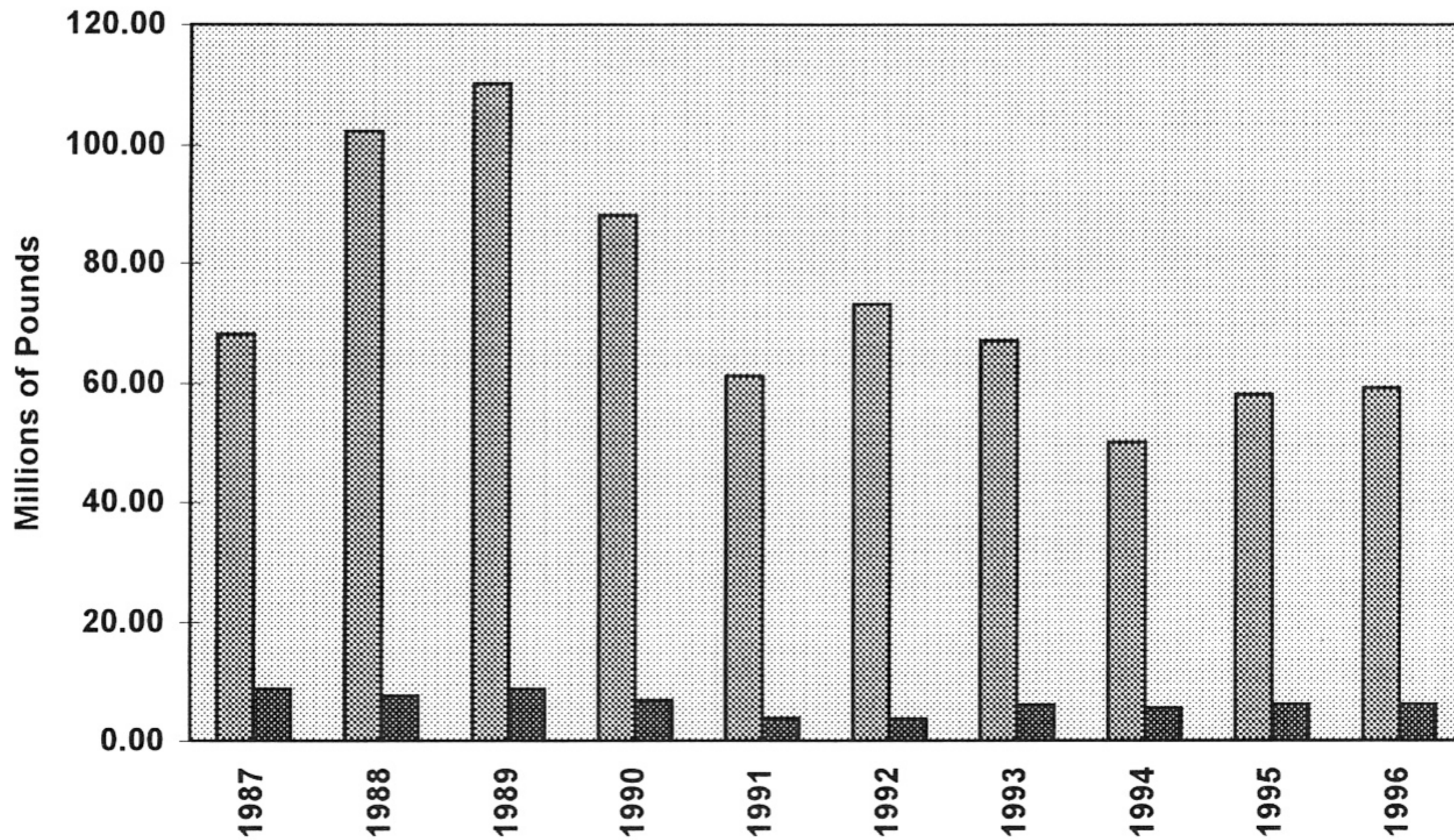
MagCorp's emissions of hydrochloric acid remained the same as in 1995 while LaFarge Corp. of Michigan decreased theirs substantially to about 2.6 million pounds. MagCorp has ranked first for hydrochloric acid many times in past years.

The unique magnitude of MagCorp's chlorine and hydrochloric acid emissions presents a recurring problem with regulation of MagCorp. Since they are essentially one of a kind, EPA does not consider them a national problem and leaves the State of Utah to deal with them. No national ambient standard or emission standards for chlorine exist. However, the Utah Legislature prohibits the Department of Environmental Quality from promulgating regulations more strict than federal regulations without an oppressive demonstration of need, commonly called HB57 after its bill number. That prohibition combined with the political climate in Utah dominated by industry results in timid regulation by the State.

During the period from 1987 to 1996 MagCorp's emissions fluctuated from a high of 110 million pounds in 1989 to a low of 50 million in 1994. Production rate changes and environmental conditions (e.g. GSL high water in 1980s washed out evaporation ponds) account for most of the variations over the years, although gradual decreases in emissions per ton of product helped.

