



WESTERN RESOURCE
ADVOCATES

April 9, 2009

Members of the Resource Development
Coordinating Committee
5110 State Office Building
Salt Lake City, Utah 84114

By hand-delivery

Re: Comments on the Amendment to Easement SOV-0002-400 Associated with the
Great Salt Lake Mineral 10,000 foot Intake Canal Extension.

Dear RDCC Members:

I write these comments on behalf of FRIENDS of Great Salt Lake, National Audubon Society, League of Women Voters of Salt Lake, League of Women Voters of Utah, Bridgerland Audubon Society, Wasatch Audubon Society, Utah Chapter of the Sierra Club, Great Salt Lake Yacht Club, Utah Airboat Association, and Utah Waterfowl Association, (collectively “FRIENDS”), in relation to Resource Development Coordinating Committee (“RDCC”) Public Notice 10268, and urge you to reject the application to amend easement SOV-0002-400 allowing a 10,000 foot extension to Great Salt Lake Minerals Corporation’s (“GSLM”) Water Delivery Canal Project. We recommend this action because the Division of Forestry, Fire & State Lands (“Division”) and RDCC currently lack the information necessary to determine the potential impacts of this canal extension on public trust values. Because this canal extension is likely to impair the navigation, wildlife habitat, aquatic beauty, public recreation and water quality in Great Salt Lake, the State of Utah must analyze and understand the impacts of the canal extension before allowing it to proceed.

According to decision made by the U.S Army Corps on Engineers (“the Corps”) on a project that included the 10,000 foot extension proposal – Permit Decision SPK-2008-00268 (“PD”) –GSLM is proposing to extend the northern arm of the canal an additional 10,000 feet, and the canal itself would be 50-60 feet in width and 11 feet in depth. PD at 1, Exhibit 1, attached. GSLM has requested this extension in response to low water levels in the Lake. PD at 2. Contrary to the details contained in the RDCC public notice, the sidecast material of the extension alone, comprised of approximately 111,000 cubic yards of material, would cover about 9.1 acres of playa lakebed. PD at 12. In addition, a 10,000 foot canal, 60’ wide would cover an additional 600,000 square feet, or 13.8 acres, for a total disturbance of 22.9 acres.

In addition to the surface disturbance that will result from the planned extension, the proposal will adversely impact the Great Salt Lake ecosystem by allowing GSLM to draw water from the Lake for its mining operations at significantly lower levels than it was able to before. Indeed, this is plainly the purpose of the proposed extension. As a result, at a time when the Lake is already stressed by low water levels and drought conditions, the mining company will be able to continue its pumping operations to further dewater the Lake. In combination with ongoing drought conditions, it is possible that this continued pumping of Lake water as a result of this canal extension could drop the Lake to as low as 4,188 feet, approximately three feet lower than the lowest level recorded since 1851.

I. INTRODUCTION

As you know, the local, national and international value of the Great Salt Lake, its islands, and its wetlands cannot be overstated. In all, approximately 257 avian species use the Great Salt Lake ecosystem. Of these, 112 species are exclusively associated with the lake's varied wetland areas, and 117 species nest on the lake's periphery or on its islands. Annually, between 2 and 5 million shorebirds, composed of at least 33 species, use Great Salt Lake annually, using the Lake as a stopover point along migratory 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 birds, the Lake provides a critical food source, allowing them to restore depleted energy reserves and fuel up for the rest of their migration. In some cases, birds will double their body weight before resuming their journey. In recognition of its role in these international flights, of the 40 Western Hemisphere Shorebird Reserve Network sites in the United States, the Great Salt Lake is designated as **one of only eight** sites with a "hemispheric" designation.

The importance of the 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 seeking a chance to view the feeding, flying and nesting birds that journey to our nation's largest inland "sea." The lake also attracts recreationists who enjoy water-based activities such as sailing, boating, rowing, floating, wading and kayaking. Others hike, ride horseback or mountain bike while experiencing the scenery, solitude and wildlife that the Lake has to offer. Great Salt Lake also supports a robust community of waterfowl enthusiasts who not only enjoy hunting but are contribute time, energy and funding to preserve and protect Utah's waterfowl.

