



**VIA CERTIFIED MAIL; RETURN RECEIPT AND FACSIMILE**

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**RE: 60 Day Notice of Intent to Sue over Violations of the Endangered Species Act for Actions Relating to the 2006 Memorandum of Agreement Regarding Groundwater Withdrawals, the Kane Springs Valley Groundwater Development Project, and the Coyote Springs MSHCP**

This letter serves as a sixty-day notice on behalf of the Center for Biological Diversity (“Center”) of intent to sue the U.S. Fish & Wildlife Service (“FWS” or the “Service”) and the Bureau of Land Management (“BLM”) over violations of the Endangered Species Act (“ESA”), 16 U.S.C. §§ 1536, 1539. The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 200,000 members and on-line activists throughout the United States including many members who live in Nevada and visit and enjoy the areas that may be affected by the decisions challenged herein.

The noticed violations are related to the following:

- the U.S. Fish and Wildlife Service’s (“FWS”) approval of the Memorandum of Agreement (“MOA”) and the Biological Opinion for the MOA entitled “Intra-Service Programmatic Biological Opinion for the Proposed Muddy River Memorandum of Agreement Regarding Groundwater Withdrawal of 16,100 Acre-Feet per Year from the Regional Carbonate Aquifer in Coyote Springs Valley and California Wash Basins, and Establishing Conservation Measures for the Moapa Dace, Clark County, Nevada,” issued on January 30, 2006 (File No. 1-5-05-FW-536) (“MOA BiOp”);

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- the BLM's approval of the Kane Springs Valley Ground Water Development Project in the Record of Decision issued on November 19, 2008, and the Biological Opinion entitled "Request for Formal and Informal Consultation on the Kane Springs Valley Groundwater Development Project in Lincoln County, Nevada," issued on October 29, 2008 (File Nos. 84320-2008-F-007 and 84320-2008-I-0216) ("KSV BiOp");
- the FWS' issuance of the Coyote Springs Multiple Species Habitat Conservation Plan Incidental Take Permit ("MSHCP"), the implementing agreement, and the "Final Biological Opinion on the Issuance of a Section 10(a)(1)(B) Incidental Take Permit to Coyote Springs Investment Development, LLC for a Multiple-Species Habitat Conservation Plan in Lincoln County, Nevada," issued on October 22, 2008 (File Nos. 84320-2008-F-0113 and 84320-2008-1-0499) ("CSI MSHCP BiOp").

The activities approved by FWS and BLM are all related actions that will have adverse effects on the endangered Moapa dace as well as the threatened desert tortoise and its critical habitat. This letter is provided pursuant to the sixty-day notice requirement of the citizen suit provision of the ESA, to the extent such notice is deemed necessary by a court. *See* 16 U.S.C. § 1540(g).

Taken together the projects approved through these actions may lead to the extinction of the Moapa dace and destruction of its remaining habitat, will take desert tortoise and will both destroy and adversely modify desert tortoise critical habitat. The discussion below provides some background information regarding the species, the activities, and the alleged violations of the ESA. The agencies' violations include, but are not limited to, failing to ensure against jeopardy, failing to ensure against destruction and adverse modification of critical habitat, and failing to comply with the ESA in preparing and issuing biological opinions.

## **I. Background on the Endangered Moapa Dace**

The Moapa dace was federally listed as an endangered species on March 11, 1967, (32 Federal Register 4001) and has been protected under the Endangered Species Act since its inception in 1973. The US Fish & Wildlife Service also gave the Moapa dace a recovery priority of 1 (1 being the highest priority ranking). The State of Nevada has also listed the dace as endangered. (Nevada Administrative Code 503.065-06, 1988). In 1996, the FWS adopted the Recovery Plan for the Rare Aquatic Species of the Muddy River Ecosystem ("Recovery Plan").

The Moapa dace is in the unique position of being the only species in its entire genus. A small fish, the dace at most grows to 4.7 inches in length and can be identified by a black spot on the base of its tail, coloring that is normally olive-yellow and a white belly, and small embedded scales which creates a distinctive leathery appearance. (Recovery Plan, 3). The oldest recorded specimen of the dace was over 4 years old. (Recovery Plan, 4).

The Moapa dace is endemic to the upper Muddy River and its tributary thermal springs in the Warm Springs Area in South-Eastern Nevada. (Recovery Plan, 4). The Warm Springs area encompasses ten thermal spring provinces, which form the headwaters of the Muddy River.

[http://ecos.fws.gov/docs/life\\_histories/E002.html](http://ecos.fws.gov/docs/life_histories/E002.html)). Historically, the Moapa dace likely inhabited a greater section of the Muddy River but much of its habitat was destroyed with the completion of the Hoover Dam which flooded the lower portion of the Muddy River. ([http://ecos.fws.gov/docs/life\\_histories/E002.html](http://ecos.fws.gov/docs/life_histories/E002.html)).

Unlike a more typical fish species, the Moapa dace can only survive in warm water, their ideal temperature being around 84-86° Fahrenheit, while the coolest temperature they can withstand is around 74° Fahrenheit. The Moapa dace's need for warm water effectively limits their habitat range, with cooler water acting as a barrier to their greater dispersal. (KSV BiOp 35). Their need for such specific temperatures also presents the dace with numerous risks to their continued viability. Their need for higher water temperature makes it difficult for the dace to migrate to new areas when faced with various threats or intolerable changes to their habitat.

Moapa dace spawn year round, but peak spawning occurs in the spring. (Recovery Plan 7). The Moapa dace has never been observed spawning, so their exact reproductive traditions remain somewhat of a mystery. (Recovery Plan 7). However, nests (called redds) believed to be those of the dace have been found in dace habitat. (Recovery Plan 7). Dace egg incubation is as well unknown but because of high water temperatures, is most likely relatively short. (Recovery Plan 7)

The Moapa dace are omnivorous as indicated by their teeth (located in their throats) that feature both cutting and grinding surfaces. (Recovery Plan 8). Moapa dace have been known to feed on everything from beetles, moths, butterflies, dragonflies, worms, snails, and crustaceans, as well as algae, vascular plants, and detritus. (Recovery Plan 8).

The Moapa dace has responded poorly to prior relocation attempts. For instance, an attempt to transfer 20 individual Moapa dace to the Shoshone Ponds located near Ely, Nevada failed, and a second relocation to Hot Creek Springs located north of Las Vegas also failed. (Recovery Plan 27). Although it is not certain why these efforts failed, they most likely had to do with difference in water quality (Recovery Plan 27), demonstrating the sensitivity of the dace, and thereby the need to preserve what little suitable habitat remains.

Other threats to the survival of the Moapa dace include predation, and food-competition from non-native fish species. (Recovery Plan 24). As well, the Moapa dace has been affected by new diseases and parasites brought by invasive fish species. (Recovery Plan 26). Other non-native species such as bullfrogs and spiny soft-shelled turtles have also presented the dace with an increased risk of predation. (Recovery Plan 27).

A 2007 survey of the Moapa dace population found 1,172 individual dace. (KSV BiOp 17). However, the following year there had been a massive drop in the Moapa dace population, with the 2008 survey finding only 460 individual dace. (KSV BiOp 17).

#### **A. Muddy River Memorandum of Agreement**

In signing the Muddy River MOA regarding groundwater withdrawals from the Coyote Springs Valley and California Wash Basins area the FWS agreed not to assert the federal water rights to oppose groundwater withdrawals of up to 16,100 cfs of groundwater from multiple wells in the Coyote Springs Valley and California Wash Basins for commercial and residential uses. (MOA BiOp 44). In entering this agreement in 2006, FWS failed to adequately consider

the impacts to the Moapa dace and its habitat. The proposed agreement allows the extraction of groundwater and depletion of groundwater resources leading to a reduction in flow and significant adverse effects to essential Moapa dace habitat. Indeed, the recent survey data shows that adverse effects have already begun.