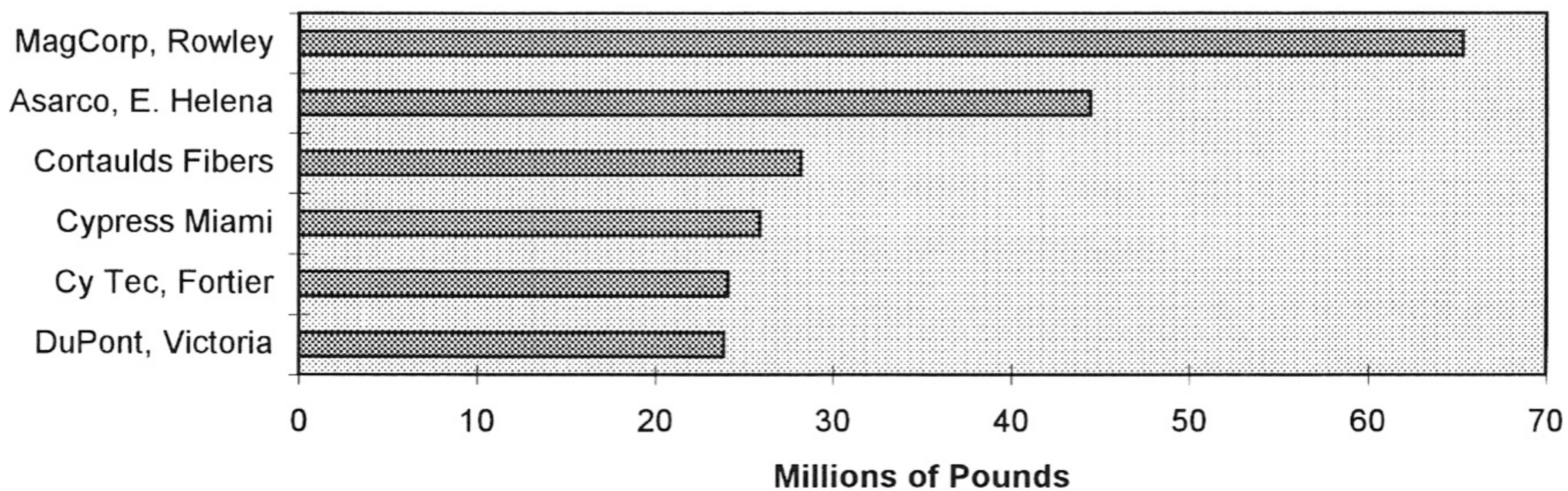
Now, that downward trend in emissions has been reversed by higher reported emissions in 1995 and 1996, due to production increases. The reversal is ominous because in 1996 MagCorp requested and received (over CACC's objections) authorization for a production increase. That increase is not reflected in the data reported to the TRI for 1996, so we can expect increases of emissions to be announced at this time for the next year or two.





The above chart shows MagCorp's emissions of Chlorine (left bars) and Hydrochloric Acid (HCl) (right bars) over the last decade.

The chart below shows emissions of different single facilities in 1996.



Friends of the Highway: Adopt-a-Highway Clean-up

Once again, Fall brings with it our commitment to tidying up our section of adopted highway near Saltair. The selected date for our next clean-up is:

Saturday October 3

We will meet at the Saltair Exit at 9:30 and work until noon. Lunch will follow. So that we can order the correct number of lunches, we are asking for RSVPs on the Tuesdays before each of the clean-up dates. Call Margie at 487-4383 or email her at chiron358@aol.com to put you on the list. We really appreciate your support in this effort.



**Friends of Great Salt Lake
& Repertory Dance Theatre (RDT)**

request the pleasure of your company for the
gala celebration of the 50th presentation of

The Lake Affect... living on the shores of something great.

narrated by **Bruce Thompson** our **Education Director**

together with

Watermark

part of RDT's major work **Landscape**

This event is a **THANK YOU** to supporters, contributors, and members of
Friends of Great Salt Lake
who helped make this all possible.

Friday, August 14, 1998

7:15 PM

at the Rose Wagner Performing Arts Center
158 West 300 South
Salt Lake City

light refreshments

parking available on the west side of the building

Seating is limited.

Please RSVP to Lynn at 582-1496 by August 10th
or email ldfreitas@earthlink.net



Linking International Jewels

by Wayne Martinson
Utah Wetlands Coordinator, National Audubon Society

In May, four human Great Salt Lakers migrated to Saskatchewan, Canada for five days. Ella Sorensen, Don Paul with Utah Division of Wildlife Resources, Vicki Roy with Bear River Refuge and I attended a "Linking Communities, Migratory Birds and Wetlands" workshop.

