FRIENDS of Great Salt Lake

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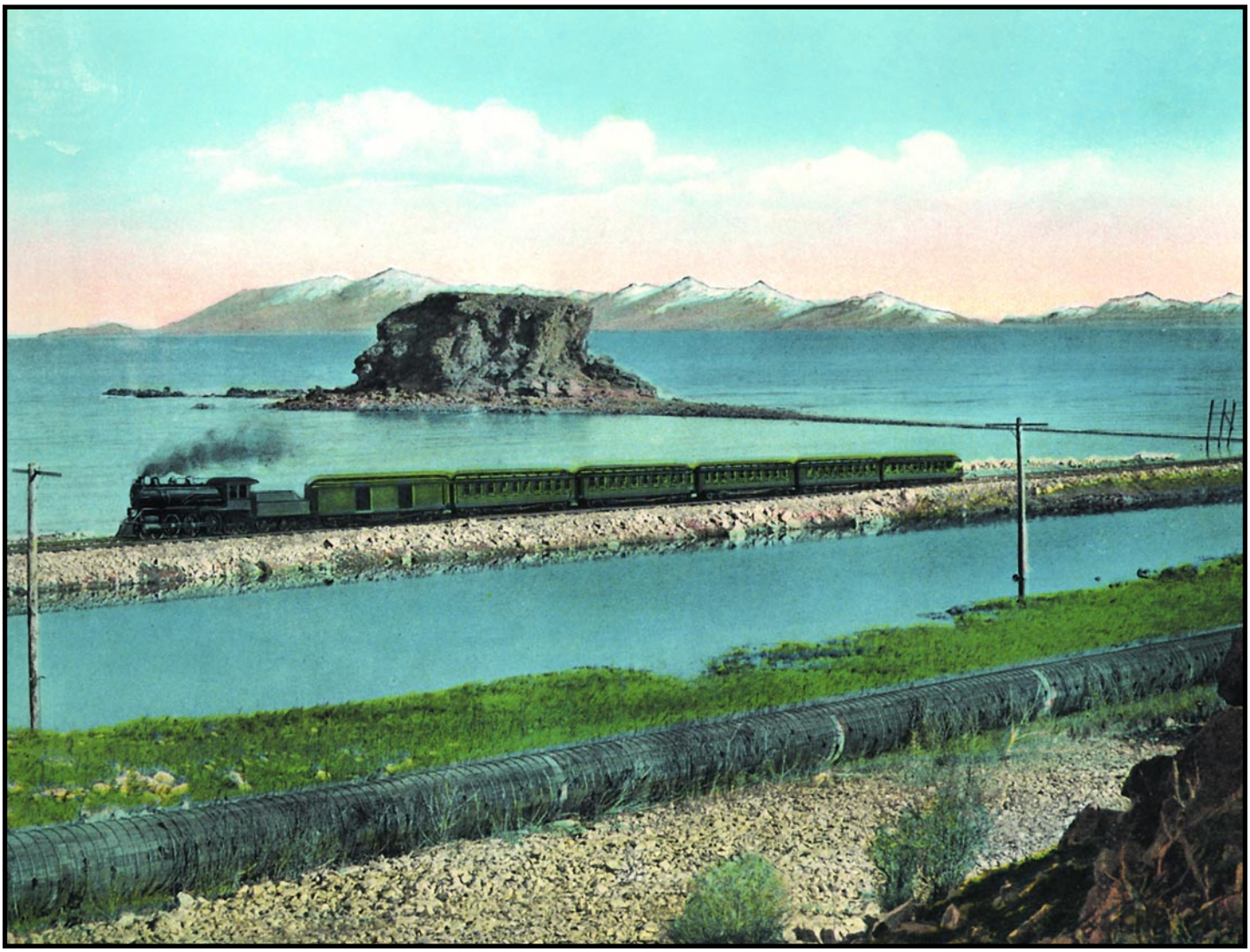


The Western Pacific Crossing the Lower End of Great Salt Lake
(Illustration from the book "From Salt Lake City to San Francisco Bay via the Western Pacific Railway Feather River Canon Route" Published about 1912)

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.

President's Message

The Nation's 4th Largest Landfill Proposed for Promontory Peninsula

"We live along the Great Salt Lake, one of the most extraordinary natural features in North America. I do not believe we, as a community, have honored its rarity. Our lack of intimacy toward this inland sea is not our of neglect, but of ignorance. We do not know the nature of this vast body of water that sparkles and sings. If we did, the shores of the Great Salt Lake would look different."

Terry Tempest Williams

Less than 20 miles from Gunnison Island, a protected sanctuary for breeding populations of the American White Pelican, slightly more than 10 miles from Utah's first national wildlife refuge established in 1928, and 25 miles, as the gull flies, from a national historic site that celebrates the completion of the transcontinental railroad in 1869, Promontory LLC (the facility owner) and municipalities and counties of the State of Utah are investigating the feasibility of creating the nation's 4th largest landfill.

A Class I Landfill on the southwest portion of Promontory Point Peninsula, Box Elder County, Utah would be located on the west side of the southern tip of the peninsula and create a visual blight of approximately 3.5 sq. miles on the landscape.

The facility would consist of a 1,000 acre landfill and a buffer of 1,006 acres and would receive household wastes from 9 counties around Great Salt Lake. Since household wastes are exempted from hazardous waste regulations, low level hazardous wastes like infectious waste, heavy metals, solvents, and a variety of organic compounds such as PCBs, would end up in the landfill.

Proposed transport of the waste would be by way of the Union Pacific Railroad causeway, a private dike across Great Salt Lake Minerals and an already existing county road. At this time, the Division of Solid and Hazardous Waste (UDSHW) does not consider the county road a viable route because of its distance and condition.

Tooele County is considering shipping garbage across the lake by barge. Because this would involve the transportation of waste across sovereign lands, Tooele County would need to request a permit from the Division of Forestry, Fire and State Lands to do so.

On March 20th, the Box Elder Planning Commission held a public hearing on the conditional use permit for the facility. This was an opportunity for interested citizens to share their concerns about this kind of land use on the shores of Great Salt Lake. A subsequent hearing before the county commissioners will be scheduled before a decision is made on the permit request. Keep an eye on our website for an announcement on this.

At the same time, Promontory LLC has filed for a permit from the UDSHW to satisfy the state's regulatory requirements.Construction of the proposed Class I Landfill would begin soon after approval of the Permit Application, public commenting on the permit request and finally a permit issuance by the Department of Environmental Quality.

Salt Lake City based Pacific West, an environmental clean up and engineering company, would manage the landfill. Pacific West has been involved in the clean up of contaminated soils near railroad lines.

