Attachment #1
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IDAHO DEPARTMENT OF FISH AND GAME
MAGIC VALLEY REGION
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Jerome, Idaho 83338

C.L. "Butch" Otter / Governor
Virgil Moore / Director

February 1, 2016

Alan Christy, Director
Elmore County Land Use and Building Department
520 East 2nd South Street
Mountain Home, ID 83647

RE: Wildlife Mitigation Plan for the proposed Cat Creek Energy Generation Facility

Dear Alan:

Idaho Department of Fish and Game (IDFG) staff has reviewed the Elmore County Wildlife Mitigation Plan for the proposed Cat Creek Energy Generation Facility. It is our understanding the plan was prepared in response to Elmore County's (County) decision to require Cat Creek Energy, LLC (CCE) to complete an Environmental Impact Study for conditional use permits to construct and operate an energy generation facility. According to the plan the facility would include a 400 MW pump-store hydroelectric facility with a 50,000 acre-ft. reservoir, a 40 MW AC photo-voltaic solar energy array, a 39 tower, 110 MW wind energy facility, approximately 8 miles of 230 kV transmission line, a substation, operations and maintenance buildings, an unknown quantity of new and improved all-weather road, and various other infrastructure. IDFG staff has participated in the conditional use permitting process with the County and CCE since July 2015. Our involvement to date has included three briefing and issue identification meetings with CCE representatives and their consultants and development of proposals for services provided by IDFG. No commitment has been made by CCE to retain IDFG services.

The purpose of these comments is to assist the decision-making authority by providing a technical review of mitigation plan relative to potential adverse effects on fish and wildlife and their habitats and an evaluation of the strategies identified in the plan to mitigate adverse effects. It is not the purpose of IDFG to support or oppose this proposal. Resident species of fish and wildlife are property of all Idaho citizens, and IDFG and the Idaho Fish and Game Commission are expressly charged with statutory responsibility to preserve, protect, perpetuate and manage all fish and wildlife in Idaho (Idaho Code 36-103 (a)). In fulfillment of our statutory charge and direction as provided by the Idaho Legislature, we offer the following comments regarding the mitigation plan.

Background Information

Wildlife Resources

The Cat Creek area provides habitat for an assortment of native wildlife. The project area lies within a major migration corridor for mule deer, elk, and pronghorn moving from high elevation summer habitats to low elevation winter range and back. While the exact pathways and magnitude of the migration has not been quantified, several thousand animals likely use this corridor on an annual basis. Data from elk and mule deer radio-marked during winter in 2015 and 2016 confirmed

considerable seasonal movements through the project area. Energy development has the potential to disrupt these movements.

Nearly the entire project area contains 'important' sage-grouse habitat as identified by the State of Idaho. Two occupied sage-grouse leks are known to occur within a half mile of the project area. From 2013-present the Mountain Home Sage-grouse Local Working Group has conducted a radio telemetry study of grouse in and around the Cat Creek area. Data from this study indicates grouse use the project area during all seasons, but particularly during the breeding season (mid-March through early June).

In Idaho, roughly 80% of nests occur within 8-12 km (5.0-7.5 miles) of capture leks. Sage-grouse nest success is highest in areas with adequate sagebrush overstory (>15%), where abundant perennial herbaceous cover is available to conceal nests. Components of suitable sage-grouse (and other sagebrush obligate bird and mammal) habitat are present in the project area including adequate sagebrush cover and height. Project development has the potential to alter sage-grouse productivity and use of the area. Research has shown that anthropogenic disturbances like energy developments, linear features (improved roads), and tall structures (communication towers, transmission towers, wind turbines, etc.) can affect sage-grouse habitat use, production, and survival at distances beyond the development footprint (indirect effects - effects caused by the action and are farther removed in distance or later in time, but are still reasonably foreseeable).

Numerous raptor species have been documented during the breeding season in and around the project area including species of conservation concern like golden and bald eagles and peregrine falcons. The geology, topography, and hydrology of the Cat Creek area suggest the project area may also lie within migration corridor for raptors. Research has shown that renewable energy can be compatible with breeding and migrating raptors if addressed early during the planning phases of a project.

Like raptors, the geology, topography, and hydrology of the Cat Creek area suggest the project area may support resident and migratory bats. Little information is available for bats in the area due to a lack of survey effort. Wind energy related bat mortality (primarily migratory species) has been well documented throughout the western U.S. In southern Idaho bat mortality has been documented at several wind energy facilities. The cumulative implication of this form of mortality on bat populations is unclear.