We joined three Mexicans, 20 or so Canadians and Jim Corven, the Director of the Western Hemispheric Shorebird Reserve Network, Manomet Massachusetts. We came together as a workshop brochure says "to symbolically link three Western Hemispheric sites used by the same group of shorebirds during migration." The intent of linking these sites is "to demonstrate the viability of developing partnerships to share resources and experiences which will strengthen the capability and commitment to conserve these important bird areas."

The sites being linked were Chaplin and Quill Lakes in Saskatchewan, Canada; Marismas Nacionales, Mexico which is roughly sixty miles north of Puerto Vallarta; and the Great Salt Lake. The main shorebird serving as a link was the American Avocet.

In preparation for the trip to Canada, a Great Salt Lake shorebird assessment workshop was conducted and the results of the workshop were written up by Don Paul, Vicki Roy and others.

Bringing people together from three countries with two languages to share shorebird resources that are vitally connected was a wonderful experience. Certainly there is work to do and specific objectives to accomplish. But there are also many exhilarating yet sobering images. Here are just a few impressions from the trip to Saskatchewan:

At Chaplin Lake we saw perhaps 40,000 Sanderlings or roughly 40% of the Western Hemisphere's population of the species. Some 2,000 or so Sanderlings flew over us at one time in a display of force, power and energy from such a small bird.

Wonderful. And scary. If so much of one species is using just one relatively small saline lake what would happen if that resource lost its value for the birds?

A resident of Chaplin, Canada referring to the birds at Chaplin Lake said something like: We never paid attention to those birds. We just always called them Snipes. But now, we are beginning to understand the different birds. It's exciting.

After visiting the morning activities at the Wadena Shorebirds and Friends Festival, we are about to depart on the tour bus. The Mayor of Wadena comes on board the bus and provides each of us a pin that says "Wadena & the Great Wetlands of Quill Plain."

On May 25 we attended the official announcement of the TransAmerica Migratory Bird Fund. This fund was established to help sustain or enhance the status of migratory birds in the Americas. The announcement was organized by Saskatchewan Wetland Conservation Corporation. There was visible support for this effort from the Government of Saskatchewan with a major donation from a private corporation - TransCanada International.

At Chaplin Lake we talked to the manager of the one local brine shrimp company. From Luis Aragon of Mexico we hear that one of the big considerations in Marismas Nacionales is how to deal with the proposed expansion.



sion of shrimp aquaculture and how to protect the wetlands at the same time. Since brine shrimp are an important component of the aquaculture industry, how much impact might the brine shrimp from Great Salt Lake and Chaplin Lake have on wetlands at Marismas Nacionales?

One day the four Great Salt Lakers had an opportunity to have a guided tour through the Canadian plains and foothills, which are interspersed with countless prairie potholes containing untold waterbirds. What an overwhelming, repetitive, splendor. Vicki Roy calls the potholes jewels. There were so many jewels! And yet there are different viewpoints. At one stop we talked to one farmer trying to make a living off the land who considers the potholes more as nuisances.

Coming home from Canada there are some things to do. Here are just three:

1. Informing a broader public about this shared resource is important. By time you read this, there will probably have been a feature article by Ella Sorenson in the Salt Lake Tribune on this linking experience.
2. We need to protect the internationally important Great Salt Lake shorebird habitats. In the future, Don Paul anticipates leading in the development of a shorebird plan for the Great Salt Lake.
3. One way of increasing the linkages between important migratory bird areas is by visiting them. How about a one week trip to Marismas Nacionales and other areas in Mexico in January 1999? (Marismas Nacionales is just north of San Blas, one of the best birding areas in North America.) If you are interested in such a trip please contact me at 355-8110.



At Chaplin Lake, Canada: US and Canadian Flags



Great Salt Lake Planning Update

Your expertise and input will soon be requested and needed for the Great Salt Lake planning effort!

As you probably know, the Department of Natural Resources Great Salt Lake Planning Team is developing a Great Salt Lake Plan. This planning project was presented by Jim Carter at the Second Great Salt Lake Issues Forum in February 1998

The Planning Team has met with approximately 550 people and has received 37 letters regarding this effort. Friends of Great Salt Lake, along with other conservation organizations sent extensive scoping comments to the planning team in March.

Currently, the planning team is drafting a statement of current condition of the Lake. This statement will include hydrology, chemistry, wildlife, recreation and cultural resources.

The Great Salt Lake Technical team will be reconvened to look over the draft of the statement of the current condition and this draft statement will then be distributed to the public.

Your involvement on the statement of current condition of the lake will be important. Particularly, because after this statement is developed a draft management plan will be drawn up at which time public input will then be requested for the management plan.

