Great Salt Lake Minerals Corporation's Solar Evaporation Pond Expansion Project Environmental Impact Statement

SCOPING REPORT

Final Scoping Report: October 1, 2008

Prepared for:

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1.0 INTRODUCTION

As described in its Public Notice of November 1, 2007 (Federal Register v. 72, No. 211, p. 61871), the U.S. Army Corps of Engineers, Sacramento District (Corps), began evaluating a Section 404 permit application to construct the Great Salt Lake Solar Evaporation Ponds Expansion Project. In accordance with the National Environmental Policy Act (NEPA), the Corps will prepare a draft Environmental Impact Statement (DEIS) for the proposed project.

The overall project purpose is to expand extraction capability for potassium at the Great Salt Lake Mineral Corporation's (GSLM) facilities. The proposed expansion would add approximately 33,000 acres of solar evaporative ponds, impacting approximately 30,713.75 acres of waters of the United States, and reducing the need to import raw potassium from other sources. The DEIS will address impacts such as wildlife habitat, water quality, Great Salt Lake water elevations, wetlands, hydrology, cultural resources, transportation, endangered species, and industry.

2.0 SCOPING PROCESS

Based on guidance from NEPA, significant issues were identified that should be addressed in the DEIS. An "issue" is a point of discussion, debate, or dispute about environmental effects, or about aspects of the project that could cause environmental effects. National Environmental Policy Act regulations require that lead agencies determine "the significant issues to be analyzed in depth in the environmental impact statement" and "identify and eliminate from detailed study the issues that are not significant" (40 CFR 1501.7). The process of identifying significant issues is called "scoping." The purpose of scoping is to focus the detailed environmental review on those issues that are relevant to the proposal and decision to be made. Significant issues are those with environmental effects that warrant resolution either through development of alternatives that reduce effects while achieving the proposed project's purpose and need, or through application of mitigation measures, or both.

As part of the Corps 404 permitting process, three pre-application interagency meetings were held to provide information and identify issues and concerns. The first meeting was with an Interagency Team consisting of representatives of Corps; U.S. Fish and Wildlife Service (FWS); Utah Division of Wildlife Resources (DWR); Utah Division of Forestry, Fire and State Lands (FFSL); Utah Geologic Survey (UGS); and U.S. Geologic Survey (USGS). Subsequent issues were derived in a second meeting with an Environmental Protection Agency (EPA) representative. Finally, a preliminary meeting was held with representatives from three environmental groups with very strong interest in the Great Salt Lake.

Preliminary issues identified as part of this process related to water quality, heavy metals, nutrient loading, fresh water exchange, changes in salinity, brine shrimp habitat, and economic issues. Additionally, potential avian impacts were identified to waterfowl, shorebirds, and raptors including the American white pelican (*Pelecanus erythrorhynchos*), snowy plover (*Charadrius alexandrinus*), Canada goose (*Branta canadensis*), and others. Appendix A provides a summary of the preliminary issues. These preliminary issues were identified in the Notice of Intent (NOI), which announced the formal

scoping process and invited public comment. A copy of the NOI, published in the *Federal Register* on November 1, 2007, is found in Appendix B.

To identify additional issues, the Corps solicited scoping comments from the following: the public; Federal, State, and local agencies and officials; Indian tribes; and other interested parties. Comments were solicited through the aforementioned Public Notice and NOI, and through purchased newspaper advertisements. Comments could be submitted to the Corps by mail, email, or by providing written or oral comments at one of three scheduled public meetings in Utah. The first public meeting was November 7, 2007, in Bountiful, the second on November 8, 2007, in Ogden, and the third on November 14, 2007, in Salt Lake City. The period for submitting comments announced in the Public Notice and NOI was December 3, 2007, but it was later extended until December 17, 2007. Advertisements for the public meetings were purchased in the Ogden *Standard-Examiner*, the *Salt Lake Tribune*, and the *Deseret News*. A feature on the Project also ran in the *Salt Lake Tribune* on November 6, 2007, which included an announcement for the meetings.

Attendance at the public meetings totaled 88 individuals. This included 14 individuals representing Federal or State agencies and 74 members of the public (including organizational representatives).

A copy of attendance rosters from each meeting is provided in Appendix B. Appendix B also contains copies of other scoping materials including a copy of the *Federal Register* NOI, an example of the published newspaper ads, and public scoping handouts (including a copy of the Public Notice).

By the comment deadline of December 17, the Corps had received a total of 77 comments. This total included five formal comments from agencies. Agencies submitting comments were the U.S. Bureau of Land Management; EPA; FWS; Utah Division of Oil, Gas, and Mining; and the DWR. A copy of each agency comment is found in Appendix C.

The other 72 comments came from private organizations and individuals. Of these 72 comments, 9 were oral comments taken by a court reporter present at each of the three public meetings, 11 were written comments submitted to the Corps at one of the meetings, and 52 were written letters and email comments sent to the Corps following the public meetings. Copies of all these public comments are found in Appendix D.

3.0 ISSUES DERIVED FROM SCOPING

This section summarizes issues identified in all of the comments received during the scoping process and the analysis methods that were adopted to address each issue. The purpose of this process is to determine the scope of the EIS so that preparation of the document can be effectively managed. Scoping is intended to ensure that problems are identified early and properly studied, that irrelevant issues do not consume time and effort, that the DEIS is thorough and balanced, and that delays occasioned by an inadequate DEIS are avoided. The scoping process should identify the public and agency concerns, and clearly define the environmental issues and alternatives to be examined in the EIS including the elimination of irrelevant issues.

The Corps considered every comment received during the scoping process. Comments are referenced in the appendices to this report:

- Appendix A contains **preliminary issues** identified in meetings with agencies and stakeholders and issues identified by interdisciplinary resource specialists.

- Appendix B contains all **public scoping materials** including a copy of the official public notice for the comment period, public meeting announcements, meeting sign-in sheets, and public meeting handouts.

- Appendix C contains numbered **agency comments** received during the EIS scoping comment period.

- Appendix D contains numbered **public comments** received during the EIS scoping period.

After the issues were summarized from the comments, a draft copy of the scoping report (dated February 8, 2008) was provided to participating agencies (agency meeting, February 20, 2008) and to representatives of stakeholder interest groups (stakeholders meeting, March 26, 2008). After the issues were summarized, the consultant's (BIO-WEST, Inc.) interdisciplinary team drafted conclusions for each issue. The conclusions addressed: issue relevance, criteria for determining level of impact, and methods of analysis for addressing the issue.

Relevant issues are defined as those directly or indirectly caused by implementing the proposed action. An issue was considered not relevant if:

- the issue was outside the scope of the proposed action or likely alternative;

- the issue was conjectural and could not be supported by scientific evidence or rational evaluation;

- the issue has already been decided by law, regulation, or higher-level decision; and/or

- the issue was irrelevant to the decision to be made.

Draft issue conclusions were sent to interagency representatives by email and were discussed at the next interagency team meeting (March 27, 2008). Revisions were made to the issues based on agency comments. Additional agency comments on issue relevance were solicited at a later interagency team meeting (June 5, 2008) prior to finalizing the scoping report. The final analysis methods for each issue are summarized below.

3.1 Geologic Hazards

3.1.1 Seismic Activity

Issue: Could seismic activity cause petroleum-product spills into the lake from pumping facilities, pipelines, and supply trucks? Spills might result from (1) ground-shaking or (2) tsunami waves generated by sublacustrine fault ruptures. **(Public Comments-48.14, 48.31)**

Issue conclusions:

1. Relevance. These issues are relevant as the possibility exists for additional storage and use of petroleum products near the shore or on the dikes during construction and operation of facilities associated with the proposed action. Seismic activity could then potentially result in the discharge of petroleum products into the lake. Impacts from oil spills caused by tsunami waves are speculative, but there is historic information that waves were generated by past seismic activity.
2. Criteria. Compliance with the 40 CFR 112 (Oil Spill Prevention Regulations) and Utah Pollutant Discharge Elimination Systems (Storm Water Pollution Prevention Plans [SWP3]) and similar regulations will be evaluated.
3. Methods. Evaluate compliance with the regulations associated with petroleum storage. If there is compliance with the regulations, the potential for secondary impacts can be evaluated if seismic impacts are likely to occur or not.

3.1.2 Lake Effect

Issue: Could increased evaporation from Great Salt Lake alter the "lake effect" responsible for much precipitation, particularly snowfall, along the Wasatch Front? **(Public Comments-7.04, 12.05, 48.17)**

Issue conclusions:

1. Relevance. This issue was determined to be not relevant as the likelihood of altering this effect from the proposed expansions is considered negligible. Existing knowledge indicates that evaporation is not one of the factors that cause lake effect storms. Of the known factors that do cause lake effect, the acreages involved in the proposed solar ponds are not considered consequential. This was determined based on personal communication with W. James Steenburgh, University of Utah, Department of Meteorology, and from technical papers on the subject (Halvorson 1999; Steenburgh et al. 2000; Steenburgh 2008 pers. comm.).
2. Criteria. Would there be a scientifically predictable and measurable short- or long-term impact (increase or decrease) to the normal precipitation frequency, intensity, and total amount from the proposed project?
3. Methods. Lake effect will not be evaluated in the EIS as this was not determined to be a reasonably foreseeable impact of the proposed action.

3.2 Air Quality/Climate Change

3.2.1 Air Quality

Issue: What are the potential impacts to air quality from the construction, full production, and operation of the solar evaporation ponds and the expanded processing plant? **(Agency Comments-4.06; Public Comments-40.01, 52.10)**

Issue conclusions:

1. Relevance. The issue is relevant based on potential conflict with the Clean Air Act as amended. The possibility exists for air quality in the form of fugitive dust, particulate matter, and/or chemical pollutants to increase as a result of the proposed action.
2. Criteria. The impacts to air quality will be based on compliance with the Clean Air Act and the National Ambient Air Quality Standards (NAAQS).
3. Methods.
    - The EIS will include an evaluation of existing data from the applicant and from the state of Utah. A literature and file search will be conducted that includes file searches for previous inventories and sites in the project area, which will include the area of the West Desert that may serve as an alternative site. These data will help determine air constituents, proportions, and contribution to any past exceedences of the NAAQS.
    - Existing data will be evaluated regarding the specific plans for expansion of the facility and possible implications on air quality. The evaluation will focus on possible exceedences of the NAAQS that may result from expansion of the GSLM facilities compared with the applicant's existing air discharge permit. It is anticipated that establishing a correlation between production and air-discharge rates will provide the needed information.
    - Information collected will be assessed in relation to the proposed project and alternative making. Assessment of air quality data will be conducted in coordination with the state of Utah.

3.2.2 Climate Change

Issue: The EIS could include an analysis of project alternatives' carbon footprint and impact on global climate change. **(Agency Comments-5.18)**

Issue conclusions:

1. Relevance. The Ninth Circuit Court of Appeals recently declared, "*[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct*." Center for Biological Diversity v. National Highway Traffic Safety Administration, 508 F. 3d 508 (9th Cir. 2007). While actions such as the construction of a power plant or setting fuel economy standards for

vehicles (such as the case mentioned above) are more likely to impact climate change than a project such as the proposed action, the carbon footprint of each of the project alternatives will be analyzed.

2. Criteria. At the present time greenhouse gasses (GHG) are not regulated as pollutants in the United States (see Held et al. 2007). If GHG were regulated, it would be possible to determine whether GSLM were compliance with such regulations in the DEIS. The state of Utah or the Federal Government may, in the future, develop policies or regulations that provide incentives or requirements for industries like GSLM to reduce GHG emissions. Since GHG emissions are not regulated, the analysis will examine the emissions differences between alternatives in terms of percentage increases in the project area. Then it will be determined whether those increases are small, moderate, or large.
3. Methods. Since the largest contribution that the proposed action and alternatives would make to climate change would be emission of GHG, (through construction activities and a possible new processing plant), the carbon footprint of the alternatives will be measured by calculating GHG emissions.

3.3 Water Quality and Circulation

3.3.1 Water Quality Related to Dike Construction and Pond Operations

3.3.1.1 Dike Construction

Issue: Would dike construction activities have direct and indirect impacts on water quality? **(Public Comments-48.57, 53.17, 53.18)**

Issue conclusions:

1. Relevance**.** This issue is relevant. Dike construction could disturb the lake bed. This short-term disturbance could release mercury or other metals that could be adsorbed to sediment particles. Other concerns would include discharges of sediment into the lake, use of materials that would leach pollutants into the water, and oils, grease, and other fluid spills from equipment.
2. Criteria. The level of impact dike construction will have on water quality will be based on the following:
   - including appropriate Best Management Practices (BMPs) in construction design,
   - completing a SWP3 for active construction phase,
   - reviewing the Spill Control Counter Measure Plan (SPCCP), and
   - determining the levels of potentially toxic material, including mercury, in the sediment that would be dredged to form the dikes.

3. Methods.

   - Review construction design.
   - Compile and review existing data concerning past spills/regulatory compliance.
   - Review the SWP3, with emphasis on correct installation and use of appropriate BMPs.
   - Determine risk/potential for spills.
   - Collect sediment samples from proposed expansion areas to be tested for mercury and/or other constituents.

3.3.1.2 Operation of Ponds and Other Infrastructure

Issue: Would day-to-day operations of dikes and other infrastructure − including existing and proposed pump stations, fuels, trucks and other vehicles, gravity-flow trenches, causeways, and other infrastructure − impact water quality? **(Public Comments-26.04, 48.30, 48.45, 48.58)**

Issue conclusions:

1. Relevance. This issue is relevant. Impacts from current pond operation are unknown; therefore, it will be difficult to predict the impacts from expanded operations. If current operations have little or no impact on water quality, then it is reasonable to estimate only small increases in impact from increasing daily operations.
2. Criteria. Specific criteria could include a change in water quality constituents between the pre- and post-1987 expansion if data are available. Other criteria would be if current operations have caused permit violations or are meeting environmental regulations.
3. Methods. Determine the impacts to water quality from current operating procedures. This could be considered a baseline from which impacts would either increase or remain the same, depending on the type of impact and the procedure.

   - Look at current operations/spill prevention.
   - Examine historic data if available.
   - Determine if GSLM has been fined or is in violation of any permits from general operations.
   - Complete a brief literature review concerning sediment generated from roads.
   - Use RUSLE/MUSLE or other erosion estimate to estimate fines lost from the dikes to the lake as a result of driving on earthen dikes.

3.3.2 Water Quality Issues Related to Pond Flushing

Issue: Would maintenance flushing of proposed expansion ponds impact the water quality of the Great Salt Lake? Concerns related to this issue included:

- Would flushing of the proposed expansion ponds affect the uptake of selenium, mercury, and other heavy metals into the food chain of the Great Salt Lake? **(Preliminary Issues-2, 7; Agency Comments-3.04, 4.05, 5.03; Public Comments-4.05, 8.01, 25.01, 32.06, 37.02, 48.22, 48.54, 50.02, 52.05, 53.16)**
- Would flushing of the proposed Bear River Bay pond increase salinity of Bear River Bay and subsequently affect the lake ecosystem? **(Preliminary Issues-7; Agency Comments-5.05; Public Comments-7.05, 8.01, 12.07, 14.03, 32.02)**
- Would pond flushing create nutrient loading in Bear River Bay? **(Preliminary Issues-14)**

Issue conclusions:

1. Relevance. This issue is relevant. Pond flushing is understood to be an integral part of pond maintenance (east side ponds only). Evaporation from the ponds may concentrate mercury, selenium, and other metals. Flushing creates the potential for these constituents to be removed from the system at higher concentrations. The ponds also may create conditions for mercury to be converted to methyl mercury by bacteria that could be present in the ponds. This form of mercury is biologically available and is bio-magnified along the food chain.
2. Criteria. Impacts will be determined from data collected during pond flushing and any other data available concerning metals, selenium, or other constituents of concern such as nutrients and salinity.
3. Methods.
    - Conduct water sampling during pond flushing. A water quality sampling plan has been implemented with input from FWS concerning mercury. Data gathered from this sampling will be analyzed and supplemented with existing data if available.
    - Conduct a review of literature that describes the effects of different water quality constituents, metals, and salinity at various levels.
    - Evaluate the east side of the Bear River Bay ponds to determine if a discharge from the ponds caused vegetation covering a large area adjacent to the ponds to die off.

3.3.3 Circulation of the Great Salt Lake

3.3.3.1 Discharge of Dredge or Fill Material

Issue: Would the discharge of dredge or fill material (that is, creation of new dikes) change circulation of lake water by obstructing flow, changing the direction or velocity of flow, or

changing the dimensions of the water body? **(Public Comments-48.25, 48.26, 48.28, 48.47, 48.54, 50.01, 53.09)**

Issue conclusions:

1. Relevance. This issue is relevant. The lessening of the area where water/flow exchange may occur could impact salinity in various parts of the Bear River Bay and Willard Spur and might subsequently affect ecological conditions of the lake. Restricting circulation could also change the dispersion of freshwater inflow and pollutants entering the lake. The Union Pacific Railroad causeway is an obvious example of the effects of flow barriers in the Great Salt Lake.
2. Criteria. Changes in water depth, change in the amount of area inundated under various water elevations, primary flow direction, salinity changes (possibly an increase greater than historic variation or for increases longer than data indicate) or other water quality changes may be considered as criteria for impacts. The significance of these changes is ecological and is addressed under those topics.
3. Methods.
    - For Bear River Bay, create a HEC-RAS or HEC-RA- type model to simulate different scenarios. This model would require field work to gather elevation data and water quality data to calibrate the model. The data would need to include a low elevation, a medium elevation, a high elevation (just after peak runoff?) as well as information about flow direction changes related to wind, primarily the south arm flows pushing into Bear River Bay because of high winds. This model would also be helpful in addressing other relevant issues. To develop topography, LIDAR may also be a practical method.
    - Conduct a literature review on circulation in the lake and other examples of freshwater inflows to saline water bodies (for example, the Chesapeake Bay).

3.3.3.2 Normal Water Fluctuations

Issue: Could major new evaporation surfaces and the removal of large amounts of water from the larger lake system impact normal water fluctuations of the Great Salt Lake? **(Public 48.48, 48.51, 48.53, 48.59, 48.60, 53.19, 53.21, 53.22)**

Issue conclusions:

1. Relevance. This issue is relevant. Fresh water inputs from spring snowmelt and runoff fill the lake in the early part of the year. Since the lake is the terminus of a closed basin, evaporation lowers lake levels throughout the summer and fall. The timing and amount of draw down may have impacts on the larger lake system.
2. Criteria. An amount of change in evaporative losses and change in timing of those losses from the lake related to increased surface area (pond expansion) may be an indicator of impacts to natural fluctuations. The amount of increased loss considered significant is

not yet determined. The biological importance of when the lake is at various levels is unknown. The level of impact will be based on the following:

- a change in timing or elevation of the Ordinary High Water Mark;
- a change in frequency of high-, average-, and low-water elevations; and/or
- an annual net loss that is cumulative over time leading to overall lake draw down over a number of years.

3. Methods.
   - Calculate evapo-transpiration (ET) losses under current conditions and under built-out conditions including Clyman Bay ponds. Comparison may show increased ET losses on a seasonal and an annual basis. A significant increase may alter the natural lake fluctuations.
   - Calculate a water balance over 20 years to determine whether changes in ET will create a net loss of water from the lake.
   - Conduct a literature review to determine current or background ET from highly saline lakes and determine necessary inputs for the ET calculation.

3.3.3.3 Fresh Water Exchange

Issue: Fresh water exchange between Willard Spur and Bear River Bay may be important to maintain ecological conditions and fisheries. Would the project affect this exchange? **(Preliminary Issues-13, 16; Agency Comments-3.13, 4.08; Public Comments-1.01, 3.02, 4.04, 6.02, 13.01, 48.73, 52.08, 53.15, 53.23)**

Issue conclusions:

1. Relevance. This issue is relevant. Fresh water mixing with salt water creates habitat conditions for many avian and aquatic species.
2. Criteria. The amount of flow discharged into the Bear River Bay varies from year to year. Changes in the extent and timing of mixing from historical extent and timing may be criteria. Changes in salinity above or below historic ranges for the Willard Spur and Bear River Bay area are other criteria. Whether the range of these changes is large enough to be considered an impact has yet to be determined.
3. Methods.
   - Gather existing data to determine Total Dissolved Solids (TDS) in the Bear River Bay and Willard Spur before GSLM builds the ponds.
   - Use models, if possible, to estimate changes in TDS under altered Bear River flow conditions.

- Determine expected flows into the Bear River Bay over the next 30 years to document anticipated changes in the amount of inflow to the lake and estimate TDS loads based on altered flows.
- Review literature on Bear River flows into the Great Salt Lake/Bear River Bay and Willard Spur to determine historical water quality of inflows.

3.3.3.4 Concentration of Nutrients and Sewage

Issue: Would reduction in the open water area of the Bear River Bay cause nutrients from sewage and irrigation sources to become more concentrated? **(Public Comments-48.24, 53.15)**

Issue conclusions:

1. Relevance. This issue is relevant. Sewage contributes nutrients, bacteria, and other potentially harmful constituents. Trash may also be a problem. Increased nutrient concentrations may create eutrophic areas of Bear River Bay/Willard Spur, contributing to algal blooms, and possibly lower dissolved oxygen levels.
2. Criteria. The level of impact sewage and irrigation will have on water quality will be based on the following:
   - increases in e-coli or other bacteria, nutrients, and other indicators of sewage (odor, other chemicals, etc.).
3. Methods.
   - Sample for specific water quality constituents to monitor including e-coli/bacteria, nitrogen, and phosphorus. Conduct a visual assessment for garbage.
   - Complete a literature/data review to determine background levels of nutrients and how much sewage is discharged into the lake.
   - Calculate loads of nutrients and pathogens based on available data and model future loads based on various flow scenarios.

3.3.3.5 Salinity Balance

Issue: Would proposed expansions affect the salinity balance of the North Arm and other parts of the lake, including the South Arm? **(Preliminary Issues-1; Agency Comments-4.04; Public Comments-8.03, 48.49, 53.24)**

Issue conclusions:

1. Relevance. This issue is relevant. Any change in the normal water fluctuations or freshwater exchange of the lake (Sections 3.3.3.2 and 3.3.3.3) could influence the relative salinity of various areas. Change in salinity could affect productivity of brine shrimp and brine flies, the food base for many other species.
2. Criteria. Impacts to water quality will include a substantial change in salinity in any part of the lake.

3. Methods. Calculate a salt balance using available historic data; the salt balance could be used to model various scenarios of changes in salinity.

3.3.4 Beneficial Water Uses

Issue: The Utah Division of Water Quality has designated beneficial uses of the lake's waters, and Utah Administrative Code indicates that the most sensitive use must be supported. Would the permitting decision and DEIS address impacts to designated beneficial uses of the lake's water? **(Public Comments-48.11, 48.19, 48.21, 48.37)**

Issue conclusions:

1. Relevance. This issue is relevant. Maintaining the Great Salt Lake's designated beneficial uses will be required by the state of Utah.
2. Criteria. Determine whether water quality will meet state numerical and narrative standards.
3. Methods. All designated beneficial uses assigned to the Great Salt Lake will be considered. It might be possible to estimate the change in water quality using existing data and modeling. These estimates would be compared with existing water quality data and standards. Data gathered as part of the overall study will be assessed.

3.3.5 Biological Characteristics of the Aquatic Ecosystem

Issue: What would be the long-term impacts of salt extraction and pond flushing on the biotic community of the Great Salt Lake (algae, brine shrimp, brine flies, and birds)? **(Agency Comments-3.05, 3.10, 3.14, 5.04, 5.05, 5.09, 5.18; Public Comments-14.03, 45.01, 46.01, 47.01, 48.29, 48.34, 48.45, 48.46, 48.49, 48.50, 48.52, 48.62, 48.64, 50.02, 52.09, 53.05, 53.25)**

Issue conclusions:

1. Relevance. This issue is relevant. Brine shrimp constitute an industry as well as a food source for birds. The impact of the changes in salinity could be important and could affect the aquatic ecosystem, thus affecting the brine shrimp industry as well as waterfowl dependent on the Great Salt Lake for habitat, including food sources.
2. Criteria. Impacts will be evaluated based on the following:
    - changes in lake water surface elevation (and corresponding surface area and volume) leading to salinity levels outside the range of tolerance for species in the biotic community;
    - changes in species composition and abundance of phytoplankton associated with changes in salinity and nutrients;
    - loss of bioherms due to dike construction and/or pond flushing,

- changes in brine shrimp recruitment from juveniles to adult shrimp, adult shrimp abundance, and shrimp cysts associated with changes in salinity and phytoplankton species composition and/or abundance;
- changes in brine fly abundance associated with changes in phytoplankton composition and abundance; and/or
- changes in fish species composition and abundance in freshwater areas of the lake (i.e., Bear River Bay).

3. Methods.
   - Conduct a literature review to determine levels of salinity detrimental to brine shrimp, as well as field studies, data analysis, and modeling to determine how the salinity could change.
   - Conduct a literature review of species-specific environmental requirements (focusing particularly on salinity and nutrients). Compare environmental requirements with modeling of potential changes in salinity and nutrient loadings.
   - Determine the location of bioherms through the review of existing literature (or data) or through site visits in order to assess the potential impact of dike construction and pond flushing.
   - Review literature and gather existing baseline data on lake water surface elevation. Assess frequencies of lake level fluctuations based on baseline data and contrast with modeling results to determine potential effects on fisheries in freshwater areas of the lake (i.e., Bear River Bay).

3.3.6 Cumulative Water Quality Impacts

3.3.6.1 Cumulative Effects of Proposed Expansions

Issue: What would be cumulative water quality impacts of the proposed expansions:

- in conjunction with past and reasonably foreseeable developments of the Great Salt Lake? **(Public Comments-48.36, 48.40)**
- in conjunction with population growth and further development of the Wasatch Front (as this growth and development would increase demand for fresh water, likely resulting in less fresh water reaching the Great Salt Lake)? **(Public Comments-7.03, 48.33, 48.55)**

Issue conclusions:

1. Relevance. Cumulative impacts to water quality are relevant. To the extent practicable, the EIS will determine past, existing, and reasonably foreseeable conditions for known factors influencing water quality and circulation of the Great Salt Lake.
2. Criteria. Determine a reasonable foreseeable future range of low and high lake levels. Represent this range in water quality and circulation modeling and determinations.

3. Methods. Results of modeling water fluctuation scenarios (Section 3.3.3.1) will be used to determine changes associated with higher than average water and drier/lower than average water based on reasonably foreseeable conditions. Methods listed for other sections of water quality and circulation issues will be developed to sufficiently address reasonably foreseeable cumulative effects.

3.3.6.2 Cumulative Water Quality Related to Climate Change

Issue: What would be the cumulative water quality impacts of the proposed expansions in conjunction with impacts of climate change due to global warming? **(Agency Comments-5.18; Public Comments-48.32, 48.56)**

Issue conclusions: This issue is not relevant for the analyses to be completed in the DEIS. There is broad-based scientific consensus that the Earth's average surface temperature is increasing due to human-generated increases in GHG concentrations (BRAC 2007; IPCC 2007). Utah is projected to warm more than the global average, which may result in declines in mountain snowpack (more precipitation may fall as rain) and episodic periods of prolonged drought (BRAC 2007). In contrast to temperature, however, there is greater uncertainty regarding the implications of climate change for precipitation. Utah is located in a transitional zone where there is less confidence in predicting future precipitation trends; it is possible that precipitation could increase. As such, the likely effects of global warming on freshwater inflows and average lake levels that effect water quality of the Great Salt Lake are uncertain (BRAC 2007, Steenburgh 2008). Therefore, this issue is conjectural and cannot be evaluated by scientific evidence. As noted above in the description of methods for issue 3.3.6.1, modeling for higher than average water and lower than average water levels will be done based on the best available scientific information for reasonably foreseeable conditions.

3.4 Wetlands

Issue: How could the proposed expansions impact wetlands and mudflats as special aquatic sites? Specific concerns from scoping were identified as follows:

- How will the proposed expansions impact the values of wetlands and mudflats as special aquatic sites? **(Agency Comments-5.17; Public Comments-17.01, 34.02, 48.27, 48.44, 48.70, 48.77, 53.11)**
- How will the DEIS address cumulative impacts to wetlands as special aquatic sites? **(Public Comments-37.02, 48.35, 48.40)**

Issue conclusions:

1. Relevance. This issue is relevant. Wetlands are vital habitat to many species and provide many ecological functions. The fill or dredge of wetlands is regulated under Section 404 of the Clean Water Act.

2. Criteria. Different criteria for impacts will be proposed for different types of special aquatic sites. Complete and permanent inundation of playa, mudflat, or wetland, a change in function of the special aquatic sites, and whether the expansions meet section 404 permit requirements might be criteria for impacts.
3. Methods. Conduct a functional assessment, classification of wetland types, and mapping of distinct special aquatic sites to determine baseline and then determine loss and change in function of wetlands, playas, and seasonally flooded lake bed. An ordinary high water mark for the north arm and the Bear River Bay area should also be determined to help differentiate between lake bed, playa, jurisdictional wetlands, and seasonally flooded lake bed.

3.5 Wildlife and Vegetation

3.5.1 Avian Habitat in Bear River Bay

Issue: Would the proposed expansions in the Bear River Bay cause avian habitat loss? Specific concerns were:

- What are the water bird uses in the area of the proposed Bear River Bay expansion pond and what habitat losses will result from the proposed expansion? Uses in the vicinity may include molting/brood-rearing areas for Canada geese and ducks, and a foraging area for fish-eating bird species such as American pelican, double-crested cormorant (*Phalacrocorax auritus*), western grebe (*Aechmophorus occidentalis*), great blue heron (*Ardea herodias*), and an eared grebe (*Podiceps nigricollis*) nesting colony. **(Preliminary Issues-8, 9, 12, 13; Agency Comments-3.01, 3.12, 4.08, 5.06, 5.13; Public Comments-1.01, 1.03, 3.05, 4.01, 4.02, 4.03, 4.06, 5.01, 5.02, 6.01, 6.03, 7.01, 8.02, 8.04, 11.01, 12.02, 15.01, 18.01, 19.02, 20.01, 21.01, 22.01, 23.02, 24.01, 28.01, 33.03, 34.01, 34.02, 36.01, 38.01, 40.02, 41.01, 42.03, 48.69, 48.70, 48.72, 53.03, 53.12)**
- Would the proposed Bear River Bay expansion eliminate shallow water areas that are important loafing and feeding areas for waterfowl and shorebirds? **(Preliminary Issues-9, 12, 13; Agency Comments-4.08, 5.06, 5.08, 5.13; Public Comments-3.01, 8.06, 10.01, 10.02, 11.02, 14.04, 19.03, 31.02, 34.02, 43.01, 48.05, 48.69, 52.07)**

Issue conclusions:

1. Relevance. These are relevant issues. Past research and literature have established uses of Bear River Bay by water birds. The proposed Bear River Bay expansion pond could potentially impact these uses.
2. Criteria. Impacts to avian habitat would be determined by the following:
   - change in habitat acreage, and/or
   - change in available food sources (vegetation, prey base).

3. Methods

   - Conduct a literature review of research documenting bird uses of Bear River Bay and Willard Spur.
   - Conducted aerial surveys of Bear River Bay in 2007 (low water); recommend continued surveys in 2008 (possibly higher water levels).
   - Evaluate historical aerial survey data collected by DWR.
   - Use results of HEC modeling of Bear River Bay and Willard Spur (Section 3.3.3.1) to determine available habitat.
   - Use aquatic resources analysis (Section 3.3.5) to determine effects on available food resources for birds.

3.5.2 Avian Habitat in the North Arm

Issue: Would the proposed expansions in the North Arm cause avian habitat loss? Specific concerns are:

- Does the shoreline of the proposed Dolphin Island expansion pond provide habitat for shorebirds, including the snowy plover and American avocet (*Recurvirostra americana*)? Could the proposed expansion impact this use? **(Preliminary Issues-5, 10; Agency Comments-1.03, 3.01, 3.08, 3.09, 4.07, 5.11; Public Comments-29.02, 48.68, 52.03, 53.03, 53.07, 53.12)**
- Would the proposed expansions impact avian use of the North Arm? In high water years brine shrimp production in the North Arm may exceed that in the South Arm. Birds such as the eared grebe, Wilson's phalarope (*Phalaropus tricolor*), and red-necked phalarope (*Phalaropus lobatus*) may rely on the North Arm as a food source under high water conditions. Bioherm structures also exist in the North Arm, which are necessary for brine fly production; brine flies are an important food source for migratory shorebirds. **(Agency Comments-3.11, 5.12; Public Comments-2.02, 48.01, 48.66, 52.04)**

Issue conclusions:

1. Relevance. These are relevant issues. Previous research and literature suggest the possibility that snowy plover may utilize the west shoreline of the North Arm. At present, the North Arm is too saline to support food resources for shorebirds (brine shrimp, brine flies). However, planned analyses of circulation (Section 3.3.3) and aquatic resources (Section 3.3.5) can be used to evaluate potential changes to the North Arm in terms of potentially suitable habitat for birds.
2. Criteria. The following will be used to determine impacts to avian habitat:
   - change in available shoreline habitat for snowy plover,

- change in available food source for birds in the North Arm, and/or
- change in salt concentrations of the North Arm.

3. Methods.
    - Continue ground surveys of the shoreline in 2008 since 2007 was a low water year. Ground surveys of the western shoreline of Clyman Bay were conducted in 2007 to document shorebird activity. Although breeding snowy plover were found, no other shorebird species were found using the area.
    - Determine which water surface elevations in the North Arm provide adequate habitat for snowy plover and the frequency that these elevations are exceeded over a 30-year time period.
    - Evaluate impacts to brine fly production in the North Arm based on a literature review to determine the ideal salinity concentrations for production of brine flies and their corresponding water surface elevations.
    - Use gauging station data to determine the frequency (over a 30-year period) at which water surface elevations in the North Arm are high enough to maintain salinity concentrations necessary for brine fly production.
    - Use aquatic resource analysis (Section 3.3.5) to determine frequency with which brine fly and brine shrimp productivity would be sufficient for avian use of the North Arm.

3.5.3 Avian Disturbance and Mortality

Issue: Construction of dikes and operational use of dikes and ponds may cause avian wildlife disturbance and mortality. Specific concerns identified during scoping were as follows:

- What avian wildlife disruptions and mortality could occur from day-to-day operational activities occurring at expansion ponds (for example, noise, lighting, and land vibrations)? **(Agency Comments-3.17, 5.13, 5.15, 5.16; Public Comments-48.74; 53.04)**
- Gunnison Island is currently the only nesting location for American white pelican in Utah and is one of the largest breeding colonies in North America. Other avian species nesting here may include California gull (*Larus californicus*), peregrine falcon (*Falco peregrinus*), and great blue heron. Would proposed Clyman Bay expansions impact avian nesting on Gunnison Island? **(Preliminary Issues-3, 11; Agency Comments-3.06, 4.07, 5.11; Public Comments-2.01, 28.02, 48.02, 48.65, 48.74, 49.04, 52.01)**
- Would construction of the Dolphin Island pond affect wildlife use in uplands or wetlands adjacent to the west side of the proposed pond? Could wildlife in the area, particularly nesting raptors, be disturbed? **(Preliminary Issues-6)**

- Would new dikes facilitate human access to Gunnison Island during low lake levels? Similarly, would humans have increased access to critical habitat areas of Bear River Bay, thereby increasing disturbance of avian wildlife? **(Agency Comments-3.07; Public Comments-48.65, 49.04, 50.03, 52.02, 53.06)**
- As a result of the proposed expansions, could birds become concentrated in a smaller area within Bear River Bay and Willard Spur, thereby increasing chances for botulism outbreaks, avian cholera, or other diseases? **(Agency Comments-3.15, 5.07; Public Comments-10.03, 13.02, 14.02, 19.01, 31.01, 32.05)**

Issue conclusions:

1. Relevance. These are relevant issues. Past research has documented avian use of Bear River Bay and Gunnison Island. Avian diseases are a known concern, particularly for areas with large concentrations of birds.
2. Criteria.
   - Determine criteria for levels of avian disturbance.
   - Determine likelihood that birds would congregate in a smaller area or areas of Bear River Bay/Willard Spur as a result of the project and likelihood of avian disease outbreaks.
3. Methods.
   - Review relevant literature to determine the following:
     a. how project activities might disturb avian communities in both the Bear River Bay and the North Arm;
     b. how project activities to within 3 miles of Gunnison Island might impact breeding bird communities on the island;
     c. how construction of the evaporation ponds and daily operational and maintenance activities might impact nesting raptors; and
     d. how the likelihood and severity of avian disease risk may increase with the proposed expansions.
   - Interview biologists/managers at Bear River Migratory Bird Refuge, Farmington Bay Wildlife Management Area, and other areas where birds are known to congregate in large numbers; use this information to help assess possible changes in avian disease risk resulting from the proposed expansions. Determine if proposed expansions would cause birds to congregate in a smaller area.
   - Conduct additional surveys as follows:
     a. Conduct additional surveys of west shoreline from the existing evaporation ponds north to Dolphin Island to identify where raptors are most likely to nest relative to the proposed expansion area.

b. Continue aerial surveys of Bear River Bay for another field season to map those portions of the bay that are most frequently used by avian populations. Once mapped, the distribution of birds can be compared with the location of the proposed expansion pond.

- Conduct measurements of existing noise conditions and predicted noise conditions for Gunnison Island. Predicted conditions will take into account GSLM operations and dike construction.

3.5.4 Avian Predation

Issue: Dikes may facilitate access of mammalian predators to migratory bird foraging, roosting, and nesting sites. Specific concerns identified during scoping were as follows:

- Avian predation in Bear River Bay may increase with the proposed expansion pond. The Bear River Migratory Bird Refuge has found it necessary to implement predator-control actions in order to support sustainable waterfowl and shorebird nesting success rates. Would the proposed Bear River Bay expansion increase access of mammalian predators to known migratory bird foraging, roosting, and nesting sites? **(Agency Comments-5.10; Public Comments-14.04, 40.03, 48.74, 49.02)**
- Would new dikes for the proposed Dolphin Island expansion act as predator conduits to Gunnison Island? Additionally, would these dikes become a roosting site for fledgling pelicans, further exposing them to predators? **(Preliminary Issues-4, 11; Agency Comments-3.07; Public Comments-26.02, 48.65, 49.04, 52.02, 53.06)**

Issue conclusions:

1. Relevance. This is a relevant issue; past research has identified predator problems for migratory birds in similar settings of the Great Salt Lake ecosystem (for example, the dike system of Bear River Migratory Bird Refuge).
2. Criteria. Estimate extent of breeding bird activity on existing GSLM evaporative pond dikes. Use this information to extrapolate likelihood of increased bird breeding on expanded dikes and thus increased risk of predation.
3. Methods.
   - Conduct a literature review to determine whether similar situations occur elsewhere and what the outcomes were.
   - Survey a representative sample of dikes around existing ponds to estimate use for nesting and roosting.
   - Evaluate gauging station water data to determine how frequently lake levels drop sufficiently to create a land bridge to Gunnison Island. This process may also help determine whether a land bridge to Gunnison Island would be present in the absence of an expansion pond. Determine maximum water depth that would permit movement of mammalian predators to Gunnison Island based on literature review and interviews with predator experts.

3.5.5 Cumulative Impacts to Avian Habitat

Issue: Would the proposed expansions result in cumulative avian habitat loss and what would be the affects of that loss? Specific concerns were as follows:

- What are the cumulative impacts of the proposed expansions on wildlife habitat in the context of past and future mineral and oil and gas developments in the North Arm and Bear River Bay? **(Agency Comments-3.02, 5.07, 5.16, 5.18; Public Comments-16.01, 26.01, 32.01, 34.01, 36.02, 37.02, 39.01, 48.40, 53.25)**
- Over the longer term, the North Arm may become more important as avian habitat than it is currently. Dikes and evaporation ponds in Clyman Bay may be in place for several decades. Within that time frame, could the causeway be breached or actions taken to better circulate the lake's waters? **(Public Comments-48.67)**

Issue conclusions:

1. Relevance. Cumulative impacts of minerals leasing on avian habitat is a relevant issue. Existing, proposed, and possible future mineral leases are part of the GSL Comprehensive Management Plan (UDNR 2000). However, possible breach of the railroad causeway is speculative and is not part of any existing plans for management of the Great Salt Lake.
2. Criteria. Estimate amount of habitat loss resulting from existing, proposed, and probable future minerals leases.
3. Methods.
   - Review existing leases to determine acres under active leases.
   - Determine probable future leases in consultation with Utah FFSL.
   - Evaluate actual and potential disturbance or loss of viable wildlife habitat associated with leases.

3.6 Threatened and Endangered Species

Issue: While the Corps does not anticipate concerns for threatened and endangered species (as indicated in the Public Notice), should the project area be inventoried in accordance with the Endangered Species Act? **(Agency Comments-5.14; Public Comments-44.01, 48.61)**

Issue conclusions:

1. Relevance. This issue is not relevant; the FWS, a cooperating agency, has confirmed that there are no concerns for Federally listed threatened and endangered species in the project area.
2. Criteria. None.

3. Methods. While the issue is not a relevant concern for the project, the EIS will include a threatened and endangered species section in the description of existing environmental conditions. This section of the EIS will present a literature review describing habitat requirements for Federally listed threatened and endangered species and state-listed sensitive species in Box Elder County, as well as describe the presence/absence of suitable or potentially suitable habitats for these species within the project area.

3.7 Recreation

Issue: How would the proposed expansions impact recreational uses of the Great Salt Lake or other locations? Specific concerns are as follows:

- Recreational uses of Bear River Bay and Willard Spur include bird watching, boating, guided trips, and waterfowl hunting. Private duck clubs are located in the vicinity. Would waterfowl hunters have concerns regarding recreational access and effect on waterfowl? Would public use be concentrated in a smaller area, thereby impacting navigation and recreational values? **(Preliminary Issues-25; Agency Comments-3.18; Public Comments-1.04, 2.03, 5.03, 7.02, 7.06, 8.05, 9.01, 12.03, 13.03, 14.01, 17.02, 31.03, 33.02, 36.01, 42.02, 48.04, 48.38 52.11, 53.01)**
- Secondary impacts on anglers and angling revenue may also occur. Bear River Bay and Willard Spur provide an important resource for piscivorous birds. If this resource is impacted, would it result in increased bird use of fishery resources at hatcheries or other lakes and streams? **(Agency Comments-3.19)**

Issue conclusions:

1. Relevance.
   - The proposed expansions could have quantitative recreation impacts by reducing access and/or visitation. This is a relevant issue.
   - Qualitative impacts to recreation could also occur if recreational satisfaction declines as a result of the proposed expansions. This is a relevant issue.
   - Secondary impacts on anglers and angling revenue are speculative and, therefore, could not be a reasonably foreseeable outcome. Even if the EIS determines that piscivorous birds would be displaced by the proposed expansions, it would not be practicable to further determine whether or where various species may disperse or what direct or cumulative effect this could have on fisheries resources for a given body of water. Fish hatcheries likely already implement measures to reduce predation losses.
2. Criteria. Recreational impacts will be determined according to the following:
   - loss of recreation access,
   - change in frequency or number of recreational visitations, and/or

- change in quality of recreational experiences (indicators would likely include loss of navigable area, reduction in waterfowl and wildlife populations, and visual resources impacts [Section 3.8]).

3. Methods.

   - Evaluate potential impacts on access/navigation by documenting recreational use areas (mapping) and then comparing these areas to HEC hydrologic modeling (Section 3.3.3.1) for Bear River Bay and Willard Spur. Key informants/stakeholders from recreational user groups (for example, Utah Air Boat, Inc. and private duck clubs) can assist in completing a map of recreational use areas.

   - Obtain available data on recreational visitation. Sources of available data on recreation use areas of Bear River Bay and Willard Spur will include: the GSL Comprehensive Management Plan, Utah Division of State Parks, Bear River Migratory Bird Refuge, DWR, Bureau of Land Management (BLM), private duck clubs, and organized recreational groups (for example, Utah Air Boat, Inc.). Available data on waterfowl hunting (ducks, geese) may be available from DWR and duck clubs.

   - Compare documented recreational use areas and visitation to probable future recreation access and visitation with project alternatives.

   - Provide a basis for estimating impacts on available wildlife resources for bird watching and waterfowl hunting (qualitative impacts). Visual resources analyses will also contribute to the assessment of qualitative recreational impacts of project alternatives (Section 3.8).

3.8 Aesthetic Values

Issue: How will the proposed project impact aesthetic values? The impact of the proposed expansion on the aquatic beauty and aesthetics of Great Salt Lake could be extensive as a significant portion of the lake is currently developed. **(Public Comments-27.01, 30.02, 33.01, 48.03, 48.39)**

Issue conclusions:

1. Relevance. Landscape aesthetics of the Great Salt Lake is a relevant issue as the proposed expansions could visually alter significant portions of Bear River Bay and the North Arm.

2. Criteria. The issue can be appropriately addressed by available methods of visual resource analyses. The BLM's Visual Resource Management (VRM) System is an appropriate assessment method for the project area because much of the public land surrounding the Great Salt Lake is managed by that agency. The BLM's VRM system is also a widely accepted tool for inventorying scenic values, establishing scenery management objectives, and evaluating impacts from proposed activities.

3. Methods.

   - Complete a Visual Resource Inventory using the VRM system. The VRM system uses four classes to describe the different degrees of visual modification allowed in the landscape. Visual Resource Management classes are visual ratings that describe an area in terms of visual quality, viewer sensitivity to the landscape, and the distance from which a viewer would observe an area.
   - Use VRM classes to analyze and to determine the visual impacts of proposed activities on the land and gauge the amount of disturbance an area can tolerate before it exceeds the visual objectives of the established VRM class. Visual contrast rating is done from critical viewpoints, known as Key Observation Points (KOPs), which are usually along commonly traveled routes, such as highways, access roads, or hiking trails. Key Observation Points would be determined for the proposed project area.
   - Create computer visual simulations if the analysis indicates the potential for substantial change in landscape character.

3.9 Cultural Resources

Issue: Would the proposed project adversely affect any cultural resources (historic, archaeological, Native American)? **(Preliminary Issues-23; Public Comments-48.09, 48.13)**

Issue conclusions:

1. Relevance. The issue is relevant based on the potential to conflict with the National Historic Preservation Act and the Native American Graves Reparation Act.
2. Criteria. Cultural resource impacts would be determined by the following:
   - a designation of adverse effect concurred by the State Historic Preservation Officer and, if needed, the Advisory Council of Historic Places; and/or
   - unresolved conflict with a Native American Tribe.
3. Methods.
   - Send letters of inquiry to all appropriate Native American Tribes seeking concerns. Where concerns are identified, additional coordination with the appropriate Tribe will be conducted to identify specific information.
   - Conduct a literature and file search that includes file searches for previous inventories and sites in the Area of Potential Effect, which will include the area of the West Desert that may serve as an alternative site.
   - Conduct a State Historic Preservation Office (SHPO) GIS search.
   - Conduct a BLM file search.

- Conduct, if warranted by the file and literature search, on-site inventories in areas of specific concern. Locations and extent of any on-site investigations will be identified in coordination with the SHPO and Corps.
- Submit a letter to State Paleontologist Office.
- Assess information collected in relation to the proposed project and alternatives. Where direct (spatial) conflict occurs, the likelihood of effect will be assessed based upon the potential for site degradation or protection.

3.10 Socioeconomic Issues

3.10.1 Brine Shrimp Industry

Issue: Would decreased brine shrimp cyst quality or possible contaminant introduction to areas open to brine shrimp harvesting impact the brine shrimp industry? **(Preliminary Issues-24; Agency Comments-3.20, 4.08; Public Comments-8.07, 12.04, 53.05)**

Issue conclusions:

1. Relevance. The issue is relevant as the brine shrimp industry is dependent upon ecological conditions favorable to the production of brine shrimp cyst. The project has the potential to affect these conditions, and the EIS document will investigate this potential in terms of water circulation (Section 3.3.3) and biological characteristics (Section 3.3.5).
2. Criteria. Change in productivity of brine shrimp, as determined by analyses for Section 3.3.5.
3. Methods.
   - Document existing conditions for the brine shrimp industry in terms of use areas, harvest data, regulations, and economic value of the brine shrimp harvest in the DEIS. Much of this information is available from the Great Salt Lake Ecosystem Program. Other information may be obtained by consulting state of Utah regulations and through a review of literature.
   - Evaluate implications for the brine shrimp industry of any identified impacts on brine shrimp productivity from project alternatives advanced for the analysis.

3.10.2 Economic Value of Mineral Extraction

Issue: The proposed expansions are motivated by increasing world demand for potash fertilizer. How does minerals extraction from the Great Salt Lake contribute positively to the state's economy through jobs, taxes, and royalties? **(Public Comments-50.04, 54.01, 56.01, 57.01, 58.01, 59.01, 60.01, 61.01, 62.01, 62.02, 62.03, 63.01, 64.01, 65.01, 66.01, 67.01, 68.01, 69.01, 70.01, 71.01, 72.01)**

Issue conclusions:

1. Relevance. The issue is relevant to the purpose and need for the proposed action and the determination of alternatives that would satisfy the purpose and need.
2. Criteria. Determine available information on potash fertilizer demand (some key sources have been identified in scoping). Document available information in DEIS purpose and need.
3. Methods.
    - Document existing conditions for sulfate of potash production and demand.
    - Develop project purpose and need.
    - Evaluate ability of each alternative advanced for analysis to satisfy the purpose and need.

4.0 COMMENTS REGARDING EIS DOCUMENTATION AND THE SECTION 404 PERMITTING PROCESS

In addition to identifying issues to be addressed, scoping also provided an initial opportunity for the public to express opinions or suggestions regarding the project, alternatives to the proposed action, methods of analysis, available information sources, and permitting decisions. These comments are indexed in the appendices using the same notation as the previous section.

4.1 Purpose and Need, Alternatives, and Project Scope

Comment 1: Based on size and extent of project, the Corps determined that the project should proceed as an EIS. The EIS requires compliance with other federal environmental laws. Of particular significance to this project will be determination of whether the Corps should issue a 404 permit. **(Preliminary Issues-22; Public Comments-48.07)**

Comment 2: Scope of project must be determined, particularly life of project. If the project is discontinued or abandoned, can the area be restored? **(Preliminary Issues-20; Public Comments-42.04)**

Comment 3: A well-defined purpose for the project must be prepared to provide a foundation for determining practicable alternatives and impacts. **(Preliminary Issues-18; Agency Comments-4.01, 4.02, 5.02; Public Comments-23.01, 30.04, 35.01, 37.01, 48.08)**

Comment 4: Federal Regulations (40 CFR § 230.10) specify criteria for considering practicable alternatives. Non-water dependent strategies may need to be considered. How will the DEIS consider a range of alternatives to the proposed project? **(Preliminary Issues-19; Public Comments-7.07, 23.03, 24.02, 32.03, 42.01, 48.06, 48.12, 53.27)**

Comment 5: Alternative alignment of dikes in Clyman Bay: Could the proposed dikes for the Dolphin Island pond be realigned to maximize distance from Gunnison Island? (**Public Comments-26.05, 52.02**)

4.2 Determination of Existing Conditions

Comment 1: The most up-to-date information available should be used to determine existing and reasonably foreseeable conditions. Appropriate coordination between the Corps and other agencies must take place to insure correct determination of existing conditions. **(Agency Comments-3.16, 5.01; Public Comments-34.03, 48.15, 48.23, 48.63, 48.71, 48.72, 49.02, 49.03, 53.02, 53.03, 53.08, 55.01, 65.02)**

Comment 2: Section 404(b)(1) guidelines describe effects that may individually or collectively contribute to significant degradation of aquatic resources and factual determinations that must be made. Subpart C of the guidelines identifies potential impacts of the discharge of dreged or fill material on the physical and chemical characteristics of the aquatic ecosystem that must be addressed. **(Public Comments-48.18)**

Comment 3: The DEIS should include a detailed function and values evaluation of the aquatic resources that are being impacted and should identify potential mitigation opportunities to fully offset aquatic impacts identified. **(Agency Comments-4.03)**

Comment 4: How will the proposed project affect compliance with the state's narrative water quality standards? **(Public Comments-48.20, 53.14, 53.20, 53.24)**

Comment 5: The surface area, volume, and salinity of the Great Salt Lake vary considerably with weather conditions. Assessment of conditions for wildlife, water quality, and economic and recreational values should consider the extreme conditions—periods of high and low lake volume—rather than the average conditions. **(Agency Comments-3.02; Public Comments-1.02, 26.03, 29.01, 32.04, 48.10, 48.55, 48.75, 48.76, 53.10)**

4.3 Determination of Secondary and Cumulative Effects

Comment 1: The scope and magnitude of the project may make it difficult to distinguish primary, secondary, and cumulative effects. How will the DEIS and 404 permitting process address secondary and cumulative impacts? **(Preliminary Issues-15; Public Comments-48.42)**

Comment 2: To address cumulative impacts, the Corps must initially establish the geographical area in which cumulative impacts are to be considered. The geographic scope of the cumulative analysis will vary depending on the value to migratory birds, water quality, the aquatic ecosystem, and other relevant values. **(Public Comments-48.16)**

4.4 Record of Decision and Permitting Issues

Comment 1: Coordination with BLM: Increased vehicle traffic on BLM lands adjacent to the proposed Clyman Bay expansion ponds. Will activities related to the proposed expansions result in damage to existing improved and unimproved roads, widening of roads, or the creation of new roads or construction staging areas? If so, these kinds of activities must be permitted through a right-of-way issued by the BLM. **(Agency Comments-1.01)**

Comment 2: Coordination with BLM: Removal of mineral materials for fill tends to be a major impact to the land surface, resulting in increased probability of erosion and loss of wildlife habitat. Any use of mineral materials from BLM-managed public lands for fill must be purchased from BLM under a mineral material sales contract. **(Agency Comments-1.02)**

Comment 3: Coordination with Utah Division of Oil, Gas, and Mining: How would any new lease nomination fit within a possible change in the 1996 Mineral Lease Plan? Coordination with Utah Division of Oil, Gas, and Mining is also necessary; after the 404 permit is issued, a revision must be made to the Division's mining and reclamation plan. **(Preliminary Issues-17; Agency Comments-2.01)**

Comment 4: Coordination with Utah Division of Forestry, Fire, and State Lands: Do the proposed alternatives that affect lands below the meander line follow the Great Salt Lake Comprehensive Management Plan and the Great Salt Lake Mineral Leasing Plan? **(Agency Comments-6.01)**

5.0 REFERENCES

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APPENDIX A: PRELIMINARY SCOPING ISSUES

PRELIMINARY ISSUES
GSLM PROPOSED EVAPORATION PONDS EXPANSION PROJECT
March 13, 2007

Issues were derived during a preliminary issues meeting with the Interagency Team that consisted of representatives of the US Army Corps of Engineers, U.S. Fish and Wildlife Service (FWS), Utah Division of Wildlife (DWR), Utah Division of Forestry, Fire and State Lands (FFSL), Utah Geologic Survey (UGS), and U.S. Geologic Survey (USGS). Subsequent issues were derived in a meeting with the Environmental Protection Agency (EPA) representative. Further, a preliminary meeting was held with representatives from three environmental groups with very strong interest in the Great Salt Lake.