The North Arm of Great Salt Lake, where the canal extension is planned, is an area of particular significance to the lake's ecosystem during high water years on the Lake. This is because during those years, the salinity in the North Arm best supports brine shrimp – an important food source for many of the lake's birds. *See* July 19, 2007 Letter from Don Paul to Mr. Styler and Mr. Buehler at 2, Exhibit 2, attached;¹ Great Salt Lake Mineral Leasing Plan at 33 (“[D]uring the high water years from 1983 to 1987, there were increased 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 . . .”).

As recognized by the Utah Legislature, the North Arm is particularly important 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

¹ “During periods when the GSL elevation occurs between 4193’ and 4206’ above sea level, 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 Great Salt Lake. At times these numbers of Wilson's phalaropes and eared grebes represent 50 to 70% of the population that occur in the world.” 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 GSLM 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

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 permanent³ and every reason to believe that the demand for access to this area will increase.

Likewise, Bear River Bay and the Willard Spur are affected by this intake canal extension because the concentrated brine solution derived from the canal will be transported to GSLM's Bear River Bay facilities for processing. Bear River Bay and Willard Spur are extremely valuable for both recreation and wildlife habitat. Here, there is a fishery of vital importance to piscivorous birds that persists when the lake elevation is higher than 4,200 feet above sea level. The avian community at Willard Spur is exceptionally complex. With its richness, diversity and overall abundance of species, this area continually provides one of the most magnificent displays of bird life on the lake. 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 enjoy a high number of days of recreational use. Air boat operators and others access this area through a public access site and two guiding services also operate in the area. There are at least two private duck clubs located along the shore of this area.

II. GREAT SALT LAKE MINERALS FACILITIES

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 these facilities, in addition to this 10,000 foot canal extension, GSLM has proposed an expansion totaling approximately 70,000 acres. On the west side, in Clyman Bay, the company proposes to build two additional solar ponds totaling approximately 55,000 acres, in addition to a new 7,000 acre pond. 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.

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, and the desire to restore the natural salinity levels between the north and the south portions of the Lake has been repeatedly commented on.

III. THE DIVISION'S PUBLIC TRUST OBLIGATIONS

A. Legal Basis of Public Trust Doctrine

The bed of Great Salt Lake is comprised of sovereign lands. Oversight of these lands falls to the Division, a division of the Department of Natural Resources (DNR). Although the public trust doctrine originated in early Roman law, the concept that sovereign lands of the State are to be held in trust for the people of the State is contained in the Utah Constitution,⁴ as well as State rules and regulations. For instance, the Utah Legislature has directed the Division to carry out its responsibilities under the doctrine by managing the sovereign lands of the State, such as the bed of Great Salt Lake, in a way that “serves the public interest and do[es] not interfere with the public trust.” Utah Code Ann. § 65A-10-1. In order to achieve this, the Division has clarified that it must manage the State’s sovereign lands for the “protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality” Utah Admin. r. 652-2-200.

Indeed, DNR states, in reference to its obligation to Great Salt Lake, that:

the overarching management objectives of [the Division] and DNR are to protect and sustain the trust resources of, and to provide for reasonable beneficial uses of those resources, consistent with their long-term protection and conservation. This means that [the Division] will manage GSL and its resources under multiple-use sustained yield principles . . . accommodating public and private uses to the extent that those . . . do not compromise public trust obligations and sustainability is maintained. Any beneficial use of public trust resources is subsidiary to long-term conservation of resources.

Great Salt Lake Comprehensive Management Plan and Decision Document (CMPDD) at 4 (citations omitted). Said another way:

[t]here is no question that the [D]ivision’s implementation of the multiple-use sustained yield statute is subject to consistency with public trust obligations. All possible uses under a multiple-use framework are not necessarily protected uses under the Public Trust Doctrine. Any private uses of sovereign lands must yield to the criterion to avoid substantial impairment of protected public uses.

CMPDD at 4.

⁴ “All lands of the State that have been, or may hereafter be granted to the State by Congress, and all lands acquired by gift, grant or devise, from any person or corporation, or that may otherwise be acquired, are hereby accepted, and, except as provided in Section 2 of this Article, are declared to be the public lands of the State; and shall be held in trust for the people, to be disposed of as may be provided by law, for the respective purposes for which they have been or may be granted, donated, devised or otherwise acquired.” Article XX, Section 1.