Dear Mr. Thompson, Dec. 5, 1997
Thank you for coming to our school to talk to us about The Great Salt Lake. I think that those pictures you showed us were great because it helps you know more about the Great Salt Lake. I also enjoyed those eggs you brought in they were really cool because I never realized there were so many animals that lived by the Great Salt Lake!
I'm glad you talk about the Great Salt Lake because it helps to know more about the life and surroundings, I just wanted to let you know how much I enjoyed your presentation and I hope that you continue learning more and more about the Great Salt Lake.

Sincerely,
Kristin Kased

The
Great
SALT LAKE

ONE OF
THE SEVEN
WONDERS OF
THE WORLD



1998 Great Salt Lake 'Spection

There is water everywhere. Even the air seems saturated and low clouds block out the morning sun. This is where Bear River enters unit two of the 74,000 acre Bear River Migratory Bird Refuge. Dozens of Cliff Swallows pile out of their mud nests plastered under the roof of a nearby shelter to begin high-speed aerial maneuvers just over our heads. Chris, a video instructor from Minneapolis, begins filming in the marsh while we wait for the others to arrive. We've all signed up for the Great Salt Lake 'Spection Auto Tour. Our curiosity will compel us to drive nearly 400 miles this weekend to visit the far reaches of Great Salt Lake. J.C., a hydrologist from Seattle, is one of the first to arrive. He left Burley, Idaho at 5:00 a.m. The other cars round the last curve one by one. Some have paused along the twelve mile road from I-15 Exit 366 to watch the American Avocet skimming the shallow marshes, the White Faced Ibis, Snowy Egrets, and Black Necked Stilts wading among the reeds, Western Grebes paddling across open water, or a Forster's Tern hovering over a small pool before plunging in for breakfast.

Karen Lindsey, a refuge staff member, gives a presentation on the history of this federal conservation project and plans for the future of the refuge. The refuge now owns 3,000 acres of uplands near I-15 that would make a fine location for a permanent visitor center. A squadron of American White Pelicans glide straight towards our position, then bank hard to the west and fly out over open water. Guidebooks are distributed and thirty two explorers settle back into twelve vehicles and prepare to depart. We flush out a couple of Black Crowned Night Herons on the way out. But the Great Blue Herons can not be disturbed, they stand perfectly still, like plastic yard ornaments, as we drive by.

Our tour passes through the historic city of Corinne, then past Little Mountain with its distinct lakeshore benches, and the Thiokol facility where the space shuttle solid rocket boosters are made. We arrive at Golden Spike National Historical Site ahead of schedule and decide to postpone lunch until we get to Monument Point. We take the opportunity to use the last indoor toilets that we will see until tomorrow afternoon.

As we proceed down the western slope of the Promontory Mountains, Michele spots something interesting and orders a stop. She dashes off into the sagebrush and confirms her find - Seago Lilies in full bloom. This is the Utah State Flower at the peak of its glory. We pass the site of Rozel Station and encounter vast fields of bright orange Globemallow interspersed with the yellow flowers and puff-ball seed heads of Salsify. We turn off of the old Transcontinental Railroad grade and one of the trucks pulls to the side of the road with a flat tire. The tire is shredded beyond repair and the spare tire is permanently rusted into its useless position under the truck. A few minutes with a hacksaw, and a couple of bruised knuckles, frees the spare - but it is completely flat. Robin produces an air compressor, but another vehicle must be brought up that has a working 12-volt outlet. Neil mounts the re-inflated spare and the grateful driver continues on to our lunch stop at Monument Point.

The view from Lone Rock is spectacular. The clouds part to illuminate the deep reddish-purple brine of the North Arm. The halophilic bacteria that cause this coloration are among the very few organisms that can tolerate the extreme salt concentration of the North Arm. The result is a scene more like some imaginary alien world than it is like anything on earth.

We continue west past Locomotive Springs, then turn back onto the old Transcontinental Railroad grade toward the ghost town of Kelton. There is little left of this bustling frontier town. The town was severely damaged by an earthquake in 1934 and was completely abandoned when the rails were removed in 1942. We read the few headstones in the cemetery that have not been stolen or vandalized, while the sky darkens over the Raft River Mountains. The clouds open up over Park Valley and dust devils spin madly across the desert floor to the north of us. We load up and head south away from the rising storm.

We pass the flat-topped volcanic formation of Table Mountain then stop for a short hike up to a small limestone arch. The road rises as we pass Crocodile Mountain then summits at Hogup Bar, and we begin the long drive down the east side of the Hogup Mountains. We stop at a good viewpoint of Dolphin Island where Chris hopes to get some good video for his science fiction television show. The yellow tootsie-pop shaped flowers of the Sulphur Flower were common along this road. A few miles further and we are setting up camp on the Fingerpoint, a narrow alluvial ridge between the waters of the North Arm and the mud flats of Clyman Bay. White daisy-like flowers of Fleabane carpeted the ground here. A south breeze soon turned into a relentless fury from the north. The wind continued most of the night and was strong enough to discourage us from



building a camp fire. Marge and Libby huddled behind their truck and managed to produce a delicious dutch oven Hummingbird cake. Everyone soon sought the comfort of their tents and sleeping bags.

