



*working through science, law and creative media to secure a future for all species,
great or small, hovering on the brink of extinction.*

VIA CERTIFIED MAIL AND ELECTRONIC MAIL

August 19, 2021

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Re: Sixty-Day Notice of Intent to Sue the Secretary of the Interior, U.S. Fish and Wildlife Service, and Bureau of Land Management Pursuant to the Endangered Species Act for Actions Relating to Management of Endangered Amargosa Vole in the California Desert Conservation Area.

Dear Secretary Haaland, Regional Director Souza, State Director Mouritsen, District Manager Archuleta, and Field Supervisor Symons,

This letter serves as a sixty-day notice on behalf of the Center for Biological Diversity (“Center”) of intent to sue the Bureau of Land Management (“BLM”) and the U.S. Fish and Wildlife Service (“FWS”) over violations of Sections 2, 4, 7, and 9 of the Endangered Species Act (“ESA”), 16 U.S.C. §§ 1531, 1533, 1536, 1538, for actions and inactions related to the management of the endangered Amargosa Vole in the California Desert Conservation Area (“CDCA”). This letter is provided pursuant to the sixty-day notice requirement of the citizen suit

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provision of the ESA, to the extent such notice is deemed necessary by a court. See 16 U.S.C. § 1540(g).

BLM has violated the ESA by failing to protect and conserve the Amargosa vole and its habitat in its management of lands within the CDCA pursuant California Desert Conservation Area Plan in reliance on the Fish and Wildlife Service's 2002 Biological Opinion¹ and/or 2016 Biological Opinion.² While the BLM and FWS have made efforts to address habitat condition, water availability and other threats, the agencies have failed to address the significant threat to the vole from public recreational use of the Amargosa vole critical habitat particularly at Borehole Spring. As a result of BLM's actions and inactions in managing the endangered Amargosa vole and its habitat on public lands within the CDCA, the Amargosa vole is at imminent risk of extinction in the wild.

The Center is a national, nonprofit conservation organization with more than 1.7 million members and online activists dedicated to the protection of endangered species and wild places. The Center and its members are concerned with the conservation of imperiled species, including the Amargosa vole, management of public land, and the effective implementation of the ESA. The Center board, staff and members have visited the public lands at issue and intend to continue to do so in the future to monitor the health of the habitat and observe the Amargosa vole. Center staff and members have scientific, aesthetic, and spiritual interests in the survival of the Amargosa vole in the wild and protection of its habitat.

The Center has raised our concerns with BLM and FWS for a number of years, regarding the management of public lands that provide habitat for the Amargosa vole at Borehole Spring and the decline of the vole populations, nonetheless, violations of the ESA continue. Specifically, the Center intends to file a lawsuit challenging BLM's (1) failure to insure that the activities authorized under the existing management plan are not likely to jeopardize the continued existence of the Amargosa vole; (2) failure to timely reinitiate and complete consultation with FWS regarding the impacts of authorized or "casual use" activities at Borehole Spring on the Amargosa vole; and (3) continued authorization and approval of activities at Borehole Spring that may irreversibly and irretrievably commit resources and may foreclose the formulation or implementation of reasonable and prudent alternatives, prior to completing the re-initiated consultation regarding the impacts of authorized activities on the Amargosa vole. In addition, the Center intends to file a lawsuit challenging FWS's failure to timely reinitiate and

¹ U.S. Fish and Wildlife Service. 2002. Biological Opinion for the California Desert Conservation Area Plan [Amargosa vole] (6840(P) CA-063.50) (1-8-01-F-69). Dated September 23, 2002. Memorandum to State Director, Bureau of Land Management, Sacramento, California. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California ("2002 BiOp") at 29 (concluding that BLM management was not likely to jeopardize the Amargosa vole and not likely to destroy or adversely modify its critical habitat).

² U.S. Fish and Wildlife Service. 2016. Biological Opinion on the Proposed Land Use Plan Amendment under the Desert Renewable Energy Plan [1340 (CA 930) P, 1150 (CA 930) P] (FWS-KRN/SBD/INY/LA/IMP/RIV-16B0138-16F0200). Dated August 16, 2016. Memorandum to Deputy State Director, Division of Natural Resources, Bureau of Land Management, Sacramento, California. From Field Supervisor, Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, Carlsbad, California ("2016 DRECP BiOp"). The 2016 DRECP BiOp references the 2002 BiOp and provides no new analysis or basis for its finding that BLM management under the DRECP is not likely to adversely affect the Amargosa vole. (DRECP BiOp at 3, 13).

complete consultation concerning BLM's ongoing management of public lands at Borehole Springs and its impacts on the Amargosa Vole.

I. Requirements of the ESA

Section 9 of the ESA and its implementing regulations prohibit the unauthorized "take" of listed species including the endangered Amargosa vole. 16 U.S.C. § 1538(a)(1); 16 U.S.C. § 1533(d); 50 C.F.R. § 17.31.³ "Take" is defined broadly to include harming, harassing, trapping, capturing, wounding or killing a protected species either directly or by degrading its habitat. See 16 U.S.C. § 1532(19). Taking that is in compliance with the terms and conditions specified in a biological opinion is not considered a prohibited taking under Section 9 of the ESA. 16 U.S.C. § 1536(o)(2). These protections are intended to ensure the conservation of listed species.

Section 7 of the ESA requires all federal agencies to ensure that any action authorized, funded, or carried out by the agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species or (2) result in the destruction or adverse modification of the critical habitat of such species. 16 U.S.C. § 1536(a)(2). For each federal action, the action agency must request from FWS whether any listed or proposed species may be present in the area of the agency action. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12. If listed or proposed species may be present, the federal agency must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action. *Id.* The biological assessment must generally be completed within 180 days. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12(i). The action agency may undertake the biological assessment as part of its compliance with NEPA, but the NEPA documents must provide sufficient information for the agencies to make informed biological assessment of effects of the proposed actions. 16 U.S.C. § 1536(c)(1).

If the federal agency determines that its proposed action may affect any listed species or critical habitat, the agency must engage in formal consultation with FWS. 50 C.F.R. § 402.14. To complete formal consultation FWS must provide a "biological opinion" explaining how the proposed action will affect the listed species or habitat. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14. To comply with formal consultation regulatory requirements, FWS must evaluate both the current status of listed species as well as the effects of the proposed action and cumulative effects on the listed species. *Id.* § 402.14(g)(2)-(3). Agencies are required to "use the best scientific and commercial data available" in assessing impacts to protected species during the consultation process. 16 U.S.C. § 1536(a)(2); 50 C.F.R. §§ 402.14(d),⁴ (g)(8).⁵ Based on this

³ Although some amendments to the regulations implementing the ESA were adopted in 2019 and went into effect on October 28, 2019, the changes do not substantively affect the issues raised in this notice.

⁴ 50 C.F.R. § 402.14(d) ("Responsibility to provide best scientific and commercial data available. The Federal agency requesting formal consultation shall provide the Service with the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effects that an action may have upon listed species or critical habitat. This information may include the results of studies or surveys conducted by the Federal agency or the designated non-Federal representative. The Federal agency shall provide any applicant with the opportunity to submit information for consideration during the consultation.")