The BiOp for the MOA acknowledges that the proposed groundwater pumping “is likely to cause further declines in groundwater levels in the carbonate aquifer within . . . the Warm Springs Area.” (MOA BiOp 45). The Warm Springs Area is of course the only existing habitat for the endangered Moapa dace. In this way, as the BiOp goes on to establish, the agreement will extensively contribute to the numerous threats to the Moapa dace associated with a decrease in water flows including changes in water temperature that effectively destroy Moapa dace habitat. Groundwater pumping associated with both the MOA for the Muddy River agreement and Kane Springs Valley project and other groundwater extractions will put the Moapa dace at greater risk of extinction.

### **B. Kane Springs Valley Ground Water Development Project**

The Kane Springs groundwater project has numerous components, including establishing groundwater production wells, water pipelines, and access roads, all for the purpose of transferring a massive amount of water (up to 5,000 afy) out of the area in the foreseeable future. (KSV BiOp 4). FWS readily admits that the project will have negative impacts on the endangered Moapa dace and the threatened desert tortoise and its critical habitat.

Due to the “high permeability and transmissivity of the carbonate aquifer underlying” the project area (KSV BiOp 21), groundwater pumping at the project site will affect the amount and quality of water in the nearby Moapa dace habitat. Diminished flows into Moapa dace habitat will decrease conditions that “create the diversity of habitat” which Moapa dace require. (KSV BiOp 34). This includes a decrease in invertebrate and phytoplankton production that the dace feeds on. (KSV BiOp 34). Notably, a larger water volume has been shown to increase the likelihood of Moapa dace survival because the fish is scaled in size to its water volume; thus a greater water volume equals larger eggs and a “better opportunity for the long-term survival of the species.” (KSV BiOp 34). A decrease in water flow will likewise decrease the likelihood of long-term survival of the species. Decrease in water flows can also affect water temperature, thereby reducing available feeding and spawning habitat for the dace. (BiOp 34). In approving this project both BLM and FWS relied on the MOA BiOp as well as the KSV BiOp which, as detailed below, are themselves fundamentally flawed, making the agencies’ reliance is both misplaced and unlawful.

### **C. Coyote Springs MSHCP**

The Coyote Springs Multiple-Species Habitat Conservation Plan is associated with the proposed sprawl development project that would be carried out by Coyote Springs Investment, LLC. (MSHCP BiOp, 4). The proposed project includes a new town on 21,454 acres of private land, and 13,767 more acres on leased land in South-Eastern Nevada, a golf course, and most recently added a casino proposal. (MSHCP BiOp, 8). The MSHCP covers many aspects of undertaking such a massive project including residential and commercial development, roadway construction, utility infrastructure, and water infrastructure and management, including groundwater pumping. (MSHCP BiOp 9-10). Especially with regard to water management, the BiOp acknowledges that the project will likely adversely impact that Moapa dace by

appropriating water that would normally feed into the Warm Springs Area in the Upper Moapa Valley, an area that the FWS acknowledges is essential for Moapa dace survival. (MSHCP BiOp 23).

Despite detailing the importance this area plays in providing habitat for the Moapa dace, the FWS fails to provide an adequate level of protection for the dace. Because FWS has issued a BiOp that violates multiple aspects of the ESA, FWS' reliance on this document in issuing the MSHCP is also in violation of the ESA.

## **II. Impacts of the Projects on the Moapa Dace**

The projects discussed above are all connected in some way with the Coyote Springs sprawl development project and will individually and taken together have a direct and profound impact on the Moapa dace, both in terms of direct take through loss of habitat and may jeopardize the Moapa dace's ability to survive through continuing habitat loss and degradation. Despite acknowledging that the projects will have a direct impact on the dace, the FWS has, in violation of the ESA, failed ensure against jeopardy for the Moapa dace.

### **A. Muddy River Memorandum of Agreement**

The FWS entered into the Memorandum of Agreement which fails to adequately protect the habitat for the Moapa Dace. As FWS directly admits, the proposed groundwater pumping at Coyote Springs and the California Wash Basins will have an adverse impact on the remaining Moapa dace population. (MOA BiOp 44).

The Coyote Springs and California Basin Groundwater pumping will cause a decline in water flow rates in essential Moapa dace habitat, as well as an overall decrease in water conditions essential to Moapa dace survival such as a very specific water temperature. Given the precarious status of the Moapa dace and its extremely limited habitat, the FWS' approval of the MOA which allows for the withdrawal of up to 16,100 afy of groundwater from Moapa dace habitat without objection by FWS is a violation of their duties to ensure against jeopardy and to uphold the ESA by protecting and restoring endangered species habitat.

### **B. Kane Springs Valley Ground Water Project**

The Kane Springs Valley Ground Water project contributes to the many threats to Moapa dace habitat. By pumping groundwater, and thereby decreasing water levels, the project presents a serious risk to the continued existence of the Moapa dace species. As noted in the FWS' BiOp for the project, a 2007 survey of the Moapa dace population found 1,172 individual dace's. (KSV BiOp 17). However, the following year there had been a massive drop in the Moapa dace population, with the 2008 survey finding only 460 dace's. (KSV BiOp 17). This endangered species is already in dire circumstances (and recent declines may well be due to the excessive groundwater pumping allowed pursuant to the MOA discussed above). Thus the FWS and the BLM 's failure to act with caution when considering impacts to this rare and fragile species is both shocking and unlawful. Because FWS has issued a BiOp that violates multiple aspects of the ESA, any reliance by the BLM on this document will as well be in violation of the ESA. As detailed below FWS and BLM have violated the ESA.

### **C. Coyote Springs MSHCP**

The biological opinion approving the MSHCP is similarly flawed and fails to protect the Moapa dace as required by the ESA. As the BiOp describes, the proposed sprawl development depends on proposed groundwater pumping projects that would “need to acquire up to 70,000 acre-feet per year (afy) of water,” to continue functioning. (MSHCP BiOp, 11). The BiOp states that activities associated with the proposed project will draw groundwater from areas connected to the Warm Springs Area in the Upper Moapa Valley, and the springs located there, adding that “[t]he Moapa dace is dependant upon these springs for survival.” (MSHCP BiOp, 23). FWS acknowledges that pumping at such levels will likely have an adverse impact on Moapa dace habitat.

Despite acknowledging this connection between Moapa dace habitat and the MSHCP project area, FWS concludes that the project will not jeopardize the continued survival of the Moapa dace, a conclusion that is completely unsupported by evidence on record. Further, FWS has failed to uphold other ESA duties such as provided a meaningful limit for any incidental take, and identifying adequate mitigation measures.

### **III. Background and Impacts of the Projects on the Threatened Desert Tortoise and its Critical Habitat**

The Kane Springs Valley groundwater project and the Coyote Springs sprawl development project will also have significant impacts on the desert tortoise and its critical habitat. The KSV BiOp and MSHCP BiOp do provide some identification and analysis of the many direct and indirect impacts to the desert tortoise and its critical habitat that will result from these projects and also provide some mitigation measures. However, neither biological opinion provides any meaningful analysis of how the admitted destruction of critical habitat caused by these projects will affect the recovery of the desert tortoise. Moreover, neither of the biological opinions provides a valid basis for the FWS’ conclusions that the projects (taken individually, together, and/or under a proper cumulative analysis with other relevant projects) will not destroy or adversely modify desert tortoise critical habitat and impact the recovery of the species in this area.

Of particular concern is the question of whether or not the desert tortoise can assimilate further destruction of its habitat. The areas concerned are within the Northeastern Mojave Desert Tortoise Recovery Unit (NEMRU). The Recovery Unit encompasses approximately 1.8 million acres of desert tortoise habitat. In the KSV BiOp the Service discloses that in the year 2005 alone, over 961,806 acres of this Recovery Unit were burned by wildfires. The FWS had previously reported that tortoise densities are lower in the NEMRU than in any other recovery unit. USFWS, Range-wide monitoring of the Mojave population of the desert tortoise: 2001-2005. Summary report prepared by the Desert Tortoise Recovery Office, Reno, Nevada.