On Sunday, the early morning sun broke through the clouds to shine spotlight beams into the lavender water of Great Salt Lake. The showy white flowers of Evening Primrose dotted the roadside like a popcorn trail leading us to our next stop. A Burrowing Owl sat like a sentinel at the top of a pass in the Hogup Mountains. Tall yellow spikes of Desert Plume lined the road and Short-Horned Lizards skittered across our path as we approached Bangerter Pump Station. A young rattle snake was found guarding the pump station. Finding itself out matched, it retreated and our attention turned to the pump station. The pump station operated from April 1987 to June 1989. Pumping water from the rising Great Salt Lake into the Newfoundland evaporation basin greatly increased the surface area and evaporation rate.

Conversation soon turned to Union Pacific Railroad, who now "owns" the Lucin Cut Off, and whose locked gate now prevents a complete auto tour of Great Salt Lake. We still do not know why Union Pacific has ignored our applications for a right of entry permit or why they will not return our phone calls. Adding to the mystery, a Ford Expedition with custom plates drove up, unlocked the gate, and continued on as if the Lucin Cut Off was his own private driveway. Disgusted, we get back in our vehicles and prepare for a six hour drive back to Salt Lake City.

A single Antelope and a Coyote are seen along the way, a little later a solitary Mourning Dove. We all stop briefly to encourage a Bull Snake out from under one of our vehicles and back into the Greasewood jungle. A few brilliant blue Penstemons are seen as we enter the Hogup Mountains again. We stop at the shoreline of Lake Bonneville and discuss the effects of waves and currents on the Hogups when they were an island in Lake Bonneville. Everyone is ready for lunch when we arrive at Hogup Vista, except Chris, who immediately begins filming Dolphin Island from this magnificent overlook. As the travel-weary adults take a rest, the younger kids begin scripting their own movie featuring Stuart as the caped super hero 'Stupid Boy' who flies head long into parked cars in his pursuit of heroic deeds. The older kids concentrate on capturing a new pet scorpion. Then it's back on the road, our drive back to Kelton is only interrupted by a spectacular display of the hot pink and yellow blooms of a Prickly Pear Cactus.

A quick stop near Kelton to check tires, exchange addresses, and say good-bye to our new friends, brings our tour to a close. We are still 145 miles from Salt Lake City by highway, but it seems like a small inconvenience to pay for such an incredible weekend at Great Salt Lake.

Note: Copies of the guidebook for the 1998 Great Salt Lake 'Spection Auto Tour are available from **Barten Company**, PO Box 2161, Salt Lake City UT 84110-2161, for \$5.00 plus \$1.33 tax and postage.

Friends of Great Salt Lake - 1998 Great Salt Lake 'Spection Participants

Kevin Landis, Michele Davis, Sarah George, Stuart Ford, Bea Layton, Carol Newman, Marge Tucker, Libby Hunter, John Middleton, Marjorie Chan, Eric Mark, J.C. May, Neil Jones, Suzann Jones, James Jones, Lindsey, Matt, Daniel, John D'Arcy, Flora D'Arcy, Tom Sernka, Gretchen Siegler, Linda Ketlaar, Bill Zwiebel, Margy Zwiebel, Colin Aaron, Patrick de Freitas, Chris Zobin, Robin Hooton, Diana Jessie Austin

Note: you can contact the Barten Company to obtain more information about Great Salt Lake, such as the following...

Field Guides: **Sagebrush Country, A Wildflower Sanctuary** - Our new favorite Great Basin wildflower field guide. **Weeds of the West**. Our old favorite wildflower field guide, still has the best specimen photos. **Birding Utah**. New guide to more than 100 birding locations, with excellent seasonal occurrence and habitat association charts. **Audubon Field Guide to North American Birds Audubon Nature Guides - Deserts**.

Campfire Reading **Salt Desert Trails**, Charles Kelly. Tales of the West Desert and Hastings Cut off. **The Great Salt Lake**, Dale Morgan. Classic Great Salt Lake stories.

Maps: **Great Salt Lake Color Satellite Image**. Beautiful full color Landsat poster, 40"x54" rolled, with map hanging kit. **Great Salt Lake Topo Map Set**. Nine folded USGS maps cover the Great Salt Lake and West Desert. Great for hiking, auto touring, and exploring.

PO Box 2161, Salt Lake City UT 84110-2161. Tel: 801-972-7054, Fax: 801-972-7064, E-mail: barten@compuserve.com.
web site: <http://ourworld.compuserve.com/homepages/barten>.



Friends of Great Salt Lake is calling for a few good hands...