⁵ 50 C.F.R. § (g)(8)(2018) ("In formulating its biological opinion, any reasonable and prudent alternatives, and any reasonable and prudent measures, the Service will use the best scientific and commercial data available and will give *NOI re Amargosa Vole*
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information, FWS must reach a biological opinion as to whether the action, taken together with cumulative effects and in light of the status of the species and critical habitat, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. 50 C.F.R. § 402.14(g)(4).

The biological opinion must include a “summary of the information on which the opinion is based” and a “detailed discussion of the effects of the action on listed species or critical habitat.” 50 C.F.R. § 402.14(h)(1). If FWS concludes that the proposed action will jeopardize the continued existence of a listed species, the biological opinion must outline reasonable and prudent alternatives. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h)(2). If the biological opinion concludes that the action is not likely to jeopardize the continued existence of a listed species, and will not result in the destruction or adverse modification of critical habitat, FWS must provide an “incidental take statement,” specifying the amount or extent of such incidental taking on the listed species, any “reasonable and prudent measures” that FWS considers necessary or appropriate to minimize such impact, and setting forth the “terms and conditions” that must be complied with to implement those measures, reporting requirements, and, procedures to handle or dispose of any individuals of a species actually taken. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i)(1).

In order to monitor the impacts of incidental take, the action agency must monitor and report the impact of its action on the listed species to FWS as specified in the ITS. 16 U.S.C. § 1536(b)(4); 50 C.F.R. §§ 402.14(i)(1)(iv), 402.14(i)(3). If during the course of the action the amount or extent of incidental taking is exceeded, the federal agency must reinitiate consultation with FWS immediately. 50 C.F.R. § 401.14(i)(4).

The re-initiation of formal consultation is required and must be requested by the action agency or FWS if (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. 50 C.F.R. § 402.16.

After the initiation or re-initiation of consultation, the action agency is prohibited from making any irreversible or irretrievable commitment of resources with respect to the agency action which may foreclose the formulation or implementation of any reasonable and prudent alternative measures. 16 U.S.C. § 1536(d).

II. Amargosa Vole Status

The Amargosa vole (*Microtus californicus scirpensis*) is a small mammal which lives primarily in a 3.5km stretch of the Amargosa River near Tecopa, California (Klinger, 2015). It is a desert subspecies of the more widely distributed California vole. The Amargosa vole is

appropriate consideration to any beneficial actions taken by the Federal agency or applicant, including any actions taken prior to the initiation of consultation.”)

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endemic to some 36 spring-fed marshes primarily composed of Olney's three-square bulrush (*Schoenoplectus americanus*), which provides food, shelter from predators, and thermoregulation (FWS, 2009; FWS, 2020).

The Amargosa vole was listed as "endangered" under the Endangered Species Act in 1984 (49 Fed. Reg. 45160 (November 15, 1984)), and approximately 4,520 acres of critical habitat was designated, spanning much of the wetland area surrounding and including the town of Tecopa Hot Springs. The threats cited in the listing decision include the vole's marsh habitat being "reduced and modified by human encroachment." "The development of springs in the Tecopa Hot Springs area for mineral baths, and the spread of mobile home courts, have greatly modified or eliminated suitable habitat in that area." The listing decision notes that such habitat destruction had already resulted in the extinction of the Tecopa pupfish (47 Fed. Reg. 2317 (January 16, 1978)), the first species to be removed from protections under the Endangered Species Act due to extinction.

The vole is exclusively dependent on wetlands and marshes formed by groundwater-fed springs and seeps in the Tecopa area. This wetland habitat is part of the Amargosa River, a series of hydrologically disjunct springs and reaches which extend from Beatty, Nevada to Badwater in Death Valley National Park. These hydrologic features are fed by fossil groundwater from a vast carbonate aquifer system, which includes the broader Death Valley Regional Flow System (Zdon, 2014). Ongoing groundwater overdraft in the Amargosa Farms area of Amargosa Valley, Nevada, and in Pahrump Valley, Nevada, present specific threats to the groundwater flow which sustains the Amargosa River and the springs in Tecopa (Zdon, 2020).

In both the 1997 Amargosa Vole Recovery Plan (FWS, 1997) and its 2019 amendment (FWS, 2019), the Service has recognized this pumping and other groundwater pumping proposals as a threat to the vole. Additionally, both recovery plans recognized the threat of diversion and development of spring discharge from Tecopa Hot Springs – water which creates the vole's habitat. In both cases, recovery actions recommended in the recovery plans to address groundwater pumping and springflow diversion have not been followed. While a great many actions from the 1997 recovery plan have been implemented or are in the works, these two fundamental threats to the vole's habitat remain unaddressed, and they pose an existential threat to the species. As a result, the conservation of extant vole populations to ensure resiliency to global threats is essential.

In addition to the main wild vole population in Tecopa, and a small conservation reintroduction in Shoshone, a captive bred vole colony exists at the University of California at Davis, that serves as a refuge population and provides individuals for release back into the wild (FWS, 2019). The marshes formed by Shoshone Spring near Shoshone, California, some seven miles north of Tecopa (FWS, 1997), used to provide vole habitat but the spring was diverted, the marsh was burned, and it was subsequently used for hog farming (*Id.*). Surveys in the 1970s failed to locate any voles in Shoshone (FWS, 2009). In summer of 2020, a small reintroduction of Amargosa voles was made to a restored 0.5 acre wetland near Shoshone Spring (FWS, 2020).

Amargosa voles are dependent on marsh vegetation and specifically are mostly found in areas with greater than 50% cover of three-square bulrush (Klinger, et al., 2015). They do not uniformly occupy the marshes around Tecopa though, and microscale assessments found that there was an estimated 38% occupancy of smaller habitat patches (Foley, et al., 2017). Marsh habitat quality is significantly impacted by drought and climate – during the intense California drought of 2012-2015, average bulrush cover fell by 37% (*Id.*). Per a habitat map developed in 2013, the total bulrush cover in the Tecopa area at that time was calculated at 30 hectares (75 acres) (*Id.*), but this is obviously variable over time. The warming climate and increasing drought severity compound existing threats from both local diversion of water due to human development and regional over-appropriation of groundwater. The declining availability of water resources, and its overall effect on habitat quality and quantity, pose a major threat to the vole (FWS, 2020).

It is not just the total bulrush cover that affects habitat use, but also the continuity of the bulrush canopy (Klinger, et al., 2015). It's likely that reduced bulrush cover has decreased overall movement among the vole population. Due to the small patch size, discontinuity of occupied marshes, and dramatic shifts in population size, the vole population is highly fragmented (Foley and Foley, 2016). This results in low genetic diversity of the subspecies as a whole, as well as potential genetic bottlenecks within specific habitat patches (Neuwald, 2010). The genetics reveal a “nested” population structure, in which marshes form clusters; but they also suggest rare and infrequent connectivity among the subspecies as a whole, theorized to be during periods of more abundant bulrush cover (*Id.*). Demographic stochasticity is regarded as a serious threat to the vole, as the population exhibits characteristics of dominance by older, less fecund individuals in increasingly small family groups (Foley and Foley, 2016).