Significant tortoise habitat has been or is proposed to be lost in and adjacent to the Coyote Valley and Kane Springs project areas. Nowhere in the KSV BiOp or the MSHCP BiOp has the FWS conducted a thorough analysis of these losses and the likely impacts to the desert tortoise. Impacts to desert tortoise populations from the roads used for construction and maintenance as well as for access to the development project are not adequately analyzed although the impacts are well known. (*See, e.g.,* Brooks & Lair, 2005). Nor has it placed the loss

from the Covered Activities into the context of the entire Recovery Unit and how the survival and recovery of the desert tortoise has been impacted.

Besides the impacts to aquatic and riparian species and their habitats, groundwater extraction projects can often have dire consequences for surface vegetation communities. The impacts arise from both the site effects of changes to water availability for riparian and spring dependent vegetation, as well as more widespread impacts to phreatophytic species spread across the greater landscape. Zektser et.al. (2005), noted that the southwest United States is home to a thriving and growing urban center, while also being one the driest places in North America, with highly variable seasonal and inter-annual precipitation regimes with frequent drought. They go on to state that the combination of large demand for usable water and the semi-arid climate has led to groundwater overdrafts in many of the region's aquifers. The results of overdrafts, when extraction exceeds recharge, are declines in surface-water levels and streamflows, reduction or elimination of vegetation, and land subsidence.

The definition of desertification accepted by conferences and summits convened by the United Nations, including the Earth Summit on Environment and Development held in Rio de Janeiro in 1992 is: "arid, semi-arid and dry-subhumid land degradation resulting from various factors, including climatic variations and human activities." (Mouat, et al. 1997) Jayne Belnap of the U.S. Geological Service has done extensive research on desert soils and the process of desertification in the southwest United States. Belnap has found, "Maintaining soil stability and normal water nutrient cycles in desert systems is critical to avoiding desertification. These particular ecosystem processes are threatened by trampling of livestock and people, and by off-road vehicle use. Soil compaction and disruption of cryptobiotic soil surfaces (composed of cyanobacteria, lichens, and mosses) can result in decreased water infiltration and increased albedo with possible decreased precipitation. Surface disturbance may also cause accelerated soil loss through wind and water erosion and decreased density and abundance of soil biota." (Belnap 1995).

Belnap further states that, "Desert soils may recover slowly from surface disturbances, resulting in increased vulnerability to desertification. Recovery from compaction and decreased soil stability is estimated to take several hundred years. Re-establishment rates for soil bacteria and fungal populations are not known. Recovery of crusts can be hampered by large amounts of moving sediment, and re-establishment can be extremely difficult in some areas. Given the sensitivity of these resources and slow recovery times, desertification threatens millions of hectares of semiarid lands in the United States". (Belnap 1995).

With regards to the lessons learned from the Owens Valley in California, Reheis (1997) noted, "As surface and groundwater diversion increases, arid-land surfaces that were previously wet or stabilized by vegetation are increasingly susceptible to deflation by wind, resulting in desiccation and dust storms".

Research conducted by Naumburg et al. (2005) found that, "Although changes in depth to groundwater occur naturally, anthropogenic alterations may exacerbate these fluctuations and, thus, affect vegetation reliant on groundwater. These effects include changes in physiology, structure, and community dynamics, particularly in arid areas where groundwater can be an important source of water for plants. To properly manage ecosystems subject to changes in depth to groundwater, plant responses to both rising and falling changes in depth to groundwater

tables must be understood.”

Elmore and others (2006) studied the impacts to alkali meadow vegetation following groundwater extraction in the midst of a drought in California. This type of community is common in Nevada, including in the area of the proposed groundwater extractions of the area considered in this DEIS. Elmore et al. found that plant cover in this vegetative community was correlated to groundwater depth, but not annual precipitation. They also found that in this plant community its dependency on groundwater buffers it from the effects of drought. They concluded, “Sustainable water development that seeks to pump groundwater without adversely affecting vegetation cover and plant assemblages must recognize the maximum rooting depth of groundwater-dependent plant species. When groundwater is within the root zone, management decisions can be made to either increase or decrease vegetation cover through modification of groundwater depth.”

The International Panel on Climate Change (IPCC) has stated that the evidence for global warming is “unequivocal” and predicts that the globally averaged surface temperature will increase by 1.1 to 6.4° C with a sea level will rise of 18 and 60 cm by the end of this century. (Alley 2007). The more greenhouse gases are emitted into the atmosphere, the more warming will occur, and it is very likely that the changes in the global climate system as a result would be larger and more pronounced than the ones already observed. Climate change and its attendant consequences will serve to exacerbate the impacts from the activities covered in the BiOps.

FWS has failed to adequately analyze and disclose the impacts of changes in plant community and desertification from the covered actions. FWS has not in any way provided a detailed study of the area’s soil resources, their susceptibility to erosion and compaction, nor has it adequately described the cryptobiotic soil resources of the area or the impact of the covered actions upon these soils.

FWS has failed in all BiOps to consider and analyze the connected impacts from increased future temperatures and drought reasonably expected as a result of climate change. From the available scientific information generally available to the public, it is apparent that these actions, particularly when coupled with the impacts from wildfires to the area, have a high potential to cause degradation in the form of long term desertification and vegetative type changes that will be imminent threats to the survival and recovery of the desert tortoise.

In reaching their conclusions both FWS and BLM have failed to rely on the best available science and failed implement the conservation measures outlined in the Desert Tortoise Recovery Plan adopted in 1994 and have also failed to provide in any other way for the recovery of the desert tortoise in this recovery unit.

The shortcomings of the KSV project and the MSHCP were detailed in several sets of comments that the Center submitted to FWS and BLM during the administrative processes for the approvals. Those comments are incorporated herein by reference and provided as an attachment on CD-rom along with this notice. On the bases detailed therein, and others discussed below, the FWS and BLM have failed to comply with their duties to protect and conserve the desert tortoise and its critical habitat under the ESA.

#### **IV. Violations of the Endangered Species Act Regarding the Moapa Dace**

As detailed below, FWS violated the ESA in issuing the Kane Springs Valley BiOp and MOA BiOp by, *inter alia*, failing to ensure against jeopardy, failing to quantify the extent of incidental take as required by the ESA, and failing to assess the cumulative impacts to the Moapa dace. Because both BiOps violate the ESA, any reliance upon these documents by the FWS or BLM violates both Section 7 and Section 9 of the ESA. Because the BLM has relied on the MOA and KSV biological opinions that, as discussed further below, violate the ESA, the BLM's reliance on these documents in approving the ROD for the Kane Springs Valley project also violates the ESA.

In addition, to the extent that the CSI MSHCP and the MSHCP BiOp ignore the impacts to the Moapa dace and its habitat that are directly connected to the CSI development and rely on future consultations and/or the MOA BiOp to protect the Moapa dace and its habitat, the MSHCP and the MSHCP BiOp are likewise invalid and FWS has violated Section 10. As a result, any activities undertaken in reliance on the MSHCP will be in violation of Section 9.

#### **A. Violations of Section 7(a)(2): Failure to Ensure Against Jeopardy**

Pursuant to Section 7(a)(2) of the ESA, FWS and BLM are required to “insure” that any actions and approvals are “not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such species . . . determined . . . to be critical . . .” 16 U.S.C. § 1536(a)(2). This applies to the FWS’ approval of the MOA, to BLM’s approval of the KSV project, and to FWS’ approval of the MSHCP.