FOGSL is looking for some volunteers to help in the following:

Great Salt Lake Issues Forum Abstracts

If you would like a copy of the abstracts of presentations at the Second Great Salt Lake Issues Forum, please send \$2.00 (for copying and postage costs) to FOGSL, PO Box 2655, SLC, UT 84110.

Ideas for projects (outings, education, advocacy, fundraising, art, etc.) for FOGSL to pursue and can lead, inspire, or just help. (contact - any board member or attend a board meeting)

Board Positions: FOGSL needs people to serve on the board for the upcoming year. There is one current opening and 9 openings for the 1999 term. Please come and help stand up for the Lake!

(contact Lynn de Freitas 582-1496
ldefreitas@earthlink.net)

In addition to editing and production, the newsletter also needs a **mailing coordinator** to seal, bundle, and box the newsletters per postal rules, fill out the paperwork, and drop it off at bulk mail.
(contact Lynn de Freitas 582-1496
ldefreitas@earthlink.net)

The Education Director's contract to present 50 showings of *The Lake Affect* slide show is nearing completion. We are in the process of determining the future direction of this effort. Possibilities include presentations by FOGSL volunteers, the production of *The Lake Affect* in video format, and possibly others.

(Contact: Howard Gross 486-4565
hgross96@aol.com)

Adopt-A-Highway helpers
(contact Margie Paul-Hus 487-4383)

FOGSL is looking for one or more people to take over **the editing and production of the newsletter**. This requires editing articles and graphics and assembling them into a quarterly newsletter of 16-20 pages.

(contact Lynn de Freitas 582-1496
ldefreitas@earthlink.net)



Friends of Great Salt Lake 1998

BOARD OF DIRECTORS

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ldefreitas@earthlink.net

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Lynn LeMaster - monthly flier
294-4517

ADVISORY BOARD

Bob Adler

Genevieve Atwood

John Kadlec

Dick Nourse

Steve Simms

Ella Sorensen

Terry Tempest Williams

Recycle Aluminum Cans.

Please consider donating aluminum cans to Friends. Can donations will be accepted at 1149 E. Browning Avenue Saturdays between 9 a.m. and 2 p.m. All proceeds will go to the FOGSL general fund. Cans must be contained in plastic garbage bags. If you have cans to donate, but can't transport them, please call Margie Paul-Hus and arrangements will be made for a pick-up. If you don't recycle aluminum, please consider starting!! This will greatly benefit Friends. Volunteers are needed for accepting aluminum cans in your neighborhood and/or taking cans to the recycling center.

Questions, please call **Margie Paul-Hus at 487-4383.**

Submitting Material for Publication

1. **What To Submit:** original articles (historical, geological, geographical, biological, political, fiction, poetry, etc.) which pertain to Great Salt Lake or art work including sketches, photographs, etc.
2. **Submitting Material:** Mail or deliver to 2656 S. Chadwick St. SLC, UT 84106-3506. Or e-mail to jzinanti@wasatch.com or RedaHZ@wasatch.com
3. Please phone 484-5799 to confirm receipt of e-mail, or with any other questions, suggestions, comments, or ideas
4. **Deadlines:** The deadlines are Sept. 16 (Fall), Dec. 16 (Winter), Mar 16 (Spring), and June 16 (Summer).

Friends of Great Salt Lake wishes to thank Xmission.com for its generous donation of services to support the Friends of Great Salt Lake on the World Wide Web

<http://www.xmission.com/~fogsl>

Kevin Landis: webmaster



Board Meeting Summary

Salt Lake County Complex, Room S3009

4 June 1998

Present: Doug Howard - Board , Lynn de Freitas - President, Margie Paul-Hus - Vice President, Howard Gross - Board , Ann Dick - Board, Robin Hooton - Board , and Michele Davis - Secretary.

Others Present: Kevin Landis - member and Jerry Jordan - member.

Not Present: Kathlyn Collins - Board , Ivan Weber - Board , Rick Ford -Board ,Spencer Martin - Treasury, Bruce Thompson - Education Director, and Mark Doman - Board .

Meeting opened.

Approval of April 2, and May 7 minutes.

Treasurer's report.

Advisory Board Candidate: Genevieve Atwood was voted on to the advisory board.

Legacy West Davis Highway Update: Lynn is composing a letter to the Army Corps of Engineers, Brooks Carter, Art Champ and Michael Davis, addressing the Legacy West Davis Highway in principle and the Locally Preferred Alignment C. Petitions against the highway are being circulated.

T-Shirt Update: Margie researched the cost of a new inventory of t-shirts. Other fundraising ideas discussed were the Denise Brown poster idea, bumper stickers, baseball caps. We will discuss these ideas in the fall.

Thank You Performance of the Lake Affect.

The program will be held on Friday, August 14 at the Rose Wagner Performing Arts Center. The guest list needs to be reviewed and invitations should be mailed out 4 week prior to the gala with a follow-up postcard reminder one week before the event. RDT will be performing a dance piece as a part of the program.