PRELIMINARY INTERAGENCY ISSUES

Clyman Bay

Agency Issue 1. Would any change in saline density from pond expansion in the North Arm affect flow and salinity in the South Arm. If saline densities decreased, would it reduce deep brine layer in the South Arm. ***This issue is very relevant from indirect or secondary impacts perspective.*** PL-1

Preliminary information to resolve issue. UGS has water chemistry data since 1996 from 3 stations in North Arm. UGS also has long term water chemistry data for numerous locations in the South Arm.

The team thought that any potential salt depletion could be established through an assessment based on expected extraction. A simple salt balance equation based on GSLM extraction and existing salinity and volume of North Arm.

Agency Issue 2. If there is a salinity change, could selenium or mercury metals be freed and become contaminants within the productive South Arm food chain? ***This issue is somewhat relevant from indirect or secondary impacts perspective.*** PL-2

Preliminary information to resolve issue. See Issue 1.

Agency Issue 3. Would a new pond impact White Pelican nesting colony on Gunnison Island due to dike construction? The proposed dikes would be at least 3 miles from the island. Is this sufficient distance so that construction activities would not disturb nesting birds? Noise levels over high density water may not diminish as rapidly as over other terrain. ***This issue has high significance based on Gunnison Island is one of three most important pelican nesting colonies in the interior US.*** PL-3

Preliminary information to resolve issue. DWR has annual data on White Pelican nesting on Gunnison Island. This could assist in correlating previous disturbance on nesting activity.

Agency Issue 4. Would new dikes act as predator conduits to island? Predators could use new dikes to get closer to Gunnison Island and could they walk to island during low years. ***This issue has high significance based on Gunnison Island is one of three most important pelican nesting colonies in the interior US, although likelihood of impact is small.*** PL-4

Preliminary information to resolve issue. It was noted that the bathymetric contours for this area show that bottom contours between the proposed dike and the island are at 4193 ft or greater. Even at current low lake level of about 4197, depth would be 4 ft and should act as a barrier to predator access. The lowest recorded historic lake elevation is 4191 ft. If the lake level is ever reduced to 4193 ft, predators could access Gunnison Island from any place along the shoreline. Therefore this is not considered a substantial issue. The issue of depth based on contours will be verified.

Agency Issue 5. Does the shoreline provide habitat for shorebirds or provide habitat for a substantial small mammal prey base? Of particular concern would be the uncommon Snowy Plover. ***Because of the special status of snowy plovers, this issue is signficant, though the likelihood of bird occurrence is small.*** PL-5

Preliminary information to resolve issue. Although literature tends to indicate that the western shoreline does not provide substantial shorebird habitat, it was determined important to obtain data through ground surveys. BIO-WEST will conduct shorebird surveys of the shoreline inundated by the proposed expansion pond at the south end. BW will also delineate the wetlands in this area. This will provide information for permitting and also habitat considerations. Surveys will be conducted this spring (May 2007).

Agency Issue 6. At Clyman Bay, would construction of the proposed expansion pond, especially Dolphin Island Pond, affect wildlife use in uplands or wetlands adjacent to the west side of the proposed pond. Concern was expressed that there could be disturbance or loss of habitat or disturbance to raptor nesting. ***Although relevant, the issue is not highly significant as no construction is anticipated in the near vicinity.*** PL-6

Preliminary information to resolve issue. BIO-WEST will investigate the shoreline to determine if any nesting or use occurs adjacent to this west end. The investigation will not be a full survey, rather a general on-site evaluation. The BLM will also be consulted to determine potential issues and information for this area, as they are the land managers of the uplands adjacent to the project area. Investigation to be done this spring (May 2007).

Bear River Bay

Agency Issue 7. Would maintenance flushing of the new pond at Bear River Bay affect existing water quality. Would flushing mobilize heavy metals or other contaminants precipitating in the ponds. Also would flushing have an effect on salinity and salinity discharge into South Arm? ***This issue is very relevant from indirect or secondary impacts perspective. It is not anticipated that flushing will increase heavy metal concentrations.*** PL-7

Preliminary information to resolve issue. Prior to the termination of 2007 winter flushing, BIO-WEST collected water samples at the two separate ponds currently being flushed. Water samples were also taken at the Bear River intake. Two separate sets of samples were taken. If deemed necessary, this will be supplemented during next winter, and may need to include the Clyman Bay ponds.

Agency Issue 8. The Bear River Bay between Promontory Point and GSLM ponds is a very important area for molting geese. Up to 10,000 molting subadults may occur. The area appears to be traditional for non breeding geese to molt. Would a new evaporation pond affect this use? ***Because of the traditional use of the area when geese are very vulnerable, this is a significant issue.*** PL-8

Preliminary information to resolve issue. Obtain information from DWR on waterfowl use of Bear River Bay, although data may not provide exact locations of use. BIO-WEST will supplement the data with aerial surveys focusing on numbers and location. Aerial surveys to be done in June 2007.

Agency Issue 9. Other water birds use open Bear River Bay throughout the year for feeding/loafing. DWR studies have shown that the Bear River Bay is very important for water bird use. What conditions lead to this use, and would the water bird use be affected by the large 8,000-acre impoundment. ***Because of the documented high avian use of Bear River Bay, and the Great Salt Lake's hemispheric and local importance, this is a very significant issue and may be the paramount issue.*** PL-9

Preliminary information to resolve issue. The 1997-2001 GSL Water Bird Survey provides information on use. Also DWR is conducting another five year study of GSL Water Birds by John Luft. The data from these long-term studies will be used as basis for evaluation. However, this data does not provide information on where the use occurs in Bear River Bay. BIO-WEST will supplement the existing data with extensive aerial surveys during the coming year focusing on species, numbers and location. Data will be collected for migrating water bird use and breeding bird use. BIO-WEST will conduct monthly aerial surveys to document exact location of use. Surveys will commence in April and extend through October 2007.

PRELIMINARY ENVIRONMENTAL STAKEHOLDER ISSUES

Clyman Bay

Stakeholder Issue 1. Breeding snowy plovers disperse to other shoreline areas with springs or fresh water discharges. If such discharges occur along the shoreline of the proposed ponds, would construction and operations affect plover use. ***This is same as Agency Issues 5 and 6.*** PL-10

Stakeholder Issue 2. Gunnison Island is very important to American white pelicans for nesting. It is the only nesting location on GSL for pelicans, and is considered on of the three largest nesting colonies in western US. The value of Gunnison Island is its isolation. This provides buffering from disturbance and protects the colony from mammalian predators. Activities that substantially reduce or remove this isolation could eliminate the pelican population. ***This is the same as Agency Issues 3 and 4.*** PL-11

Bear River Bay

Stakeholder Issue 3. Bear River Bay is very important to a number of different avian groups that utilize open water. Among species mentioned were American white pelican, Canada goose (critical molting), as well as others. ***This is the same as Agency Issues 8 and 9.*** PL-12

Stakeholder Issue 4. There is a concern that a large impoundment could constrain continued fresh water exchange between Willard Spur and Bear River Bay. Willard Spur is considered extremely important to avian communities providing wetland habitats as well as open water. Would new pond affect water flow between the two areas? Fresh water exchange may provide opportunities for maintenance of gizzard shad and carp populations that provide prey for piscivorous birds. PL-13

Preliminary information to resolve issue. No information is known. BIO-WEST will evaluate flow releases from all points of diversion including Willard Bay and Bear River through the refuge. Site evaluations will also be conducted under various water release scenarios and at different water surface elevations to determine such connectivity. If necessary, contours will be surveyed at the connection between Bear River Bay and Willard Bay to help ascertain constraints. ***This issue has moderate significance and it will be difficult to answer conclusively.***

Stakeholder Issue 5. Would new pond flushing create nutrient loading at Bear River Bay to the extent it would have an ecological affect. It was mentioned that there is information on nutrient loading for GSL and Theron Miller may have information. ***This is the same as Agency Issue 7. In addition, nutrient loading will be evaluated as part of water quality evaluations.*** PL-14

General Issues

Stakeholder Issue 6. It is very important that the NEPA evaluations and documentation are done thoroughly to avoid legal problems, such as Legacy Highway. Lynn described the need to describe and evaluate the No Action Alternative. She focused on the need to comprehensively assess secondary impacts. Lynn stated this was the main fault of Legacy Highway document - it didn't provide the full disclosure of secondary impacts. For this project, Lynn mentioned that secondary impacts may occur in North Arm, South Arm or both. PL-15

Preliminary information to resolve issue. BIO-WEST is proficient in completing the NEPA process. All alternatives will be identified and assessed for practicability. Secondary impact issues have been identified for water quality issues and avian use and productivity. These will be assessed based on data collected.

Stakeholder Issue 7. The GSL ecosystem is very sensitive to water diversions that limit inflow of fresh water and water quality. Would the project affect availability of fresh water. PL-16

Preliminary information to resolve issue. No water diversions are expected so this is not an issue. BIO-WEST will evaluate secondary impacts to water quality in the South Arm and Bear River Bay as described under Agency Issues 1,2, and 7. In addition, BIO-WEST will initiate an evaluation of current and expected water quality conditions in the Bear River Bay based on existing data and limited sampling.

Stakeholder Issue 8. How would any new lease nomination fit within a possible change in the 1996 Mineral Lease Plan that would open such lease nominations up to public discussion. Would the proposed lease nomination be grandfathered or included in new process. PL-17

Preliminary information to resolve issue. GSLM has submitted a lease nomination to the State and will abide by whatever process the State requires. A discussion was held regarding the commitments that will be required prior to any activation of a lease. This will include the commitments in any regulatory permits including the Section 404 permit (wetlands). An approved wetland permit will require the appropriate NEPA documentation, which is currently believed to be an EIS. This NEPA process will provide ample opportunities for public and stakeholder participation.

PRELIMINARY EPA ISSUES

EPA Issue 1. A well defined purpose for project must be prepared to focus the proposed action and provide foundation for determining practicable alternatives. PL-18

EPA Issue 2. Determination of alternatives must look at non-water dependent strategies to determine their practicability. Practicability depends on logistics, available technology, and cost. In reality logistics and technology often come down to costs. When evaluating practicability, GSLM must be able to explain it based on these 3 items. It is understood that much of GSLM PL-19

financial information is privileged and cannot be publicly disclosed. This can be accommodated as evaluations proceed.

EPA Issue 3. The scope of project must be determined, particularly the life of project. Is the life of the project the extent of a contract to obtain potassium chloride? Is it the life of the dikes built without need for another 404 permit for repair/maintenance? Is it the life of the functional evaporation of the ponds and salt production? ***EPA has preliminarily stated that life of the project is the life of the dikes. I have not received a response from them regarding regular maintenance as part of life.***	PL-20
EPA Issue 4. Is it feasible to evaluate and permit the proposed west ponds separately from the proposed east pond. It appears problematic separating the east pond proposal from west pond proposal, though there may be independent utility. It is likely best to consider the entire scope within the subsequent evaluations and documentation necessary for Section 404 permit.	PL-21
EPA Issue 5. Based on size and extent of the project, the project should proceed as an EIS. The issues appear to be focused on water quality and avian wildlife.	PL-22

OTHER PRELIMINARY ISSUES

Issue 1. Would the proposed project adversely affect any Cultural Resource (historic, archaeological, Native American).	PL-23

Resolution. BIO-WEST will conduct a cultural clearance of potentially impacted areas. This will likely be restricted to Clyman Bay where a new dike will be constructed on existing mud flats and the new areas of inundation. This needs to be determined by Corps and State Historic Preservation Officer.

Issue 2. Shrimp harvesters will likely have concern over water quality and affect on brine shrimp production.	PL-24

Resolution. This is anticipated to be addressed in water quality and circulation evaluations as well as further participation with stakeholders.

Issue 3. Waterfowl hunters at Willard Spur, Bear River Wildlife Refuge, Harold Crane Waterfowl Management Area, and private duck clubs may have concerns regarding access and affect on waterfowl.	PL-25

Resolution. Extent of issue is unknown, but can likely be addressed under the Agency Issues described above.

APPENDIX B: PUBLIC SCOPING MATERIALS

included in the request for Office of Management and Budget approval of the information collection request; they will also become a matter of public record.

Dated: October 26, 2007.

Peg Rosenberry,

Director, Office of Grants Management .

[FR Doc. E7–21529 Filed 10–31–07; 8:45 am]

BILLING CODE 6050–$$–P

DEPARTMENT OF DEFENSE

Department of the Air Force

Announcement of IS–GPS–800 Interface Control Working Group (ICWG) Follow-On Meeting

AGENCY: Department of the Air Force.

ACTION: Meeting notice.

SUMMARY: This notice informs the public that the Global Positioning Systems Wing will be hosting a follow-on meeting to the Public ICWG that occurred on 25 Sept 2007 at the ION GNSS Conference in Ft. Worth, TX. The meeting will take place on 19 Nov 2007 at the SAIC Facility in El Segundo and will address the action item to review a ''tracked changes'' version of the IS–GPS–800. The meeting will consist of a line-by-line review and discussion of all L1 MBOC spreading codes and L1 bandwidth augmentation changes within the document. A tracked change ''was/is'' version of the document can be found at the following address for review: *http://www.losangeles.af.mil/library/factsheets/factsheet.asp?id=9364.* To make additional comments, please open the ''Comment Form Draft IS–GPS–800'' on the Web site and e-mail comments to Thomas Davis and Capt Garrett Knowlan by 5 Nov 2007 (contact info below). For those who would like to attend and participate in this meeting, you are requested to register by 14 November 2007. Please send the registration to *thomas.davis.ctr@losangeles.af.mil* and provide your name, organization, telephone number, address, and country of citizenship. Foreign nationals must have their passports available on the day of the meeting or admittance will be denied. The parking lot can be entered via Sepulveda Blvd or Grand Ave. The outside parking lot is available for all cars, but the underground parking structure is only for those with monthly parking passes. Parking validation is provided.

DATES: Monday, 19 November 2007, 8 a.m.–4 p.m., located at SAIC, El Segundo, 300 N. Sepulveda, Suite 3000, El Segundo, CA 90245.

FOR FURTHER INFORMATION CONTACT: Thomas Davis, *thomas.davis@linquest.com*, 1–310–416–8440, or Captain Michael Whiting, *Michael.Whiting@losangeles.af.mil*, 1–310–653–3936.

Bao-Anh Trinh,

Air Force Federal Register Liaison Officer.

[FR Doc. E7–21499 Filed 10–31–07; 8:45 am]

BILLING CODE 5001–05–P

DEPARTMENT OF DEFENSE

Department of the Air Force

Air Force Performance Review Boards

AGENCY: Department of the Air Force.

ACTION: Notice.

SUMMARY: Notice is hereby given of the appointment of members of the Air Force Performance Review Boards.

SUPPLEMENTARY INFORMATION: Section 4314(c)(1) through (5) of Title 5, U.S.C., requires each agency to establish, in accordance with the regulations prescribed by the U.S. Office of Personnel Management, one or more SES performance review boards. The purpose of the Performance Review Board is to review records on all Air Force SES, DISES, SL and ST members and to make recommendations to the appointing authority on performance management issues such as appraisals, bonuses, and pay level increases.

The following have been designated as members of the Air Force Performance Review Boards:

General Bruce Carlson, Commander, AF Materiel Command—Board President—Lieutenant General Rod Bishop, Commander, Third Air Force.

Mr. David Tillotson, Deputy Chief of Staff for Warfighting Integration.

Mrs. Barbara Westgate, AF Materiel Command Executive Director.

Mr. Timothy Leyland, Assistant Deputy Chief of Staff, Manpower & Personnel.

Mrs. Patricia Young, Deputy to the Commander, Military Surface Deployment and Distribution Command.

Mr. Richard Gustafson, Deputy Assistant Secretary (Financial Operations).

Mr. Steven Cantrell, Director, Analysis & Estimates, DCS Intelligence, Surveillance and Reconnaissance.

Mr. Michael Rhodes, OSD ODAM WHS, Non-Air Force SES Senior Board Member.

Mrs. Mary Lacey, NSPS Program Executive Office, Non-Air Force SES Senior Board Member.

Mr. John Salvatore, OSD OUDSI, Non-Air Force DISES Board Member.

FOR FURTHER INFORMATION CONTACT: Major Therese Schuler, Air Force Senior Executive Management Office, AF/DPSS, 1040 Air Force Pentagon, Washington, DC 20330–1040, (703) 695–8040.

Bao-Anh Trinh,

Air Force Federal Register Liaison Officer.

[FR Doc. E7–21494 Filed 10–31–07; 8:45 am]

BILLING CODE 5001–05–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Intent To Prepare a Draft Environmental Impact Statement (DEIS) for Great Salt Lake Minerals Corporation's Solar Evaporation Pond Expansion Project Within the Great Salt Lake, Box Elder County, UT

AGENCY: Department of the Army; U.S. Army Corps of Engineers, DoD.

ACTION: Notice of intent.

SUMMARY: In accordance with the National Environmental Policy Act (NEPA), the U.S. Army Corps of Engineers (Corps), Sacramento District, will prepare a draft Environmental Impact Statement (DEIS) for Corps authorization actions for the proposed Great Salt Lake Minerals Solar Evaporation Ponds Expansion project. The overall project purpose is to expand extraction capability for potassium at the Great Salt Lake Mineral Corporation's facilities. The proposed expansion would add approximately 33,000 acres of solar evaporative ponds, impacting approximately 30,713.75 acres of waters of the United States, and reducing the need to import raw potassium from other sources. The DEIS will address impacts such as wildlife habitat, water quality, Great Salt Lake water elevations, wetlands, hydrology, cultural resources, transportation, endangered species and industry.

DATES: The projected date for public release of the DEIS is October 2008. Three public scoping meetings will be held. The first scoping meeting will be held on November 7, 2007 from 5–9 p.m. The second public meeting will be on November 8, 2007 from 5–9 p.m. The third meeting will be held on November 14, 2007 from 5–9 p.m.

ADDRESSES: The November 7 meeting will be held at South Davis Junior High School, 298 West 2600 South, Bountiful, Utah. The November 8 meeting will be held at the Ogden Nature Center, 966 W.

12th Street, Ogden, Utah. The November 14 meeting will be held at the Airport Inn Hotel, 2333 W. North Temple Street, Salt Lake City, Utah. Written comments may be mailed to Mr. Jason Gipson, 533 West 2600 South, Suite 150, Bountiful, Utah 84010. All comments must be received on or before December 2, 2007.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and the DEIS should be directed to the Corps project manager, Mr. Jason Gipson at 801–295–8380 x14, or e-mail at *jason.a.gipson@usace.army.mil.* Please refer to identification number 200700121.

SUPPLEMENTARY INFORMATION: Great Salt Lake Minerals Corporation (GSLM) has applied for Department of the Army authorization under Section 404 of the Clean Water Act. The project as proposed may also require other Federal, State and local authorizations including Utah State Public Lands Lease Agreements.

Great Salt Lake Minerals Corporation currently operates approximately 43,000 acres of evaporative ponds located on the east and west shores of the Great Salt Lake. A 21,000-acre evaporation facility is located on the west shore of the North Arm of the Great Salt Lake and a 22,000-acre evaporation facility is located on the east shore of the Bear River Bay. The existing solar evaporation ponds facilities are located within the Great Salt Lake, i.e., the ponds are located below 4205 mean sea level, which is below the high water mark of the Great Salt Lake. These facilities allow the Corporation to extract about one-half of the potassium needed in their production of potassium sulfate. The company draws naturally occurring brine from the lake into shallow ponds and allows solar evaporation to produce sulfate of potash, as well as salt and magnesium chloride minerals. Sulfate of potash is a specialty fertilizer that improves the yield and quality of high-value crops such as fruits, vegetables, tea, tree nuts and turf grasses. The Great Salt Lake facility has operated on the lake for 40 years. At present, the remainder of the potassium is imported from other sources. The proposed expansion of the solar ponds will allow Great Salt Lake Minerals to reduce or discontinue their reliance on imported potassium.

The applicant is proposing to construct three additional solar evaporation ponds totaling approximately 33,000 acres. The proposed project includes an 8,000-acre pond on the east side of the Great Salt Lake in the Bear River Bay. Brine would be pumped to and from the new pond with existing pump stations; however, the capacity of these pump stations would be increased proportional to the new pond acreage. Additional feed brine for this new pond would come from the North Arm of the Great Salt Lake (Gunnison Bay), flowing through existing east side ponds.

In addition, on the west side of the lake, two new solar ponds would be added to the existing west side complex, an 18,000-acre Dolphin Island expansion pond and a 7,000-acre pond at the southern end of Clyman Bay between the Union Pacific Railway and several existing ponds. A new feed canal into the lake and a new pump station would be constructed on the north end of the proposed Dolphin Island pond. Diesel driven pumps, similar to those currently in use, would pump brine from the new feed canal to the new pond. Existing pumps would be used to pump brine from the new pond to an existing pond. The total 25,000-acre pond expansion on the west side would increase the concentration of brine transferred to an existing gravity-flow trench for transport to the east ponds in the Bear River Bay.

Dikes would be built to accommodate the pond expansion and impound the waters of the respective areas. On the east side of the lake approximately 540,000 cubic yards of fill would be discharged into Bear River Bay to create the dikes. On the west side of the lake, dike construction would require approximately 900,000 cubic yards of fill to be discharged into open water in the vicinity of Clyman Bay.

The proposed project areas currently include saline open water, sporadically inundated playa lakebed, seasonally flooded playa, saline wetlands, rip-rapped dikes and sandy upland habitats. These areas are located adjacent to the existing evaporation pond facilities. The Corps of Engineers verified a delineation on October 10, 2007 which identified approximately 34,180.08 acres of waters of the United States, including 21.4 acres of saline wet meadow wetlands, 1,102.94 acres of seasonally inundated playa above the high water mark of the western side of the Great Salt Lake and 33,055.74 acres of seasonally or sporadically inundated playa lake bed below the high water mark of the Lake. The applicant asserts that approximately 30,713.75 acres of waters would be lost due to project construction under the proposed alternative.

The applicant has not proposed compensatory mitigation for project impacts. The determination of appropriate compensatory mitigation will be determined through public scoping and impact analysis of the EIS process.

The proposed project will not affect any Federally-listed threatened or endangered species, however, it may affect state-listed special status species. Once a habitat assessment of the areas has been completed, the Corps will consult with state and Federal wildlife agencies. The Corps will also consult with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act for properties listed or potentially eligible for listing on the National Register of Historic Places, as appropriate.

A number of on-site and off-site alternatives, including the no action alternative, will be evaluated in the DEIS in accordance with NEPA and the Section 404(b)(1) guidelines.

As part of the Corps 404 permitting process, three pre-application interagency meetings were held to provide information and identify issues and concerns. In addition, a meeting was held with local environmental organizations for the same purposes. Preliminary issues identified as part of this process include: Water quality, heavy metals, nutrient loading, fresh water exchange, changes in salinity, and brine shrimp habitat and economic issues. Additionally, potential avian impacts were identified to waterfowl, shorebirds, and raptors including the American white pelican, snowy plover, Canada goose, and others.

The above determinations are based on information provided by the applicant and upon the Corps' preliminary review. The Corps is soliciting verbal and written comments from the public, Federal, States and local agencies and officials, Native American tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. The Corps' public involvement program includes multiple opportunities for interested parties to provide written and oral comments. Affected Federal, State, local agencies, Indian tribes, and other interested private organizations and the general public are invited to participate.

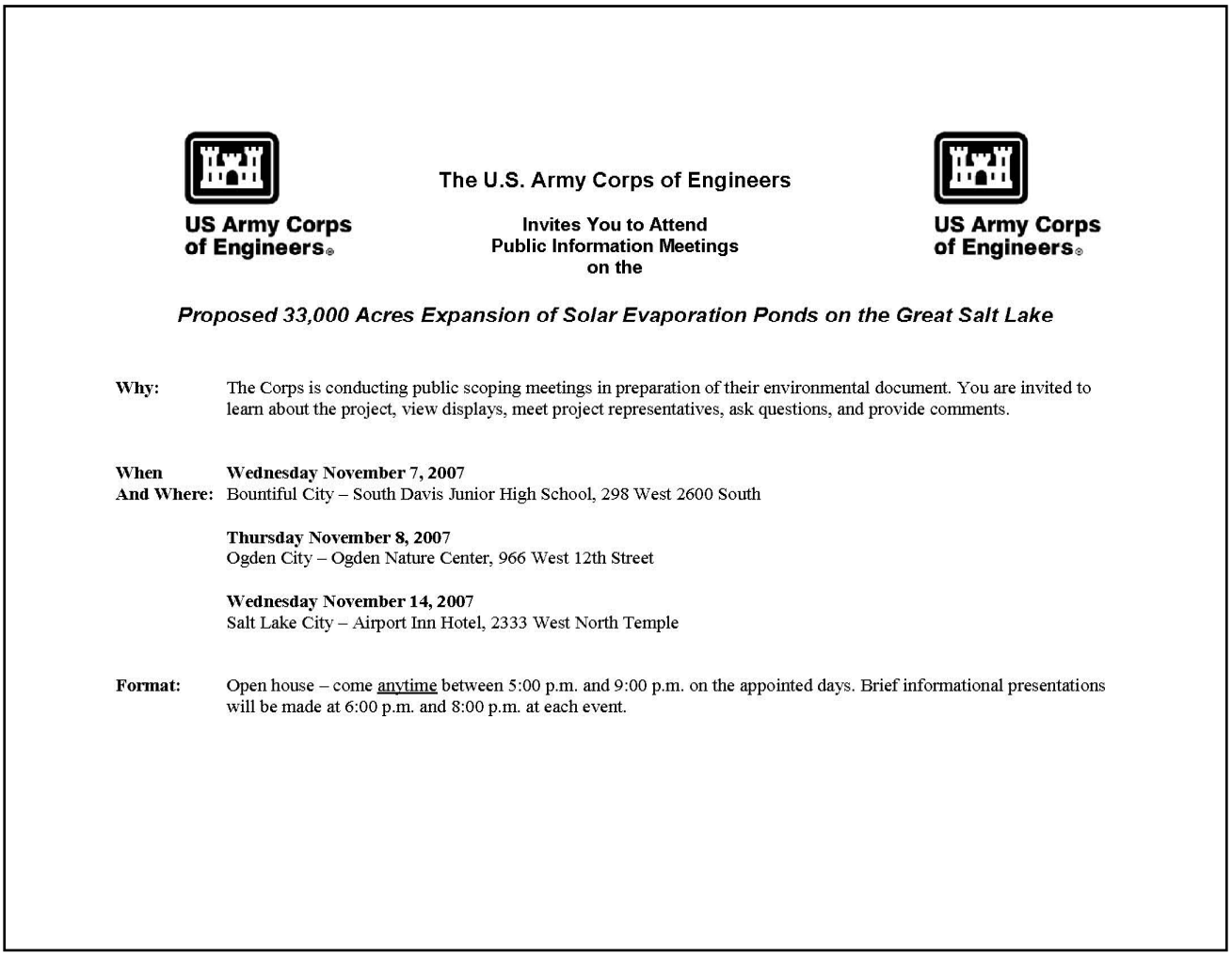
Dated: October 24, 2007.

Michael S. Jewell,

Chief, Regulatory Branch, Sacramento District, Corps of Engineers.

[FR Doc. 07–5437 Filed 10–31–07; 8:45 am]

BILLING CODE 3710–EH–P



EXAMPLE OF PURCHASED NEWSPAPER AD FOR PUBLIC SCOPING MEETINGS

Ran in:

Salt Lake Tribune, November 4 and November 6, 2007.

Ogden Standard-Examiner, November 4 and November 6, 2007.

Deseret News, November 6, 2007.

U.S. Army Corps of Engineers

Public Information Meeting

on the

Proposed 33,000-acre Expansion of Solar Evaporation Ponds on the Great Salt Lake

Preliminary Information Packet

November 2007

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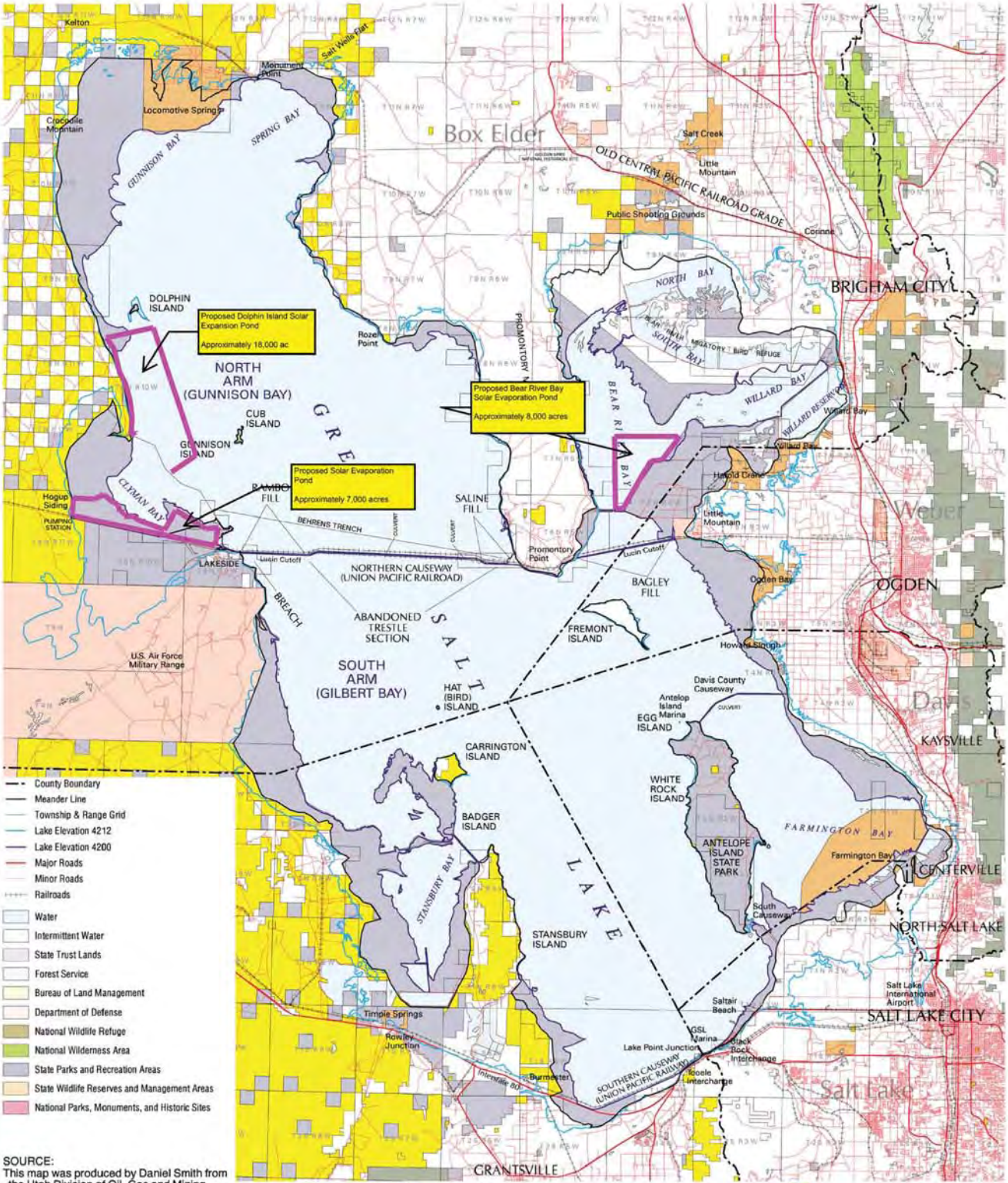
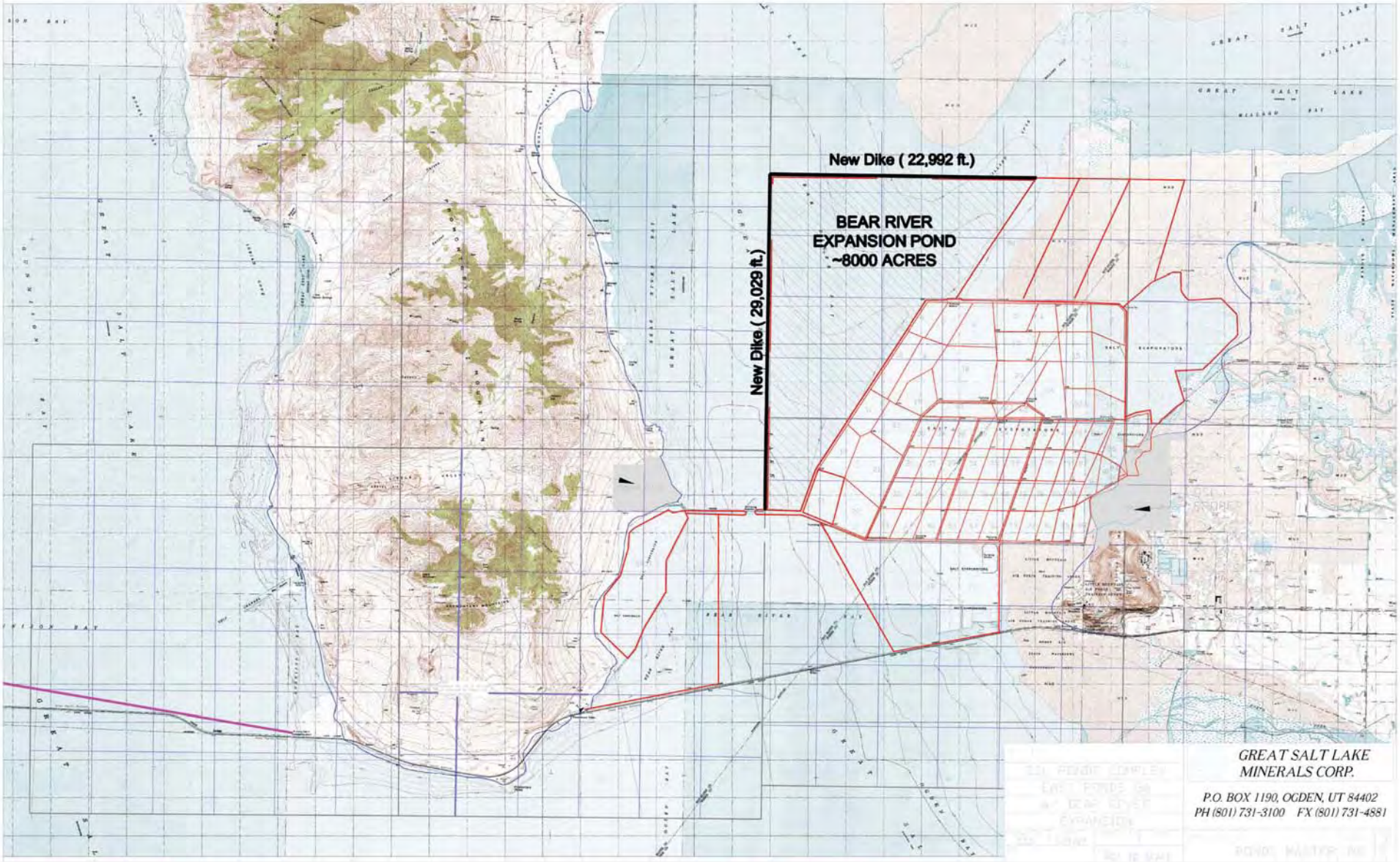
Great Salt Lake Location Map

Plotted February 17, 2000



Planned Bear River Bay Solar Pond Expansion In Relation To Existing Ponds



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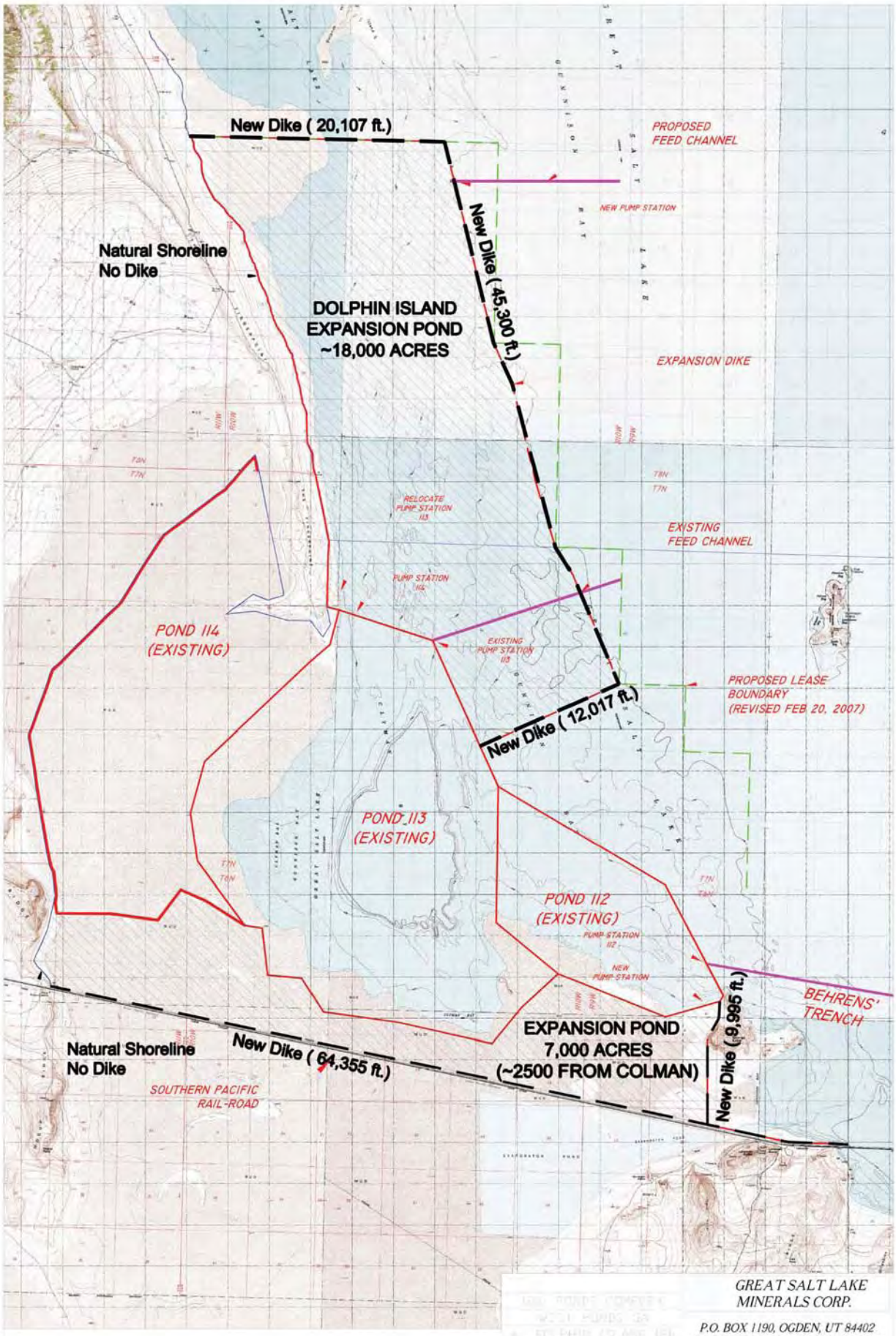

GREAT SALT LAKE MINERALS CORP.

P.O. BOX 1190, OGDEN, UT 84402
PH (801) 731-3100 FX (801) 731-4881

Public Notice

US Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922

Public Notice Number: SPK-2007-00121
Date: October 25, 2007
Comments Due: December 3, 2007
In reply, please refer to the Public Notice Number

SUBJECT: The U.S. Army Corps of Engineers, Sacramento District, (Corps) is evaluating a permit application to construct the Great Salt Lake Solar Evaporation Ponds Expansion Project, which would result in impacts to approximately 30,713.75 acres of waters of the United States, including wetlands, in or adjacent to the Great Salt Lake. This notice is to inform interested parties of the proposed activity, to provide notice that the Corps is preparing a draft Environmental Impact Statement, and will be conducting public scoping meetings, and to solicit comments. This notice may also be viewed at the Corps web site at http://www.spk.usace.army.mil/regulatory.html.

AUTHORITY: This application is being evaluated under Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the United States and Section 401 for water quality certification.

APPLICANT: Corey Milne
Great Salt Lake Minerals Corporation
765 North 10500 West
Ogden, Utah 84404

LOCATION: The project sites are located in and adjacent to the Great Salt Lake, in

Sections 14-22 and 28-32, Township 6 North, Range 4 West;
Sections 5-7, Township 7 North, Range 4 West;
Section 12, Township 8 North, Range 11 West;
Sections 7-10, 15-22, 26-29 and 32-35, Township 8 North, Range 10 West;
Sections 2-5, 8-16 and 22-24, Township 7 North, Range 10 West;
Sections 1, 2, 11 and 12, Township 6 North, Range 11 West;
Sections 5-17, Township 6 North, Range 10 West;
Sections 7, 8, 17 and 18, Township 6 North, Range 9 West, Box Elder County, Utah.

This area can be seen on the Hogup Ridge North and Willard Spur USGS Topographic Quadrangles.

PROJECT DESCRIPTION: In accordance with the National Environmental Policy Act (NEPA), the U.S. Army Corps of Engineers (Corps), Sacramento District, will prepare a draft Environmental Impact Statement (DEIS) for Corps authorization actions for the proposed Great Salt Lake Minerals Solar Evaporation Ponds Expansion project. The overall project purpose is to expand extraction capability for potassium at the Great Salt Lake Mineral Corporation's facilities. The proposed expansion would add approximately 33,000 acres of solar evaporative ponds, impacting approximately 30,713.75 acres of waters of the United States, and reducing the need to import raw potassium from other sources. The DEIS will address impacts such as wildlife habitat, water quality, Great Salt Lake water elevations, wetlands, hydrology, cultural resources, transportation, endangered species and industry.

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In addition, on the west side of the lake, two new solar ponds would be added to the existing west side complex, an 18,000-acre Dolphin Island expansion pond and a 7,000-acre pond at the southern end of Clyman Bay between the Union Pacific Railway and several existing ponds. A new feed canal into the lake and a new pump station would be constructed on the north end of the proposed Dolphin Island pond. Diesel driven pumps, similar to those currently in use, would pump brine from the new feed canal to the new pond. Existing pumps would be used to pump brine from the new pond to an existing pond. The total 25,000-acre pond expansion on the west side would increase the concentration of brine transferred to an existing gravity-flow trench for transport to the east ponds in the Bear River Bay.

Dikes would be built to accommodate the pond expansion and impound the waters of the respective areas. On the east side of the lake approximately 540,000 cubic yards of fill would be discharged into Bear River Bay to create the dikes. On the west side of the lake, dike construction would require approximately 900,000 cubic yards of fill to be discharged into open water in the vicinity of Clyman Bay.

The proposed project areas currently include saline open water, sporadically inundated playa lakebed, seasonally flooded playa, saline wetlands, rip-rapped dikes and sandy upland habitats. These areas are located adjacent to the existing evaporation pond facilities. The Corps of Engineers verified a delineation on October 10, 2007 which identified approximately 34,180.08 acres of waters of the United States, including 21.4 acres of saline wet meadow wetlands, 1,102.94 acres of seasonally inundated playa above the high water mark of the western side of the Great Salt Lake and 33,055.74 acres of seasonally or sporadically inundated playa lake bed below the high water mark of the Lake. The applicant asserts that approximately 30,713.75 acres of waters would be lost due to project construction under the proposed alternative.

Alternatives. The applicant has not provided information concerning project alternatives. Other alternatives may develop during the review process for this permit application. All reasonable project alternatives, in particular those which may be less damaging to the aquatic environment, will be developed and analyzed during the preparation of the DEIS.

Mitigation. The Corps requires that applicants consider and use all reasonable and practical measures to avoid and minimize impacts to aquatic resources. If the applicant is unable to avoid or minimize all impacts, the Corps may require compensatory mitigation. The applicant has not proposed a mitigation plan at this time. The determination of appropriate compensatory mitigation will be determined through public scoping and impact analysis of the EIS process.

OTHER GOVERNMENTAL AUTHORIZATIONS: Under Section 401 of the Clean Water Act, water quality certification or a waiver is required from the State of Utah for this project. The Utah Division of Water Quality intends to issue certification, provided the proposed work will not violate applicable water quality standards. Projects are usually certified where the project may create diffuse sources (non-point sources) of wastes which will occur only during the actual construction activity and where best management practices would be employed to minimize pollution effects. Written comments on water quality certification should be submitted to Ms. Shelly Quick, Utah Division of Water Quality, 288 North 1460 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870, on or before **December 3, 2007**.

HISTORIC PROPERTIES: Based on the available information, cultural resources not are within the project's area of potential effect. If information regarding the impacts to Historic Properties is identified during the EIS process, the Corps will initiate consultation with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act, as appropriate.

ENDANGERED SPECIES: Based on available information the project will not affect any Federally-listed threatened or endangered species.

ESSENTIAL FISH HABITAT: The proposed project will not adversely affect Essential Fish Habitat (EFH) as defined in the Magnuson-Stevens Fishery Conservation and Management Act.

The above determinations are based on information provided by the applicant and our preliminary review.

EVALUATION FACTORS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the described activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources.

The benefit, which reasonably may be expected to accrue from the described activity, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the described activity will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people. The activity's impact on the public interest will include application of the Section 404(b)(1) guidelines promulgated by the Administrator, Environmental Protection Agency (40 CFR Part 230).

The Corps is soliciting comments from the public, Federal, State, and local agencies and officials, Indian tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

SUBMITTING COMMENTS: Written comments, referencing Public Notice SPK-2007-00121 must be submitted to the office listed below **on or before December 3, 2007.**

Jason Gipson, Project Manager
US Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Email: jason.a.gipson@usace.army.mil

The Corps is particularly interested in receiving comments related to the proposal's probable impacts on the affected aquatic environment and the secondary and cumulative effects. Anyone may request, in writing, that a public hearing be held to consider this application. Requests shall specifically state, with particularity, the reason(s) for holding a public hearing. If the Corps determines that the information received in response to this notice is inadequate for thorough evaluation, a public hearing may be warranted. If a public hearing is warranted, interested parties will be notified of the time, date, and location. Please note that all comment letters received are subject to release to the public through the Freedom of Information Act. If you have questions or need additional information please contact the applicant or the Corps' project manager Jason Gipson, 801-295-8380 x 14, jason.a.gipson@usace.army.mil.

Attachments: 7 drawings

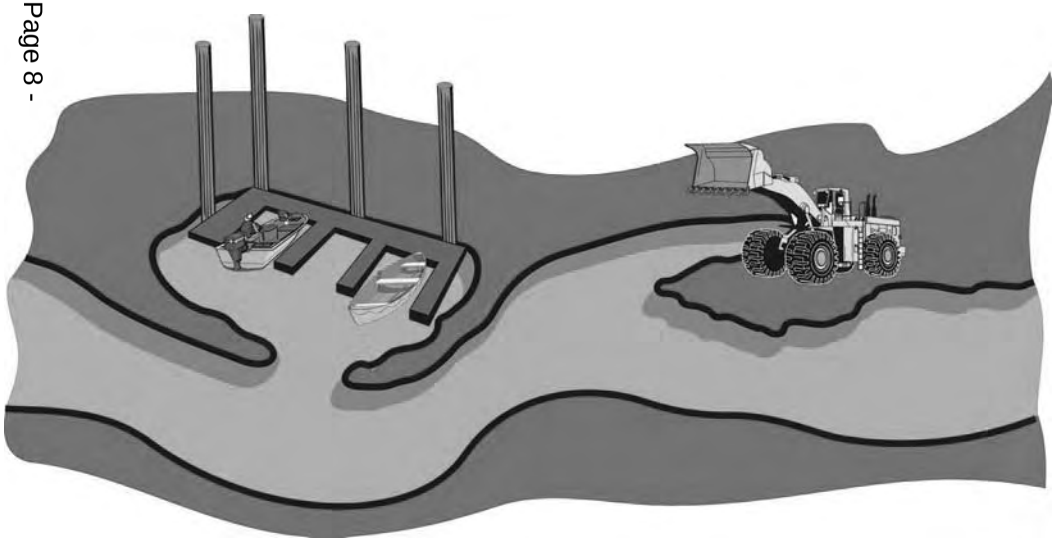
History

The U.S. Army Corps of Engineers has been involved in regulating certain activities in the nation's waters since 1890. Until 1968, the primary thrust of the Corps' regulatory program was the protection of navigation. As a result of several new laws and judicial decisions, the program evolved to one that considers the full public interest by balancing the favorable impacts against the detrimental impacts.

You Can Help

The understanding and support of the American people is vital to the success of this program. To protect our nation's water resources and assure their use and enjoyment for future generations, we must all join this vital effort. We ask your help in "passing the word" to others concerning the permit requirements outlined in this brochure and solicit your views and comments on better ways of attaining the goals of this program. Your comments, questions, and suggestions should be directed to one of our Regulatory Offices.

For additional information or to apply for a permit, please contact one of our Regulatory Offices or see our web site at ***http://www.spk.usace.army.mil/cespk-co/regulatory/***.



SPK BRO 360-1-12, MAY 04

US Army Corps of Engineers ®
Sacramento District

Permit Program

http://www.spk.usace.army.mil/cespk-co/regulatory/

Corps of Engineers Regulatory Program

Water is one of our nation's most valuable resources. It is becoming increasingly important that we protect the quality of our inland waters and wetlands for the use and benefit of future generations.

This brochure discusses the regulatory program of the U.S. Army Corps of Engineers: What it is, how it began, how it may affect you, and what you as a concerned American can do to help.

If you are planning work in a river, stream, lake, or wetand, a Corps permit may be required.

The program provides for the consideration of all concerns of the public (environmental, social, and economic) in the Corps' decision-making process to either issue or deny permits. As part of its responsibility to protect water quality, the Corps of Engineers Section 404 permit program extends to many areas that were not regulated prior to the Clean Water Act.

The purpose of the Clean Water Act is to insure that the physical, biological, and chemical quality of our nation's water is protected from irresponsible and unregulated discharges of dredged or fill material that could permanently alter or destroy these valuable resources.

What Work Requires a Permit?

Section 10 of the Rivers and Harbors Act of 1899 requires approval prior to the accomplishment of any work in or over navigable waters of the United States, or which affects the course, location, condition, or capacity of such waters. Typical activities requiring Section 10 permits are:

- Construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats, intake structures, and cable or pipeline crossings.
- Dredging and excavation.

Section 404 of the Clean Water Act requires approval prior to discharging dredged or fill material in the waters of the United States, including wetlands. Typical activities requiring Section 404 permits are:

- Depositing of fill or dredged material in waters of the United States or adjacent wetlands.
- Site development fills for residential, commercial, or recreational developments.
- Construction of revetments, groins, breakwaters, levees, dams, dikes, and weirs.
- Placement of riprap and road fills.
- Mining, channalization, ditching or, sediment removal which involves more than "incidental fall-back" of dredged material.

Who Should Obtain a Permit?

Any person, firm, agency (including governmental agencies) planning to work in Navigable Waters of the United States, or place dredged or fill material in waters of the United States, must first obtain a permit from the Corps of Engineers. Permits, licenses, variances, or similar authorization may also be required by other Federal, State, and local statutes.

Waters of the United States

Waters of the United States include essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. "Wetlands" are areas characterized by growth of wetland vegetation (bulrush, cattails, rushes, sedges, willows, pickleweed, iodine bush) where the soil is saturated during a portion of the growing season or the surface is flooded during some part of most years. Wetlands include marshes, alpine wet meadows, vernal pools, playas, seasonally saturated depressions and similar areas.

The landward regulatory limit for non-tidal waters (in the absence of adjacent wetlands) is the ordinary high water mark. The ordinary high water mark is the line on the shores established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank: shelving; changes in the character of the soil: destruction of terrestrial vegetation: the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas.

Navigable Waters

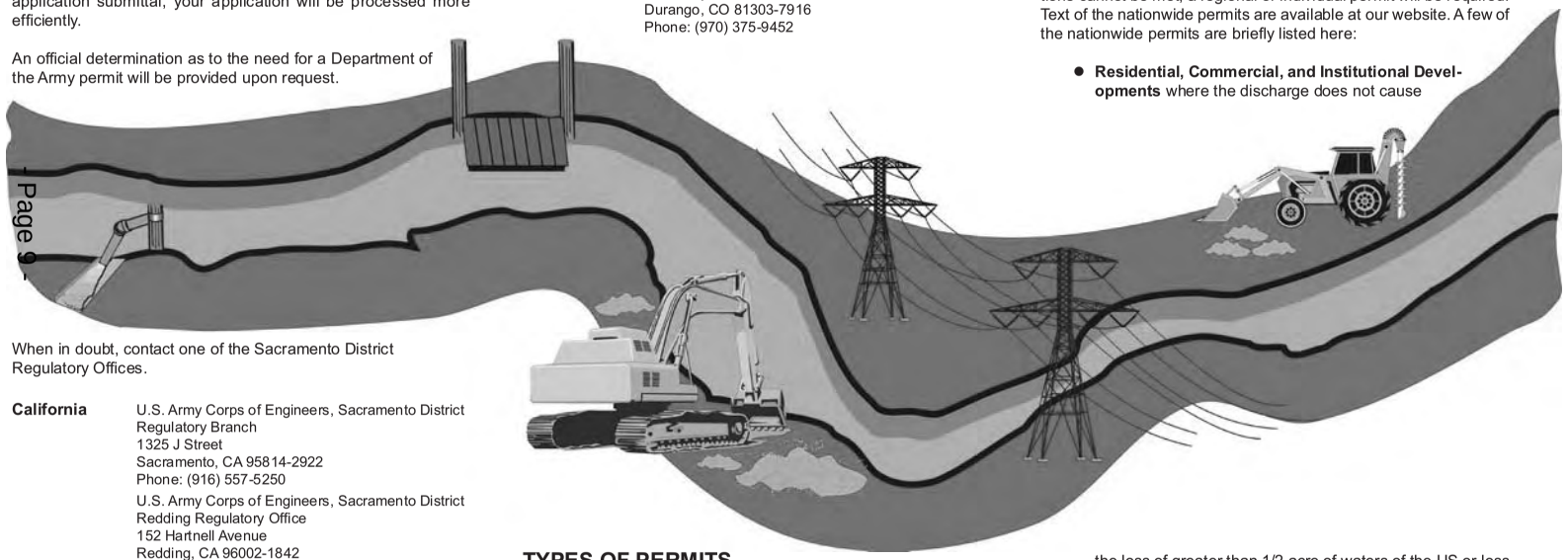
Navigable waters are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation. Section 10 and/ or Section 404 permits are required for construction activities in these waters. A complete list is available in the District Office and on our website at ***http://www.spk.usace.army.mil/cespk-co/regulatory/***.