Additionally, application of the Doctrine can be found in State and Federal caselaw. See, e.g., Illinois Central R.R. Co. v Illinois, 146 U.S. 387 (1892) and Coleman v. Utah State Land Board, 795 P.2d 622 (Utah 1990); see also National Parks and Conservation Ass’n v. Board of State Lands, 869 P.2d 909, 919 (Utah 1993) (“the ‘public trust’ doctrine . . . protects the ecological integrity of the public lands and their public recreational uses for the benefit of the public at large”) (citations omitted). The State must not only protect its sovereign lands so that they may be used for “commerce, navigation, and fishing,” Coleman, 795 P.2d at 635, it must also ensure that the lands’ “ecological integrity” remains intact and that the land is preserved for “public recreational uses,” National Parks and Conservation Ass’n, 869 P.2d at 919. In carrying out these obligations, the State must ensure that public trust lands are not sold or leased unless the State’s sovereign ownership rights can be transferred without impairing the interests protected by the public trust. Coleman, 795 P.2d at 635 (quoting Illinois Central R.R., 146 U.S. at 455-56). The bottom line is that “[n]avigable waters should not be given without restriction to private parties and should be preserved for the general public.” Coleman, 795 P.2d at 635; see also Utah Code § 23-21-4(2) (mandating that the State retain public access rights as part of any lease or sale of public trust lands).

In sum, the State’s public trust obligations are mandatory. The State and its agencies are required to ensure any use of Great Salt Lake does not interfere with navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality on and in the lake. Moreover, protection of these values trumps any other use of sovereign lands and cannot be superseded in the name of economic development or payment to the State.

B. Application of the Doctrine

It is clear that the application of the public trust doctrine requires a State agency, such as the Division, to conduct a balancing test, weighing the benefits of allowing extraction of natural resources in the bed of Great Salt Lake against any possible risks or conflicts associated with that extraction. In doing this, that agency is tasked to apply multiple-use sustained-yield principles “in a manner that will best meet the present and future needs of the people of this state.” CMPDD at 4. But that does not mean that extraction of these resources may proceed at any cost. Rather, all uses must serve the purposes of the public trust and no use of Great Salt Lake may “interfere with the public trust.” Utah Code Ann. § 65A-10-1.

The question, then, is whether allowing extension of the intake canal would interfere with public trust values. We contend that it does. At a minimum, the State has failed to undertake sufficient analysis of the direct, indirect and cumulative impacts of the proposed development to either guarantee that no interference will occur or to assess in any meaningful way to what degree any such interference may result from the proposal.

C. Public Trust Analysis for the Canal Extension

In considering whether approval of the canal extension is in the best interests of the public trust, the Division and the RDCC cannot consider the extension in isolation; they must place them in context, considering the risks involved with the development of this extension and then weigh those risks against the supposed public benefit that would result. Utah Admin. r. 652-2-200 (“all uses on, beneath, or above the beds of navigable lakes . . . [shall] be regulated so that the protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality will be given due consideration and balanced against the navigational or economic necessity or justification for, or benefit to be derived from, any proposed use”).

It is not enough, for instance, to say that allowing the extension of the canal is a proper use of a public trust resource; granting permission to proceed with the easement amendment would only be proper if the canal extension, and the resulting drawdown of the Lake, could be done without interference to public trust resources, Utah Code Ann. § 65A-10-1, and “without detriment to the public interest in the lands and waters remaining.” Coleman, 795 P.2d at 635 (citations omitted).

- Possible Benefits

- There is no benefit to the public trust values from this proposal. This is because any purported benefit to the trust resources must be direct and identifiable. To be considered a benefit to the trust, any alleged economic gain must directly benefit navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality. Economic gains to the state economy or to state coffers are not appropriately considered as a benefit to the trust.
- In addition, purely private uses of the trust, essentially to the exclusion of public access use and enjoyment of public trust values, are almost certainly prohibited under Utah law. This is true even where those uses benefit the Utah economy and/or lead to royalties. Such private, consumptive uses cannot be equated with public uses of sovereign lands, and must, almost always, be rejected as an improper burden on public trust resources.