Education Director Phase 2: Bruce is interested in continuing his role as education director. The Board is pleased with this commitment. In July, Howard will work on a phase 2 proposal with long term goals and a budget. This will be brought to the Board for approval. Bruce has also submitted a proposal to the Antelope Island Visitor Center to

provide programs on a regularly scheduled basis with a portion of the costs being covered by the Visitor Center.

PFS Skull Valley EIS Response: In an effort to participate in the public scoping process organized by the Nuclear Regulatory Commission on the Private Fuel Storage, LLC issue, Friends will compose a letter responding to the potential impacts on the Great Salt Lake ecosystem from this project. Doug will work on the letter and submit it by June 19th.

Web Site Improvements: The Board discussed ways of enhancing the information available on our home page, including updates on the Legacy Highway, CACC efforts, a description of The Lake Affect... a bibliography for educators of GSL materials, and list server possibilities. The Mono Lake web site was mentioned as one that has very nice characteristics to consider.

Email Requests for Teacher Workshops:

Friends receives mail from educators who are interested in workshops on GSL. The Board discussed the need to reach these people and how best to do that at this time. Ann Dick works in association with the Univ. of Utah Museum of Natural History and is redesigning the science curriculum for 4th graders which included Utah biomes. Ann will talk to her colleagues at the museum to explore possible ways Friends can become involved. Another aspect could be references to already existing workshops and seminars within the community that are available.

Adopt- a -highway, Saturday, June 27th. Margie will put out the call to the membership to provide enough people power to effectively clean up our stretch of highway by Saltair.

GSL 'Spection AutoTour: Kevin is preparing a new guidebook to assist the drivers as they trek around the Lake. 37 people have registered to participate. Including a new member from Minnesota who will video the trip.

Meeting closed.



Wetland Mitigation and Banking

The Inland Sea Shorebird Reserve

by Ann Neville
Wetlands Manager, Kennecott

Background

In 1994 and 1995 Kennecott Utah Copper Corporation (Kennecott) developed a wetland mitigation plan in response to the 404 Permit and Environmental Impact Statement (EIS) requirements initiated by the Army Corps of Engineers (Corps) for the Tailings Modernization Project (Project). The plan established Kennecott's obligations for mitigation construction, operation, maintenance, monitoring and reporting until acceptance of the plan's success by the Corps in the year 2001. It also established Kennecott's perpetual obligation to maintain the wetland functions and values of the mitigation site as agreed to in the plan.

Requirements

Under Congress, Corps is authorized to issue permits for dredging and filling (impacts) in Waters of the U.S. under Section 404 of the Clean Water Act (CWA) of 1977. Jurisdictional status of land categories found within the Project site included saline playas, wetlands, open water, gull colony impoundments, and overflow basins. Impacts primarily included the function and value of: food chain support; wildlife habitat and forage; and wetland vegetated habitat for migratory and resident waterfowl and shorebirds. Regulatory standards of the CWA (33 CRF 323) required that Kennecott provide mitigation for impacts to an estimated 1,055 acres of jurisdictional Waters of the U.S. resulting from the Project.

Mitigation Concept

The mitigation approach was based upon providing similar, or enhanced wetland habitats on a mitigation site as compensation for impacts to jurisdictional waters on the Project site. Nesting and migratory shorebirds and waterfowl were identified as the key elements requiring mitigation. The mitigation plan addressed three goals that would fulfill mitigation requirements: 1) identifying the amount of acreage required, choosing a mitigation site, and conducting baseline monitoring; 2) preserving, restoring, enhancing, and creating habitat suitable for nesting and foraging shorebirds; and 3) developing a long-term maintenance and monitoring program. Additionally, the plan addressed the improvement of upland habitat values on the Mitigation Site.

A Technical Advisory Committee (TAC), made up of regulatory agencies and environmental interest groups, reviewed information and provided expertise during the mitigation planning process. Mitigation components reviewed included the process and information used to determine the amount of mitigation required and the general design and application of the mitigation program.

In order to measure the effectiveness of the mitigation plan in replacing the functions and values lost due to impacts on the Project Site, the TAC agreed to use Habitat Evaluation Procedures (HEP). HEP was developed for the U.S. Fish and Wildlife Service as a quantitative process that results in numbers, expressed as Habitat Units (HUs), that can be used to estimate and compare the relative wildlife habitat value of several sites in similar ecological settings. The HEP process results in calculated HUs as a currency for comparing the Project and Mitigation Site areas with the final Mitigation Program. Over 100 additional HUs were available, indicating that sufficient mitigation was provided by the mitigation plan to compensate for lost wetland habitat functions and values on the Project Site. The TAC selected migratory shorebirds, nesting shorebirds (American Avocet), and nesting waterfowl (Cinnamon Teal) as the guilds to represent wetland-associated species.