Habitat patch size, and the quality therein, are important determining factors in establishing the viability of a marsh population, and the corollary T_e (Time to Extinction) (Foley and Foley, 2016). Small, isolated patches have an accelerated probability of localized extinction (*Id.*). Due to the issues of environmental, demographic, and population stochasticity, the T_e should be considered a maximum time to extinction – there may be less time to conserve the species. A population viability analysis based on time-series population observation calculated an expected T_e of 20-24 years in 2016, with an annual risk of extinction at 4-5% (*Id.*). A more refined model in Castle, et al., (2020) found significantly greater T_e , but only in small isolated subpopulations. A majority of occupied marshes show a T_e of less than 10 years; a handful of a T_e of between 10 and 25 years; and only five marshes are predicted to persist past 25 years. No habitat patches were so large and contained enough standing water as to yield independent subpopulations persisting more than 101 years, i.e. that appears to be a ceiling on T_e (Castle, et al., 2020).

There are characteristics common to the most robust marshes. They tend to have greater than one hectare (2.5 acres) of dense bulrush growth, with low seasonal and year-to-year variation in available water and thus in bulrush condition (Foley, et al., 2017). In general these few most robust marshes tend to function as source populations, with dispersal into adjacent lower-quality marshes which primarily function as sinks (Castle, et al., 2020). Voles will often move between nearby patches if there is a vegetated or protected corridor, but longer distance

movements, such as those suggested by the conservation genetics, do occur, and not even a playa forms a barrier to such movement (*Id.*) In light of this habitat information, Castle et al. 2020 explains that improving water consistency, increasing habitat extent and quality are the highest priorities for the recovery of the vole.

Borehole Spring is an artificial water source, functionally a flowing well, which was dug in 1967 by the Stauffer Chemical Company for mineral exploration (Zdon, 2020). The drillers hit hot water under pressure at 350 feet in depth, and artesian flow ensued and continues to this day, despite numerous efforts to plug the hole (*Id.*). The spring discharges hot water in a pool 10m wide at the source, which then runs down a channel approximately 200m long and of varying width through dense bulrush marsh, gradually cooling down as it gets further from the source. The water reaches Tecopa Hot Springs Road, wherein a large portion of it pools back toward the source, creating a bulrush wetland which is called “Marsh 1” by the ad hoc vole team. Remaining water then passes underneath Tecopa Hot Springs Road through a culvert and creates a wetland called “Marsh 54” and other downstream marshes and pools. While discharge from Borehole Spring has had a slightly declining trend since monitoring began in 2013 (Zdon, 2020), the discharge is fairly consistent and appears to be enough to support robust vole habitat in Marsh 1 and Marsh 54 (FWS, 2020).

Based on data from surveys from 2002-2014, a substantial portion of the rangewide vole population occurred in Marsh 1 (FWS, 2016). However, in 2009, culvert work on Tecopa Hot Springs Road caused a significant reduction in the water level in Marsh 1, which eventually mostly drained (Foley, et al., 2017). Even though the habitat quality in Marsh 1 was in a declining state, it was estimated that 85 to 90 percent of the vole population occurred there (FWS, 2016). By 2014, up to 90% of marsh vegetation in Marsh 1 had been lost, and it was no longer able to support a viable subpopulation of Amargosa voles (FWS, 2020). From 2012 to 2015, population density of voles in Marsh 1 decreased by 80% (*Id.*).

In 2014 a standpipe was installed in the culvert under Tecopa Hot Springs Road to attempt to bolster the level of water in Marsh 1 (FWS, 2016). In 2016, a project was commenced to restore Marsh 1, by first installing a new culvert structure to raise the height of water in Marsh 1, and then removing the accumulated dead plant material to allow new bulrush to grow (Castle, 2016). All extant voles were trapped out of Marsh 1 before the project commenced and translocated into other nearby marshes. Post-restoration, the Marsh 1/54 complex, which spans Tecopa Hot Springs Road, is thought to be the “most dependable and sustainable patch” of Amargosa vole habitat rangewide, which serves as a source population for voles colonizing other marshes (Foley, et al., 2017). By 2017, bulrush density and cover increased by 500% compared to pre-restoration levels, and a bulrush litter layer began to regenerate (FWS, 2020). Nonetheless, Amargosa vole densities remain low in Marsh 1. Two survey efforts in 2020 revealed very low numbers of Amargosa voles in the Marsh 1/54 complex, and the condition of bulrush habitat in Marsh 1 appears to be declining relative to 2019 (*Id.*). In contrast, bulrush condition in Marsh 54 was described as healthy (*Id.*).

As a result of this declining condition in Marsh 1, and the somewhat temporary nature of the culvert fixes installed in 2014, a new project was evaluated in 2020, to install a new water

control structure and new culvert to more precisely and permanently manage the level of water in Marsh 1 while allowing sustained flow into Marsh 54 (FWS, 2020). This work was completed in spring of 2021.

Metapopulation dynamics modeling indicates that one of the most tangible ways to extend T_e and reduce the likelihood of stochastic events causing the extinction of the Amargosa vole is to create and sustain “megamarshes”: interconnected suitable habitat patches of sufficient size to function as a source population from which voles can disperse (Castle, et al., 2020). The creation and enhancement of megamarshes through habitat restoration and water management would link separated marsh patches, increase connectivity and total habitat, and allow for free movement of voles between subpopulations, all of which would decrease the likelihood of subpopulation extinction (FWS, 2019). It is thought that creation of a northern megamarsh, building off of Marshes 1/54, is among the most beneficial possible actions to take to save the Amargosa vole, as it would be taking advantage of the subset of marshes (i.e. 1/54) with the greatest current occupancy rates and connectivity (Castle, et al., 2020). Thus it may be that the preservation of Borehole Spring and Marshes 1 and 54 is one of the most essential actions for recovering the Amargosa vole.

III. Recreational Use of Amargosa Vole Habitat at Borehole Springs

In addition to being the most important habitat for the Amargosa vole’s survival and recovery, Borehole Spring is also a very popular place for bathers to soak in a “natural” hot spring (few are aware of the borehole’s origin story). The town of Tecopa Hot Spring, a half mile down the road from Borehole, has five hot spring resorts, in various states of operation. But many visitors come seeking a more “natural” experience, and they find their way to Borehole Spring. During the cooler months (October to April) one can expect to find people at Borehole Spring from before dawn until late at night on most days. Informal monitoring data in the spring of 2015 showed almost no times when there were not people at Borehole Spring, and regularly there would be 30 or more visitors at the site. As two biological field technicians with USGS noted in 2015, “Activities associated with the bathers – such as trampling of the marsh and dogs hunting voles, fire and off-road vehicles – pose indirect and direct threats.”⁶

Internet searches reveal just how pervasive information about Borehole Spring is. When one google searches “Tecopa Hot Springs,” there are more websites returned regarding Borehole Spring than there are regarding businesses in town. Websites like Outdoor Project,⁷ Drivin’ Vibin’,⁸ Ultimate Hot Springs Guide,⁹ Day Trippen,¹⁰ World Hot Spring,¹¹ California Crossroads,¹² Digital Desert,¹³ The Culture Trip,¹⁴ among others, provide directions and other