As stated in the permit application, the purpose and need for the landfill results from the expanding waste disposal needs of the rapidly growing population in Northern Utah. And claims that many of the existing landfills along the Wasatch Front are near closure or are under scrutiny due to encroachment of expanding urban areas.

Utah already has the dubious honor of having the 2nd largest landfill in the nation, located in Carbon County. This is a perfect time for all of us to think carefully about our future and about the huge quantities of garbage that we'll be generating as we continue to grow.

And although this is a county decision, we are all neighbors on Great Salt Lake. Not only is the lake a precious ecosystem for our resident wildlife and millions of migratory birds that rely on it for fueling, resting and nesting. But Great Salt Lake is a tremendous resource, that we not only share together as neighbors, but that we share with the world as a extraordinary ecosystem of great importance.

Although we are against a landfill facilty on Promontory Peninsula, we also have to be sensitive to the economic and development needs that exist in Box Elder County.

How can we responsibly help serve the needs of Box Elder County so that it can generate economic development that would not only complement the interests and property values of its own residents, but would also complement the efforts that are coming from its neighbors to preserve , protect and promote the importance of Great Salt Lake throughout the world?

In saline,

Lynn de Freitas

What You Can Do

Write letters expressing your concern about the proposed landfill. Request that the Box Elder County Commission schedule a public hearing before making a decision on the conditional use permit.

Send your letters to the following contacts:

Garth Day, Planner
Box Elder County
01 South Main
Brigham City, Utah 84302
435-734-2634

County Commissioners
Box Elder County
01 South Main
Brigham City, Utah 84302
435-734-2634

Carl Wadsworth
UDSHW
PO Box 144880
SLC, Utah 84114-4880
801-538-6769

Review the application of the proposal on file with the UDSHW at the Canon Health Bldg. 288 N. 1460 W. SLC.

For more details, check our website at www.fogsl.org under Advocacy/Issues Alert.

Friends Organizational Statement

The mission of FRIENDS of Great Salt 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.

FRIENDS has a very active Board of Directors and an Advisory Board consisting of professionals in the scientific, political, literary, education, and broadcast communities. Founded in 1994, we have organized and sponsored an array of programs, activities and materials in pursuit of our mission.

Since 1996, we have sponsored a biennial Great Salt Lake Issues Forum that provides a gathering for policy makers, researchers, planners, industry reps and citizens who are involved in and concerned about the Great Salt Lake.

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.

In 1997, we hired Bruce Thompson as our education director and initiated a major 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 slideshow program "The Lake Affect: Living Together Along the Shores of Something Great.". Over 11,000 people in the 5 counties surrounding Great Salt Lake have seen the program.

We are presently working on video & DVD versions of The Lake Affect. With this and the Project SLICE, a Great Salt Lake curriculum correlated to the fourth grade science core curriculum, we hope to achieve a positive, long-lasting impact on the future of Great Salt Lake and those who dwell upon its shores.

In 2003, we awarded our first Doyle W. Stephens research scholarship. Until his death in May 2000, Stephens served as a research hydrologist for the U.S. Geological Survey. He is particularly remembered for his work toward increasing public awareness of the Great Salt Lake Ecosystem.

FRIENDS was awarded the Conservation Achievement Award by the Utah Chapter of the Wildlife Society in 1998.

Spring 2003 Calendar of Events

April 22	Tuesday	Wisdom of Wings: An Earth Day Celebration of Birdlife Along GSL 7PM Red Butte Orangerie
May 1	Thursday	Board of Directors Meeting - 7PM Alta Club
May 10	Saturday	International Migratory Bird Day - Jordan River
May 17	Saturday	Field Seminar - GSL Ecosystem Project Lake Tour - Clay Perschon
May 17-24		Great Salt Lake Bird Festival - Davis County
May 25	Tuesday	Inspiring Images of Great Salt Lake - Virginia Catherall - 7PM
June 14	Saturday	Field Seminar-Snow Hydrology - Randy Julander
June 24	Tuesday	Field Trip - TNC GSL Shorelands Preserve - Chris Brown

Watch the local papers for announcements of speakers and topics at our General Programs, or call our hot-line at 801-583-5593, and press 1 for monthly activities. NOTE: General Programs are held at the Sugarhouse Garden Center, located in the northeast corner of Sugarhouse Park, 2100 South 1650 East in Salt Lake City.

A Posterbird for Great Salt Lake

by Dr. Bryan Brown, Senior Scientist/Ornithologist with SWCA Environmental Consultants

One political hurdle that has continually hampered conservation and preservation efforts at Great Salt Lake is the apparent lack of a high-profile species or phenomenon with great public appeal. Yellowstone has its watchable wildlife such as wolves, elk, buffalo, and grizzly bears.

Great Salt Lake does have globally impressive concentrations of migrating and nesting shorebirds and waterfowl, but unlike Yellowstone these resources are difficult for most people to view and do not have the emotional pull that can mobilize broad citizen support.

A recent proposal to introduce exotic(non-native) Chilean Flamingos to Great Salt Lake has clearly articulated the need to overcome this lack of a figurehead species or phenomenon in order to focus attention on GSL conservation, yet the flamingo introduction has failed to recognize two important points.

First, the flamingo introduction would involve unknown and possibly great ecological risks in addition to setting a bad wildlife management precedent. Secondly, proponents of the flamingo introduction have failed to recognize that a high-profile species with broad public appeal and support currently exists in abundance at GSL in the form of America's national symbol, the Bald Eagle.

Large numbers of wintering and migrating Bald Eagles occur each year in late winter along the east shore of GSL where they stage prior to their spring movement to breeding grounds in Canada and the northwest United States.

Ongoing studies indicate that the peak of the eagle concentration occurs during the last week of February and the first week of March, during which time perhaps as many as 1,000 to 1,500 eagles may be present along the lakeshore between Brigham City and the Salt Lake City airport. This abundance estimate is only a rough guess based on a historic study by Utah State University, ongoing studies by the Utah Division of Wildlife Resources and SWCA Environmental Consultants, and extrapolation of these findings to unsurveyed but suitable habitat with the appropriate food resources.

Much as I-15 is funneled into the very narrow neck of land between the lake and the Wasatch Range, northward migrating eagles are also funneled along the lakeshore where they encounter the food resources it provides. The east shore of GSL is essentially an eagle 'cafeteria', where they feed on the waterfowl and fish (primarily carp) found abundantly in the brackish water interface where freshwater streams enter the salty lake. In this manner, the GSL staging area has become important to eagles as a place to replenish their fat reserves and help them to return to their breeding grounds in better condition.