- Possible Conflicts/Risks

- It is becoming increasingly clear that the North Arm of the Lake is experiencing an unprecedented amount of development pressure. With the Division’s current approval to expand the Clyman Bay evaporation ponds by 23,000 acres, and with an additional 33,000 acre expansion currently proposed, Gunnison Bay is losing its ability to provide much needed refuge for both resident and migrating birds. In considering the impacts of the intake canal extension, it is not enough to view it in isolation; it must be viewed in the context of the increasing amount of development activity in the surrounding area. As

such, the cumulative impacts of past, present and reasonably foreseeable actions within the North Arm must be considered prior to approving this project. Has such an analysis been performed?

- Gunnison Island, host to the only nesting locations for American white pelicans in Utah and protected by Utah law as critical pelican habitat, is quickly being squeezed by this increase in activity. The Island, located three miles from the proposed canal extension, and within two and a half miles of the approved Clyman Bay expansion, is likely to experience significant increases in human disturbances. Because the potential effects on the pelican population are unknown, considerable caution is advised. The U.S Fish and Wildlife Service (“FWS”), in its comments to the Corps on this proposal has observed this plan may have a significant impact on the avian communities on Gunnison Island. PD at 4. Specifically, FWS recommends that the following possible impacts be evaluated: noise associated with construction activities and on-going pump operations; human disturbance during construction and maintenance activities; and, the possible increase in access for mammalian predators to the island. *Id.* Have such studies been conducted related to these concerns?
- There is scientific evidence that this project could increase predator access to Gunnison Island. Specifically, collared and monitored coyotes in a study that took place in Durango, Mexico, were observed for 2 years to determine the daily distances travelled. The study revealed that the mean distance traveled by day for males of 16.47 km (10.23 miles) was greater than the distance of 12.51 km (7.78 miles) traveled by females.⁵ Studies such as these lend credence to the concern that the closer development gets to Gunnison Island, the more likely it is that predator access is possible in low-water years. What protective measures have been put in place to ensure that such access will not occur?
- In its response to this proposal, the U.S. Environmental Protection Agency (“EPA”) stated that they believed “that the proposed relocation and expansion of the existing canal may result in substantial adverse effects on waters of the U.S., a valuable habitat for many bird

⁵ See Jorge Servin, et. al., *Distances Traveled Daily by Coyotes, Canis Latrans, in a Pine-Oak Forest in Durango, Mexico*, Journal of Mammalogy, 84(2); 547-552 (2003), Exhibit 3, attached; see also Mathew E. Gompper, *The Ecology of Northeast Coyotes*, Wildlife Conservation Society (2002) at 23, available at: http://www.wcs.org/media/file/Ecology_of_NE_Coyotes.pdf (finding that coyotes travel between 6.65 and 15.16 miles daily) (please note: if the reader experiences difficulty obtaining this document, FRIENDS will provide either a hard or an electronic copy of this article).

species including the snowy plover (a federally listed species, of which 55% of breeding sites west of the Rocky Mountain occurs in the GSL) and the white pelican (the only known breeding colonies are located within the Utah Lake/Great Salt Lake ecological complex. EPA Region 8 Letter to Corps in response to proposal SPK-2008-00268, Apr 15, 2008, at 1-2, Exhibit 4, attached. Additionally, the EPA found that “this project may have substantial and unacceptable adverse impacts on aquatic resources of national importance[, and t]herefore [EPA] recommend[s] denial of the application as currently proposed. *Id.* at 2.