6 Beechan & Godinho, 2015.

7 <https://www.outdoorproject.com/united-states/california/tecopa-mud-baths>

8 <https://drivinvin.com/2020/11/11/tecopa-hot-springs/>

9 <https://www.ultimatehotspringsguide.com/tecopa-mud-hot-springs.html>

10 <https://www.daytrippen.com/tecopa-hot-springs-death-valley-side-trip/>

11 <https://worldhotspring.com/tecopa-mud-baths/>

12 <https://californiacrossroads.com/hot-springs-in-california/>

13 <http://digital-desert.com/tecopa-hot-springs/>

14 <https://theculturetrip.com/north-america/usa/california/articles/these-are-the-best-hot-springs-to-soak-up-in-socal/>

information about soaking at Borehole Spring. Google Maps¹⁵ and Trip Advisor¹⁶ have entries on Borehole with hundreds of reviews – it has a 4.6 star rating on Google. The Los Angeles Times had an article on the cover of their travel section in 2020 which gave detailed directions on how to get to Borehole Spring.¹⁷ The Palm Springs Desert Sun did the same in 2016.¹⁸ In a 2017 New York Times article, a photo of a bather at Borehole Spring appeared and it was noted that “The Bureau of Land Management allows bathers to use the hot springs adjacent to the habitat of the Amargosa vole, an endangered species which numbers a few hundred.”¹⁹ A search on YouTube reveals thousands of videos labeled “Tecopa Hot Springs” – some by prominent YouTube personalities like “WonderHussy”²⁰ and “Ginger Adventurez”²¹ have many tens of thousands of views. WonderHussy’s video from March 2020²² showing that Borehole Spring had been closed due to the pandemic alone got 25,000 views. And for those who prefer to keep things analog, Borehole Spring is featured on page 152 of the Falcon Guides book *Touring California and Nevada Hot Springs* by Bischoff.

As explained further below, in 2002 BLM considered the recreational use at Borehole Spring to be “casual use” that would fall under general guidelines and not require specific management. What management exists has until recently consisted of two signs – one forbidding overnight camping and a second sign reminding shooters to pick up their trash. BLM did initiate a temporary closure of the area closed to recreation during the pandemic due to human health concerns, but the closure is not enforced.²³

Uses at Borehole Spring are not just limited to casual bathers. People are frequently observed camping at the hot springs; some people gather mud from the pool bottoms at Borehole Spring, considering it to be medicinal; people bringing off-leash dogs to the site is common. There are several areas where pools have been excavated from the banks of the springbrook. Tour buses have been documented pulling up and unloading visitors at Borehole Spring. Campers have been observed to make fires, and then leave the site with fires still burning. Additionally, there are no restroom facilities at Borehole Spring. Despite receiving thousands of visitors a year, there is nowhere for people to use the bathroom appropriately.

The problem of overuse at the Borehole has been persistent for many years. In 2015, an effort was made to address the issue by a local nonprofit, the Amargosa Conservancy, and local residents. An ad hoc monitoring program was begun, and user data was collected on an almost daily basis for three and a half months (Attachment B). This monitoring revealed near constant use of the hot springs at all times of day and into the evening. Out of 109 data points collected,

15 <https://goo.gl/maps/YExkeCcFdf1bkLsGA>

16 https://www.tripadvisor.com/Attraction_Review-g33162-d603409-Reviews-Tecopa_Hot_Springs-Tecopa_California.html

17 <https://www.latimes.com/travel/story/2020-01-10/tecopa-foodie-haven-hiking-hot-springs>

18 <https://www.desertsun.com/story/desert-magazine/2016/03/25/healing-waters-enjoy-benefits-natural-hot-springs/82090646/>

19 <https://www.nytimes.com/2017/12/18/science/amargosa-death-valley-mojave-pupfish.html>

20 <https://www.youtube.com/watch?v=xohYHh7G464>

21 https://www.youtube.com/watch?v=RPMv2_uRwCo

22 <https://www.youtube.com/watch?v=iizrymDb5x8>

23 <https://www.blm.gov/site-page/blm-california-covid-19-updates>

only three times was there nobody at Borehole. As many as 31 people were observed at the site at the same time through this monitoring, and frequently there were more than 20 people there. On 24 occasions, off-leash dogs were documented.

In 2015, the issue was recognized to be such a problem that the Amargosa Conservancy and local citizens wrote a letter to BLM Barstow (Attachment C), proposing signage to inform users about etiquette at the hot springs and about how they can minimize their impacts on the Amargosa vole. The intent was to establish a sense that there are rules governing behavior at Borehole. The letter stated, “Impacts such as human waste, unattended campfires, harvesting of mud, bank erosion, off-leash predatory dogs, and trampling of bulrush have likely negatively impacted vole numbers at Borehole Spring.” It was accompanied by signage text developed by the community.

BLM Barstow did not act on the 2015 signage request. In subsequent years, before the pandemic, the signage at Borehole remained a sign marking the area a “no camping zone,” a sign reminding shooters to pick up trash, and an educational sign about the vole installed in 2018.



Figure 1: vole-related sign at Borehole Spring. Installed in 2018.

Despite the thousands and thousands of visitors who descend on Borehole each year, and its international reputation as depicted on the internet, there remains to this day no posting of rules, no limits on behavior, no official regulations on users, other than a restriction on camping. There is also little to no enforcement presence from BLM staff and rangers. Only one ranger is assigned to the entire northern portion of the Barstow Field Office, and it is unclear if the position is filled at this time.

Tour buses have been observed at Borehole. These are in the form of both formal organized tour buses, such as the Green Tortoise (Figure 2), or informal tours, frequently unloading tourists from 12-passenger vans.



Figure 2: Green Tortoise tour bus parked in front of Borehole. January 2, 2016.

The mud and water of Borehole have been coveted by users as well. Searches of photographs on the internet reveal numerous users covering themselves with mud scooped from the bottom of the spring. Indeed, there are anecdotal reports of the mud being harvested and sold. On one occasion, users were observed with a shop vac and a generator, filling jugs of water for resale (Figure 3).



Figure 3: Users pumping water from the hot spring into jugs for resale. December 4, 2020.

The pandemic brought restrictions to the use of some public lands in California. Starting as early as April of 2020, BLM had Borehole listed on a website as closed.²⁴ As of March of 2021, Borehole remains listed on this website. A barrier was erected at the fence along the road where people park. The barrier indicates the area is closed but when visited in October 2020 someone has scrawled “to camping” on it, making for confusing messaging for the public (Figure 4).



Figure 4: Borehole barrier on October 1, 2020.

Despite the closure, informal monitoring suggests that Borehole has continued to experience heavy usage throughout the pandemic. On March 17, 2021, a Wednesday, dozens of people were observed at Borehole. The barrier remains up, and now has additional specific signage from BLM on it indicating that the area is closed (Figure 5).

²⁴ <https://www.blm.gov/site-page/blm-california-covid-19-updates>



Figure 5: Sign at Borehole indicating that the area is closed due to COVID. March 17, 2021.

Despite this signage, there were numerous users at Borehole on March 17 and again on March 21, 2021. Impacts to the area were obvious and numerous. Someone had driven around the fence and actually into the marsh area where voles live (Figures 6-7).



Figure 6: users have driven around the fence at the parking area and into the marsh. March 21, 2021.



Figure 7: Numerous tracks from vehicles being used off-road in the area of Marsh 54 were evident. March 21, 2021.

There was also graffiti on the road signs and human waste disposed of directly into the bulrush Amargosa vole habitat. There were over a dozen cars parked by the “closed” barrier and people in the springs (Figure 8).



Figure 8: Over a dozen cars parked at Borehole on a Sunday afternoon. The dense vegetation on either side of the road is vole habitat. March 21, 2021.