Fish Resources

Anderson Ranch Reservoir (ARR) is managed as a mixed species fishery including rainbow trout, mountain whitefish, kokanee, bull trout, landlocked Chinook salmon, yellow perch, and smallmouth bass fishing opportunities. The majority of the fishing pressure is made up of those anglers targeting kokanee and smallmouth bass. The quantitative management goal for ARR is to provide a fishery that result in catch rates of 1 kokanee / hour with a mean size of 12-14 inches. There is a history of hatchery rainbow trout supplementation; however, this hatchery trout program has been suspended because angler returns did not meet management goals. Kokanee and bull trout express an adfluvial life history (seasonally migrating to and from reservoirs and streams) largely dependent upon the South Fork Boise River (SFBR) upstream from the reservoir. Reservoir management directly influences these adfluvial species particularly related to their access to the SFBR.

The SFBR is mostly under general rules management with emphasis on a put-and-take rainbow trout fishery and a small section in the upper drainage is managed for quality trout. The fishery is made up

of redband trout, rainbow trout, brook trout, bull trout (catch-and-release only), kokanee, and mountain whitefish. Adfluvial kokanee and bull trout are seasonally available within this fishery. There is an active and popular stocking program within the SFBR and Big Smoky Creek including one put-and-take pond. The current hatchery program is meeting or nearly meeting angler return management goals. The kokanee spawning run represents a unique experience for campers and day trip recreationists.

Fish and Wildlife Based Recreation

Hunting, fishing, trapping and wildlife viewing are major economic drivers in Idaho, supporting over 14,000 jobs and hundreds of small businesses, many of which are in rural parts of our state and generating over $1.4 billion per year for Idaho's economy. An economic survey of fishing was completed for the entire state in 2011. Spending by anglers on fishing trips to Elmore County ranked 15th out of the 44 Idaho counties. Angler spending on fishing with destinations in Elmore County was about $14 million. This survey estimated that anglers made approximately 26,000 trips and spent about $4,270,000.00 to fish at ARR.

Hunting is an extremely popular recreational activity in Elmore County. As an example, in 2014 hunters spent nearly 17,000 days pursuing deer and almost 4,000 days hunting elk in the SFBR drainage alone. Hunting-related trip expenditures in 2011 for big game in Idaho were estimated at $96/trip/day; translating to around $2 million in economic activity in and around Elmore County for mule deer and elk hunting alone (license and tag sales, food and lodging, gear and equipment, transportation, etc.).

General Comments

IDFG finds that the proposal is less of a mitigation plan than a general series of intended development actions and Best Management Practices (BMPs). IDFG considers BMPs to be standard in any development proposal, and as such not a mitigation strategy. The lack of detail made a realistic determination of resource impacts infeasible. Therefore, discussions of mitigation are premature and impractical.

From IDFG's perspective, a mitigation plan should disclose the full range of actions and the potential effects of those actions prior to developing a strategy on how to mitigate. An effective mitigation plan should (1) identify potentially affected resources, (2) determine potential impacts to those resources, (3) estimate the scope of impacts, (4) evaluate strategies to avoid, minimize, or replace effected resources, and (5) contain performance measures and an adaptive management framework for monitoring mitigation effectiveness. We have included an IDFG working document discussing how impacts should be assessed and mitigated.

At a minimum, we suggest the County seek a mitigation plan that discloses three items, in order. These are:

- The specific items proposed for the development which will cause impacts to fish and wildlife resources.
- For each proposed development item, an analysis and accounting of the impacts to fish and wildlife resources which would potentially occur.
- For each development item, a prioritized strategy (in order of preference) to (1) avoid the impacts identified by not implementing the development item or choosing an alternative item, (2) minimize the impacts by altering the proposed item, or (3) mitigate for the impacts by replacing the values lost to the public or a similar value of related resources.

Specific Comments

We have several over-arching questions regarding the plan and have identified multiple inconsistencies, inaccuracies, and information gaps. A few of these include:

