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The Division of Forestry, Fire and State Lands  
c/o SWCA Environmental Consultants  
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May 31, 2012

RE: Comments on the Division of Forestry, Fire and State Lands Great Salt Lake Draft Comprehensive Management Plan and Mineral Leasing Plan

Dear Laura Vernon,

Thank you for the opportunity for Great Salt Lake Audubon (GSLA) to provide comments on the Division of Forestry, Fire and State Lands (FFSL) Great Salt Lake Draft Comprehensive Management Plan (DCMP) and Mineral Leasing Plan (MLP, the Plans).

GSLA's longstanding mission to ***protect and enhance habitat for wild birds, animals and plants, and to maintain healthy and diverse environments for wildlife and people throughout the State.*** With this mission in mind, we have concluded our review of the CMP and MLP.

First, we appreciate the immense effort and commitment the FFSL has made in preparing the CMP and MLP. We believe these draft Plans represent major progression in the management of the Great Salt Lake (GSL, the Lake). We support and urge the FFSL to continue to coordinate with other regulatory agencies on the management and research of the GSL. We support the efforts FFSL has made in addressing Lake management at different lake levels and we support legislation and financial backing for comprehensive planning efforts, research, and ecosystem monitoring on the Lake.

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## Lake Sustainability and Adaptive Management

We understand that “the overarching management objectives of FFSL are to protect and sustain the trust resources and to provide for reasonable beneficial uses of those resources, consistent with their long-term protection and conservation. This means that FFSL will manage GSL and its resources under multiple-use, sustained yield principles (UTAH CODE § 65A-2-1) by implementing legislative policies (UTAH CODE § 65A-10-8) and accommodating public and private uses to the extent that those **policies and uses do not substantially impair Public Trust resources and or the lake’s sustainability.**” Based on the management objectives, we have determined that some content in these draft Plans (specifically the MLP) do not support the management objectives of the FFSL and will allow under-regulated and unsustainable mineral extraction in significant portions of the GSL. The FFSL draft Plans is also inconsistent with the “precautionary principle,” a methodology the division explicitly adopted in 1999 by stating that “[i]n order to achieve sustainable development, policies must be based on the precautionary principle” (as cited in Draft CMP 2012 p. 2-10.) (As the FFSL cites this policy in the 2012 draft CMP, and does not disavow it, the rationale supporting its incorporation is presumed to apply to current management plans.). The draft Plans may also fail to comply with dictates of “adaptive management,” which the FFSL endorses with this language:

“Adaptive management, a compliment to ecosystem management, is a process through which partnerships of managers, scientists, and other stakeholders learn together to create and maintain sustainable ecosystems (citation omitted) is applicable to GSL and the GSL CMP revision because it links scientific understanding to management objectives, allows for uncertainties that may result in a change in management objectives, and takes action to achieve management objectives  
(*id.*, p. 2-7).

## Public Input

We find that a major flaw in both the CMP and MLP is the omission of any language that allows for the public input on the management and mineral leasing of GLS’s public resources. The same is true of review and comment by the Resource Development Coordinating Committee (RDCC), which should also be invited to comment on management and mineral leasing. While we applaud the FFSL for voluntarily hosting a public comment period during the CMP and MLP planning process, we find that only allowing “opportunities for public comment as deemed appropriate” is not acceptable. Public and RDCC input is a particularly salient need due to the “long-term uncertainty” inherent in Lake management during current conditions, the foreseeable future, and, most especially, the long-term future; indeed, the rationale for Plan revisions are partly or mostly due to the uncertainty of both current and future conditions of the Lake (*id.* at 2.5; see *also id.* at 1-12: “To assess the current conditions of GSL at low lake levels and to simply provide updates to a decade-old management plan, FFSL began the GSL CMP revision process in 2010”; see *id.* p. xv: “FFSL will coordinate, as necessary, to ensure that the management of these resources is based on a holistic view of the lake-wide ecosystem—including the use of adaptive management, as necessary—to ensure long-term sustainability. Responsible stewardship of GSL’s resources will provide lasting benefit to the Public Trust”; see *also, e.g., id.* p. 2-22: “There still remains a general skepticism by researchers and climatologists that these forecasts can be made with any assurance.”) Broad input is imperative given the lack of scientific data that is cited throughout the draft Plans. Without a high degree of