At the most basic level, FWS and BLM have failed to ensure that the projects approved will not lead to the extinction of the Moapa dace. The two biological opinions that deal directly with impacts to the Moapa dace (the MOA BiOp and KSV BiOp) are fundamentally flawed in that they rely on unfounded assumptions adopted by FWS in the MOA that if 3.0 cfs is measured at the Warm Springs West gage then the Moapa dace would not be jeopardized. There is no scientific basis for this assumption. Moreover, neither biological opinion addresses impacts to the recovery of the species and its habitat or the conservation measures and recommendations in the Recovery Plan. As a general matter, recovery plans often provide the best available science regarding a species when the recovery plan is adopted. FWS has not shown that the Recovery Plan’s conservation measures are not needed to support the survival and recovery of the species, as it cannot. FWS’ failure and refusal to implement the conservation measures outlined in the Recovery Plan or any other measures that would ensure the survival and recovery of the species is a violation of its obligations under the ESA. This violation of the law is compounded by FWS’ failure to assert and protect the water rights it holds (through permit or as reserved rights) on behalf of the public to protect the National Wildlife Refuge. Similarly, BLM’s failure to protect public reserved water rights violates its duties to protect the public lands and resources it manages including the endangered Moapa dace and its habitat in the Muddy River ecosystem. *See Cappaert et al. v. U.S.*, 48 L. Ed. 2d 523 (1976).

In addition, by the time FWS issued the KSV BiOp and MSHCP and BLM approved the KSV project, it was clear from the available survey data that the Moapa dace population was already experiencing significant impacts and its likelihood of continued survival, no less recovery, had already been significantly impaired. Rather than take steps to protect and recover

the Moapa dace from these impacts and ensure against future harm to the species, FWS shockingly approved additional projects that would increase the impacts to the species without sufficient information regarding impacts of the project or the efficacy of the proposed mitigation measures (see discussion below). The ESA requires that FWS prepare a “comprehensive” biological opinion for a project. *Conner v. Burford*, 848 F.2d 1441, 1453-54 (9th Cir. Even where a project itself has phases, or as here where many related groundwater projects are segmented into different projects and separate analyses, “section 7 of the ESA on its face requires the FWS in this case to consider all phases of the agency action . . . in its biological opinion.” *Id.* Moreover, “incomplete information . . . does not excuse the failure to comply with the statutory requirement of a comprehensive biological opinion using the best information available.” *Id.*

Throughout its analysis, a biological opinion must utilize the “best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. §402.14(d). FWS must consider all the relevant factors and articulate a rational connection between the facts and its ultimate conclusion. FWS also failed to take into account other best available science and data in reaching its conclusions including, but not limited to, studies of this particular ecosystem as well as studies of other similar ecosystems. Among the studies that include this local area which FWS ignored are: a study which shows that cumulative impacts to groundwater and surface water of these and other projects is significant and potentially devastating to riparian dependent species in the Muddy River ecosystem and throughout the region (Deacon *et al.* 2007); a study regarding impacts to isolated springs and wetlands vegetation to groundwater pumping that included the Muddy River system (Patten *et al.* 2007); a study showing that regional spring discharge is sensitive to relatively small groundwater level changes that focused on the Muddy River system (Mayer and Cogdon, 2007); and a study of springsnails that focused on the Muddy River system (Sada, 2008). The agencies also failed to review other available scientific information in assessing the cumulative impacts to water resources and the Muddy River ecosystem from these projects taken together as well as from other groundwater pumping projects in connected basins. (*See* Mayer, 2007, and Myers, 2006). There is also relevant research also shows that the baseline, including current conservation reserves and protections in Nevada, is insufficient to conserve many imperiled species. (Greenwald & Bradley, 2008).

In addition, FWS and BLM ignored the scientific evidence which shows that climate change due to global warming is likely to limit inflow and recharge to the aquifers which support to the Muddy River ecosystem. Instead, FWS and BLM simply assumed precipitation, inflow and recharge would continue at roughly the past levels. (KSV BiOp at 21, 23, *see also* MSHCP BO 37, 39). This is one more unfounded assumption at the bottom of the house of cards that FWS and BLM have constructed to justify approving projects without properly accounting for their impacts to the Moapa dace and the Muddy River ecosystem. The impacts of climate change and global warming in general and on the great basin ecosystem are already being documented for species found in Nevada and other parts of the Great Basin as well as throughout the desert southwest. For example, the impact of climate change on wildlife in the Great Basin such as the pika and desert dwelling bighorn sheep have been documented (Beever 2003, Epps 2004). Impacts of increasing temperatures and evapotranspiration and decreasing precipitation on water availability have also been studied (Barnett and Pierce 2008) as have the likely impacts to aquatic species throughout Nevada (Deacon 2007). The FWS and BLM failed to accurately account for the likely decrease in recharge and inflow due to these factors.

A biological opinion must assess the potential impacts of all foreseeable direct, indirect, and cumulative impacts of the project. And, as an initial matter, the FWS must accurately identify the action area. For each of the challenged actions herein, the FWS failed to identify the correct action area and, therefore, the agency could not adequately evaluate the cumulative effects of these actions in any of the biological opinions. By repeatedly deferring the analysis of the indirect and cumulative effects until future review of other site-specific projects and relying on an incorrect action area, the FWS failed to perform a full and adequate analysis of cumulative impacts as required by the ESA.

In light of the current information on the status of the Moapa dace and the Muddy River ecosystem, the agencies should take immediate steps to preserve the habitat of the Moapa dace including, but not limited to, withdrawing all approvals for groundwater pumping that affects its habitat and ensuring the recognition of all federal water rights necessary to ensure its survival and recovery.

## **B. Violation of Section 7(b)(4); Unlawful Reliance on Inadequate ITS**

***FWS' Failure to Provide a Specific Take Number Violates the ESA.*** The FWS is required under Section 7(b)(4) of the ESA to issue an incidental take statement (“ITS”) with each biological opinion for animal species that specifies the amount and extent of incidental take authorized to the action agency. Additionally, the ITS must specify reasonable and prudent measures necessary to minimize such impacts.

FWS must specify the impact of incidental takings on listed species in the ITS. 16 U.S.C. § 1536(b)(4)(i); 50 C.F.R. § 402.14(i)(1). This impact should be expressed in terms of a specific number whenever possible. *Oregon Natural Resources Council v. Allen*, 476 F.3d 1031, 1037 (9th Cir. 2006) (“[T]he permissible level of take ideally should be expressed as a specific number.”) The purpose of developing a specific level of take is to establish a “trigger” number of takings that when reached, “results in an unacceptable level of incidental take...requiring the parties to re-initiate consultation.” *ONRC v. Allen*, 476 F.3d at 1038. See, e.g., *Mausolf v. Babbitt*, 125 F.3d 661 (8th Cir.1997) (snowmobiling activity may take no more than two wolves); *Fund for Animals v. Rice*, 85 F.3d 535 (11th Cir.1996) (municipal landfill may take fifty-two snakes during construction and an additional two snakes per year thereafter); *Mt. Graham Red Squirrel v. Madigan*, 954 F.2d 1441 (9th Cir.1992) (telescope construction may take six red squirrels per year); *Center for Marine Conservation v. Brown*, 917 F.Supp. 1128 (S.D.Tex.1996) (shrimping operation may take four hawksbill turtles, four leatherback turtles, ten Kemp's ridley turtles, ten green turtles, or 370 loggerhead turtles). A court will invalidate a take statement that fails to provide a take number or other meaningful limit to trigger re-consultation. *ONRC v. Allen*, 476 F.3d at 1038.

Here, the FWS has not provided a specific take number in violation of the ESA and failed to provide any meaningful limit on take that would trigger re-consultation; it is impossible to determine when an unacceptable level of take would occur, and thus when consultation must be re-initiated. In issuing the Kane Springs Valley, Muddy River MOA, and Coyote Springs MSHCP BiOps, FWS failed to comply with its required ESA duties and failed to carry out its mandatory duties to protect the Moapa dace.