If the above scenario is correct, the east shore of GSL would represent one of the three or four largest Bald Eagle migratory concentrations in the lower 48 states, after the Chesapeake Bay, the Klamath Basin of Oregon, and possibly the upper Mississippi River.

Scientific documentation of the full extent of the eagle concentration at GSL and subsequent dissemination of the findings in a public interpretation campaign would present a huge opportunity to change

(continued on pg. 12)

photo by Gary Crandall

Seeing the Lake Again (and Again)

by Will South, Curator of Collections at the Weatherspoon Art Museum, U of North Carolina at Greensboro

In room 606, bed number 2, of the University of Utah Hospital, there is a large, West-facing window. At the time of this writing, the window is lined with various floral bouquets: a cloudlike hydrangea; several vases of purple, yellow and red tulips; a burst of white roses; and a monumental arrangement featuring sunflowers, delphiniums and aromatic star lilies, all thoughtful wishes to my wife for a speedy recovery from hip surgery. The flowers and the window are a colorful, quiet and still corner of a busy room and an even busier hallway nearby, where orderlies, nurses, technicians, visitors, patients and, of course, doctors, come and go to a soundtrack of beeps, buzzes, calls, and rings all playing in the key of urgency.

I sit next to my wife as she mostly naps under the influence of first morphine then pain pills. After two days, physical therapy starts and there are crutches and grimaces and new adventures in navigating previously simple changes in position. People keep coming in and out with questions, check-ups, food, advice, more questions and the occasional needle. Being in the hospital is stressful.

Finding ways to stay occupied in a hospital room, despite all the activity, is not so easy. There's a television over each bed in every room, and it probably entertains plenty of patients and their friends and family. However, it makes me crazy. It may be a cliché to cite TV as all the evidence one needs of how frighteningly (and fascinatingly) low the cultural bar has been set (it's underground now, buried deep), but it's a cliché that works for me. There's the newspaper, crossword puzzles, and long conversations. A walk up the hall, a chat on the phone. Somehow, though, for me, the sum of these activities have the unintended and counterintuitive effect of slowing the seconds further, deadening the air, and intensifying the sanitary tedium. What is needed around here is to get out of here.

So, I look out the window. Past the hospital rooftops, past the helicopter landing pads marked with huge red crosses, past the bundle of downtown high-rises, past the State Capitol, is a band of radiant silver blue stretched out beneath enormous cloud streets. In the next moment the color of the band is gray, then grayer, then suddenly white. It divides my view of the valley floor from the Oquirrh and Stansbury Mountains beyond: the Great Salt Lake, from this vantage point, is a porcelain plate upon which the sky is heaped. I stare, and without knowing it—which seems to me now in middle age to be the best way to do anything—drift into daydream.

In daydreams—in mine anyway—time slows and background noise fades to silence. There are colors, impressions, a vague narrative. I realize I'm daydreaming of being out in classic wide-open Western space, with wind on my face, nostrils full of pungent smells, and it feels like floating. That word—floating—gives me pause: I'm remembering as much as daydreaming (the two cognitive acts have much in common, after all).

The vague narrative in my mind, the abstract plot, is simply me being outside, being mobile. This daydream in Room 606, shot in soft focus and warm tones, shows me a place far away from the serious bustle that surrounds us. It's a place I've been to and experienced, a place I return to in memory with all the altered, modified and morphed smells, sounds and images that memory brings. I'm out at the Lake, a composite Great Salt Lake made up of different trips at different times, from wildly varying points of view.

Next comes reflection. That is, I begin thinking about the daydream, as I'm having it, and of how very pleasant it is and welcome. Why it is so pleasant seems obvious enough: the dream of outdoor reverie stands in sharp contrast to the reality of locked-in emotional strain and tension inside of the Hospital. The short equation is clear: noise, a small room, pressure, too many people, and lots of lights and gadgets add up to stress; while the vision of big sky, ample air and unrestrained movement equals a health-filled freedom.

This short equation is so obvious that it's probably too simple. Indeed, the more I reflect, the deep calm coming from thinking about the Lake is not mere escapist fantasy. If escapism were at the heart of the matter, then there would be myriad other things to fantasize about in order to take my mind out of the time and place it's in. So, I think, what I'm feeling now in Room 606 regarding the Lake is something more fundamental, something more basic to bodies and minds and how they function in this world.

And my reflections take a serious, non-daydreaming turn toward thinking about metaphor (how wonderful, it strikes me, that simply looking out the window has led to a meditation on one of my favorite subjects—metaphor—and the magnificent view is still there, not diminished one iota). I'm an art historian by trade, and spend most of my time trying to figure out what images "mean." When we were kids, most of us were taught about metaphor in grade school, and lo these many years later, I'm still working on it.

A metaphor is commonly understood to be a figure of speech in which a word or phrase that literally denotes one thing is used to denote and describe another; for example, "time is a jet plane." Time, the comparison tells us, moves away from us quickly. A common way to think of metaphor is that it merely decorates speech—that it makes language, whether written or oral, more interesting or even entertaining. Consider Raymond Chandler's colorful use of metaphor in his novel, The Long Goodbye, wherein Chandler describes a character as having a "face like a collapsed lung." Now, that is vivid. But perhaps a reasonable person could do without metaphor altogether in thought and speech and give a more accurate description of that same character's face: as opposed to looking like a collapsed lung, the face in question could be described as misshapen, deeply wrinkled, and pervasively splotched. This might be more accurate, especially

as none of us actually ever see a collapsed lung. Yet, all of us, including the most reasonable among us, use metaphor constantly for good, unavoidable and wholly natural reasons.

What science (specifically contemporary cognitive neuroscience) is now telling us about the brain is that metaphors are not dispensable decorations. They are central to the process of perception, and thus to how the mind makes sense of what we call reality. The mind is nothing like the computers it designs we are told by certain neuroscientists, despite the fact that computational terminology is used all the time to describe the workings of the brain. Instead, the brain works by analogy and metaphor. It relates whole concepts to one another and looks for similarities, differences, or relationships between them.

In old models of the mind, information came in and went to one place where it was then processed and understood: sight was one place, language another, memory still another. In new models of the mind, information is shared throughout the brain, it is scattered, thus visual information is shared to some degree with other sensory modes—hearing, taste, touch, smell. This sharing among sensory modes is called "cross-modality," and cross-modality is basic to brain function.