Pre-Application Consultation

You are encouraged to contact the Sacramento District Corps of Engineers for proposed work in waters in this jurisdictional area (see map this side).

Exemptions, nationwide, regional and individual permit requirements will be reviewed. By discussing all information **prior** to application submittal, your application will be processed more efficiently.

An official determination as to the need for a Department of the Army permit will be provided upon request.



When in doubt, contact one of the Sacramento District Regulatory Offices.

California
U.S. Army Corps of Engineers, Sacramento District
Regulatory Branch
1325 J Street
Sacramento, CA 95814-2922
Phone: (916) 557-5250

U.S. Army Corps of Engineers, Sacramento District
Redding Regulatory Office
152 Hartnell Avenue
Redding, CA 96002-1842

Nevada
U.S. Army Corps of Engineers, Sacramento District
Nevada Regulatory Office
C. Clifton Young Federal Building
300 Booth Street, Room 2103
Reno, NV 89509-8126
Phone: (775) 784-5304

Utah
U.S. Army Corps of Engineers, Sacramento District
Intermountain Regulatory Section
533 West 2600 South, Suite 150
Bountiful, UT 84010
Phone: (801) 295-8380

U.S. Army Corps of Engineers, Sacramento District
St. George Regulatory Office
321 N. Mall Drive, Suite L-101
St. George, UT 84790-7314
Phone: (435) 986-3979

Northwestern Colorado
U.S. Army Corps of Engineers, Sacramento District
Grant Junction Regulatory Office
Wayne N. Aspinall Federal Building
402 Rood Avenue, Room 142
Grand Junction, CO 81501-2563
Phone: (970) 243-1199

U.S. Army Corps of Engineers, Sacramento District
Frisco Regulatory Office
310 W Main, Suite 202, P.O. Box 607
Kremmling, CO 80443-0607
Phone: (970) 724-9036

Southwestern Colorado
U.S. Army Corps of Engineers, Sacramento District
Durango Regulatory Office
278 Sawyer Drive #1
Durango, CO 81303-7916
Phone: (970) 375-9452

TYPES OF PERMITS

Individual Permits

Individual permits are issued following a full public interest review of an individual application for a Department of the Army permit. A public notice is distributed to all known interested persons. After evaluating all comments and information received, final decision on the application is made.

The permit decision is based on compliance with Section 404(b)(1) guidelines and the outcome of the public interest balancing process where the benefits of the project are balanced against the detriments. A permit will be granted unless the proposal is found to be contrary to the public interest or fails to meet the guidelines. Process time usually takes 60 to 120 days unless a public hearing is required, an environmental impact statement must be prepared, or compliance with other Federal laws Is required.

To apply for an individual permit, an application form along with plan and profile drawings must be submitted. The form Is available from our Regulatory Offices and on our web site at ***http://www.spk.usace.army.mil/cespk-co/regulatory/***.

Nationwide Permits

A nationwide permit is a form of general permit which authorizes a category of activities throughout the nation. These permits are valid only if the conditions applicable to the permits are met. If the conditions cannot be met, a regional or individual permit will be required. Text of the nationwide permits are available at our website. A few of the nationwide permits are briefly listed here:

- **Residential, Commercial, and Institutional Developments** where the discharge does not cause the loss of greater than 1/2 acre of waters of the US or loss of greater than 300 linear-feet of stream bed unless for intermittent streams written waiver is obtained. Advanced written notification is required if the discharge exceeds 1/10 acre of waters of the US, the discharge causes the loss of open waters, or the discharge causes the loss of greater than 300 linear-feet of intermittent stream bed.

- **Repair, rehabilitation, or replacement** of a structure or fill which was previously authorized and currently serviceable. The structure or fill must not be significantly changed.

- **Utility lines** placed across a waterway. Discharge of bedding and backfill material is permitted if bottom contours are not changed.

- **Single projects of less that 25 cubic yards** of fill or excavation. Piecemeal work is not authorized. Advance written notification is required.

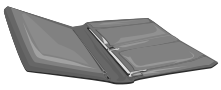
- **Bank stabilization** projects less than 500 feet long containing less than an average of one cubic yard of material per running foot. The activity must be necessary for erosion protection and may not exceed the minimum amount needed for erosion protection. Fill is not to be placed in wetland areas or in a manner that impairs water flow. Materials free of waste metal products and unsightly debris must be used and the activity must be a single complete, project.

- **Linear Transportation Projects** provided the discharge does not cause the loss of greater than l/2 acre of non-tidal waters or 1/3 acre of tidal waters. Advanced written notification is required if the discharge causes greater than 1/10 acre of waters or if the discharge occurs in a special aquatic site, including wetlands.

Regional permits are issued by the District Engineer for a general category of activities when (1) the activities are similar in nature and cause minimal environmental impact (both individually and cumulatively), and (2) the regional permit reduces duplication of regulatory control by State and Federal agencies.

Contact one of the Sacramento District Regulatory Offices, or see our website, for information regarding regional permits in your area.

Jurisdiction Review Process



Wetland Delineation
or
Jurisdictional Request

Is the project in a Waters of the US?

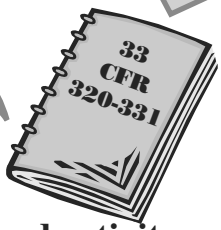
No

No Permit Required…

Yes

Submit Permit Application

Yes

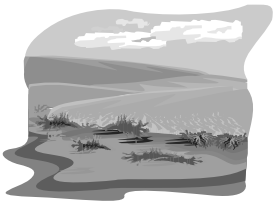


Is proposed activity regulated?

No

No Permit Required…

Permit Application Review Process



Avoidance

Minimization

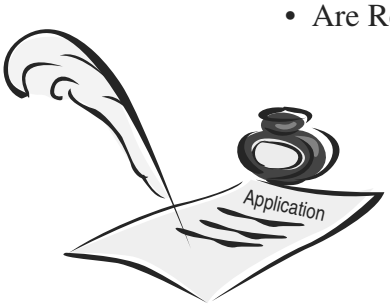
No avoidance

- Are individual and cumulative environmental impacts minimal?
- Is area of impact less than $^{1}/_{3}$ – ½ acre?
- Are Nationwide General Permit (NWP) criteria and conditions met?
- Will compensatory mitigation be needed to reduce impacts?

OR

- Are Regional General Permit (GP/RP) criteria and conditions met?

No Permit Required –
Life goes on …



Application must be evaluated
as a Standard (Individual) Permit
(*see next page*)

No

Yes

401 WQ Certification
SHPO concurrence
ESA consultation
Floodplain review
et. al.

Corps verifies
compliance with
NWP or RP

ragebhart

Individual Permit Review Process

Application

Optional pre-application meeting(s)
(can include coordination with resource agencies)

Reviewed for completeness

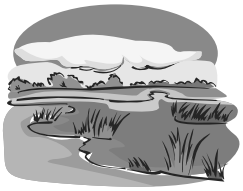
More complete information provided

Corps issues Public Notice for proposed project

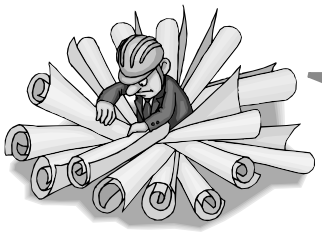
Public & resource agency comments

Public interest evaluation factors

Public Interest Review
15-30 days later…

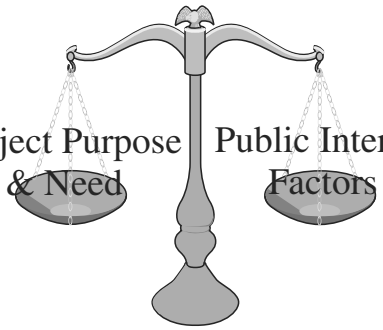


Mitigation

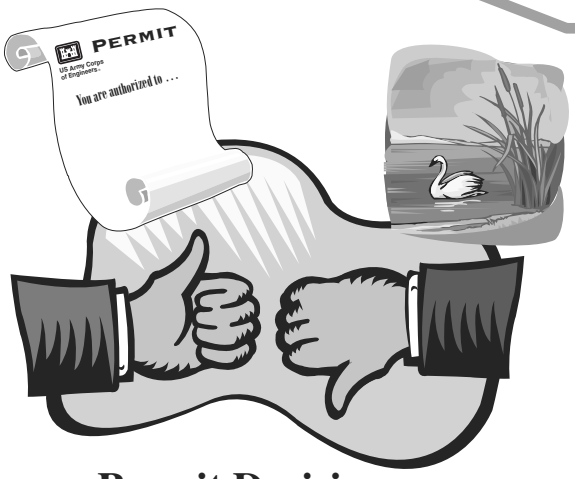


Alternatives

Unavoidable impacts



404(b)(1) Guidelines



Permit Decision

401 Water Quality Certification
REQUIRED

Cultural Resources (SHPO)

ESA consultation (FWS / NMFS)

ragebhart

Great Salt Lake Minerals Corporation
A Compass Minerals Company

Great Salt Lake Minerals Potassium Sulfate Expansion

Great Salt Lake Minerals Corporation (GSL) has been operating on the shores of the Great Salt Lake near Ogden, Utah since 1970. The company produces common salt, potassium sulfate (also known as sulfate of potash or SOP) and magnesium chloride, which is a natural deicing and de-dusting agent. GSL uses shallow solar ponds formed by low earthen dikes to extract these minerals from the Great Salt Lake through solar evaporation.

GSL is pursuing the expansion of its solar evaporation ponds in order to produce more potassium sulfate, a high-quality certified-organic fertilizer. The company is working closely with regulatory agencies to evaluate and responsibly implement its planned expansion with attention to the public's interests as well as its own.

Potassium Sulfate Production

All food crops require potassium, nitrogen and phosphorous. Potassium sulfate is a specialty potassium fertilizer that also contains beneficial sulfur. Unlike the most-common potassium fertilizer, muriate of potash, potassium sulfate does not contain chlorides which can be detrimental to the root systems of many food crops.

To produce potassium sulfate, water from the north arm of the Great Salt Lake is pumped to 23,000 acres of solar evaporation ponds on the west side of the lake. As water gradually evaporates from the brine, the potassium concentration is increased. This pre-concentrated brine is transferred to 22,000 acres of solar ponds on the east side of the lake through the Behrens Trench, a canal that runs 21 miles along the bottom of the lake. On the east side of the lake, the brine flows through another series of ponds where it further concentrates through solar evaporation from May through September.

Over the course of the three-year solar evaporation process, minerals naturally precipitate out of the brine in a predictable sequence. The first product to precipitate is sodium chloride crystals, or common salt. Continued evaporation in the subsequent series of ponds produces a mix of potassium salts comprised of potassium, magnesium, sodium, chloride and sulfate. Magnesium chloride brine is the final product of this process.

The potassium minerals are harvested from the ponds from September through May and transported by truck to the plant for purification and conversion to potassium sulfate. The potassium sulfate plant does not consume or produce any hazardous chemicals or generate hazardous waste byproducts.

Pond Expansion Project Description

To expand potassium sulfate production from the Great Salt Lake, GSL proposes to add solar evaporation ponds adjacent to its existing ponds on the east and west sides of the Great Salt Lake.

Clyman Bay (West Ponds) Expansion

GSL operates 23,000 acres of solar evaporation ponds at Clyman Bay and seeks to construct a new 18,000-acre solar pond in the Great Salt Lake between the existing ponds and Dolphin Island to the north. A new feed canal into the lake and a new pump station would be constructed on the north end of

this new pond. Diesel-driven pumps, similar to those currently in use, will pump brine from the new feed canal to the new pond. Existing pumps will be used to flow brine from the new pond to an existing pond.

GSL also seeks to construct a new 7,000-acre solar evaporation pond between the existing ponds and the railroad to the south. GSL has existing leases from the State of Utah for all but 2,500 acres of this area. The remaining area is State School Trust Land under lease to a third party. Brine will flow by gravity from an existing pond to this new pond. A new pump station will pump brine from this new pond back to an existing pond.

This combined 25,000-acre expansion will increase the concentration of brine transported through the Behrens Trench to the Bear River Bay ponds.

Bear River Bay (East Ponds) Expansion

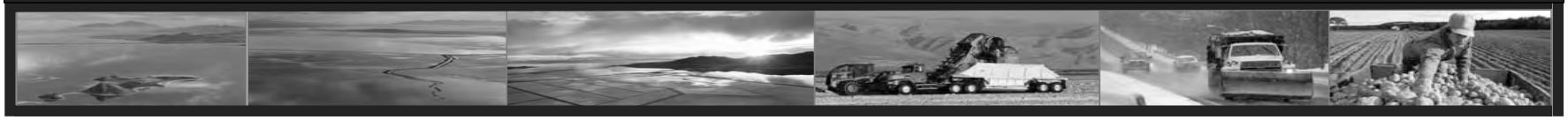
In addition, GSL seeks to construct an 8,000-acre solar pond on existing State Sovereign Lands leases in the Bear River Bay. This new pond area is classified in Utah's March 1, 2000 Great Salt Lake Comprehensive Management Plan and Decision Document as Class 1 - Protect existing resource development uses.

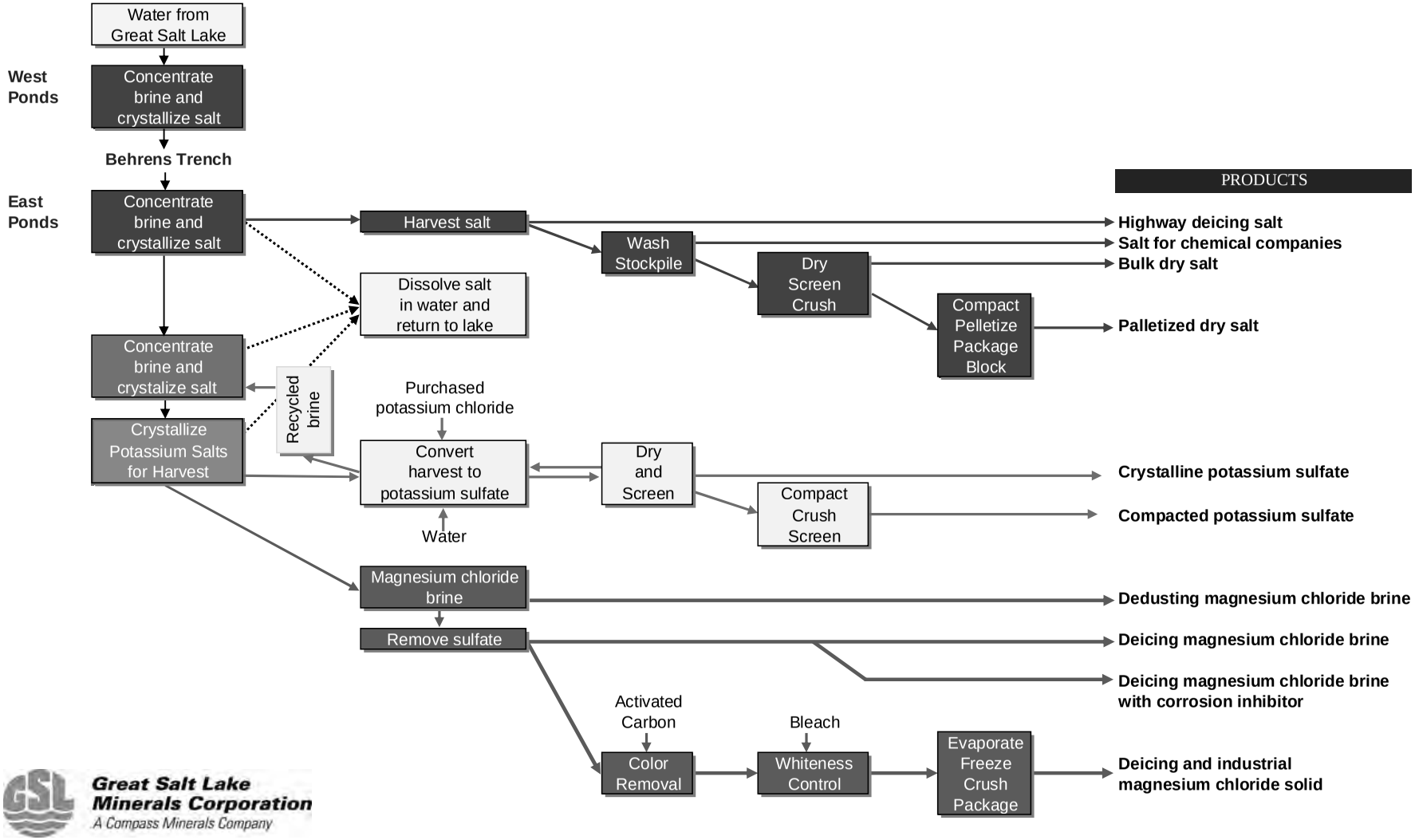
Additional potassium minerals produced from these pond expansions will be harvested from the existing east ponds by reconfiguring the existing pond area for more potassium mineral deposition and harvesting.

Summary

- Great Salt Lake Minerals has used solar evaporation to extract naturally occurring minerals from the Great Salt Lake since 1970.
- During the solar evaporation process, increasingly concentrated lake water progresses through shallow ponds formed by low earthen dikes.
- Lake water must be allowed to evaporate for at least three years to yield organic sulfate of potash fertilizer.
- Great Salt Lake Minerals currently maintains 23,000 acres of solar evaporation ponds at Clyman Bay and 22,000 acres of solar ponds at Bear River Bay.
- The company proposes to add 25,000 acres of ponds to its operations in Clyman Bay and to add 8,000 acres of ponds in Bear River Bay.
- Additional ponds will produce more organic sulfate of potash fertilizer, which is used to produce vegetables, fruits and tree nuts.
- There is currently a significant shortage of potash needed for food crops, including organic potash.
- Great Salt Lake Minerals' production processes do not consume or produce hazardous chemicals or generate hazardous waste byproducts.
- Working closely with regulatory agencies and soliciting public input to determine possible impacts to the natural environment.

Great Salt Lake Minerals Corporation Process Flow





Great Salt Lake Minerals Corporation
A Compass Minerals Company

PRELIMINARY ISSUES TO BE ADDRESSED IN THE ENVIRONMENTAL IMPACT STATEMENT (EIS)

From January through April 2007, the U.S. Corps of Engineers and the Great Salt Lake Minerals Corporation sponsored a series of pre-scoping meetings. Inter-agency meetings included the U.S. Fish and Wildlife Service; Environmental Protection Agency; Utah Division of Wildlife Resources; U.S. Geological Survey; Utah Geological Survey; and Utah Division of Forestry, Fire and State Lands. A non-governmental meeting was held with representatives of the National Audubon Society, Friends of the Great Salt Lake, Great Salt Lake Alliance, and Intermountain West Joint Venture.

The meetings resulted in the formulation of a series of questions or concerns that will be addressed through the Environmental Impact Statement (EIS) process. Continued scoping through agency and public participation in the process may generate additional questions or concerns that will also be addressed as relevant. The preliminary questions and concerns (i.e., issues) are presented on the following two pages.

It is important that the public and agencies make the effort to express their questions, concerns, and opinions to ensure that all relevant issues are identified and subsequently addressed in the EIS.

At the back of this informational packet is a written comment form. If you have additional comments or issues, please take the time to express them in writing. Written comments would be appreciated by December 17, 2007.

Clyman Bay

- **Change in Salinity Concentration of South Arm.** Would any change in saline density from pond expansion in North Arm affect flow into South Arm and affect salinity levels in South Arm?

- **Mobility and Uptake of Heavy Metals in South Arm**. If there is change in salinity, could selenium or mercury metals be freed and become contaminants within the productive South Arm food chain?

- **Waters of the United States**. Would Waters of the United States or special aquatic features be impacted by the proposed project?

- **White Pelican Disturbance at Gunnison Island**. Would pond expansion and associated dike construction impact the White Pelican nesting colony on Gunnison Island?

- **White Pelican Nest Predation at Gunnison Island**. Would new dikes act as predator conduits to the island?

- **Shorebird Nesting and Use, Particularly Snowy Plovers.** Does the shoreline provide habitat for shorebirds, especially to snowy plovers, which use mud flats and vegetated mud flats for nesting?

- **Avian Use, Including Raptor Nesting, of Shoreline to the North, Including Dolphin Bay**. Would construction of the proposed expansion pond affect wildlife use?

- **Cultural Resources.** Would the proposed project adversely affect any Cultural Resource (i.e., historic, archaeological, or Native American)?

- **Change in Shrimp Production or Availability**. Would changes in water quality or circulation affect brine shrimp production? Would any changes affect the shrimp harvesters?

- **Recreation**. Would the solitude of the area be affected and, if so, would this affect recreational opportunities?

Bear River Bay

- **Heavy Metal Contamination of Bear River Bay.** Would maintenance flushing of the new pond at Bear River Bay affect existing water quality? Would flushing mobilize heavy metals or other contaminants?

- **Potential Nutrient Loading at Bear River Bay.** Would maintenance flushing of the new pond increase nutrient loading of Bear River and subsequently affect the lake ecosystem?

- **Waters of the United States**. Would Waters of the United States or special aquatic features be impacted by the proposed project?

- E**ffect on Large Population of Canada Geese During Molting**. It appears this area is habitually used by up to 10,000 non-breeding geese for molting purposes. Would a new evaporation pond affect this use?

- **Effect on Water Bird Use of Open Water.** Bear River Bay is considered a very important area of open water for birds. Would the water bird use be affected by the impoundment? Fresh water exchange between Willard Spur and Bear River Bay is important to maintain ecological conditions. Would s large new pond affect water flow between the two areas?

- **Change in Shrimp Production or Availability**. Would changes in water quality or circulation affect brine shrimp production? Would any changes affect the shrimp harvesters?

- **Recreation.** Would waterfowl hunters have concerns regarding access and affect on waterfowl?

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

If you have additional comments or issues, please take the time to express them in writing. Please submit your written comments by December 17, 2007.

Comment Form

Name: _____ **Address:** _____

_____

_____

Representing (optional): _____ **Self** _____ **Other** (please specify) _____

Comments or Concerns:

_____

_____

_____

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fold over

BIO-WEST, Inc.
1063 West 1400 North
Logan, UT 84321

place postage here

Jason Gipson, Project Manager
(Public Notice SPK-2007-00121)
U.S. Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, UT 84010

fold over

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

November 7, 2007
5pm - 9pm

Public Meeting: *South Davis Junior High School*
298 W. 2600 South
Bountiful, Utah

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Rob Baskin	USGS 2329 W. Orton, WVC, UT 84119	USGS
MATHEW SMITH	3868 WESTWOOD DR. OGDEN UT 84414	THE PINTAIL DUCK CLUB
Dick Clark.	1595 Wynkoop st Denver 80202	USEPA
Kathleen Anderson	713 Woodland Hills Bountiful UT 84010	USACE
Scott Stoddard	3326 S. 400 E Bountiful, UT 84010	USACE
Jack Greene	500 Summit Creek Dr Smithfield, 84335	Audubon
Bryan Dixon	10 Heritage Cove Logan, UT 84321	Bridgeland Audubon
Sam Kramer	~~5305~~ 515E 5300 S. Ogden 84405	UDWR
John Luft	P.O. Box 145006 SLC 84116	UDWR
Jerald Olsen	2664 W 3900 S Roy, UT	Ducks Unlimited
Charles Fisher	552 No Main Farmington Ut	

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

November 7, 2007
5pm - 9pm

Public Meeting: *South Davis Junior High School*
298 W. 2600 South
Bountiful, Utah

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
R Jeffa Hicks	6680 So 475 E So Weber UT 84405	Utah Airboat Assoc
Steve Smith	1639 E. Lakeview Dr Bntfl UT 84010	UT Waterfowl Assoc
Kirk Thomas	1021 Downington Ave SLC, UT	Western Wildlife Conser
Jeff Pace	4853 Cherrywood Lane WVC Ut 84120	Utah airboats
Lynn Carroll	1563 Swan St Ogden 84401	Wasatch Audubon & self
LYNN PACE	4853 CHERRYWOOD LN W.V.C. 84120	U.A.B.
Mark Olsen	7415 So 700E Midvale Ut. 84047	D.U.

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: Ogden Nature Center
966West 12th Street
Ogden, Utah

November 8, 2007

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Dave Meacham	2859N 850E, N. Ogden UT	—
Arnie Smith	2805 Fillmore Ave. Ogden Ut.	
Jack Rensel	1225 32ND St. Ogden Ut. 84403	Self.
Mary McKinley	1487 Beverly Drive, Ogden, UT 84403	Ogden Nature Center
Phil Alsup	443 N. 2550 W. Ogden, ut. 84404	SELF
Bob VanDyke	2457E 5950 So. Og. UT 84403	Pintail Duck Club
BRANDY CANNON	PO BOX 188 HOOPER, UT 84315	—
Paul Shields	5813 Village Way, So. Ogden UT	Canada Goose/Duck Club
MATTHEW SMITH	3868 N WESTWOOD DR. OGDEN UT 84414	PINTAIL CLUB
William Thorpe	1213 Hudson Ogden ut	
Buddy Elliott	5010 S. 2125 W. Roy, UT	

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Ogden Nature Center*
966West 12th Street
Ogden, Utah

November 8, 2007

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Cheryl Smith	2865 N 150 W N Ogden 84414	Self
Steve Hicks	408 E 850 N Brigham City	[illegible]
Sherry Tolman	475 E 485 N Ogden UT 84404	GSC
Jack Tolman	" " " " "	Self
LARRY Schulte	8114 West 135th ST D Overland Park KS	Self
John Urbanic	537 W. 2200 S.	Self
R. Jeffre Hicks	6680 So 475 E So. Weber UT 84405	Utah Airboat Assoc
Richard Noble	638 W. 2525 S. Syracuse UT. 84075	" " "
[illegible]	3703 N. 2000 W. Farr West, UT. 84404	Self
[illegible]	5477 S 200 E Ogden UT 84405	Self

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: Ogden Nature Center
966West 12th Street
Ogden, Utah

November 8, 2007

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Gary Slat	777 Mueller st	Bear River Club
Jim Hall	858 N 4100 W West Point Ut 84015	
Ronald Smith	2865 N. 150 W.	
Jeff Farr	56 S. Meadow Rd Mantua UT 84324	UTAH Airboat Assn.
Pete Hansen	5714 S 5500 W Hooper Ut 84315	UTAH AIRBOAT ASSN
[illegible]	2604 [illegible] 84403	Utah
Lex Shaw	2885 N 750 E Ut 84414	Utah ~~Airboat~~
Marilyn O'Dell	1120 Canyon Rd. #26 84404 Utah	Self
Al Trout	2670 N. 750 E. 84411 UT	Self
Tom Walker	631 No. 600 E Brigham City, 84203 UT	BEWF
Ron Costel	1551 [illegible] Rd Logan UT 84321 Ut	Self

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Ogden Nature Center*
966West 12th Street
Ogden, Utah

November 8, 2007

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
TROY THOMPSON	2803 S. 2675 W. SYRACUSE UT. 84075	DELTA WATERFOWL
DAVE CASPERSON	4163 W 4000 No. PLAIN CITY, UT 84404	UTAH AIRBOAT ASSOC.
Eric Casperson	2206 N 4500 W Plain City, UT 84404	UAB
Chris Colvin	4950 Hollow Road Nibley, UT 84321	Bridgerland Audubon

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

November 14, 2007
5pm - 9pm

Public Meeting: Airport Inn Conference Room
2333 W. North Temple
Salt Lake City, Utah

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Jim VanLeeuwen	450 Havasu St Tooele Ut	Private
Jaimi Butler	1530 S. 700 E. Salt Lake City UT	private
Jason Curry	1594 w. North Temple	UT FFSL
David Gowerson	1596 W. No Temple	UT FFSL
Bruce Fowler	6130 Winnetka Ave, Woodland Hills, CA	Private
Susan White	DOGM 1594 W North Temple SLC 84115	DOGM
Don S. Paul	5928 River View Cir. MT. Green UT 84050	
Kathleen Anderson	533 W 2600 South, #150 Bountiful UT 84010	USACE
LYNN PACE	4853 CHERRYwood LN W. V. C. UT 84128	Ducks Unlimited
Sarah Miley	58 N. Main St. Tooele, Ut 84074	Tooele Transcript Bulletin
Wayne Martinson	549 Cortez St	National Audubon

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

November 14, 2007
5pm - 9pm

Public Meeting: Airport Inn Conference Room
2333 W. North Temple
Salt Lake City, Utah

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
NANCY KEATE	UDWR 1594 W. No. Temple #2110	Wildlife Resources
JORO WALKER	425 east 100 S, SLC, UT 84109	WESTERN RESOURCE adv.
Nathan Darnall		US FISH + WILDLIFE
Greg Hansen	1858 E 1300 S SLC, UT 84108	
John Neill	1052 Roosevelt Ave SLC, UT 84105	
Katie Pearce	577 7th Ave 84103	FRIENDS of Great Salt Lake
Jennifer Wigaina	1594 W. North Temple SLC UT 84108	FFSL
KIMBO BIRKINSHAW	1194 DEL RIO Holladay UT 84117	UTAH Air boat Inc.
JOHN RUPLE	—	STATE OF UTAH
[illegible]	[illegible]	Self
[illegible]	1172E. 600S. SLC. 84102	FRIENDS of Great Salt Lake

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

November 14, 2007
5pm - 9pm

Public Meeting: Airport Inn Conference Room
2333 W. North Temple
Salt Lake City, Utah

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Jeff Pace	4853 Cherrywood Lane WVC UT 84120	
Jeff Rice	18529 29th Ave NE Lake Forest Park, WA 98155	
David Butts	3949 W. Sienna Dune Dr. So. Jord. Ut. 84095	
Patty Butts	" " " " " Jordan " "	
Yaeko Bryner	1373 30th St. Ogden, 84403	
Tim Brown	573 7th Ave, SLC, UT 84103	
Linda Bonar	1820 E 3990 So SLC UT 84124	
John Straton	" " "	
Juan C. Arce-Larreta	677 E. 50 N. NSL UT 84054	
Marc Heileson	2159 S 700 E SLC, UT 84106	Sierra Club
PETE KUENNEMANN	1024 1ST AVE, SLC, UT, 84103	" "

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

November 14, 2007
5pm - 9pm

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

Attendance Roster

Please Print

NAME	ADDRESS	REPRESENTING
Charles Cabel	1266 E 500 S SLC, Ut. 84102	Great Salt Lake Photos LLC

APPENDIX C: AGENCY SCOPING COMMENTS

AC-1

Subject: FW: Great Salt Lake Minerals project #200700121
Date: Tue, 4 Dec 2007 08:32:48 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Great Salt Lake Minerals project #200700121
Thread-Index: AcgylT/L+C60rhXLQlWSjDXSP8CFJgD/g2Ow
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:32:49.0726 (UTC) FILETIME=[4F3895E0:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:32:50 -0700 (MST)
X-Spam-Status: No, score=-2.182, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,SUBJ_HAS_UNIQ_ID
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

-----Original Message-----
From: Mike_Nelson@blm.gov [mailto:Mike_Nelson@blm.gov]
Sent: Thursday, November 29, 2007 7:36 AM
To: Gipson, Jason A SPK
Cc: Pam_Schuller@blm.gov; Dave_Murphy@blm.gov; Greg_Thayn@blm.gov; Loretta_Sutton@ios.doi.gov; Peg_Sorensen@blm.gov
Subject: RE: Great Salt Lake Minerals project #200700121

Jason,

Please consider this email to be the official comments of the Bureau of Land Management (BLM) Salt Lake Field Office on the Notice of Intent to prepare an environmental impact statement for the proposed Great Salt Lake Minerals pond expansion project in Box Elder County, Utah #200700121.

The Bureau of Land Management is the owner of a large percentage of the shoreline lands adjacent to this proposed pond expansion project located on the west side of the Great Salt Lake. We believe there is a high potential for impacts to federal lands in connection with this proposal in the following ways:

1) The boundary between the upland owners and the State of Utah on the west side of the Great Salt Lake, while surveyed, it is not well marked in the area and as a result, we believe there is a high potential for impacts to the surface of public lands due to increased vehicle activity. This activity could result in damage to existing improved and unimproved roads in the area

AC-1.01

as well as the potential creation of new roads from construction activity related to the dikes and evaporation ponds. In addition, there could be the need for the proponent to establish staging areas for parking vehicles or storing materials on upland lands to support the construction of the evaporation ponds. These kinds of activities must be permitted through a right-of-way issued by our office. We have not had contact with the proponent regarding the potential use of public lands for this purpose. Inceased motor vehicle activity of the lands could have a negative impact to the surface of lands by widening or creating new roads or staging areas and increasing the potential for soil erosion and potential affects on wildlife in the area.

AC-1.01 (continued)

2) We believe there is a potential that the proponent may need to extract mineral materials consisting of sand, gravel, soil, or fill material from public lands to support the construction of the dikes, berms, or roads necessary to create the solar ponds. Any use of mineral materials from public lands must be purchased from BLM under a mineral material sales contract. Once again, we have had no contact with the proponent regarding the purchasing of this material from us. Removal of mineral materials tends to be a major impact to the surface and can result in the removal of large areas of surface vegataion resulting in increased probability of erosion and loss of wildlife habitat.

AC-1.02

3) We have reason to believe that there could be an adverse affect on shorebird habitat along the west side of the Great Salt Lake as a result of the construction of the ponds. This habitat is significant to both migratory and endemic shorebird species. Careful consideration must be given to any significant fluctuations in salinity that may be caused by the concentrating of brines and increased salinity which could impact habitat.
These shorebirds are also a significant prey base for migratory raptors in the area. We urge that there be good coordination with Utah Division of Wildlife and US Fish and Wildlife Service personnel as they have high levels of expertise (biological as well as jurisdictional) for these species.

AC-1.03

As a result of our concerns and the potential for impacts to public lands and resources, we request cooperating agency status on this EIS process. Please address cooperating agency letters to Glenn Carpenter, Salt Lake Field Manager, 2370 S. 2300 W., Salt Lake City, Utah 84119.

If you have any questions regarding our concerns as described above, you may contact me directly either by email or by phone 801 977-4355.

Mike Nelson
801/977-4355

Public Lands Policy Coordination Office
LYNN H. STEVENS
Director

5110 State Office Building - Capitol Hill – P.O. Box 141107- Salt Lake City, Utah 84114-1107
Phone: (801) 537-9801 Fax: (801) 538-9727

State of Utah
JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

FACSIMILE COVER SHEET

Date: December 3, 2007
Time: 4:10 pm
Number of Pages Including Cover Sheet: 9

TO: Jason Gipson	***FROM:*** Carolyn Wright
FAX NO: 801/295-8842	

Comments: SPK-2007-00121

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Office of the Governor
PUBLIC LANDS POLICY COORDINATION

JOHN HARJA
Director

RESOURCE DEVELOPMENT COORDINATING COMMITTEE
Public Lands Section

November 28, 2007

Mr. Jason Gipson
US Army Corps of Engineers
533 West 2600 South
Suite 150
Bountiful, Utah 84010

SUBJECT: Public Notice No. SPK-2007-00121
Project No. 07-8597

Dear Mr. Gipson:

The Resource Development Coordinating Committee (RDCC) has reviewed the Army Corps of Engineers (ACOE) Notice of Intent to prepare an Environmental Impact Statement for the Great Salt Lake Minerals (GSLM) Solar Evaporation Ponds Expansion Project within the North Arm and Bear River Bay areas of the Great Salt Lake (GSL). State agencies comment as follows:

AC-2

Division of Oil, Gas and Mining

This permit will require a revision to the mining and reclamation plan after the 404 permit is issued. Coordination during the EIS process is requested to maximize efforts and minimize conflicts. AC-2.01

Division of Wildlife Resources

AC-3

Potential impacts to Clyman Bay and Bear River Bay salinity, habitat, and ecology

The GSL has hemispheric importance to migratory waterbirds (waterfowl, shorebirds, and wading birds), as many species use the lake for nesting, feeding, and staging areas. At times, millions of birds may be found on GSL and the surrounding wetland/upland habitat complexes. Because GSL is a dynamic system, with the lake elevation changing seasonally and annually, the AC-3.01

5110 State Office Building, PO Box 141107, Salt Lake City, Utah 84114-1107 • telephone 801-537-9230 • facsimile 801-537-9226 • 801-538-9727

AC 3.01
(Continuing)

abundance and location of habitats continually change over time. These changes create a continual diversity and continuity of available habitats, such that wildlife will move around GSL to find those habitats, which supply their needs. It is in part because of this habitat diversity that GSL has become critically important to wildlife, with the lake sometimes supporting over half of the worldwide populations of eared grebes, American avocets, snowy plover, California gull and white-faced ibis.

When trying to understand wildlife populations on GSL, the waters and habitats within and surrounding the lake environment must be evaluated in the context of the current lake elevation, along with an understanding of the ever-changing water elevations and precipitation events. Dikes for evaporation ponds effectively constrain the waters of the GSL. The effect is to reduce the extent of the lake's natural littoral zone. In many areas, the natural shore of the GSL has a low gradient bottom and slopes gradually from the shore into the water, creating expansive shallow water environments. Avian use of the GSL waters and habitats can shift greatly with these subtle changes in lake elevation because of the low gradient bottom.

The EIS should analyze whether the presence of evaporation ponds in both Clyman Bay and Bear River Bay may eliminate a large portion of mudflat and shoreline habitat made available as wildlife habitat during these dynamic shifts in lake elevation.

Both birds and evaporation ponds require the same type of habitat (extensive mudflat and shallow littoral zones surrounding GSL). The extent of these areas is limited, given the long-term average of the lake and all of the current development within these areas. Evaporation ponds (GSLM ponds and other companies' ponds) currently cover 118,153 acres. At low lake levels, the salinity concentration increases in the north arm to levels beyond what wildlife and invertebrates can tolerate, which is an environment similar to evaporation ponds. Between the developed ponds and the high salinities of the North Arm, at low lake elevations, the total lake and pond area unsuitable for bird habitat around the lake increases to 480,429 acres. This accounts for 43% of the current total lake and pond surface area, leaving only 57% of the total potential habitat available for bird use. This underscores the tremendous value of the remaining habitat. The creation of additional ponds would remove even more habitat from this already diminished habitat base for waterbirds. The EIS should analyze the cumulative effects of these and other influences on GSL and its avian wildlife. We recommend the ACOE to evaluate the additive nature of such large-scale impacts on birds. The following points should be analyzed under the EIS:

- The effects the project may have on migrating and breeding birds utilizing these habitats at a variety of lake levels and associated salinities. AC-3.02

- The cumulative impacts on GSL from the mineral evaporation pond creation, operation,

and maintenance. The foreseeable future impacts to both Clyman Bay and Bear River Bay from the proposed GSLM project expansion, evaluated in the cumulative context of habitats and waters already lost during the past 40 years of mineral extraction processes. AC-3.02 (Continuing)

- Whether the construction, operation, or maintenance of the evaporation ponds affect levels of heavy-metal contaminants such as selenium or mercury (via stirring up lake sediments during construction; flushing of brine/salts from the ponds; etc.)? If so, the potential impacts to resident and migratory waterbirds. Whether the contaminants may enter the water column and then move through the food chain (algae, brine flies, brine shrimp, birds). Within the last 3 years, a food-consumption advisory was issued jointly by the state Department of Health, the Department of Environmental Quality, and the UDWR, regarding high levels of mercury, in particular, in the flesh of 3 duck species (northern shoveler, common goldeneye, and cinnamon teal) inhabiting GSL environments. AC-3.04

- The potential long-term impacts to water quality and salinities associated with the removal of salts from GSL. What are the long-term impacts to water quality, salinities, and the biological values stemming from flushing salts from the ponds in "pulses" into Bear River Bay and with "moving" the salts from Clyman Bay to Bear River Bay? What are the potential impacts to algae, wildlife, brine shrimp populations, and the general ecology of each area? AC-3.05

Wildlife concerns associated with Clyman Bay:

Potential impacts to Gunnison Island nesting birds

The EIS should consider whether the construction process and proximity of the lease to Gunnison Island may disrupt nesting of American white pelicans, California gulls, and peregrine falcons. The island supports: American white pelican (mean of 6,850 breeding pairs over the last 10 years); California gull (10,000 - 20,000 breeding adults), peregrine falcon (one pair); great blue heron (historic breeding). Currently there is a protective provision for a one-mile buffer surrounding the island to minimize disturbance. AC-3.06

The buffer is limited, however, in that it does not take into account large, permanent structures, such as dikes which may increase the likelihood of disruption to nesting colonial species. The current dikes in Clyman Bay are approximately 5 miles away from the island and the proposed dikes would be approximately 3 miles away. The proximity of newly constructed dikes may provide predators, as well as human trespassers, easier access to Gunnison Island. Pelicans are known to be highly susceptible to any disturbance and will, at times, totally abandon nesting sites. Pelicans completely abandoned Hat Island (in the South Arm of the GSL) in the 1960's due to human disturbance, primarily hunting. Gunnison Island holds the third largest AC-3.07

breeding colony for American white pelicans in North America. The protection of this habitat is essential in the permitting decisions, given the known nesting site. Juvenile pelicans also may confuse the proposed evaporation ponds with potential foraging sites and become weakened and trapped within them until they succumb to the elements. AC-3.07 (continued)

Potential impacts to other wildlife

Snowy plovers, a state sensitive species, are known to use mudflat habitats for nesting, similar to those habitats found along the western shoreline of the GSL. No formal vegetation or wildlife studies have been completed in this area and we request that surveys are conducted to ascertain whether habitats occur in the area and whether or not snowy plovers are present. AC-3.08

Constructing dikes and filling of ponds may eliminate fresh-water springs in the leased area. The precise locations of critical wildlife water sources, if any exist, need to be determined because of the essential role which water sources play in determining potential nesting habitat for snowy plovers. Because insufficient data exists, it is unknown whether the presence of permanent ponds on the western shoreline might impact other wildlife species, such as small mammals and raptors. We recommend surveys be conducted to assess the bird and mammal populations present in Clyman Bay prior to authorization of additional pond construction. AC-3.09

Potential impacts to North Arm salinity, habitat, and ecology

Salinity in the North Arm changed substantially as recently as during the "high water years" of the late 1980's and early 1990's. During this time of rising lake level, GSL ecology and available habitats changed dramatically, highlighting the value of North Arm habitats under conditions of fluctuating water elevations. For example, eared grebes (1-3 million) shifted their staging pattern from the South Arm to the North Arm, commercial brine shrimp harvesters moved to the North Arm to follow the shift in the brine shrimp population from the South Arm to the North Arm, brine fly populations shifted to the North Arm and shorebirds and other wildlife shifted / expanded ranges to the North Arm. AC-3.10

Gunnison Bay is currently open for oil and gas leasing, along with mineral extraction leasing. The potential effects of existing and proposed oil and gas wells, in addition to both existing and proposed mineral leasing by GSLM, should be evaluated to determine how cumulative impacts to wildlife, salinities, and water flow could be expected to influence overall ecology of the North Arm. Also, the removal of salts from the North Arm should be evaluated to forecast potential changes to salinities, brine shrimp, and other wildlife over time and at different lake elevations.

Brine flies are the predominant food item for most migratory shorebirds which visit GSL.

During their life cycle they must anchor to bioherms or stromatolites that form on the lake floor. These calcium carbonate structures appear to be essential to the reproductive life cycle of brine flies and are important to the brine shrimp population. At certain times of the year, brine shrimp sustain themselves by feeding on or near these productive structures. The structures are also essential to what is possibly the largest inland U.S. concentration of wintering common goldeneye. The creation of the causeway increased North Arm salinity that made these bioherms unavailable to brine flies.

AC-3.11

However, when GSL elevation increases and the salinity decreases in the North Arm, these structures are again available for use by brine flies. Bioherms are only found in a few areas of the GSL and they have been found within the area of the proposed lease in Clyman Bay. The EIS should consider whether this area of Clyman Bay, if diked as an evaporation pond, will lose its bioherm structures. The bioherms should be mapped to determine if the dikes could be placed to avoid directly or indirectly impacting the bioherms.

Wildlife concerns associated with Bear River Bay and Willard Spur:

Between 1997 and 2001, and again between 2004 and 2006, the UDWR conducted waterbird surveys throughout the GSL to gain an understanding of where different waterbird species were located and determine which habitats the birds were using during different times of the year and during different water elevations. During each of the 8 years from spring through fall, these surveys were conducted either 17 times a year (1997-2001) or 9 times a year (2004-2006). The data from these waterbird surveys is available for review.

Potential impacts to Canada Goose

The south end of Bear River Bay where the expansion is planned has extensive use by molting Canada geese. For example, in 2000, UDWR observed more than 11,500 geese in Bear River Bay. The *Management Plan for the Rocky Mountain Population of Western Canada geese* by the Pacific Flyway Council recognizes Bear River Bay as one of several major molting areas in the Intermountain West. One of the Plan's objectives is to "maintain seasonal breeding, wintering, and molting distributions."

AC-3.12

Molting areas are typically characterized as large remote areas, with limited disturbance and essentially no predators. Consequently these molting area are sensitive to increased human activity, increased accessibility for predators such as foxes, or actions that would reduce the overall size of the area. Canada geese are also long-lived and become attached to traditional areas they use for breeding, wintering, and molting.

Because of the traditional nature of Canada geese and the rarity of suitable areas for

molting on GSL, UDWR recommends the EIS consider the values of the affected area and whether it is capable of being replaced or compensated for. In general, data indicate that at lake elevations below 4,200 ft, there is a correlation of declining goose numbers (breeding and molting) with declining lake elevation. This may mean that goose use of Bear River Bay may become particularly sensitive to the amount of surface water available during drier cycles, and any conversion of the limited amount of flooded area could affect the numbers of Canada geese which otherwise would be using the area. Please see the attached file on Canada geese in Bear River Bay. AC-3.12 (continued)

Potential impacts to Bear River Bay and Willard Spur salinity, habitat, and ecology

UDWR recommends the EIS consider the potential impacts of this proposed project on water circulation pattens within Bear River Bay and subsequently, vegetation, invertebrate populations, salinity and wildlife. A reduction of surface area (especially during low water years) from diking off portions of the Bear River Bay could affect salinity fluctuations within the bay and may also change water circulation patterns between Willard Spur and Bear River Bay. At a GSL elevation of 4200 feet, the channel connecting the two water bodies may be blocked by dike development. AC-3.13

There is a potential for loss of habitat and habitat fragmentation, thus, affecting resident and migratory waterbird populations. Any salt discharges from the evaporation ponds into the Willard Spur area could dramatically affect habitat for migrating and nesting waterbirds, as well as the vegetation and invertebrate populations that provide a forage base for those birds. For example, sago pondweed is important to many tundra swans during the fall, and alkali bulrush seeds are important to common goldeneye during the winter. UDWR has concerns on the potential indirect impacts to the critical forage of waterfowl. AC-3.14

Due to the remoteness and lack of human disturbance or infrastructure, the entire Bear River Bay and Willard Spur area is used by many other waterbird species. Traditionally, this area has been the center of botulism outbreaks. This may be due to the lack of natural flow currently impeded by the existing dikes. A further decrease in natural flow from this expansion may also increase chances for botulism outbreaks. AC-3.15

Specific wildlife/bird use data from an eight year UDWR Waterbird Survey should be included in this EIS. The UDWR Great Salt Lake Ecosystem Program has been observing the GSL and its wildlife and brine shrimp fishery for over a decade and can provide key information for this EIS. UDWR is available to provide wildlife, habitat, disease and brine shrimp information to the ACOE for this project. AC-3.16

UDWR recommends the EIS give attention to the construction phase of this project.

During the construction of the dikes, there will be a reduced area available for emergent marsh or mudflat depending upon lake elevation, which will likely have impacts on resident and migratory waterbirds. Also, the construction of dikes and filling of ponds may eliminate springs within the leased area that provide habitat and stopover areas for migrating birds and inadvertently provide additional habitat for nesting California gulls, which readily prey upon other nesting birds. Finally, the dike construction may create a channel, thus, reducing the area of open water. We strongly recommend consideration of the potential direct and indirect short-term effects from construction. AC-3.17

Potential impacts to hunting and fishing opportunities

The west Bear River Bay and the Willard Spur areas, in combination, provide extensive values to migratory game birds that use adjacent areas including Bear River Refuge, the private hunting clubs, Harold Crane Wildlife Management Area (WMA) and, to a lesser extent, Ogden Bay WMA, Public Shooting Grounds WMA, and Salt Creek WMA. In years when both west Bear River Bay and the Willard Spur hold water through summer, they provide abundant food as well as rest areas for waterfowl using adjacent areas. The EIS should analyze whether the proposed project may reduce the acreage of fresh water in the bay and affect opportunities for waterfowl hunters in this area and on the above-referenced lands. Reduced forage and foraging area as well as reduced rest area for waterfowl during hunting season can impact opportunities for hunters in these areas as well as the area occupied by the new dikes. A reduction of rest areas or fall habitat for waterfowl may also contribute to premature migration and reduce hunting opportunities. AC-3.18

The Bear River Bay and Willard Spur is an extremely important resource for piscivorous birds including pelicans, cormorants, western grebes, clarks grebes, forsters terns, black terns, Caspian terns, Great blue herons, snowy egrets, and black crowned night herons. These birds exploit this rich resource rather than compete with fisherman at other popular lakes and streams. If this resource is impacted, it may result in thousands of these piscivorous birds moving to hatcheries or lakes and streams and therefore directly impacting anglers and angling revenue. AC-3.19

Brine shrimp populations are easily impacted by salinity fluctuations or an increase in salts/contaminant levels created from the flushing of ponds or changes in water circulation patterns. Discharges of wastewater generated during production and solar evaporation could have a profound influence on brine shrimp populations. Possible outcomes could be introduction or sequestration of nutrients typically released into GSL as well as alteration of the salinity and/or ionic composition of GSL. It is feasible that flushing of the ponds could increase contaminant levels which could then be introduced into the algal and brine shrimp populations. This could potentially lead to modifications in the algal food base utilized by brine shrimp. Brine shrimp survival and reproduction patterns may be altered. The quality and survival of brine shrimp cysts AC-3.20

AC-3.20
(continued)

may change by possible premature deactivation of diapause (hibernation). The cysts available for the initial spring hatch could be decreased thereby directly affecting the brine shrimp population. Decreased cyst quality along with possible contaminant introduction would certainly have impacts on the brine shrimp industry.

The Committee appreciates the opportunity to review this proposal. Please direct any other written questions regarding this correspondence to the Resource Development Coordinating Committee, Public Lands Section, at the above address, or call the Director, Jonathan G. Jemming, at (801) 537-9023, or Carolyn Wright at (801) 537-9230.

Sincerely,

for JH

John Harja
Director

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

DEC - 5 2007

Ref: Ref: 8EPR-N

Mr. Jason Gipson
U.S. Army Corps of Engineers
533 West 2600 South, Suite 150
Bountiful, Utah 84010

RE: Scoping Comments for the Great Salt Lake Minerals Corporation (GSLMC) Solar Evaporation Pond Expansion Project Environmental Impact Statement (EIS)

Dear Mr. Gipson:

The Environmental Protection Agency (EPA) Region 8 has reviewed the United States Army Corps of Engineers' (Corps), *" Intent to Prepare an Environmental Impact Statement (DEIS) for the Great Salt Lake Minerals Corporation's Solar Evaporation Pond Expansion Project Within the Great Salt Lake, Box Elder County, UT"*, Federal Register notice dated November 1, 2007 (Volume 72, Number 211). The notice details that the Sacramento District Corps will be preparing an EIS for the authorization for GSLMC's evaporation ponds expansion into waters of the United States, and action which would require a Clean Water Act (CWA) Section 404 permit and Section 10 of the Rivers and Harbors Act 1899 permit. In accordance with EPA's responsibility and authority under NEPA and Section 309 of the Clean Air Act, we offer the following comments for your consideration as you proceed with the EIS. EPA does not consider this public notice to be the typical 404 permit public notice since the majority of the environmental information necessary for permit evaluation has yet to be developed. As such, EPA reserves its responsibilities under the 1982 Corps/EPA 404(q) Memorandum of Agreement until the publication of the environmental studies in the Draft Environmental Impact Statement.

The notice identifies a proposal by the GSLMC for the construction of approximately 33,000 acres of solar evaporation ponds, impacting 30,713 acres of waters of the United States. This action will occur in two areas within the northern portion of the Great Salt Lake, Utah:

- The first area is located on the western shoreline. The "Dolphin Island Expansion" will expand an existing pond by 18,000 acres and construct a new 7,000-acre pond at the southern end of Clyman Bay. In addition, a new feeder canal and pumping station is being proposed.

- The second area is on the eastern shoreline. An 8,000-acre evaporation pond complex is being proposed in Bear River Bay.

In total, both areas would discharge 1,440,000 cubic yards of fill material into waters of the United States. A majority of this fill material will be used in the construction of the containment dikes surrounding the evaporation ponds.