The Center set up a motion-activated trail camera at Borehole Spring in 2021. The photographs confirm the frequent occupancy of the site at all hours of the day, as well as numerous illegal activities such as OHV riding (Figure 9), campfires (Figure 10), off-leash dogs, camping (Figure 11), and even defecation (we’ve spared you the photo of this).



Figure 9: Illegal OHV use at Borehole Spring, April 7, 2021.



Figure 10: Illegal campfire at Borehole Spring, April 8, 2021.



Figure 11: Nude camper and illegal tent at Borehole Spring, May 26, 2021.

In short, use at Borehole Spring over the past several years, and even under the current closure during the pandemic, is round-the-clock during most of the year, and it is completely unmanaged, causing impacts to the Amargosa vole and its habitat.

IV. BLM Management under the California Desert Conservation Area Plan

Management of BLM lands in the Amargosa vole's habitat must conform to the California Desert Conservation Area ("CDCA") Plan as amended which includes the specific management requirements for this are found in the DRECP and the Northern and Eastern Mojave ("NEMO") bioregional plan amendments to the CDCA Plan. The DRECP defined California Desert National Conservation Lands in this area and renamed existing ACECs as the Amargosa North ACEC and Amargosa South ACEC (includes original 2 ACECs areas— part of Amargosa River ACEC and Grimshaw Lake ACEC).²⁵ The Amargosa vole's habitat is entirely lands designated as ACEC and CDNCL in these two units. The habitat area near Tecopa is included in the Amargosa South ACEC and CDNCL. Among the nationally significant values of the Amargosa South unit are:

Scientific: A long-term demographic/ habitat assessment study is being conducted in this unit on the Amargosa Vole which is a very narrowly endemic (limited to approximately 18 hectares) remnant from historically wetter times.²⁶

The DRECP management actions for maintaining water flow in this ACEC/CDNCL are specific and extensive:

Objective: Conserve and protect water resources essential to maintenance of other valued resources and habitats

Management Actions:

- Prohibit new non-administrative, discretionary stream diversions and groundwater-disturbing activities on public lands within the ACEC
- Quantify, assert, and protect Federal Reserve water rights for Kingston Range Wilderness, the Amargosa Wild and Scenic River, and Public Water Reserves
- File for appropriated water rights to conserve existing water sources that support the ACEC's resources and values
- Install and maintain stream monitoring equipment to quantify flows in the Amargosa Canyon
- Monitor surface water quality at pre-selected locations to gauge condition and trend
- Identify, map, and monitor groundwater sources and springs within the ACEC

²⁵ DRECP, Appx. B, Kingston – Amargosa Ecoregion at 241-248 (Amargosa North ACEC with maps), at 249-259 (Amargosa South with maps).

²⁶ Id. at 249.

- Monitor water uses from new BLM land use authorizations within the California portion of the Amargosa watershed.²⁷

The management actions to protect species and habitats for these ACEC/CDNCL include several specific actions related to impacts to Amargosa vole such as:

- Repair portions of the Tidewater and Tonopah (T and T) railroad grade that might cause loss of Amargosa vole populations and habitat from Amargosa River flooding where ecologically feasible and economically feasible
- Collaborate with the FWS, USGS, and CDFG to translocate voles to other suitable habitats if repair of railroad potential problem areas is not reasonable or feasible²⁸

And includes more general management actions that apply to all listed species:

- Monitor and evaluate habitat trends and conditions specific to listed species on public lands throughout the ACEC
- Work with private landowners, the State, and other federal agencies to identify listed species habitat and habitat trends throughout the ACEC²⁹

For recreation the management actions are also quite general. Noting that “camping and dispersed recreation” are allowable uses, the sole management action is: “Post interpretive signs along highly used routes as funding is available.”³⁰

The DRECP’s Amargosa/Grimshaw Special Recreation Management Area (SRMA) plan does mention the Borehole hot springs: “The Tecopa Marsh is a beautiful large reflective pool, which flows under the paved road from borehole hot spring.” and: “Tecopa Marsh (Grimshaw Lake) is well traversed by paved roads and adjacent to a small community with hot springs lodging and basic recreational services.”³¹ However the SRMA plan, objectives, allocations, and management direction, are quite general in this area and do not provide specific protections for Amargosa vole and its habitat.³²

For additional management direction in this area, the BLM also continues to rely on the Northern and Eastern Mojave Plan (NEMO), an amendment to the CDCA Plan, adopted in 2002.³³ The NEMO Plan was intended to be the mechanism to implement the U.S. Fish and Wildlife Services’ 1997 Recovery Plan for the Amargosa Vole.³⁴ NEMO developed ‘Recommended Special Management Actions for the Recovery of the Amargosa Vole’ with the objective to “to minimize the threats that imperil the Amargosa vole so that the species can be downlisted to “Threatened” status” (Appendix H- 1). Numerous specific recommendations,

27 Id. at 251. *See also* CMAs LUPA-SW-17 to LUPA-SW-33 inclusive. DRECP BLM LUPA at 141-147.

28 DRECP, Appendix B, at 254.

29 Id. at 254.

30 Id. at 256.

31 DRECP, Appx. C, at 76.

32 DRECP, Appx. C, 74-78

33 The MUC classifications that provided management direction in the NEMO amendment to the CDCA, and are discussed in the 2002 NEMO BiOp, were revised in the DRECP (BLM LUPA at 206) and replaced with CMAs for the public lands in the CDCA (*see id.* at 91).

34 http://ecos.fws.gov/docs/recovery_plan/970915.pdf

requirements and tasks were identified in the NEMO, and a subset that pertains to the current situation include:

- “b. Implement measures to secure extant populations and non-occupied habitat;
 - i. Secure water sources and water rights for groundwater and springs critical to maintaining and enhancing upland habitats and lowland habitats.
 - ...
 - v. Prevent further loss of habitat or water quality by road construction, maintenance, or other construction activities.
 - ...
 - viii. Prohibit all camping and campfires on public lands.
- c. Identify threats to the Amargosa vole and/or habitat.
- d. Develop interim management plan to protect habitats.
- e. Implement management plan.” (Appendix H-2)

To date, we are unaware of any attempt by the BLM to secure water sources and rights for groundwater and springs critical to maintaining and enhancing upland and lowland habitats or for the vole’s critical habitat. Clearly, in the past the BLM failed to coordinate with the County regarding the road maintenance or to monitor that process to prevent loss of habitat as evidenced by the earlier dewatering of the stronghold bulrush habitat by Borehole Spring.

As explained above, the BLM has also failed to control impacts from recreation despite clear indications that it is impacting the vole and its habitat. In addition, the increase in visitation to Borehole Spring is very likely negatively impacting water quality, but absent appropriate monitoring, there are no data. BLM has also failed to enforce their prohibition on camping and campfires on public lands in the area to protect the vole.

As a result, at this time, the only specific direction to BLM regarding the management of this area critical to the Amargosa vole is found in the NEMO and 2002 Biological Opinion which do not, however, specifically address the issue of recreational use of Borehole Spring. The 2002 consultation does recognize that “Pet dogs brought onto public lands by recreationists... could disturb, injure, or kill Amargosa voles.” By and large, however, the potential impacts of recreation on the Amargosa vole are dismissed in the 2002 BiOp:

“...we anticipate that substantial recreation does not occur within habitat of the Amargosa vole because many desert users focus their activities on Amargosa Canyon. Additionally, the dense vegetation in the wetland habitat of the Amargosa vole likely discourages some degree of recreation. For these reasons, this program guidance does not appear to pose a substantial threat to the Amargosa vole and its critical habitat.”