## ***The FWS Contention that No Take Number Need be Provided in the MOA for the***

***Coyote Springs Valley and California Basin Groundwater Pumping is in Violation of the ESA.*** In its MOA for the Coyote Springs Valley and California Basin groundwater pumping, the FWS argues that no incidental take number need be provided at this point in the process. Such an assertion is false. A specific take number is a required and essential aspect of an Incidental Take Statement without which the full impacts of a project cannot be adequately assessed. The FWS statement that “the proposed action of signing the MOA, in and of itself, does not result in the pumping of any groundwater, and is one of many steps in the planning process,” (MOA BiOp 62) is highly misleading as the MOA was a necessary step that provided a basis for the contemplated groundwater pumping. Moreover, whether the MOA was a direct or indirect cause of the groundwater pumping, nothing excuses FWS from its ESA-mandated duties to quantify incidental take as part of an Incidental Take Statement. The signing of an MOA need not in and of itself give an agency the green-light to begin a project for ESA requirements to apply. None of the proffered explanations excuse the FWS from complying with its duties under the ESA.

***The FWS Contention that No Specific Take Number for Kane Springs Groundwater Pumping Can be Provided is False.*** In crafting the ESA, Congress recognized that calculating a specific number may not always be logistically possible. “Where possible, the impact should be specified in terms of a numerical limitation on the Federal agency or permittee or licensee.” H.R.Rep. No. 97-567, at 27 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2807, 2827. (emphasis added). For the Kane Springs Valley, the FWS stated that no specific numerical value is possible because of the nature of the Moapa dace – mainly that the species small size will make individual takes difficult to detect, especially in a flowing stream environment. (KSV BiOp 39).

However, as the FWS own documents show, numerous surveys have been conducted in Moapa dace habitat that have successfully recorded dace populations therein. For instance, Moapa dace surveys have been conducted annually in the upper Muddy River system. (KSV BiOp 16). The most recent survey cited in the BiOp provides that there were only 460 Moapa dace left throughout the Muddy River system in 2008. (KSV BiOp 17). This shows that the dace, despite its relatively small size, is still capable of being effectively observed and surveyed and its numbers recorded. With continual monitoring of Moapa dace habitat, there is no reason to assume that individual takes of Moapa dace would not be detectable through vigilant surveying and monitoring or that some other metric based on population surveys could not be adopted in order to express the limits of allowable take in a concrete way.

Because annual Moapa dace surveys have been successfully completed, there is no evidence to support the FWS contention that monitoring Moapa dace populations to account for individual take is not possible. Therefore, the FWS contention that no number or other metric for individual take can be provided is not supported by evidence on the record. The FWS failure to provide a specific take number is a violation of the ESA.

***The FWS Metric for Quantifying Take from the Kane Springs Project is Inadequate.*** Even if the FWS had demonstrated that obtaining a specific number was impossible, FWS would still be required to employ a “surrogate” method that “must be able to perform the functions of a numerical limitation.” *Oregon Natural Resources Council v. Allen*, 476 F.3d 1031, 1038 (9<sup>th</sup> Cir. 2006). When no specific take number can be determined, Incidental Take Statements may also be valid if they employ a combination of numbers and estimates. *See, e.g., Ramsey v. Kantor*, 96 F.3d 434, 441 n. 12 (9<sup>th</sup> Cir.1996) (utilizing both harvesting rates and estimated numbers of fish to reach a permitted take); *Pacific Northwest Generating Coop. v. Brown*, 822 F.Supp. 1479,

1510 (D.Or.1993) (ruling that an Incidental Take Statement that defines the allotted take in percentage terms is valid). However, in the KSV BiOp no surrogate methods capable of performing the functions of a numerical limitation are provided within the ITS. Instead of providing a specific number, the FWS chooses to express take levels in terms of “habitat loss resulting from changes in habitat characteristics.” (KSV BiOp 39). Similar take statements have previously been held as inadequate to meet ESA standards. *Oregon Natural Resources Council v. Allen*, 476 F.3d 1031, 1037-1038 (9<sup>th</sup> Cir. 2006) (“Contrary to the FWS' argument, “quantifying” take in terms of habitat acreage lost is simply not the type of numerical limitation on take contemplated by Congress or this court's precedent.”)

Even if such a take calculation can sometimes be sufficient when a specific take number is impossible to determine, as discussed above, a specific take number can be determined in this case. Therefore, the provided take level, expressed in terms of habitat loss, is insufficient to meet ESA requirements.

Further, even if habitat loss were an appropriate expression of take in this case, the take statement provided is insufficient to meet ESA standards. The ITS concludes that the amount of incidental take for the project will be exceeded if water levels at the Warm Springs West gage decline below 3.0 cfs. (KSV BiOp 39). This calculation of take is inadequate for several reasons. The FWS has reached this figure based only on the calculation that if water flows at the Warm Springs West gage reaches below 3.0 cfs then an unacceptable amount of take would occur in the Pedersen Unit of the Moapa Valley NWR. (KSV BiOp 39). Even if there were some scientific basis for this claim, which there is not, the Pederson Unit is only one section of Moapa dace habitat that will be affected by the project. The take calculation does not take into account habitat loss resulting from the project that could occur at the Plummer, Apcar, and other springs complexes of the Moapa Valley NWR. This is especially egregious given that while the Pederson unit does have a high level of individual Moapa dace (a 2005 survey found 174), this is less than found at the Plummer unit (177), and comparable to the Apcar population of dace (157). (MOA BiOp 26).

As the FWS itself acknowledges, “[t]he action area encompasses the entire range of the Moapa dace.” (KSV BiOp 20). That the FWS only examined potential effects on the Pederson spring unit when quantifying a take level and not Moapa dace habitat as a whole makes the take level of 3.0 cfs wholly inadequate (even if it were adequate for the Pederson unit, which it is not). There is no discussion provided in the BiOp about what water levels will maintain suitable habitat for any other unit besides the Pederson unit, therefore, it is impossible to determine if the specified take level of 3.0 cfs water level could potentially provide adequate protection for any other portion of the Moapa dace unit.

Because the provided take level is based on assumed water level needs only at the Pederson unit, there is absolutely no provided protection for Moapa dace at any other unit. The provided take statement therefore does not provide for protection to the Moapa dace population as a whole and is entirely inadequate under the ESA.

Additionally, there is no discussion provided in the BiOp as to why the Warm Springs West gage is an appropriate point at which to measure water levels. The FWS documents state that the nature of ground permeability and other factors will connect the project site “to *springs* in the Warm Springs Area.” (KSV BiOp, 21) (emphasis added). It is nowhere stated that the

project site will be connected to Moapa dace habitat *through* this particular location of Warm Springs West. The FWS has chosen a convenient location at which to conduct water level measurements that will not necessarily provide any meaningful monitoring data for water levels at other individual springs on which the Moapa dace depends. Because the usurpation of groundwater could effect different springs in the Warm Springs area differently, effective monitoring needs to include all the individual springs that provide habitat for the dace, with take levels being determined for each individual spring.

The Service's failure to provide a specific take number also disregards the importance of maintaining precise data as to Moapa dace population abundance as outlined in the Moapa dace Recovery Plan. The Recovery Plan states that "[m]onitoring data are necessary to determine whether or not recovery criteria for reclassification and delisting have been met. These criteria set requirements for Moapa dace abundance, population structure, and distribution." (Recovery Plan 40). An essential aspect of maintaining an accurate survey of the Moapa dace population must include the amount of take associated with projects such as the Kane Springs Valley project and other water extraction projects in the area including all groundwater pumping associated with the Coyote Springs sprawl development project. Under the given take statement in the KSV, MOA, and MSHCP BiOps, no such accurate population estimate can be established.

