

FRIENDS of *Great Salt Lake*

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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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Fall 2000 Calendar of Events

October	24	Tuesday	General Meeting 7pm: Katrina Moser "Great Salt Lake: An Archive of the Past"
November	2	Thursday	Board Meeting 7pm
November	13	Monday	Conference sponsored by the Utah Wetlands and Riparian Center-The Great Salt Lake: Achieving a Sustainable Future (details on p. 12)
November	28	Tuesday	General Meeting 7pm: Bonnie Baxter 'Great Salt Lake Project: An Inquiry Approach to Science Education' (details on p. 11)
December	7	Thursday	Board Meeting
December			No General Meeting
January	4	Thursday	Board Meeting
January	23	Tuesday	General Meeting, tba

Watch the local papers for announcements of speakers and topics at our General Meetings, or call our hot-line at 801/583-5593, and press 1 for monthly activities.

NOTE: General Meetings are held at the Sugarhouse Garden Center, located in the northeast corner of Sugarhouse Park, 2100 South 1300 East in Salt Lake City. Board Meetings are held at the Salt Lake County Complex on State Street and 2100 South in Salt Lake City. Room S3009

Our apologies for the editing oversights in our Tribute to Doyle Stephens. Please note the following corrections:

Ted Arnow came to Utah in 1961 as District Chief of the Ground-Water Branch of USGS Water Resources Division. (The Division consisted of 3 branches, Ground-Water, Surface Water, and Water Quality). In 1965, the branches were combined into one District office, and Arnow was put in charge of the hydrologic investigations part of the District. In 1966, he was named District Chief of the combined office and held that office until he retired in 1986. Joe Gates was not a USGS District Chief (1980-1994), but was chief of the Investigations Section of USGS and served under Ted Arnow. Gates retired from USGS in 1994.

Cover: photo of Autumnal pickleweed by John P. George

President's Message: Utah's True Legacy: The Great Salt Lake Ecosystem

(Speech given at Legacy Highway Final Environmental Impact Statement and Army Corps of Engineers 404 Wetlands Permit Public Hearing at Woods Cross High School August 23, 2000)

We all know that in the Great State of Utah, wetlands make up only 1.5% of the total land area, and that 75% of those wetlands (over 500,000 acres) can be found in and along the shores of Great Salt Lake.

We also know that Great Salt Lake and its associated wetlands provide some of the most important breeding and staging habitat for significant populations of waterfowl, and shorebirds, and other species in the Western Hemisphere.

And we know that as a result of habitat loss and degradation, populations of migratory shorebirds have declined drastically in North America during the last 100 years.

In Utah alone, the acreage of wetland habitats declined from about 1.2 million in the 1950s to .5 million acres in 1974. And the decline continues.

These are facts that we know to be true and accurate.

In the FEIS, we have been told that in order to preserve what remains of Great Salt Lake's wetlands, we must first build a highway that will directly destroy 114 acres of them, as well as damage an untold number indirectly.

The justification for this highway is a seriously flawed travel model that totally ignores future land use scenarios that could promote more transit oriented development.

But wait! It comes with a Nature Preserve that will manifest Utah's true legacy of protecting the wildlife and wetlands that are so important to us.

And that we cannot have the Nature Preserve without the Highway.

The Nature Preserve is shown in the FEIS as a series of carefully striped shapes which selectively define where preservation will take place.

It was designed and justified by a HGM model that hasn't been tested or validated. And it totally ignores the enormous value that Great Salt Lake has for wildlife by excluding migratory birds from its scope.

This kind of omission is consistent with UDOT's failure to consider the full scope of the Migratory Bird Treaty Act by brushing aside the millions of shorebirds and waterfowl that rely on this hemispherically important ecosystem.

Not only that, but the Nature Preserve will not be immune from adjacent development on the west side of the proposed highway.

In our analysis, this FEIS is profoundly defective, conveniently and self-servingly defining where and how the Great Salt Lake ecosystem will be considered.

If we're serious about preserving the Great Salt Lake ecosystem, and about solving the long term transportation needs we are facing along the Wasatch Front, then we should begin again.

This time, we should ask the right questions and explore ALL of the options so that we can demonstrate to our children and the world, that we clearly understand what Utah's true legacy is all about.

I urge the Army Corps of Engineers not to permit the proposed Legacy Highway. Even by any stretch of the imagination, it cannot be considered the least damaging practicable alternative.

Thank you.

Lynn de Freitas

Lake Fact:

Approximately how many American white pelicans nest each year on Gunnison Island?

