



3 March 2023

Dear Jenna Petroll,

Golden Eagle Audubon Society (GEAS) and the Southwestern Idaho Birders Association (SIBA) have reviewed the proposed amphitheater facility on Sunnyslope Road and wish to raise the following concerns.

GEAS is a 501(c)(3) non-profit organization founded in 1972 and based in Boise, Idaho with 1,300 members. GEAS's mission is to build an understanding, appreciation, and respect for the natural world to conserve and restore natural ecosystems for birds and other wildlife. GEAS's area of interest includes Ada, Elmore, Canyon, Owyhee, Washington, Payette, Gem, and Boise counties.

SIBA is a birdwatching club founded in 1997 and based in Nampa, Idaho with 140 members. SIBA's purpose is to promote birdwatching amongst its members and the general public, and to encourage environmental conservation. We accomplish this purpose through field trips, meetings, and communications.

The proposed facility would be located between units of the Deer Flat National Wildlife Refuge on Lake Lowell and the Snake River and has potential to adversely affect wildlife in the area. The area includes many species of wildlife protected by laws such as the Migratory Bird Treaty Act and the Bald and Golden Eagle Act. The proposal has not examined the potential impacts on wildlife in the area. The proponents expect to operate the facility during spring and fall bird migration, a critical time for birds.

Lake Lowell, located approximately 2.4 miles northeast of the proposed venue and the Snake River lies approximately 0.8 miles west. These two resources support numerous breeding and wintering birds. Some notable species breeding in the area are Western and Clark's grebes; Bald eagles, Osprey and several other hawks and owls, Great blue herons, Black-crowned night herons, and many species of songbirds. Lake Lowell and the Snake River also support large numbers of wintering waterfowl. Many of these

species move between Lake Lowell and the Snake River for feeding and when Lake Lowell freezes over.

The US Fish and Wildlife Service states that “Loss, degradation and fragmentation of important migratory bird habitat have been identified as potentially the largest individual threat to migratory birds.” The National Audubon Society officially designated Deer Flat National Wildlife Refuge as an Important Bird Area and such areas should be protected. Most of the bird species in the area are in decline, with some in steep decline. The *Birds of Conservation Concern 2021* and the *State of the Birds 2022* identify which species are in steep decline (USFWS 2021, NABCI 2022). In essence, these declines are due to “death by a thousand cuts” in that no single factor is significant but the cumulative effect of the factors is proving increasingly fatal. This proposed development is yet another “cut”.

While the proposal has paid considerable attention to the potential impacts to nearby residents, traffic, and other agricultural operations, no attention has been paid to the potential impacts on wildlife. Our specific concerns include the potential impacts of lighting, noise from an expected 60-70 concerts per year, landscaping, and potential for bird collisions with windows.

Light Pollution

Numerous studies demonstrate the adverse impact of nighttime lights on wildlife, such as changes in circadian, reproductive, and social behavior; bird migration; and often affecting animal health (e.g., Longcore and Rich 2004, Miller 2006, La Sorte et al. 2017, Ouyang et al. 2017, Raap et al 2017, Cabrera-Cruz et al. 2018). Many birds migrate at night, relying on the positions of stars, the moon, and other night sky features to aid in navigation. The skyglow from cities, buildings, and athletic fields is significant. Canyon County is experiencing a significant increase in light pollution from street lights and parking lots due to rapid population growth and the development that accompanies that growth.

The additional lights proposed for this facility would further increase the amount of skyglow, which drowns out stars, confuses birds and lures them into urbanized areas. Further, adding lights to this now darker area, could entrap migrating birds and cause them to circle the lights until they are exhausted and affect the behavior of other primarily nocturnal animals in the area. A recent study indicates light pollution can advance the timing of nesting, potentially leading to mismatches between the available

food supply and hungry nestlings and subsequent reproduction failure (Sensaki et al. 2020).

While the proposal states that lights will be dimmed except for that needed to ensure the “safety and security” of the site, existing practice throughout the Treasure Valley is that outdoor lights remain fully on all night long, even though studies have found that the impact of night lighting on crime is unclear. Some studies indicate a reduction in crime with improved street lighting and other studies finding no effect (Clark 2002, Farrington and Welsh 2006, Ceccato 2020). At least one study found that excessive outdoor light facilitates crime (Clark 2003). While artificial lighting at night certainly reduces the fear of crime (Ceccato 2020), the lighting design needs to also consider adverse impacts on the environment (Boyce, P.R. 2019). Further, we could not locate any studies that examined the effects of lightning on crime in rural areas.