Fish Resources/Water Quality/Water Management

- We were unable to determine how and if the plant would produce power in the event water were delivered downstream after high flows had subsided; which is the period identified for upper reservoir recharge (page 6, paragraph 3).
- The document repeatedly refers to replacing lost fish resources as mitigation for fish lost to entrainment, but fails to identify how this will be measured and valued (page 16, paragraph 5 and elsewhere). Further, the proposal eludes to design features for the pump inlet and powerhouse to limit entrainment, but offers no detail on what or how this will be achieved and how it will be monitored for effectiveness.
- A daily $\leq$2.2 ft. fluctuation in ARR elevation will be most noticed in the inlet area and in the head of bays (SFBR, Lime Cr, Falls Cr, etc., page 18, paragraph 2). These daily fluctuations could have substantial impacts to boat ramps, shoreline boat mooring, and kokanee escapement from July-September. The rapid dewatering of ARR in late summer/early fall already stall kokanee escapement into the SFBR until the mud flat delta stabilizes. Kokanee are vulnerable to predation and delayed during this time. It is likely a daily 2+ foot fluctuation will exacerbate this problem and potentially strand kokanee. While we will defer to the US Forest Service regarding impacts to boat ramps they manage, it is likely boaters that anchor boats just off the shoreline could experience problems.
- We understand the details may not be available yet, but entrainment issues have been very important in licensing discussions for hydroelectric projects on the Snake River (page 20, bullets 3 and 4). In many cases, post-construction entrainment problems cannot be economically addressed by the license holder because the infrastructure does not accommodate the preferred entrainment mitigation. This discussion should be fleshed out early to allow the applicants to incorporate best options, or at least include the potential for enhanced entrainment deterrence options should they be warranted (e.g., bubble screens, consideration of intake/flume elevation in relation to seasonal thermocline, etc.).
- The proposal discusses water quality as it relates to daily operations, but does not address water quality impacts should water be made available to downstream users (e.g., when > 10,000 acre-ft. are released to meet downstream demand, page 51, paragraph 1). The proposal implies studies are in progress, and attempts to address water quality are from a macro perspective. While this is understandable, more careful discussion and study is warranted. For example, the hydro discharge occurs in a relatively confined reach of the reservoir. A 10,000 acre-ft. release could have a substantial localized effect that would then slowly move down reservoir toward the dam. We are concerned this could create a barrier type effect for fish. We question whether a disturbed thermocline (stratification of water based on temperature) would remain localized or would drift toward the dam. The proposal also failed to address runoff into the upper reservoir. Nutrient loaded runoff could lead to eutrophication of the upper reservoir. It is also unclear if operation of the facility over time and under certain conditions could mobilize sediment.
- The proposal should elaborate on the "unlikely if properly maintained" statement about Biological Demand (BOD, page 59, paragraph 4). A new reservoir will grow aquatic vegetation and have algae blooms. Natural processes will affect the BOD particularly if

runoff or land management results in surface runoff nutrient loads. We agree BOD will be less of an issue because of the frequent turnover; however, it does appear that a resident pool will persist. Eutrophication will likely occur and could impact ARR at some level.

- The proposal indicates entrained fish will be detected, captured, and transported but again provides no detail on how this will occur (page 76). We assume there will be some level of "detected entrained fish" that would invoke the capture and transport of those fish. The proposal failed to identify who will transport those fish. The capture and transport of live fish is under IDFG jurisdiction. IDFG consultation and permit authority would be required with the US Fish and Wildlife Service if bull trout were involved.

Wildlife Resources

- The reference to open space being maintained to allow the project area to be used as a migration corridor is probably not realistic nor is it supported by science. The elimination of approximately 1,000 acres of habitat being used to site the upper reservoir will likely have a funneling effect that 'squeezes' migrating big game into areas also being developed for wind and solar and other ancillary infrastructure. Though some level of continued movement through the area would be anticipated, it is highly likely that the structural complexity of the new environment would, at some level, affect the current degree of use. The long-term ramifications of this effect are unknown, but certainly worth further study.
- The plan contains little discussion of indirect effects. While it may be beyond the purview of the County to require a hard look at indirect effects, we suggest they should be considered particularly in the context of sage-grouse and big game habitat use, productivity, and movement.
- Statements implying the loss of habitat as a result of project development will not have a significant impact on wildlife because these habitat types are abundant elsewhere is unfounded. The use of an area by wildlife represents a suite of habitat selection criteria that include, but are not limited to (1) the availability of resources arranged in a manner that makes them accessible (without excessive cost to energetic resources of the animal), (2) learned behaviors resulting from repeated generations of use and individual experience/familiarity, and (3) avoidance of risks (e.g., predators, lower quality habitats, geography, perceived threats, etc.). Impacts to one of these selection criteria may not force an animal to avoid previously used areas, but may have survival or productivity implications. For example, sage-grouse are known to exhibit strong fidelity to seasonal use areas. Hens commonly lay nests less than 0.5 miles from previous nest sites, often moving along identical routes from year to year, using the same breeding locations throughout their lives. If a disturbance eliminates or reduces the quality of a portion of their habitat, they do not simply move to adjacent habitats. Their learned behaviors force them to use suboptimal habitats which can lead to reduced nest initiation, reduced nest success, reduced fledging success, disrupted mating activities, or mortality.
- The plan recognizes the project area could provide habitat for resident and migratory bats, raptors, and songbirds. The plan acknowledges wind energy related bird and bat mortality can be an issue, but failed to articulate how potential mortality would be assessed, analyzed, and mitigated (avoided, minimized, or replaced).
- The potential for utility-scale solar energy facilities to affect wildlife was not addressed. Potential effects include habitat loss and fragmentation, altered distribution and dispersal patterns, altered or interrupted migration routes, avoidance of otherwise suitable habitat, disturbance during sensitive periods, injury, and/or mortality. The proposal should clearly