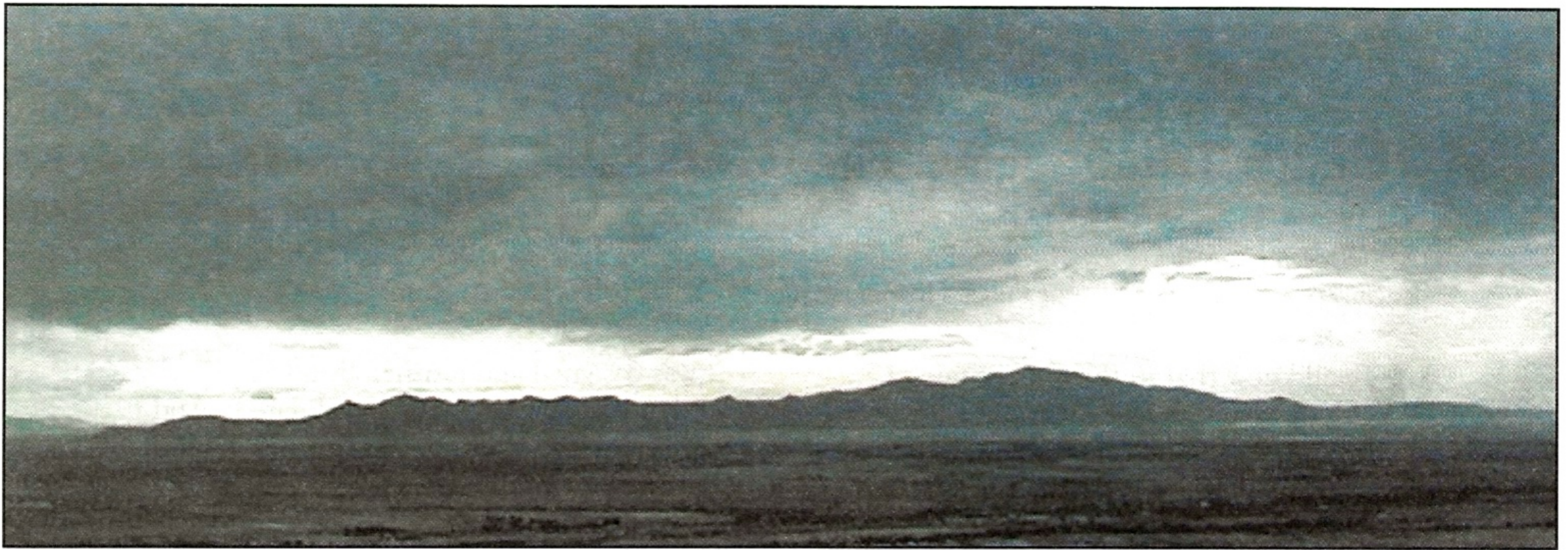


Photo by Anna Weller

Antelope Island

By Garth Taylor, Manager of Antelope Island

Thanks for the opportunity to address your organization. When asked by Lynn, “What’s been happening out on Antelope Island? I thought, “good question for those who have a great interest in what’s been going on and what might be in Antelope Island’s future”. Can I put these thoughts in a few words? No way, because this park never stops dealing with a constant barrage of special interests. There are so many different diverse groups that just love Antelope Island. How do we manage for a wide spectrum of use and still maintain the quality experience visitors expect? It’s a big juggling act to balance access with preservation. I’ll try to be specific and touch on a few of the past highlights and what the future holds for Antelope Island.

This past year has been full of personnel change. The division has taken a hard look at how we handle the public and specialization is in our future. We’ve had a few positions turn over and had the opportunity to hire a naturalist, a curator, and a biologist for particular programs. Jill Rudman is programming and hosting naturalist interpretive type programs at the Visitor Center. This past spring the park had over 11,000 students out to learn about Great Salt Lake and Antelope Island ecology and history. Chalee Cox is programming and hosting interpretive type programs at the Historic Garr Ranch. Since the opening of the east side road April 1, 2000 the ranch has seen visitation of over 50,000 visitors. The ranch offers a self guided experience of three different thematic loops: domestic, nature/wetlands, and agricultural. Opening the east side corridor was exciting for the park but at the same time threatening to delicate natural and cultural resources. A planning team was assembled to

develop strategies and put in place safeguards to preserve these resources. Steve Bates has been working closely with many professionals to address wildlife, range, and habitat issues. He has been very busy with the mule deer proposal, as you can imagine. He is also working with our Wildlife Technical Committee to update the Wildlife Management Plan.

The past year has been full of park change. The east side of the island has been opened to the public as mentioned above. The new 11-mile road and trail lead to the Historic Fielding Garr Ranch. This is a narrow passage through delicate resources and is managed accordingly. The road and trail provide opportunities to view wildlife and the scenic beauty of a large portion of the island. If you remember, park visitors were only allowed access on the northern 2000 acres and the west side backcountry trails previous to this opening. This new corridor has provided greater access and opportunities for the public to enjoy and experience Antelope but has also created new challenges for park management. There are several interpretive pull-outs along the road, including: 1) Great Salt Lake Valley - A Place No One Wanted; 2) Fire Ecology; 3) Hollywood Comes to Antelope Island; 5) Springs and Wetlands; 6) Utah Silk Industry; and 7) Return of Native Grasslands. The ranch has been very popular and some special events will be planned for next summer. Also, with the development and opening of the ranch, a Fremont Indian camp was discovered near Mushroom Springs, just west of the ranch. A recent archeological dig was conducted and the cultural artifacts discovered indicate a temporary camp between 1,000 to 1,200 years old. This dig was advertised and the public

was invited to come out and watch. Approximately 200 interested folks took up the offer and were able to see first hand professional archeologist at work. The dig lasted for 10 days but only scratched the surface. They're planning for more action next summer. Stay posted!

What's in Antelope Island's future? As the population growth continues along the Wasatch Front so will visitation to the park. We've projected a 30% increase by 2002. The Olympics will also bring in masses from around the world wanting to experience the west. Visitation is expected to reach close to 400,000 this year and the old question of, "how many people is too many people" is always on my mind. To protect Antelope's unique resources, the Division of Parks and Recreation manages Antelope Island in accordance with one primary goal: to protect park resources for future generations while providing guidelines, opportunities, and limitations for needed development on Antelope Island.

All recreational activities at the park are centered upon this goal. This is exemplified by facilities, activities and programs including: trail systems, bison management facilities, primitive camping areas, the visitor center, the historic Garr Ranch, pre-historic sites, interpretive signage, the marina and break water, beaches, group use and day use facilities. There are several core values and objectives that the Division applies to achieve this goal. These include:

- Expertise of professional staff applying visitor and resource management practices based on sound scientific information and principles.
- Maintenance of heritage resources, physical developments and the natural environment for wildlife that preserves habitat and associated resources.
- Providing a variety of wildlife viewing opportunities that enable a non-consumptive wildlife opportunity.
- Designing park facilities to enhance visitor

education and interpretation experiences concerning the Island's heritage, geological, cultural and wildlife resources.

- Employing habitat and wildlife management techniques and research that maintain species diversity and expands our knowledge of Island wildlife populations and the associated carrying capacities.

- Ensuring public safety at all times and providing adequate levels of customer service to ensure a safe, satisfying experience for park visitors.

These values reflect years of citizen-based input, participation and planning. The planning effort culminated in a comprehensive Resource Management Plan (RMP) adopted in 1994. This document encapsulates the above values and directs current practices and philosophies for day-to-day resource, wildlife, facilities and program management of the Park.