- In its comments to this proposal, FWS recommended an evaluation of 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 prior to proceeding. PD at 3. FWS contends that this analysis should evaluate how migratory birds would be affected at high lake levels when the south area of Great Salt Lake may become too fresh to support large populations of brine shrimp. In that situation – similar to what happened in the 1980’s – salinity levels of the North Arm may decrease sufficiently to support a brine shrimp population which would then attract large numbers of birds. *Id.*
- Further, FWS recommended that the long-term effects of the proposed project be evaluated in conjunction with the cumulative effects of existing mineral operations throughout the Lake to determine the impact of salt concentrations and proportions of minerals in the Lake and how changes in these might affect the Lake and its biotic community. *Id.* As with other comments from both EPA and FWS, comments such as this make it clear that this project should not be allowed to proceed until there is a better understanding of the impacts of this and other such development on the Lake’s fragile ecosystem.
- FWS also questioned what impact the berm created from the dredged material would have on the currents within the Lake and whether that impact would affect the cycling of nutrients, movement of aquatic life and impacts on aquatic-dependent wildlife. *Id.* While this concern may not be critical in the present low-water situation, it would become especially important during years of rising Lake waters. The proposal does not answer the question, for instance, of how high these berms (one on each side of the canal) would be, and what affect a pair of two-mile long berms would have as water levels in the North Arm rise. It is not sufficient to only consider the impact of this project in the context of current Lake levels; its impact during high-water years must also be analyzed. Has this occurred?

- FWS recommends that the spoils of this project be evaluated for selenium and mercury contaminants. *Id.* Have such tests been conducted? FWS further recommends that a determination be made whether re-suspension of the material releases contaminants back into the water column. *Id.* Under this scenario, an increased contaminant stream would be transported from the North Arm to Bear River Bay, and an evaluation would also be required within Bear River Bay to determine if this project would result in increased contaminants in the area where the excess salts and water from the North Arm are flushed. Are these contaminants re-suspended and would this activity result in an increase in contaminants in Bear River Bay?

- This project will require the use of heavy equipment for excavating the canal. The FWS observes that normally it would recommend that this equipment be kept out of the bed of the Lake and that such use could result in the release of petroleum products or other fluids to waters of the U.S. PD at 3-4. What precautions will be taken to ensure that best management practices are in use to prevent such an occurrence? Has the Division ensured that contingency and mitigation measures are in place should such an event occur?

- Since the CMP was finalized, significant new information regarding Great Salt Lake and its public trust resources has come to light. For example, federal scientists have discovered alarmingly high levels of methylmercury in the water of Great Salt Lake. These levels represent some of the highest levels of this toxin ever discovered by the U.S. Geological Survey (“USGS”). Toxic levels of mercury have also been found in Great Salt Lake waterfowl, such as northern shovelers and common goldeneyes. The mercury concentrations were sufficient to prompt the Division of Wildlife Resources to warn the public not to shoot or consume waterfowl from these two species. In addition, another USGS study has shown high levels of contaminants in the bed of the Lake.⁶ These discoveries sound an alarm about water quality, casting serious doubt on the assumption that areas of the Lake’s deep brine layer will hold contaminants and keep them inert, and suggesting that disturbing Lake sediments could be significantly detrimental to water quality.

- Impact on Lake levels
 - A key point of analysis that must be considered is how continued dewatering of the Lake from projects such as

⁶ See David L. Naftz, *Reconstructing Historical Changes in the Environmental Health of Watershed by Using Sediment Cores from Lakes and Reservoirs in Salt Lake Valley*, Utah, U.S. Geological Survey Fact Sheet FS-164-00 (2000).

this affects wildlife. For instance, at roughly 4,195 or a bit lower – the current Lake level – the mudflat to Gunnison Island would be dry or mostly dry, allowing much easier access for humans and predators. As noted above, it is quite possible that coyotes could reach Gunnison Island under these conditions. Because the Island is the only nesting ground for American White pelicans in Utah, and because colonial breeding species such as pelicans are highly sensitive to disturbance, the impact of the canal extension on the pelicans must be evaluated. Has such an analysis been conducted?

- As the water level of the Lake nears 4193, Gilbert Bay and Gunnison Bay essentially become two separate bodies of water. At that level, the proposed canal extension would effectively drain Gunnison Bay without the ability of recharge from Gilbert Bay. This would artificially increase the desiccation of Gunnison Bay placing the breeding colonial avian species at accelerated risk of disturbance by predators and humans. This action could initiate, quicken and/ or extend exposure of Gunnison Island.
- Lowered Lake levels will also shrink the shoreline creating potential feeding problems for shorebirds/waterbirds. Less water could further concentrate toxins that become trapped in the Lake. These toxins do not flush downstream since Great Salt Lake does not have an outlet. How this water quality problem will continue to impact area avian species needs to be analyzed. In addition, the water quality of the North Arm, with a specific focus on possible increased levels of toxins, will need to be analyzed to determine if it is in compliance with section 401 of the Clean Water Act.
- There is a great deal of concern about the probable effect the canal extension would have on the level of water in the Lake. It is possible that continued pumping of Lake water as a result of this canal extension could drop the Lake to as low as 4,188 feet, approximately three feet lower than the lowest level recorded since 1851. As a result, enormous amounts of water could be funneled out of the Lake at a time when it is already stressed by low water levels. Because the

integrity of wildlife habitat depends on Lake water levels, it is critical to accurately identify, analyze and disclose potential impacts of this project to the public.