EPA has reviewed the scoping notice and has attended one of the informational public meetings held on GSLMC's proposal. We have identified the following concerns and issues that should be clearly evaluated in the DEIS:

Purpose and Need Statement

The scoping public notice issued by the Corps has proposed the following purpose and need statement for GSLMC's proposal to meet the National Environmental Quality Policy Act (NEPA) and Section 404 of the CWA, *"The overall project purpose is to expand extraction capacity for potassium at the Great Salt Lake Mineral Corporation's facility."* EPA finds this proposed purpose and need statement to be too narrow in its ability to allow for a full range of alternatives to be evaluated in the DEIS. This conclusion is based on the proposed purpose and need statement restricting GSLMC to only look for obtaining potassium from their facility in the Great Salt Lake. EPA believes that the EIS purpose and need should be broad enough to allow for alternatives that would evaluate other sources of potassium that may have lesser impacts to waters of the U.S. as outlined in Clean Water Act 404 (b)(1) guidelines. Also, it is not clear from the overall project purpose statement why the expanded extraction capacity is needed. It is likely that further evaluation of the reasons for the expansion will lead to the underlying purpose for the project and a clearer, less limiting, statement of project purpose. AC-4.01

Range of Alternatives

The DEIS should present a robust range of alternatives that meets both the needs of NEPA and Section 404 of the Clean Water Act. The Corps should look at alternatives that could avoid impacting waters of the U.S. and look at alternatives that would be the least environmentally damaging practicable alternatives (LEDPA) as required in the CWA 404(b)(1) guidelines. As stated above, the purpose and need statement should allow for this robust range of alternatives. Alternatives that EPA believes should be looked at in the DEIS include: AC-4.02

- Obtaining potassium from other facilities within or outside the Great Salt Lake region.
- Alternatives that would reduce impacts to waters of U.S. (e.g. reduction in the size of the evaporation ponds, reducing the proposed increase in plant production at the GSLMC processing facility, etc.).

Impacts to Waters of the United States:

The proposed action by GSLMC will directly impact approximately 30,714 acres of water of the United States. This acreage is substantial and will require studies to fully determine the

magnitude of the effects on the Great Salt Lake and its surrounding environment. EPA understands that some of these studies are currently underway. EPA would expect that the DEIS include a detailed function and values evaluation of the aquatic resources that are being impacted. In addition, the DEIS should identify potential mitigation opportunities to fully offset aquatic impacts identified in the function values evaluation. AC-4.03

Water Quality

The Corps has identified at their public workshops a number of potential water quality concerns that could occur if the proposed expansion was permitted:

- The DEIS should model the effects of the potential change in salinity concentrations in the South Arm due to the increase in salinity densities in the North Arm. AC-4.04
- The DEIS should evaluate what effects the actions proposed by GSLMC in the North Arm would have on the uptake of selenium, mercury and other heavy metals into the food chain of the Great Salt Lake. AC-4.05

Air Issues

The Draft EIS should analyze the potential impacts to air quality from the construction, full production, and operation of the solar evaporation ponds and the expanded processing plant. This includes analysis of the project's potential effect on all criteria pollutants under the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increments, as well as on air quality-related values in any nearby Class I areas. In particular, the DEIS should address the potential air quality impacts associated with particulate matter (PM10 and PM2.5), carbon monoxide, and ozone. Impacts to visibility and the potential for regional haze from the project should also be estimated. Mitigation measures for visual impacts should be identified, such as best available control technology and fugitive dust control measures for roadways. AC-4.06

Depending on the scope of the proposed plant expansion and alternatives, a qualitative emission comparison approach may not be specific enough to adequately address and predict air quality impacts. While a qualitative emission comparison approach provides a means to compare the total predicted emissions of each alternative to a baseline year, it does not provide any indication of the potential for exceedances of ambient air quality standards or the potential for adverse impacts on air quality related values (ie. visibility) in nearby Class I areas. A qualitative emissions comparison approach may not provide the Corps with the information necessary to predict potential air quality impacts and identify appropriate mitigation measures. Air quality modeling may be necessary.

Wildlife Issues

The loss of over 30,000 acres of salt flats and open water in the Great Salt Lake is likely to have an effect on wildlife either using this area directly or depending on those resources or ecological processes that would be lost or changed due to the GSLMC proposal. As stated in the

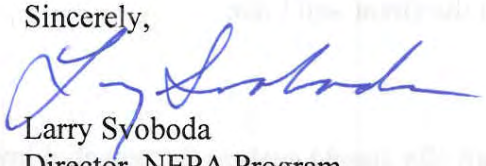
meeting with the Corps, federal and state wildlife agencies, GSLMC studies will need to be undertaken to characterize the baseline conditions of the area. Within the Clyman Bay area, particular attention will be needed in evaluating the impacts to the snow plover and the white pelican colony on Gunnison Island. Impacts to avian use along the northern shoreline that would be impacted by the expansions of the ponds, the shoreline above GSLMC's proposal and Dolphin Island also needs to be fully evaluated. In Bear River Bay area, a valuable habitat for open water bird use, special attention will be needed to evaluate the effects on bird use by the potential change in the fresh water exchange between Willard Spur and Bear River. The impacts to shrimp productivity and impacts to Canada geese during molting will also need to be addressed.

AC-4.07

AC-4.08

EPA is very interested in assisting the Corps with formulating the project to reduce environmental impacts, where practicable. Please contact Mr. Dick Clark at (303) 312-6748, clark.richard@epa.gov, or me at (303) 312-6004, with any questions you may have concerning these comments.

Sincerely,



Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection
and Remediation

AC-5

United States Department of the Interior

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In Reply Refer To
FWS/R6
ES/UT
ER 07-937
65411-2007-FA-0186

December 17, 2007

Jason Gipson, Project Manager
US Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, Utah 84010

RE: Public Notice SPK-2007-00121; Proposed 33,000-acre Expansion of Solar Evaporation Ponds on the Great Salt Lake

Dear Mr. Gipson,

The U.S. Fish and Wildlife Service (Service) has reviewed Public Notice SPK-2007-00121 concerning a proposed 33,000-acre expansion of solar evaporation ponds on the Great Salt Lake (GSL) by Great Salt Lake Minerals Corporation (Corporation). Previously, we provided comments to the Utah Division of Forestry, Fire, and State Lands regarding mineral leases associated with this proposed project and we have participated in the development and review of this proposed project since December 2006 when a pre-application meeting and field trip was held with personnel from the US Army Corps of Engineers (Corps), Utah Division of Wildlife Resources (UDWR), the Corporation and their consultant, BIO-WEST, Inc. During the meetings and field trip we discussed the resource issues and concerns that we believe need to be addressed in the environmental reviews for the proposed project. Based on our earlier comments and our review of the referenced public notice, we provide the following comments for your consideration. Our comments are made pursuant to our authorities under the Endangered Species Act of 1973, as amended, the Migratory Bird Treaty Act, the Clean Water Act, and the Bald and Golden Eagle Protection Act. These comments include potential environmental impacts that should be addressed in an Environmental Impact Statement (EIS) for the proposed project. AC-5.01

We understand that this is a public notice of the Corps' intent to prepare an EIS, rather than a public notice for a 404 permit. As such, the Service reserves its responsibilities under the 1992 404(q) Corps/Department of Interior Memorandum of Agreement until the environmental studies have been completed and the Draft EIS is published.

Project Description

The Corporation currently operates approximately 43,000 acres of evaporative ponds located on the east and west shores of the Great Salt Lake. A 21,000-acre evaporation facility is located on the west shore of the North Arm (Gunnison Bay) of the GSL and a 22,000-acre evaporation facility is located on the east shore of the Bear River Bay. The existing solar evaporation ponds are located within the GSL and are located below 4205 feet above mean sea level, which is below the high water mark of the GSL. These facilities allow the Corporation to extract about one-half of the potassium needed in their production of potassium sulfate. The company draws naturally occurring brine from the lake into shallow ponds and allows solar evaporation to produce sulfate of potash, as well as salt and magnesium chloride minerals. Sulfate of potash is a specialty fertilizer that improves the yield and quality of high-value crops such as fruits, vegetables, tea, tree nuts and turf grasses. The facility has operated on the lake for 40 years. At present, the remaining half of the potassium is imported from other sources. The proposed expansion of the solar ponds will reduce or discontinue the Corporation's reliance on imported potassium.

The applicant is proposing to construct three additional solar evaporation ponds totaling approximately 33,000 acres. The proposed project includes an 8,000-acre pond on the east side of the Great Salt Lake in the Bear River Bay. Brine would be pumped to and from the new pond with existing pump stations; however, the capacity of these pump stations would be increased proportional to the new pond acreage. Additional feed brine for this new pond would come from the North Arm of the GSL, flowing through existing east side ponds. In addition, on the west side of the lake, two new solar ponds would be added to the existing west side complex, an 18,000-acre Dolphin Island expansion pond and a 7,000-acre pond at the southern end of Clyman Bay between the Union Pacific Railway and several existing ponds. A new feed canal into the lake and a new pump station would be constructed on the north end of the proposed Dolphin Island pond. Diesel driven pumps, similar to those currently in use, would pump brine from the new feed canal to the new pond. Existing pumps would be used to pump brine from the new pond to an existing pond. The total 25,000-acre pond expansion on the west side would increase the concentration of brine transferred to an existing gravity-flow trench for transport to the east ponds in the Bear River Bay. Dikes would be built to accommodate the pond expansion and impound the waters of the respective areas. On the east side of the lake approximately 540,000 cubic yards of fill would be discharged into Bear River Bay to create the dikes. On the west side of the lake, dike construction would require approximately 900,000 cubic yards of fill to be discharged into open water in the vicinity of Clyman Bay.

Purpose and Need Statement

The project purpose and need statement in the referenced public notice is narrowly defined and should be rewritten to more accurately reflect the Corporations' desire to acquire supplemental sources of potassium for the production of fertilizer. The existing statement, "expand extraction capability for potassium at the Great Salt Lake Mineral Corporation's facilities" limits the possible alternatives to only extraction from the GSL and outright eliminates alternatives such as

AC-5.02

importing potassium from existing or new sources. A broader purpose and need statement for the EIS would allow a larger suite of alternatives to be considered and would still meet the Corporation's needs.

AC-5.02 (Continued)

Water Quality

During preliminary project meeting discussions, the Corporation agreed to conduct limited water quality sampling to obtain selenium and mercury concentrations in their current discharges to Bear River Bay. Mercury and selenium, which are two elements of concern for the GSL, bioaccumulate in living organisms at much higher concentrations than measured in water, and results from recent scientific studies suggest elevated concentrations of mercury are present in the GSL and may be taken up by waterfowl and other birds. Also, the State of Utah is developing a numeric water quality standard for selenium for the GSL. The concern with the flushing of brines from the Corporation's solar ponds is that mercury and selenium may be concentrated in the remaining brines and flushed back to Bear River Bay and GSL in a plume. Due to their interactions in the environment, these elements are readily incorporated and efficiently recycled in the food web so even a short-term pulse will have lasting affects. We appreciate the Corporation's efforts to collect and analyze water for selenium and mercury and we have reviewed the data presented in the Water Quality Monitoring Report for GSL Minerals (four page report from BIO-WEST, Inc.). Based on the available data collected by BIO-WEST, Inc, selenium concentrations in water were below the freshwater water quality standard of 5 parts per billion; however, the detection limit for mercury (0.2 ppb) was sixteen times higher than the freshwater water quality standard of 0.012 ppb. In addition, water samples were collected near the end of the flushing process, which may yield different results than if collected near the beginning of the flushing process. Recent data (unpublished) from the Service and the Utah Division of Water Quality show significant accumulations of both selenium and mercury in waterbirds which forage on the GSL. Based on our concerns regarding selenium and mercury in waterfowl and other waterbirds using the GSL, we recommend the EIS evaluate the potential accumulation and release of selenium and mercury from the solar evaporation ponds and the impact such a release would have on wildlife. In addition we recommend: 1) lowering the detection limit for mercury to the freshwater water quality standard of 0.012 ppb; 2) collecting samples within the first few days of flushing rather than the last few days; and 3) sampling effluent from ponds in Gunnison Bay if they are flushed.

AC-5.03

More salts are removed annually from the GSL than are added by inflows and natural processes. Furthermore, some salts are harvested disproportionately to their concentration in the lake and to their ability to be replenished, including potassium. We recommend the long-term effects of this proposed project, in conjunction with existing mineral operations throughout the lake (i.e., cumulative effects), be evaluated to assess the impact on salt concentrations and proportions of minerals in the lake and how changes in these might affect the lake and its biotic community (e.g., algae, brine shrimp, brine flies, and birds).

AC-5.04

As we understand the proposed project, flushing of the northern-most expanded solar evaporation ponds in Bear River Bay would occur directly into Bear River Bay near the Willard Spur. This would likely increase the salinity within the Bay and may adversely affect macrophytes, invertebrates and fish, and indirectly affect waterfowl and piscivorous birds by decreasing food availability. During most years, large numbers of migratory birds, including green-winged teal and Canada geese use Bear River Bay on an annual basis. The Bay also provides valuable habitat during certain years for other bird species such as eared grebe and western grebe (Don Paul, personal communication). We recommend the EIS evaluate the impacts of adding these brines to the water quality and wildlife using Bear River. The analysis should evaluate a range of scenarios with an emphasis on average and less than average runoff years and also evaluate the effects during multiple successive years of drought. AC-5.05

Migratory Birds

The GSL is unique in the Intermountain West in its geographic location, large size and its diversity of habitats for migratory birds. This combination of factors makes the GSL an essential resource for migratory birds such as waterfowl, shorebirds and other waterbirds. Due to its value for shorebirds the GSL was recognized as a site of hemispheric importance and included in the Western Hemispheric Shorebird Reserve Network. The following information on bird use of habitats on GSL should be considered in the EIS.

- Bear River Bay is just one of several Bays on the GSL that hosts hundreds of thousands of breeding, feeding, migrating and staging migratory birds every year. Bear River Bay is considered crucial to bird conservation at the western hemisphere level as recognized by the Western Hemisphere Shorebird Reserve Network. The area is also recognized as an Important Bird Area in North America by the National Audubon Society. These special designations are assigned only after extensive and rigorous documentation and review by conservation professionals. In addition, the role of the GSL, and lands within Bear River Bay in particular, figured prominently in devising conservation plans and associated actions for several species and species groups such as the Intermountain West Waterbird Conservation Plan (Ivey and Herziger, 2006) and the Marbled Godwit Conservation Plan (Melcher et al., 2006). AC-5.06

- The saline waters and freshwater marshes of the GSL comprise one of the most critical breeding and staging sites for colonial waterbirds, waterfowl and shorebirds in the Intermountain West (IMW). Oring et al. (2000) stated "the Great Salt lake stands out as probably the most important inland shorebird site in North America." Shuford et al. (2002) found that in the fall, 78% of the IMW region's black necked-stilt and American avocet, 77% of willet, 62% of whimbrel, 87% of long-billed curlew, 86% of the marbled godwits, and 39% of the dowitchers were concentrated at the GSL. Shuford's study also found that the GSL was the most important location for northbound migrant shorebirds in the spring. Paul and Manning (2002), in their investigation of shorebird distribution

AC-5.06 (Continued)

across the GSL, found that across years and seasons, those same shorebird species listed above, were consistently concentrated in the largest numbers in Bear River Bay.

- Bear River Migratory Bird Refuge is also located in Bear River Bay. The 74,000 acres of the Refuge are lands specifically set aside for wildlife conservation. The Refuge hosts 1% of the continental breeding population of American avocet, 2% of the continental breeding population of black-necked stilt, the largest breeding colony of white-faced ibis in the world (about 18,000), 30% of the western population of tundra swans, 25% of the continental population of marbled godwit during migration, 3% of the continental population of long-billed dowitcher during migration and 2% of the continental breeding population of Franklin's gull. Each of these species is considered a priority for conservation at the continental, regional, and refuge level due to declining populations or having breeding and migration habitat restricted to the IMW. These species may also spend considerable time utilizing habitats outside the Refuge boundary in Bear River Bay, especially Willard Spur.

- The GSL acts as the largest inland staging area for marbled godwit in North America (Melcher et al., 2006). Paul and Manning (2002) found that greater than 90% of the marbled godwit using the GSL were concentrated in Bear River Bay. The peak count of godwits from Bear River Bay of 43,000 in 2000 is the equivalent of 25% of the global population.

The EIS should evaluate the proposed expansion's cumulative impact on marbled godwit populations, including the impacts of further reduction of the remaining habitat in Utah and the influence of food availability, disease outbreaks, and predation. There is evidence that marbled godwit habitat has been reduced over the last 60 years. Woodbury et al. (1949) indicated marbled godwit were "especially numerous around Great Salt and Utah lakes." In recent times, however, fewer than 20 godwits can be found on Utah Lake which is likely due to loss of habitat caused by changes to the natural hydrology (Bridget Olson, personal communication). Concentrating populations of marbled godwit and other species into fewer areas raises the risk of extinction due to catastrophic events such as disease outbreaks, unusual weather and predation. In addition to the habitats lost and/or modified from the existing facilities associated with the project, cumulative habitat losses also include Willard Reservoir and upstream diversions of water from the Bear River resulting in desiccation of wetlands in Bear River Bay. AC-5.07

Changing water regimes in Bear River Bay should also be considered in the EIS. Marbled godwits equipped with satellite and radio transmitters in 2005-2007 spent up to 70% of their time at GSL just south of the Bear River Refuge border in the shallow waters of Willard Spur (Bridget Olson, personal communication). Currently, waters from this area meander to the southwest and then parallel the current western-most dike of the Corporation. The proposed 8,000-acre expansion would interrupt this watercourse thereby disrupting the hydrologic regime. The installation of a new series of dikes, as proposed, would cut-off this out-flow area which might AC-5.08

increase water depths in the north-east portion of Willard Spur as well as the un-impounded portions of Bear River Refuge. The increased water depths may render the area too deep for feeding shorebirds and waterfowl, including marbled godwits. AC-5.08 (Continued)

The impact of changing water quality on migratory birds and their habitat should also be considered in the EIS. The release of waters from the ponds where minerals have concentrated would modify the water quality, and concentrated minerals would impact water and soil chemistry. Soil and water chemistry influence the diversity, abundance and structure of aquatic invertebrate and vegetative communities. Changes to invertebrate and vegetation communities could lead to a decrease in food availability for migratory birds. Loss of habitat associated with the loss of available foods can lead to cumulative impacts to migratory bird populations through a decrease in body condition and poor reproductive success. Many of the waterfowl and shorebirds that stop at Bear River Bay are re-fueling for migration and increasing body fat which they carry to their breeding grounds. The amount of body fat directly affects reproductive success. AC-5.09

The impact of predation on migratory bird populations is another issue that should be addressed in the EIS relative to the proposed expansion. Declines in many waterfowl populations and shorebirds may be largely explained by habitat loss with predation being an exacerbating factor (Ball et al. 1995, Cote and Sutherland 1997 *in* Frey 2004, Cavitt 2006). Waterfowl nesting success surveys conducted from 1999-2006 on Bear River Refuge indicated predation rates exceeded success rates needed for regional population sustainability. In order to raise waterfowl and shorebird nesting success rates, the Refuge implemented predator control in 2001. Since that time, nesting success rates have gradually increased to levels needed for population expansion. The configuration of the Refuge with a series of dikes to impound water provides an extensive system of corridors for potential travel and foraging for red foxes, raccoons, and striped skunks. Therefore, predator control is an essential tool and is needed on an annual basis as predators from nearby cities continue to move into Refuge habitats in search of food and space. These predators tend to stay within a specified distance of a dike or levee (about ¼ mile) and rarely move out into open waters found on the southern boundary of the Refuge and Willard Spur. Migratory birds roosting, foraging and nesting in open waters in these areas are at lower risk of predation. With the proposed expansion of the Corporation's facilities and the series of levees, the number of predators and predator travel and foraging corridors will be increased. The proposed levee system will also provide mammalian predators access to known migratory bird foraging, roosting and nesting sites along the southern edge of the Refuge that are now nearly free of predators. AC-5.10

Site specific data for avian usage of Gunnison Bay is quite limited when compared to data for Bear River Bay and other areas around the lake; however, the limited information that does exist indicates that Clyman Bay and the western shore of Gunnison Bay have the potential to provide foraging and nesting habitat for shorebirds including the snowy plover and the American avocet. AC-5.11

In addition, Gunnison Island is one of the premier breeding colonies for American white pelican in North America. Because of this, in 1977 the Utah State Legislature passed the Pelican

Management Act which directs the protection and management of GSL pelican populations and provides for the protection of Gunnison Island specifically for pelicans. This colony is the only one in Utah and is the largest American white pelican colony west of the Continental Divide (King & Anderson, 2005). Recent colony failures at Chase Lake National Wildlife Refuge due to disturbance from predators and the fact that young pelicans are susceptible to West Nile Virus make the colony at GSL vitally important for this species. Due to its location, predator access to Gunnison Island is rare and mosquitoes with West Nile Virus are less likely to arrive at the island. Other birds such as peregrine falcon also nest on the Bay's islands (Dolphin, Cub, and Gunnison). The EIS should evaluate impacts to the breeding colony of pelicans on Gunnison Island and to other shorebirds along the shoreline and at springs and wetlands within Clyman and Gunnison bays. Furthermore, if lake levels rise like they did in the mid-1980's, the south arm of the GSL may become too fresh to support large populations of brine shrimp; subsequently, salinities in the north arm may decrease to levels that would support large numbers of brine shrimp which would then attract large numbers of birds as happened in the 1980's (Don Paul, personal communication). The analysis of the expansion of evaporation ponds in Clyman and Gunnison bays should evaluate how migratory birds would be affected under this high-water scenario.

AC-5.11 (Continued)

AC-5.12

Bear River Bay is highly important to waterfowl. The area is used by Canada geese for molting with more than 10,000 counted during some years in the late 1990's (Tom Aldrich, personal communication). The Bay provides aquatic habitat for a fishery similar to that of the Bear River and thus provides forage for several species of picivorous birds. The area is also important foraging and resting habitat for other waterfowl due to the fresh water, aquatic macrophytes, and other aquatic biota that exist in the Bay (Don Paul, personal communication). For example, up to 126,000 green-winged teal were counted in Bear River Bay during 2007. The EIS should evaluate the biotic and abiotic features that attract birds to the Bay, evaluate the direct and indirect impacts to the avian populations of losing 8,000 acres of habitat in the Bay, and evaluate if the losses can be avoided or mitigated elsewhere. The analysis should consider the changes in habitats, both temporally and spatially. The analysis should evaluate the proposed project's effects to all migratory bird species, including those listed above. The analysis should provide a plan for long term monitoring of avian resources relative to potential project impacts as well as a mitigation plan for potential project impacts to migratory birds. For example, it should evaluate noise and visual effects from project activities, habitat reduction and fragmentation, and whether habitat enhancement efforts may minimize displacement impacts for some species. Habitat impacts for species on the Service's 2002 list of Birds of Conservation Concern (BCC) and Partners in Flight Priority Species should be evaluated as part of the analysis. The BCC List identifies those migratory and non-migratory avian species that, without additional conservation actions, are likely to become candidates for listing under the ESA. To help meet responsibilities under Executive Order 13186, lease stipulation should include provisions which: recommend ground-disturbing activities occur outside critical breeding seasons for migratory birds; minimize temporary and long-term habitat losses; and require mitigation for unavoidable habitat losses, particularly at the field development stage. Mitigation should include the option for offsite, in-kind habitat compensation.

AC-5.13

AC-5.14

Habitat Fragmentation and Disturbance

The analysis should identify the amount, location, and timeframe of temporary disturbance as well as permanent facilities that could result from the proposed action. Displacement of wildlife across a large area during critical times, such as breeding, could prove a significant impact. If wildlife are displaced, it is likely that the area to which they move is inhabited by other wildlife or disturbed by other ongoing activities. Depending on the season and species, displacement could lead to nest abandonment, inter- and intra-specific competition, reproductive failure, and possible mortality, including an increase in disease susceptibility. Nesting American white pelicans are known to be highly susceptible to human related disturbance. In addition, the	AC-5.15
cumulative effects of other projects in the area may limit the availability of alternative sites for displaced wildlife. On-going maintenance of dikes and other facilities may increase the disturbance and/or destruction of nests of species such as killdeer.	AC-5.16

Aquatic Habitat

Because the Great Salt Lake and the Bear River Bay inflow area contain significant wetlands and littoral and riparian areas, we recommend alternatives be developed to avoid any wetland losses in accordance with Section 404 of the Clean Water Act, Executive Order 11990 (wetland protection) and Executive Order 11988 (floodplain management) as well as the goal of "no net loss of wetlands." Riparian and littoral areas are some of the most productive wildlife habitat types in North America. Riparian and littoral vegetation plays an important role in protecting streams and lakes, reducing erosion and sedimentation as well as improving water quality, maintaining the water table, controlling flooding, and providing shade and cover. In view of their importance and relative scarcity, impacts to riparian and littoral areas should be avoided. Unavoidable impacts should be fully mitigated.	AC-5.17

Cumulative Impacts

The combined, incremental effects of human activity, referred to as cumulative impacts, have the potential to pose a serious threat to the GSL environment. While they may be insignificant individually, cumulative impacts accumulate over time and space, from one or more sources, and can result in the degradation of important resources. Because of this, cumulative impacts analysis should be addressed in the EIS. The cumulative impacts discussion should, at a minimum, include evaluations within the region of influence of the proposal for: potential for additional fish and wildlife impacts due to energy development including oil and gas in the GSL; impacts from increased habitat fragmentation; displacement of wildlife; and cumulative effects of lake level changes on project affected resources. In addition, the EIS could include an analysis of the alternatives' carbon footprint and impact on global climate change.	AC-5.18

We appreciate the opportunity to provide these comments. As this project progresses, the Service would appreciate information on upcoming field visits and interagency coordination. If

you need further assistance, please contact Nathan Darnall, Ecologist and Migratory Birds Coordinator, at the letterhead address or (801) 975-3330 ext. 137.

Sincerely,

Larry Crist
Utah Field Supervisor

cc: Dave Grierson
Sovereign Lands Coordinator
Division of Forestry, Fire & State Lands
1594 West North Temple, Suite 3520
Salt Lake City, Utah 84116-3154

UDWR – Northern Region (Attn: Pam Kramer)
EPA – Denver (Attn: Dick Clark, Dave Ruiter)
FWS - Bear River MBR (Attn: Bob Barrett)

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AC-6

Jennifer.....

Thank you for your timely response. As part of the analysis we will include an evaluation of compliance with the GSL CMP and MLP. We will add the issue to our final list.

Blaise.

At 03:52 PM 6/12/2008, Jennifer Wiglama wrote:

Blaise,
The Division of Forestry, Fire and State Lands has reviewed the Great Salt Lake Minerals EIS, Scoping Issue Relevance. We would just like to add one more issue to the list but it's an easy one.

Do the proposed alternatives that affect lands below the meander line follow the Great Salt Lake Comprehensive Management Plan and the Great Salt Lake Mineral Leasing Plan? AC-6.01

This is more of a policy issue that we feel should be mentioned in the EIS.

Thanks
Jennifer

Jennifer Wiglama
Mineral Lease Analyst
Utah Forestry, Fire and State Lands
PO Box 145703
Salt Lake City, UT 84114-5703
801-538-5495 (ph.) 801-533-4111 (fax)

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Telephone: (435) 752-4202
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APPENDIX D: PUBLIC SCOPING COMMENTS

U.S. ARMY CORPS OF ENGINEERS

PUBLIC INFORMATION MEETING ON THE PROPOSED 33,000-ACRE EXPANSION OF SOLAR EVAPORATION PONDS ON THE GREAT SALT LAKE	TRANSCRIPT OF PUBLIC COMMENTS

November 7, 2007 * 5:00 p.m.

Location: South Davis Junior High
298 West 2600 South
Bountiful, Utah 84010

Reporter: Kelly Fine-Jensen, RPR
Notary Public in and for the State of Utah

A P P E A R A N C E S

PUBLIC SPEAKER:

R. Jefre Hicks
6680 South 475 East
South Weber, Utah 84405

P-1

-oOo-

P R O C E E D I N G S

(Time noted: 7:38 p.m.)

MR. R. JEFRE HICKS: My name is R. Jefre Hicks. I'm from the Utah Air Boat Association. Actually, I am President of the Association.

I am mostly concerned about the Bear River Bay. And my concerns are that there are very, very few areas on the Great Salt Lake that are considered freshwater bays. Bear River Bay, Willard Spur and Farmington Bay are really the only bays on the lake that have freshwater. If they take out a huge junk of this bay, how would you ever replace that? How can you ever replace a freshwater bay on a salt water lake without a huge influx of water, like Bear River, which supplies Bear River Bay or Jordan River, which supplies Farmington Bay. I'm very concerned and very worried. P-1.01

I also want to mention that Bear River Bay now, while it's dry, in a drought, looks like a barren desert. And if you go out there right now, it's covered under about two inches of water. And a month ago it was dry as a bone. If you look at it now, there is really nothing to see. But in my years, many years, probably in the last 20 years of P-1.02

being out there hunting and recreating, I found that after a drought, like two years of water on it, it grows up with Salicornia and other vegetation. Salicornia is an incredible plant for ducks and geese, which is what I'm concerned about. P-1.02 (Continued)

So I am afraid that by looking at this in a microsecond, like a snapshot in time, they won't get the full impact of what is really out there. There are literally thousands and thousands of water fowl, ducks and geese that use that area. Not so much now, during a drought year, but give this water two years and it turns into a mat of grass, of flooded water with grass. Just a big duck buffet. P-1.03

It's really important to me, as a hunter and as a bird watcher -- and I love to watch these things -- that they not disappear without replacing it. And if they replace it in an area that is inaccessible, the recreation opportunity is gone. I don't know how they would replace it. But if they're gone, it's gone. I'll never get to see it again. No one -- and my children will never see it. It's gone. And to take 20 percent and dike it off to get potash seems excessive. P-1.04

I also want to say I understand that they want and need to make a living and they want -- and

they have a right to make a living, but I hate to see them take public land that is so valuable and irreplaceable and do that.

The end.

(Time noted: 7:42 p.m.)

(Public meeting concluded at 9:00 p.m.)

REPORTER'S HEARING CERTIFICATE

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

I, Kelly Fine-Jensen, Registered Professional Reporter and Notary Public in and for the State of Utah, do hereby certify:

That said proceeding was taken down by me in stenotype on November 7, 2007, at the place therein named, and was thereafter transcribed, and that a true and correct transcription of said testimony is set forth in the preceding pages;

I further certify that I am not kin or otherwise associated with any of the parties to said cause of action and that I am not interested in the outcome thereof.

WITNESS MY HAND AND OFFICIAL SEAL this 16th day of November, 2007.

_____
Kelly Fine-Jensen, RPR
Notary Public
Residing in Salt Lake County

P-2

7 November 2007

To: Army Corps of Engineers

From: Bridgerland Audubon Society

Subject: ACE EIS of Great Salt Lake Mineral Company Proposed Expansion

To whom it may concern:

On behalf of the Bridgerland Audubon Society, I am providing copies to you of the 2002 Utah Partners in Flight overview of the American White Pelican's status in Utah. Please note the attention paid to Gunnison Island, one of three major nesting sites for this species in North America.

We formally request that your assessment of the proposed GSLM expansion and related documents include a *detailed* summary and reaction to the UPIF entry concerning the American White Pelican. In particular, we ask that you *explicitly analyze whether the proposal GSLM expansion will enhance, assist or harm the American White Pelican's status on Gunnison Island. This is a crucial biological concern.* P-2.01

More generally, we formally request that your assessment discuss *specific ecological impacts* of the proposed permit and project relative to the avian ecology in that area of the Great Salt Lake. P-2.02

Finally, we will expect to find that your assessment also includes information regarding the *economic impact* of birding at the Great Salt Lake and whether and how the proposed permit and project will enhance, assist or harm the economic consequences of birding there. P-2.03

I request that I be informed of all document publications related to this proposed permit and project and that I receive a copy of your assessment.

Thank you.

Christopher Cokinos
author of Hope Is the Thing with Feathers: A Personal Chronicle of Vanished Birds
4950 Hollow Road
Nibley, UT 84321
chris.cokinos@usu.edu
435-245-7769 home

UTAH PARTNERS IN FLIGHT
AVIAN CONSERVATION STRATEGY
VERSION 2.0

EDITORS
JIMMIE R. PARRISH, UTAH PARTNERS IN FLIGHT PROGRAM COORDINATOR
FRANK HOWE, NONGAME AVIAN PROGRAM COORDINATOR
RUSSELL NORVELL, NONGAME AVIAN ECOLOGIST

UDWR PUBLICATION NUMBER 02-27
DECEMBER 2002

UTAH PARTNERS IN FLIGHT PRINCIPLES

PRINCIPLE 1. Protection of bird populations and their habitats is mandated within the framework of sound natural resource principles and existing state and federal directives, management goals, and objectives.

PRINCIPLE 2. Sustaining bird populations and their habitats requires long-term planning and the close cooperation and coordination of management activities by state and federal agencies, private interests, and the general public.

PRINCIPLE 3. The maintenance of abundant bird populations in Utah is dependent on the protection, restoration, and management of habitats. Persistent degradation and loss of important bird habitats should be reversed.

PRINCIPLE 4. Priority Utah bird species and their habitats should be identified and their conservation needs established for breeding, migration, and over-wintering requirements.

PRINCIPLE 5. Partnerships consisting of state and federal agencies, private organizations, and the general public are considered the best approach to identifying high priority bird populations and their important habitats. The conservation needs of these species and their habitats can only be addressed through a pooling of resources, expertise, and funding to effect viable, consistent, common sense, and long-term management recommendations.

PRINCIPLE 6. Healthy bird populations and their habitats reflect a positive quality of life for humanity and contribute to economic, recreational, scientific, educational, and aesthetic values for society.

AMERICAN WHITE PELICAN
(Pelecanus erythrorhynchos)

Conservation Priority Score of 36

Jim Weis

ASSOCIATED SPECIES: Other bird species that may respond similarly to habitat components used by American White Pelicans are California Gull, Caspian Tern, and Double-crested Cormorant for nesting habitat. Other species besides the ones listed for nesting habitat that forage for food in similar habitat are Western and Clark's Grebes, Forster's Tern, Great Blue Heron, Black-crowned Night Heron, Snowy and Cattle Egrets.

DISTRIBUTION: In Utah, the only known breeding colonies are located in the northern portions of the state specifically within the Utah Lake/Great Salt Lake ecological complex. There is a record of pelicans nesting on Rock Island, Utah Lake in 1904 (Goodwin 1904) and two records of pelicans nesting in greasewood hummocks southwest of Farmington Bay WMA in 1973 and 1974 (C. Jensen, pers. comm.). Historically pelicans were identified as nesting on Egg Island in 1850 by Howard Stansbury and perhaps on Badger Island in the 1880's (Dr. H. A. Whytock). Beyond these records the substantial nesting has taken place on Hat Island and Gunnison Island. Pelicans have not nested on Hat Island for several decades. Gunnison Island persists as the only colonial nesting site for American White Pelicans in Utah and currently ranks as one of the largest breeding colonies in North America. During spring migration, breeding season and fall staging and migration periods American White Pelicans can be observed at many reservoirs throughout the state.

ECOLOGY: American White Pelicans migrate from northern breeding areas but are year round residents in Texas (Chapman 1988) and Mexico. Populations breeding west of the Rocky Mountains move southwest into California and due south to the west coast and central states of Mexico (Behle 1958). Spring returning occurs in late February in Nevada and early March in Utah (Behle 1959, Alcorn 1943). Further north in Yellowstone and Canada birds arrive in April and May (Diem 1967).

Autumnal departure seems to be drawn out from October through December. In Utah at least three factors seem to play a role when birds depart, the opening of the fall waterfowl hunting season, availability of fisheries, and ice up. Behle recorded banded birds from the Great Salt Lake being recovered north in Idaho (1958). Recent satellite telemetry studies of pelicans radio tagged at Pyramid Lake, Nevada also suggest that some birds fly north after the breeding season to the intermountain area. One bird made a flight from Pyramid Lake to Bear River Bay, Utah in the course of a day (Fuller et al. 1998).

The breeding range extends from the park lands and prairies of Canada into the mountain states to the

Gulf Coast of Texas and Mexico. Preferred nesting habitats are islands especially associated with fresh water lakes. Preferred foraging areas are shallow lakes, marshlands and rivers. Breeding colonies are often 50+ km from foraging areas. Low site fidelity and high mobility appear to be adaptations American White Pelicans have made to take advantage of temporarily rich food supplies (Evans 1972, Knopf 1976).

Primary food is fish. Fish are often sought in water < 2.5 m deep (Anderson 1991). American White Pelicans are diurnal and nocturnal foragers. Capture rates are higher during day and at the leading edge of foraging flocks, than at night (McMahon and Evans 1992a). Cooperative foraging is often employed in shallow water. Several to hundreds of pelicans can be observed not only to cooperate but also coordinate strategies to capture fish. They drive fish to shallows and often encircle and concentrate prey, then dip bill into water and scoop fish into their gular pouch (for details see Anderson 1991, McMahon and Evans 1992b). They forage mainly on "rough" fish often small, less than one-half bill length.

American White Pelicans are highly social. Nesting in colonies, using cooperative flight and foraging strategies, pelicans are among the most gregarious of avian species. These birds are often observed sleeping, roosting and sun bathing together. They are monogamous. Pair formation occurs after arrival in Utah the last week in March (Knopf 1979). Nest building occurs <5 days. There is synchrony in nest chronology within such colonies. For the colony as a whole, nest initiation extends over 3 months in Utah (Knopf 1979). A two egg clutch is produced within a week of nest completion with an incubation period of 30 days. Nestling attendance by a parent occurs to 3 weeks of age, after which young congregate into pods of young or creches that often are mobile. Young from various sub-colonies often combine to form larger pods.

Colonial nest sites are usually islands with flat or low gradient slopes so adults can access nest by flying in. Gravel or sandy, unconsolidated substrates are preferred for nesting. Breeding begins at three years of age. Fledging rates vary with type of cover near nest, range is from 0.89 to 0.34 young fledged/nest. Fledging success decreases as nesting dates become later (one chick/nest in early April to about 0.4/nest for eggs laid in June, Utah; Knopf 1979). Maximum reported lifespan is 26.4 years (Clapp et al. 1982). There is significant mortality of second eggs or second young. In Utah both young fledged at 9.7% and 9.4% of 195 and 374 nests (Knopf 1979).

Predation is rarely a problem for adults and young at undisturbed colonies. California Gulls are the main source of predation in Utah colonies, especially during episodic disturbance and where older chicks force younger nestlings out of the nest. Humans, including researchers, can increase vulnerability of eggs and nestling gull predation by bumping adult pelicans off nests.

Pelicans can be host to parasites, especially biting lice (*Piagetiella peralis*, mallopoya) (Price 1970), nematodes (*Contracaecum spiculigerum*), tapeworms (*Hymenolepis* spp., *Dibothrium cordiceps, Oilgorchis longivaginatus*), and subcutaneous mites (*Pelecanectes apunctatus*) but there is no evidence of mortality to these parasites. In 1997 there was an outbreak of New Castel's disease in Utah Double-crested Cormorants at the Bear River refuge, Utah but no known case of mortality for allied pelicans in the area.

In Utah the only known persisting long term nesting colony is on Gunnison Island. It lies in the north arm of the Great Salt Lake approximately ten miles to the northeast from Strong's Knob, nine miles from the railroad causeway and 25 miles east from Promontory Point. Gunnison Island, named for John Gunnison of the Harvard Stansbury expedition of 1849 and 50 is located in township 9 west, range 7 north of box Elder County, Utah (Rawley 1976). Its long axis extends north and south. It occupies approximately 66 ha (163 ac) and has a relief of 233 ft (85 m) which forms a rock backbone that adds considerable relief and topographic variation including bays, slopes and sandy beaches. American White Pelicans and California Gulls are the primary colonist nesting species on Gunnison Island where over time they have nested mainly on the east and west sides of the island.

Non-breeding and early spring and late summer/early fall breeding age American White Pelicans are widely dispersed through Utah in small mobile numbers especially in the Great Basin. Utah has excellent

information on post-nesting season dispersal of American White Pelicans thanks to two primary researchers in the 1940's and 50's. Dr. Jessop Low and Dr. William H. Behle banded 1,502 young pelicans at Gunnison Island over time. Up to 1958, as many as 82 returns provided a picture of pelican distribution. The principle wintering grounds are scattered throughout Mexico, but a few returns are from California (Behle 1958). The returns, as mentioned elsewhere in this report, reflect a northward movement for many birds that precedes the southward migration to winter habitats. Behle reported two instances of natal site fidelity for Gunnison Island (1958).

The Gunnison Island breeding population is somewhat unique in that the lake surrounding the nest colony is hyper saline and does not support a fishery, therefore, adults must make flights of at least 30 miles, one way, to fisheries. These fisheries have evolved over time from pre-Anglo native fisheries to post-Anglo non-indigenous fisheries dominated by carp (*Cyrinus carpio*) prior to the mid 1980's and now supplemented by Gizzard Shad (*Dorosoma cepedianam*) especially in the Willard Spur arm of Bear River Bay. Traditional foraging areas for Gunnison Island adults have occurred to the east of the colony at Bear River Bay including the National Refuge and east and southeast at state waterfowl management areas (WMA) and privately managed Wetlands. During these high lake years (1983-1987) primary foraging sites were restricted to fisheries occurring east of traditional lakeside sites. Some sites of foraging importance, directly south of Willard Reservoir, Rainbow and George East Clubs, the east portions of Ogden Bay WMA, Farmington Bay WMA and the Associated Duck Clubs were flooded during this time. Pelicans also flew to foraging areas north and south of Gunnison Island to American Falls Reservoir in southern Idaho and south to Utah Lake. Some birds flew east as far as Dingel Marsh on the north end of Bear Lake, Idaho (Flannery 1988). A study of flight paths and direction of American White Pelicans from Gunnison Island demonstrated that as the lake elevation changed in the 1980's and subsequent foraging habitat changed, the flight patterns of pelicans changed (every year) in response to these dynamic conditions (Flannery 1988).

Great Salt Lake foraging environments reflect many of the qualitative values identified for American Pelicans (Anderson 1991). Because of the low gradient bottom of the Great Salt Lake and its associated Wetlands pelicans have thousands of hectares of fisheries that are 0.5-2 m deep. These fisheries are high in nutrients, warm quickly, and provide excellent breeding, nursery, and foraging habitats for "rough" fish. Subsequently these habitats allow for a broad range of American White Pelican foraging strategies. Warm spring and summer days create excellent thermal systems and nearby mountains, islands and promontories form late morning updrafts, all of which assist adults in air lifting forage to awaiting young at Gunnison Island.

Significant life history and migration information for North America's American White Pelican population has been collected from the Utah Gunnison Island colony and associated Wetlands (Behle 1958, Knopf 1975, 1979).

HABITAT AND/OR POPULATION OBJECTIVES:

1. Continue to manage Gunnison and Bird (Hat) Islands for breeding colonial birds with emphasis on American White Pelicans and California Gulls.
2. Provide, through statutory and wildlife rule regulation, breeding season protection from human disturbance to these and other breeding sites as they occur.
3. On the ground visits to breeding colonies should be carefully managed and planned to mitigate against disturbance, abandonment and mortality. Visits should only be made to collect important data and provide key educational outreach toward long term American White Pelican conservation.
4. Key foraging areas should be identified and managed for sustainable fisheries in balance with other Wetland management objectives especially within the Bear River, Ogden River and Jordan River systems.
5. Maintain breeding and foraging habitat within the Great Salt Lake ecosystem so as to provide

conditions that allow American White Pelican breeding adult populations to occur at the twenty-five year average of 10,120 per annum (Table 10).
6. Provide management and protection of breeding colonies from human and terrestrial predation to allow for a > 0.69 nesting survival rate per nest.

MANAGEMENT ISSUES WITH CONSERVATION RECOMMENDATIONS: The American White Pelican is considered a species of moderate concern for conservation action in the North American Waterbird Conservation Plan (Kushlan et al. 2002). Utah hosts one of the largest American White Pelican breeding colonies in North America (Table 10). In 1933 a status report of American White Pelicans in continental North America found that there were only four colonies of significance in the United States, Gunnison Island on the Great Salt Lake was one (Thompson 1933). Three other colonies in Saskatchewan, Canada, in conjunction with the US sites made up the majority of the continental populations. In 1966 a follow up survey indicated a decline in the continental population with only four of the seven 1933 colonies remaining viable, the four US sites (Lies and Behle 1966). In the last three decades the Gunnison Island breeding population has demonstrated an increasing trend. Many other colonies have been compromised due to water diversion or human disturbance. All of Utah's breeding American White Pelicans are located on one site and because this site represents one of the three most stable and productive sites on the continent, it is critical that it be protected. Gunnison Island is sequestered north of a railroad causeway and because of this barrier is protected from most human disturbance. However, recent interest in the development of brine concentration ponds in the vicinity of Strongs Knob within Gunnison Bay have brought industry to the north arm. There has been and is interest in the possible extraction of fossil fuels from the lake bed near Gunnison Island. There is some discussion of breeching the railroad causeway that could potentially make boat trafficking near Gunnison a possibility.

Another management and conservation concern is the potential impact to foraging areas. A principle foraging site is located in the upper reaches of Bear River Bay including the Willard Spur. This is a key area that has been used by American White Pelicans for many decades, even recorded as a foraging site in the journal of early explorers. The site is the nearest foraging habitat to Gunnison Island and is known to support larger numbers of fall migratory American White Pelicans from other populations in addition to Utah pelicans. Potential threats to the integrity of the fishery in Bear River Bay included salt industry expansion, changing salt harvest methods and pond flushing and the dewatering of the system as up stream water use demands reduce flows to the bay. Other marsh area fisheries are challenged by similar potential and real water use practices.

Habitat Loss

1. Develop a sustainable water use plan for Bear River Bay.
2. Work with salt industries to eliminate, reduce or mitigate impacts to the Gunnison Island colony in the north arm and foraging sites in Bear River Bay.
3. Work with the Division of State Lands to protect American White Pelican habitats within state land holdings.
4. Work with Wetland managers within the greater Great Salt Lake ecosystem to manage for pelican habitat as part of their comprehensive management plans.

Human Disturbance

1. Provide modification to the railroad causeway that allows for better Great Salt Lake brine distribution, but precludes boat travel into the north arm of the Great Salt Lake.
2. Maintain and enforce Division of Wildlife Resources rule restricting human disturbance of Gunnison and Bird Islands during the American White Pelican breeding season.

EVALUATION OF ASSUMPTIONS: RESEARCH AND MONITORING

RECOMMENDED RESEARCH

1. Continue the 25 year data base of breeding adult, nest and young surveys.
2. Work with Great Basin waterbird researchers to determine migratory corridors and patterns within and outside the Great Basin.
3. Work with Hill Air Force Base to understand more fully local use areas and time budgets of American White Pelicans to assist in understanding breeding ecology and strategies for reducing risk of bird-strikes to aircraft.
4. Carry out distribution surveys of American White Pelicans throughout western and southern Utah with emphasis on spring, fall and non-breeding migrants.

OUTREACH NEEDS

1. Educate public to the importance of rough fish fisheries to pelicans and other piscivorous birds.
2. Tell the story of Gunnison Island and its value to colonial nesting birds at the Great Salt Lake in Utah, and for the continent.
3. Educate the public at large, lake industries, agencies and NGO's as to the value of the Great Salt Lake ecosystem for western colonial waterbirds.

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

P-3

Public Meeting: *South Davis Junior High School*
298 West 2600 South
Bountiful, Utah

November 7, 2007

Comment Form

Name: Jose Palacios **Address:** 1475 Willow Lane
Park City UT 84098

Representing (optional): _____ **Self** **Other** (please specify) _____

Comments or Concerns:

1) No way To Replace LOST OF HABITAT For The THOUSANDS OF PINTail DUCKS THAT USE THIS AREA THERE FOR REDUCING THE POPULATION EVEN FURDER. P-3.01

2) No way To replace The Fresh WATER MARSH That will BE LOST By This Project. P-3.02

3) The enviro mewTal DAMAGE DONE To This AreA will Be irreversible. P-3.03

4) No AMOUNT OF MONETARY COMPENSATION will Be ENOUGH TO COMPENSATE For The loss OF HABITAT. P-3.04

5) NESTING AND MOLTING Geese will lose A BIG PART OF Their HABIT in UTAH. P-3.05

P-4

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *South Davis Junior High School*
298 West 2600 South
Bountiful, Utah

November 7, 2007

Comment Form

Name: Mark Olsen **Address:** 2415 So 700E
Midvale Ut. 84047

Representing (optional): X **Self** and **Other** (please specify) Duck unlimited volunteer

Comments or Concerns:

I left a detailed recording on the digital recorder. But incase that is erased or otherwise, here are my key concerns:
This project on the Bear river bay will cause detrimental impact to wildlife in the following ways.

P-4.01 1-Elimination of seasonal (spring) flooding that will eliminate the food growth both algal & invertebrate, for north (spring migrating) birds.

P-4.02 2- During wetter years, no possibility of the growth that I have seen there of emergent marsh habitat.

P-4.03 3- Elimination of the molting area used by Canada geese in the summer

P-4.04 4- Disruption of natural flows from the Bear River out to the great Salt Lake

(over)

P-4.05 5- Possible changes in lake salinity & higher concentrations of mercury & other heavy metals. (already a grave concern in our ducks)

P-4.06 6) Once it is gone, none of this can be mitigated by the migrating birds at the Bear River Ref. Please don't let this happen!

Mark Olsen

fold over

BIO-WEST, Inc.
1063 West 1400 North
Logan, UT 84321

place postage here

Jason Gipson, Project Manager
(Public Notice SPK-2007-00121)
U.S. Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, UT 84010

fold over

Transcribed Voice Recorder Comment
Comment taken and transcribed by BIO-WEST, Inc.
At: PUBLIC MEETING FOR PROPOSED GREAT SALT LAKE MINERALS EXPANSION , Bountiful, Utah: November 7, 2007 5-9pm at South Davis Junior High School, 298 W 2600 South.

My name is Mark Olsen. I live at 7415 South 700 East, Midvale, UT 84047. I'm here as both a personal interest and also as a Ducks Unlimited volunteer. I know very little about the Clyman Bay I believe it's called over on the west side of the Great Salt Lake, but on the area on the Bear River refuge, is an area that I am very familiar with and quite intimate with. I've hunted that area for over 40 years. During that time I've seen the lake in it's conditions where it's had both extreme droughts, like we're in this year, and I have also seen it in the flood years when we had areas where it flooded the proposed area that they want to dike and also their facilities that are existing. My concerns that I have for this are many fold. One of the most important things about this area is that it's an area that will constantly have a change of the water flow over the area and cause plant growth and invertebrate growth that they use at various times of the year. In particular I see when I have been out there in the spring, the problem that this area becomes flooded and provides a large amount of food with our spring runoff for the ducks and the other shorebirds and others who utlize that will be eliminated if these 8,000 acres are flooded. That no longer can be flooded by the spring floods and provide the food growth and habits in the spring. I have also seeen that when we have higher water years, when we have 3 or 4 or 5 years in a row that will stay fairly stable with more water, where emergent growth vegetation will come in there and we'll have huge vast acres of alkalie bullrush that will grow and also the cattails when it becomes stable and long enough. These areas become extremely important and useful to the birds both in the spring and the fall migration area. If we change this, and dike this off, another concern is that we will disrupt the flow, the natural flow that we have, for the exit of the bear river in this area. All of the impacts are highly detrimental to the wildlife. Another one as I listened to one of the persons of the corporation explain about their flushing process, when they take some of the water and flush it back into the lake or into the bear river arm, this could greatly increase both selenity problems and mercury and other heavy metal problems that we are now seeing a great impact as they have tested our waterfowl that we are finding both the shovelers the cinnamonteal and the goldeneye were having problems with these being having enough of the heavy metals in these waterfowl that they are not good for the consumption of humans. I see a concentration of these metals possibly occuring with this that could even affect this to a more detrimental situation. I would ask those involved to please consider not allowing this project to move forward. I think it will be a definite detriment to the wildlife involved. Thank you very much

P-5

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *South Davis Junior High School*
298 West 2600 South
Bountiful, Utah

November 7, 2007

Comment Form

Name: Steve Smith **Address:** 1639 Lakeview Dr Bountiful UT 84010

Representing (optional): ✓ **Self** **Other** (please specify)

Comments or Concerns:

This is one of the worst examples of corporate greed vs. public interest

The areas that GSLM is attempting to grab are habitat to 1000's of birds and animals. They also provide recreational opportunities to hunters, boaters, birding, swimmers and those that love the G.S.L. P-5.01

This land can't be so replaced and to allow it to be destroyed for G.S.L.M's ability to earn more $ would be a tragic breach of the public Trust. P-5.02

(EAST SIDE OF LAKE)

My Family and I boat + hunt there at least 10 x's every year. Those opportunities would be lost forever if this project is allowed to move forward P-5.03

P-6

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *South Davis Junior High School*
298 West 2600 South
Bountiful, Utah

November 7, 2007

Comment Form

Name: William Wilkinson **Address:** 5124 Skyline Dr
Ogden, UT
84403

Representing (optional): ✓ **Self** **Other** (please specify) _____

Comments or Concerns:

The proposed expansion of the East evaporation ponds will have a devastating effect on the Bear River Bay and on the Great Salt Lake. The proposed pond will take 25% of the bay. The approximate 12½ square miles is just too much. It will greatly reduce the water flow from the bay into the rest of the lake. It will destroy much of the habitat where huge numbers of waterfowl nest and feed. 25% of the Pintail Ducks in North America come through this area. 100 000 Green Wing Teal were counted on the proposed site during October of this year. I am extremely concerned about this proposal and I respectfully request that you deny the expansion.

P-6.01

P-6.02

P-6.03

Sincerely
William Wilkinson

U.S. ARMY CORPS OF ENGINEERS

PUBLIC INFORMATION MEETING ON THE PROPOSED 33,000-ACRE EXPANSION OF SOLAR EVAPORATION PONDS ON THE GREAT SALT LAKE	TRANSCRIPT OF PUBLIC COMMENTS

November 8, 2007 * 5:00 p.m.

Location: Ogden Nature Center
966 West 12th Street
Ogden, Utah 84404

Reporter: Kelly Fine-Jensen, RPR
Notary Public in and for the State of Utah

A P P E A R A N C E S

PUBLIC SPEAKERS:

Gary Slot (address not given)	P-7
Pete Hansen 5714 South 5500 West Hooper, Utah 84315	P-8
Wallace Thompson 1213 Hudson Street Ogden, Utah 84404	P-9
R. Jefre Hicks 6680 South 475 East South Weber, Utah 84405	P-10
Troy Thompson 2803 South 2675 West Syracuse, Utah 84075	P-11
Rich Noble 638 West 2525 South Syracuse, Utah 84075	P-12
Dave E. Casperson 4103 West 4000 North Plain City, Utah 84404	P-13
Eric Casperson 2206 North 4500 West Plain City, Utah 84404	P-14

-oOo-

P R O C E E D I N G S

MR. GARY SLOT: (Time noted: 5:48 p.m.)