The recent emergence of three key issues - increased use of Antelope Island trails; a small sector of public inquiry into potential hunting opportunities; and the opening of the park's east side to visitor use - prompted the division to reappraise the 1994 RMP (it should be noted that the RMP calls for an update in the year 2000). There is debate current recreational activities within these three issue areas may not be properly addressed or consistent with the 94 RMP. Consequently, the division is evaluating the document's capacity to address issues related to trail use, potential hunting and management of the Island's east side. Over the past nine months the division has been gathering information from various sources including public meetings, visitor surveys and interagency coordination to recommend actions to remedy these concerns. We truly appreciate all the input we have received from your organization. If there are specific issues any of your group would like to see addressed please let us know as the RMP will be updated shortly.

Thanks again for the opportunity to address Friends of Great Salt Lake. 🐾

Antelope Island Mule Deer Hunt Proposal Update

The Parks and Recreation Board will meet on November 9th and 10th, to pass a motion to finish the process on the proposed mule deer hunt on Antelope Island.

Jeff Packer, the chair of the Parks Board, in a conversation with Lynn de Freitas, said that 'it was his personal opinion that his board will vote to reaffirm the current management plan for Antelope Island and not allow a mule deer hunt to occur.' He stated that throughout the process of public hearings and open houses dealing with this issue, it was quite clear that public opposition to the hunt was very strong. However, in a cautious tone, he remarked that the Wildlife Board does support the hunt.

Ultimately, the decision would rest with the legislature where supporters of the hunt, although smaller in numbers, were very effective lobbyists. He suggested that it would require all of the people who spoke against the hunt to follow through with their opposition during the next legislative session. Mr. Packer was also hopeful that the Parks Board would recommend that the bison hunt, currently a part of Antelope Island's management plan, be disbanded. With only nonconsumptive wildlife use, Antelope Island could become a Yellowstone of Utah. Mr. Packer will be writing a piece about his experiences with this issue for our Winter newsletter.

Finale to A Brief History of the Beginnings of FOGSL: Part II

By Anna Weller

Part I: The Call to Binoculars appeared in the Spring 2000 newsletter

A huge step for the organization, Friends of Great Salt Lake, was the hiring of Bruce Thompson as Education Director. FOGSL put out a contract for someone to do an educational slide-show ("The Lake Affect"). While there were several presentations that were very good, Bruce's caught the job and has been a great source of pride for FOGSL since. "He didn't know anything about the lake, but he is an educator, and had the wherewithal to talk with an audience. And he wanted to learn", says Kathlyn.



"Lynn (de Freitas) as a full-time staff person, is another landmark event", says Howard Gross, and all agree. Kathlyn had hoped for a paid director position, someone who could devote a full-time schedule and who had the means to focus on the issues and the organization. "This would take it up a notch. It takes time and energy to fund-raise. It's a lot of work to come home and have ten messages on your machine. Lynn has taken this on, and this is another major step."

Howard met Kathlyn when he replaced her position as a S.W.C.A. consultant for Kennecott, working on the Inland Sea Shorebird Reserve. "We all learned a lot together," said Howard. "The first couple years was spent developing some kind of expertise, to be a resource for others. Kathlyn got in there and did what had to be done, for two years. In the beginning a lot of focus was on the bureaucracy of the organization. Its that way with any group. The first five or six people get gobbled up with the bureaucracy and there is a strong need to get more people". Howard decided to offer his services as treasurer in 1994. He also put together the contract and proposal that landed Bruce.

The first Issue Forum (Feb. '96) was designed to be a place to get to know what the local people think is important to know about the lake. "It was tangible and focused," said Howard. "We used this issues forum for direction on where to put our efforts. We had to, because we didn't have a single issue to rally around," said Kathlyn. Some of the recognized priority concerns recognized were 1.) air and water pollution from local industry; 2.) the threats accompanying a growing human population such as air and water quality and the sustainability of the lake ecosystem from local development; 3.) how to promote a tangible social value of the lake; 4.) water management; and 5.) habitat protection and research. The two hot topics were the brine shrimp and MagCorp/ pollution.

A turning point for the organization came in the Fall of '96 with the issue over the feasibility of a southern causeway to Antelope Is., a proposal to make a public road, a scenic route, for the convenience of the sight-seers. This was the first obvious place for 'Friends' to take a stand.

"Joel Peterson, then president, is quite an unsung hero. He really stepped up to plate on this issue. Ella Sorensen, too, and Dan Beard", Howard says. "All three were with Audubon. All three made public statements. They worked with the state and still said 'No!'. A very brave move." And their stand brought others forward on this issue.

Another milestone has been the fight against Legacy Highway. It represents the first time 400 people showed up to speak on behalf of the Great Salt Lake wetlands and Great Salt Lake's hemispheric importance.

FOGSL's ROLE:

What do you think Friends is accomplishing?

Kathlyn: It has started coming together the past couple of years, especially with regards to the Education program. Instead of remembering being in the 3rd grade and going out to the stinky lake, these kids will remember being in the 4th, and the great experience they had out at the lake. Memory is very important, immediate experience with a long-term effect, experience through education and field trips. FOGSL gives a voice to the lake.

Joel and Elise Peterson: Through the education effort, FOGSL is both educating the public and attracting more educated people to the issues. The group is becoming more mature and informed. FOGSL, in addressing the issues and through its education program, acts as an umbrella, a keystone organization on the issues.

Wayne: Groups like FOGSL are so important as a voice for the environment and the ecosystems. Education is so important, education of the lake as an international treasure.

What would the old board like to see happen?

What hasn't happened that they'd hoped for?

Kathlyn: The group needs to get its name out there. It needs more exposure, more membership, more support; and eventually a regular, full-time Director position.

Photos by Anna Weller

Joel and Elise: At the first Issues Forum we wanted to do a 'State of the Lake' study, but the project would have been very complex and intensive, and it didn't happen. Polling the politicians. In '96 we polled the candidates which brought up the issues of the lake and accountability. That might be a good thing to try again. The Student Poll, taken last year, shows a lack of understanding. There is a need for people to be exposed to lake and watershed issues daily. More advocacy, the substantive work beyond education and research, would be a step beyond just informing the public, to really becoming a voice for the lake. FOGSL took the turn from strong advocacy to a stronger education and information format.

But while Joel and Elise may feel the need for more advocacy work they understand the stance taken. "FOGSL may have benefited from focusing on education and information instead of shooting straight from the hip. It has probably helped FOGSL maintain its objectivity and strength."

Howard: I don't think FOGSL will be able to do a whole lot more (than it is now) without a staff.