Natural metaphor is one of the important ways in which the mind thinks about all this shared information: up-tempo music in major scales may equal bright color and happiness; slow music in a minor scale may equal dark colors and sadness. Yale University Professor Lawrence E. Marks tells us that these metaphorical relationships may be inherent to perception and that "In this regard, intersensory and physiognomic metaphors reflect 'natural' rather than 'conventional' symbols or signs." Thus, such perceptions, inherent to the body and physiologically based, are not culturally learned—they are natural, derived from our own bodies existing in a physical world. The brain itself, not just language or our use of it, is a metaphorical entity.

Picture hundreds of short, broken, lines all in a row (helpful hint: Duchamp's Nude Descending the Staircase): they suggest movement and speed. A continuous, unbroken single line (especially a horizontal one) is calm, unmoving. Science is discovering that such perceptions are not mere poetic associations as much as natural associations made by the brain as it navigates the environment.

There are lots of natural metaphors as it turns out, and they blend into our cultural and cross-cultural experiences and our sense of self, community and history, and finding meaning seems on a good day to be impossible. But, back to the Lake out the window: its relentless horizontality in my field of vision is binding, singular and pacific. In my mind, this view is not fast, not broken, not frenetic. Just the opposite. The colors—ochres, golds, silver grays, blues, and more, all made diffuse in light—are soft and quiet. If it were music, it would be, at this moment from this view, a single cello playing far off somewhere in the distance. Some sunsets over the Lake are symphonic. It changes.

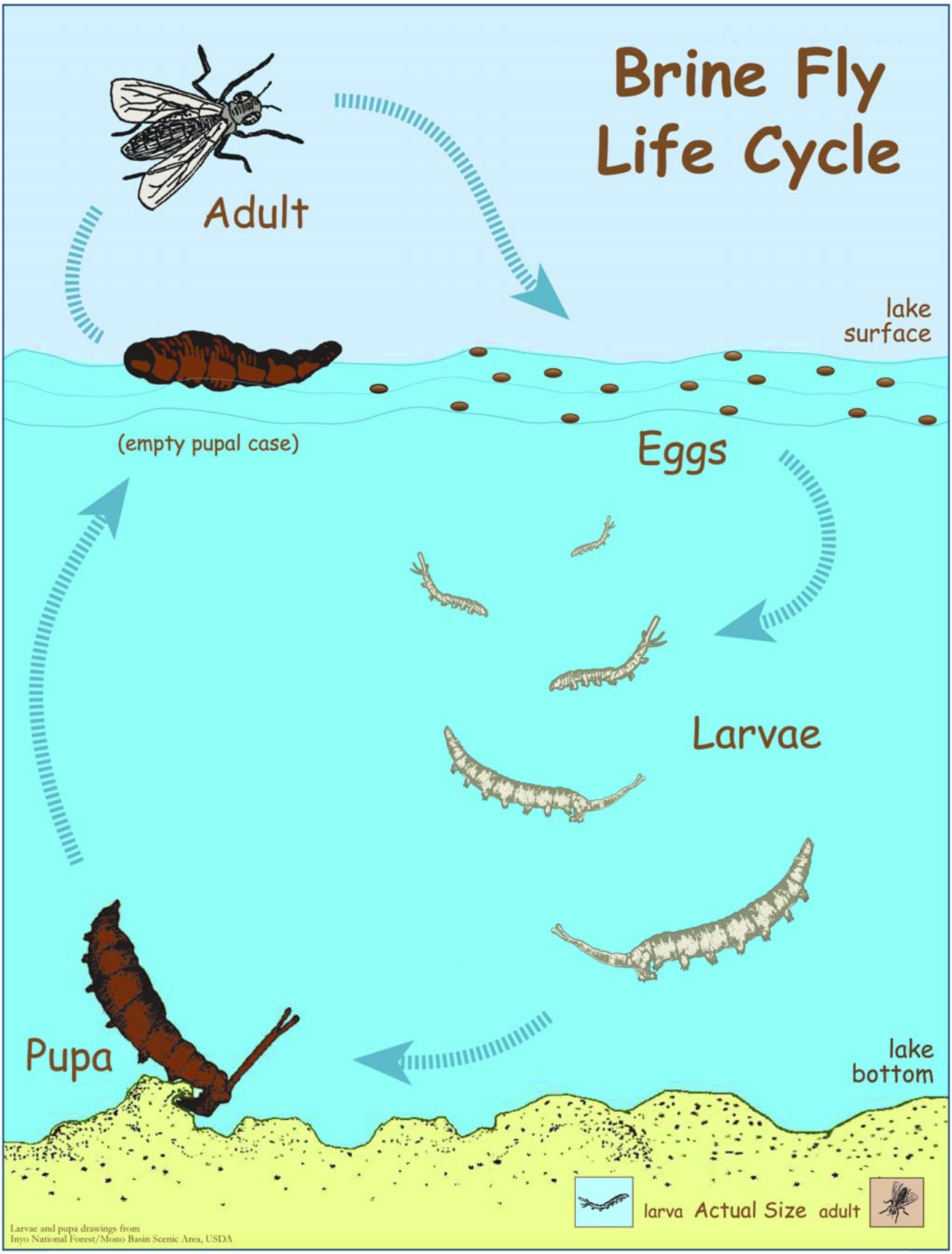
Then I think of the last sentence I wrote in the 1996 exhibition catalogue for the exhibition, Images of the Great Salt Lake: "What past and present images of the Great Salt Lake serve to tell us is that the periodic desire for time and space alone is changeless." And, those words still seem right to me. There are changeless aspects of having a flesh and blood body on this earth that have to adapt to change. We will always need rest, we will always need to heal, and will need the time and the space to do so. Or, to simply be.

Finally, I recall the many works of art that comprised the Images show organized for Utah's statehood centennial. What the great majority of them seemed to have in common was the expression of solitariness. Of the Lake as a romantic/mystical/natural sanctuary. Of time suspended, of noise muted, of space expanded. Collectively, the many images of the Lake made in different media over many years expressed the grandness of Nature in that nature offers experiences that define our very sense of time, space and matter. Nature can certainly be brutal, unforgiving and horrifying (the Lake is no exception), but somehow, over more than a century of picturing it, artists never saw it that way. To the contrary, it was and continues to be a subject that, when we sit and contemplate its clear and vast geometry, draws out of us a natural sense of calm and rest.

All of this is going through my mind, staring out the window of Room 606, when I again focus to see the sky has grown dark, and the silhouette of the mountains even darker. Somehow, the strip of Lake is still visible beyond the millions of glittering lights of the City that move, dance and sparkle in the night. This view evokes a different feeling, suddenly, a different emotion and an invitation to new reflection. But, I look to my left, and see that my wife is now asleep despite the whir and hum of machines and nurses, and before I can finish the outline of this essay in my mind, I'm asleep, too.