Well, what I'm worried about is where they are going to get the ground to mitigate this. See, they are going to take 8,000 acres of Willard Spur, prime water fowl habitat. And I don't know any place where they can -- they go 2-to-1, that's 16,000 acres they got to replace, you know, to mitigate. Well, there is no place out there that they can show me where they are going to mitigate and it'll be as good as the marsh there ever was. Right now it's probably going to hurt the whole eco system. And what happens? That Willard Spur is one of the most important eco systems in the whole Intermountain West. All the shore birds, ducks and geese and everything come through there. Just like a magnet. They come to the Great Salt Lake marshes and then they leave. Well, that Willard Spur is the main place where the ducks go. P-7.01

And I've been at the Bear River Club for 40 years. And the years there is water out in the spur and there is a lot of habitat, you raise twice as many shore birds, ducks. And then the duck shooting is better. And maybe duck shooting ain't P-7.02

important, but it's a thing. But it's the habitat. All the thousands of birds are not raising. And I'm just worried if they get this project going, that I think it'll foul up the whole eco system.

And I also think that the State is making a big mistake. See, they get money. Well, they are going to let them build it. So say that's going to be 30 or 40,000-acre feet of water they're going to take out of the Great Salt Lake. There are some other places they're trying to build a dam on the Bear River. Well, that's going to take 200,000-acre feet. Idaho is trying to build one. Now Proctor & Gamble is trying to foul along the river. You foul all this water, the Great Salt Lake is eventually going to dry. P-7.03

So people is thinking, "Oh, this is a good deal, we're getting business and this thing," but eventually we're stepping over dollars to pick up pennies. What happens when we there is no lake effect and we don't get no snow in the mountains? And how can you go to Antelope Island when there ain't no water out there? P-7.04

See, the way the populations are going to be taking, the Bear River, it won't go in there. GSL builds that thing and that's going to take its water.

And all this water is going to be so valuable. And it's just destroying a lot of good habitat.

And then I just talked to somebody and he showed me pictures. Now, I never did see it myself, but he showed pictures of where they are discharging salt water back into the Willard Spur and killing the cat-tails and the tulies. Now that's just a picture I saw. I didn't see it myself. So you know, they said they're doing that and hurting more habitat. But I have no idea on that so I don't want to comment on that because you don't know -- if you don't see it firsthand, it's of no use. But them guys was showing me pictures. P-7.05

But I'm just really concerned that my grandkids and great grandkids won't be able to see the Salt Lake or they won't be able to see the shore birds or anything because the way they're doing it, it's all going to dry up. P-7.06

There is other places GSL could build. They could build way out there on the desert where they got the other two and it would be just as effective. It wouldn't take this freshwater. See, Willard Bay is freshwater -- not fresh, but, I mean, it's salty, but a lot fresher than the lake. Well, they can go out there and you wouldn't have no impact on the water fowl. You really wouldn't. P-7.07

I just wanted to give my thing because I don't want -- you know, I want my grandkids to see the stuff I have. But -- you know, it's a problem of everybody's.

So thank you for your time. But I just had to say it because you get old. I thought I won't be around, I'll be dead, but my grandkids will be.

So thank you.

(Time noted: 5:52 p.m.)

MR. PETE HANSEN: (Time noted: 6:49 p.m.)

P-8.01
(Continuing through p. 8 of transcript)

They say there will be no environmental damages when they're dumping salt water into the marshlands. I'd say it's doing environmental damages.

MR. SIM: She doesn't actually know much about the project, but if you're more comfortable, you can direct your comments to me. I'll sit in.

MR. HANSEN: That's fine.

GSL is claiming innocence, they haven't done any damage, but I can take you out to the backside of Willard and show you where there is nothing there now but magnesium and mud. Where it used to be all grasslands, cat-tails, everything, ducks and geese, nothing there now. Because GSL is blowing their dikes. And they quit blowing them

because they got caught. Now they dig them out with a big Cat and put head gates and pipes through. And they are flooding the backside, towards the east and stuff, on that bay.

They're dumping the water right out of this area (indicating on a photo).

MR. SIM: What area is that?

MR. PETE HANSEN: Coming in -- this area -- is that the right picture?

MR. SIM: Just because she's writing down the comments, I want to make sure that that gets in there.

MR. PETE HANSEN: Yeah. It's right in here (indicating).

MR. SIM: Northern most ponds there?

MR. PETE HANSEN: East and north. Yeah.

And they say they're not doing anything. This is their ponds and they drain the salt out. This was all vegetation and stuff. Now this is barely growing.

There is one of the sink boxes. This water runs all the way around the backside of the GSL, on the east side and part of the north side. And their dike is on the south end.

That was all freshwater. It's full of

magnesium, salt. Dogs can't even drink it. Birds won't habitat it. It's totally destroyed.

Here is another picture that they say they don't do. This is also right there in the same area.

This is another one they say they don't do. This used to be three, four-foot tall. Now it's about two to three inches tall. They opened the dam. They said, oh, they don't do that. They said they don't put heads gates in. There is a pipe coming out and head gates over here. This coming out this way is the backside into their pond and it comes this way.

Here is another one. Salt water coming out. Coming out of their head gates. Say they don't put them in, don't open the dikes, don't do nothing environmentally unsafe? He's talking through his teeth like a liar. You ask them about it and they'll look right at you. Marriot is in charge of their dikes and he's the one opening them.

Nobody wants to do anything. Everybody says, "No." But if U.S -- but if Army Corps of Engineers does it, you're going to ruin thousands and thousands of acres, wetlands, migratory birds, one of the biggest areas they got. And if that's gone -- that's mostly freshwater.

P-8.02

They don't want to disturb the other side of the lake because of the brine shrimp? Well, they're going to dump salt water into the other side. What's that going to do to the land? It's going to ruin the whole ecology. P-8.03

Nobody wants to do anything about it.

The guy that's in charge of all that, guy with the U.S. Forest Service, he's in charge of -- what's the name of that land -- solvent lands. He came out and he seen this. I asked him, "How often do you come out here?" He's a GS-12. Can't remember his name.

He says, "I've never been out here."

I says, "How can you manage a project you've never been out on?"

I says, "Look at these holes."

He says, "Well, I don't know what they can do and what they can't do."

Now if he's getting paid GS-12 wages and he isn't doing anything, wait a minute. Something is going on. GSL is paying people under the table. All say that right now. I'll tell it to their faces. They might want to sue me for it, but they won't get nothing. You haven't got nothing, they can't get it.

But it's sad. I can take anybody out

there right now and show them the destruction that they've done. The head man of your Corps of Army Engineers, he said he's only been out there once. He probably rode around on the GSL dike. He never went out on a boat and went around over there to see anything. They'll show him around what they want him to see.

Harold Crane is just to the back of that. Harold Crane used to feed that canal all the way around with freshwater. GSL took it over and totally destroyed it. And that runs from the backside of Willard Bay, clear over to Promontory. There is a big mud flat over there. And those birds use that mud flat and Salicornia and everything growing on it. And what they want to take right now, they call it the weeds, the Islands, there is all kinds of vegetation out there. You can't see it anywhere unless you fly over it, unless you drive over it in an air boat. It's totally going to be destroyed.

P-8.04

And a lot of people use it. People use it all summer long. Go for boat rides and picnics. Air boaters use it for hunting. Long shafters go out when the water is deep enough. Bird watchers go out. And going on the other side of Promontory and come back out and look, that'll all be gone. Road that

P-8.05

goes down there, public launch, they'll take all of it. And it's not right.

Somebody has got to stop it. Somebody has got to say something. All it is right now in the whole thing -- he says the same thing, it's political and nobody is going to do anything about it because nobody cares.

And this Steve Williams, the head of the Federal Voice, right here, the Director, Steve Williams, he says you have a problem with wetlands and stuff being destroyed, write him a letter. We sent him a registered letter. We sent him pictures. We sent him everything. What did he do? He sent it to Denver and Denver sent it back and said, "It's not our problem."

So where do you go?

We've spent hours trying to fight this. And we just hit our head against a stone wall. And it's not right.

If they close it, that's what they'll do. Everything is going to be pushed into Ogden Bay. Ogden Bay is so polluted with fragmite. Half the water is gone out of there because of it. Nobody cares. Farmington Bay, they're trying to work on it. Harold Crane, they're trying to fix. Fish & Game

don't care. They say there is nothing they can do. Well, heck, if there is nothing they can do, what's going on? They say -- Fish & Game come right out and told us, "There is nothing we can do. It's political and big money."

Now that's pretty sad.

That's about all I can tell you on it.

Want to put my name on there, you can. Pete Hansen.

And I've been a burr in their side for a long time. Even Al Trout. He has destroyed so much land up in Box Elder County and Bear River. He's not a sportsman. He'll tell you he is. But he's not. He told us about four years ago, in an air boat meeting, as far as he was concerned, he didn't care if he gave us a half inch water or ten foot of water because he hated all air boaters and anybody who hunted out of them, or any long shafters, unless they were in his Bear River. Air boats can't go in there.

Know where we used to hunt a lot? Al Trout moved boundaries and closed them. And nobody wanted to fight that.

So it's been going on. It's not just -- it's just the little people, little sportsmen are getting shafted. Money talks and -- excuse the

French -- but shit floats and comes to the top. And I'd hate to see the Corps of Army Engineers -- they've already got a black eye with Willard Bay. And that won't be filled up again until 2010, 2008. Because they got to get the money appropriated to fill at least four miles over there. And while they're fixing that, the west side is sinking. And it's built on marshlands. There is no bottom.

So Army Corps of engineers, they've got their butt in a ringer. I hate to see it because there are a lot of good people in there. And they do try. But they get in the same thing, bureaucracy and big money. And it's sad.

So we'll leave you people.

You have anything you wanted to say?

MR. WALLACE THOMPSON: Yeah. I wanted to make a comment.

On all that solvent land they made a law you can't run a four wheeler, ATVs. And yet they'll let GSL build dikes to block off the whole area so nobody has access to it; is that right? P-9.01

MR. PETE HANSEN: Solvent land, you can't run anything on it because it's solvent land. Yet GSL can build anything they want.

Now where is the pro and con on that?

MR. WALLACE THOMPSON: That's about all I've got to say on it.

MR. PETE HANSEN: This is what we've been fighting for years. Same thing. A lot of people that are involved, you know. They all feel the same way. And you can't blame them. A lot of people get to the point and say the same thing, "There is nothing we can do."

MR. WALLACE THOMPSON: Thanks for listening.

MR. PETE HANSEN: Hope it did some good.

(Time noted: 7:02 p.m.)

MR. PETE HANSEN: (Time noted: 7:05 p.m.)

If they build those dikes like they want to do, it's going to raise all the water level, freshwater level, that's outside of that. And see, we run and the ducks and stuff, they like water from two inches to maybe a foot. And that's what we run on and that's what the sportsmen use. If they build those dikes, that's going to raise that to three, four, five foot. And there won't be no feed, no vegetation left out in that area. It would totally be destroyed. And GSL doesn't care. I'm sorry. They are only in it for the money. Rather make a dollar. And that's what they're trying to do.

P-8.06

And it will affect the brine shrimp on the other side. P-8.07

Thank you. Have a good day.

(Time noted: 7:06 p.m.)

MR. R. JEFRE HICKS: (Time noted: 8:12 p.m.)

I wanted -- this is an addendum to my comments.

And I also wanted to say that partially down the new dike in the Bear River Bay, proposed dike, there is the mud bar that comes out from the Bear River Bird Refuge out to -- basically it would connect with the new proposed boundary. That is typically sheetwater with the new dike. And it would force GSL as a mitigation to create a channel or a canal there. That destroys the sheetwater that we feel is necessary for wildlife to feed and loaf in that they've traditionally had. There is no way to replace that sheetwater with a 30-foot-wide canal. It's not the same. P-10.01

If they were to put a water control structure on that canal, if they were to do that, I'm afraid it would back up water artificially into Willard Spur and create even more problems. P-10.02

So I am opposed to that, to any water

control structures that would artifically back water up into Willard Bay and Bear River bay.

That's it.

(Time noted: 8:15 p.m.)

MR. TROY THOMPSON: (Time noted: 8:17 p.m.)

The thing that concerns me the most with this whole proposed 8,000-acre expansion on the Bear River Bay is the amount of shore birds, water fowl and migratory birds that use this bay as a staging ground as they come down the fly way. The fly way being, you know, where the birds come in from Canada and stuff and stage in these areas. A lot of them being Pintails, swans, Divers, Redheads. You know, the ducks that are -- that need this area to loaf on and to rest and to build their energy levels up to continue south or north, because they use both directions. P-11.01

And the habitat loss that will be generated by this 8,000-acre expansion is irreplaceable, because it's one of the only freshwater bays in the whole chain of the Great Salt Lake. And 60 percent of the water, the freshwater that comes out of that Bear River Bay is -- I mean, that's irreplaceable, that they're going to destroy.

The other affect that I feel it will have on the area is if they dike that up, that it will make the spur of Willard deeper. And by doing that, they'll ruin thousands upon thousands of acres of wetland and habitat up farther to the east by forcing that water up in there unnaturally. And if the sheetwater and stuff that's out there that these birds loaf on, that's only inches deep, it's just irreplaceable to the whole eco system of things and the way these birds for thousands of years have used that area.

P-11.02

I just feel it's a really big mistake to let them do that because of all of the habitat that it's just going to destroy for these bids.

Thank you.

(Time noted: 8:19 p.m.)

MR. RICH NOBLE: (Time noted: 8:40 p.m.)

My name is Rich Noble. I live in Syracuse, Utah.

And I am concerned about the environmental impact that this proposed expansion of GSL dikes system would have on the fragile eco system in the Willard Spur, what I call the Willard Spur area.

P-12.01

I am concerned that any loss of acreage or land and the area that the birds, all shore birds,

water fowl, hawks, eagles, all those birds that migrate through the Great Salt Lake or Great Basin that fly through this fly way, would be severely impacted if this wasn't done correctly or right.

I'm concerned that we're losing ground. And what are we getting for it? I would like to see something in regards to GSL make commitments then to the "friends" of this area to be infringed upon, compensated some way, that we could improve this fragile eco system and be in harmony with that GSL dike that they want to expand.

P-12.01 (Continued)

My real concern is that we have millions of birds that fly through this area coming and going from north to south, and that these birds that feed upon -- in good weather or water condition years -- they feed upon the weeds, the sago pond -- sago pond weed that houses microorganisms and grubs and stuff that birds eat. And then they become fat and healthy and fly north and have babies, just to be as blunt as I can. If they are in good health, they get up there and produce more birds, have a better hatch and fly back down here. And then people can enjoy it, whether bird watchers or hunters or whatever. But the people who are supporting all this are normally sportsmen. You don't see all these other groups

P-12.02

P-12.03

trying to raise money so that we can protect this environment.

I would hope that there would be some good, common sense and that the parties involved in this, if GSL wants to go ahead and expand, what would GSL be willing to do to assist and build up that area and not that we, as "friends" of the Willard Spur, be concerned that we're going to have something taken away and never replaced. P-12.01 (restating point)

The environment with this Great Salt Lake affects a lot of industries in the State of Utah. We know what the lake effect is here. We know that when the lake is in good condition, brine shrimp is grown. P-12.04

We have a lot of good lake effect snow storms, which brings in millions of dollars of income from tourists into the State of Utah. What happens if the lake continues to go down or if we keep pumping stuff out? Maybe this expansion certainly wouldn't detract from that, but what we're trying to do here is to save a very fragile environment, an eco system out there, that not very many people know and understand how fragile it is. We know how fragile it was back in the '80s when the lake rose and the salt water killed everything off. The dikes were destroyed, the roads were destroyed and the salt killed everything. P-12.05 P-12.06

What we're concerned about here is that if we have salt evaporation ponds and if that is discharged into this freshwater environment, it's going to kill things. And the ducks and the birds and all those things that are living in that system right now will either stop coming here or they'll die off. And the fly way patterns will change. And generations to come won't have the opportunity that we've been blessed to have.

P-12.07

So I guess my final comment is just please use common sense with this. GSL would have to be able to come up with some kind of a plan that would say this is what we want to do.

And it's my understanding that GSL contributes something like $3 million a year annually to a general fund. And if that's the case, where is that money going to assist or helping the "friends" that we talk about of this eco system, all along the Wasatch front? And if it could be earmarked or put in an endowment or something like that that we can benefit from it. When I say "we," we're talking about the eco system. And people, whether bird watchers or sportsmen or hunters, can enjoy this eco system for years to come.

P-12.01
(restating point)

Thanks.

(Time noted: 8:47 p.m.)

MR. R. JEFRE HICKS: (Time noted: 8:48 p.m.)

I wanted to add that I'm concerned that taking 8,000 acres out of Bear River Bay will concentrate the migrating water fowl. And during the migrations concentrate the water fowl even more than they are now. And they really need to spread out.

And that's a real concern when it comes to botulism. There has been some huge die offs in those flats before. And the more concentrated the birds are, the higher the likelihood of a massive die off.

Taking out 8,000 acres of the bay, concentrates those birds and puts them at risk. P-10.03

Thank you.

(Time noted 8:49 p.m.)

MR. DAVE E. CASPERSON:

(Time noted: 8:50 p.m.)

Appreciate this.

We've spent many years out there in that area and seen the expansion of GSL out there. I just have a few concerns other than the mighty dollar out there.

I think for the most part, they do a pretty good job. The way the outlay is, in my

opinion, is going to cause some irreversible damage in that area. And the flow that comes from the canal and the Bear River Bird Refuge will flow directly through that area they are trying to block off. That will actually eliminate the water flow in that area to the west and northwest of there. Which will also concentrate the little water they have out there. P-13.01

We've had some botulism outbreaks out there, outbreaks that can cause some major problems for the birds out there. And this will further concentrate the birds and cause an even bigger die off than we've had out there in the past. P-13.02

Also, I think accessibility and -- not only for hunting, but also for recreation, we actually are using that for recreation out there, too. But that's one of the main concerns we have is the accessibility out there in that area. P-13.03

I've forgotten everything else I was going to say. I think that's it for now.

Thank you.

(Time noted: 8:55 p.m.)

MR. ERIC CASPERSON:

(Time noted: 8:56 p.m.)

I agree also with the access to the water out there. The dike, if they -- it will limit the P-14.01

access to there. Also concentrate all of the birds and result in a higher death of water fowl due to botulism. P-14.02

And if they tried to shorten it or modify the dikes in any way that would give access to the water to the Great Salt Lake and give us access throughout the year, that we would be able to possibly compromise, to find a solution to satisfy both we and them. And to be able to help out the eco system. P-14.01 (Continuing)

At times the GSL will have breaches in the dike and this -- the high salinity of water that is put into the freshwater kills the fragile eco system that exists out there now. It kills the reeds, the insects and the food supply that the water fowl depend on. Restricts the nesting grounds and rest areas that the birds are able to sit in and rest and be able to get away from predators, and even hunters themselves. P-14.03 P-14.04

So if there is anyway they can modify their project, that these would possibly help.

Thanks.

(Time noted: 9:00 p.m.)

(Public meeting concluded at 9:00 p.m.)

REPORTER'S HEARING CERTIFICATE

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

I, Kelly Fine-Jensen, Registered Professional Reporter and Notary Public in and for the State of Utah, do hereby certify:

That said proceeding was taken down by me in stenotype on November 8, 2007, at the place therein named, and was thereafter transcribed, and that a true and correct transcription of said testimony is set forth in the preceding pages;

I further certify that I am not kin or otherwise associated with any of the parties to said cause of action and that I am not interested in the outcome thereof.

WITNESS MY HAND AND OFFICIAL SEAL this 16th day of November, 2007.

_____
Kelly Fine-Jensen, RPR
Notary Public
Residing in Salt Lake County

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Received: from gw4.usace.army.mil ([140.194.100.160]) by cmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Thu, 8 Nov 2007 09:44:08 -0600
Received: from mail.us89.net ([209.90.90.181]) by gw4.usace.army.mil with ESMTP; 08 Nov 2007 15:44:08 +0000
Received: from yourd569fbdad0 (unverified [205.208.177.81]) by mail.us89.net (Rockliffe SMTPRA 7.0.6) with ESMTP id <B0019795633@mail.us89.net> for <jason.a.gipson@usace.army.mil>; Thu, 8 Nov 2007 08:43:51 -0700
Content-class: urn:content-classes:message

Subject: losing 8000 acres of waterfowl habitat to GSL Minerals.
Date: Thu, 8 Nov 2007 07:44:11 -0800

Message-ID: <MBEJLCBDMAOFPPKGKHNKGENICBAA.darin_lish@myfam.com>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: losing 8000 acres of waterfowl habitat to GSL Minerals.
Thread-Index: AcgiHjSX7+E6lWqDQuyUhbwgAs9WBw==

From: "Darin & Alicia Noorda" <darin_lish@myfam.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

Jason, or To whom it may concern.

my work schedule prevents me from making it to the meeting regarding the expansion of GSL minerals. i an an avid waterfowl hunter and conservationist, this is an unbelievable loss of habitat to waterfowl and other imgrating birds. by expanding those mineral ponds by 8,000 acres would DRAMATICLY impact the waterfowl and other migrating birds that inhabit the bear river bay area. I STRONGLY oppose the notion that is being put for to expand GSL minerals and ruins more habitat to development all for the sake of a company making more $$$. Please consider the greater picture as im sure you are by the impact of this type of expansion. P-15.01

Thank You,

Darin Noorda
Tremonton Utah.

P-16

Received: from eis-ml1rdp.eis.ds.usace.army.mil ([140.194.151.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Thu, 8 Nov 2007 05:52:58 -0800
MIME-Version: 1.0
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boundary="----_=_NextPart_012_01C8220E.AB5DD900"
X-MimeOLE: Produced By Microsoft Exchange V6.5
Received: from wmx2.usace.army.mil ([140.194.151.34]) by eis-ml1rdp.eis.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Thu, 8 Nov 2007 05:52:56 -0800
Received: from gw2.usace.army.mil ([140.194.100.150]) by wmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Thu, 8 Nov 2007 05:52:56 -0800
Received: from bay0-omc1-s29.bay0.hotmail.com ([65.54.246.101]) by gw2.usace.army.mil with ESMTP; 08 Nov 2007 13:52:56 +0000
Received: from BAY138-W20 ([64.4.49.55]) by bay0-omc1-s29.bay0.hotmail.com with Microsoft SMTPSVC(6.0.3790.3959); Thu, 8 Nov 2007 05:52:55 -0800
Content-class: urn:content-classes:message

Subject: Great Salt Lake
Date: Thu, 8 Nov 2007 05:52:55 -0800

Message-ID: <BAY138-W205224575A8AF1024B0944A48B0@phx.gbl>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Great Salt Lake
Thread-Index: AcgiDquDSfBxO9E2Qy2T8tJT5gPe/A==

From: "bill stevens" <wpstevens@hotmail.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
.hmmessage P { margin:0px; padding:0px } body.hmmessage { FONT-SIZE: 10pt; FONT-FAMILY:Tahoma }

Dear Mr. Gipson:

I would like to object most strongly to the project proposing three evaporation ponds covering 33,000 acres in the Great Salt Lake. The lake is a vital venue for over five million birds. The lake's productivity and viability has been chipped away at over the 150 years since settlers came into the region. In a time of environmental uncertainty, further degrading the lake as avian habitat is highly questionable. Migrating birds from all over the intermountain west and from Canada use the lake as a vital stop-over. The proposed action is contrary to the spirit (if not the law) of the Migratory Bird Treaty. P-16.01

I urge you to consider the cumulative effects of industrial projects on the avian habitat of the Great Salt Lake. One project in itself may not show deleterious effects, but taken as a whole, habitat is degraded. We cannot truly quantify when that habitat degradation may reach a critical threshhold. I believe that the importance of the Great Salt Lake to avian life outweighs the benefits of the proposed project.

I would like to be informed when the environmental document is available. Thank you,

Kate Stevens
151 Arches Drive
Moab, UT 84532
4335-259-2633

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

P-17

Public Meeting: *Ogden Nature Center*
966West 12th Street
Ogden, Utah

November 8, 2007

Comment Form

Name: Nicholas Pizer **Address:** 1242 E 3100 N
U. Ogden
UT 84414

Representing (optional): X **Self** **Other** (please specify) _____

Comments or Concerns:

Wanted to express my concern over proposed listed in sheets attached to this form. I see no good out come by implementing proposed containment area / holding ponds - Beside destroying many acres of Wetland and open available fly fishing usage - My wife is disabled & this would remove much area she has access too - using a walker limits her hunting area. We do not need more of our Wet lands taken - It should be the other way around.

P-17.01

P-17.02

P-18

Received: from eis-ml1itl.eis.ds.usace.army.mil ([140.194.245.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Fri, 9 Nov 2007 14:06:52 -0800
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="----_=_NextPart_010_01C8231C.D5052600"
X-MimeOLE: Produced By Microsoft Exchange V6.5
Received: from cmx2.usace.army.mil ([140.194.245.34]) by eis-ml1itl.eis.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Fri, 9 Nov 2007 16:06:50 -0600
Received: from gw2.usace.army.mil ([140.194.100.150]) by cmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Fri, 9 Nov 2007 16:06:50 -0600
Received: from outbound-smtp6.firstam.com (HELO outbound-smtp.firstam.com) ([69.87.54.11]) by gw2.usace.army.mil with ESMTP; 09 Nov 2007 22:06:41 +0000
Received: from 10.48.129.31 by outbound-smtp.firstam.com with ESMTP (Hello SMTP Relay); Fri, 09 Nov 2007 14:06:35 -0800
Received: from corp1.firstam.com (HELO fahqsna01smxs11.corp.firstam.com) ([172.17.247.11]) by FAEMSNA01SMXS01.firstam.com with ESMTP; 09 Nov 2007 14:06:35 -0800
Received: from tiswphx01sxch05.corp.firstam.com ([172.16.80.176]) by fahqsna01smxs11.corp.firstam.com with Microsoft SMTPSVC(6.0.3790.1830); Fri, 9 Nov 2007 14:06:26 -0800
Content-class: urn:content-classes:message
Subject: GSL Evaporation Pond Expansion
Date: Fri, 9 Nov 2007 14:06:25 -0800
Message-ID:
<DA92ED629FA03E4AAA66F45B6F8CC13C0914CB9D@tiswphx01sxch05.corp.firstam.com
>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: AcgjHMUFCdMufDCoRjWdgBVFsSnpXQ==

From: "Iverson, Eric" <eiverson@firstam.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

Mr. Gipson,

I would like to take a minute to voice my utter and complete disapproval of the GSL expansion. It is wrong on so many levels.

The foremost is the uniqueness of the area. There are few places like this in United States, let alone in the world. During normal years the area is a major staging (and loafing) area for so many species of birds. Most importantly the northern pintail, which as you may or may not know, is struggling to maintain long term populations. I cant think of one positive thing that would come about as the result of destroying part of an ecosystem (a couple hundred jobs is not worth it). I could go on and on about all that is wrong, i.e corporate greed, with this proposal, but I think my point has been made. P-18.01

Thanks for your time and effort, and hopefully I am not alone in my opinion.

Sincerely

Eric K. Iverson

Escrow Officer

First American Title Insurance Agency

5926 South Fashion Pointe Drive #120

South Ogden, UT 84403

Phone: 801-479-6600

Efax: 1-866-464-4408

P-19

Received: from eis-ml1rdp.eis.ds.usace.army.mil ([140.194.151.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Fri, 9 Nov 2007 16:03:10 -0800
MIME-Version: 1.0
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boundary="----_=_NextPart_009_01C8232D.143B7300"
X-MimeOLE: Produced By Microsoft Exchange V6.5
Received: from wmx2.usace.army.mil ([140.194.151.34]) by eis-ml1rdp.eis.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Fri, 9 Nov 2007 16:03:09 -0800
Received: from gw3.usace.army.mil ([140.194.153.3]) by wmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Fri, 9 Nov 2007 16:03:09 -0800
Received: from sinclair.provo.novell.com ([137.65.248.137]) by gw3.usace.army.mil with ESMTP; 10 Nov 2007 00:03:08 +0000
Received: from INET-PRV-MTA by sinclair.provo.novell.com with Novell_GroupWise; Fri, 09 Nov 2007 17:03:07 -0700
Content-class: urn:content-classes:message

Subject: GSL Evaporation Pond Expansion
Date: Fri, 9 Nov 2007 16:03:05 -0800

Message-ID: <473492FD.EB7E.00DE.0@novell.com>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: AcgjLRRdpRyE4xDoQcKq7BlGLmDbtw==

From: "Nick Pew" <npew@novell.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

Mr. Jason Gipson,

I am against the expansion of the GSL Evaporation Pond, I feel that the impact to the ecosystem of this area needs to be considered. The proposed expansion dike will further concentrate waterfowl into an area already prone to botulism outbreaks. This is already a problem that we as people have caused, and we should do all we can to prevent making it worse. P-19.01

It is impossible to replace this particular freshwater bay ecosystem, The Salt Lake is important to me and I don't want to see it's further destruction of this precious part of Utah. The proposed dike will prohibit water sheeting around the mud bar which protrudes south out of the Bear River Refuge. This refuge is so important to so many animals, that already have lots of challenges facing them in the area of human encroachment on their habitat. Pintails need this area for their migration (huge staging area). They are one of the US Fish and Wildlife's species of concern. They are one of the duck species who's numbers are declining. P-19.02

They need this vital habitat to rest and feed as they continue to migrate south, and on their return north to the breedinggrounds. 25% of North Americas Pintail population use this area during migration. The loss of this habitat will further hurt efforts to help them have successful migration. P-19.03

Thank You for considering these important issues.

Nick Pew

P-20

Received: from eis-ml1itl.eis.ds.usace.army.mil ([140.194.245.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Sat, 10 Nov 2007 09:44:40 -0800
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Content-Type: multipart/alternative;
boundary="----_=_NextPart_008_01C823C1.5EAF1B69"
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Received: from gw1.usace.army.mil ([140.194.153.1]) by cmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Sat, 10 Nov 2007 11:44:38 -0600
Received: from qmta03.emeryville.ca.mail.comcast.net ([76.96.30.32]) by gw1.usace.army.mil with ESMTP; 10 Nov 2007 17:44:37 +0000
Received: from OMTA05.emeryville.ca.mail.comcast.net ([76.96.30.43]) by QMTA03.emeryville.ca.mail.comcast.net with smtp id B4361Y0040vp7WL0107c00; Sat, 10 Nov 2007 17:44:39 +0000
Received: from D41G17C1 ([24.2.64.132]) by OMTA05.emeryville.ca.mail.comcast.net with comcast id B5kd1Y0032rC9pC0000000; Sat, 10 Nov 2007 17:44:39 +0000
Content-class: urn:content-classes:message

Subject: Evaporation pond expansion at bear river bay
Date: Sat, 10 Nov 2007 09:44:48 -0800

Message-ID: <000901c823c1$63bf7090$6601a8c0@D41G17C1>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Evaporation pond expansion at bear river bay
Thread-Index: AcgjwV6vDoMC4LVqQGaL5RLhFGnwnQ==

From: "Annie" <michael5244@comcast.net>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

I would like to comment on this expansion and the reasons that it should NOT be allowed to proceed.

This area is used by thousands of waterfowl every year while thay migrate threw are state,if you allow GSLM to expand their operations and use this area for no other pupose but make more money and to destroy the limited resources the birds already have while migrating threw are state than I am sadened by your decision. P-20.01

I Michael A. Lucero on this day 11/10/2007 post my view to NOT allow this and will jion others that are against allowing GSLM to expand there operations into the Bear River Bay.

Thank you for your time and I hope you will make the right decision.

Received: from eis-ml1itl.eis.ds.usace.army.mil ([140.194.245.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Mon, 12 Nov 2007 20:19:21 -0800

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Received: from gw4.usace.army.mil ([140.194.100.160]) by cmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Mon, 12 Nov 2007 22:19:18 -0600
Received: from wnpgmb02-group-smtpout.mts.net (HELO mx-mtaout01.mts.net) ([142.161.130.102]) by gw4.usace.army.mil with ESMTP; 13 Nov 2007 04:19:18 +0000
Received: from wnpgmb01-c600f.mts.net ([172.17.170.28]) by mx-mtaout01.mts.net with ESMTP id <20071113041917.IUBS15940.mx-mtaout01.mts.net@wnpgmb01-c600f.mts.net> for <jason.a.gipson@usace.army.mil>; Mon, 12 Nov 2007 22:19:17 -0600
Received: from slkrmb01dc1-255-69.dynamic.mts.net (HELO Chris) ([142.161.255.69]) by wnpgmb01-c600f.mts.net with SMTP; 12 Nov 2007 22:19:17 -0600
Content-class: urn:content-classes:message

Subject: GSL Evaporation Pond Expansion

Date: Mon, 12 Nov 2007 20:19:05 -0800

Message-ID: <000f01c825ac$54e426a0$6464a8c0@Chris>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: AcglrF2Q9Di0yLgfTXySiAaRSqn8Kw==

From: "Chris Benson" <netleymarsh@mts.net>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

Hello,

I understand there a plan to expand the Great Salt Lake Evaporation ponds, at the cost of the Utah marsh ecosystem. The value of these fresh water ecosystems is impossible to put a price on, fresh water more than anything else is by far the most important natural resource we have. To destroy an important wetland such as this is a grave mistake. P-21.01

This area is also a very important staging area for thousands of waterfowl species as well as many other animals. These wetlands can not be replaced when they are destroyed.

I implore you to reconsider.

Thank you for your time,

Chris Benson

P-22

Received: from eis-ml1itl.eis.ds.usace.army.mil ([140.194.245.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Mon, 12 Nov 2007 19:11:01 -0800
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Received: from gw1.usace.army.mil ([140.194.153.1]) by cmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Mon, 12 Nov 2007 21:10:59 -0600
Received: from web50312.mail.re2.yahoo.com ([206.190.39.214]) by gw1.usace.army.mil with SMTP; 13 Nov 2007 03:10:58 +0000
Received: (qmail 89577 invoked by uid 60001); 13 Nov 2007 03:10:57 -0000
Received: from [66.199.122.164] by web50312.mail.re2.yahoo.com via HTTP; Mon, 12 Nov 2007 19:10:57 PST
Content-class: urn:content-classes:message

Subject: Proposed GSL project
Date: Mon, 12 Nov 2007 19:10:57 -0800

Message-ID: <638376.88096.qm@web50312.mail.re2.yahoo.com>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Proposed GSL project
Thread-Index: AcglotG72GACUNuoQei6S+y5L1nMfA==

From: "Jeremy Richards" <gander311@yahoo.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

Dear Mr. Gipson,

I am writing you concerning the proposed GSL expansion into the Bear River Bay area. I would like to strongly voice my opinion in opposition of the negative impact I feel that would have on a crucial wetland habitat that is vital to the ecosystem of the surrounding marsh and habitat. It provides substantial breeding and roosting grounds for the thousands of wildfowl that frequent the area, both on a year round basis for resident wildlife, but just as crucially for the thousands of migrating birds that stage in the area. P-22.01

Please take into consideration the negative impact this would have on the areas wildlife both in the immediate future, and also future negative effects on the breeding and migration habits and patterns.

Thanks for your time.

Sincerely,
Jeremy Richards
Vice President Great Basin Chapter of Delta Waterfowl

P-23

Received: from eis-ml1rdp.eis.ds.usace.army.mil ([140.194.151.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Mon, 12 Nov 2007 07:02:28 -0800
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Received: from wmx2.usace.army.mil ([140.194.151.34]) by eis-ml1rdp.eis.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Mon, 12 Nov 2007 07:02:27 -0800
Received: from gw2.usace.army.mil ([140.194.100.150]) by wmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Mon, 12 Nov 2007 07:02:27 -0800
Received: from mail.hoganconstruction.com (HELO hoganconstruction.com) ([208.53.36.86]) by gw2.usace.army.mil with ESMTP; 12 Nov 2007 15:02:26 +0000
Content-class: urn:content-classes:message
Subject: Concerning hte Expansion Ponds near Willard Bay
Date: Mon, 12 Nov 2007 07:02:24 -0800
Message-ID:
<DA21A9BD8E2E6E428ED4635F7101ACAC74E0A0@jefferson.hoganconstruction.com>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Concerning hte Expansion Ponds near Willard Bay
Thread-Index: AcglPQg/gdM/dJ/sRemPW9GeauwssA==

From: "Ryan Page" <Intern@hoganconstruction.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
st1\:*{behavior:url(#default#ieooui) }

Jason,

I'm sure by now, you have received a few emails from general concerned "waterfowlers". I am one of those who would like to express my concerns about the proposed ponds.

I have been an avid outdoorsman for some time now, hunting, fishing and camping all along the Wasatch front. In recent years, ive put more focus on the waterfowl side of things. It's played a huge roll in my life, and in recent month's recovery from surgery.

I can understand the necessity of expansion and construction since I work for a large construction firm based in Salt Lake. We need land to grow and to prosper. To quench the needs of the public, it's the whole supply and demand. But there is a greater demand for this area that is proposed to become evaporative pools. Hundreds of thousands of waterfowl, shorebirds and common Avery pass through the Wasatch front. It's a funnel that draws in these birds to prime breeding and nesting grounds, a place to rest along their migratory routes. If you focus on this small fresh water area, that is one of the FEW that is located right next to the Bear River Bird Refuge that needs all the help it can. I don't think that's fair. P-23.01

I have made it known that I am fully against the proposed location, build it somewhere else that's fine. But please reconsider the location. The Great Salt Lake has other areas to use. P-23.02

Thank you for your time. P-23.03

Ryan Page

P-24

Received: from eis-ml1rdp.eis.ds.usace.army.mil ([140.194.151.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Tue, 13 Nov 2007 10:49:02 -0800

1. MIME-Version: 1.0
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X-MimeOLE: Produced By Microsoft Exchange V6.5
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Received: from gw2.usace.army.mil ([140.194.100.150]) by wmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Tue, 13 Nov 2007 10:49:01 -0800
Received: from barr18.dsdmail.net ([163.6.5.18]) by gw2.usace.army.mil with ESMTP; 13 Nov 2007 18:48:59 +0000
Received: from GW-IA2.dsdmail.net (gwia2.dsdmail.net [163.6.5.44]) by barr18.dsdmail.net (Spam Firewall) with ESMTP id 00FC913BC2E for <Jason.A.Gipson@usace.army.mil>; Tue, 13 Nov 2007 11:48:58 -0700 (MST)
Received: from DSDOMGW2-MTA by GW-IA2.dsdmail.net with Novell_GroupWise; Tue, 13 Nov 2007 11:48:42 -0700
Content-class: urn:content-classes:message

Subject: Evaporating Pond
Date: Tue, 13 Nov 2007 10:48:44 -0800

Message-ID: <47398F1C.7989.00EB.0@dsdmail.net>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Evaporating Pond
Thread-Index: AcgmJduqADHUDq/IQoGE37pd3PwtbQ==

From: "Elaine Page" <EPAGE@dsdmail.net>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

US army corps of Engineers are proposing a large evaporating pond that will take place of one of the few fresh water areas for migratory birds. P-24.01

I would like to express my concern about losing habitat and its impact. It could be moved to another location, besides being next to the Bear River Bird Refuge. P-24.02

Thank you,
Elaine Page

Elaine G. Page
South Davis Jr. High
Attendance
402-6406

Please note my new e-mail address is
epage@dsdmail.net

P-25

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Ogden Nature Center*
966West 12th Street
Ogden, Utah

NOV 13 2007
J6

November 8, 2007

Comment Form

Name: Ronald Smith **Address:** 2865 N. 150 W, North Ogden Ut. 84414

Representing (optional): ____ **Self** **Other** (please specify) ____

Comments or Concerns:

① During the presentation the representative from GSL stated the residual cadmium and mercury left over after evaporation would be discharged back into the lake. These 2 items are regulated as HAZARDOUS waste by 40 CFR and must be handled as such. How is GSL going to assure the metals do not exceed regulatory levels in the discharge? How will this waste be collected and disposed of if the discharge does exceed TCLP levels as defined in 40 CFR. P-25.01

② Where will the public repository be located to allow viewing of the draft EIS. P-25.02

P-26

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

November 14, 2007

Comment Form

Name: [illegible]

Address: [illegible]

Representing (optional): ✓ **Self** **Other** (please specify) the memory of [illegible]

Comments or Concerns:

(1) It's very important to [illegible] long term, not just 10 or 25 or even 50 years out. Concerning the birds, it's best in my opinion to think in terms of how long they've been coming here and what has affected them. Pelicans for example, have been known to [illegible] P-26.01

(2) Concerning the West part of the proposal, the Dolphin Island [illegible] pond, clearly comes too close to Gunnison Island. The waters west of Gunnison are much shallower than on the other side. If the lake [illegible] predators [illegible] is a clear danger. The [illegible] [illegible] bring the predators closer already, and [illegible] worsening drought, possibly exacerbated by climate change, more use of water from streams in the drainage, and event the evaporation process itself, could, [illegible] considered over long periods of time, lower the lake level to catastrophic proportions. P-26.02

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

November 14, 2007

Comment Form

Name: [illegible]   Address: 6132 [illegible]

Representing (optional): ______ Self   Other (please specify) ______

Comments or Concerns:

The bird life on the West shore has not been [illegible] studied. [illegible] one road [illegible] miles from the [illegible] shoreline [illegible]. P-26.03

(3) What [illegible] sodium [illegible] building on the [illegible]? [illegible] In connection [illegible] most of the land [illegible] is [illegible] to [illegible] into the road. Trucks and machinery driving on [illegible] roads would [illegible] on [illegible] land areas. This [illegible] whole expansion [illegible] Clyman Bay P-26.04

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

November 14, 2007

Comment Form

Name: [illegible] **Address:** ______________________

Representing (optional): ______ **Self** **Other** (please specify) ______________

~~**Comments or Concerns:**~~

(4) The [illegible] of the Dolphin [illegible] pond
[illegible]
[illegible]
the distance between the [illegible] existing)
[illegible]
[illegible]
[illegible]
[illegible]
In my opinion, although I [illegible] the [illegible] P-26.05
the overall plan [illegible] place [illegible]
[illegible] the
[illegible] Dolphin [illegible] pond
should be [illegible]
the [illegible]
[illegible]
[illegible]
[illegible]

P-27

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

November 14, 2007

Comment Form

Name: Charles Uibel **Address:** 1266 E 520 South
SALT LAKE CITY UT
84102

Representing (optional): ⌒ **Self** **Other** (please specify) _____

Comments or Concerns:

As a photographer specializing in photos of the Great Salt Lake, (greatsaltlakephotos.com) I want to make sure that the lake remains intact for as long as possible.

Coincidentally, the Clyman bay area is particularly dear to me. I've spent many days and hours hiking the nearby hills and photographing the lake, in all seasons and in ALL weather.

It is the best-kept SECRET IN THIS STATE THAT THIS AREA IS AS ~~BEST~~ BEAUTIFUL AS ARCHES NATIONAL PARK OR THE CANYONS AND MOUNTAINS. IT IS VAST AND IT IS DELICATE- IT CHANGES BY THE HOUR - I HAVE THE PHOTOS TO PROVE IT. WHAT WE DO HERE CAN NOT BE UNDONE. PLEASE GIVE THE LAKE A CHANCE TO REMAIN INTACT FOR AS LONG AS POSSIBLE. PERHAPS TECHNOLOGY WILL SOON FIND ANOTHER WAY TO REMEDY OUR NEED FOR SOP. Thanks

P-27.01

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

November 14, 2007

Comment Form

Name: Linda Bonar **Address:** 1820 E. 3990 South
Salt Lake City, UT 84124

Representing (optional): ✓ **Self** **Other** (please specify) _____

Comments or Concerns:

November 19, 2007

To Whom It May Concern:

I write to express my alarm at the proposal by Great Salt Lake Minerals to expand its operations in Clyman and Bear River Bays. Great Salt Lake is a priceless area for nesting and migrating waterfowl and needs all the protection possible. Biologists and other scholars recognize the lake as necessary for the migration of birds in North and South America. Great Salt Lake's importance for birds cannot be over-stated.

It is the Division of Forestry, Fire and State Lands duty to uphold the law that clearly states that fish, wildlife habitat and aquatic beauty be protected. Further, this law states that economic development cannot supersede the law's protection.

Our world, with its limited resources, is now facing conflict over resources every day. When is enough enough? I believe that Great Salt Lake Minerals has already been granted enough terrain on which to successfully operate its business. Taking another 33,000 acres for development and profit is asking too much. The nesting and migrating birds need that lake, and your Division is required to protect it. To me, this resource conflict looks like greed versus survival for birds. Just because Great Salt Lake Minerals has a guaranteed market for more of its products does not mean that this company should automatically be granted its wishes when the impacts on bird populations would be so devastating. A greater use of the 33,000 acres is to protect the birds that use this wonderful resource and insure their shrinking habitat. P-28.01

Great Salt Lake has shrunk tremendously due to an ongoing drought. Setting aside another 33,000 acres of precious lake so that one company can make money is a bad decision. Right now, the only nesting site in Utah for White Pelicans is Gunnison Island. This island is about 2 miles from the new dikes and pumps proposed by Great Salt Lake Minerals. There used to be several more nesting sites in Utah, but one by one, they have been eliminated due to development. Shall we jeopardize this last one? I had the pleasure last December to travel to Morelia, Mexico, to see the winter habitat for monarch butterflies. It is an incredible sight to see millions of butterflies in a forest. The Mexicans found out the hard way that if you tinker with the butterflies' habitat, they will abandon the site. They installed concrete steps on the mountainside, and the butterflies left. Where will the pelicans go? P-28.02

Please do not let this unnecessary expansion jeopardize the world-famous habitat of the birds. It is an extraordinary opportunity to witness these birds in what's left of their habitat.

Sincerely,

Linda Bonar

P-29

U.S. Army Corps of Engineers Public Meeting for the Expansion of Great Salt Lake Evaporation Ponds

Public Meeting: *Airport Inn Conference Room*
2333 W. North Temple
Salt Lake City, Utah

November 14, 2007

Comment Form

Name: Tim Brown **Address:** 573 7th Ave
SLC, UT 84103

Representing (optional): ✓ **Self** **Other** (please specify) _____

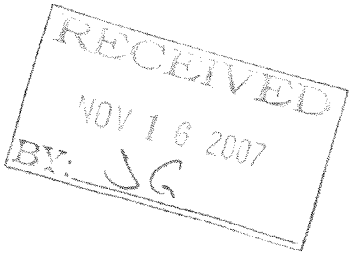
Comments or Concerns:

I'm concerned that the surveys conducted to determine avian use of impacted areas was inadequate. In speaking with the the wildlife biologist who led the surveys, I learned that 66,000 birds were spotted during the first survey, but as the water disappeared, so did the birds, resulting in Mid-summer counts of No birds (Bear River area). When water returned in September, no surveys were conducted. P-29.01

Its critical that a more indepth survey be conducted. One that accounts for water fluctuations and one that considers year-round usage.

I'm also concerned that snowy plovers were found in the Clyman Bay area. As sensitive species, I fear this project will disrupt their breeding. Again, More research is needed. P-29.02

P-30



Attention: Jason Gipson
Concerning: Public Notice SPK-2007-00121
Great Salt Lake Mineral Corp.
November 14, 2007

Dear Mr. Gipson

I am compelled to write about the proposed destruction of 33,000 acres of the Great Salt Lake wetlands. Apparently both the western portion of Gunnison Bay and the Bear River Bay arms will be affected.

First I would like to let you know that I oppose this proposal, and see no benefit to the citizens of Utah, or the flora and fauna of this wetland habitat.

One of the first thoughts I had on this proposal is that when a contractor or developer wants to purchase and develop properties that contain designated wetland along the Wasatch Front, they have to provide Equal Acreage for the wetlands being destroyed. I didn't see a proposal stating that Great Salt Lake Mineral Corp. was going to purchase 33,000 acres to replace the wetland they are planning to destroy, and turn it over to the State for public use? If Great Salt Lake Mineral Corp. is excused from purchasing new wetlands to replace those that were destroyed, then wouldn't that set precedence for other private interests to do the same? P-30.01

I am also concerned that the citizens of Utah will have one more of their rights stripped from them, in that the Great Salt Lake belongs to all of us. If Great Salt Lake Mineral Corp. is granted the right to dyke off and destroy those proposed portions of the lake, then we, as citizens will no longer be allowed to trespass on what once belonged to us. Sure, those portions of the lake are seen by very few of us, but it's no different than saving the Utah Humpback sucker, we know it's there for future generations to enjoy. P-30.02

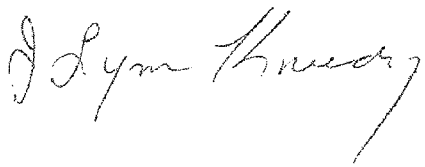
What about the ecosystem, could we or will we ever be able to determine the impact that dyking those portions of the lake off, might have on the lake itself, and the animals that habitat those unseen regions of the lake? P-30.03

As far as I can determine, there is no benefit to the citizens of Utah to allow this project to move forward. Great Salt Lake Mineral Corp has already been given permission to scare the lake with its dykes and evaporations ponds that now exist. Why increase the damage other than to line the pockets of the owners? P-30.04

I am sure, that the Army Corp of Engineers has taken all of the things I have mentioned into account on this issue, and as guardians for the rights of Utah citizens; I urge that you deny the proposal made by Great Salt Lake Mineral Corp.

Sincerely

J Lynn Kneedy



Received: from eis-ml1rdp.eis.ds.usace.army.mil ([140.194.151.33]) by spk-ml1sac.spk.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.1830); Sun, 18 Nov 2007 18:22:12 -0800

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Content-Type: multipart/alternative;
boundary="----_=_NextPart_003_01C82A52.FEC524A8"
X-MimeOLE: Produced By Microsoft Exchange V6.5
Received: from wmx2.usace.army.mil ([140.194.151.34]) by eis-ml1rdp.eis.ds.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Sun, 18 Nov 2007 18:22:11 -0800
Received: from gw1.usace.army.mil ([140.194.153.1]) by wmx2.usace.army.mil with Microsoft SMTPSVC(6.0.3790.3959); Sun, 18 Nov 2007 18:22:12 -0800
Received: from wa-out-1112.google.com ([209.85.146.176]) by gw1.usace.army.mil with ESMTP; 19 Nov 2007 02:22:11 +0000
Received: by wa-out-1112.google.com with SMTP id k40so2613309wah for <jason.a.gipson@usace.army.mil>; Sun, 18 Nov 2007 18:22:11 -0800 (PST)
Received: by 10.114.58.1 with SMTP id g1mr149023waa.1195438931033; Sun, 18 Nov 2007 18:22:11 -0800 (PST)
Received: from computer ([67.41.33.66]) by mx.google.com with ESMTPS id j29sm8637780waf.2007.11.18.18.22.09 (version=SSLv3 cipher=RC4-MD5); Sun, 18 Nov 2007 18:22:10 -0800 (PST)
Content-class: urn:content-classes:message

Subject: GSL Evaporation Pond Expansion

Date: Sun, 18 Nov 2007 18:23:41 -0800

Message-ID: <006001c82a53$34ee6530$6401a8c0@computer>
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: AcgqUv7FYg2VermJRquZraytJkKJiA==
X-Message-Flag: Follow up

From: "Justin Krajewski" <justin.krajewski@gmail.com>
To: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>

Jason Gipson, Project Manager
(public Notice SPK-2007-00121)
U.S. Army Corps of Engineers, Sacramento District
533 W. 2600 S. Ste. 150
Bountiful, UT. 84010

Dear Mr. Gipson,

Thanks for allowing me to provide my comments on thoughts about the proposed expansion of the Great Salt Lake expansion ponds. I am concerned that the proposed expansion dike will further concentrate waterfowl into an area already prone to botulism outbreaks. Additionally, the proposed dike will prohibit water sheeting around the mud bar which protrudes south out of the

P-31.01

P-31.02

Bear River Refuge. P-31.02 (Continuing)

Thousands of waterfowl, especially Northern pintails need this area as a staging area during their migration. I recently had the opportunity to hunt and boat some beautiful areas on the Bear River Refuge. In my opinion, it would be impossible to replace this portion of the ecosystem. P-31.03

I urge you to deny Mr. Milne's 404 permit application. The impacts of destroying 20% of Bear River Bay are too much for you, the COE, and our citizens to ignore.

Thank you and God Bless!

Justin W. Krajewski

326 S 12th Ave

Pocatello, ID 83201

P-32

Subject: FW: Public Notice 200700121
Date: Tue, 4 Dec 2007 08:33:25 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Public Notice 200700121
Thread-Index: AcgumHJ27cYHsF1QRQysAXnrP+5wVAH+vDkQ
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:33:28.0225 (UTC) FILETIME=[662B1110:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:33:29 -0700 (MST)
X-Spam-Status: No, score=-1.988, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_30_40,HTML_MESSAGE,SUBJ_HAS_UN

X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Steve and Jennifer Hicks [mailto:pawsnclaws@brigham.net]
Sent: Saturday, November 24, 2007 5:49 AM
To: Gipson, Jason A SPK
Subject: Public Notice 200700121

Dear Mr. Gipson:
Thank you for the opportunity to comment on the proposed expansion of the solar evaporation ponds on the Great Salt Lake. Overall I believe that this expansion is very bad for the ecosystem of the lake.

To start with, the existing ponds should have never been built in the lake. It sounds like they were built just a few years before the Clean Water Act was passed. Those ponds destroyed a large part of a very important ecosystem. Their operation continues to harm the lake by displacement of wildlife. The yearly flushing operations of the ponds also deposit highly concentrated salts into the more fresh water Bear River Bay. I have personally seen vegetation in the bay, killed by the concentrated flush waters. Their existence now, should set no precedence for an acceptable use of the Great Salt Lake. The existing evaporation ponds should be removed from the lake.

P-32.01 (continues to address cumulative impact on next page)

P-32.02

There are practical alternatives to building the evaporation ponds within the ordinary high water mark of the lake. There are vast open spaces to the west and north of the lake which could provide places to locate the ponds. There is also quite a bit of upland on the east side of the lake. These lands are just above the ordinary high water mark and mostly level. Yes, using these lands would pose challenges and probably a greater cost to

P-32.03

the developer, but they are viable alternatives. The evaporation ponds do not have to be built in the lake.