But while Kathlyn sees that jump as being more in the future, Howard thinks FOGSL should be able to take that step at this point. "The challenge is education. Look at the Survey (of Winter '99). We need staff to educate the decision makers."

Where Do The Old Board Members Go?

Even though there is a turn over, the original people are still there working for the lake—as their job, not as an avocation. Both Joel and Elise are dealing with lake issues through their work. Joel works for the Nature Conservancy as wetland coordinator, and Elise works on issues of water quality with Fish and Wildlife. "As broader experiences and expertise grow with the more mature group, changes in the group bring an energized influx." Intensity burns hot and fast. The older Board members step aside, and as in a relay race, they pass the baton on to the new, energetic and enthusiastic wave.

Howard Gross helped start a spin-off group call Citizens Against Chlorine Contaminants (CACC). He recognized a hot issue, pollution by MagCorp. At first, people and groups felt uncomfortable with such a confrontational issue, but with each step CACC took forward—alerting the EPA and other regulators, getting tests done—support was strengthened. "FOGSL supported the association and in return gained credibility. The whole project was done with good science, not wild accusations. MagCorp has been exposed."



Howard's work with HawkWatch International as Executive Director keeps him connected to Great Salt Lake issues.

Wayne Martinson is focused on the wetland ecology of the lake. Doing bird counts, he is looking at the shorelines, mostly. And he goes to meetings. Wayne is concerned with how the lake is viewed, both by people and corporations, but by the birds as well. He is watching the important buffer areas shrinking daily, but not without a fight. He is fighting to show the developers just how different their dreams look through the eyes of the birds.

When I spoke with Wayne he was immersed in the issue of Perry Pointe development proposal, a proposal to build an outdoor sportsman Mecca right on a corner of the wetlands. With wetland 'concessions'. How would that look to the birds? "Probably, as mosquito(food)-less areas of lights, little pockets of 'fresh-water things' amid large stone structures and parking lots."

As for Kathlyn, her personal journey continues as an activist, changed only in form but not in substance. "What I'm doing now is working in the deep-ecology aspect of environmental activism." She feels that people who are healing will, in turn, become a healing conduit for environmental issues. "This is my perspective of '2000 Activism'", she says. For Kathlyn, getting into energy medicine will effect people's views of the earth, and effect how people respond to environmental issues, how their choices are made, and what those choices are. "If you are going through a healing process you are naturally becoming more in-tune with the environment...and what you think and feel, and who you are, effects what goes on, on the earth. Other cultures know this. It seems like our culture, in particularly, needs to go through that healing process...So the work I do in Boulder, Co. will enhance

what goes on here in Salt Lake with the organization, with the decisions that are made about Great Salt Lake, and how we relate with it."

Incidentally, Kathlyn insisted that the name 'Great Salt Lake' exclude 'the' to help with its identification as a dignified entity.

Kathlyn leaves her most recent Board position as Activities Coordinator, and she leaves big shoes to fill. She has left me to the task of continuing the production of this lovely newsletter. I find myself overly-excited, wide-eyed, and knee-deep, involved with such an interesting, informed and concerned group. They have passed on quite a baton. 🐾

Geoantiquities: Earth History in the Urban Landscape

By Marjorie A. Chan and Donald R. Currey,
Geology & Geophysics Dept., and Geography Dept.

In the Great Basin of western Utah, Earth history is expressed in the landscapes and deposits of ancient Lake Bonneville, the largest ice-age lake in the western U.S. It existed between 30,000 and 10,000 years ago, and was over 1,100 feet deep. The natural records left by this ancient lake are prominent shorelines, deltas, bars, spits, and beaches. At the lake's highest level is the Bonneville shoreline, a prominent bench along the Wasatch Front. The Provo shoreline, another bench 380 feet below the Bonneville shoreline, formed after a rapid lake-level drop, when half of Lake Bonneville spilled northward into the Snake River drainage. Lake Bonneville receded in the waning stages of the ice age, leaving behind remnants such as Bonneville Salt Flats and Great Salt Lake.

What Are Geoantiquities?

Geoantiquities are records of Earth history, in which natural landscapes preserve material evidence of geologically recent surface processes and environments. The Lake Bonneville basin contains excellent examples of geoantiquities. These loose, unlithified sediments can easily be disturbed and are vulnerable to removal and burial, particularly in areas like the Wasatch Front where growth rates are double the national average.

Importance of Geoantiquities

Geoantiquities are important for the following reasons:

Community Aesthetics:

Geoantiquities form a picturesque landscape and natural open space (for example, Bonneville Salt Flats; Bonneville Shoreline Trail of the Wasatch Front; Stockton Bar of Tooele County; and glacial valleys and moraines of Little Cottonwood Canyon and Bells Canyon).

Community Ethics: The community can endow to future generations a window on Earth history, and a landscape preserved to enhance the quality of life. **Basic Science:** Scientists use sediment records to learn what physical, chemical, and biological processes have acted in the geologically recent past. For example, studies on Lake

Bonneville geoantiquities tell us about global change, past climatic conditions, and how wind and water influence sediment transport. Applied Science: Geoantiquities help us understand geologic processes and allow us to better predict rates of change, and assess local natural hazards.

Community and Environmental Education:

Geoantiquities provide people of all ages a natural outdoor laboratory of Earth-surface history (for example, Great Salt Lake, Antelope Island, the Stockton Bar, and shorelines of the Wasatch Front).