- The cumulative effects of this project to wildlife must also be analyzed. As noted above impacts to the only population of American white pelicans in Utah from lowered lake levels are likely to occur. Additionally, a drawdown would reduce the available shorelines used by shorebirds, waterfowl and waterbirds for feeding. Increased crowding in a continually shrinking area could lead to an increase in avian diseases such as cholera and botulism.
- Dust from the exposed lakebed could have negative health impacts to humans and wildlife. The Utah Division of Air Quality conducted a 2 year study in 2005 and 2006 of wind-blown dust particles from the exposed Great Salt Lake shoreline. After six consecutive years of drought left nearly 70,000 acres of exposed shoreline, Dr. Dianne Nielson, Executive Director of UDEQ, stated “there is a lot of chemistry in the lake that we don't have a good handle on.”⁷
- In a 2008 article in High Country News about the Salton Sea, impacts to humans, wildlife, and agriculture were considered if the Salton Sea is allowed to dry up without treatment.⁸ In addition to the significant loss of wetlands along the Pacific Flyway used by millions of birds, a study conducted by the Pacific Institute concluded that if the Sea were allowed to dry without treatment, it would generate 17 tons of unhealthy dust a day and that winds pebbled with salty sand would sicken asthmatics, children and the elderly.
- A further study of like conditions noted that increased

⁷ Utah Division of Environmental Quality, Air Study Give Insight of Dust from Great Salt Lake, DEQ Newsletter (May 2006), available at: <http://www.deq.utah.gov/Newsletter/2006/May/AirStudy.htm> (please note: if the reader experiences difficulty obtaining this document, FRIENDS will provide either a hard or an electronic copy of this article).

⁸ See Terry Greene Sterling, *The People of the Sea: California's Salton Sea could dry up and die, or be fixed and developed. Either way, its renegades, recluses, ruffians and retirees will lose*, HIGH COUNTRY NEWS, March 3, 2008. Exhibit 5, attached.

exposure of the lakebed of the Aral Sea, due to depletion of its tributaries, has caused major dust events that have had a significant, negative impact on agriculture, domestic animals and humans.⁹ Given these studies and the acknowledgement that the dust from the lakebed contains a toxic mix of pollutants, it is imperative that an analysis be performed on the effects of a further, artificial drawdown of the lake level in the North Arm. This is especially important given the fact that Weber County as a non-compliance area for air quality.

- It is a misconception to contend that members of the public are not drawn to the North Arm for water-based recreation or for the isolation and stark beauty that it has to offer. Quite the contrary. Although not as popular as some areas of the Lake, the North Arm offers a unique experience found nowhere else. Additionally, although airboaters and other water-based recreationists have to travel a greater distance to reach the waters of the North Arm, once there they find the journey worthwhile. Further, if modifications were made to the causeway to allow a greater exchange of water between the north and south portions of the Lake, navigational access to this area would be improved. It is improper to think of this portion of the Lake as abandoned or unused. It is also improper to think of this portion of the Lake in its present condition and assume that both access and water levels will remain as they are today over the lifetime of this project.

We thank you again for the opportunity to comment on this proposed project, and look forward to working with you in the near future.

Yours,



Rob Dubuc
Attorney for FRIENDS

Cc: Dick Buehler, Director, Utah Division of Forestry, Fire and State Lands
Jennifer Wiglama, Utah Division of Forestry, Fire and State Lands

⁹ See Philip Micklin, The Aral Sea Disaster, Annual Review of Earth Planet Science 35:47-72 (2007) (finding that the population downwind from dust/salt storms of the dry lakebed have been negatively impacted). Exhibit 6, attached.