The presentations given on Thursday evening November, 8, barely mentioned the potential impacts to migratory birds. Expansion of the evaporation ponds will have huge impacts on migratory birds. The Great Salt Lake is used by millions of waterfowl, and shore birds. This use is during migration periods as well as through the summer, for species that come here to raise their young. The ongoing BioWest aerial bird survey is taking a snapshot during a very dry period. The numbers produced by that survey will not represent bird use during more normal water levels in the bay. This survey should continue through at least one cycle of normal water levels to produce any valid information. Expansion of the evaporation ponds will cause physical displacement of the birds as well as reduce food sources available. This will cause concentration of bird populations into smaller areas, more competition for food, and probable population declines. Concentrating birds into ever smaller areas also increases the likelihood of major disease outbreaks.

P-32.04

P-32.05

Expanding the evaporation ponds should be considered as an increase in the cumulative impact of this activity. The existing ponds have already destroyed a significant portion of the Great Salt Lake. Another cumulative impact to the evaporation pond expansion is the proposed removal of water from The Great Salt Lake through upstream damming. The current State Water Plan for the Bear River is to dam the river and remove 220,000 acre feet of water from the lake. This will have a significant impact on Great Salt Lake ecosystem.

P-32.01 (continuing)

The Federal and State of Utah environmental agencies have noted a marked increase in mercury in birds using the Great Salt Lake. Studies should be done to determine if this increase might be due to a concentrating effect resulting from ongoing water mineral mining operations.

P-32.06

Should the NEPA/404 process come to the mitigation stage, it will be interesting. I believe it will be impossible to mitigate for the wetlands lost. Even on a one to one mitigation ratio, this would require 33,000 acres of wetland to be replaced. There is simply no possible way to replace that amount of wetland anywhere in the intermountain west let alone close to the lake. Every acre of natural lake lost due to this project should be replaced, as once it becomes an evaporation pond, it loses it's value to the ecosystem. Considering that mitigation ratios are normally greater than one to one makes this an insurmountable obstacle.

P-32.07

Sincerely,

Steven A. Hicks
408 E 850 N
Brigham City, UT 84302
435-723-4308
pawsnclaws@brigham.net

P-33

Subject: FW: Comments On Public Notice SPK-2007-00121
Date: Tue, 4 Dec 2007 08:33:20 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Comments On Public Notice SPK-2007-00121
Thread-Index: AcgwWaG4n+8VbGY6RCa2h46Hh1f0SAABJitQAY1JSkA=
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:33:20.0976 (UTC) FILETIME=[61D8F500:01C83693]
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X-Spam-Status: No, score=-2.269, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

-----Original Message-----
From: Gipson, Jason A SPK
Sent: Monday, November 26, 2007 11:59 AM
To: Gipson, Jason A SPK
Subject: FW: Comments On Public Notice SPK-2007-00121

From: ALAN TROUT [mailto:altrout@msn.com]
Sent: Monday, November 26, 2007 11:25 AM
To: Gipson, Jason A SPK
Subject: Comments On Public Notice SPK-2007-00121

Jason,

Attached are my comments regarding the 33,000 acre Expansion of Solar Evaporation Ponds on the Great Salt Lake.

Comments Regarding Mineral Extraction in Bear River Bay

I recently attended a public meeting held at the Ogden Nature Center presenting the proposed mineral development lease. From my 17 years of experience as manager of the Bear River Migratory Bird Refuge (now retired) I traversed the area many, many times via airboat and ATV. In addition I made aerial inspections via single engine aircraft.

An expansion of the dike network will have an extremely significant negative impact on the area for several reasons.

1) Aesthetics: Although already impacted by diking, Bear River Bay remains as the Great Salt Lakes (GSL) most significant remaining bay. It provides scenery not duplicated anywhere in North America. P-33.01

2) Recreation: Bear River Bay and the adjacent Willard Spur are frequented by airboat users during various seasons due to the seclusion, aesthetics and wildlife viewing. During the waterfowl hunt (October - January), the area is extremely popular because it offers some of the Nations best hunting in unspoiled surroundings. P-33.02

3) Wildlife: Perhaps the most impact will occur to the world famous diversity of migratory birds. The most productive section of GSL is Bear River Bay. Within the foot print of the existing evaporation ponds, use by waterfowl and various species of water dependant birds has been nearly eliminated. Expansion of the ponds will do more of the same. The location of the proposed expansion is particularly harmful because it overlays a portion of the Bear River Bay which has higher wildlife use when water levels are lower than average in the GSL In those years, this area becomes even more important to migratory birds. In carrying out my job duties, I observed migratory by the multiple hundreds-of-thousands utilizing the Western part of Bear River Bay. P-33.03

Al Trout
2670 North 750 East
Ogden, UT 84414
(801)782-5604

DUCKS UNLIMITED

WESTERN REGIONAL OFFICE
3074 Gold Canal Drive
Rancho Cordova, CA 95670-6166
916-852-2000 916-852-2200 (fax)
www.Ducks.org

P-34

November 20, 2007

Mr. Jason Gipson
Project Manager
U.S. Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, Utah 84010

RE: Comments on Public Notice SPK-2007-00121

Dear Mr. Gipson:

Ducks Unlimited has followed the development of the Great Salt Lake Minerals Corporation's proposal to dike nearly 33,000 acres of state land within the Great Salt Lake for mineral extraction purposes and we have several concerns regarding upcoming environmental review of this project. In particular, we are aware of only minimal review of the potential environmental impacts that this proposed project will have on wetland habitats associated with the Great Salt Lake. We believe more extensive investigation is warranted. We offer the following information for your consideration.

The Great Salt Lake is one of the most important areas for migratory waterfowl and other waterbirds in North America. In particular, the wetlands in Bear River Bay's Willard Spur support millions of waterfowl during fall migration. This valuable area is close to 8,000 acres of lake bed proposed for diking and alteration. We are concerned that these new dikes will remove existing high quality lake bed waterfowl habitat, negatively affect productive wetlands within the adjacent Willard Spur area, and consequently have far reaching effects on waterfowl and other waterbird populations throughout the Pacific Flyway and North America. P-34.01

We are specifically concerned about how the proposed project will affect surface hydrologic patterns (*e.g.*, water depths, inputs, outputs, flow patterns, etc.), surface water salinities, vegetation communities, and ultimately waterfowl and other waterbird use.

Wetlands in Bear River Bay, and specifically within the Willard Spur area, are dependent on a hydrologic pattern that provides shallow flooded areas with water depths, timing, and salinities supporting extensive sago pondweed (*Stuckenia spp.*) and alkali bulrush habitats. This area supports some of the largest concentrations of migrating waterfowl in the Pacific Flyway. The Great Salt Lake, and the Willard Spur in particular, plays an important role in supporting nearly 25% of the North American population of northern pintail during the summer molt and the spring and fall migrations. Northern pintail are listed in the North American Waterfowl Management Plan as a High Priority Species. Their population has declined by 70% from 1950. P-34.02

The Great Salt Lake, and the Willard Spur in particular, is essential in supporting millions of the continent's migratory waterfowl, particularly northern pintails. We urge you to

take this information into consideration during your environmental review of the proposed Great Salt Lake Minerals Corporation's proposed diking project. Alteration of the area's hydrology from the diking project could have far reaching effects on habitat quality and quantity within the Willard Spur, and negative effects on sensitive waterfowl and waterbird populations. P-34.02 (Continuing)

Ducks Unlimited has conducted a habitat evaluation of the wetlands of the Great Salt Lake, including those in the Willard Spur. Our initial results show that the Willard Spur contains some of the most productive waterfowl foraging habitat on the continent. We are currently in the process of integrating this data into a habitat energetics model to determine the waterfowl carrying capacity and specific habitat values of the Willard Spur and other Great Salt Lake wetland areas. This final modeling will be completed soon. P-34.03

We will send our research and analysis to you as soon as it has been completed and reviewed. We urge you to consider this information in your evaluation. In addition, we hope you will call on DU biologists to provide additional evaluation or review of your work to ensure you have fully considered potential impacts of the dikes on waterfowl and critical habitats in Great Salt Lake wetland areas.

Ducks Unlimited is a nonprofit waterfowl and wetland habitat conservation organization with over one million members, supporters, and volunteers in the United States. The mission of Ducks Unlimited is to conserve, restore, and manage wetlands and associated habitats for North America's waterfowl, other wildlife and the people who enjoy and value them.

Thank you.

Sincerely,

Rudolph A. Rosen, Ph.D.
Director

P-35

Subject: FW: G.S.L. proposal
To: "S. Blaise Chanson" <bchanson@bio-west.com>

"urn:schemas-microsoft-com:office:office" xmlns:w = "urn:schemas-microsoft-com:office:word"
xmlns:st1 = "urn:schemas-microsoft-com:office:smarttags">

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Brandon Rodgers [mailto:jernbran@comcast.net]
Sent: Wednesday, November 28, 2007 11:31 PM
To: Gipson, Jason A SPK
Subject: G.S.L. proposal

Hi Jason,

I am writing this e-mail to you to express my concern about the G.S.L. expansion proposal. This seems to be just another example of state sponsored corporate America and a complete disregard for the environment. P-35.01

Thanks,
Brandon Rodgers

P-36

Subject: FW: Public Notice SPK-2007-00121-GSL expansion
To: "S. Blaise Chanson" <bchanson@bio-west.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: dewsnupd@wellsfargo.com [mailto:dewsnupd@wellsfargo.com]
Sent: Wednesday, November 28, 2007 1:24 PM
To: Gipson, Jason A SPK
Cc: john.manookin@wellsfargo.com
Subject: Public Notice SPK-2007-00121-GSL expansion

Hello Jason,

Thanks for being willing to hear out the public on the expanse plans of GSL mineral. I have spent a great deal of time on the water that is proposed to be diked off over the years and am very alarmed and concerned of the prospects of being shut out of this area. The wildlife habitat and beauty of this area is unrivaled and should be protected from mineral extraction. I am concerned that the wildlife we have observed and interacted with, including waterfowl of all species, will be negatively impacted by this project. My family has airboated the area in question on dozens of occasions and look forward to doing so for many years to come. P-36.01

I am concerned that the project will have irreversible effects on the lake, and that the long term consequences cannot be foreseen. P-36.02

Please mark my voice as opposing the expansion in coming years.

Regards,

Darin S. Dewsnup

Senior Vice President-Investments

Senior Financial Consultant

Wells Fargo Investments

Private Client Services

299 South Main, 7th Floor

Salt Lake City, Utah 84111

801-246-1164/801-246-1374

dewsnupd@wellsfargo.com

P-37

Subject: FW: GREAT SALT LAKE MINERALS EXPANSION
Date: Tue, 4 Dec 2007 08:33:05 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GREAT SALT LAKE MINERALS EXPANSION
Thread-Index: AcgyEruK9vuhyoxkTl+o7sVoKxozUAEgJutQ
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:33:10.0663 (UTC) FILETIME=[5BB35170:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:33:11 -0700 (MST)
X-Spam-Status: No, score=-1.531, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_40_50,HTML_MESSAGE,SUBJ_ALL_CAI

X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: j.kinghorn@comcast.net [mailto:j.kinghorn@comcast.net]
Sent: Wednesday, November 28, 2007 4:02 PM
To: Gipson, Jason A SPK
Subject: GREAT SALT LAKE MINERALS EXPANSION

Jason,

I'm writing this letter to express my deep disatisfaction of G.S.L. expansion into our wetlands, not just as an avid waterfowl hunter but also as a conservationist. What benefit does this project have for anybody besides G.S.L.? All this is going to do is take away precious land from the wildlife, and screw up the eco system even more than it already is. I would also would like to know what kind of impact this project is going to have on the surrounding wetlands 20 - 50 years down the road, migrating birds are already suffering from high mercury levels as it is. This does not benefit anyone except big buisness!!! I personally could care less if G.S.L needs to expand, but I do care about the land thats going to be ruined and the effects it will have on our wildlife. Is it really worth destroying the land so we can keep our roads salted and our hamburgers better? Once this land is gone we can 't get it back. I urge you, please stop this project, so that other generations of people can enjoy this precious land. Thank you for your time.

P-37.01

P-37.02

Sincerely,

Justin Kinghorn

P-38

Subject: FW: GSL expansion project
Date: Tue, 4 Dec 2007 08:32:58 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL expansion project
Thread-Index: AcgyN3cIXS2iyhz5S+2RBA9eNfJykQEW90BQ
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:33:04.0960 (UTC) FILETIME=[584D1C00:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:33:05 -0700 (MST)
X-Spam-Status: No, score=-2.031, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_40_50,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Todd Bangerter [mailto:tbangduck@hotmail.com]
Sent: Wednesday, November 28, 2007 8:25 PM
To: Gipson, Jason A SPK
Subject: GSL expansion project

Mr Gipson,
I am a wildlife conservationist concerned about the 33,000 acre GSL expansion project particulary in the bear river bay of the Great Salt Lake. I feel stongly that this project will impact wildfe in an extremly negative way!

I feel that it will effect migratory birds that use the area as a major resting stop, on their long migration south. The northern pintail duck is a prime example of wildlife that is in danger of being affected by this project. They use this area to rest and feed. The tundra swan uses the area and gathers by the thousands to regenerate there bodies on their southern migration. These and many more species of wildlife would be affected in a terrible way. P-38.01
There is enough fresh water in the area that attracts the wildlife. Impounding the water and making evaporation pools would take that vital fresh water away. And you just can't replace fresh water!

So please know that this is a terrible plan and should be stopped and should go no further! Please consider the few points i have made on the negative imact of wildlife this project will have.

Sincerley,
Todd Bangerter

P-39

Subject: FW: Expansion of GSL Mineral
To: "S. Blaise Chanson" <bchanson@bio-west.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

-----Original Message-----
From: john.manookin@wellsfargo.com [mailto:john.manookin@wellsfargo.com]
Sent: Thursday, November 29, 2007 8:17 AM
To: Gipson, Jason A SPK
Subject: Expansion of GSL Mineral

Dear Jason,

I appreciate your being willing to hear from the public on the expansion plans of GSL Mineral.

Having spend many hours exploring and enjoying the vast beauty and solitude of the GSL and its' associated wildlife, I am concerned that the expansion will continue to create an ecological disaster. For many years the GSL has been used as a dumping ground and utilized for many commercial ventures at the expense of the ecology and reduced and contaminated habitat for the abundant wildlife. P-39.01

I am concerned that continued blatant destruction of the remaining portions of the GSL will forever destroy what little we have left.

Please mark me down as opposing the expansion and let's leave the GSL as it is and not disrupt the delicate balance that serves the public as a wildlife habitat and the enjoyment of what remains of a true Utah treasure.

Thanks again for your concern.

John Manookin
1400 Kearns Blvd. Suite 201
Park City, Utah 84060
435-655-4072 Phone
435-655-4077 Fax
mailto:john.manookin@wellsfargo.com

P-40

Subject: FW: Public Notice SPK-2007-00121
Date: Tue, 4 Dec 2007 08:32:36 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Public Notice SPK-2007-00121
Thread-Index: AcgzIi9Bt59Ao0cHRz+6r94lxIXMfgDcRbEw
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:32:37.0414 (UTC) FILETIME=[47E1EC60:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:32:38 -0700 (MST)
X-Spam-Status: No, score=-1.06, required=5
X-Spam-Checks: AWL,BAYES_00,DEAR_SOMETHING,DNS_FROM_RFC_ABUSE,HTML_30_40,HTML_MESS

X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Sumner [mailto:sumguy2826@comcast.net]
Sent: Thursday, November 29, 2007 7:49 PM
To: Gipson, Jason A SPK
Subject: Public Notice SPK-2007-00121

Dear sir:

This is a bad idea to let them increase their corporate foot hold in that area. I have hunted that area since 1979 in my airboat and I can tell you that the air quality at times was terrible no matter what they say. It was nice of the state of Utah to put in a air quality checking station over on 12th street after every home owner in the area complained years ago. I haven't smelled the nose burning fumes since then. P-40.01

As for the expansion area for their ponds, I have seen gizzard shad out there in the water and seagulls, fish ducks, Blue Herron feasting on them. They have come out of Willard Bay and with the carp added a valuable food source for the various birds in that area. This will all end if they are allowed to put ponds in that area. P-40.02

"What is of concern is the reduction in habitat and also the potential decrease in available wet areas, particularly in lower water years". My family and I absolutely agree with this statement. This area cannot be made smaller because the predators will have a field day devouring the birds in a smaller area. Corporate profits should not out weigh the destruction of this valuable wetland ecosystem. Thank you for this opportunity to oppose this action. P-40.03

William C. Sumner
826 Tyler Circle
Ogden, Ut 84404

P-41

Subject: FW: Public Notice SPK-2007-00121 - GLS Evaporation Pond Expansion
Date: Tue, 4 Dec 2007 08:32:29 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Public Notice SPK-2007-00121 - GLS Evaporation Pond Expansion
Thread-Index: Acgz1hUzKrnd7ykGQheAqnN9kNLJYwCvSqBw
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:32:30.0148 (UTC) FILETIME=[438D3840:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:32:31 -0700 (MST)
X-Spam-Status: No, score=-2.229, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_50_60,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: jeff farr [mailto:jeff@jefffarr.com]
Sent: Friday, November 30, 2007 9:53 PM
To: Gipson, Jason A SPK
Subject: Public Notice SPK-2007-00121 - GLS Evaporation Pond Expansion

Jason -

Thanks for giving the public the opportunity to provide feedback on this project.

I am not in support of the project. The Willard Spur and Bear River Bay make up a unique area the many species of waterfowl and shore birds utilize. I do not think enough has been done to really understand the impact on this area if the additional dikes and evaporation ponds are created. It is unclear the impact this will have on water depths, water salinity, plant life and the birds and other animals that utilize that area. There is no way to replace this resource if it is taken. P-41.01

Again, I do not support this expansion project. I hope the COE will consider the impact on a irreplaceable resource and deny the expansion.

Thanks again for the opportunity to express my concern.

Jeff Farr
435-723-7020

P-42

November 27, 2007

Jason Gipson, Project Manager
US Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, Utah 84010

Subject: Public Notice SPK-2007-00121

Gentlemen:

I am concerned about the location of the proposed evaporation ponds in the Bear River Bay area. Approximately 8,000 acres of the total 33,000 acres of proposed evaporation ponds expansions would not be located in the salt water areas of the Great Salt Lake but rather would destroy and create permanent, irretrievable loss of the historical periodic freshwater delta area of the Bear River.

It is my understanding that the brine water source for the eastern pond expansion would be transported from the west side of the Great Salt Lake. An alternative to this long distance conveyance would be to evaporate the brine locally on the west side with larger pond areas on that side and recover the minerals there or reduce the amount of concentrated brine to a point that it can be transported to the east side with reduced or possibly total elimination of the need to expand the east side area. The environmental value of the west side lands are a fraction of the value on the east side. Another alternative that should be studied is to expand the existing east evaporation ponds southward into the saline areas of the Great Salt Lake and not affect the relatively fresher Bear River Bay.

P-42.01

I am a hunter and would be directly and adversely affected by loss of huntable area if the east side ponds are constructed in the area proposed. The area is accessible by airboat and provides hunting opportunities that would be adversely affected. Although the GSL sometimes rises and inundates the entire area, there are long period of years when the Bear River Bay is comprised of seasonal freshwater flow from the local rivers, streams, artesian flows and rising fresh groundwater inflow that provide valuable food, cover and resting areas for the waterfowl and other wildlife. The impacts to wildlife would be significant.

P-42.02

P-42.03

I do not see why an entity would propose to irretrievably destroy 8,000 acres of seasonal freshwater wildlife habitat when there is a permanent saline area immediately adjacent to the south that would fully fulfill the project need. The location of the proposed east side evaporation area expansion needs to be relocated to the nearby south side of the causeway. The project as proposed would need to include mitigation and replacement of a minimum of 8,000 acres of freshwater wetlands. The cost of mitigation for the loss of the Bear River Bay lands would surely make either of the alternatives identified above more feasible and less costly than the plan as currently proposed.

P-42.01

The Corps of Engineers is charged with protecting the wetlands of the United States and seeing that they are not dredged, filled and destroyed on such a massive scale. There is a reasonable alternative to locating expansion ponds in the Bear River Bay area and I trust that through the EIS process a more reasonable alternative will be developed that prevents the loss of the Bear River Bay wetlands.

The lands belong to the State of Utah and there should be an enforceable requirement that the Bear River Bay area be restored and returned to its pre-existing condition and usefulness. How will a commitment be included for restoration so that the State does not get short term revenue for a use that precludes the State from getting any further future revenue or use for the area if the project is discontinued or abandoned at some future date? P-42.04

I appreciate the opportunity to comment on this project and would like to receive a copy of the draft EIS when it is available and want to be included on the mailing list for all future information on this project.

Sincerely,

Mark Breitenbach

Mark Breitenbach
5958 Bull Moose

P-43

Subject: FW: GSL Evaporation Pond Expansion
Date: Tue, 4 Dec 2007 08:32:21 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: Acg0Q/LYiPQPz5MkTQ6sFa3YCNzMNgCT0oQg
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:32:22.0039 (UTC) FILETIME=[3EB7E270:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:32:23 -0700 (MST)
X-Spam-Status: No, score=-2.228, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_50_60,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: KMALASKA@aol.com [mailto:KMALASKA@aol.com]
Sent: Saturday, December 01, 2007 10:53 AM
To: Gipson, Jason A SPK
Subject: GSL Evaporation Pond Expansion

Dear Jason,

I am writing in concern of the new proposed diking in the Bear River Bay. I visited the area yesterday 11-30-07 and as I have found in years past at this time of year the area was full of transient water foul. This area this time of year is condusive for water fowl resting. Because of the depth of the fresh water and its location this is an ideal place for migrant birds to rest feed and have access to fresh water. Greenwing Teal, Mallard, Pintail, North American Widgeon, Gadwall, and Canadian geese were all present. P-43.01

I am sure you have heard every reason possible from folks like me why not to approve this project. It has to be obvious that our natural resources are dwindling. I am all for growth and increased opportunities for employment, but this is not a productive trade off for our birds and this important ecosystem.

Good luck with your study and decision on this issue.

Kevin Malaska

P-44

Subject: FW: Solar Evaporation Ponds Project
Date: Tue, 4 Dec 2007 08:32:08 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Solar Evaporation Ponds Project
Thread-Index: Acg0eCmxEHrR8OfATiyvYWWE4XaihACGwrhQ
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:32:10.0008 (UTC) FILETIME=[378C1980:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:32:10 -0700 (MST)
X-Spam-Status: No, score=-2.294, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

-----Original Message-----
From: Laura Nicole Lesar [mailto:llesar@ucsc.edu]
Sent: Saturday, December 01, 2007 5:13 PM
To: Gipson, Jason A SPK
Subject: Solar Evaporation Ponds Project

Hello Jason,

My name is Laura Lesar and I am an environmental studies major at University of California, Santa Cruz.
Originally from Park City, and am interested in the Great Salt Lake Solar Evaporation Ponds Expansion Project. I read the published public notice, but still had a few questions regarding some aspects of the project.

I realize you are creating more solar evaporation ponds, however I feel it is unclear as to where the water is being obtained that will fill the ponds. Do you plan to import water for the ponds from a local aquifer or treatment plant? Or are you simply using water from the Great Salt Lake itself?

Also, is there any opposition to the project, and if so, what is their main concern?

I am unsure of the motivation behind such a project.
Will the project prove less costly to localize raw potassium production, or is this simply being created for convenience?

Also, I am unsure as to how potassium is generated from the evaporation ponds. Is water simply evaporated and the minerals left behind are potassium and other valuable minerals? Also, are the pump stations used to pump water to the evaporative ponds, or do they transport the minerals? If you could

send me a breakdown of how the system works, that would be highly beneficial to increase my understanding and implications of the project as a whole.

The public notice states that there is no adverse effects to endangered species or essential fish habitat. However, the proposed project seems as it would eliminate habitat as a result of pond construction. Is the project expected to effect the ecosystem as a whole? Also, how big is each evaporative pond? P-44.01

I am writing an analysis for a Freshwater Policy class and I am utilizing this project as a case study. If you could get back to me as soon as possible I would greatly appreciate it. Thanks so much, and I hope to hear from you soon.

Laura Lesar
Environmental Studies
University of California, Santa Cruz

Subject: FW: GSL Evaporation Pond Expansion
Date: Tue, 4 Dec 2007 08:03:49 -0800
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: Acg2BpcI38e6SJSTT5WIVa6N1V6FyAAiKhRQ
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>
X-OriginalArrivalTime: 04 Dec 2007 16:03:50.0778 (UTC) FILETIME=[42BA2DA0:01C8368F]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:04:05 -0700 (MST)
X-Spam-Status: No, score=-2.29, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Jeff Pace [mailto:onewebfoot@msn.com]
Sent: Monday, December 03, 2007 4:46 PM
To: Gipson, Jason A SPK
Subject: GSL Evaporation Pond Expansion

P-45

I am in favor of no build
All of the information in my attachment are the reasons
If you continue to take away the lake there will be nothing left of it

P-45.01

Jeff Pace
4853 Cherrywood Lane
West Valley City Utah 84120-5775

final draft army corp scoping 11-30-07 incorporating comment2.doc

NOTE FOR SCOPING REPORT: The attachment is a draft of a letter subsequently received on December 3, 2007 from Joro Walker, Western Resource Advocates (P-48).

Subject: FW: GSL Evaporation Pond Expansion
Date: Tue, 4 Dec 2007 08:03:15 -0800
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
Thread-Topic: GSL Evaporation Pond Expansion
Thread-Index: Acg2B1FVc1whQF5nSvmOkaU5jJjZBAAh9hyw
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>
X-OriginalArrivalTime: 04 Dec 2007 16:03:16.0325 (UTC) FILETIME=[2E311150:01C8368F]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:03:21 -0700 (MST)
X-Spam-Status: No, score=-2.285, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Jeff Pace [mailto:onewebfoot@msn.com]
Sent: Monday, December 03, 2007 4:51 PM
To: Gipson, Jason A SPK
Subject: GSL Evaporation Pond Expansion

P-46

You can't continue to take away the wetlands and keep the ecosystem going
I am in favor of not expanding

P-46.01

Vernona Pace
4853 Cherrywood Lane
West Valley City Utah 84120-5775

final draft army corp scoping 11-30-07 incorporating comment.doc

NOTE FOR SCOPING REPORT: The attachment is a draft of a letter subsequently received on December 3, 2007 from Joro Walker, Western Resource Advocates (P-48).

Subject: FW: GSL Evaporation Pond Expansion
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Jeff Pace [mailto:onewebfoot@msn.com]
Sent: Monday, December 03, 2007 4:48 PM
To: Gipson, Jason A SPK
Subject: GSL Evaporation Pond Expansion

P-47

I am in favor of not building or expanding
use common sense you can't continue to take away form the ecosystem
You cannot replace Wetlands

P-47.01

Lynn Pace
4853 Cherrywood Lane
West Valley City Utah 84120-5775

 final draft army corp scoping 11-30-07 incorporating comment1.doc

NOTE FOR SCOPING REPORT: The attachment is a draft of a letter subsequently received on December 3, 2007 from Joro Walker, Western Resource Advocates (P-48).

WESTERN RESOURCE
ADVOCATES

Protecting the Interior West's Land, Air, and Water

December 3, 2007

Jason Gipson, Project Management
U.S. Army Corps of Engineers
533 West 2600 South, Suite 150
Bountiful, Utah 84010
jason.a.gipson@usace.army.mil
VIA Email and U.S. Mail

Re: Public Comments Relative to Public Notice SPK-2007-00121 – Proposed 33,000-acre Expansion of Solar Evaporation Ponds on Great Salt Lake

Dear Jason,

Thank you for the opportunity to provide the U.S Army Corps of Engineers (Army Corps) with preliminary comments relative to Public Notice SPK-2007-00121 – Proposed 33,000-acre Expansion of Solar Evaporation Ponds on Great Salt Lake (GSL Minerals Proposal). I make these comments on behalf of FRIENDS of Great Salt Lake, National Audubon, League of Women Voters of Salt Lake, League of Women Voters of Utah, Wasatch Audubon, Utah Rivers Council, Utah Chapter of the Sierra Club, Utah Waterfowl Association, Utah Airboat Association and Bryan Dixon (collectively "FRIENDS"). We hope that you will gather the data necessary to carefully consider the following issues and concerns as you under take your statutory and regulatory obligations in reviewing the GSL Minerals Proposal.

I. Introduction

As you know, local, national and international value of Great Salt Lake, its islands, and its wetlands cannot be overstated. Overall, 257 avian species use the Great Salt Lake ecosystem. Of these, 112 species are exclusively associated with the lake's varied wetland areas, while 117 species reportedly nest on the lake's periphery or on its islands. At least 33 species of shorebirds representing 2 to 5 million individuals use Great Salt Lake annually, stopping along routes that take them elsewhere in North, Central or South America. In addition, up to 5 million waterfowl migrate through the lake each year.

Approximately 30 percent of the waterfowl migrating along the Pacific Flyway depend upon the Great Salt Lake wetlands. For these migrants, the lake provides a critical food supply, allowing them to restore depleted energy reserves and fuel up for the rest of their migrations, sometimes doubling their body weight before they leave. In recognition of its role in these international flights, Great Salt Lake is designated as **one of only eight** sites with a "hemispheric" designation – as opposed to regional or international designation – of the 40 Western Hemisphere Shorebird Reserve Network sites in the United States.

The importance of Great Salt Lake to the birds of the Americas is borne out by the sheer numbers that depend on its resources, including

- 60 to 80 percent of the world's population of Wilson's phalaropes,
- One of the two largest staging concentrations of eared grebes in North America,
- The world's largest breeding population of white-faced ibis and California gulls,
- Over half of the entire breeding population of snowy plovers west of the Rocky Mountains,
- More than three quarters of the entire western population of tundra swan,
- One of the three largest breeding colonies of American white pelicans, and
- One of the ten largest wintering populations of bald eagle in the lower 48 states.

Not surprisingly, hundreds of thousands of bird watchers comb the shores of Great Salt Lake to be rewarded by incredible views of feeding, flying and nesting birds that journey thousands of miles to gorge on the bounty of our nation's largest inland "sea." The lake also attracts recreationists enjoying other water-based activities such as sailing, boating, rowing, floating, wading and kayaking. Others hike, ride horseback and mountain bike to enjoy scenery, solitude and wildlife. Great Salt Lake also supports a robust community of waterfowl enthusiasts who not only enjoy hunting but are working to preserve and protect Utah's waterfowl, its unique and rich habitat and its rich heritage.

The North Arm of Great Salt Lake, where the majority of the proposed expansion is planned, is an area of particular significance to the lake's ecosystem. Commenting specifically on the GSL Minerals Proposal, the Utah Division of Wildlife Resources (DWR) and the U.S. Fish and Wildlife Service (FWS) noted that the North Arm of Great Salt Lake becomes critical to migratory and other waterbirds during high water years. Exhibits 2 & 3, attached. This is because, during these times, the salinity in the North Arm best supports brine shrimp – an important food source for many of the lake's birds. See DWR Comments at 2-3 (documenting the crucial importance of the North Arm to wildlife during the 1980s and early 1990s); July 19, 2007 Letter from Don Paul to Mr. Styler and Mr. Buehler at 2, Exhibit 7, attached ("During periods when the GSL elevation occurs between 4193' and 4206' above sea level (asl), there are several aquatic bird species that occur at the lake in continental and hemispheric numbers of importance at the GSL and largely in the Gilbert Bay. These are the Wilson's Phalarope, Red-necked Phalarope, and the Eared Grebe. Some years these populations are in excess of 1,200,000, and 1,300,000 respectively during their seasonal occurrence at the GSL. At times these

P-48.01

numbers of Wilson's Phalaropes and Eared Grebes represent 50 to 70% of the population that occur in the world.");[1] Great Salt Lake Mineral Leasing Plan at 33 ("[D]uring the high water years from 1983 to 1987, there were increase populations of brine shrimp in the north arm as salinity decreased [and] . . . eared grebes followed the brine shrimp into the north arm, abandoning sites along the Antelope Island causeway . . .").

P-48.01 (Continuing)

As recognized by the Utah Legislature, the North Arm is of significant importance as a refuge for one of the last remaining populations of the American white pelican, which breeds on Gunnison Island.[2] In addition, the North Arm offers outstanding recreational opportunities. This unique and remote area is enjoyed for its stark beauty, wildlife and bird life and stunning landscapes. That this area is more difficult to access and less frequented than the South Arm does not diminish its significant recreational and aesthetic value. Moreover, although navigation to and from this area is currently impeded by the causeway, there is no reason to believe that this obstruction is permanent[3] and every reason to believe that the demand for access to this area will increase.

P-48.02

P-48.03

Likewise, Bear River Bay and the Willard Spur are of outstanding value for both recreation and wildlife habitat. Here there is a fishery that persists when the lake elevation is higher than 4,200 feet above sea level of vital importance to pisciverus birds. The avian community at Willard Spur is exceptionally complex. With its species richness, diversity and overall abundance, this area continually provides one of the most magnificent displays of bird life on the lake.

P-48.04

P-48.05

Recognizing these values, DWR has underscored the tremendous ecological importance of the lease parcels the applicant proposes to develop:

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[1] Mr. Paul also states: "This was the case in the high lake years of the 1980s (1983 to 1988). The migratory populations of Phalaropes and Eared Grebes were totally reliant upon Gunnison Bay for the food and energy reserves needed to complete their annual winter migrations which sometimes exceed 2,000 miles. Much of the foraging of these species took place along the west shorelines of promontory point, around Gunnison Island and west toward the Hogup Mountains (the ostensible GSL Minerals diking and ponding site), (DWR SLO files). Id.

[2] Utah Code Ann. § 23-21a-2 ("The legislature of the state of Utah recognizes that the number of breeding sites of the American white pelican has been reduced from in excess of 50 prior to 1932 to only seven major sites in 1976 as a result of the removal of water barriers around breeding sites, loss of food supply, and **human disturbance of nesting colonies.** The legislature of the state of Utah further recognizes that Gunnison Island in the Great Salt Lake, one of the seven remaining pelican rookeries in North America, produces over 20% of the world's population of the American white pelican, and is the only remaining major pelican rookery that does not have refuge status. It is hereby declared to be the policy of the state of Utah that areas that will support certain threatened life forms shall be preserved for their benefit and for the benefit and enjoyment of present and future generations of people.") (emphasis added)

[3] The causeway has stood only since 1959, when it replaced a trestle built in 1902.

P-48.05
(Continuing)

> These lands . . . are valued by DWR for periods when lake level falls below 4200' in Bear River Bay. DWR is particularly interested in lands which are north and northwest of the existing dikes . . . because of bulrush colonies in this area that are important to colony nesting birds and as forage for birds. Also, at lower lake levels, this is the low point of the channel and is important as an area where the water creates a natural lake within the bay.

IMC Kalium/DWR Memo, August 28, 1998 at 3, Exhibit 8. Moreover, this area of the lake receives high levels of recreational use, is appreciated for its scenic beauty by many, and is critical to navigation of the lake. Bear River Bay and Willard Spur enjoys a high number of days of recreational use. Air boat operators and others access this area though a public access site and two guiding services also operate in the area. There are at least two private duck clubs that are located along the shore of this area.

II. The Great Salt Lake Minerals Proposal

Currently, Great Salt Lake Minerals operates 43,000 acres of solar evaporation ponds on Great Salt Lake. According to the company, this includes 21,000 acres of salt ponds in Clyman Bay on the west side of the lake, a 21 mile long canal running along lake bottom from west to the east side of Great Salt Lake, and 22,000 acres of solar ponds in Bear River Bay on the east side of the lake.

To this existing 43,000 acre facility, Great Salt Lake Minerals plans to add significant additional facilities. On the west side, in Clyman Bay, the company proposes to build an additional 18,000 acre solar pond, and a new 7,000 acre pond, as well as a new feed canal into the lake and a new pump station powered by a diesel engine. The company maintains that it currently leases much of the land necessary to build this 7,000 acre pond and what it does not lease is presently leased by a private individual. On the east side of the lake, in Bear River Bay, the company intends to build a new 8,000 acre solar pond. Great Salt Lake Minerals contends that it currently holds leases sufficient to construct this 8,000 acre pond in Bear River Bay.

In sum, Great Salt Lake Minerals seeks to expand its 43,000 acre operation by 25,000 acres[4] on the west side and 8,000 acres on the east side, for a total expansion of 33,000 acres, bringing the size of its operations to 76,000 acres or 119 square miles. This means that Great Salt Lake Minerals will have under development an area larger than Salt Lake City, which is 110 square miles – an area that takes up 13 percent of the total area of the lake when waters are low, and covers 7.4 percent of the lake when its levels are average.[5] Because the existing and proposed development is concentrated in the North Arm of the lake and in Bear River Bay, as well as in shallow water and along the shoreline, the

[4] According to Great Salt Lake Minerals, the total proposed expansion for the west side of the lake will cover 25,000 acres. However, 1,500 acres that is slated to be used for this development is already leased to a private entity. As a result, Great Salt Lake Minerals is nominating 23,088 additional acres for leasing in this area.

[5] See http://geology.utah.gov/utahgeo/gsl/index.htm, the website of the Utah Geological Survey, for area calculations based on elevation of the lake.

impacts of the mining operations will be felt even more acutely in these parts of the lake and in these types of ecosystems.

III. Legal Framework

A. The Clean Water Act

Section 404 of the Clean Water Act, 33 U.S.C. § 1344, prohibits the filling or dredging of waters of the United States without first receiving a § 404(b) permit from the Army Corps. 33 U.S.C. § 1344(a), (d). A permit may not be issued if (i) there is a practicable alternative which would have less adverse impact and does not have other significant adverse environmental consequences, (ii) the discharge will result in significant degradation, (iii) the discharge does not include all appropriate and practicable measures to minimize potential harm, **or** (iv) there does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the Army Corps guidelines for permit issuance. 40 C.F.R. § 230.12(a)(3)(i-iv).

For non-water dependent projects, it is presumed that a practicable alternative exists and the burden to clearly demonstrate otherwise is on the applicant. Id. § 230.10(a)(3); Resource Inv's, Inc. v. United States Army Corps of Eng'rs, 151 F.3d 1162, 1167 (9th Cir.1998). "Practicable" is defined at 40 C.F.R. § 230.10(a)(2) as "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." The presumption for a non-water dependent project that a practicable alternative exists requires that an applicant make a persuasive showing concerning the lack of alternatives. Sylvester v. United States Army Corps of Eng'rs, 882 F.2d 407, 409 (9th Cir.1989) (internal citation omitted). Finally, a permit may not be issued "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem." 40 C.F.R. § 230.10(d). P-48.06

B. NEPA

The National Environmental Policy Act (NEPA) requires federal agencies to prepare an EIS prior to taking major federal action. 42 U.S.C. §§ 4321-4370d. The Army Corps's issuance of an individual 404 permit is a major federal action. The purpose of NEPA is to require agencies to consider environmentally significant aspects of a proposed action, and, in so doing, let the public know that the agency's decisionmaking process includes environmental concerns. The administrative record must demonstrate that the agency in question follows NEPA procedure, which requires a "hard look" at the environmental consequences of the proposed action. P-48.07

NEPA requires analysis of the purpose and need for the proposed project, 40 C.F.R. § 1502.13, along with a full and fair analysis of all reasonable project alternatives. 42 U.S.C. § 4332(2)(C)(iii), (E); 40 C.F.R. § 1502.1. In fact, the regulations implementing NEPA refer to the comparison of alternatives as the "heart of the environmental impact statement." 40 C.F.R. § 1502.14. Agencies must "rigorously explore and objectively evaluate all reasonable alternatives," then "[d]evote substantial treatment to each P-48.08

alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits," and explain why other alternatives were eliminated from detailed consideration. Id.

C. NHPA

P-48.09
(this entire section)

Congress enacted the National Historic Preservation Act (NHPA) in 1966 because it found that "historic properties significant to the Nation's heritage are being lost or substantially altered, often inadvertently, with increasing frequency[.]" 16 U.S.C. § 470(b)(3); see National Mining Association v. Slater, 167 F.Supp.2d 265, 271 (D.D.C. 2001) (reversed on other grounds National Mining Association v. Fowler, 324 F.3d 752 (D.C.Cir. 2003)). As discussed below, the shores of Great Salt Lake are rich in prehistoric archeological sites. To serve the public interest in "the preservation of this irreplaceable heritage," Congress declared as the goal of the Act, the maintenance and enrichment of this "vital legacy" for future generations of Americans. 16 U.S.C. § 470(b)(4); see Southern Utah Wilderness Alliance v . Norton, 326 F.Supp.2d 102, 108 (D.D.C. 2004).

NHPA accomplishes its purposes by "requir[ing] each federal agency to take responsibility for the impact that its activities may have upon historic resources. . . ." City of Grapevine v. Dep't of Transp., 17 F.3d 1502, 1508 (D.C.Cir. 1994). Specifically, pursuant to section 106 of the Act, a federal agency "shall, prior to the approval of . . . any license . . . take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register." NHPA, § 106, U.S.C. § 470f. An undertaking is any "project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including . . . those requiring a federal permit, license or approval . . . ." 36 C.F.R. § 800.16(y). Section 106 also requires that the agency afford the Advisory Council on Historic Preservation (Advisory Council) "a reasonable opportunity to comment" on the undertaking. Id.

The Advisory Council has promulgated regulations setting forth how federal agencies must comply with section 106. See, 36 C.F.R. 800. First, an agency official "shall make a reasonable and good faith effort" to identify historic properties[6] that may be affected by the undertaking, and evaluate whether these properties are eligible for the National Register. 36 C.F.R. § 800.4(b) & (c); see 36 C.F.R. § 60.4 (criteria for assessing eligibility). The agency will next assess the possible effects of the undertaking on any eligible historic properties found, 36 C.F.R. §§ 800.4(d), 800.5(a), and determine whether any effects will be adverse. 36 C.F.R. § 800.5. "An adverse effect is found when an undertaking **may** alter, directly or indirectly, **any** of the characteristics of a historic property that qualify the property for inclusion in the National Register." 36 C.F.R. §

[6] Historic properties are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior." 36 C.F.R. § 800.16(l)(1).

800.5(a)(1) (emphasis added).[7] If the agency finds potential adverse effects, it must seek ways to avoid or mitigate those adverse effects. 36 C.F.R. § 800.6. If the agency is unable to resolve the adverse effects of the undertaking, it must obtain comments by the Advisory Council and consider these in any decision to approve the undertaking. 36 C.F.R. § 800.7.

Importantly, at each step, section 106 requires consultation and communication among agency officials, the relevant State Historic Preservation Officer (SHPO), affected tribes and other interested persons, including the public.[8] See C.F.R. § 800.2; see also City of Alexandria, 198 F.3d at 124; SUWA v. Norton, 326 F.Supp.2d. at 108.[9] The purpose of this consultation is to involve agency official and others interested parties together in the identification of "historic properties potentially affected by the undertaking, assess[ment of] its effects and [the] seek[ing of] ways to avoid, minimize or mitigate any adverse effects on historic properties." 36 C.F.R. § 800.1(a); see also SUWA v. Norton, 326 F.Supp.2d. at 108.

Finally, section 106 requires the agency to document its compliance with the process sufficiently "to enable any reviewing parties to understand" the basis of agency "determination, finding, or agreement" under the regulations. § 800.11(a); see also, e.g. § 800.11(d) (documentation requirements for finding of no historic properties affected); § 800.11(e) (documentation requirements for finding or no adverse effect or adverse effect).

IV. General Comments

A. Average Conditions versus Variable and Extreme Conditions P-48.10

As you know, the surface area, volume and salinity of Great Salt Lake vary considerably, based largely on weather. These variable conditions have significant impact on wildlife and recreation. Indeed, wildlife, including birds, and wildlife habitat are more vulnerable to, and their viability and health more influenced by, extreme rather than by average

[7] "Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative." 36 C.F.R. § 800.5(a)(1).

[8] As the regulations make clear "[t]he views of the public are essential to informed Federal decision-making in the section 106 process. The agency official shall seek and consider the views of the public in a manner that reflects the nature and complexity of the undertaking and its effect on historic properties . . . ." 36 C.F.R. § 800.2(d)(1). In addition, "[t]he agency official must . . . provide the public with information about an undertaking and its effect on historic properties and seek public comment and input." 36 C.F.R. § 800.2(d)(2).

[9] The Advisory Council regulations require consultation at every step of the section 106 process, including, for example, the scope of identification efforts, 800.4(a)(3), the identification of historic properties, 800.4(b); the evaluation whether a property is eligible for listing, 800.4(c), a finding of non historic properties effected, 800.4(d), 800.5(c), the application of the criteria of adverse effect, 800.5(a)(1), and the resolution of adverse effects. 800.6(a).

conditions. Therefore, the Army Corps must base its analysis of the GSL Minerals Proposal **not** on average conditions, regardless of the averaging period, but on some measure of extreme conditions.

The discussion below focuses on many factors that vary in intensity and impact based on the condition of the lake – for example, predator access is increased in low water years, the importance of the North Arm to eared grebes is increased in high water years and impediments to water flows and recreation are increased in low water years. Therefore, the only way that the Army Corps can access the impacts of the planned project is to consider its impacts in high water and in low water years. At a minimum, the Army Corps must undertake all its analysis and decisionmaking relative to the proposed project based on **each** of water levels representing the following elevations: 4211.85 feet (representing two historic periods of high water), 4191.3 feet (representing two historic periods of low water), and the mean average elevation of 4202 feet above sea level.[10]

B. Water Use P-48.11

There are many mineral salts and other similar extractive industries located within Great Salt Lake that use vast quantities of lake water.[11] It is imperative that the Army Corps determine not only the total annual water volume to be used by the GSL Minerals Proposal, but also the total annual water use of Great Salt Lake Minerals' current operations, as well as the operations of other industries drawing on lake waters. Only with this information can the Army Corps determine the individual, cumulative and indirect impacts of the planned project on the aquatic community, the environment and the public interest. The extent of this water use will impact lake volume, water quality, wildlife habitat, recreation and other relevant environmental values. This is particularly important because the lake's current elevation of 4194.4 (near Saline) is close to the all-time low elevation.

The draw down of lake waters by the project, individually and cumulatively, will have widespread impact – particularly when the lake is at low levels. During low lake levels, water will be taken from the main body of the lake and placed in artificial evaporation ponds, all, or parts of which, would not be otherwise underwater. This decreases the volume of the lake. Under the proposed scenario, approximately 33,000 acres of the lake will be diked and converted into evaporation ponds. Assuming the ponds were covered with one foot of water, these proposed ponds alone would entail the consumption of 10.7 **billion** gallons of water.[12] This amount of water loss, particularly when multiplied cumulatively to include all mineral salts and other consumptive uses, will affect the level of Great Salt Lake and its depth, particularly in key locations, such as between the proposed North Arm dike system and Gunnison Island. In turn, low lake levels,

[10] See: http://ut.water.usgs.gov/gslelevgraphs/GSL.WSAlt.Aug07.pdf.
[11] Any suggestion that this water use is non-consumptive belies logic. The water impounded into the evaporation ponds is taken out of a relatively intact ecosystem and sequestered for industrial purposes in ponds.
[12] Of course, the public has no idea how much water the proposed project will use. This information must be made public and incorporated into the Army Corps decisionmaking.

exacerbated by this consumptive use, would not only affect water quality, but would also make it that much more probable that predators and even people could access Gunnison Island via a land bridge or bridges.[13] This occurred during the low lake level of the 1960s when the island was trespassed by humans with goats and many young pelicans where killed using .22 rifle ammunition.[14]

Thus, included in the Army Corps analysis should be a determination of the draw down of lake water that will result as a consequence of the proposed project. This determination should include an assessment of Great Salt Lake Minerals' ongoing efforts to make its existing facilities more efficient, thereby using more lake water. These calculations then must be applied to determine impact on water levels to determine both individual and cumulative impacts on water quality as well as the potential for creating more predator and human access to Gunnison Island and other important wildlife habitats. In making these determinations, the Army Corps should rely on the recently completed USGS maps that show the elevation of the bed of Great Salt Lake in detail. The North Arm map indicates that the lake bottom between the west side of the North Arm and Gunnison Island is essentially dry at lake elevations between 4192 and 4193 feet above sea level. In 2005, the Great Salt Lake level at the gage station on Promontory Point registered between 4194 and 4195.

C. Purpose and Alternatives

P-48.12

The stated purpose of the GSL Minerals Proposal is unreasonably narrow and erroneously and artificially restricts the range of practicable alternatives to the project. This is particularly true here where the applicant seeks strictly private gain by filling an enormous area of a water of the United States held in trust for the citizens of Utah. The purpose of the project should be rewritten more broadly so that less damaging practicable alternatives – such as continuing to acquire potassium off-site – are viable and considered in depth.

However, if the Army Corps persists in unduly restricting the purpose of the project, the agency must consider the less damaging alternative of locating evaporation ponds outside of the waters of the United States – above the bed of Great Salt Lake. Likely the most appropriate location for such ponds would be on the west side of the lake, including in and around the Newfoundland Evaporation Basin. Examination of alternatives that construct evaporation ponds some distance from the shores of the lake should be considered.

[13] We know, for example, that historically, there has been land bridge access to Gunnison Island when the South Arm was at approximately 4193 feet above sea level, less than two feet lower than current lake levels.

[14] Utah Fish and Game publication and personal testimony of Jack Rensel, DWR, retired.

In any case, because the GSL Minerals Proposal is a non-water dependent project,[15] the presumption is that a practicable alternative exists. This presumption holds unless clearly demonstrated otherwise. Indeed, the Army Corps may not issue a § 404 permit unless the agency has independently verified all relevant information and provided detailed, clear and convincing information **proving** that an alternative with less adverse impact is impracticable. Here, such analysis underscores the need to restate the purpose of the project and undertake rigorous exploration of practicable alternatives.

D. Cultural Resources P-48.13

Cultural resources are evaluated by a field inventory prior to ground disturbance to make a determination of significance and adverse effect. Consultation among agencies and the relevant Native American tribes is required by federal and state regulations. Once the project moves to the construction phase, the areas of ground disturbance may be monitored so that any new discoveries unearthed by construction can be inventoried and evaluated for significance.

The GSL Minerals Proposal for Bear River Bay on the east side of the lake is adjacent to an area that is one of the richest archaeological landscapes in the state of Utah. The areas immediately east and northeast of the existing Great Salt Lake Minerals ponds harbor hundreds of campsites, villages, and human burials. Most of the cultural resources in those areas date to the Fremont period (A.D. 800 – 1200 in the case of the Great Salt Lake area). Hundreds of archaeological sites and thousands of human bone/burials were discovered east and northeast of the company's ponds in the late 1980s and early 1990s after they were exposed by receding Great Salt Lake waters. Many more cultural resources remain in those areas and periodically come to light. Importantly, the area north of the existing the Great Salt Lake Minerals ponds also contains archaeological sites. Eleven human burials were recovered from that area in 2001. That area is less known, but seems to yield remains dating to the Late Prehistoric period (post A.D. 1300). The age of those remains is important because they are directly related to the living tribes of northern Utah; specifically the Northwestern Band of the Shoshone Nation.

Any ground disturbance in the areas bordering the existing the Great Salt Lake Minerals ponds in Bear River Bay will likely encounter abundant cultural resources significant for their scientific value and significant to the heritage and religious values of living Native American peoples.

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[15] The GSL Minerals Proposal is not water dependent. The relevant regulations state that where a project "does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose," it is not water-dependent. 40 C.F.R. § 230.10(a)(3). Plainly, mineral salts extraction need not occur within the water or a special aquatic site – it can occur on dry land. While access to Great Salt Lake may be necessary to extract minerals from Great Salt Lake water, that a pipe or pump may be located in the lake to gain access to the water does not mean that 33,000 acres of evaporation ponds must be located on the bed of the lake. Moreover, as Great Salt Lake Minerals currently gets its potassium from mines on dry land, there is nothing about obtaining this mineral that requires access to or siting in special aquatic sites, much less Great Salt Lake.

The proposal for Clyman Bay on the west side of Great Salt Lake may also encounter cultural resources. Less is known about that area, but the apparent absence of fresh water streams creating wetlands in that area may imply that cultural resources there will be fewer than in Bear River Bay. The proposed project area will have to be inventoried to make a determination of adverse effect. Furthermore, increased access to the area of Clyman Bay caused by the expansion of the ponds may increase use and result in adverse effects on cultural resources outside of the primary project area. This may be significant for the proposed development in Clyman Bay because of the existence of dry caves in the rocky ridges and mountains bordering the west side of Great Salt Lake. As stated above, historic preservation laws and regulations also apply to indirect impacts to cultural resources.

E. Seismic Concerns P-48.14

Five submerged segments of the Great Salt Lake fault system have generated magnitude 6.8 - 7.2 earthquakes in the past and will do so in the future. At least four of these, the Rozelle, Promontory, Fremont, and Carrington segments, directly threaten the proposed industrial expansion to the northwest arm of the lake. Ground-shaking accelerations as great as 1.0 g and tsunami waves as high as three to four meters generated by sublacustrine fault ruptures could cause catastrophic oil and gas spills into the lake from pumping facilities, pipelines, and supply trucks supporting both proposed and existing evaporation ponds. Such spills could reasonably be expected to destroy bird, brine shrimp, and brine fly habitats lake-wide in a single event. No consideration of this potential disaster scenario has been addressed to date.

F. Existing Condition of Great Salt Lake P-48.15

Plainly, in order to determine accurately the impact of the proposed project on the aquatic ecosystem, the physical and chemical make up of lake waters, and on recreation, aesthetics and the public interest, the current condition of Great Salt Lake, with respect to these values, must be determined.[16] This entails, among other things, using the most precise and current information available – data that reflect all development in and around the lake, all remaining habitat and the conditional, the functionality of remaining habitat and all lost habitat. Careful distinctions between types of habitat must be made as well.

Furthermore, to determine the impacts of the GSL Minerals Proposal on wild and aquatic life, particularly birds, calculations of lost and remaining habitat must be made on a species specific basis. In other words, any suggestion that a particular percentage of habitat is left or that a certain number of acres remains intact must take into account whether a specific species of bird will actually use that habitat. Therefore, it is necessary to examine individual and cumulative impacts to a particular species of bird, thereby taking a species specific approach to habitat availability and loss.