Ideas expressed in this essay are further developed in Will South's "Modern Art and the Metaphorical Mind," written for the Sheldon Memorial Art Gallery at the University of Lincoln, Nebraska, forthcoming in 2004.

A Slice of SLICE



A product of Project SLICE: The FRIENDS of Great Salt Lake Initiative for Conservation Education
Produced in collaboration with ECOTRACS, Salt Lake City, Utah fogsled@aol.com © FRIENDS of Great Salt Lake rev. 07/27/02

CALLING ALL VOLUNTEERS

We Need Volunteers For The Following Areas.

ADVOCACY

Task/Project: Indexing of past newsletter publications.
Skills: Library, filing, clerical. Computer with online capabilities required.
Hours: up to 16.

Task/Project: Designing fund-raising items (mugs, calendar, t-shirt, screen saver, postcard) in keeping with FoGSL logo.
Skills: Artist, computer graphics, marketing, computer skills preferred.
Hours: 3 months.

Task/Project: Habitat graphics series of 4-5 posters.
Skills: Technical design skills, production oversight.
Hours: 6-12 months.

RESEARCH

Task/Project: Bibliography of scientific Lake research articles.
Skills: Computer, information in-put.
Hours: (currently on hold)

EDUCATION

Task/Project: Lake Affect Presentations training (on-call for future presentations after training).
Skills: Public speaking, own transportation.
Hours: 3 months.

Task/Project: Lake-side Learning training.
Skills: Educator preferred/Outdoor Education/ Public speaking.
Hours: 3 months Spring/Fall.

Task/Project: Language Arts activities, stories for 4th grade curriculum.
Skills: Writer, customize writing for specific projects, familiarize self with Utah State Curriculum Standards for 4th grade.
Hours: 3-6 months (depending on project).

Task/Project: Visual Arts-curriculum enhancement; Animal/Habitat Research book.
Skills: Fine Artist, Graphic Artist, computer skills preferred.
Hours: 6-12 months.

To volunteer call Jill at 801-521-5751 or email knut2slc@aros.net.

Lake Fact:
What is Great Salt Lake's average depth? How deep is its deepest part?
See page 19 for answer.

More Pink on the Lake?

An Email from Ray Janus - Friends 4 Floyd

Dear FRIENDS,

Thanks for your thoughts. I share your concerns, and while I would love to see more pink on the lake, I have to weigh this against the possibility of a 20 pound "pink seagull" coming through the windshield of one of my jets, at 300+ mph. Maybe all that we will have a chance to enjoy are pink birds of a more plastic nature.

However, for the record, I would like to point our that our group is not involved in introducing a new species into the ecosystem. In reality, that occurred decades ago when zoos, hotels, parks, private owners brought African and Chilean flamingoes to North America. A basic search on the internet will confirm dozens of flamingo colonies throughout North America, and we may only be accelerating the inevitable by 50 or so years. If in the process of adding more pink to the Great Salt Lake, tourism and increased enjoyment of the lake occurs by people, rather than abuse by corporations, I am in favor of leveraging the beauty of "pink seagulls" to help save the Great Salt Lake and its wetlands.

Given a choice between a nuclear or biomedical waste dump, or a few flamingoes too many on the GSL, my choice is still in thinking pink. I am hoping that by bringing up Pink Floyd, we increase awareness and interest in Salt Lake City, of the precious and fragile resource to the west.

Please note that Pink Floyd has already become a major economic force around Lima Reservoir in Montana, creating a multi-million eco-tourism industry around his/her? presence. In corresponding with our counterparts, through discussions that I had in developing www.legalblondes.com/pf.htm, I see the GSL crowd being in a loosing race, as to who will bring Pink Floyd a few more mates.

Anyways, I'm down here in Gilbert, AZ, enjoying the emu's, ostriches and other non-native birds that have come to call the southwest their home, so bird in hand, I hope that we at least consider our options in Utah. I am working with our group on preparing a public discussion web site, that we expect to have on the web in the coming weeks pending our URL registrations. At that time, we will welcome and encourage the pro and con discussions of legal Chilean flamingo additions to the GSL.

Besides, I hear flamingo is a bit like chicken, if prepared properly on the barbie. Goes good with shrimp!

The Prospect of Flamingos on the Great Salt Lake

by Robert Wilson, M.S. biology/ecology Utah State University

Chilean flamingos, endemic to Chile, Bolivia, and Peru, are pale pink with a five foot wingspan, and weigh about five pounds. Their order, Phoenicopteriformes, is placed between Ciconiiformes (wading birds) and Anseriformes (waterfowl). The presence of a feral Chilean flamingo has inspired a proposal to introduce a wild population to the Great Salt Lake. If this is a serious proposal, then it should be granted serious scrutiny. What are the objectives? What are the methods? What are the consequences?

The objectives, according to proponents, are to enhance the aesthetic qualities of the Great Salt Lake, establish a flamingo based tourist trade, and provide company for a Chilean flamingo that escaped from Tracy Aviary in 1985. To achieve this, they intend to acquire and release sufficient Chilean flamingos to establish a self-sustaining population in the intermountain west. They have not examined the consequences.

It is pertinent here to define some terms. An exotic, in biological terms, is a species introduced by humans to an area where it has never naturally occurred. Reintroduction is the introduction of a species, such as the trumpeter swan or whopping crane, to the wild from whence it was extirpated by human activity. Populations which are confined by enclosures; provided food, water, and shelter; and bought and sold, are captive or domestic, not wild. Escaped captives are feral. Feral populations may persist as wild exotics. If one maintains that captive populations are part of the wild ecosystem, then elephants, lions, tigers, llamas, emus, ostrich, toucans, parrots, and penguins have been introduced across the country and around the world. This argument escapes reason. Equally irrational is the argument that flamingos were indigenous to Lake Bonneville, and thus their release constitutes a reintroduction. Let it suffice to say that vertebrates which wetted their snouts in Lake Bonneville included mammoths, camels, and muskox.

News of wild exotics menacing native ecosystems has become a cliché in today's world of transportation. Consider the fear incited by the northern snake-head, an Asian fish found wild in Maryland. In Utah, examples abound: Fragmites and tamarisk are chronic scourges of rivers and wetlands. Carp compete with waterfowl and other native birds for forage, and are a major problem on the marshes of the lake. Their activity increases cloudiness of the water which in turn impedes the growth of aquatic plants and diminishes the capacity of the food chain. Starlings compete with native birds for nest sites-the disappearance of the Lewis' woodpecker from the Wasatch Front coincided with the invasion of starlings. Cattle egrets, native to Africa, have established wild populations in the America's, including Utah, but their survival often comes at the expense of native herons and egrets. The survival and ability to migrate of one Chilean flamingo suggest that a population could persist here, but at what cost to what species?