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certainty in the completeness and accuracy of scientific data, informed management is impaired or prevented; public and RDCC comment can help to supplement the current shortage of information. Finally, the division's ability to reconcile management needs with the dearth of vital information is complicated by the nature of the Lake ecosystem, made up of complex and dynamic subsystems that, as they are modified by natural and anthropogenic causes past, present and future, form a complicated set of possible affects with the potential to reach an unknown number of parties; public, RDCC and professional input is therefore warranted and necessary. (see e.g., *id.* 2-4: Lake waters are "spatially heterogenous and temporally dynamic," *id.* 2-4; see also *id.* 2-10: "vague and problematic" cause-and-effect data is an example of when "scientific information [regarding the Lake] may have several different interpretations").

Specifically, the relations between the ecological whole of the Lake and its subsections are unclear or unknown, which makes informed management decisions unlikely or impossible. The instances in which information – including baseline data – is lacking include but are not limited to the entire GSL ecosystem as well as the "complex web" of subsystems. The subsystems and the variable and constituent elements and resources they represent are also constantly subject to natural and human modification. Furthermore, these lacks of information and the resulting scientific uncertainty can be complicated by disputes over which methodology to use in evaluating available and collectable data (see, e.g., *id.*, Appendix D; see also, e.g., *id.*, p. 2-10, 2-43, 2-49, 2-59, 2-74, 2-75, 2-80, 2-88, 2-151, 2-181, 3-23, 3-27, and 3-30). The same is true of classification systems (see, e.g., *id.*, Appendix D). Methodologies and classification systems are also prone to development, refinement, and/or replacement. Considering each element individually, and the entirety of these uncertainties and their attendant dynamism, we implore the FFSL to not only allow but solicit public and RDCC input at frequent and regular intervals.

### Project Specific Analysis for Proposed Mineral Leases

We urge the FFSL to require comprehensive project-specific analyses of impacts of current and proposed mineral leasing because there is presently a lack of research on the impacts of mineral leasing on the GSL. The MLP should include project-specific analyses that comprehensively address the following:

- Require analyses of cumulative impacts to be conducted as part of project-specific analyses. Analyses should include impacts of all operations occurring or foreseeably occurring in or on the Lake and its shores for a period covering no less than the entirety of the lease and extending to include any foreseeable future impacts that the project may cause, and including all other mineral extractions occurring or foreseeably occurring in or near the Lake ecosystem.
- Define the appropriate scope of project-specific analyses that are required. Clarification is necessary in order to allow for the best management of the public interest since it allows for professional input from other agencies, the public and the RDCC. The scope should not be determined solely by the Director of the FFSL. This is contrary to the spirit of inter-agency cooperation, and to the public interest. Allowing only the director of the Utah Division of Forestry, Fire and State Lands to define this scope on a project-by-project basis is unacceptable.

- We ask that the CMP Lake Level Matrix is referenced and used in comprehensive site-specific analyses when considering new leasing applications. The draft MLP references the Matrix in Chapter 2, “Goals for the 2012 Mineral Leasing Plan.” In particular, Section 2.2 includes this management goal: “Align with and use the GSL Lake Level Matrix and management strategies outlined in the 2012 GSL CMP when considering new applications.” We ask that the FFSL clarify that this management strategy is mandatory, as it is in accord with sustainability principles and the entire focus of the CMP and MLP.
- Require project-specific analyses of impacts at a range of lake levels; particular spatial and temporal dimensions of the Lake; and, the Lake ecosystem as a whole.
- Require project-specific health impact analyses to properly connect environmental impacts with potential human harm.