Finally, the specified take level in the KSV BiOp is inadequate in that the FWS itself acknowledges that they do not have a complete understanding of hydrology in the area. Instead, the BiOp states that "until additional long-term pumping data are obtained, the true relationship [in the regional hydraulic gradient] cannot be fully evaluated." (KSV BiOp 21). This is similar to FWS' position at the time the MOA BiOp was issued and that MOA was supposed to provide additional monitoring. Given the small number of Moapa dace left in the world, and its extremely rare and limited habitat, approving any additional groundwater pumping projects such as the KSV project with an admitted ignorance as to its full effects is a violation of the policies set forth in the ESA and violates FWS' duties. Additionally, because the FWS itself acknowledges that it has much to learn about how the hydrology of the area works, their given take level is based on speculation, and is therefore inadequate for purposes of the ESA.

Because the FWS failed to comply with the ESA and provide information necessary to establish the impact on the endangered Moapa dace, the KSV BiOp and the Incidental Take Statement are invalid. Because the document is invalid, reliance on the KSV BiOp by the BLM is as well as violation of both Section 7 and Section 9 of the Endangered Species Act.

***Failure to Analyze and Quantify the Take for the Moapa dace for the Coyote Springs MSHCP Violates the ESA.*** In the BiOp for the Coyote Springs MSHCP, the FWS makes the odd contention that no take number need be issued for the Moapa dace because groundwater "withdrawals and their effects to the Moapa dace are subject to evaluation under separate biological opinions for several GWD projects...and any appropriate incidental would be authorized through those biological opinions when issued." (MSHCP BiOp 60). This analysis is flawed for several reasons.

As an initial matter, FWS has improperly segmented the MSHCP analysis by allowing for crucial analysis regarding impacts to endangered species to be pushed off to a later date. Without a full analysis as to how the proposed project will impact the Moapa dace and what the expected and allowable level of take will be, the project's adverse affects on the Moapa dace

cannot be evaluated in any meaningful way. FWS has already made clear in the BiOp that acquiring water (up to 70,000 afy) is an essential aspect of the Coyote Springs project, and that much of this water will come from groundwater pumping that has an adverse impact on Moapa dace habitat. (MSHCP BiOp 11). Therefore, FWS knows for a fact that the proposed project will have a negative impact on the Moapa dace, and as such, the FWS is required to provide analysis of those impacts and ensure against jeopardy, if it believes the project can go forward, it must provide a lawfully sufficient quantification of the expected take. For the FWS to defer completing this ESA mandated duty before issuing the MSHCP fails to provide adequate protection to the Moapa dace and the ecosystem upon which it depends as required by the ESA. Further, it impedes one of the major functions of an Incidental Take Statement, which is to provide a set point at which take cannot be exceeded and therefore, a trigger for re-consultation to be initiated. Because the FWS has improperly failed to provide a take level, it is impossible to determine when take of the Moapa dace associated with the Coyote Springs sprawl development project will be exceeded and thus re-consultation would never be triggered.

Additionally, the MSHCP BiOp for the Moapa dace attempts to refer back to prior BiOps such as the BiOp for the Kane Springs Groundwater Project and the MOA. As already analyzed above, the BiOp for the Kane Springs Project and MOA are also inadequate; the FWS cannot attempt to rely on the take statements provided therein because they also violate the ESA.

As acknowledged in the BiOp, the Coyote Springs sprawl development project will “adversely effect listed Covered Species . . . [including] the endangered Moapa dace.” (MSHCP BiOp 19). Because the project will have an adverse impact on the species, the FWS is required to analyze the impacts to the species, ensure against jeopardy, and only if jeopardy could be avoided, to also provide a quantification of allowable take as part of the permit.

### **C. Violations of the ESA Regarding the MSHCP for the Coyote Springs Development Project and Impacts to the Moapa Dace**

Section 10(a)(1)(B) authorizes the FWS to issue private parties and state and local governmental entities incidental take permits for “any taking otherwise prohibited by section 1538(a)(1)(B) [section 9] of this title if such taking is incidental to and not the purpose of the carrying out of any otherwise lawful activity.” 16 U.S.C. § 1539(a)(1)(B). A permit applicant must prepare and submit to FWS a habitat conservation plan (“HCP”). 16 U.S.C. § 1539(a)(1)(B). An HCP must contain specific measures to “conserve,” or provide for the recovery of, the species. At a minimum, the ESA and implementing regulations require all HCPs to include the following: (1) a complete description of the activity sought to be authorized; (2) names of the species sought to be covered by the permit, including the number, age and sex of the species, if known; (3) the impact which will likely result from such taking; (4) what steps the applicant will take to monitor, minimize, and mitigate those impacts; (5) the funding that will be available to implement such monitoring, minimization, and mitigation activities; (6) the procedures to be used to deal with unforeseen circumstances; and (7) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized. 16 U.S.C. § 1539(a)(2)(A)(i)-(iv); 50 C.F.R. §§ 17.22, 17.32. FWS cannot issue an incidental take permit if the HCP does not contain this information. 16 U.S.C. § 1539(a)(2)(A).

The MSHCP does not meet these requirements and the MSHCP BiOp does not meet the requirements for a biological opinion. The shortcomings of the MSHCP were detailed in several

sets of comments that the Center submitted to FWS during the administrative process and those comments are incorporated herein by reference. They include, but are not limited to, FWS' failure to accurately identify the action area and failure to analyze impacts to many species including the Moapa dace and other listed species (Southwestern willow flycatcher, Yuma Clapper rail) and candidate species (relict leopard frog, yellow billed cuckoo).

***MSHCP BiOp Omits Critical Impacts of the Project and Improperly Segments Project Analysis.*** At many points in the BiOp for the MSHCP, FWS improperly segment project analysis and defer crucial analysis to vague and undetermined future dates. For instance, groundwater withdrawals is an aspect of the project that is both necessary for the success of the project and certain to occur should the project go forward. However, FWS merely states that “[g]roundwater withdrawals for the CSI development will be evaluated in separate biological opinions for several GWD projects.” (MSHCP BiOp 19). As well, the BiOp states that “[a]dditional avoidance, minimization, and mitigation measures for the Moapa dace may be included in the separate biological opinions for the GWD projects.” (MSHCP BiOp 19).

Another aspect of the development project is the construction of flood storage and water conveyance facilities. (MSHCP BiOp 22). However, as CSI has not yet applied for the necessary BLM permits for this aspect of the project, its potential impacts to listed species in not included in the BiOp; instead FWS states that ESA Section 7 consultation may require reinitiation at a later date. (MSHCP BiOp 22). Given that the construction of flood storage/water conveyance facilities is identified as a necessary aspect of the project that is certain to occur if the project is allowed to go forward, deferring impacts from this aspect of the project is a violation of the ESA in that the Service has failed to analyze the project in its entirety. Thus, its conclusion that the project is not likely to threaten the continued existence of the Moapa dace and its conclusions regarding other species are based on an incomplete and therefore faulty analysis.

By deferring analysis of project impacts until after the MSHCP has already been approved, the FWS has failed to protect the Moapa dace as required under the ESA. FWS attempt to defer analysis regarding impacts to the Moapa dace is especially egregious considering that the BiOp itself acknowledges the potentially severe project impacts. (MSHCP BiOp 40). The BiOp states that impacts from “groundwater withdrawals will likely manifest later in time; but could be of great consequence to aquatic-dependant species, such as the Moapa dace.” (MSHCP BiOp 41). The Service cannot, with any degree of credibility, support its conclusion that the project will not jeopardize the survival of the Moapa dace, (MSHCP BiOp 55), while simultaneously deferring the requisite analysis and acknowledging the potential severity of project impacts.

**D. The FWS Failed to Consider Appropriate Mitigation Measures to Minimize the Impacts to the Moapa dace and Muddy River Ecosystem and the ITSs Failed to Provide for Such Minimization in the Reasonable and Prudent Measures and Terms and Conditions.**

The ESA requires an ITS to specify those reasonable and prudent measures the Secretary deems “necessary or appropriate” to minimize the impact on listed species and set forth terms and conditions implementing each reasonable and prudent measure. 16 U.S.C. § 1536(b)(4)(C)(ii), (iv). *See, e.g., Center for Biological Diversity v. Bureau of Land Management*, 422 F. Supp. 2d 1115,

1141 (N.D. Cal. 2006) (finding that the “Service’s failure to include T&C to minimize the potential for incidental take of . . . violates the plain language of the ESA, 16 U.S.C. § 1536(b)(4), and is therefore arbitrary and capricious.”)