Geoantiquities Heritage Areas

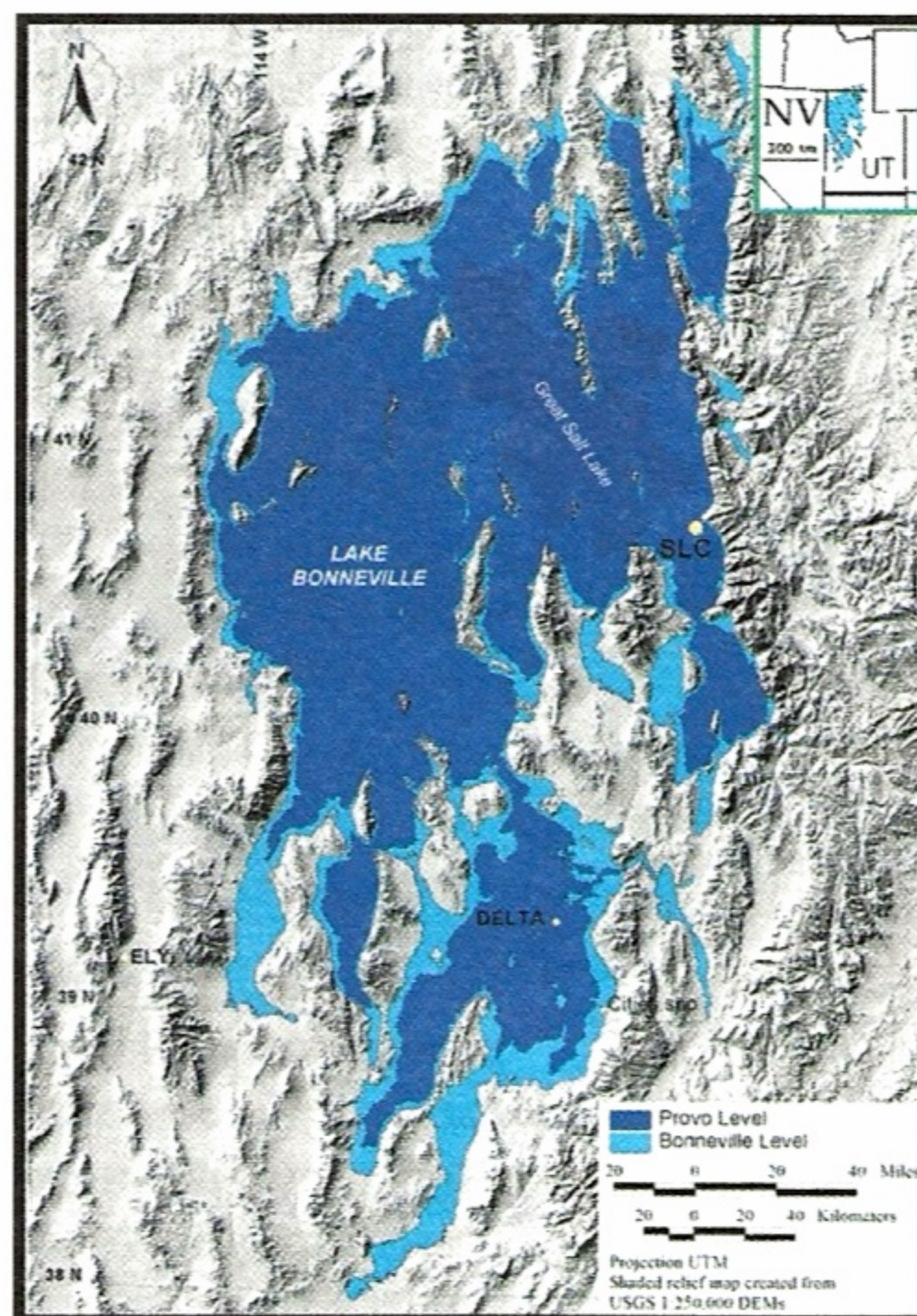
The Utah Geoantiquities Heritage Program is an outgrowth of University of Utah research on the interactions of earth science in the urban landscape. Our mission is to inventory regional geoantiquities, identify those that warrant community recognition as geoantiquities heritage areas, and foster community-based geoantiquities heritage planning. Geoantiquities heritage areas have three essential characteristics. (1) They include intact remnants of distinctive natural landscapes. (2) They contain scientifically important records of geologically recent environmental history. (3) They are at great risk of damage or loss by consumptive land uses.

The Future

The future of geoantiquities lies in the complex and dynamic interactions of Earth Science, urban development, informed citizenry, and community vision. We hope that research such as ours will strengthen connections between science and the community and promote informed, wise management of geoantiquities in the urban environment.

For more information see Utah Geoantiquities Heritage Program Web Site: <http://www.geog.utah.edu/geoantiquities/index.htm>

This scientific study was supported, in part, by the National Science Foundation (NSF grant SBR-9817777). Opinions expressed are those of the authors and not necessarily those of the foundation.