As explained above, there is nearly the round-the-clock user activity at Borehole Spring, and high use at various times due to unauthorized organized travel groups. Other impacts such as off-leash dogs, campers, off-highway vehicles, and other recreational uses, rises above the low level of casual use anticipated in 2002. Whether or not it was reasonable for the agencies to

anticipate low use in 2002, at this time it is clear that current use is quite high and consultation must be reinitiated to address the impacts of current use on the Amargosa vole and its habitat.

V. BLM Management Under the Wild and Scenic Rivers Act

The original 26.3 miles of Amargosa Wild and Scenic River (“WSR”) were designated in the Omnibus Public Lands Management Act of 2009 (PL 111-11) on March 30, 2009. A second designation, adding 7.5 miles of river, was included in the John D. Dingell, Jr. Conservation, Management, and Recreation Act (PL 116-9) on March 12, 2019. (16 U.S.C. §1274(a)(196)). The exact boundaries of any Wild and Scenic River (WSR) corridor are to be determined by the BLM and are specified as to be “not more than 320 acres of land per mile measured from the ordinary high water mark on both sides of the river,” (16 U.S.C. §1274(b)). In total, the Amargosa Wild and Scenic River covers 33.8 miles from Shoshone, California in the north, through Tecopa, California and the Amargosa Canyon, ending at the River’s crossing of Highway 127 near Little Dumont Dunes.

Some of the outstandingly remarkable values (ORVs) which make the Amargosa River that were the basis for its designation as Wild and Scenic include: natural scenery, with rugged desert mountains towering over the vibrant green ribbon of the River; vital habitat for rare wildlife and plants, including the Amargosa vole and the Amargosa pupfish; unique and highly accessible geology; rich cultural history, including both indigenous and mining history; wildlife watching opportunities; and hiking and other passive recreation opportunities.

The Wild and Scenic Rivers Act (16 U.S. Code §1274(d)(1)) (“WSRA”) requires the development of a comprehensive management plan “to provide for the protection of the river values.” The plan shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this chapter.” The components of the Wild and Scenic River System (“WSRS”) “shall be administered in such [a] manner as to protect and enhance the values which caused it to be included in said system... In such administration primary emphasis shall be given to protecting its [a]esthetic, scenic, historic, archeologic, and scientific features,” (§1281(a)).

Beyond simply managing and administering rivers protected under the WSRA, there is an affirmative obligation on land managers entrusted with managing a WSR to take proactive measures to maintain the ORVs for which the river was designated. “The Secretary of the Interior ... shall take such action respecting management policies, regulations, contracts, plans, affecting such lands, ... as may be necessary to protect such rivers in accordance with the purposes of this chapter,” (§1283(a)).

The WSRA required BLM to designate the boundary of the WSR corridor within one year of designation (16 U.S.C. §1274(b)), and required that a management plan be developed and published in the Federal Register “within 3 full fiscal years after the date of designation,” (§1274(d)(1)). The original 26.3 miles of the Amargosa WSR was designated in 2009, and since no boundary had been designated and no management plan had been prepared as of 2018, a lawsuit was filed to ensure compliance with the law. *Center for Biological Diversity v. Bureau*

of Land Management, 2:18-cv-02448-JFW-GJS (C.D. Cal.). As part of the settlement of that lawsuit, the BLM agreed to complete a Comprehensive River Management Plan (CRMP) for the Amargosa WSR on or before December 31, 2024. The scoping notice for the CRMP was issued on April 30, 2021, and the Center submitted scoping comments along with other conservation groups. (Attachment A).

Because there is not yet a formal delineation of the corridor, it is unclear whether any particular patch of vole habitat is protected under the Wild and Scenic Rivers Act and the CRMP. A fundamental variable in the plan is the distribution for the 10,816 acres [33.6 miles x 320 acres/mile] outside the high water marks of the river. Presumably, this will not be precisely 320 acres per each individual mile.

The Center has advocated for the WSR boundary to be designed to capture the maximal amount of features which contribute to the ORVs for which the WSR was designated including the Amargosa vole habitat at Borehole Spring. At this time it is uncertain whether the CRMP will provide any significant additional protection for the Amargosa vole and its habitat.

VI. Violations of the ESA

The information provided in this notice shows that there is a pressing need to reinitiate consultation and that the operative biological opinions are outdated, particularly the 2002 BiOp that specifically addresses impacts to the Amargosa vole from BLM's management and provided "an exemption from the prohibitions against take for the incidental take of Amargosa voles that may result from casual use associated with recreation and mining that is authorized by the Bureau through the California Desert Conservation Area Plan." Yet BLM and FWS have failed to timely reinitiate and complete reinitiated consultation regarding the continued impacts to the Amargosa vole and its habitat resulting from BLM's management, in violation of the ESA. 16 U.S.C. §§ 1536(a)(2), 1536(b)(1)(A); 50 C.F.R. §§ 402.14, 402.16. These include but are not limited to: new information on new impacts at Borehole Springs; BLM's failure to insure that the activities authorized under the existing management plan are not likely to jeopardize the continued existence of the Amargosa vole; BLM's failure to timely reinitiate and complete consultation with FWS regarding the impacts of authorized activities at Borehole Springs on the Amargosa vole; and continued authorization and approval of activities at Borehole Springs that may irreversibly and irretrievably commit resources and may foreclose the formulation or implementation of reasonable and prudent alternatives, prior to completing the re-initiated consultation regarding the impacts of authorized activities on the Amargosa vole.

By allowing and authorizing activities to proceed that are impacting survival and recovery of the Amargosa vole and destroying or adversely modifying critical habitat, prior to the reinitiation and completion of consultation with FWS, BLM is failing to protect the Amargosa vole from jeopardy, in violation of Section 7(a)(2) of the ESA. 16 U.S.C. § 1536(a)(2).

For this same reason, BLM is also violating Section 7(d) of the ESA. 16 U.S.C. § 1536(d) which 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.

The BLM has violated section 7(d) by continuing to authorize activities that adversely affect the Amargosa vole prior to complying with its obligations under Section 7. Because BLM is required to reinitiate consultation, when it does so as it must, it will also be in violation of this provision.

BLM is also in violation of section 9 of the ESA which prohibits any “person” from “taking” threatened and endangered species. 16 U.S.C. § 1538. 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.

More specifically, the term “harass” means any “intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering.” 50 C.F.R. § 17.3. The term “harm” is also not limited to direct physical injury. “Harm” includes any “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” 50 C.F.R. § 17.3.

The BLM is in violation of Section 9 of the ESA because the BLM is in violation of Sections 7(a)(2), 7(d) and 50 C.F.R. § 402.16, and because the earlier biological opinions are inadequate and unlawful, no take of Amargosa vole associated with BLM management is properly authorized under the ESA. The BLM therefore is in violation of Section 9 of the ESA for the take of Amargosa vole that is occurring in as a result of activities “authorized” by BLM. In addition, because BLM is fully aware of the activities that are significantly disrupting the vole’s normal behavioral patterns but is doing nothing meaningful to halt those activities, this is a clear case of a “negligent act or omission” that “creates the likelihood of injury to wildlife” and thus constitutes “harassment” within the meaning of the Act.