Noise Pollution

The facility will generate significant noise pollution during periods of operation. We are not convinced that the sound tests conducted adequately represent the potential impact to wildlife. Although tested with respect to nearby residents, sound levels the proposed concerts will produce will impact the area. Sound frequency is unclear in the proposal and could affect bird nesting and migration. Lastly, the sound analysis did not include noise generated by increased traffic during events.

Noise can alter bird reproductive timing and hatching success by adversely affecting vocalization frequency, nesting location, and diet (Senzaki et al. 2020). Growth in traffic noise reduces the distance and area that animals can discern acoustic signals, affecting foraging and antipredator behavior, reproductive success, and density and community structure (Barber et al. 2010). Noise exposure can result in permanent hearing loss for some species of birds by exposure to 112, 118, or 120 dB for prolonged periods (Ryals et al. 1999). As ambient noise increases, bird species richness decreases (Stone 2000). Numerous studies have found that as ambient noise increases, birds must alter the amplitude of their vocalizations (e.g., Cynx et al. 1998, Brumm and Todt 2002, Brumm 2004, Leonard and Horn 2005). However, at some point different species of birds may reach an intensity threshold over which they cannot compensate (Cynx et al. 1998). Birds with lower-pitched songs (1-4 kHz) are more susceptible to increases in traffic and

ambient noise than those with higher-pitched songs (Rheindt 2003, Wood and Yezerinac 2006).

Landscaping

The proposal is vague about what plant species will be used in the landscaping. Standard practice in the Treasure valley is to use nonnative plants, and most often, plants that are water-thirsty and not adapted to a semi-desert environment. Nonnative plants threaten native biodiversity (Simberloff 2005, Vilà et al. 2014, Narango et al. 2018). Nonnative plants may provide shelter and cover for certain birds, and some can provide fruit for certain birds, but they often do not provide the insects needed for successful bird reproduction (Narango et al. 2018, Tallamy 2019) whereas a landscape dominated by native plants supporting native insects can improve the breeding success of native birds (Narango et al. 2017). In addition, non-native plants generally do not support native pollinators, such as bees other than European honeybees, moths, butterflies, and flies (Tallamy 2019).

Bird collisions

The American Bird Conservancy has been working to reduce bird collisions with glass for several years. Birds cannot see glass. Instead, they perceive glass reflections of vegetation, landscape, or the sky as reality and they can attempt to reach habitat, open spaces, or other attractive features seen through glass. Most often the problem is that birds think reflections in glass are real. Glass designed to reduce the heat load reaching the interior of buildings from the sun are especially problematic as these types of glass are highly reflective. The largest number of bird collisions occur during the day, within the first three stories of a building and during fall migration but fatal collisions occur year-round. Night lighting can attract and confuse birds during fall migration, especially in the proposed area where birds often stop to rest. Thus, the migrating birds are more likely to collide with glass during the day. See the American Bird Conservancy webpage

on bird collisions for more information: <https://abcbirds.org/glass-collisions/why-birds-hit-glass/>

Requested conditions

While we prefer that this facility not be constructed in the proposed location, if it is approved, we request the following conditions be included in the permit:

- A complete study of how the proposed facility, particularly the expected light and noise pollution, could impact wildlife and wildlife habitat within a five mile radius of the site. Results should be provided to the Idaho Department of Fish and Game and the US Fish and Wildlife Service to determine needs to mitigate any adverse impacts to protected and sensitive species.
- Landscaping should be dominated by plants native to the area and drought-tolerant species to support pollinators and birds, and to reduce the need for irrigation.
- Exterior glass should be of bird-safe design to limit fatal bird collisions.
- Exterior lighting should point downward and be shielded in a manner that limits upward direction of the light. Temporary or permanent spotlights aimed at the sky should not be allowed. Since parking lots reflect considerable light upward even with downward pointing light fixtures, lighting over parking areas and the amphitheater and the entrance sign should be turned off after events are over, especially during spring and fall bird migration periods (April-May and August-

October). The BirdCast dashboard can provide information on when bird migration is high: <https://birdcast.info/migration-tools/migration-dashboard/>

- Interior lighting should be turned off once all employees have left for the evening to limit bird collisions.

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