FOGSL and Me

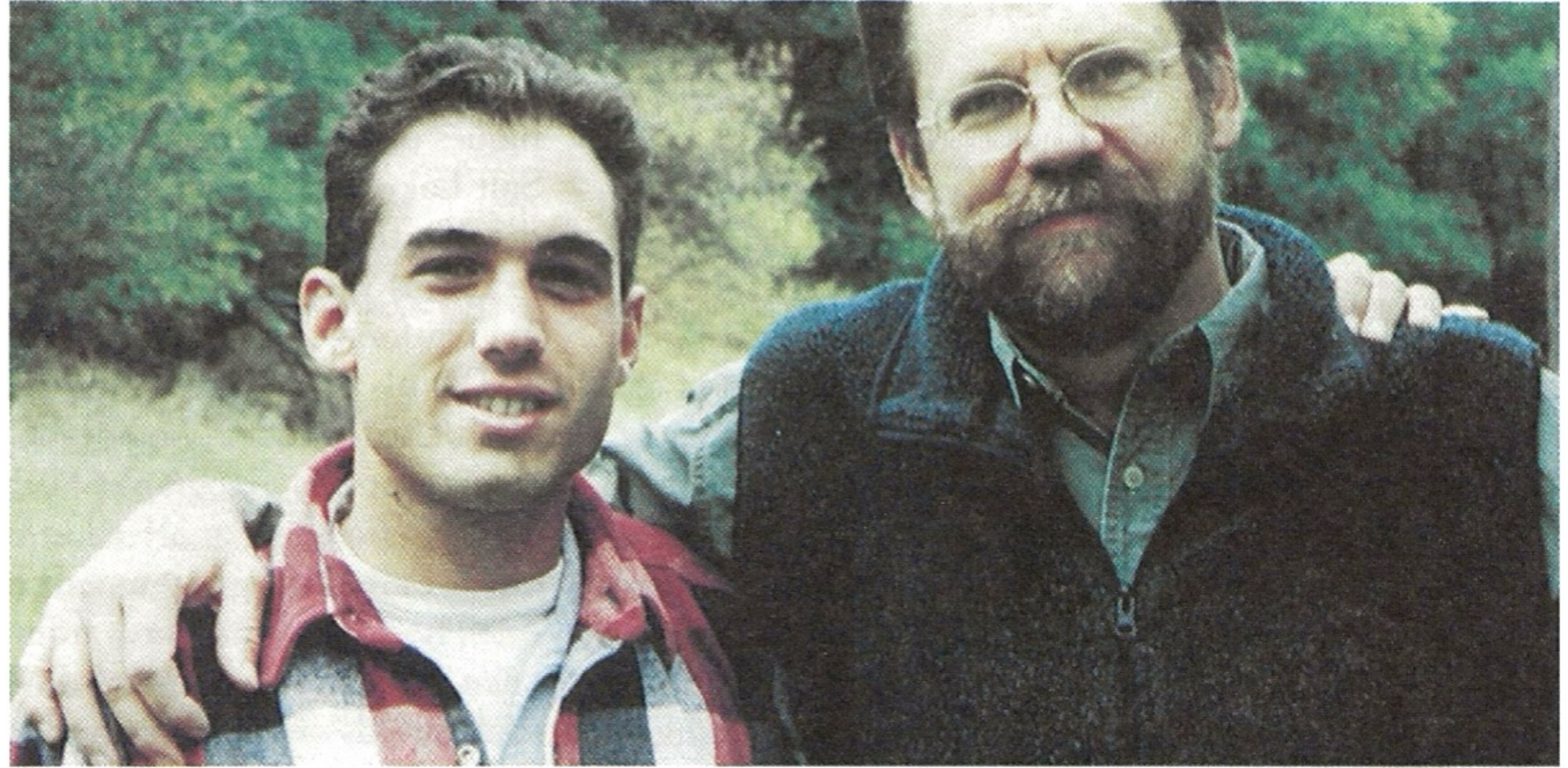
By Sander Lazar

Hello! My name is Sander Lazar, and I will be joining Friends of Great Salt Lake for a one-year fellowship starting in September. The Barbara L. Tanner Fellowship is awarded every year to a University of Utah graduate who has been involved in the Bennion Community Service Center, and allows the recipient to work with any community agency of their choice while meeting a community need. I am very honored to be the fourth recipient of this fellowship.

I've been involved in environmental issues for several years, but most notably during the '99-'00 school year at the University of Utah as co-president of Terra Firma, the U's environmental club. During this year, Terra Firma was very involved in local and national political issues. We were very active during the '99 elections registering and educating voters on candidates and issues. We've been actively taking the steps to improve the recycling program on campus, we participated in a national campaign to hold multinational corporations more accountable to the public, and we organized the campus Earth week festivities. Terra Firma increased its membership, formed bonds between us and other student and community groups, and got excellent coverage in local and state media. Most importantly, I believe we increased general awareness of environmental issues on and off campus.

During this last year I've learned some very important skills that will carry me through my life. One of these was the ability to form solid goals and create tactics to fulfill the goals. I've also learned how to create a meeting agenda and stick to the agenda. I've gained experience with building coalitions, media relations and environmental education. My education as a biology major has also given me the ability to objectively evaluate the science behind current environmental and related issues.

I chose to apply to work with Friends of Great Salt Lake for several reasons. I knew I wished to work on a local environmental issue that I felt was not receiving



Barbara L. Tanner Fellow Sander Lazar (left) will be working with Education Director, Bruce Thompson, on our education program for the next year.

Photo by L. de Freitas

enough attention, and increasing awareness and appreciation of the lake fit the bill. For years I have enjoyed my time at the Great Salt Lake and I understand how unique the GSL ecosystem is, but it is evident to me that most people along the Wasatch Front do not appreciate the Great Salt Lake ecosystem for its unique beauty. Another reason for choosing to work with Friends was that I knew Lynn as a great librarian back in my high school days at Rowland Hall and more recently was very impressed with her speech against the Legacy Highway at a public hearing I attended last year. Finally, the idea of working with a local group that has not been around very long and does not have a large paid staff appealed to me. I knew this had the potential to allow me to work in several arenas, not just in membership development or canvassing, for example. I like diversity.

As a fellow for Friends, I will be working most closely with Bruce Thompson, Education Director. I will be working on the development of the Lake Affect video, and on the development and implementation of the SLICE (Salt Lake Initiative for Conservation Education) curriculum. We will stay mindful of the fact that I will be with Friends for just one year, and therefore all of my involvement with Friends will be done with a focus on sustainability after my departure.

I am very excited to work with Lynn, Bruce and other members of Friends. I look forward to a challenging and fun year, and believe my skills and caring will be a great asset to the advancement of the mission of Friends of Great Salt Lake. 🐾

Great Salt Lake: An Archive of the Past

By Katrina A. Moser, Assistant Professor, Dept. of Geography, University of Utah

Scientists believe that water has occupied the site where Great Salt Lake is for millions of years and that sediments ('mud') have been accumulating on the lake bottom for much of this time. Within the sediments, the remains of tiny organisms, such as diatoms (a type of unicellular algae characterized by a cell wall composed of opaline silica), collect. The very small, ornate and resistant cell walls of diatoms are generally well-preserved in lake sediments, and can be isolated and identified to species level. Each diatom species requires particular environmental conditions in order to live. By determining which species lived in the lake in the past, a great deal about what lake conditions and the surrounding area were like and how they have changed over time can be deciphered. For example, it is possible to say whether the lake was shallower or deeper, saltier or fresher, more acidic or less, or colder or warmer at previous times. If we can date the sediments using, for example, radiometric dating tech-

niques or tephrochronology, then we can tell what Great Salt Lake and the surrounding environment was like at a specific time in the past. This past summer, long cores (~200m) were retrieved from Great Salt Lake using a coring platform and coring rig specially designed for this work by Dennis Nielson from the EGI at the University of Utah. At the Environmental Change Observatory (ECO) in the Dept. of Geography at the University of Utah, diatoms are being analyzed in order to understand how the Great Salt Lake environment has changed over time.