The Great Salt Lake hosts vast populations of breeding, wintering, and migrating birds which are evolved to the various climates and conditions of the Great Basin and the western hemisphere. Among those with more notable life-histories is the Wilson's phalarope. One of the lake's most abundant summer residents, it spends the northern winter in the Andes. The large colonies of Franklin's gulls that nest on the lake's marshes migrate to tropical Central and South America. Snowy egret; white-faced ibis; American avocet; willet; eared, pied-billed, western, and Clark's grebes; black, Forster's, and Caspian terns; Virginia rail, sora, double-crested cormorant, white pelican, blue-winged and cinnamon teal, and long-billed curlew, among others have breeding populations around the lake which migrate to the tropical Americas. Snow goose, lesser scaup, gadwall, widgeon, green- winged teal, greater and lesser yellowlegs, marbled godwit, western and least sandpiper, and common snipe are among the species that depend on the lake for rest and forage during migration. The long-billed dowitcher, a common migrant on the lake, nests on the shores of the Arctic Ocean, and winters as far south as Guatamala. For many of these species a decrease in nesting cover or forage availability could have calamitous consequences.

Exotics aren't necessarily a menace. Pheasant, chukar, gray partridge, wild turkey and California quail have all been introduced to the state with limited effect on native species. However, the successful establishment and maintenance of these populations is costly, and funded by sportsman's dollars. This leads to the economics of introduction. How can you justify allocating already limited resources to promote an exotic species when those same resources could be used for the conservation of native species? Populations of snowy plover, canvasback, and northern pintail depend heavily upon the lake, and are of urgent conservation concern. Peregrine falcons, which have staged a remarkable recovery in the past 20 years, find abundant prey on the shores of the lake, as do another come-back species, the bald eagle. The lake is host to one of the largest winter populations of bald eagles in the lower 48 states. At some locations more than 300 individuals congregate in a single grove of trees. Migratory Bird Day and Bald Eagle Day are popular public events, and with the opening of visitor's centers at the Nature Conservancy Great Salt Lake Shorelands Preserve, and the Bear River Migratory Bird Refuge, the lake and its resources will become more available to more people.

The Great Salt Lake, with its diversity of species, seasons, color, and sound, cannot be enhanced beyond its native splendor, but it can be diminished, and without vigilance and care, it will.

"A Posterbird for Great Salt Lake"
(continued from pg. 5)

the political landscape regarding conservation of GSL and, with a well-designed public relations campaign, could become a rallying point for public support of the entire lake and its interconnected resources.

However, this preliminary population estimate of the GSL eagle concentration should not be scientifically accepted or cited as fact until formal studies can fully document the phenomenon.

To achieve this, ongoing limited studies by UDWR and SWCA would need to be supplemented by investigations of broader scope and intensity at the peak concentration. Migrating eagles constantly move from foraging to loafing to perching to roosting areas, and are very difficult to accurately census unless the focus is on their communal roosting areas --- groves of large trees, usually in undisturbed areas, where up to 100-300 individuals congregate for the night.

Any study to document the GSL eagle concentration should consist of efforts to monitor roosts (perhaps 30 or more) along the lakeshore and in the Wasatch Range. All roosts should be monitored simultaneously on the same night by observers working in concert to ensure that movement between roosts on subsequent nights does not bias the findings.

Preliminary work would entail working with UDWR, USU, SWCA, and perhaps HawkWatch International to obtain as many known roost locations as possible prior to fieldwork. Limited helicopter survey time would probably be necessary to locate communal roosts in the Wasatch Range, roosts which are poorly known due to their isolated locations in largely inaccessible terrain with deep snow.

A suggested sampling regime would be to coordinate the monitoring of all roosts on every third evening for the two weeks from late February to early March. The estimated cost of preparing for, coordinating, conducting, and writing up the findings of this work, even if some volunteer help were used, would be about $25,000 per season.

The cost could be more, depending on the difficulty of obtaining preliminary information on roost locations and other potential setbacks. But by no means should this suggested price tag come from existing Utah wildlife management programs. Ideally, these costs could come from a new source of support.

If you are interested in helping with this effort or have questions, contact Dr. Bryan Brown at bbrown@swca.com or 801-322-4307.

Wisdom of Wings:
An Earth Day Celebration of GSL Birdlife

April 22nd, 2003, starting at 7PM at the Red Butte Garden Orangerie,
located in Red Butte Gardens, 300 Wakara Way, SLC.

Join FRIENDS of Great Salt Lake to learn about the wondrous shorebird gatherings that occur on our Great Salt Lake and where/when to watch them. Help us celebrate Earth Day and the Migratory Shorebirds with an informational open house, a fabulous slide show and even opportunities for GREAT PRIZES!

•INFORMATIONAL OPEN HOUSE•

Learn about this spring's bird festivals and field trips, the best bird watching times, and the locations of new nature centers, and meet some live birds! Our good friends from The Nature Conservancy, Farmington Bay Waterfowl Management Area, Davis County Bird Festival, Great Salt Lake Audubon, Hawk Watch International, Tracy Aviary and the Bear River Migratory Bird Refuge will be on-hand to give you the inside edge for this spring_s migration.

•FABULOUS SLIDESHOW•

Now that you know where to go, get ready for a very special treat!
Join professional photographer Gary Crandall for a slideshow that will captivate all you Earth Day celebrants with a photographic salute to our migratory friends.

A Municipal Landfill on Promontory Peninsula Creates a Permanent Footprint of Pollution on GSL

by Rhonda Boren, CEO Mineral Resources International

In 1969 my parents, Hartley and Gaye Anderson, read a syndicated newspaper column by Dr. George W. Crane. He reported that drinking small amounts of sea water would improve the health of a mineral-deficient population. They wondered if the Great Salt Lake, a concentrated sea, would provide the same health benefits. So at a time when locals considered the lake a smelly nuisance and when doctors believed that a wonder-bread diet was adequate, my parents turned to this amazing lake for answers. At the time, they could hardly have imagined the solutions they would find.

It turns out that the Great Salt Lake is one of the richest sources of highly bio-available magnesium in the world. Magnesium is a major mineral that is involved in nearly every health function in the body. It also turns out that the modern diets are deficient in this important mineral, which partly explains why consumers have consistently noticed health improvements.

The lake's concentrated brines are also a balanced source for many trace elements such as boron, selenium, and manganese. Some of our most dramatic results have occurred in sufferers of bone and joint disorders and in managing blood sugar resistance, a condition borne by one-in-three Americans.