In the BiOp for the MOA the FWS reaches the erroneous conclusion that the level of anticipated take is not likely to result in jeopardy to the Moapa dace because of accompanying conservation measures for the project. (MOA BiOp 61). The FWS relies on the MOA BiOp to reach the same erroneous conclusion for the Kane Springs Valley groundwater project. (KSV BiOp, 40). The MSHCP does not provide any mitigation measures for the Moapa dace because, as detailed above, the FWS unlawfully ignored these impacts of the project.

Even if the conservation measures were sufficient to minimize project impacts, which they are not, many of the conservation and mitigation measures identified in the MOA and KSA BiOp’s are overly broad or vague, uncertain to actually occur, or themselves present potential negative consequences to the Moapa dace. Therefore, relying on such mitigation measures negates the conclusion that the project will not jeopardize the Moapa dace. By relying on faulty mitigation measures and exaggerating their benefits, the FWS has also violated the ESA by failing to adequately minimize impacts to the Moapa dace.

***Identified Mitigation Measures Will Have Harmful Consequences to the Moapa dace.*** One mitigation measure identified in the MOA for the Muddy River groundwater pumping is the construction of barriers to prevent invasive species harmful to the Moapa dace, such as the tilapia from entering dace habitat. (MOA BiOp 42, 58). However, elsewhere in the MOA, FWS acknowledge that other structures such as dams, which also “serves as a barrier to fish migration,” also acts as a barrier to the Moapa dace itself, preventing the Moapa dace from “accessing the upstream spawning tributaries or escaping turbid river conditions.” (MOA BiOp 28). In addition, the “structure[s] also cool[] the river water as it cascades over the structure to a temperature below that preferred by Moapa dace.” (MOA BiOp 28).

The potentiality of the unintended consequences of erecting fish barriers is nowhere discussed in the Kane Springs Valley Biological Opinion. Because the FWS has failed to adequately analyze the full impact of a proposed mitigation measure, the agency cannot say with any degree of authority or certainty that these mitigation measures will help ensure the project from jeopardizing the Moapa dace.

Additionally, when addressing threats to the Moapa dace from invasive species, the FWS ignores conservation efforts identified in the Moapa dace Recover Plan. The Recovery Plan states that successful tactics for removing invasive fish species such as the tilapia from Moapa dace habitat have included trapping and seining. (Recover Plan 38). However, the FWS ignores this, and only presents the construction of barriers as a mitigation strategy. By ignoring recovery strategies as outlined in the Recover Plan, FWS has failed to provide adequate protection for the Moapa dace.

***Impacts of Pumping Reduction/Cessation are Unknown and Speculative at Best.*** In the BiOp’s at issue, FWS repeatedly emphasizes that if water flows at certain locations within the project area decrease below a certain point, mitigation measures will be triggered that will require, depending on what level water flow has decreased to, the cessation of groundwater pumping at certain sites, and/or a reduction in the amount of pumping in certain sites. For

instance, in the MOA for the Muddy River project, if water flows during an initial pump test reach 3.0 cfs, the Arrow Canyon well will be shut down. (MOA BiOp 13). However, FWS acknowledges that while “it is assumed that reducing and ceasing the pumping will slow the decline in water levels” in Moapa dace habitat, in actuality, “the response of the aquifer to a reduction or cessation of pumping is not known and has not been tested.” (MOA BiOp 46). Similarly, the KSV project sets a trigger to reduce pumping but has little or no basis for its assumption that reducing pumping after impacts have occurred will provide the needed protection or mitigation in a timely way. (KSV BiOp at 35). As FWS admitted “the extent of effects to the species as a result of the proposed action is not yet known” and FWS relies on “future and on-going biological and hydrological studies” to “assist” FWS “in determining how flow reductions and thermal load losses will affect the Moapa dace habitat, food availability, reproduction, and fecundity.” (KSV BiOp at 35). Because FWS lacks basic information on impacts of these projects and also lacks sufficient information to show the efficacy of the proposed mitigation measures, it is unlawful and entirely speculative to rely on these measures to protect the dace.

As a recent scientific investigation noted in discussing long-term impacts from groundwater pumping on streams: “Because withdrawal locations are far from perennial stream reaches, depletion can occur long after withdrawals cease. This lack of immediate response occurs because recovery from shutting off withdrawals takes time to reach distant parts of the outward propagating cone of depression from the . . . period of withdrawals.” (Leake, et al., 2005) FWS admits that “the effects of reduced or cessation of groundwater pumping or whether there will be some equilibration of the aquifer to the proposed pumping” were “unknown” at the time the MOA BiOp was issued. (MOA BiOp at 46). And such effects were still unknown at the time the KSV BiOp was issued and that biological opinion simply assumed that the reductions in pumping provide effective mitigation with no analysis. (See KSV BiOp at 35). Although it may be possible to use modeling and simulations to show the likely amount of ongoing depletion after pumping is ceased or reduced caused by the cone of depression from the long term pumping, such modeling was not fully explored *before* the MOA was approved and the MOA BiOp issued or *before* the KSV project was approved and the KSV BiOp issued. As a result, the timing and amount of actual mitigation that would result from cession or reduction of pumping under either the MOA or KSV projects *after* impacts have already occurred to Moapa dace habitat are speculative as is the trigger set for ceasing or reducing pumping.

In fact, simply ceasing the pumping in some areas once the water levels at one gage falls is not adequate as the water level in the springs will continue to decline to the peril of a fish whose numbers are incredibly small and whose existence is dependent on the springs.

Moreover, even if the overall assumption that pumping reduction or cessation will eventually help restore water to the aquifer is accurate there is no evidence of the time frame that would elapse and no provision is made to ensure that there is sufficient water in the system to improve the water flow and reduce the impacts to the Moapa dace during that time frame. By basing a mitigation measure for the impacts of a project on an “assumption,” where the actual success of the measure is “not known and has not been tested,” FWS has failed to fulfill its duties under the ESA.

Further, much of the proposed plan for reducing or ceasing pumping at certain locations should water flow decline to a certain point is unlawfully vague and non-committal. For

instance, should water flows reach 3.2 cfs at the Warm Springs West Flume, the signatories of the MOA will merely “meet to discuss the issue and compare/evaluate hydrology data.” (MOA BiOp 13). “Meeting to discuss the issue” without any commitment to alleviate declining groundwater flows, in no way provides protection for the Moapa dace. Only when levels reach 3.0 cfs or less will pumping cease at the Arrow Canyon well. (MOA BiOp 11). Should water flow reach 3.0 cfs or less but greater than 2.9 cfs, groundwater pumping will be restricted at the MX-5, RW-2, CSI #1, and CST #2 wells. (MOA BiOp 13).

Moreover, there is no evidence provided in either the Muddy River MOA or the Kane Springs Valley BiOp that reducing or ceasing pumping at certain wells will have the intended effect of increasing water levels in Moapa dace habitat in a timely way. Nowhere in the BiOp is there any assurance that restricting pumping at these particular wells will have the intended effect of halting water level decline in Moapa dace habitat – especially considering that the project contains numerous other wells that will continue to draw water. In other words, there is no evidence provided that there is any relation between these four wells and water levels at the Warm Springs West flume. This is especially true given that the hydrology of the area is admittedly not fully understood by any agency involved, and groundwater flows between the project area and Moapa dace habitat can fluctuate. Therefore, there is absolutely no evidence that these identified mitigation measures will have the intended effect of halting, then increasing, water levels.