The sediment records from Great Salt Lake and Bear Lake, will provide some of the longest, continuous, terrestrial records of environmental change found today. Combined with climate data from ice cores and marine sediments, it is hoped that these records will provide a greater understanding of the global climate system. This work is funded by the National Science Foundation and the United States Geologic Survey. 🐦

WANTED: Audubon Council Lobbyist

Audubon Council of Utah is looking for a full time lobbyist for the upcoming legislative session, mid-November through mid March. The goals of the Council are to help preserve and enhance Utah's wildlife and the habitat upon which they depend. The lobbyist, under the guidance of the Council, will inform and educate legislators of positions taken by the Council and its member Societies. He or she will also research and inform the Council of pending issues and bills before the State Legislature related to and affecting wildlife and habitat issues and help rally the Audubon membership to support, modify, or defeat relevant legislature.

The individual applying for this position should possess excellent communication skills, both verbal and written, and a proven ability to establish credibility with the legislators and work with them in a responsible and timely manner. He or she should understand and feel in harmony with the basic environmental goals and objectives of the Council and be able to convey these with conviction but without alienating others. A successful applicant would be well organized, able to establish priorities, and ferret out information, using computer and relationship skills, so as to enable the Council to strategically respond to relevant contingencies. He or she would seek out and establish workable alliances with representatives of other like-minded environmental organizations so as to enhance effectiveness of response to upcoming legislation, while maintaining the integrity of Council wishes, procedures and interests.

For further information please contact our former lobbyist, Ann O'Connell at 277-9046, or Mary Gracia at 581-0345.

Great Salt Lake Project: An Inquiry Approach to Science Education

By Carolyn Cannon Jenkins, Assistant Professor of Education;
A. Tyrone Harrison, Associate Professor of Biology;
Bonnie Baxter, Assistant Professor and Chair of the Sciences Division

In May of 1999, the National Science Foundation (NSF) awarded Westminster College a two-year grant that would engage pre-service teachers in active, inquiry-based methodology focused on a perfect scientific model: Great Salt Lake. The Great Salt Lake Project began as a collaboration between the Sciences Division and the School of Education in an effort to enrich the elementary and secondary science methods courses at Westminster College. The purpose of the project is two-fold, 1) to engage pre-service teachers in the process of scientific inquiry in hopes that they would transfer these pedagogical skills into their own classroom teaching,

2) to highlight a unique local ecosystem and to generate awareness of the educational value of studying this landmark as a model. Since about 80% of the education graduates from Westminster remain in the Salt Lake Valley, the local focus will benefit them as future teachers. The research projects and curricular teaching units have centered on a variety of topics including "Optimal Salinity for Hatching Brine Shrimp" and "Pigmentation of Halophilic Bacteria from the North Arm." 🐛



Davis County Comprehensive Shorelands Plan

The Davis County Council of Government's Open Space Committee, is inviting selected local elected officials, developers, Davis County residents, property owners, regulatory agencies, conservation groups and others to participate in a visionary workshop to develop the Davis County Comprehensive Shorelands Plan. The workshops will focus on growth concerns, preservation of sensitive lands and the Great Salt Lake Shorelands in Davis County and adjoining communities.

Scheduled on September 27, October 12, and October 26th at three different venues throughout Davis County, the workshops will provide opportunities for the participants to be involved in the critical step of identifying preferred growth strategies while preserving sensitive lands for Davis County communities.

Others involved in this undertaking are The Nature Conservancy of Utah, Utah Reclamation, Mitigation and Conservation Commission and The Coalition for Utah's Future, sponsors of Envision Utah.

The Davis County Comprehensive Shorelands Vision Statement is as follows:

Davis County is experiencing rapid growth and urbanization and enjoying a period of economic prosperity.

Though growth brings economic rewards it can also be a threat to the beautiful and important ecosystem of the Great Salt Lake shorelands. These shorelands contain key wetland, agricultural and openlands, as well as recreational uses such as trails and hunting areas. As Davis County residents, we value our agricultural heritage, sense of space and freedom, and the quality of life of our communities. We also respect private property rights and are experiencing rapidly increasing property values as a result of our robust economy. We strongly desire to develop a vision for the Great Salt Lake shorelands in Davis County to help preserve our quality of life for generations to come. This plan that we have envisioned is unique in that it will draw together key stakeholders to develop a balanced plan to protect the natural heritage of the shorelands and provide for the needs of our growing communities. By leaving their self-interest at the door, the key stakeholders will bring their expertise to the table to create a successful plan that, when implemented, will preserve our community values and maintain the high quality of life that we hold dear.

Friends has been invited to participate in this process.

The Great Salt Lake: Achieving a Sustainable Future

The Utah Wetlands and Riparian Center of the University of Utah will hold its third annual conference entitled The Great Salt Lake: Achieving a Sustainable Future, November 13 at the West Coast Salt Lake Hotel (161 W. 600 S).

The Great Salt Lake is truly one of the natural wonders of the modern world. Possessing a unique and incredibly diverse ecosystem, the Great Salt Lake is a critical habitat for millions of migrating shorebirds. The lake is also a tremendous resource base, containing mineral wealth, oil and gas, and brine shrimp, as well as providing recreation. How will the Great Salt Lake fare as the Wasatch Front's population grows from 1 million to 5 million over the next 20 years? How can we manage and protect our natural treasure for generations to come?

Topics will include:

- Birds and wildlife of the Great Salt Lake
- Wetlands
- Resources of the Great Salt Lake
- Industries of the Great Salt Lake
- Watershed Management
- Recent Geological History of the Great Salt Lake
- Current Activities at the Great Salt Lake
- Impact of Urbanization
- Future of the Great Salt Lake

A field trip to the Layton Wetlands Preserve and Antelope Island on November 14th is offered.

Early registration of \$75 and student/senior citizen registration of \$35 covers conference handouts, continental breakfast, refreshment breaks, and lunch. Registration for the Field Trip is \$35. Registration at the door will be \$90.

For registration information contact Jack Hamilton at (801)-581-6348 or register at www.utah.edu/uees/center.html



Thanks to Genevieve Atwood and Don Mabey for providing words of Great Salt Lake wisdom during our cruise Sept. 16th.

Photo by L. de Freitas

Lake Fact Answer:
approximately 10,000

Friends of Great Salt Lake

Job Descriptions for Board, Secretary, and Treasurer Positions

Position: Director

Election: Elected by vote of membership (October meeting) or appointed as needed by board

Length of Term: 2 year with a six-consecutive-year limit.