Today, my parents have retired while five of my brothers and I grow the business. We are the only food-grade operation on the lake and our group of companies employs about 100 people in Utah. We generate about $7 million in revenues from 15 different countries.

In a state that houses the nation,s worst air and ground-water polluters, we pride ourselves on bringing high economic value from the lake without leaving a trail of damage. We haul all of our trash and waste away, do not have permanent dikes or structures, and return all unused brines back to the lake. We also pay more to the state for each gallon pumped than any other company on the lake. In order to continue, however, we must protect the lake from pollution. We must recognize that it is a fragile ecosystem that has many current and yet-undiscovered uses.

The idea of placing a landfill on the Great Salt Lake's shores seems so irresponsible that I am amazed it is actually under consideration. Not only might the landfill bring fugitive trash, groundwater contamination, surface runoff and unpleasant smells, but my company faces negative publicity.

Our website and promotional materials tout our product purity and pristine harvesting location. So even in the unlikely event that there is no actual pollution, my company will still have an image problem. People take our products to improve their health and to season their food. Skeptical consumers may simply choose to avoid these products if they believe they are made near a dump.

I also believe that Box Elder County will face the same perception problems. Is it really in the county's best interest to become known as Utah's dumping ground? Box Elder County would be much wiser to consider a regional and long-term approach. They still have the choice of encouraging businesses that bring tourism and beneficial industry rather than a permanent footprint of pollution.

Rhonda Boren can be contacted by calling 801-731-7040 or at rhondab@mineralresourcesint.com.

GSL Ecosystem Project Technical Advisory Group

by Clay Perschon, Project Leader, Utah DWR

Expansion of world aquaculture programs during the 1990's had created a substantial increase of demand for Great Salt Lake brine shrimp eggs to be used as feed for table shrimp and fin fishes. The numbers of commercial brine shrimp fishing licenses (also known as Certificates of Registration or COR's) increased from 29 in 1994 to 63 in 1995. The Utah Wildlife Board amended and substantially changed the brine shrimp harvesting regulations in the spring of 1996. Some of the changes included placing a cap of 79 COR's available until studies could be undertaken by DWR to determine what level of harvest would be allowed while sustaining all the components of the ecosystem, especially the birds.

The Division of Wildlife Resources (DWR) formed the Great Salt Lake Ecosystem Project (GSLEP) in July of 1996 to address the potential problems created by increased harvesting effort. Work had been conducted in previous years by other Division employees on the lake's resources. A greatly expanded effort with specific focus was needed. Biologists were hired and enforcement efforts were increased.

Contracted researchers were hired to bring needed expertise for studying brine shrimp populations in the lake. A literature review was conducted to determine how others in the world had tackled the same problem. It was soon discovered that a great body of scientific literature existed on brine shrimp in laboratory conditions, but very little had been done with them in natural lakes.

DWR had little knowledge within the agency relative to brine shrimp research and management beyond limited efforts that had been initiated a few years previously. The brine shrimp industry suggested creation of a Technical Advisory Group (TAG) to bring together individuals who could pool their knowledge and help to indentify needed research. Nominations were sent to DWR and the first meeting was held in July of 1996. Initial members included several brine shrimp harvesters with historical and academic knowledge, contracted researchers and DWR staff.

The mission of the TAG is suggesting topics to be researched, providing input on existing research and advising on the priority of research. This group makes no management decisions. All rule making and policy decisions are made by DWR with public input through the Regional Advisory Council and Wildlife Board process. Management decisions for resource protection are made by the DWR.

Initial research priorities included conducting a census of brine shrimp in the lake. A cooperative research contract was developed with the United States Geological Survey. The late Dr. Doyle Stephens had extensive knowledge of the lake and his agency had boats, equipment and laboratory expertise to build upon the initial investigations of Dr. Wayne Wurtsbaugh of Utah State University. Data were collected and analyzed on the shrimp population and limnological characteristics of the lake. Currently USGS is conducting an extensive bathymetric survey of the south arm of the lake, further limnological studies and a pilot study to determine the feasibility of using stable isotope analysis to help understand nutrient cycling in the lake.

Dr. Gary Belovsky, then at Utah State University- now at the University of Notre Dame, became the Chief Researcher and developed a model to help predict brine shrimp population function in the lake and conduct laboratory experiments to determine how brine shrimp populations function relative to changing environmental conditions. He is now conducting research on lake algae and over winter shrimp survival. The relationship of the shrimp to their algal food base is now a primary focus.

Dr. Michael Conover of Utah State University led the avian research. His graduate student, Joe Caudell studied the bioenergetics of Eared grebes on the lake to earn his Ph.D. Of specific concern in that study was how many brine shrimp do the Eared grebes need to sustain their populations on the lake. The current management strategy has provided ample quantities of shrimp for these birds. A new research project has just been initiated to study wintering water birds on the lake and how they may rely upon brine shrimp and eggs. Josh Vest is the doctoral candidate student of Conover's that will conduct this investigation. The primary concern of these studies is to provide sound science that will guide management and conservation of these avian populations.

Other research efforts were supported in a cooperating role to determine lake salinity models, measuring lake level fluctuations and experimental efforts to determine shrimp cysts density utilizing remote sensing.

The GSLEP gained personnel, equipment and expertise over the first couple of years and began contributing to data collection and research. Their primary efforts have been directed at extensive sampling for shrimp and eggs in

the lake, cooperative limnological studies, shrimp hatchability and survival studies, harvested shrimp biomass studies and a 5 year water bird count around the lake to establish a baseline data base. Other smaller projects have also been investigated.

All of these noted research activities are reviewed and discussed at TAG meetings which are held 3-4 times per year. These volunteer members of the group share research experiences and discussion to help facilitate scientific understanding of this incredible ecosystem. There are 12 members of the TAG. Other researchers that participate on the projects attend the meetings too.

Since the beginning some initial members of the group left. Much has been learned since 1996 and new areas have been defined for future investigation, primarily work with lake algae, limnology and new species of birds. A need was identified to replace and add members to the group that could bring new expertise to advise on continuing research.

During the summer of 2002, new members were nominated and selected to serve on the TAG. The existing members of the group now include: Dr. Gary Belovsky, University of Notre Dame; Dr. Michael Conover, Utah State University; Peter Erickson, Salt Creek, Inc.; Mark Jensen, Great Lake Artemia; Patrick Lambert, USGS; Dr. Mark Lamon, Ocean Star International; Dr. Chris Luecke, Utah State University; Brad Marden, Utah Strategic Alliance; Don Paul, Intermountain West Joint Venture; Clay Perschon, UDWR/GSLEP; Joel Peterson, TNC and Kent "Sorno" Sorenson, UDWR/GSLEP.