BLM is also violating the ESA by failing to implement the recovery plan for the Amargosa vole. Section 4 of the ESA calls for the preparation of a recovery plan for every species listed under the Act. Recovery plans establish recovery goals and objectives, describe site-specific management actions recommended to achieve those goals, and estimate the time and cost required for recovery. 16 U.S.C. § 1533(f). Section 4(f) specifically requires that the Secretary of Interior to both “...develop and implement plans (hereinafter...referred to as ‘recovery plans’) for the conservation and survival of endangered species and threatened

species... .” 16 U.S.C. § 1533(f) (emphasis added). Drafting a recovery plan is not sufficient to comply with this statutory mandate. Consistent with the intent that recovery plans actually be implemented, Congress required that recovery plans “...incorporate...(i) a description of such site-specific management actions as may be necessary to achieve the plan’s goal for the conservation and survival of the species.” 16 U.S.C. § 1533(f)(1)(B)(i).

FWS adopted a revised recovery plan for the Amargosa vole in 2019. While many actions have been completed in the past decade which have contributed to the recovery of the Amargosa vole, key actions such as securing groundwater rights, addressing regional groundwater overdraft, securing spring discharge rights, and ensuring sustained spring discharge into the marshes have not been completed. Additionally, the recovery action mandating that existing habitat be protected and enhanced has not been followed, as is clear from the evidence presented in this notice. Despite the clear mandate of the ESA that the Secretary of Interior “implement” recovery plans, neither the FWS nor the BLM have adequately implemented the recommendations of the Amargosa vole recovery plan. Unfortunately, this inaction fosters the continued decline of the Amargosa vole and fails to support survival and recovery. The utter failure of the BLM to implement the recovery plan constitutes a violation of section 4(f)(1) of the ESA. The FWS’s approval of BLM’s management through various biological opinions likewise constitutes a violation of section 4(f)(1) of the ESA.

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). Section 7(a)(1) of the ESA directs that the Secretary review “...other programs administered by [her] 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. Among the “other programs administered by” the Secretary of the Interior is the administration of the CDCA through the BLM. The recovery plan for the Amargosa vole within the CDCA was developed under section 4(f) of the ESA to conserve these species. The Secretary, through the BLM, must administer the CDCA “in furtherance” of species conservation.

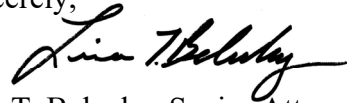
The BLM’s management with respect to the Amargosa vole is violating section 2(c) and 7(a)(1) of the ESA because the BLM refuses to use its authorities to further the purpose of the ESA and conservation of the Amargosa vole. Specifically, the BLM has failed to fully implement the recovery plan for the Amargosa vole.

VII. Conclusion

If the BLM and the FWS 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 officials named in this letter. We will seek injunctive and declaratory relief, and legal fees and

costs regarding these violations. If you have any questions, wish to meet to discuss this matter, or feel this notice is in error, please contact us.

Sincerely,



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Attachments:

Attachment A: Scoping Comments for on the Amargosa Wild and Scenic River (WSR) Comprehensive River Management Plan (CRMP). June 1, 2021.

Attachment B: Borehole Spring 2015 User Monitoring Data.

Attachment C: 2015 Borehole Spring community sign proposal.

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Attachment A

June 1, 2021

Katrina Symons
Field Manager
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2601 Barstow Road
Barstow, CA 92311

Dear Ms. Symons:

Thank you for this opportunity to provide scoping comments on the Amargosa Wild and Scenic River (WSR) Comprehensive River Management Plan (CRMP). The Amargosa River is one of the crown jewels of the desert southwest, providing a globally important resource for biodiversity, hydrology, and recreation. It is also one of the most fragile ecosystems in North America, and must be managed with the highest possible level of conservation.

The Amargosa Conservancy is a 501(c)3 non-profit organization based in Shoshone, California and has been the leading voice for the conservation of the Amargosa River for 16 years. The Amargosa Conservancy is dedicated to standing up for the wilds, waters, and communities of the scenic Amargosa Basin and Eastern Mojave. The Conservancy engages in advocacy, education, science, on-the-ground conservation, and land preservation in order to promote the long-term health of the Amargosa Basin watershed.

Together we submit these comments and urge you to take bold action to save an ecosystem which is currently at a tipping point.

Background

The original 26.3 miles of Amargosa Wild and Scenic River ("WSR") were designated in the Omnibus Public Lands Management Act of 2009 (PL 111-11) on March 30, 2009. A second designation, adding 7.5 miles of river, was included in the John D. Dingell, Jr. Conservation, Management, and Recreation Act (PL 116-9) on March 12, 2019. In total, the Amargosa Wild and Scenic River covers 33.8 miles from Shoshone, California in the north, through Tecopa, California and the Amargosa Canyon, ending at the River's crossing of Highway 127 near Little Dumont Dunes.

Some of the outstandingly remarkable values (ORVs) which make the Amargosa River such a special place and were reasons for its designation as Wild and Scenic include: natural scenery, with rugged desert mountains towering over the vibrant green ribbon of the River; vital habitat for rare wildlife and plants, including the Amargosa vole and the Amargosa pupfish; unique and highly accessible geology; rich cultural history, including both indigenous and mining history; wildlife watching opportunities; hiking and other passive recreation opportunities; and off-road touring and other mechanized recreation opportunities.

The Wild and Scenic Rivers Act (16 U.S. Code §1274(d)(1)) (“WSRA”) requires the development of a comprehensive management plan “to provide for the protection of the river values.” The plan shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this chapter.” The components of the Wild and Scenic River System (“WSRS”) “shall be administered in such [a] manner as to protect and enhance the values which caused it to be included in said system... In such administration primary emphasis shall be given to protecting its [a]esthetic, scenic, historic, archeologic, and scientific features,” (§1281(a)).

Beyond simply managing and administering rivers protected under the WSRA, there is an affirmative obligation on land managers entrusted with managing a WSR to take proactive measures to maintain the ORVs for which the river was designated. “The Secretary of the Interior ... shall take such action respecting management policies, regulations, contracts, plans, affecting such lands, ... as may be necessary to protect such rivers in accordance with the purposes of this chapter,” (§1283(a)).

The WSRA specifically requires that a management plan be developed and published in the Federal Register “within 3 full fiscal years after the date of designation,” (§1274(d)(1)). The original 26.3 miles of the Amargosa WSR was designated in 2009, and since no management plan had been prepared as of 2018, the lawsuit *Center for Biological Diversity v. U.S. Bureau of Land Management*, 2:18-cv-02448 was filed. As a part of a settlement of this lawsuit, BLM agreed to complete the Amargosa CRMP by December 31, 2024.