As noted above, there is no data in either document as to how long it will take after pumping is halted or reduced for water levels to return to normal. It will take some amount of time, especially in the dryer months, for water levels to return to a level (and therefore temperature) that provides for Moapa dace habitability. Because the Moapa dace requires such a specific conditions for survival, allowing decreased water flows to remain for any significant period of time presents the dace with a considerable threat to its survival. By providing absolutely no evidence or assurance that halting/reducing groundwater pumping will return water flow to a safe level relatively quickly, FWS has provided mitigation measures that are incomplete and speculative at best.

This problem also occurs in the proposed conservation measures for the Kane Springs Valley project where it is agreed that should water levels reach 3.15 or less then pumping will be reduced by half, and stopped completely should water levels reach 3.0 or less. (KSV BiOp 35). In evaluating the success of this mitigation measure, FWS merely states that “[t]his conservation measure will result in a reduction in the rate of decline of water levels and spring discharge,” (KSV BiOp 35) but no estimate is provided as to how great this “reduction in the rate of decline” will be, in other words, whether it will be sufficient to restore water levels, and how long this restoration will take. Without such information it is impossible to determine how effective these mitigation measures will actually be in protecting the Moapa dace.

Finally, while the Muddy River MOA and Kane Springs Valley BiOp allude to measuring water levels, neither document provide mandates for how often these measurement need be taken. Therefore, there could be a significant gap in between the time when water levels drop to a dangerous level, and when this drop is actually noticed and pumping halted. Without such specific guidelines, the assurance to measure water levels is inadequate; significant harm to Moapa dace populations could occur before the identified mitigation measures are even carried out. This is especially worrisome given the low numbers of Moapa dace left – a significant

amount of the remaining dace population could be destroyed before mitigation begins to occur.

#### **E. Violation of Section 9; Unlawful Taking of Endangered Moapa Dace.**

The ESA also prohibits any “person” from “taking” threatened and endangered species. 16 U.S.C. § 1538, 50 C.F.R. § 17.31. The definition of “take,” found at 16 U.S.C. § 1532(19), states,

The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

By taking actions under the MOA and KSV projects without a valid biological opinion, FWS and BLM are also violating Section 9 of the ESA. If the groundwater pumping under the MOA, the Kane Springs Valley project, or the MSHCP (to the extent it may arguably authorize such activity) proceeds before adequate consultations are completed, any and all agencies, entities, or persons that continue to extract groundwater may be liable for take of the Moapa dace and will be in violation of Section 9 of the ESA.

#### **F. Violation of Section 7(d); Commitment of Resources Before Consultation is Completed.**

Section 7(d) of the ESA, 16 U.S.C. § 1536(d), provides that once a federal agency initiates consultation on an action under the ESA, the agency “shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection (a)(2) of this section.” The purpose of Section 7(d) is to maintain the status quo pending the completion of interagency consultation. Section 7(d) prohibitions remain in effect throughout the consultation period and until the federal agency has satisfied its obligations under Section 7(a)(2) that the action will not result in jeopardy to the species or adverse modification of its critical habitat.

As discussed above the biological opinions challenged herein were issued in violation of the ESA and BLM’s approval of the KSV project likewise violates the ESA. Therefore, when FWS and BLM reinitiate consultation for the Moapa dace, as they must, the prohibitions of Section 7(d) will apply and no commitment of resources can be made until such valid consultation is completed.

#### **V. Violations of Law with Regard to the Desert Tortoise**

The BLM’s approval of the KSV project relies on the KSV BiOp and FWS’ approval of the MSHCP relies on the MSHCP BiOp. Because both biological opinions are substantially flawed, the FWS’ conclusions that the proposed actions will not jeopardize the desert tortoise, or destroy or adversely modify its critical habitat, are unsupported. Therefore, the FWS’ issuance of those biological opinions and FWS’ approval and issuance of the MSHCP and BLM’s approval of the KSV project in reliance on those biological opinions violate the substantive and procedural provisions of Section 7 of the ESA.

The deficiencies in the KSV and MSHCP biological opinions as regards the desert tortoise include, but are not limited to, the following; inadequate descriptions of the proposed

actions; inadequate and inaccurate descriptions of the status of the species; inadequate descriptions of the environmental baselines; inadequate descriptions of the effects of the actions on critical habitat and the recovery of the species; and inadequate analysis of cumulative effects.

The shortcomings of the KSV and MSHCP were detailed in several sets of comments that the Center submitted to FWS during the administrative process and those comments are incorporated herein by reference. They include, but are not limited to, FWS' failure to accurately identify the action area, inadequate identification and analysis of impacts to the desert tortoise and its critical habitat and conservation of the desert tortoise, improper segmentation of the analysis to the desert tortoise and failure to properly consider all connected actions and cumulative impacts, and failure to adopt adequate conservation and mitigation measures for the impacts of the project. In addition, the FWS provided an MSHCP term that is far too long to ensure protection of the many species that will be affected by this project including the desert tortoise in the face of a changing climate and other admitted uncertainties.

Each of the above deficiencies in the biological opinions and others render the FWS' "no jeopardy" and "no adverse modification" conclusions arbitrary and capricious and therefore unlawful under the ESA and the APA. The BLM's reliance on the KSV BiOp is therefore misplaced and likewise arbitrary and capricious. Similarly, FWS' reliance on the MSHCP BiOp in issuing the MSHCP is arbitrary and capricious. The FWS and BLM are therefore in violation of the substantive mandates of the ESA to insure against jeopardy and destruction or adverse modification of critical habitat for the desert tortoise.

## **VI. Violation of Section 2(c) and 7(a)(1); Failure to Conserve Listed Species for both the Moapa Dace and the Desert Tortoise.**

Section 2(c) of the ESA establishes that it is "...the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "...the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." 16 U.S.C. § 1532(3).

The FWS and BLM are violating section 2(c) of the ESA because the agencies have refused to use their authorities to further the purpose of the ESA and species conservation for both the Moapa dace and the desert tortoise. Moreover, the Service has failed to include adequate measures to conserve these species as mandatory terms and conditions of biological opinions and the permit for the MSHCP.

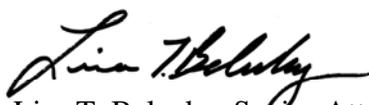
Section 7(a)(1) of the ESA directs that the Secretary review "...other programs administered by him and utilize such programs in furtherance of the purposes of the Act." 16 U.S.C. § 1536(a)(1). The purpose of the ESA is to conserve endangered or threatened species. Therefore, the Secretary and the Service must ensure that the ITSs and the incidental take permit issued for the MSHCP, together with any other take permits issued for Moapa dace and the desert tortoise for other projects or programs in the action area, further the conservation and recovery of the of the Moapa dace and the Muddy River ecosystem, and the desert tortoise and its critical habitat. The FWS' failure to do so is a violation of Section 7(a)(1) of the ESA as well.

## VII. Conclusion

If the Fish and Wildlife Service and the Bureau of Land Management do not act within 60 days to correct these violations of the ESA, the Center for Biological Diversity will pursue litigation in federal court against the agencies and the officials named in this letter. We will seek injunctive and declaratory relief, and legal fees and costs regarding these violations.

It is our practice to pursue negotiations whenever possible. In keeping with this policy, we invite the agencies to discuss their obligations under the ESA with us. If you have any questions, wish to meet to discuss this matter, or feel this notice is in error, please contact me at any time.

Sincerely,



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Please note change of address as of June 1, 2008

### **ATTACHMENTS (Comment Letters on CD):**

May 1, 2006 CBD Scoping letter re Kane Springs Valley Groundwater Project etc.  
September 15, 2006 CBD Second Scoping letter re KSV etc  
August 20, 2007 CBD Comments on DEIS for KSV  
October 9, 2006 CBD Scoping letter for Coyote Springs MSHCP  
January 4, 2008 CBD Comments on DEIS for Coyote Springs MSHCP  
October 14, 2008 CBD Comments on FEIS for Coyote Springs MSHCP

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