The Utah Department of Natural Resources wrote a comprehensive management plan for the Great Salt Lake which was implemented in 2000. A scientific review panel scrutinized the document for accuracy and provided input to strengthen the content. This group observed the incredible lack of research on this fascinating saline lake where many people have lived along its shorelines for over 150 years. The TAG serves a very pivotal role in guiding research efforts on this jewel of the west.

Gunnison Island - photo by B. Bentley

5th Annual Great Salt Lake Bird Festival

May 17-24, 2003

Stilts - photo by Gary Crandall

This is a Great Year!

The Great Salt Lake has recently been spotlighted as one of America's best bird watching sites by national publications. These magazines include Sunset, National Audubon, Bird Watcher's Digest and The Nature Conservancy magazine. The local sites specifically mentioned include Great Salt Lake Birding Trails, Antelope Island, Bear River Migratory Bird Refuge, and the Great Salt Lake Shorelands Preserve.

The 5th Annual Great Salt Lake Bird Festival offers field trips to all of these sites. You can actually visit the sites acclaimed in these prestigious national magazines with an experienced guide. Held the third Saturday in May and continuing the following week, Great Salt Lake Bird Festival attracts bird watchers from all over the United States.

Great Salt Lake and surrounding areas are coming into prominence as unique sites to see a lot of birds. The Festival takes advantage of many beautiful public and private bird watching sites. On Saturday, May 17th, many workshops will be held at the Davis County FairPark in Farmington, Utah! All of the booths and workshops are free. The bus and van field trips and the Festival dinner have fees.

This year's keynote dinner speaker is Kent Clegg. He is excited to come to Utah and bring his Dragonfly ultra-light airplane. Many will remember Kent's work with whooping and sandhill cranes. He raised many from chicks. He became 'Father Crane' to these birds and along with his ultra-light airplane, he taught them to migrate to winter grounds in New Mexico. This is a fascinating and successful story.

Another highlight of the 2003 festival is the annual Fun Run/Walk and Bike Ride held at Antelope Island State Park, Saturday May 17th at 8:00 a.m. This fun event is for all ages. Signs tell participants where they would be if they were migrating birds from Canada to Mexico. Proceeds from this year's event are dedicated to help with conservation efforts in San Blas, Mexico that is Great Salt Lake's sister site through the Shorebird Sister Schools program. Last October's Hurricane Kenna destroyed bird habitat, bird observation towers and student equipment including binoculars. Great Salt Lake Bird Festival is collecting money and binoculars donations through May 24, 2003.

For more information see our web site: www.greatsaltlakebirdfest.com or call Davis County Tourism at 801-451-3286, or e-mail tour@co.davis.ut.us

Great Salt Lake Field Seminar Series

Lake Tour with Great Salt Lake Ecosystem Project Biologist

Join FREINDS on May 17th from 10AM to 4PM on a tour of the Lake with DWR biologist Clay Perschon, Great Salt Lake Ecosystem Project leader aboard the 29' Pelican and the 26' Kit Carson. Gain a new and beautiful perspective of the Wasatch front as we travel to the point where several counties converge. We'll also get an offshore view of colonial nesting birds on Hat Island.

Clay will be discussing lake ecology and the Ecosystem Project studies relating to brine shrimp populations. While aboard the Pelican and Kit Carson, we will take a shrimp sample net tow, and measure salinities from fresh water lenses on top of the salt water as well as from the "other" part of the south arm, the deep brine layer.

Space is limited so be sure to contact us by leaving a message at 801-583-5593 or email Heidi Hoven: hhoven@swca.com

Snow Hydrology with Snow Hydrologist - Randy Julander

Join FRIENDS on June 14 from 9:00AM to 2:00PM on a trip up Farmington Canyon with NRCS Snow Hydrologist Randy Julander. We will be traveling up the canyon to conduct a Snow Course Survey, which measures the amount of snowpack providing water for Wasatch Front communities.

We will also visit a SNOTEL site where NRCS scientists gather climate information for making water supply forecasts. The site will afford a beautiful view of GSL and we will discuss our dependance on snowpack for water storage and supplies.

Please wear sturdy boots because we may have to hike in snow to reach the site. The trip will go rain or shine, so dress appropriately.

Space is limited so be sure to contact us by leaving a message at 435-797-8058 or email Brian Nicholson: briannicholson@utah.gov.

photo by Gary Crandall

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E-mail to: ldefreitas@earthlink.net. Please call 801-583-5593 to confirm receipt of e-mail or with any questions, suggestions, comments, or ideas.

Deadlines: Sept. 16 (Fall), Dec. 16 (Winter), Mar. 16 (Spring), and June 16 (Summer).

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The Importance of Your Membership

The strength of FRIENDS comes from its members. All of you, with your individual contributions to Great Salt Lake awareness, help provide this organization with the momentum it needs to carry on its work for the lake. We all know about the tremendous challenges and opportunities for Great Salt Lake. Knowing those challenges and opportunities, FRIENDS' board of directors works hard to identify the best ways to respond to them. Some of our critical activities:

- The Legacy highway campaign
- Commenting on the Great Salt Lake Comprehensive Management Plan
- Educating the public at large about the importance of our big, salty neighbor
- Participating in public hearings and on committees that address development around the lake,

But without the support and participation of the membership, the work of the board is limited. General meetings, field trips, and volunteering are all ways that you can help build public recognition of FRIENDS and its mission. Through these means, you also become more knowledgeable about the lake, its science, its history, and our relationship to it.

One of the goals that the board continues to identify at its annual retreat is building membership. How can we develop a robust and active membership ? We need to develop a critical mass of lake advocates, true friends of Great Salt Lake.

So, we're asking you, our members, to keep active through participation and by keeping your membership current. Check your mailing label for your membership renewal due date. Renew promptly if you have expired.
If you have questions about your membership, please call Lynn at 801-583-5593.

And do what you can to help recruit new members to strengthen our voice foe Great Salt Lake protection and preservation. Help us recruit new members. Pass on your newsletter to a friend or neighbor. Spread the news about who we are and how we are working for Great Salt Lake.

Big Thanks!

PS. Does this sound like your mother?

Lake Fact Answer:
At 4200' elevation, depth averages 13' and is 32' at the deepest part.

Thank You to Our New and Renewed Members for Your Support

Renewed Members

Mark and Suzanne Atencio
Mary Bateman
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Mark and Cheryl Brunson
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Yes! I want to join **FRIENDS** *of Great Salt Lake*

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I would also like to make additional donations to:

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

"Near the Shore of Great Salt Lake Antelope Island in Distance", circa 1900 by James T. Harwood