#### Research and Information:

We have concerns regarding the lack of baseline data for pollution, chemicals, ions and any other inputs that are currently being discharged on or in the Lake and its shores. We ask the FFSL to identify a comprehensive set of baseline data that details what types of chemicals are being utilized and handled on the Lake and its shores at present, and with what frequency and quantity, as well as what types of chemicals are likely or possibly to be utilized and handled on the Lake and its shores in the foreseeable future, and in what frequency and quantity, to the extent known or that should be known. Baseline data is necessary in order to analyze the inputs of individual chemical elements, how they may dissipate or collect or otherwise behave, and how they may interact with the entire GSL ecosystem as well as the “complex web” of subsystems and their variable constituent resources and elements. Additionally, baseline data is crucial to developing cumulative impact analyses for the multiple-uses that the Lake is being used for and may be used for in the future. This request is consistent with the draft CMP Chapter 3.6, “Management Common To All Lake Levels.”

We are concerned that the FFSL is not fulfilling its statutory duty to take a direct role in research. The draft CMP repeatedly states that the FFSL is to encourage, promote, participate in, coordinate, support, consider, and otherwise take an indirect role in research. However, this alone is not sufficient to meet the FFSL’s statutory mandates. Utah Code § 65A-10-8(3)-(4) requires the FFSL to “[i]nitiate studies of the lake and its related resources” and “[p]ublish scientific and technical information concerning the lake.” Nowhere in the draft CMP are mandatory research guidelines for the FFSL; we regret that the FFSL does not appear to actively conduct research or have the intention to do so in the future.

For similar reasons to the above sections addressing the collection of baseline data and the employment of sustainability principles, we ask that the FFSL release all available data – and conduct research or solicit professional research to supply data as necessary – to describe the rate of extraction of all other minerals at the Lake and about the potential for airborne pollution of the molecules that remain after water evaporates from industrial ponds.

We are concerned that the FFSL has not incorporated sufficient information about the potential for disruption of the evaporation or tailings ponds, or all other potential point-sources, which may lead to unapproved discharges on or in the Lake and its shores. We ask that the FFSL report

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whether there have been any spills of chemicals or resources on or in the Lake and its shores. We implore the FFSL to disclose mitigation plans it has on record, if any, and what details the FFSL requires in mitigation plans of lease holders and applicants. Our request covers past and potential spills, or any other unapproved discharges of pollution on or in the Lake and its shores. We believe that the CMP should address polluted sites including Superfund sites that have negative impacts on the GSL.

### Current Conditions: Birds

GLSA and its members have a special interest in bird resources on the GLS. As such, we have conducted a review of Section 2.7.8. Birds.

In general, we find the Bird section of the CMP does not use similar format or writing style as the rest of the CMP and MLP. We urge the FFSL to revise to ensure a clear, concise, and consistent writing style. For example, in the first paragraph, the use of a text excerpt instead of summarizing the reference is not consistent with the rest of the document. Many sections are comprised of information that is not consistent with each sub-section in Section 2.7.8 or would be better suited in other sections of the CMP. Data and information is continually repeated throughout Section 2.7.8., or is already stated in other sections of the CMP. Specific edits include:

- Page 2-115, 3<sup>rd</sup> paragraph: “There is another group of species that uses...” This sentence is an example of the missing references and confusing language style. The group of birds referenced is not defined.
- Page 2-115, 7<sup>th</sup> paragraph: “This extremely remote island...” This sentence is an example of the overly elaborate and non-concise language used throughout this section. We argue that Gunnison Island is likely not considered extremely remote.

The Current Conditions section represents a “baseline picture of current conditions.” While we appreciate the CMP builds on information supplied by the 2000 CMP, we believe the amount of information provided as summary (i.e., found in other resources, including the 2000 CMP) and new resources cited are not consistent. We ask that Section 2.7.8. includes, or make reference to, passerines and raptors that use the GSL and the impacts of lake level effects on these species. Adding a section, or making reference to information, on the management of birds on the Lake, including game birds and waterfowl, would be appropriate.

We ask for more methodology in the Section 2.7.8.6. Lake Level Effects on how this analysis was accomplished. We ask that a further interpretation of Table 2.23 be included in the text. While we appreciate the scope of the CMP, we find that Section 2.7.8.6. Lake Level Effects is lacking significant information and reference to peer-reviewed research.