[16] This includes a lake-wide analysis of past, current and future carrying capacity for waterbirds.

In addition, the maps depicted and relied upon in the public information documents are outdated. Since it is critical to consider the impacts of this project on the lake as it is today and to take into consideration existing fragmentation in both the North Arm and South Arm, the Army Corps must base its decision making on current maps.[17] The agency must use and present maps, such as satellite images, that depict **all** existing dike structures through out the lake.

G. Cumulative Impact Analysis P-48.16

To address cumulative impacts, the Army Corps must initially establish the geographical area in which cumulative impacts are to be considered. The geographic scope of the cumulative analysis will vary depending on the value at issue. For example, for migratory birds, the most appropriate scale for cumulative impacts will consider where the birds migrate to and from, and then determine how that migratory bird habitat has changed over time. In addition, the analysis must address impacts to the entire local ecosystem upon which these birds rely. This means, for example, that impacts to Utah Lake should be considered. Because migratory birds do not use higher level terrain, a boundary that uses elevation as a factor can be established to encompass the area within the Great Salt Lake watershed that migratory and other waterbirds use.

While this area of analysis is extensive, birds once used the entire watershed and wetland system encompassed by this area for habitat – at least until those wetlands were filled, many under 404 general and individual permits. In turn, mitigation efforts connected with these permits, have, in many cases, not been successful, resulting in a cumulative loss of habitat and functionality. In order to fully understand the cumulative impact to, for example, bird life and water quality, the agency must understand how habitat in this extended area has been impacted.

Water quality is another important parameter for cumulative impact analysis. To address these impacts, the Army Corps should reference the lowest water quality station in each sub-watershed around the lake and assume it represents the health of the entire sub-watershed. With that information, the agency could identify water quality issues and determine how the planned project would further aggravate those problems.

Moreover, the agency's impact analysis must consider past activities that cumulatively impact the aquatic ecosystem, as well as other relevant values. Great Salt Lake Minerals and other similar extractive industries have been operating on the lake for well over a half century. Likewise, the Great Salt Lake ecosystem has been experiencing a net loss of the waters of the United States, including connected wetlands, for decades prior to the advent of these development activities. Therefore, it is incumbent on the Army Corps to

[17] The Army Corps should, at a minimum, use the new high-resolution bathymetric maps of the South Arm (2005) and the North Arm (2006) prepared by Robert Baskin and coauthors from the USGS Water Resources Division in Salt Lake City, accessible at http://www.gelib.com/salt-lake-bathymetric.htm.

consider, in its cumulative impact analysis, the effects of all past activities for which information is available from at least the beginning of the 20th century onward.[18]

Finally, for many of the birds that rely on Great Salt Lake, this ecosystem is but one factor in their ability to survive and thrive. Therefore, some analysis must be undertaken to determine how impacts to other key ecosystems will cumulatively affect these birds. By the same token, the Army Corps must also consider the condition of other saline lakes in the West.

H. The Lake Effect P-48.17

As you know, the "lake effect" is responsible for much precipitation, particularly in the form of snowfall, along the Wasatch Front. The planned minerals extraction project may adversely impact the lake effect by increasing evaporation from Great Salt Lake, reducing lake volume, and decreasing water temperatures in the winter by making the lake more shallow. These and other potential consequences must be analyzed, cumulatively and individually.

I. Section 404 and NEPA Analysis

For actions subject to NEPA, the analysis of alternatives required for the NEPA environmental documents will in most cases provide the information for the evaluation of alternatives under the CWA Guidelines. If, however, the NEPA documents do not consider the alternatives in sufficient detail to respond to the requirements of the Guidelines, it may be necessary to supplement NEPA documents with additional information. 40 C.F.R. § 230.10(a)(4). Moreover, the Army Corps must comply with the relevant regulations, including by making all relevant factual findings. This means that, whether under the requirements of NEPA or the Clean Water Act, the Army Corps must additionally consider the following, more specific environmental impacts which focus on the agency's regulatory obligations: P-48.18

V. More Specific Comments

A. Section 230.10

40 C.F.R. § 230.10 Generally

Section 230.10 states that the Army Corps' "compliance evaluation procedures will vary to reflect the seriousness of the potential for adverse impacts on aquatic ecosystems" threatened by the proposed project. 40 C.F.R. § 230.10. Here, the potential for serious adverse impact is indeed serious. As the public notice itself states, "the applicant asserts that approximately 30,713.75 [surface] acres of waters [of the United States] **will be lost** due to project construction under the proposed alternative." Public Notice at 6 (emphasis

[18] See REGL 84-9, 26 Jul 84.

added).[19] Moreover, the waters to be lost comprise one of the most ecologically significant aquatic ecosystems in the Western Hemisphere. Thus, adherence to the relevant guidelines must be unwavering and must reflect the sheer immensity of the proposed project.

40 C.F.R. § 230.10(a)

That said, the Army Corps must consider, as alternatives to the GSL Minerals Proposal, "[a]ctivities which do not involve a discharge or dredged or fill material into waters of the United States." 40 C.F.R. § 230.10(a)(1)(i). In addition, here, where the proposal will discharge into a "special aquatic site" and is not water-dependent, "practicable alternatives that do not involve special aquatic sites are presumed to be available" and alternatives that which do not involve special aquatic sites are assumed to result in less adverse environmental impacts. 40 C.F.R. § 230.10(a)(3).

As mentioned above, the stated purpose of the GSL Minerals Proposal is unreasonably narrow and erroneously and artificially restricts the range of practicable alternatives to the project. This overly constrained statement of the purpose of the project prohibits compliance with these regulatory requirements. In any case, the Army Corps' analysis must include a thorough and independent consideration of all less damaging practicable alternatives to the proposed project, including those that do not involve discharge into waters of the United State and to not involve special aquatic sites.

Section 230.10(b)(1) – Water Quality P-48.19

Section 230.10(b)(1) prohibits discharge of dredged or fill material into a water of the United States where it will "cause or contribute to . . . a violation of any applicable State water quality standard." 40 C.F.R. § 230.10(b)(1).

Recognizing the importance of Great Salt Lake, not only to Utah, but to the Nation and the World, the Utah Division of Water Quality (DWQ) has appropriately designated the beneficial uses of the lake as:

> for primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including the[] necessary aquatic organisms in their food chain, and mineral extraction.

Utah Admin. Code R317-2-6.5; see also 40 C.F.R. § 131.10(a) ("Each state must specify appropriate water uses to be achieved and protected."); 40 C.F.R. § 131.11(a) ("For waters with multiple use designations, **the criteria shall support the most sensitive use**.") (emphasis added).

As DWQ has acknowledged in this designation, clean water is critical to maintaining the health of the Great Salt Lake ecosystem and protecting recreation there. Water of high

[19] As repeated throughout these comments, in addition to the loss of surface area of the lake, will be the loss of water volume, which will also be significant.

quality is necessary to keep the lake's wetlands functioning and the processes working to ensure an ample safe food supply for the millions of birds that depend upon it. Clean water is also necessary to protect recreation in and around Great Salt Lake – whether it involves bird watching, ducking hunting, wading or sailing.

As the GSL Minerals proposal will result in the **loss** of approximately 30,713.75 acres of waters of the United States and thereby will impair, if not destroy, the beneficial uses of 30,713.75 surface acres[20] of Great Salt Lake for primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including the necessary aquatic organisms in their food chain, the Army Corps may not issue a permit for the proposed project.

The Army Corps must consider the following factors in addressing the individual and cumulative impacts of the proposed project on water quality:

P-48.20 ■ Utah's narrative water quality standard;

P-48.21 ■ the achievement and protection of all designated beneficial uses of Great Salt Lake;

P-48.22 ■ significant mercury and selenium contamination of the lake and the potential of the project to exacerbate this contamination;

P-48.23 ■ expert concerns raised by FWS and DWR;

P-48.24 ■ reduction in open water in Bear River Bay and the resulting concentration of nutrients from sewage and irrigation sources;

P-48.25 ■ interruption of water flows caused by diking;

P-48.26 ■ impacts of fill material directly and indirectly;

P-48.27 ■ impacts of changes to substrate;

P-48.28 ■ impacts of evaporation of huge qualities of water;

P-48.29 ■ effects of pond flushing, including in the Bear River Bay area where the introduction of more salt would change salinity, and possibly change the size and length of the salt tongue and alter other ecosystem values, thereby impacting fisheries and other wildlife;

P-48.30 ■ the use of existing and proposed pump stations, fuels, trucks and other vehicles, gravity flow trenches, causeways and other infrastructure;

P-48.31 ■ potential catastrophic pollution of lake waters by an earth-quake-induced oil and gas spill or other contamination;

P-48.32 ■ cumulative impact of drought, including drought induced by global warming;

P-48.33 ■ cumulative impact of reasonably foreseeable population and development increases and increased water demand, run off and nutrient discharges;

P-48.34 ■ cumulative impact of all other current and proposed mineral salts extraction and other extractive industries; and,

P-48.35 ■ cumulative loss of wetlands and other ecosystem components that help to maintain or improve water quality.

[20] As described elsewhere, in addition to the loss of surface acres, the planned project will result in the lost of some enormous, but undisclosed volume of water – particularly when considered over time. The impacts of the loss of surface as well as volume must be examined closely.

The Army Corps must also quantify and qualify and fully understand the impacts to water quality stemming from **existing** mineral salts extraction activity and analyze these impacts cumulatively, including water use, concentration of pollutants in evaporation ponds, and the flushing of evaporation ponds. In addition, to understand properly the impacts of the proposal on water quality, the agency must know the volume and quality of **all** water being used for **all** existing operations affecting the lake, as well as for the proposed expansion and consider the impacts of this water use on non-impounded areas of the lake.

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Section 230.10(c) – Significant Degradation

As repeated above, the GSL Minerals Proposal will result in the loss of more than 30,000 surface acres of waters of the United States, as well as huge volume of water. The project will have significant adverse effects on wildlife, special aquatic sites, life stages of aquatic life, wildlife habitat, ecosystem diversity, productivity and stability, recreation, aesthetics, and other values. Therefore, the Army Corps may not legally issue a permit for the project. This is particularly true because, both individually and cumulatively, this project results in the loss of too many acres of waters of the United States and thereby jeopardizes the health of the remaining ecosystem and the survivability of the organisms and wildlife that depend upon it. Such a loss of habitat and functionality cannot be mitigated, especially given the types of special aquatic sites at issue and the poor track record of mitigation efforts around the lake.[21]

In any case, in its review of GSL Minerals Proposal, the Army Corps must consider individually and cumulatively the impacts of the project on all the values detailed in section 230.10(c).

In addition to those factors listed and discussed subsequently, the Army Corps must consider the following likely impacts from the planned project on navigation, public recreation, the public interest and aesthetics:

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(Continues on next page)

- The discharge of dredge or fill material will further limit navigation of and public access to the shoreline, as well as previously open waters of Great Salt Lake. This will in turn limit the ability of the public to recreate freely on the lake and will concentrate the public's use in a smaller area. This in turn will adversely impact navigation and recreation in these remaining, smaller areas;
- The 8,000 acre expansion proposal will, at times, cut off water flows and access to and from Bear River Bay. This will severely limit the ability of the public to recreate freely on the lake and will concentrate public use in a smaller area. This in turn will adversely impact navigation and recreation in these remaining, smaller areas;
- To the extent that discharge of dredge or fill material will adversely affect water birds and wildlife, as well as scenic values, public recreation that depends upon these values will be adversely impacted;

[21] The Army Corps should develop and make public criteria for making a determination of this "impact threshold."

P-48.38 (Continuing)

- Impacts to navigation and public access will be exacerbated by low water as lake volume decreases and the shoreline shrinks;
- Diking will further impede navigation and access from one part of the bay to the other – access which is already significantly impaired by existing diking and conversion of a relatively intact ecosystem into evaporation ponds;
- Transforming the west side of the lake into a more significant industrial zone will further result in a loss of quiet, solitude, scenic beauty and unparalleled remoteness. Similar impacts will be felt on the less remote, but more heavily used Bear River Bay and Willard Spur area of the lake; and
- The proposed project will modify the natural setting and sounds of Great Salt Lake, making it an industrialized site. Thus, the impact of the proposed expansion on the aquatic beauty and aesthetics of Great Salt Lake is extensive. Cumulatively, this impact is even more significant, as a significant portion of the lake is currently developed.

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Section 230.10(d)

Pursuant to section 230.10(d), the Army Corps may not permit the discharge of dredged or fill material "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem." 40 C.F.R. § 230.10(d). Given the magnitude of the proposed project and its significant adverse impact on special aquatic sites and ecosystem values, the adverse effects of the proposal cannot be minimized. This is particularly true given that the function and value of special aquatic sites, including mud flats and playas, cannot be created or replaced elsewhere.

In making any determination under this section, the Army Corps must consider:

- all cumulative impacts, including impacts from current Great Salt Lake Minerals operations, other current and proposed mineral salts extraction operations on the lake, and any other existing and reasonably foreseeable projects and development, including oil and gas development, that have adversely impacted or will adversely impact special aquatic sites, as well as other waters of the United States;
- the cumulative loss of special aquatic sites and other ecosystem values, as well as recreation and aesthetics, due to the dredging and filling of the waters of Great Salt Lake; and
- the degree to which mitigation and other efforts have been unable to recreate or replace the environmental characteristics and values lost as a result of the dredging and filling of the waters of Great Salt Lake and the degree to which these efforts have not been completed, monitored or analyzed sufficiently to determine their success.

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Likely cumulative impacts include:

- Of particular concern are the cumulative impacts of the proposed expansion on all aquatic ecosystem values as well as navigation, aquatic beauty, and public recreation. Factors such as increased storm water run off, increased recreation, and

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(Continuing)

increased near-lake development all also have cumulative adverse impacts on these resources; and,

- There are currently ten producing mineral leases totaling 171,644 acres operating within Great Salt Lake. Like the Great Salt Lake Minerals expansion proposal, these operations involve diking and conversion of a functioning ecosystem into industrial solar evaporation ponds and similar facilities. In addition, areas of the bed of Great Salt Lake are currently leased for oil and gas development and there exists a keen interest in the leasing of tens of thousands of additional acres for oil and gas development. These activities will certainly have adverse cumulative adverse effects on aquatic ecosystem values, as well as the public interest.

B. Section 230.11 – Factual Determinations

As part of its analysis of the GSL Minerals Proposal, the Army Corps must make factual findings that quantify and qualify the short and long-term effects of the planned project on "the physical, chemical, and biological components of the aquatic environment." 40 C.F.R. § 230.11. These written findings must include a determination of the individual and cumulative effects of the project on: the substrate at the proposed disposal site, 40 C.F.R. § 230.11(a); current patterns, water fluctuation, circulation, chemistry, salinity, clarity, color, odor, dissolved gas levels, temperature, nutrients, and eutrophication, and obstruction of flow, alterations of bottom currents and other significant changes to the hydrologic regime, 40 C.F.R. § 230.11(b); the kinds and concentrations of suspended particulates, turbidity, the grain size and material proposed for discharge, as well as the effects of current patterns, water circulation and fluctuations, wind and wave action and other physical factors on the movement of suspended particles, 40 C.F.R. § 230.11(c); the degree to which contaminants are introduced, relocated, or increased, 40 C.F.R. § 230.11(d); and, the structure and function of the aquatic ecosystem and aquatic organisms, including as related to changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity. 40 C.F.R. § 230.11(e).

In addition, findings must be made to determine the cumulative effects of past, present and future discharges of dredged or fill material. As the relevant regulations confirm, "the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems." 40 C.F.R. § 230.11(g)(1). To carry out the requirements of 40 C.F.R. § 230.11(g)(1), the Army Corps must predict cumulative effects to the extent reasonable and practical and collect and solicit information from other sources. 40 C.F.R. § 230.11(g)(2).

Sources from which the Army Corps should collect and solicit information, include:

- DWR and FWS, including all DWR and FWS Great Salt Lake bird survey data, bird count data from the Bear River Migratory Bird Refuge, as well as seminal works dealing with bird population data and habitat data (e.g. Wm. H. Behle, *The Birdlife of the Great Salt Lake*, U of U Press, 1958, and research of Dr. Joseph R. Jehl, Jr);
- The Utah State Engineer and databases concerning water rights appropriations;

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- EPA's STORET site and other water quality data;
- Corps RAMS database and paper files to determine within the Great Salt Lake watershed: 1) number of 404 permits authorized; 2) type and acreage of waters impacted; and, 3) mitigated acres/type of wetlands, and success;[22]
- All applicable regional and local land use plans, or a SAMP, if available;
- All USGS maps and studies related to Great Salt Lake;
- All National Wetland Inventory Maps and the USGS National Land Cover Data Set (NLCD).
- 2004 Legacy Parkway Wildlife Impact Analysis Technical Memorandum and supporting materials;
- Literature and studies concerning the impacts of dikes on nesting bird habitats and nesting success on dikes;
- Literature and studies concerning the effects of roads and dikes as travel corridors for mesopredators on nesting birds, including those studies conducted on Great Salt Lake and the Bear River Migratory Bird Refuge specifically;
- Population models and analyses from the lake wide snowy plover survey (Cavitt, et al.); and,
- Ducks Unlimited vegetation mapping data on specific managed areas on Great Salt Lake and analysis of direct, indirect and cumulative effects to Bear River Refuge, Willard Spur and Willard Bay. This data show, among other things, that the greatest concentrations of sego pond weed in the United States is in Bear River Bay.

Finally, the Army Corps must determine the secondary effect on the aquatic ecosystem that will result from the GSL Minerals Proposal. 40 C.F.R. § 230.11(h). We note that with a project of this magnitude and scope – both temporal and physical – it is difficult to distinguish between primary and secondary effects. Therefore, we refer the Army Corps to the issues and effects listed throughout these comments. All must be examined, equally thoroughly and precisely, whether they are primary, secondary, individual, cumulative, direct or indirect. P-48.42

C. Subpart C – Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem. P-48.43

Subpart C describes the effects that the Army Corps must consider in making the factual determinations and findings of compliance or non-compliance in subpart B. In addition,

[22] In assessing the planned project, the Army Corps must include a description of historical permitting activity. The RAMS database is a critical source of this information. This database should list acreage impacted under each permit and what type of waters were impacted. The database may further state what acreage of impact was mitigated. However, to determine if mitigation was completed or successful, it is likely that Army Corps must examine its paper files. It is crucial to a proper examination of the cumulative impacts of the GSL Minerals Proposal that that Army Corps determine the success and completion rate of past mitigation efforts relative to 404 permits.

the subpart describes the values and environmental characteristics that may be lost as a result of the planned project.

Section 230.20 – Substrate

As section 230.20 recognizes, the discharge of dredged or fill material can result in detrimental changes to the "complex physical, chemical, and biological characteristics of the substrate" – the organic and inorganic solid materials that underlies open waters and constitutes the surface of wetlands, including water and other liquids or gases that fill the spaces between solid particles. 40 C.F.R. § 230.20(a). The Army Corps must analyze the extent to which the planned project will impact the substrate of Great Salt Lake, its wetlands and mudflats and the degree to which changes in substrate will result in the loss of environmental characteristics and values described in 40 C.F.R. § 230.20(b). P-48.44

Section 230.21 – Suspended Particles/Turbidity

"Suspended particulates in the aquatic ecosystem consist of fine-grained mineral particles . . . and organic particles." 40 C.F.R. § 230.21. The discharge of dredged or fill material can result in elevated levels of suspended particulates, at the expense of ecosystem health. 40 C.F.R. § 230.21(b). Therefore, in access the Great Salt Lake Minerals Proposal, the Army Corps must evaluate the "extent and persistence" of any resulting individual and cumulative adverse impacts to the physical and chemical characteristics of the aquatic ecosystem – including the increase in suspended particulates that: P-48.45

- will exist in the evaporation ponds;
- results from the introduction of fill material;
- is caused by flushing of ponds;
- is of a consequence of pumping;
- stems from obstruction of flows; and,
- otherwise is caused by the planned project.

Section 230.22 – Water

Plainly, the relevant regulations recognize the significance of water quality to ecosystem health and the extent to which the introduction of dredge and fill material can negatively impact water quality. Section 230.33 states: "Water forms part of a dynamic aquatic life-supporting system. Water clarity, nutrients and chemical content, physical and biological content, dissolved gas levels, pH, and temperature contribute to its life-sustaining capabilities." 40 C.F.R. § 230.22. Each of these factors will likely be adversely affected by the planned project, including negative effects on "clarity, color, and odor," as well as a reduction in or elimination of the "suitability" of Great Salt Lake waters for aquatics organisms, recreation and aesthetics. These comments address many of the potential impacts to water that will result from the Great Salt Lake Minerals Proposal – both cumulatively and individually. In addition to those listed through out these comments, the Army Corps must address those applicable to the present proposal as identified in 40 C.F.R. § 230.22. P-48.46

Section 230.23 – Current Patterns and Water Circulation

Section 230.23 acknowledges the obvious – that the discharge of dredge or fill material can change current patterns and water circulations by obstructing flow, changing the direction or velocity of water flow and circulation and changing the dimensions of a water body. 40 C.F.R. § 230.23(b). The result can be adverse impacts on: "Location, structure, and dynamics of aquatic communities; shoreline and substrate erosion and deposition rates; the deposition of suspended particulates; the rate and extent of mixing of dissolved and suspended components of the water body; and water stratification." Id. Given that the GSL Minerals Proposal is designed to thwart completely water circulation and current patterns over 33,000 acres, the adverse impacts described in this section are certain to occur on a widespread level and must be considered fully, both individually and cumulatively.

P-48.47

Section 230.24 – Normal Water Fluctuations

Likewise, the GSL Minerals Proposal is designed to thwart completely normal water fluctuations over 33,000 acres. As a result, seasonal and annual fluctuations in water levels will not occur within the evaporations ponds. Moreover, seasonal and annual fluctuations of water level outside the ponds will be adversely affected by water withdrawals and physical impediments, as well as other factors. As a result, the proposed project will "change salinity patterns, alter erosion or sedimentation rates, aggravated water temperature extremes, and upset the nutrient and dissolved oxygen balance of the aquatic ecosystem." 40 C.F.R. § 230.24(b). All these modifications, which have been identified in the relevant regulations as having adverse impacts on protected values, must be considered fully, both individually and cumulatively.

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Section 230.25 – Salinity Gradients

Although section 230.25 speaks of salinity gradients where salt water from the ocean meets and mixes with fresh water, the section plainly applies to the mixing of fresh and saline water in Great Salt Lake as well as the mixing of the saline waters from different parts of the lake with distinct salinities. Importantly, this section acknowledges that restrictions in flows that will result from diking may change salinity gradients. This, in turn could result in a host of adverse impacts, including impacts on aquatic organisms that are harmed by these changes. 40 C.F.R. § 230.25.

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Likely Impacts to Physical and Chemical Characteristics

The Army Corps must evaluate and determine the effects of the GSL Minerals Proposal on the values and environmental characteristics described and referenced in subpart C. In addition to the considerations above, the agency must consider the following:

- The Great Salt Lake Minerals Proposal is intended to turn more than 30,000 surface acres of relatively intact ecosystem into essentially sterile evaporation ponds. This change will be permanent for the foreseeable future and impacts from the ponds evaporation ponds may endure forever. Moreover, as these ponds will concentrate salts for three years, the waters in the ponds will change over time,

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becoming more and more inhospitable to wildlife. Thus, full consideration must be made of this wholesale transformation of a significant part of Great Salt Lake on a permanent basis as well as over the course of the three year cycle of concentrating salts in the various evaporation ponds.

- The proposed project will interfere with the natural ebb and flow of the lake, as well as the mixing of the lake's waters. The proposed development in Clyman Bay would enclose 25,000 acres of water, as well as dike off about seven miles of shoreline on the western side of Gunnison Bay. The effects of this expanded development on water quality, together with the effects of current development, are certainly significant. P-48.51

- Mineral salts extraction changes the chemistry of the waters of Great Salt Lake, at the very least, on a local level. These changes – including the effects of increased concentrations of some minerals and decreased concentrations of others – and the impacts these changes may have on the biota of the lake have never been analyzed. Changes to water chemistry, both due to current mineral extraction and due to the impacts of increased extraction should be addressed, particularly as these changes impact algae, brine shrimp and water birds. In addition, more salts are extracted from the lake every year than are added by river inflows; therefore, the long-term extraction of minerals – which is likely to change the chemistry and ultimately the characters of the lake – should be evaluated. P-48.52

- Diking and the operation of solar evaporation ponds will increase evaporation from the lake with unknown impacts to water availability, water quality, wildlife habitat, wetlands and mud flats. P-48.53

- The expansion proposal will greatly increase the ongoing shift of minerals between Gunnison Bay and Bear River Bay, and also possibly Gilbert Bay. A full understanding of these possible shifts in minerals and their impacts to the various bays should be developed, including whether the movement of water and minerals could concentrate mercury or selenium in the receiving waters or in the waters from which the minerals and water are being removed. These effects should be quantified and analyzed. P-48.54

- Drought and low water will further exacerbate the water quality impacts of current and proposed operations. In addition, as the population of the Wasatch Front increases, there will be more demand for fresh water, likely resulting in less water reaching Great Salt Lake. P-48.55

- The Army Corps should consider the impacts of global climate change in its evaluation of this project. In addition to ordinary drought events, long-term climate change is expected to result in smaller snowpacks in the Wasatch Mountains and reduce flows of fresh water to the lake, potentially lowering water levels even below the historic minimum. P-48.56

- Construction of the dikes will disturb lake bed sediments and stir up contaminants. In addition, the use of motors, motorized vehicles and other equipment as a result of the development could adversely impact water quality. P-48.57

- Pumps, underwater canals, water intake points and discharge points all impact water quality, individually and cumulatively. Flushing of solar ponds impacts water quality by forcing into specific parts of the lake waters containing a high concentration of unspecified minerals. P-48.58

- Removal of extremely high volumes of water from the open waters of the lake and sequestering them in largely sterile evaporation ponds affects water quality and quantity available to the Great Salt Lake ecosystem. Moreover, increased evaporation of waters from the lake, caused by an increase in water surface area resulting from the flooding of the ponds, will also impact these values. This loss of water could lower lake levels thereby further concentrating pollutants, further restricting natural water flows as well as public access. P-48.59

- The proposed expansion would result in the diking and conversion of a total 30,000 acres of Bear River Bay into essentially sterile evaporation ponds. Diking and conversion impacts water quality because it will interfere with the natural ebb and flow of the lake, as well as the mixing of the lake's waters. Indeed, the 8,000 acre expansion proposal appears to essentially cut off water flows and access to and from Bear River Bay, particularly when water levels are low, as they currently are. Similarly, flows between Bear River Bay and Willard Spur, which are critical to ecosystem function, will also be disrupted. In addition, as the Division of Wildlife Resources made plain, this area is important at low water levels because it creates a natural lake within the bay. IMC Kalium/DWR Memo, August 28, 1998 at 3. The effects of this expanded development on water quality, together with the effects of current development, will be significant. Specifically, circulation of fresh water, so critical to the Great Salt Lake ecosystem, will be impeded, especially during low water years. Since the open water of Willard Spur is an extremely valuable area for water birds the potential adverse impacts are certain and must be fully explored, based on flow patterns during low as well as high water years. P-48.60

D. Subpart D – Potential Impacts on Biological Characteristics of the Aquatic Ecosystem

Subpart D describes the effects that the Army Corps must consider in making the factual determinations and the findings of compliance or non-compliance in subpart D. In addition, the subpart describes the values and environmental characteristics that may be lost as a result of the planned project.

Section 230.30 – Threatened and Endangered Species

In keeping with federal law, the Army Corps must consider the impact of the GSL Minerals Proposal on listed species. 40 C.F.R. § 230.30. Although the agency currently states that there are no such species that may be affected, we suggest that peregrine falcon have used and may continue to use the north end of Bear River Bay. Moreover, we reserve the opportunity to make additional comments should other listed species be identified. P-48.61

Section 230.31 – Aquatic Organisms in the Food Web

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Not surprisingly, the relevant regulations determine that the discharge of dredge or fill material into a water of the United States can adversely affect populations of fish, insects, and other organisms in the food web in all their life stages. 40 C.F.R. § 230.31. Resulting

contaminants and water quality changes can kill or debilitate these desirable organisms or favor undesirable organisms. Id. Similarly, desirable organisms can be smothered. Id. These comments address many of the potential impacts to aquatic organism that will result from the Great Salt Lake Minerals Proposal – both cumulatively and individually. In addition to those listed through out these comments, the Army Corps must address those applicable to the present proposal as identified in 40 C.F.R. § 230.31.

Section 230.32 – Other Wildlife

Because Great Salt Lake is of utmost importance to birds, many of these comments are devoted to describing the adverse impacts on birds, their habitat and the water that serves as the basis for that habitat. The importance of these considerations is underscored by section 230.32, which recognizes the severe impacts to wildlife, including birds, that are likely to result from the discharge of dredge or fill material into a water such as Great Salt Lake. Given the enormity of the proposed project, the Army Corps is duty bound to carefully examine all individual and cumulative impacts of the planned project on wildlife as identified in section 230.32 as well as in these comments and by all relevant state and federal agencies. P-48.63

Likely Impacts to Biological Characteristics of the Aquatic Ecosystem

The Army Corps must evaluate and determine the effects of the GSL Minerals Proposal on the values and environmental characteristics described and referenced in subpart D. In addition to the considerations above, the agency must consider the following:

- As noted above, the Great Salt Lake Minerals Proposal is intended to turn more than 30,000 surface acres of relatively intact ecosystem into essentially sterile evaporation ponds. This change will have permanent impacts to the lake. Diked areas will be cutoff from most, if not all, natural processes that affect the rest of the lake. Moreover, as these ponds will concentrate salts for three years, the waters in the ponds will change over time, becoming more and more inhospitable to wildlife. Thus, full consideration must be made of this wholesale transformation of a significant part the Great Salt Lake ecosystem on a permanent basis as well as over the course of the three year cycle of concentrating salts in the various evaporation ponds. P-48.64

- The discharge of dredged or fill material will further concentrate human usage in non-developed areas, thereby impacting wildlife habitat in these areas.
- Gunnison Island, located close to the 25,000 acre expansion proposal, hosts one of the largest breeding colonies for American white pelicans in North America. Gunnison Island is now the only nesting location for American White Pelicans in Utah. Currently, Great Salt Lake Mineral dikes come within approximately four and one half miles of Gunnison Island. The expansion proposal would place dikes as close as within two and one half miles of the island. P-48.65
    - Dike construction and maintenance will bring an added anthropogenic influence to the Bay including a dike additional miles closer to the island. These dikes will provide a road access for terrestrial predators to come closer to the island and a travel way to a land bridge to Gunnison during

low lake periods. It is necessary to understand what steps are required to ensure that the American white pelicans will continue to nest at Gunnison Island – yet no analysis has been undertaken. For example, particularly at lower lake levels, predators could take advantage of this diking to access breeding sites such as Gunnison Island.

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- Dikes would also increase potential human disturbances such as noise, lighting, and land vibrations. In 1963 during a low lake event, you could wade to the island from the west side according to DWR reports of human disturbance before the island was protected. During this human intrusion into the colony, many young pelicans we killed.
- With the close proximity to Gunnison Island, a concentration pond dike may become a roost site for flightless fledgling pelicans exposing them to land predators. A dike also makes trespass easier for casual or intentional human trespass.
- A buffer around Gunnison Island designed to protect this area from boats and airplanes and is not sufficient to safeguard the birds from disturbances brought on by permanent structures.

- The proposed expansion has the potential to impact adversely other bird life. There has been no analysis of the impact of development on the eared grebe and other birds that depend upon the north arm during periods of flood, estimated by the Division to be approximately 10% of the time. In high precipitation years, as fresh water decreases salinity in the north and south arms, brine shrimp production in the north arm will exceed that in the south arm, and birds such as the eared grebe, Wilson's phalaropes and red-necked phalaropes will necessarily rely on the ecosystem of the north arm. The same may also be true for waterfowl. By the same token, diking and conversion to evaporation ponds will be in place for several decades. Within that time frame, the causeway could be breached or actions taken to better circulate the lake's waters. Again, the north arm could become even more important to birds such as the eared grebe.

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- As the proposed 25,000 acre expansion would also dike off about seven miles of shoreline on the western side of Gunnison Bay, it may adversely impact birds such as the snowy plover. The potential impacts to bird life and other flora and fauna in this area should be fully explored.

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- As noted above, DWR stated in connection with the area designated for the 8,000 expansion proposal in Bear River Bay:

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> the undiked areas of Bear River Bay have tremendous value to wildlife, specifically birds. Some of the values include: molting/brood rearing areas for Canada geese and ducks; a foraging area for fish eating birds such as pelicans, cormorants, western grebes, [and] great blues herons; [and an eared] grebe nesting colony.

Memo from IMC Kalium Ogden Corp., Division of Wildlife Resources, Division of Forestry, Fire and State Lands to John Kimball, Director Division of Wildlife Resources and Arthur DuFault, Director Division of Forestry, Fire and State Lands, August 28, 1998 at page 2, Exhibit 8, attached. With regard to some of the particular parcels slated for diking and conversion, the agency stated:

> DWR also identified lands of important wildlife value in Sections 16, 17 and 18, Township 7 North, Range 4 West. These lands were not included in the lease exchange but are valued by DWR for periods when lake level falls below 4200' in Bear River Bay.[23] DWR is particularly interested in lands which are north and northwest of the existing dikes of IMC Kalium because of bulrush colonies in this area that are important to colony nesting birds and as forage for birds. Also, at lower lake levels, this is the low point of the channel and is important as an area where the water creates a natural "lake" within the bay.

These statements show that the proposed expansion will interfere with and significantly impair the public trust.

- Other statements echo that Bear River Bay is of critical importance to waterbirds. As the Utah Department of Natural Resources has confirmed:

> Bear River Bay is the freshest region and receives the largest volume of riverine inflow. Its near-surface salinity is similar to that of the Bear River. This system is bounded on the north and east by state, federal, and private wetlands; on the south by industry; and to the west by the Promontory Mountains. This bay is fresh enough to support a community of submergent hydrophytes including sago pondweed (Potamogeton pectinatus) and widgeon grass (Ruppia maritima). There are significant islands of emergent wetlands here, especially in the east part of the bay in the Willard Spur. . . . An ecological element of vital importance to pisciverus birds in this area is the fishery that persists when the lake elevation is higher than 4,200 feet (1,280.2 m) above sea level. The avian community at Willard Spur is exceptionally complex. With its species richness, diversity and overall abundance, this area continually provides one of the most magnificent displays of bird life on the lake. Although the smallest region on the lake, it makes an exceptional contribution to the lake's avian population.[24]

P-48.70

Because of the importance of this water body to wildlife habitat, particularly close examination of the impacts of the current and proposed expansion on ecosystem values must be undertaken.

- The Great Salt Lake Waterbird Survey, conducted from 1997 to 2001, confirms the conclusions reached by the Division of Wildlife Resources and Department of Natural Resources. This survey was undertaken in 12 different areas of the total Bear River Bay complex, including the Bear River Refuge, Public Shooting

P-48.71
(Continues next page)

[23] As of April 24, 2007, the level stood at 4197 feet. The level has been below 4198 feet for at least the last three years.

[24] *Avian Ecology of Great Salt Lake*, by Tom Aldrich and Don Paul from Great Salt Lake: An Overview of Change, edited by J. Wallace Gwynn, Ph.D., Special Publication of the Utah Department of Natural Resources, 2002.

Grounds, and Bear River Club. The surveys occurred numerous times from early spring through fall during these five years. The survey underscores the importance of Bear River Bay to waterbirds. A map of these survey areas is attached, along with some of the bird counts data.

- As noted above, Bear River Bay is of critical importance to Canada geese, huge numbers of which use the area while molting. The Utah Division of Wildlife Resources has conducted aerial surveys of Canada Geese in June in the open water of Bear River Bay since 1972. The highest count was 11,893 in 1998. The impacts to these molting geese due to an expansion of the mineral ponds in Bear River Bay are not known. What is of concern is the reduction in habitat and also the potential decrease in available wet areas, particularly in lower water years. This reduction in habitat could result from direct loss to diked areas, as well as water quality impacts due to increased evaporation and reduced circulation. In addition, the Army Corps must consult and develop bird survey data regarding other breeding waterfowl, such as redhead and teal, that heavily use this area. P-48.72

- The discharge of dredged or fill material in Bear River Bay will likely adversely impact the fisheries in Willard Spur and the bay. This is because the planned project is likely to disrupt flow between the bay and the spur and may adversely impact water chemistry and water quality. P-48.73

- The discharge of dredged or fill material will likely adversely impact wildlife and habitat due to noise and increased access of predators and humans across dikes. Moreover, the use of these dikes by trucks and other equipment and the use of pumps, engines and other equipment generally will adversely impact wildlife by directly killing animals, by fragmenting habitat, by introducing noise and other disruptive conditions. P-48.74

- Any impact to wildlife habitat caused by the discharge and the conversion of relatively intact ecosystem into evaporation ponds is likely to be exacerbated by low water. P-48.75

- Adverse impacts to water quality and decreases in water quantity will adversely affect wildlife and wildlife habitat. P-48.76

E. Subpart E

We note that in addition to wetlands, subpart E identifies mudflats as "Special Aquatic Sites." 40 C.F.R. § 230.41 (wetlands); 40 C.F.R. § 230.42 (mudflats). This further emphasizes the importance of both site types to protecting the waters of the United States, like Great Salt Lake. These regulations also underscore how vulnerable wetlands and mudflats are to discharges of dredge and fill material. These comments address many of the potential impacts to special aquatic sites that will result from the Great Salt Lake Minerals Proposal – both cumulatively and individually. In addition to those listed through out these comments, the Army Corps must address those applicable to the present proposal as identified in 40 C.F.R. § 230.31. P-48.77

F. Conclusion

Thank you for your full consideration of the critical points we raise in these comments. Please do not hesitate to contact me with any questions or concerns regarding the issues

we raise herein. Moreover, if you have any difficulty gaining access to any of the materials we cite, please let me know and I will provide them for you. Also, we will send you, via U.S. Mail, a hard copy of these comments with all attachments.

Thank you for all you do to protect the waters of the United States and the aquatic communities, recreation and aesthetic values that depend upon them. Please keep us informed as to any further opportunity for public participation relative to the GSL Minerals Proposal and please send or email us all relevant documents and other materials. We also request that public hearings be held at every opportunity while you consider the planned project and that we receive notice of these hearings.

JORO WALKER
Director, Utah Office
Attorney for FRIENDS, et al.

P-49

Jason Gipson, Project Management
U.S. Army Corps of Engineers
533 West 2600 Sourth, Suite 150
Bountiful, Utah 84010
jason.a.gipson@usace.army.mil
VIA Email

Re: Public Comments Relative to Public Notice SPK-2007-00121

Dear Mr. Gipson,

Thank you for the opportunity to comment on the proposed Great Salt Lake Minerals expansion project to dike approximately 33,000 acres of lake bed and shoreline of the Great Salt Lake. As you know, the Great Salt Lake serves as a critical resource for millions of resident, migratory, and breeding birds each year. Its value to these populations can not be over stated and in fact, the Great Salt Lake's importance has been recognized by the US Shorebird Conservation Plan, The North American Waterbird Conservation Plan, and The North American Waterfowl Management Plan.

The current proposal by Great Salt Lake Minerals will result in the loss of more than 30,000 acres of Great Salt Lake and significantly impact thousands of additional acres of adjacent playa, shoreline, wet meadow wetland and upland sites. This loss and degradation of the landscape is problematic for the species that rely on Great Salt Lake. Natural landscapes within North America have been altered significantly and the wetlands, shorelines, and grasslands used by waterfowl, shorebirds and wading birds have been particularly disturbed, reduced and degraded (Brown et al. 2001, Kushlan et al. 2002, North American Waterfowl Management Plan 2004). Because of this loss and degradation, the populations of many waterbird species are in severe decline (Oring et al. 2003). This proposal to expand extraction operations by Great Salt Lake Minerals will further hasten declines of these species. P-49.01

Included below are my comments related to the proposed Great Salt Lake Minerals expansion as well as the draft Environmental Impact Statement (EIS).

1. The proposed expansion by Great Salt Lake Minerals will require the construction of a vast dike system. We know that mesopredator populations, such as raccoons, have increased dramatically within the last 50 years (Kamler et al. 2003). In addition, dikes within the Great Salt Lake ecosystem have been shown to serve as corridors for these mesopredators (Frey and Conover 2006a, 2006b); allowing them access to vast areas of wetlands which otherwise would have been difficult for them to reach. The EIS must take into account the effect of these dikes as corridors for mesopredators.

P-49.02

2. Consequently, the construction of these dikes may then function as "ecological traps" for many species, including Snowy Plovers. Snowy Plovers and other birds actively select dikes for the construction and placement of their nests. Additional dikes constructed for the proposed expansion may result in significant declines in productivity. For the past five years my research has focused on the breeding ecology and behavior of waterbirds at Great Salt Lake. We have amassed a dataset of 8,963 individual nest records from 18 species collected at seven study sites throughout the Great Salt

P-49.02
(Continuing)

Lake ecosystem. These data indicate that nest predation is the most important source of nest mortality (Cavitt 2006). In fact, nest predation in some locations is so high that no young are produced. Our data also demonstrate that nesting success of shorebirds declines within the vicinity of dikes. The effects of dikes can be observed reducing nesting success up to 250 meters away. Thus, construction of additional dikes will further function to impair breeding productivity of many species, including American Avocet, Black-necked Stilt and Snowy Plover. Throughout much of its range, Snowy Plover populations are declining (Page et al. 1991). The Pacific Coast population is designated as **Threatened** under the Endangered Species Act. Interior populations have also experienced significant declines (Page et al. 1991, 1995) and Snowy Plover have been given special status in many bird conservation programs. For example, they are considered **Highly Imperiled** by the US Shorebird Conservation Plan, a **Focal Species** by US Fish and Wildlife Service (USFWS) Division of Migratory Bird Management, are listed as a **Bird of Conservation Concern** by USFWS, a **Priority** species under the Great Basin Ecoregional Conservation Blueprint (The Nature Conservancy), and a **Priority** species under Utah/Wyoming Rocky Mountains Ecoregional Conservation Plan.

3. Within the draft EIS, the U.S. Army Corps of Engineers should use the term "habitat" as defined by wildlife biologists as "*the physical and biological resources required by an organism for its survival and reproduction; these requirements are species-specific*" (Bolen and Robinson 2003). In addition, when evaluating the proposed impacts on each species, the draft EIS should consider the impacts at scales appropriate for each species. The abundance, distribution and population health of wildlife are influenced by many factors operating at different spatial scales. Different habitat features may be relevant to a species at different scales of resolution from the local habitat patch to the entire landscape (Bissonette 1997). If the term "habitat" is simplified to incorporate only coarse-scale components of vegetation type (e.g. mudflat/pickleweed, emergent marsh etc.) and assumed to equate to suitable wildlife habitat, then erroneous conclusions will be made. It is widely known that the quality of the habitat patch is just as important as the vegetation type (e.g. Wiens et al. 1993). Therefore, it is incorrect to assume that the amount of available vegetation type available within the Great Salt Lake ecosystem is equivalent to the amount of suitable habitat available for species. Surveys of the distribution and abundance of birds utilizing the Great Salt Lake ecosystem indicate that populations are not evenly distributed throughout vegetation types. For example, Long-billed Curlew, a species designated as "highly imperiled" by both the US and Canadian Shorebird Conservation Plans and listed as a "species of conservation concern" by the US Fish and Wildlife Service (Oring 2003), commonly nests within uplands (pastures, salt desert scrub) and on mudflats. However, data from Paul and Manning (2002) indicate that this species is highly localized and **not** distributed evenly throughout the available uplands and mudflats within the Great Salt Lake ecosystem. In fact, this species reaches its highest abundance in only six sites surveyed. This same patchy distribution was also observed during a lakewide survey of Snowy Plover conducted during the 2007 breeding season.

P-49.03

4. Finally, the U.S. Army Corps of Engineers should pay special attention to the impacts caused by the Great Salt Lake Minerals expansion on the breeding colony of American White Pelicans at Gunnison Island. Gunnison Island is only one of the seven remaining pelican rookeries in North America. It is estimated that this colony alone produces over 20% of the world's population of the American White Pelican, and is the only remaining major pelican rookery that does not have refuge status. This species is highly sensitive to disturbance at their breeding colonies (Johnson and Sloan 1976). Disturbance during the breeding season can result in colony desertion. The proximity of the colony to the Clymann Bay expansion site is troubling. The proposed expansion can jeopardize this colony by increasing human and mesopredator access, increasing noise and light disturbance, and concentrating gulls (a predator on pelican eggs and young) near the colony. In addition, the evaporation ponds may be used by flightless pelicans for roosting, increasing their risk of predation by predators. P-49.04

Again, thank you for the opportunity to provide scoping input on this important matter.

Sincerely

John F. Cavitt, Ph.D.
Associate Professor of Zoology
Department of Zoology,
Weber State University
Ogden, UT 84408-2505

signature on original copy mailed December 3, 2007

LITERATURE CITED

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P-50

Subject: FW: GSL Minerals Identification Number 200700121
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: cory cannon [mailto:triplecurl2003@yahoo.com]
Sent: Monday, December 03, 2007 5:32 PM
To: Gipson, Jason A SPK
Subject: GSL Minerals Identification Number 200700121

Comment Regarding Expansion of Great Salt Lake Minerals Identification Number 200700121

I am concerned that the expansion proposed by Great Salt Lake Minerals will have a negative impact on lake circulation, pelican and other nesting areas, plant habitat, and wildlife habitat. Circulation in the Great Salt Lake is already restricted by causeways, railways, and other existing construction. So the proposed construction of new dikes seems like it would only worsen the circulation problem. Also, returning what is leftover from the new evaporation ponds back into the lake seems disruptive to an already fragile ratio of minerals to water. The exact components in the waste flow may already be present in the lake, but not likely at the same concentrations. P-50.01 P-50.02

Human access is currently restricted in the proposed expansion areas, in addition to the areas being fairly remote. This lack of human interaction is a big advantage for the non-human residents of the Great Salt Lake in that there is less human disturbance to nesting areas, plant habitat, and wildlife habitat. P-50.03

Even though the proposed evaporation ponds are more environmentally friendly than burning fossil fuels to make a product, there is still an environmental cost in terms of habitat loss or damage and poor water circulation. Higher market demand for fertilizer is not a good reason when compared to the cost construction and operation would have on plants, birds, and other residents of the Great Salt Lake.

I think Great Salt Lake Minerals will continue to be profitable even if their expansion proposal is denied. This is not a circumstance where the business is on the verge of failure and hundreds of jobs will be lost unless the expansion is approved. They can continue operating with the lake resources they currently have. If they study the efficiency of their current operations, they may even become more profitable, without having any additional impact on the Great Salt Lake. P-50.04

I would hate to see additional stresses placed on Great Salt Lake birds and wildlife that would make them move somewhere else or endanger them. I would hate to see plant habitat or water health damaged by new construction or an influx of concentrated “post-evaporation pond” materials.

I think the environmental costs are too high for the expansion Great Salt Lake Minerals is proposing. I hope the environmental impact statement has the same finding.

-Brandy Cannon

P-51

Subject: FW: GSL Minerals Expansion Project
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Don S. Paul [mailto:avocet@qwest.net]
Sent: Monday, December 03, 2007 8:26 PM
To: Gipson, Jason A SPK
Cc: Joro Walker; Lynn de Freitas; Wayne Martinson
Subject: GSL Minerals Expansion Project

Dear Jason,

I have actively participated in the development of questions of interest to the proposed expansion of the Great Salt Lake Minerals evaporation and pre-concentration foot print in the North Arm and Bear River Bay portions of the GSL. I am in opposition to these expansions for numerous reasons that will be articulated by several significant organizations interested in the long-term sustainability of the GSL Ecosystem. I will not review my specific comments here; rather, I would like to make a few general comments concerning the seriousness and importance of this particular decision at hand. First allow me to point out for the record my qualification. I am a retired wildlife biologist after 34 years with the Utah Division of Wildlife Resources, most of which was spent working directly with GSL resource assessment, management and research. I ended my career with DWR as the GSL Avian Biologist working with the GSL Ecosystem Project. With my collogues, I collected the data that established GSL as a Hemispheric site within the Western Hemisphere Shorebird Reserve Network. We conducted 25 years of Gunnison Island American White Pelican breeding adult surveys, carried out an ambitious five year temporal and spatial aquatic bird survey within the GSL Ecosystem (1997-2001), and much more. I have recently been serving as the Great Basin Bird Conservation Region Coordinator as part of my Intermountain West Joint Venture responsibilities and in association with the North American Bird Conservation Initiative (NABCI). I serve on the Waterbird Conservation Council of the Americas. I provide you this personal background information only to legitimize the following facts and information.

The Great Salt Lake is the most important salt lake ecosystem and wetland complex as it relates to aquatic bird populations in North America and one of the most important in the Western Hemisphere. This fact is supported through the population size and percent of population of numerous species that migrate through the GSL, stage at the GSL (molt and gain weight in the form of energy for migration) or breed at the Lake. Not only is the GSL important because of its resources provided at key life-sustaining intervals and in impressive abundance, but its location is irreplaceable on the landscape as a strategic stop along the migratory pathway. Its size and contiguous habitats, in large part, are key in the support of the significant populations and

P-51.01

P-51.01
(Continuing)

biodiversity that occur within the ecosystem.

This system has been compromised by decreasing water quantity, quality and time of availability and by the carving up of the Lake through the creation of dikes, levies and industrial complexes. The proposed expansion of GSL Mineral operations with the significant area requested and foot print location will significantly impact the lake's function and ecology.

I would be happy to answer any further questions you may have concerning this project as they pertain to my knowledge of avian resources associated with the lake. Please contact me as needed.

Thanks,
Don

Don S Paul
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5928 River View Circle
Mountain Green, Utah 84050
801 643-5703
avocet@qwest.net

P-52

Subject: FW: comments re: SPK-2007-00121
Date: Tue, 4 Dec 2007 08:31:58 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: comments re: SPK-2007-00121
Thread-Index: Acg1rbemckQO42ywTb+2m80XN3bZTgA5VlaA
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 04 Dec 2007 16:31:59.0602 (UTC) FILETIME=[31584520:01C83693]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 04 Dec 2007 09:32:01 -0700 (MST)
X-Spam-Status: No, score=-2.225, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_50_60,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
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From: Lynn Carroll [mailto:bradlynnc@comcast.net]
Sent: Monday, December 03, 2007 6:09 AM
To: Gipson, Jason A SPK
Subject: comments re: SPK-2007-00121

Jason Gipson, Project Management

Re: Public Notice SPK-2007-00121 – Proposed 33,000-acre Expansion of Solar Evaporation Ponds on Great Salt Lake

Dear Mr. Gipson:

I welcome this opportunity to comment about the proposal by Great Salt Lake Minerals to form additional evaporation ponds in both the North Arm (Gunnison Bay) and Bear River Bay of Great Salt Lake (GSL). These comments reflect concerns that I and other members of Wasatch Audubon Society have about effects the expansion might have on the unique and complex ecosystem inhabiting the lake and its shores. Our primary interest is in preserving habitats and favorable conditions to maintain the biological diversity of Utah and the world. Since we know most about the birds found here, our comments will focus on them.

Through its pre-scoping meetings, the Corps has done a good job of identifying questions and concerns to be addressed in the DEIS. Most of our concerns fall within the categories listed in the Preliminary Information Packet provided at the public meetings in November, so I will assume familiarity with these ideas and proceed to address some from our point of view.

American White Pelicans

In the past, there were several nesting sites of American White Pelicans in Utah. Gunnison Island's status as the only remaining nesting colony in the state and one of the three largest colonies in North America magnifies its importance. Its loss would certainly impact the population of pelicans in the state and contribute to a general decline of the species.

It is difficult to know whether activity at the proposed Gunnison Bay expansion site would cause birds to abandon their nests. Certainly Gunnison Island has attributes pelicans value, since they must make long flights from there to reach fish on which to feed. One of those attributes is probably its solitude. Literature about the American White Pelican should be searched for information about their sensitivity to noise, vibration, and other disturbance at their nesting sites. While GSL Minerals states that the only activity at the new ponds would be for maintenance, I have been told that there is a lot of truck traffic at the existing Clyman Bay pond. Any information that can be found about why past nesting sites were abandoned would also be helpful in assessing the risk. P-52.01

Pelicans choose an island for their nests so that the surrounding water protects them from predators. When the lake level has been at its lowest, that protection was lost. We know that predators of water birds use dikes to approach their prey. Maps of the topography of the lake bottom, if available in enough detail, should help the Corps to predict whether the proposed dikes would increase predator access to the island at a certain lake level, or whether the intervening water would be deeper than the water the dikes cross. In developing any alternatives to the proposed project, consideration should be given to how Great Salt Lake Minerals might protect Gunnison Island from predators and human trespass. P-52.02

Snowy Plover

Use of a particular area by shorebirds depends directly on the water level as well as the availability of the invertebrates they feed on, so there is a lot of variability around GSL as conditions fluctuate. Therefore it is important when looking at potential habitat loss to examine data about prior use at a number of different times, from historic low to historic high water years. If surveys from such a range of times aren't available, surveys of similar mud flats at various elevations in the present must suffice. Snowy Plovers are a state species of concern, and potential loss of nesting habitat concerns us greatly. P-52.03

Gunnison Bay use by other wildlife

Under the current condition of high salinity, the productivity of the north arm of GSL is low. However, when wet years lower the salinity, more organisms can survive and reproduce there. In particular, Gunnison Bay becomes good brine shrimp habitat and thus important habitat for animals that depend on the shrimp. Such has been the case for Eared Grebes, which require plentiful shrimp at this stopover on their long fall migration. The same would happen if there were much better mixing of the waters of the north and south arms. So again, the Corps must not depend on current use data to judge whether important habitat would be lost through the proposed project. P-52.04

Heavy Metals

Possible increased movement of mercury or other heavy metals into the food chain is another area of great concern and too little knowledge. I presume that mercury contamination that GSL Minerals harvests with the sodium and potassium salts is separated and returned to the lake on the east side. I hope that the effect on lake concentration of mercury would be tiny, but if changes in the chemistry of the lake water make the metals more available to plants and animals, it is very serious. This must be carefully investigated, starting with the current operations of GSL Minerals. P-52.05

Bear River Bay

While much of the foregoing discussion involves threats that *might* be significant, we have no doubt that

the current east-side dikes and industrial operation *have had* significant detrimental impacts on the ecology of that part of GSL. The proposed Bear River Bay expansion would have an additional impact out of proportion to its size, because the size and diversity of available habitats has already shrunk so much. P-52.06

The Bear River Bay is a biologically productive and diverse area because of the addition of fresh water, which permits growth of typical wetland species. In addition, the gradient from fresh to salt water and the gradual change in water depth provide additional niches for more species to thrive in. These constitute a "special aquatic feature" that must be protected. Please take very seriously concerns expressed by the Utah Division of Wildlife Resources and other biologists about wildlife impacts of the expansion, including impacts on geese and other water birds. P-52.07

Simply examining the map of the Bear River Bay expansion is enough to raise concern that the hydrology of the lake will be seriously impacted. We urge the Corps to consult experts regarding the likely effects of the proposed evaporation pond on GSL hydrology and how these might impact the values the Corps is charged with protecting. P-52.08

We believe that the cumulative environmental impacts on Bear River Bay are great enough that the Corps should deny the permit for this expansion. P-52.09

Air quality
Additional evaporation ponds imply additional harvesting activity. We are concerned that this will increase the particulates in the air where we live and breathe as well as in the bird habitat on and near the lake. P-52.10

Recreation
Wasatch Audubon Society activities include frequent bird watching field trips, which often take us to Great Salt Lake. Any decrease in the use of GSL by birds would decrease our enjoyment of this wonderful pastime. P-52.11

Thank you for considering and using these comments as you prepare the Draft Environmental Impact Statement for the solar pond expansion.