Operation Plan

The operational plan for the Mitigation Site consisted of three phases. Phase 1 included access control, cleanup, and livestock removal to restore and preserve existing habitats on the 2,500 acre Mitigation Site. This phase also included a detailed environmental baseline/pre-construction inventory consisting of vegetative, avian, soil, and hydrological surveys.



Phase 2 provided for water delivery system improvements, water rights, and other site modifications necessary for the enhancement and creation of aquatic habitats. Management of these enhanced shallow water and mud-flats habitats provide significant food, nesting and resting opportunities for migratory and resident shorebirds.

Phase 3 stipulated long-term management actions and monitoring studies to evaluate the success of the mitigation. Management actions include water control, limited pedestrian and vehicular access, cattle removal, and fire control. In-depth monitoring studies would continue for five years and would be compared to the two-year pre-construction inventory.

Tentative Results

The final wetland mitigation plan was approved by the Corps through a Record of Decision for the EIS and an issued 404 Permit in March of 1996. Construction of wetland enhancements and improvements started in May of 1996 and was completed in January 1997. Water was introduced into the Mitigation Site to start operation of the wetlands in February 1997 and the wetland Mitigation Site became officially referred to as the Inland Sea Shorebird Reserve (ISSR).

Preliminary results from the first year monitoring compared to baseline data indicate that the mitigation plan has increased wildlife values substantially. Bird surveys conducted on the ISSR since it became operational indicate that there is up to a 1,000-fold increase in bird use over the numbers observed in the previous two baseline years

Banking Concept

In 1995, Kennecott purchased property to the west of the ISSR to allow drainage from the ISSR to flow freely from the mitigation ponds to the Great Salt Lake. These additional properties also served to preclude incompatible land use on about 1,200 acres between the ISSR and Utah State Sovereign Lands located around Great Salt Lake.

In 1996, Kennecott investigated the potential of this additional property, as well as the extra HUs on the ISSR, for the purpose of developing a wetland mitigation bank. It was estimated that the property could generate an additional 565 HUs by following the same design concepts employed for the ISSR.

The Corps' regulations required Kennecott to develop a Wetland Banking Agreement if Kennecott or a third part wishes to use the additional HUs for future wetland mitigation. Kennecott has created this agreement following the Corps' guidelines and input from the Mitigation Bank Review Team. Construction of four new ponds and associated wetlands was completed in late Fall of 1997. Mitigation Bank HUs in playa, wet meadow, and emergent marsh habitats are currently available.



Drawing from Western Hemisphere
Shorebird Reserve Network



Don Paul and Vicki Roy

speakers for the September 22 Friends General Meeting

"Linking Communities, Migratory Birds and Wetlands" Don Paul and Vicki Roy. (Read LINKING INTERNATIONAL JEWELS in this newsletter)

Vicki Roy, a senior biologist at the Bear River Migratory Bird Refuge, manages the largest U.S. Fish and Wildlife Refuge for migratory birds in the lower 48 states. She is active at local, national and international levels of wildlife conservation. Vicki plays a major role in local community/wetland interactions especially outreach and education including The Brigham City Migratory Bird Week.

Don S. Paul currently serves as the Great Salt Lake Ecosystem Project's Terrestrial Biologist for the Utah Division of Wildlife. He has served as the manager for the Great Salt Lake component of the Linking Communities, Wetland and Migratory Birds Project. Don has been working with shorebirds and allied waterbird species with the GSL ecosystem for more than 30 years.

Denise Brown Art Print Cards

If you enjoyed the cover of our Winter 1998 newsletter, or if you would just like to have four beautiful and inspirational artist's views of our "Great Salt Lake". Please order some cards. Denise Brown is graciously donating all of the proceeds (above printing cost) to our organization.

Friends of Great Salt Lake receives a generous dollar amount from each card pack you purchase and you receive some beautiful cards.

Card packs:

\$14.00 for 8 Cards

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(Choose sets which are all same or a mixture.)

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(484-5799)

Please make checks payable to Friends of Great Salt Lake.

Cards will also be available at all General Meetings.





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Yes! I want to join FRIENDS of Great Salt Lake.

Here are my dues in the amount of (check one):

- \$10 Student Membership "Brine Fly"
- \$10 Senior Membership "White Pelican"
- \$20 Regular Membership "Pickleweed"
- \$30 Family Membership "Wilson's Phalarope"

Contributing Memberships:

- \$31-50 "Brine Shrimp"
- \$51-100 "Eared Grebe"
- \$101-250 "Pronghorn Antelope"
- \$251-499 "Bald Eagle"
- \$500 Sustaining "Ecosystem Protector"

Student - be at least half time.

Senior - must be 62 years or older.

Sustaining is any corporation, institute, organization, or individual interested in financially supporting activities of **FRIENDS OF GREAT SALT LAKE**

(v4n4)

In addition to my dues, I would like to make a tax-deductible contribution in the amount of

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