Currently, a nomination for RAMSAR designation for the Lake is being prepared.

### Other Comments on the MLP

There are not provisions that require independent third-party reviews that determine whether or not applications for new leases meet the necessary conditions to conserve and protect the Lake within the confines of multiple-use, sustained yield principles. We find that it is necessary for

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the FFSL to ensure that project-specific analyses are accurate, and in accord with management principles that protect and conserve the Public Trust; this responsibility should include FFSL's original research of the project-specific analyses as well as research conducted by independent, professional third-parties. It is incumbent upon the division to be the final authority on what the impacts of a proposed action are – and not let the interpretation lie with private industry that bears an inherent conflict of interest.

We believe the MLP must ensure that all leases provide “fair market value” compensation to the State based on the public resources that they have the potential impact.

We ask that FFSL coordinates with other regulatory agencies including the Department of Environmental Quality and the Army Corps of Engineers at a minimum, when considering new leasing applications.

We ask the FFSL to require new and current lease applicants to suspend or modify their operations when Lake levels reach 4,195 feet in elevation. With the exception of open-water foragers, all species listed on page 2-119 are already adversely impacted or will be adversely impacted at 4,195 feet. Similarly, “optimal lake levels for **[all]** mineral production range between 4,195 and 4,204 feet above sea level” (*id.* at 2-173). Indeed, both the draft CMP and MLP state that “[B]y the time GSL reaches 4,193 feet, nearly all of the resources have begun to be impaired” (*id.* at 3-5.) Additionally, there is **no data** for how lake levels below 4,193 feet will affect species and Lake resources, all subsystems, and the Lake ecosystem and its shores. Unless 4,195 feet in elevation is adopted as the lowest acceptable threshold, the FFSL is failing to meet its management objectives “to protect and sustain the trust resources ... consistent with their long-term protection and conservation.” Without knowledge of what impairment will occur at 4,193 feet or below, allowing **any** applicant to continue to operate at or below 4,195 feet, especially but not only as water levels are trending lower, would be a reckless disregard for the welfare of the Public Trust. We also remind the FFSL that there are many competing uses for the Lake's varied resources, and this increases the risk of deleterious effects at lower water levels. The 4,193 feet proposal is contrary to the fundamental principles of sustainability. Furthermore, there is insufficient data on how extraction and recreational operations that expand and contract will affect the Lake and its varied resources, including the proposed GSL Minerals expansion. We therefore implore FFSL to set a mandatory limit at 4,195 feet for all operations.

For the same reasons, new leases and permits must not be authorized if the lake is at 4,195 or lower (or, if the FFSL fails to adopt a threshold of 4,193 feet, then no new leases or permits shall be authorized if the lake is at 4,193 or lower). If the FFSL does not require all current lease-holders to suspend operations when the minimum water elevation threshold is met, it shall still solicit independent third-party certification and public input on the issue of whether a current lease holder that modifies its site is considered “minor” (*see id.* at 3-5.) The determination should not be based solely on the FFSL director's discretion because of the need for input cited above.

We also implore the FFSL to ensure that sustainability principles – including measurable goals, sound ecological models and understanding, the dynamic character of ecosystems, context and scale (temporal and spatial), adaptability and accountability – is applied to the extraction of all resources at the Lake. The draft Plans do not appear to include a means to generate and analyze these and other principles necessary for management of the Public Trust. For

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example, the rate of extraction of minerals is approximately 1.8M tons per year above what is replenished. How does this meet each of the goals of sustainable management?

Other Comments: CMP

We believe the “Lake Levels Effects” for each Lake variable (e.g., brine shrimp, birds, etc.) are lacking and should be supported by more peer-reviewed research.

We ask the FFSL to include more data and discussion on the management of brine shrimp in terms of bird consumption and prey base.

**Additionally, we support FRIENDS of Great Salt Lake, The Nature Conservancy of Utah, and the Audubon Council of Utah’s comments on the CMP and MLP. Specifically, comments related to salt balances and lake levels.**

**Thank you,**

Great Salt Lake Audubon Board Members

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**CC:**

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