Qualifications:

1. Interest in and desire to learn about FOGSL
2. Good listener and willingness to contribute through participation
3. Computer, email

Duties and Responsibilities:

- Attend all regular board and general meetings (12 board meetings, 9 general meetings) and board retreat (January)
- Participate in the planning and hosting of the Biennial Great Salt Lake Issues, special fundraising events, special

advisory board meetings, additional organizational activities when possible

- Serve on at least one Board committee (Education, Research, Advocacy) and take on other special assignments as needed
- Identify potential candidates to the Board of Directors and its committees
- Be informed about the organization's mission, and programs; review the agenda and supporting materials prior to Board and committee meetings
- Act as a representative of Friends of Great Salt Lake to the community at large

Position: Secretary

Election: Elected by vote of the membership (October membership meeting) or appointed as needed by board

Length of Term: 1 year with a six-consecutive-year limit.

Position Summary: To support the operation of Friends of Great Salt Lake by keeping accurate records, preparing for and reporting on meetings of the Board of Directors.

Qualifications:

1. Interest in and desire to learn about FOGSL
2. Good listener and writer
3. Computer, email

Duties and Responsibilities:

- Attend all regular board and general meetings (12 board meetings, 9 general meetings) and board retreat (January)
- Participate in planning and hosting the Biennial Great Salt Lake Issues Forum, any fundraising events, special advisory board meetings, and additional organizational

activities when possible

- Assist the President in preparing agenda and announcements
- Record, revise, publish and distribute meeting minutes
- Organize and maintain correspondence and archival records
- See to arrangements to reserve general meeting space at the Sugarhouse Garden Center and board meeting space at the County Complex
- Develop working knowledge of board actions
- Serve on at least one Board committee (Education, Research, Advocacy) Assume additional clerical responsibilities as needed
- Act as representative of Friends of Great Salt Lake to the community at large

Position: Treasurer

Election: Elected by vote of the membership (October membership meeting) or appointed as needed by board

Length of Term: 1 year with a six-consecutive-year limit.

Position Summary: To support the operation of Friends of Great Salt Lake by picking up and distributing FOGSL mail, recording and depositing incoming funds, issuing checks for FOGSL programs and expenses, maintaining manual and digital ledgers, preparing annual reports, responding to financial information requests from the President and Board.

Qualifications:

1. Interest in and desire to learn about FOGSL
2. Strong organizational and accounting skills,
3. Ability to operate computer spreadsheet and/or accounting software and e-mail,
4. Ability to spend two to four hours per week attending

to FOGSL's financial matters.

Duties and Responsibilities:

- Attend all regular board and general meetings (12 board meetings, 9 general meetings) and Board Retreat (January)
- Participate in planning and hosting the Biennial Great Salt Lake Issues Forum, any fundraising events, special advisory board meetings, and additional organizational activities when possible
- Develop working knowledge of board actions
- Serve on at least one Board committee (Education, Research, Advocacy)
- Assume additional financial/accounting responsibilities as needed
- Act as representative of Friends of Great Salt Lake to the community at large

HOW TO REACH US

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www.fogsl.org / mail@fogsl.org

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RECYCLE ALUMINUM CANS FOR FRIENDS (please note new drop-off location)

Please consider donating aluminum cans to Friends.

Can donations will be accepted at 1170 East Warnock Ave (2490 South). 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 Lindsey and arrangements will be made for 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 Lindsey at 801/485-7307.

SUBMITTING MATERIAL FOR PUBLICATION

1. **What to submit:** original articles (historical, geological, geographical, biographical, political, fiction, poetry, etc.) or art work (sketches, photographs, etc.) which pertain to Great Salt Lake.
2. **Submitting material:** Mail or deliver to 1117 E. 600 S. Salt Lake City, UT 84102. Or e-mail to: ldefreitas@earthlink.net
3. **Please call 801/583-5593** to confirm receipt of e-mail or with any other questions, suggestions, comments, or ideas.
4. **Deadlines:** The deadlines for submittals are Sept. 16 (Fall), Dec. 16 (Winter), Mar. 16 (Spring), and June 16 (Summer).

Friends of Great Salt Lake wants to thank the following businesses for their generous support: **Xmission.com** for donation of services to support us on the World Wide Web and **Kinko's University Branch, Graphic Images, and Tooele Transcript Bulletin** for supporting our printing needs.

Big thanks to the following contributors to Our Education Programs

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Thank You to Our New and Renewed Members for Your Support

Keith Bartholomew	Hal Cooper	Mary Lou Huffmon	Clara Mason
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Joleen Bell	Marrum Croom	John Kimball	Dr. Leo Sotiriou
Sharon Brandon	Jules Dreyfous	Donna Kimball	Randy Speers
Lozina Brooks	Tamra Dursteler	Ron Kunzler	Marjorie Tucker
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Christy Calvin	Reda Herriott	Susan Loffler	Jim Zinanti
Lynn Carroll	Nigella Hillgarth	Mack Low	
Virginia Coombs	Robin Hooton	Russell Martin	

Membership Notice: Time to Renew

Have you noticed, and wondered, why you haven't received a FOGSL membership renewal letter? In our effort to save paper, we are asking you, our dear members, to keep track of when it's time to renew your membership by checking the label on your newsletter. On your label, below your name, there will be listed the membership due date. Also, labels will be printed to mention that your due date has arrived. Thank you for your attention to this and your great support!

If you have a question about your membership, please call Lynn at 801-583-5593. **Big Thanks!**



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

Enclosed is a check or money order for my annual membership fee
in the amount of: (check one)

- \$10 Student "Brine Fly"
- \$10 Senior "American White Pelican"
(62 years of age or older)
- \$20 Regular "Pickleweed"
- \$30 Family "Wilson's Phalarope"

Contributing Memberships:

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

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

- \$10
- \$25
- \$50
- \$100
- \$250
- Other _____

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

PHONE: _____

E-MAIL: _____

MY SPECIAL INTEREST IN THE LAKE IS: _____

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Friends of Great Salt Lake

Mail to:

Friends of Great Salt Lake
P.O. Box 2655
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