Sincerely,

Lynn Carroll
Wasatch Audubon Society Conservation Chair

P.S. The text above is the same as that contained in the attachment. A print copy will be sent by U.S. mail as well.

The Nature Conservancy
Protecting nature. Preserving life.™

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December 3, 2007

Jason Gipson, Project Management
U.S. Army Corps of Engineers
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Jason.a.gipson@usace.army.mil

Re: Comments on important scoping issues relative to Public Notice SPK-2007-00121 – Proposed 33,000-acre Expansion of Solar Ponds on the Great Salt Lake (Great Salt Lake Minerals).

Dear Jason:

On behalf of The Nature Conservancy, I want to thank you for the opportunity to comment on the proposed action to dike approximately 33,000 acres of lake bed and shoreline habitat by Great Salt Lake Minerals in two locations on the Great Salt Lake. It is an issue of great importance to the continued survivability of the Great Salt Lake as a functioning ecosystem and we believe that a number of issues need to be addressed in a clear, sufficient and scientific manner before a project of this scale and permanence is approved by your agency.

Background

The Nature Conservancy is an international, non-profit conservation organization created in the 1950's that has been working on conservation projects in Utah since 1983. Our mission is "to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive." Utah's rich biodiversity status (5th among all states according to our scientists) has made our work here both satisfying and especially compelling.

The Nature Conservancy has long recognized the Great Salt Lake Ecosystem as likely the most important and biodiverse natural system remaining in Utah, and has been working for preservation of the Great Salt Lake since 1983. One of our most visible efforts has been the purchase and establishment of the Great Salt Lake Shorelands Preserve in Davis County. This 4,000+ acre protected area captures 11 miles of shoreline wetlands and uplands, and provides migratory and nesting habitat for thousands of birds of dozens of avian species. The recently-completed Visitors Center, which includes a mile of boardwalk and a 30-foot

viewing tower, provides access to and on-the-ground experience with the Great Salt Lake system for thousands of Utah citizens each year.

For many years, The Nature Conservancy felt that consolidating the protection of wetlands and associated uplands in this area of the Great Salt Lake was the principle contribution our organization could make to Great Salt Lake conservation. Seven or eight years ago, however, our science and program staff began to realize that while the preservation of significant wetland habitat could successfully occur, the Great Salt Lake might still be at serious risk of moving beyond the threshold of sustainability. The Conservancy then began a process of analysis and planning that revealed threats to the larger Great Salt Lake system that could possibly render all the past good conservation work by all parties futile. The components to the lake's natural, healthy-functioning system that are clearly at risk include: lake level fluctuation, salinity balance, water circulation, water quality and water quantity. Because the proposed Great Salt Lake Minerals action would have an effect on Great Salt Lake health *at the systems level*, we believe the Corps and other agencies with statutory and regulatory authority for the maintenance of this great natural system must move forward only after conclusive scientific evidence that no harm will occur.

The Value of the Great Salt Lake

Certainly, the Great Salt Lake is a unique, important and growing area of interest for many Utah citizens (sailing, airboating, hunting, wildlife viewing, horseback riding, mountain biking, hiking, mineral extraction, brine shrimp harvest, and other activities).	P-53.01

Looking at it through the lens of biodiversity, one can only conclude that the Great Salt Lake is a natural (and national) treasure. Not only does it provide a variety of uses for Utah citizens, but it has significance above and beyond our state. Because Utahns have the responsibility of managing this resource, we must recognize that "our" lake is a critical site in a hemispheric network of migratory wetland areas. We have obligations to other countries in South and Central America, to Mexico, Canada and to the millions of migratory birds that visit one country after another in their annual patterns to keep the Great Salt Lake a permanent, sustainably-functioning "link" in the chain of migratory stopovers.

Describing the wildlife of the lake is an exercise in superlatives and astounding numbers. Between 2 and 5 million shorebirds and roughly 4 million waterfowl depend on Great Salt Lake wetlands and habitat annually. In all, over 250 avian species rely on the Great Salt Lake system's healthy functioning – a system that includes the vast majority of all Utah's rare wetland habitat (approximately 400,000 acres). Recognized for its world-class wildlife numbers, the lake is officially designated a Western Hemispheric Shorebird Reserve Network site.

Both the North Arm of the Great Salt Lake and the Willard Spur areas have high wildlife values – hosting millions of birds during fall migration and containing key habitat for waterfowl and shorebirds at all lake levels. In addition to habitat values existing currently in the North Arm (one being the occurrence of the important population of breeding White Pelicans on Gunnison Island producing 20% of the world's population), this changeable

lake area can support brine shrimp production at higher lake levels. The birds that follow this food source (Wilson's Phalaropes, Red-necked Phalaropes, and Eared Grebes) are critically dependent on this function when it occurs. Likewise, the Willard Spur area has extremely high wildlife values. Especially during low water years, the bulrush habitat in the area supports large numbers of colony nesting birds and foraging migrants. Any development proposal to these valuable wetland, shoreline and lake bed areas needs to be taken seriously, but the potential environmental impacts for a proposal of this astounding size and impact require especially thorough analysis.

The Great Salt Lake Minerals Proposal

In its scope and scale, this proposal ranks as one of the most potentially system-altering proposals for lake development in our generation. The permanent diking and sequestering of 33,000 acres of lake shoreland and lake bed into shallow, single-use evaporation ponds will not only totally destroy the existing function of the public land and water under its footprint, but will also likely influence the use of tens of thousands of other acres as its impacts radiate out into the lake aquatic ecosystem. For a project of this importance and size, all permitting agencies should conduct exhaustive analysis of all possible scenarios and impacts in order to protect the lands and waters held in trust for the people of Utah and the nation. We are not aware that this has occurred and outline below some key questions and areas of study that we advocate be undertaken by the Corps as they consider this permit application.

Issues That Should Be Addressed Relative to the Specific Proposal

Wildlife/Habitat/Wetlands Issues

1) A collection of existing (or the initiation of new) monitoring studies such as the Great Salt Lake Waterbird Survey, to afford a systematic evaluation of all avian use of the project areas and the importance of these areas to lakewide wildlife populations. Use this information to determination project impacts to wildlife.	P-53.02
2) An analysis of studies or literature on the impacts of constructed dikes on nesting and foraging bird habitat	P-53.03
3) The effects of noise, new roads and other infrastructure and increased pathways for predator access to avian nesting areas	P-53.04
4) A determination of the impact to aquatic organisms both to brine shrimp industry and to wildlife in the biological food chain	P-53.05
5) An analysis and determination of all potential impacts to the important White Pelican breeding population on Gunnison Island (enhanced human and predator access by dike, dust, noise/light impacts, dike/pond attraction to young pelicans and gull and mammalian predators, among others)	P-53.06
6) The impact of losing up to 7 miles of shoreline breeding habitat for sensitive bird species such as the Snowy Plover.	P-53.07
7) The need to use current and accurate maps to determine a present-day impact as well as what is projected based on past lake rise and fall	P-53.08
8) The impact of the project on hydrologic patterns in the affected area	P-53.09
9) An analysis of habitat importance and loss/gain during years of lake level fluctuation	P-53.10
10) An analysis of the loss of wetlands surrounding the Great Salt Lake to date and how this proposal may affect avian populations	P-53.11

11) An analysis of projected bird use of new ponds and the negative or positive impact of that use P-53.12

Issues That Should Be Addressed Relative to the Integrity and Sustainability of the Larger Great Salt Lake Ecosystem

Water Quality/Water Chemistry

1) We know that human activities can have serious impacts on water quality – not only of the lake's tributaries, but of the aquatic lake body itself. For instance, the North Arm's water chemistry has changed drastically since the construction of the northern causeway. We know now as well that some of the highest mercury levels ever recorded in a U.S. waterbody were documented recently in the waters of the Great Salt Lake. The State of Utah is currently conducting the scientific studies necessary to establish a numeric standard for selenium discharge and permissible occurrence levels within the body of the lake. How will this project affect water quality and water chemistry – and secondarily its impact to organisms within the lake and its wetlands and the wildlife that consumes them? P-53.13

2) How will this proposal affect the water quality in the North Arm? Is it in compliance with the narrative water quality standards established by the state for the lake? P-53.14

3) Will reduction in Bear River Bay system acres by the diked ponds affect circulation, nutrient cycling or interrupt water flows – possibly affecting water quality? P-53.15

4) As the evaporative ponds concentrate minerals, will they concentrate contaminants and pollutants as well? Will these be returned to the lake system? P-53.16

5) Will the construction of the dikes themselves contribute to water quality degradation? How will this be quantified? P-53.17

6) Construction of dikes will undoubtedly disturb lake sediment layers, likely re-suspending chemical and contaminant components (selenium, mercury) into the water column. What will this mean to water quality, to wildlife and the entire aquatic ecosystem? P-53.18

Water Quantity

1) A determination of the effects of major new evaporation surfaces and the removal of large amounts of water itself from the larger lake system P-53.19

2) How will the loss of lake water evaporated be quantified? How will any remaining residue be sequestered or returned to the lake and how will that affect North Arm and whole-lake chemistry? P-53.20

Lake Level Fluctuation

1) At the proposed locations, these structures will be vulnerable to the effects of wind and water at higher lake levels. Will GSL Minerals push the state to defend these structures? "Turning on" the West Desert pumps in order to defend evaporation ponds could have major effects on the natural lake level fluctuation (important to habitat vegetation cycles) as well as move vast amounts of salts and water out of the GSL system. What effect would this have? P-53.21

2) The Great Salt Lake is a dynamic system – how will changing water levels and the effects of drought affect water quality, quantity, salinity balance and wetland and open water habitat with these new facilities in place? P-53.22

Salinity Balance/Water Circulation Patterns

1) An analysis of how the proposed development will affect natural lake currents and circulation – especially in the Bear River Bay area P-53.23

2) Study and impacts of how the proposed structures will further affect salinity balance in the north arm and in the lake body itself, including maintenance work and flushing of new diked ponds P-53.24

The Over-arching Issue of Cumulative Impacts on Decision-Making

Of critical importance to making an informed decision concerning this proposal (and all development proposals concerning the Great Salt Lake ecosystem) is **an understanding of the cumulative effect of this action when added to other lake-altering activities**. This key piece of information has not been provided, but should be analyzed – otherwise the Corps cannot be sure that lake system functions and other legal uses are sustainable. It is essential to proper protection and maintenance of the lake's aquatic ecosystem that some analysis and sustainable level be identified for all combined mineral extraction activities lakewide. Going one step further, it is also imperative that an analysis be done on this action when it is combined with other likely development or lake alteration actions, as often past actions can combine with present-day decisions to compound degradation of the lake system and its public trust values.

A case in point is the northern causeway. One of the most significant lake-altering actions taken since settlement, the permitting and construction of this causeway has drastically altered the natural functioning of the Great Salt Lake. In the "North Arm", all the ecosystem-scale functions of the lake have been disturbed and degraded: lake circulation, salinity balance, water quality, water quantity and lake level fluctuation. Brine shrimp production and the natural lake plankton ecosystem were terminated. Only at extremely high water levels does the north arm begin to function in a biological fashion similar to that of the larger lake. What will the current proposal do to further degrade or enhance the situation for all legal uses of the North Arm water body? P-53.25

Because today's planning and analysis protocol considers current proposals as stand-alone, the citizens of Utah will only know when some cumulative threshold of sustainability will have been crossed when we witness the negative consequences on the ground and in the water. It only makes sense to identify sustainable limits for all lake uses and to analyze their cumulative impact on each other and we recommend that you consider the following in your analysis:

1) An analysis of how this proposal, when combined with current proposals in the same area (oil and gas leasing in the North Arm, for instance) might cumulatively affect wetland and aquatic ecosystems

P-53.25
(Continuing)

2) An analysis of the permanent removal of shoreline and lake bed habitat and its cumulative impact when combined with the already-diked mineral removal or evaporation ponds elsewhere on the lake. If this proposal alone will give single-use control of a total of roughly 10% of the entire lake's area at most water stages, what do the other operations capture and what are the combined effects on wildlife, wetlands and the aquatic ecosystem?
3) An analysis of how much these two project areas have been altered already and how much they deviate or already have lost their wetland and aquatic ecosystem characteristics (from previous mineral diking, the construction of the northern causeway, and other wetland loss from development in the area), and how much further the proposal will take this huge area of the lake away from properly-functioning conditions.

Two final points:

1) The disturbance of natural values under this proposal of development is immense. Should the project go forward, how could it be mitigated at this scale? What kind of mitigation for this permanent loss would be considered? Where could it take place at the scale required? P-53.26

2) The proposal as submitted does not seem to address other reasonable alternatives – when a clear alternative exists to place the evaporative ponds in the North Arm, at least, entirely out of the lakebed and shoreline habitat areas. P-53.27

Again, The Nature Conservancy appreciates this opportunity to provide scoping input and we wish you the best in your future deliberations.

Sincerely,

Dave Livermore
Utah State Director
The Nature Conservancy
(Signature on original hard copy mailed 12/3/07)

CC: Dick Buehler, Forestry, Fire and State Lands
Maunsel Pearce, Great Salt Lake Alliance
Joro Walker, Western Resource Advocates
Lynn de Freitas, FRIENDS of Great Salt Lake
Ella Sorensen, National Audubon Society
Wayne Martinson, National Audubon Society
Amy Defreese, Utah Rivers Council
Ann O' Connell
Jack Ray
Jeff McCreary
Cullen Battle
Bob Adler
Nathan Darnall

Jeff Richards
Bill Fenimore
Tim Brown
Don Paul
Nancy Keate
John Cavitt
Dave Naftz
Brian Dixon

P-54

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Thu, 6 Dec 2007 06:27:06 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: Acg3rGgLsD+9jcfdTxKx7D4/YsDmfQAZ6jMw
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 06 Dec 2007 14:27:08.0602 (UTC) FILETIME=[152FE1A0:01C83814]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Thu, 06 Dec 2007 07:27:09 -0700 (MST)
X-Spam-Status: No, score=-2.022, required=5
X-Spam-Checks:
AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_40_50,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: kevinsmith3206@comcast.net [mailto:kevinsmith3206@comcast.net]
Sent: Wednesday, December 05, 2007 7:05 PM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

Dear Jason,
I'm writing in support of the expansion project proposed by GSL. I am currently employed by GSL and proud to state that! I've been with them for 27 years. I came to GSL as an out of work brick layer with nothing to offer them but fear of failing to be able to support my family. I worked as a laborer. Hard work and desire opened oppertunities for me to advance into operating areas of the plant much sooner than I could have anticipated in my wildest dreams!
Myself and many of my peers have been niching out a reasonbly good living while still working to be good stewards of the Lake. We know that's where our livlihoods come from, who really cares more about protecting it? We do! P-54.01
I've been witness to a growth in demand for our products that exceed what our current facility can keep up with.
I encourage you to support us as well.
Thank You!
Kevin M. Smith

P-55

Subject: FW: GSL Minerals Expansion
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Shauna Meacham [mailto:smeacham01@gmail.com]
Sent: Wednesday, December 05, 2007 9:58 PM
To: Gipson, Jason A SPK
Subject: GSL Minerals Expansion

I understand that the Army Corp of Eng is collecting comments on the pond expansion of GSL Minerals. I wanted to express my opinion, that I am in complete favor of the expansion. I have reviewed the plans, and I have attended one of the public open forums. I do not believe there is a wet land issue, with the expansion. I also do not believe it will adversely affect any water fowl or migratory birds in the area. Please pass these comments along. Thanks. P-55.01

Subject: FW: GSL Expansion Permit Public Comment
Date: Thu, 6 Dec 2007 07:21:01 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment
Thread-Index: Acg4G3PkF5owUl1sR2yPAlNWC23oGgAACPNg
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 06 Dec 2007 15:21:02.0404 (UTC) FILETIME=[9CAEE840:01C8381B]
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(mail.bio-west.com [70.98.253.170]); Thu, 06 Dec 2007 08:21:03 -0700 (MST)
X-Spam-Status: No, score=-2.188, required=5
X-Spam-Checks:
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X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Laufenberg Feed & Ag [mailto:lfas@mhtc.net]
Sent: Thursday, December 06, 2007 8:20 PM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment

Jason Gipson, Project Manager
(Public Notice SPK-2007-00121)
U.S. Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, Utah 84010

Re: GSL Expansion Permit Public Comment

We ask that you consider granting Great Salt Lake Minerals permits to expand their solar evaporation ponds to increase production of organic potassium sulfate fertilizer, which is used to product vegetables, fruits and tree nuts.

Worldwide demand for all fertilizers, including potassium fertilizers, is growing at an annual rate of 2 percent to 3 percent. According to industry experts, current worldwide demand for potassium fertilizers exceeds the industry's capacity by an estimated 1.3 million tons. P-56.01

Additional organic fertilizer will help meet the increasing worldwide need for sustainable food supplies.

Thank you,
Dave Laufenberg
United Suppliers

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Thu, 6 Dec 2007 15:30:26 -0800
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X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: Acg4QMbGlWer/pvURlmJIX+U+9spjwAHzE7g
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>
X-OriginalArrivalTime: 06 Dec 2007 23:30:27.0718 (UTC) FILETIME=[FBC63A60:01C8385F]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Thu, 06 Dec 2007 16:30:42 -0700 (MST)
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X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

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Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Bob McNaughton [mailto:bmcnaughton@sylvite.ca]
Sent: Thursday, December 06, 2007 12:47 PM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

Mr. Gibson : I am writing to you in support of GSL's expansion. As Sylvite we own a fertilizer sales and distribution business in Lakeland Florida. Within Florida the demand for 'sulfate of potash' is very high as it offers the best source of chlorine free potassium for the growth and development of citrus and vegetable crops; in fact it is the only source. We have seen and continue to see the demand for this naturally occurring, environmentally friendly product grow in demand and popularity in other markets such as golf course fertilizers and home consumer products as well. Unfortunately we have also seen the need to import the product from other sources grow along with this demand. Some of those global manufacturers are found in Germany,Belgium,Chile and China. Most of these sources offer a manufactured product rather than a natural organic product such as that of GSL's . We feel that this expansion project will allow us to continue to offer the farmer/rancher in Florida a quality product that will environmentally benefit the state of Florida and meet their growing demand with a made in America solution. In today's world it seems much too often that we do not have those opportunities. P-57.01

Mr. Gibson I know that there are a number of other positive's around this project from job creation thru to financial. However being in the industry of growing food where the need for good,clean.safe crop inputs is growing and the world wide demand for food and food safety is demanding ; as it should ; that we offer only the best; grown by the best means possible ; than GSL product helps us attain that goal for all American's.

Mr. Gibson if you have any question's of me or require any further clarification on any statements which I made please feel free to contact me.

Respectfully Yours;
Bob McNaughton
President
Sylvite Terminal & Distribution
1607 West Olive Street
Lakeland , Fl
33815 phone; 519 670 3521

P-58

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Thu, 6 Dec 2007 07:11:36 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: Acg4FzQvdDjW3Mq4TAKICxzyCU9VFAAAxQBw
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>
X-OriginalArrivalTime: 06 Dec 2007 15:11:40.0177 (UTC) FILETIME=[4D91E010:01C8381A]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7
(mail.bio-west.com [70.98.253.170]); Thu, 06 Dec 2007 08:11:41 -0700 (MST)
X-Spam-Status: No, score=-1.218, required=5
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X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

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xmlns:st1 = "urn:schemas-microsoft-com:office:smarttags">

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Gary Marsh [mailto:garmar@milesnmore.com]
Sent: Thursday, December 06, 2007 7:49 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

Dear sir,

North American agriculture needs this expansion. I'm sure you have seen the numbers, world demand is still on the rise and projected to keep increasing each year. Great Salt Lake is the only North American producer that can supply us Potassium Sulfate for our "Value Added" crops here in Kentucky. Other suppliers, mainly Germans, have reduced tons to this market due to international demand and currently due to the weak value of the U.S. dollar, i.e. better margins elsewhere, thus putting increasing pressure on Great Salt Lake to supply this market. Value added products provide a big boost to the Kentucky and overall US economy and this product is needed to maximize results. Globally the demand for organic food is on the rise and this expansion will enable that demand to be met and help provide a sustainable supply in the global food chain. GSL and the world needs this expansion. P-58.01

Regards,

GARY MARSH
MILES FARM SUPPLY, LLC
270-852-7887
garmar@milesnmore.com

P-59

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Thu, 6 Dec 2007 15:40:45 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: Acg4JSvRjFRMo253R2+P+6i10dhAJgAPDn1w
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>
X-OriginalArrivalTime: 06 Dec 2007 23:40:46.0335 (UTC) FILETIME=[6C7FB0F0:01C83861]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Thu, 06 Dec 2007 16:40:47 -0700 (MST)
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Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: John Duke [mailto:jduke@ourcoop.com]
Sent: Thursday, December 06, 2007 9:29 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

I am writing in regard to the expansion project being done by Great Salt Lake Minerals Company (GSL). This project will greatly benefit our growers in Tennessee. The product, potassium sulfate, which will be produced by this expansion, is use on a variety of crops grown in Tennessee. It has always been a struggle being able to procure enough of this product to supply our growers. We have had to deal with importers from other countries to supply part of our needs when the domestic material was tight on product. This has not been a dependable source. With the expansion at GSL this should insure a dependable supply of potassium sulfate for our growers. We asked that you please allow GSL to have the proper Construction Permits to begin this project. P-59.01

Thank you.

John Duke
Fertilizer Program Manager
Tennessee Farmers Cooperative
180 Old Nashville Hwy
Lavergne, TN 37086
(615)793-8355

P-60

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Thu, 6 Dec 2007 07:17:46 -0800
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X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: Acg4Gvi9Xwb/eSX+SrWT2RMbMf/LYQAAC0QA
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 06 Dec 2007 15:17:48.0110 (UTC) FILETIME=[28DFFEE0:01C8381B]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Thu, 06 Dec 2007 08:17:49 -0700 (MST)
X-Spam-Status: No, score=-2.253, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

"urn:schemas-microsoft-com:office:office" xmlns:w = "urn:schemas-microsoft-com:office:word">

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Pat Simonich [mailto:simonichp@compassminerals.com]
Sent: Thursday, December 06, 2007 8:18 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

Mr. Gipson,

I would like to contribute some positive comments about GSL's current request for expansion of our pond systems. I have been an employee of GSL for almost 30 years, and over these years, I have had the opportunity to work in many different capacities from starting out as an operator in the potash plant, to an electrician, served in multiple levels of supervision, and finally, I'm currently an Information Technology manager. What I have always been proud of is we as a company have been able to survive some pretty tough times such as the floods in 1983-84 and also been able to grow our business without affecting our delicate environmental surroundings. I feel this new project would be a continuation of our company's dedication to act in a responsible and protective manner with regards to our environment, and at the same time, bring economic growth to our community. P-60.01

Sincerely,

Patrick Simonich
Information Technology Manager – Applications and Development
Compass Minerals
801.732.3321

P-61

Subject: FW: GSL Expansion Permit Public Submission
Date: Fri, 7 Dec 2007 07:33:47 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Submission
Thread-Index: Acg4zL6jIWxUevQGQ5CaweSBm92wcwAGc16Q
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 07 Dec 2007 15:33:48.0361 (UTC) FILETIME=[8FA46B90:01C838E6]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Fri, 07 Dec 2007 08:33:49 -0700 (MST)
X-Spam-Status: No, score=-2.194, required=5
X-Spam-Checks:
AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_50_60,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: LAT VARN [mailto:latvarn@gmail.com]
Sent: Friday, December 07, 2007 5:29 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Submission

Dear Mr Gipson,

As a fertilizer retailer in the Eastern half of the USA, I want to let you know that we need more Sulfate of Potash. I have worked with GSL for many years and even visited their facility, both for a ground tour and a fly-over tour. From what I saw, I vote for you to allow them to expand their operations, to allow for more supply. Our comapny will use the material for food, fiber, turf, ornamental, and homeowner needs. P-61.01

Thanks again for what you do.

Sincerely,

Lat Varn
Director of Operations
Harrells Fertilizer

The Fertilizer Institute

Nourish, Replenish, Grow

William C. Herz
Vice President,
Scientific Programs

P-62

December 7, 2007

VIA Electronic Delivery

Mr. Jason Gipson
Project Manager
U.S. Army Corps of Engineers
Sacramento District
533 West 2600 South, Suite 150
Bountiful, UT 84010

Re: ***Public Notice SPK-2007-00121***

Dear Mr. Gipson:

The Fertilizer Institute (TFI), on behalf of its member companies, submits these comments in response to the Corps of Engineers' Notice of Intent entitled *Intent to Prepare a Draft Environmental Impact Statement for Great Salt Lake Minerals Corporation's Solar Evaporation Pond Expansion Project within the Great Salt Lake, Box Elder County, Utah* (hereinafter referred to as "Notice of Intent"). This Notice of Intent was published in the *Federal Register* on Nov. 1 (72 Fed. Reg. 61,871).

Statement of Interest

TFI represents the nation's fertilizer industry including producers, importers, retailers, wholesalers and companies that provide services to the fertilizer industry. Its membership is served by a full-time Washington, DC, staff in various legislative, educational and technical areas as well as with information and public relations programs.

Great Salt Lake Mineral Corporation (GSL Minerals) is a member of TFI thus, TFI and its members have a substantial interest in the Corps of Engineers' Notice of Intent and preparation of a draft Environmental Impact Statement for the proposed GSL Minerals Solar Evaporation Ponds Expansion Project.

TFI Comments

TFI supports and incorporates by reference the comments submitted by GSL Minerals. Further, TFI offers the following additional comments on the Notice of Intent.

As the Corps is aware, GSL Minerals is proposing to add approximately 33,000 acres of solar evaporative ponds to its existing 43,000 acres operation on the east and west shores of the Great Salt Lake. Using its existing process, GSL Minerals will continue, after the expansion, to extract naturally-occurring brine from the Great Salt Lake and allow the brine solution to dry and

P-62.01

P-62.01 (Continuing)

produce sulfate of potash. The existing production process, as well as the proposed expansion, is best viewed as an environmentally friendly and sustainable extraction process. There are no hazardous chemicals used in the production process and no hazardous wastes are generated by the process. GSL Minerals proposes to implement its expansion in a responsible manner with a commitment to limiting the environmental impact, just as it has done over the past 40 years.

In addition, there is an economic benefit associated with the contemplated expansion. GSL Minerals estimates that the expansion will provide an additional 50 jobs and that tax and royalty payments to the State of Utah will increase by an estimated $5 million per year.

World Potash Demand P-62.02

TFI would like to point out that the current forecasts regarding potash (K_2O) show that worldwide demand will increase 23 percent during the five year period of cropping years 2005/06 through 2010/11. This translates to at minimum 4 percent demand growth in each of the next five years. In 2006 there was an unexpected reduction of potash supply, and world potash production declined by more than 9 per cent to about 50 million metric tons.[1]

There are only twelve countries that produce potash. Of these countries, only China and Canada increased their capacity in 2006. In 2007, global capacity will expand marginally but the loss of a major mine in Russia will further tighten the global supply in the short term. Therefore, the proposed GSL expansion will also help to reduce the critical potash shortage. Potash fertilizers, in general, and sulfate of potash fertilizers, in particular, are in very high demand. According to industry experts, current worldwide demand for potassium fertilizers exceeds the industry's production capacity by an estimated 1.3 million tons.

The type of specific potash fertilizer produced by GSL Minerals, sulfate of potash, is very beneficial to a number of crops, including vegetables, fruits and tree nuts. Notably, unlike the more common type of potash fertilizer, muriate of potash, potassium sulfate does not contain chlorides which can be detrimental to the root systems of many food crops. Finally, the organic potash that Great Lakes produces is highly sought after for the organic food production market. There are extremely limited sources of organic potash and demand exceeds supply by an even larger amount than the figures cited above.

North American Crops Typically Require Annual Potash Fertilization P-62.03

North American agricultural land requires typically require annual addition of potash to meet crop removal demands.[2] Testing of North American soils indicates that 39 percent of the summary samples show that potash fertilizer should be applied each year to avoid profit loss by most major crops (Figure 1, see Appendix). If a typical build-maintenance soil fertility program is being followed, 52 percent of the samples indicated a potash rate of at least crop removal is needed (Figure 2, see appendix).

[1] http://www.fertilizer.org/ifa/publicat/PDF/2006_council_buenos_aires_ifa_summary.pdf

[2] http://www.ipni.net/ipniweb/portal.nsf/0/20DEE100DAA86F668525727300746DF5

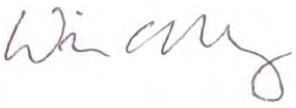
Potassium needs for crops are typically site and crop specific. Annual potash addition is most often needed in the Southeast and least often needed in the central Great Plains. Nebraska shows the lowest frequency of annual need at 7 percent, while Georgia shows the highest frequency of 77 percent. These regional differences are due primarily to indigenous soil properties. The central Great Plains and much of western North America generally have high potash levels in soils due to the prevailing climate and dominance of soils that have developed from high potash parent materials. However, even in these regions crop removal over several decades with limited nutrient addition is significantly depleting soil potash levels.

Conclusion

In sum, TFI supports the proposed GSL Minerals proposed expansion of its activities at the Great Salt Lake in light of (1) the minimal environmental footprint of the operations, (2) the fact that no hazardous chemicals are used or generated by the process, (3) that domestic and worldwide demand and agronomic necessity are such that this expansion is critical to national and global agricultural production (4) the increase in employment and tax/royalty payments to the State of Utah resulting from the expansion, and (5) the additional expansion helping to off-set the current critical, and anticipated future, shortage of potash fertilizers, in general, and sulfate of potash fertilizers, in particular.

Should you have any questions regarding our comments, please call me at (202) 515-2706, or e-mail me at wcherz@tfi.org.

Sincerely yours,



William C. Herz
Vice President, Scientific Programs

Appendix

Figure 1: Percent Of Soil Samples Requiring Annual K Addition To Avoid Profit Loss In Most Major Crops In 2005 (credit: International Plant Nutrition Institute, www.ipni.org)

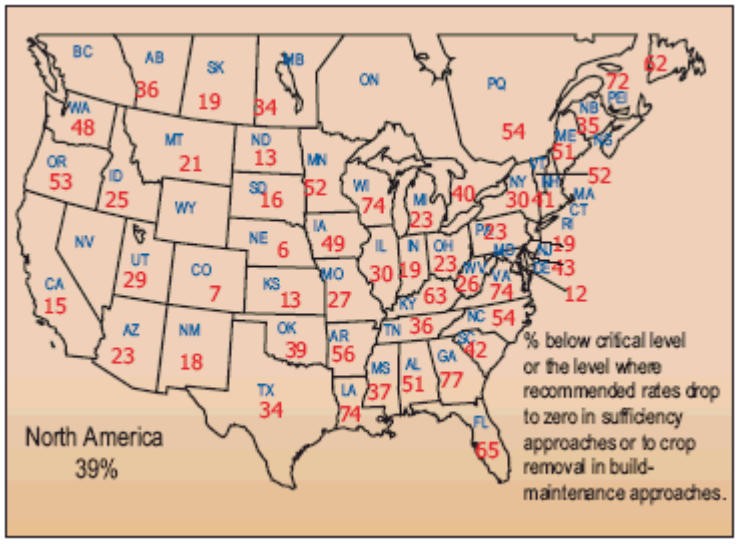
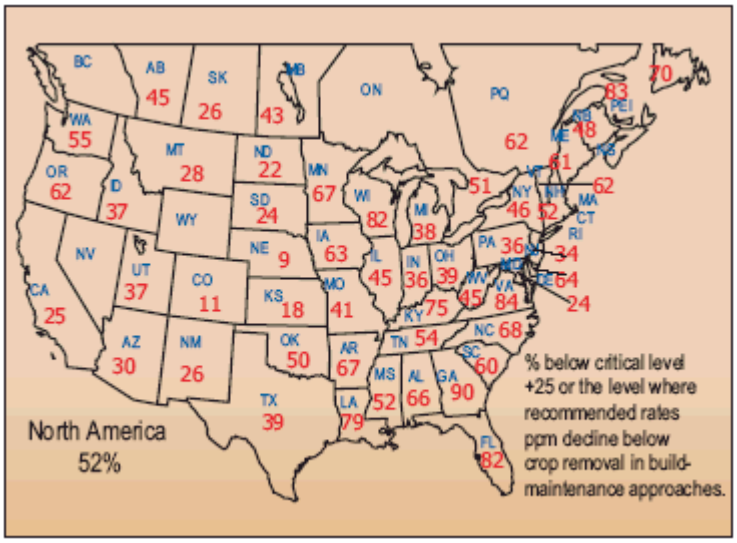


Figure 2: Percent Of Soil Samples Requiring a K Rate at Least the Amount of Crop Removal (credit: International Plant Nutrition Institute, www.ipni.org)



P-63

Subject: FW: Great Salt Lake Muinerals pond Expansion
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: rleeboyle@comcast.net [mailto:rleeboyle@comcast.net]
Sent: Sunday, December 09, 2007 12:22 PM
To: Gipson, Jason A SPK
Subject: FW: Great Salt Lake Muinerals pond Expansion

Dear Mr. Gipson:

I am writing regarding Great Salt Lake Minerals Corporation proposal to expand on its ponds. I am environmentally minded and do not see this proposal as having substantial adverse impacts to the environment.

The intent behind this effort is to produce more organic fertilizer that could lead to more ability to produce crops related to bio-fuels. This particular fertilizer also produces very high yield in crops that feed the increasing demand for food in the world. I have been out to the proposed area and do not see negative impact to wild life. A few duck hunters may be a bit inconvenienced which is okay by me. P-63.01

There are too many other real threats to the environment, like urban sprawl, that have no benefits in feeding the world, creating jobs and maybe helping push alternative to fossil fuels. Thank you.

Bob Boyle

P-64

Subject: FW: GSL Expansion Permit Public Comment Submission
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>

"urn:schemas-microsoft-com:office:office" xmlns:w = "urn:schemas-microsoft-com:office:word" xmlns:st1 = "urn:schemas-microsoft-com:office:smarttags">

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: LARRY STRONG [mailto:strol@compassminerals.com]
Sent: Monday, December 10, 2007 2:21 PM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

I believe that GSL has shown that it cares about the environment in the way they utilize the pond system that they already have. I would like them to be able to expand their complex so that they can grow and be able to better meet the demands of the fertilizer industry, grow jobs for our area, and help the tax base of the state. GSL uses the sun to extract the minerals from the Great Salt Lake which is a self replenishing resource of the State of Utah for the minerals that they extract. Fertilizer is one of those commodities that is needed through out the world for our food supply. I work for GSL as a maintenance supervisor over the heavy equipment used to extract the minerals from the pond complex. Not being able to expand the complex could directly affect my future and the future of my family. P-64.01

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Wed, 12 Dec 2007 10:47:45 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: Acg863S11Y5nFt+ATRmRWWWoWrujdQABAOQw
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
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X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Kurt Schull [mailto:krschull@yahoo.com]
Sent: Wednesday, December 12, 2007 11:19 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

I'm writing to express my support for the GSL expansion project. It would have a very positive affect on the neighboring communities in the form of increased property taxes, sales taxes, and employment opportunities. The state would also see increased royalties, which would benefit the state populous, in general. In addition, the increased minerals recovery will help meet the needs of increased farm production to feed more people in this country and throughout the world. P-65.01

As for environmental harm, I've seen the areas of the intended expansion; the mud flats and shoreline support little or no vegetation and are frequently under water, while the privately-owned land, to the south of the western impoundment, have been grazed so hard by cattle, that the only other living creatures I've seen are insects, some common birds, and jackrabbits. P-65.02

In my opinion, the known benefits far outweigh any arguments of possible negatives.

Thanks for reading this.

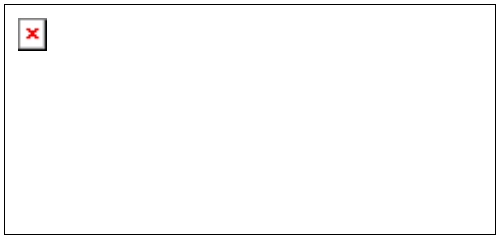
Kurt Schull

P-66

Subject: FW: IFA letter to the attention of the Army Corps of Engineers : 13/12/2007
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Corey Milne" <milnc@compassminerals.com>

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Michel PRUD'HOMME [mailto:mprudhomme@fertilizer.org]
Sent: Thursday, December 13, 2007 6:22 AM
To: Gipson, Jason A SPK
Cc: Ron Bryan
Subject: IFA letter to the attention of the Army Corps of Engineers : 13/12/2007



To the attention of Mr Jason Gipson, Chief of the Utah Regulatory Office, Army Corps of Engineers

Dear Sir,

The International Fertilizer Industry Association (IFA) is pleased to provide you with comments pertaining to the proposed expansion at the facilities of Great Salt Lake Minerals Corporation (GSL) in Utah. We are submitting the attached note at the request of GSL, which is a member of IFA.

Our organization is a not-for-profit international industry association representing more than 450 companies in 85 countries. Although IFA is an industry association, we prepare independent and authoritative market assessments on the supply and demand of fertilizers, intermediates and raw materials. Our comments pertain to the IFA's views as regards the global market situation of potash, and more specifically of potassium sulphate.

We trust this information will be valuable to you. Should you wish futher information, please contact us.

Sincerely yours,

Michel Prud'homme
Executive Secretary
Production and International Trade Committee

International Fertilizer Industry Association - IFA
28, rue Marbeuf, 75008 Paris, France

Tel: 33-1-53 93 05 13
Mobile: 33-6-27 39 39 17
Fax: 33-1-53 93 05 45
E-mail: mprudhomme@fertilizer.org


IFA_Letter_to_US_Army_Corp_December_2007.pdf

International Fertilizer Industry Association

Mr. Jason Gipson
Chief, Utah Regulatory Office
Army Corps of Engineers
533 West 2600 South, #150
Bountiful, UT 84010

Paris, 13 December 2007

At the request of Great Salt Lake Minerals Corporation (GSL), the International Fertilizer Industry Association (IFA) submits the following comments on the state of the global potassium sulphate market, in relation with a proposal for a capacity expansion project at GSL, Utah.

IFA is a not-for-profit industry association representing the world fertilizer industry. Based in Paris, the Association serves more than 450 companies in 85 countries involved in manufacturing, trading and providing services of fertilizers, intermediates and raw materials. IFA promotes the sustainable production of fertilizer products and balanced fertilization, in consideration with environmental and societal concerns.

Great Salt Lake Minerals Corporation has been a member in good standing in IFA for more than five years.

Global market situation of potassium sulphate	P-66.01

GSL ranks as the world's third largest producer of potassium sulphate, accounting for 4 per cent of global capacity. It is the sole producer of potassium sulphate in North America by extracting potassium from naturally-occurring saline brines. GSL is a well-known and reputed supplier of potassium sulphate, with markets in the United States, Latin America and the pan-Pacific region.

Over the past ten years, the demand of potassium sulphate has continued to grow, servicing mostly the agricultural markets by virtue of the nutritive characteristics of this specialty fertilizer for special crops and chloride-sensitive soils. Potassium sulphate is the most popular low-chloride potassium fertilizer, providing two essential macro-nutrients in the form of potassium and sulphur that are beneficial to cash crops such as tea, coffee, grapes, citrus fruits, nuts and vegetables. In several countries, the use of naturally occurring potassium sulphate, such as the products from GSL, is permitted for organic farming. The main markets for potassium sulphate are Europe, Asia and the Americas. Since 1997, potassium sulphate demand has grown at an annual rate of 4 per cent.

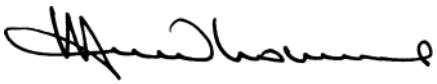
Over the past five years, the global capacity of potassium sulphate has declined gradually, following rationalization in West Europe and North-east Asia. IFA estimated global capacity in 2006 at close to 5 million short tons of potassium sulphate. According to a recent world survey carried out by the IFA Secretariat, global capacity of potassium sulphate will rebound, expanding at an annual compound growth rate of 5.3 per cent between 2006 and 2011. However, virtually all this growth will take place in China, mostly for domestic use. Capacity will remain static in regions outside China, with the exception of two small projects in Jordan and Egypt.

According to IFA, tight supply conditions have been prevailing since 2005, as demand growth exceeded supply growth. In 2007, most potash producers worldwide operated at close to effective capacity, while many customers have been on sales allocation since mid-year. During the period from 2007 to 2011, IFA has estimated that the world potash demand would increase at an annual rate of 3.1 per cent, compared with that of supply at 3.2 per cent, assuming that all announced expansions proceed as planned. Tight market conditions are projected to persist until 2011.

While new potassium supply will emerge in established producing countries, expansions of existing facilities are considered as a low-cost option for adding new supply, compared with brown-field or green-field projects. Most potash-related projects are focused on expanding potassium chloride capacity, while very few deal with primary potassium sulphate, due to the inherent characteristics of potassium deposits that are required for meeting economical and environmental considerations. In addition, most projects in other regions are centred on the manufacture of secondary potassium sulphate, which is based on the reaction of potassium chloride with sulphuric acid.

We trust this factual information will be useful in assessing the merit of the expansion project of GSL. Should you wish any further information, please do not hesitate to contact the Secretariat of the Association.

Sincerely yours,



Michel Prud'homme
Executive Secretary
Production and International Trade
Telephone: (33) 1 53 93 05 13
Email: mprudhomme@fertilizer.org

P-67

Subject: FW: Great Salt Lake Minerals Corp. Pond Expansion Comments
Date: Mon, 17 Dec 2007 06:50:26 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Great Salt Lake Minerals Corp. Pond Expansion Comments
Thread-Index: Acg+lfdXU/kXgXxbQWq+Giki3mJkjACJi1Gg
Priority: Urgent
Importance: high
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Corey Milne" <milnc@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
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Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Kathy Mesias [mailto:Mesiask@compassminerals.com]
Sent: Friday, December 14, 2007 2:12 PM
To: Gipson, Jason A SPK
Subject: Great Salt Lake Minerals Corp. Pond Expansion Comments
Importance: High

The Food and Agriculture Organization of the United Nations estimates that the world population is expected to surpass 9.8 billion by the year 2050. This increased growth will require dramatic increases in food production, mostly through increased output from land already being cultivated.

Sulfate of Potash (SOP) produced by Great Salt Lake Minerals (GSL) Corporation has been shown to improve yields and quality in fruits, vegetables, tree nuts and pasture. The pond expansion is essential to help GSL grow the increasing fertilizer and SOP demands required to meet the critical worldwide food production demands. P-67.01

GSL is committed to operating in an environmentally friendly manner and utilizes the energies of the sun and wind to produce its SOP; unlike other SOP producers who depend on fossil fuels. GSL-SOP is recognized by many organic groups and is listed by the Organic Materials

Review Institute (OMRI) for use in production of organic food and fiber. P-67.01 (Continuing)

In addition, the expansion will add at least 50 new jobs and increase tax and royalty payments by $5 million/year to the State of UT.

I strongly support GSL's expansion and believe the benefits of this project far outweigh any potential environmental risks.

Thank you,

Kathy Mesias
Great Salt Lake Minerals Corp.
A Compass Minerals Company
T: 913-344-9302 | F: 913-338-7906

P-68

Florida Fertilizer & Agrichemical Association

December 17, 2007

Mr. Jason Gipson, Project Manager
(Public Notice SPK-2007-00121)
U.S. Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, Utah 84010

Dear Mr. Gipson:

On behalf of the Florida Fertilizer & Agrichemical Association, I am pleased to support GSL Minerals' application to increase its solar evaporation ponds on the Great Salt Lake.

This expansion is necessary to allow GSL Minerals to produce more organic potassium sulfate fertilizer, a key ingredient in the production of fruits and vegetables. Current worldwide demand for potassium fertilizers exceeds the industry's production capacity by an estimated 1.3 million tons. Given the rapid expansion of the world's population and subsequent demands for abundant and affordable food, GSL's application should be granted as additional fertilizer supplies are necessary to meet the increasing worldwide need for sustainable food production.

The fact is we need fertilizers to feed the world. Dr. Norman Borlaug, a Nobel Laureate and the agronomist behind the Green Revolution, noted that "Without conventional fertilizer, we have 2 billion more people than the world can sustain. The problem is, I don't see 2 billion volunteers willing to disappear." Rather than seeking volunteers, let's expand supplies. P-68.01

In addition to its global impact, GSL Minerals' expansion will have a local impact as well, providing 50 jobs and adding approximately $5 million a year to the state's coffers.

FFAA's members, which include most of the leading fertilizer manufacturers, dealers and distributors with markets in Florida, are committed to doing our part to feed the world. Help us do that by acting favorably on GSL Minerals' application.

Thank you for the opportunity to comment.

Sincerely,

Mary C. Hartney
President

cc: FFAA Board of Directors

FFAA, P.O. Box 9326, Winter Haven, FL 33883
Phone: 863.293.4827 Fax: 863.294.8626

P-69

Subject: FW: GSL Expansion Permit Public Comment Submission
Date: Mon, 17 Dec 2007 10:11:31 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion Permit Public Comment Submission
Thread-Index: AchA1kJQLezUxcDsQdqDgvw1UNdOQgAAfcNA
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Ron Bryan" <Bryanr@compassminerals.com>
X-OriginalArrivalTime: 17 Dec 2007 18:11:36.0786 (UTC) FILETIME=[4364EB20:01C840D8]
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X-Spam-Status: No, score=-2.253, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Ilesh Shah [mailto:shahi@compassminerals.com]
Sent: Monday, December 17, 2007 10:57 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion Permit Public Comment Submission

I am a recent employee of GSL Minerals and would whole heartedly support the GSL expansion of solar evaporation ponds. I have seen positive commitment from management and employees, and convinced that there are numerous benefits to the society in general and to the local community. P-69.01

Ilesh Shah, Ph.D.

Process Engineer

P-70

Subject: FW: (Public Notice SPK-2007-00121) Great Salt Lake Project
Date: Mon, 17 Dec 2007 11:43:03 -0800
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
Thread-Topic: (Public Notice SPK-2007-00121) Great Salt Lake Project
Thread-Index: AchA4t2E93q6EuEfSvmjNWHvpXKLmwAAie+A
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "Ron Bryan" <Bryanr@compassminerals.com>,
"S. Blaise Chanson" <bchanson@bio-west.com>
X-OriginalArrivalTime: 17 Dec 2007 19:43:04.0778 (UTC) FILETIME=[0A7E0AA0:01C840E5]
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Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Jack Novacek [mailto:Novacek@compassminerals.com]
Sent: Monday, December 17, 2007 12:28 PM
To: Gipson, Jason A SPK
Cc: Ron Bryan
Subject: (Public Notice SPK-2007-00121) Great Salt Lake Project

Jason,
Please take the time to read the letter I have sent in regards to the Compass Minerals (Great Salt Lake Minerals) expansion project.

I still can't help but think of all the tax dollars and royalties that the State of Utah has been receiving over the years as well.

Please contact me with any questions. Thanks

Jack Novacek
Director - GSL Sales
Great Salt Lake Minerals Corp.
A Division of Compass Minerals
9900 West 109th Street
Suite 600
Overland Park, KS 66210
Phone: 913-344-9320
Fax: 913-338-7906

Cell: 816-536-0971

U.S. Army Corps GSL Novacek Letter.doc

Jason Gipson
Project Manager
U.S. Army Corps of Engineers, Sacramento District
533 West 2600 South, Suite 150
Bountiful, UT 84010

(Public Notice SPK-2007-00121)

Dear Mr. Gipson,

I will have been an employee of Compass Minerals for 22 years on January 13, 2008. I have seen a great deal of changes in these 22 years. I worked for American Salt Company, North American Salt Company, IMC Salt Company, and now Great Salt Lake Minerals. My employment during this time has always been associated with the Great Salt Lake and I have been proud to work with and let my customers know how the people in Salt Lake City and Ogden, Utah are willing and open to new and opportunistic ideas. I was surprised to see and hear of the resistance some of the people in that area have raised to our proposed expansion, especially since we have continually demonstrated our care and concern regarding our property. We have been excellent stewards of the land and property we have been in charge of. When we owned the Grantsville, Utah plant and the Ogden, Utah plant we invested a great deal of our time, effort, and funds to take good care of the land and the lake. In 1986, we did everything we could to protect the land from the devastating floods that occurred during that summer. I am sure the U.S. Army Corp of Engineers can remember our investment of efforts during that time. We have always maintained the Great Salt Lake's beauty and natural setting to provide a truly sacred area for many years to come.

From my customers' aspect, we need to develop and make more product available to feed the world. The fertilizer that we produce allows farmers to feed millions of people. We sell the fertilizer made at Great Salt Lake Minerals' Ogden, Utah facility to specialty crop farmers that grow fruits, vegetables, nut trees, and for animals. We also sell product to the wall board industry which provides the interiors for homes and buildings in the United States. We have ensured that the potash we produce is environmentally friendly, is in demand, and popular for other markets such as golf course fertilizers. In order to keep up with demand the U.S. domestic markets, we have seen the need for our potential customers to import the product from other sources. Some of the global manufacturers are found in Belgium, Germany, Chile, and China. These manufacturers offer a product that is not natural, nor organic such as manufactured by Great Salt Lake Minerals. Our proposed expansion will enable us to provide the additional product needed domestically to meet current demand as well as provide a superior safe and natural product.

P-70.01

Mr. Gibson, I have waited until the last day allowed to send this hoping you will take the time to read what I have to say. Please provide the content of this letter your consideration before decisions are made. If you have any questions, please feel free to contact me.

Sincerely,

Jack Novacek
Director, GSL Sales
(913) 344-9320

P-71

Subject: FW: GSL Expansion permit public comment submission
Date: Mon, 17 Dec 2007 11:08:18 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL Expansion permit public comment submission
Thread-Index: AchA3u7I5t+nfMmuQq+/qoO13awerwAATu/Q
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Ron Bryan" <Bryanr@compassminerals.com>
X-OriginalArrivalTime: 17 Dec 2007 19:08:19.0227 (UTC) FILETIME=[2F6836B0:01C840E0]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Mon, 17 Dec 2007 12:08:20 -0700 (MST)
X-Spam-Status: No, score=-2.255, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

Jason Gipson
Chief, Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, Utah 84010
Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: jeremy strong [mailto:mophiespapa@msn.com]
Sent: Monday, December 17, 2007 11:59 AM
To: Gipson, Jason A SPK
Subject: GSL Expansion permit public comment submission

I have seen GSL use their ponds most off my life, my father, my uncle and two of my brothers are currently or have previously been employed by gsl. I also live not very far from the plant and through work have benifited from the use of those ponds. i feel that GSL has done a great job in the usage of the pond system that they have now, but the expansion would do a great deal not only for GSL but for all those around the area, including more jobs, more product and that it would help the economy and the tax base for the state. My family and friends are directly affected by what happens at GSL and if the expansion does not go through it could affect the future that we all have. thank you for your time. P-71.01

Jeremy

P-72

Subject: FW: GSL expansion
Date: Tue, 18 Dec 2007 06:27:49 -0800
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: GSL expansion
Thread-Index: AchBA7ZtN68AfYy6Tmi7/9potK7mbQAfnECg
From: "Gipson, Jason A SPK" <Jason.A.Gipson@usace.army.mil>
To: "S. Blaise Chanson" <bchanson@bio-west.com>,
"Ron Bryan" <Bryanr@compassminerals.com>
X-OriginalArrivalTime: 18 Dec 2007 14:27:50.0285 (UTC) FILETIME=[2AFD33D0:01C84182]
X-Greylist: IP, sender and recipient auto-whitelisted, not delayed by milter-greylist-3.0rc7 (mail.bio-west.com [70.98.253.170]); Tue, 18 Dec 2007 07:27:51 -0700 (MST)
X-Spam-Status: No, score=-2.26, required=5
X-Spam-Checks: AWL,BAYES_00,DNS_FROM_RFC_ABUSE,HTML_MESSAGE
X-Scanned-By: MIMEDefang 2.57 on 70.98.253.170

"urn:schemas-microsoft-com:office:office" xmlns:w = "urn:schemas-microsoft-com:office:word" xmlns:st1 = "urn:schemas-microsoft-com:office:smarttags">

Jason Gipson
Chief, Utah Regulatory Office
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Phone: 801-295-8380 X 14
Fax: 801-295-8842

From: Lynette Jensen [mailto:jensenl@compassminerals.com]
Sent: Monday, December 17, 2007 4:23 PM
To: Gipson, Jason A SPK
Subject: GSL expansion

To Whom it may Concern:
I am aware of the recent request GSL/Compass Minerals has made to increase the pond sizes and produce more SOP fertilizer in Utah. I am very aware of the SOP and other fertilizer shortages that we are facing here in the US as well as abroad. As fertilizer is an integral part of feeding the nation; producing more with less land and resources, it seems wise and forward thinking for this action to be supported. P-72.01

Thank you for your consideration.

Lynette W. Jensen
ph: 801-732-3255
fax: 801-732-3373