Relationship of CRMP to Existing Plans

The April 30, 2021 Scoping Letter refers to the CDCA, NEMO, and the DRECP Plans which include CDCA-wide conservation management actions (CMAs) as well as specific Management Directives for the ACECs identified in the DRECP. The CMAs and other management directives incorporate earlier ACEC plans and other activity plans and provide additional management direction. However, no activity plan is cited for the Amargosa South ACEC, as a result the basis and development of the Objectives and Management Actions provided in the Scoping Letter, with reference to the DRECP, is unclear. Further, the ‘Nationally Significant Values’ and ‘Relevance and Importance’ terms are derived directly from implementation of the ACEC authority at Title II of the Federal Land Policy and Management Act of 1976. The ‘Objectives’ and ‘Management Goals’ depicted in the Scoping Letter also appear to be derived from that

ACEC authority and associated guidance. The preparation of a CRMP based primarily on ACEC guidance would be fatally flawed because the WSR requirements for protecting ORVs are more specific and must be the basis for the plan .

The CRMP must be based on the WSR Act. The policy that ‘...preserve[s] ...rivers or sections thereof in their free-flowing condition to protect the water quality of the river..’ is paramount. And the criterion for developing Objectives and Management Actions and prescriptions must be the ‘...outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values...’ .

The BLM Eligibility Study was based on the Wild and Scenic River Act and was displayed in Appendix O of the 2002 NEMO CMP amendment to the CDCA Plan. We are not aware of a Suitability Study. The description of Outstanding Remarkable Values are quite good for the purpose of the Eligibility Study. However, the ORV descriptions must be updated to reflect the actual WSR segments designated. The discussion of the ORVs in the CRMP should be much more thorough and comprehensive. The discussion of ORVs should be formatted specific to each WSR segment [e.g., wild, scenic, or recreational] as required at 16 USC §1281.

We believe the free flowing condition and quality of water is paramount and necessary for the protection and, if feasible, enhancement of the ORVs. We therefore request that quantification estimates for each ORV in each segment of the river be the highest priority Management Action selected in the CRMP.

Water and protection of flows

The Amargosa River is unique among the Wild and Scenic River system in that it is entirely reliant on groundwater discharge for its flows. Essentially all of the ORVs for which the Amargosa Wild and Scenic River was designated depend on sustained groundwater flows for their survival. **As such, the conservation of groundwater resources needs to be the chief guiding priority for the CRMP.**

Per analyses by Zdon (2014; 2015; 2020), groundwater flows which come to the surface in the WSR come from one primary source, two secondary sources, a tertiary source, and from a variety of flowpaths. Snowmelt from Mount Charleston and the Spring Mountains provide much of the water for the WSR, along varied flow paths through Stewart Valley and Ash Meadows, and thence southward to Shoshone; through Chicago Valley and thence to Shoshone or to Resting Springs and Tecopa; or through Charleston View and California Valley to Willow Creek and the Canyon. Secondarily, water comes from the broader area to the north and east of the Death Valley Regional Flow System, via the so-called Superchannel and Ash Meadows; and also from the south via snowmelt from the Kingston Range to Willow Creek and the Canyon. Tertiarily, there is flow down the river from Beatty to the Amargosa Valley area where there is some mixing at Ash Meadows. The exact amount or nature of the mixing is not well understood among hydrologists.

In two places, these flowpaths are impacted by significant groundwater pumping in Nevada: the Amargosa Farms area of Amargosa Valley; and in the Pahrump Valley. Groundwater pumping in these valleys collectively exceeds 25,000 acre feet per year or more, possibly much more, as it's impossible to know exactly how much is being pumped from domestic wells in Pahrump. Historically pumping was far higher, and it's likely the pulse of drawdown is still permeating through the aquifer and potentially affecting the WSR. Analyses primarily by Zdon (2020) have shown that continued drawdown of these aquifers poses an existential threat to the flows which sustain the WSR.

Beyond simply monitoring or managing, it is imperative that BLM take proactive measures to protect the sustained flows of groundwater which create the Amargosa Wild and Scenic River. There are currently no protections in place to ensure overallocation of groundwater resources does not unduly impact the flows of the WSR. The California State Water Resources Control Board has no regulatory authority over ground water and the Amargosa Basin is a low-priority basin under California's Sustained Groundwater Management Act (SGMA). The Amargosa watershed is unadjudicated and Inyo County has no ground water management ordinances in the area.

As for the Nevada side, where almost the entirety of the pumping occurs, the Nevada State Engineer has regulatory authority for groundwater within Nevada, but does not have statutory requirements to manage for the protection of groundwater dependent ecosystems across the state line in California. And no interstate compact exists for the Amargosa River or Death Valley Regional Flow System. As a result, over pumping in Nevada is demonstrably affecting groundwater discharge at springs in the Amargosa Basin in California, and may already be affecting flows in the WSR.

We acknowledge information provided in the scoping document regarding the Public Water Reserve. However, there is much more information regarding ground water and reserved rights that will have to be considered in the CRMP. There are also other statutory federal reserved water rights including for the 1994 BLM Wilderness and NPS Death Valley Park. In addition, there are judicially established water rights [Winter's doctrine] for the FWS and perhaps NPS for the Death Valley National Monument, the Timbisha Shoshone Indian reservation and other reservations. We request identification of filings for all such federal water rights that could affect the WSR segments.

We expect management actions to include requirements that BLM quantify and file to protect all federal reserved water rights with the State of California and Nevada. Irrespective of fact or speculation as to any ultimate adjudication by the California Water Resources Control Board or the Nevada State Engineer as head of the Nevada Division of Water Resources, the BLM should file to protect these reserved water rights. Concerns that there may be inadequate water available for allocation do not provide a rationale for the BLM not filing and should not be considered in BLM's quantification of those reserved rights.

There are many non-governmental filed water rights in the Basin, mostly in Nevada. These too should be identified in the CRMP. In order to protect the ORVs for which the WSR was designated, the CRMP should:

- Specifically outline the baseline hydrologic conditions at the time of designation so that appropriate quantification of federal reserve water rights can occur.
- Outline the current hydrologic conditions at the time of the CRMP authorship, and determine what if any loss of flows in the WSR has occurred and is projected to occur.
- Provide a high-level inventory of current pumpage within the groundwater watershed (broadly defined as the Death Valley Regional Flow System).
- Provide a description of any contestation BLM has made of post-1994, 2009, or 2019 water filings in the basin upstream from BLM's federally reserved water rights.
- Provide a description of any denials or contests or request for denials by other agencies under the authority of the Wild and Scenic Rivers Act (e.g., section 12) BLM has made, and if so which, of requested authorizations.
- Provide an action item list for BLM to complete to secure a groundwater supply to ensure flows of the Amargosa WSR as of the date of designation are not impaired. These action items should include:
 - working to attain priority status for the Amargosa Basin in California under SGMA;
 - applying for federal reserve water rights in both California and Nevada and working to address conflicts with priority water rights;
 - protest new water rights or change applications with the Nevada state engineer for proposals which would impact the water supply of the WSR;
 - develop formal agreements, other than an Interstate Compact, with appropriate Nevada governmental entities;
 - exploring opportunities for purchasing and retiring water rights in Pahrump and Amargosa Valleys;
 - becoming a stakeholder in and submitting comments on development projects in Nevada which may have a downstream impact on the water supply of the WSR;
 - and more.

We appreciate the complexity and workload associated with water right filings with the two States. Our understanding is that quantification of federal assertions will be specific to each individual ORV. The CRMP must specify the methodology to be used to determine specific quantifications sufficient to protect and enhance the fish, wildlife, and vegetative ORVs. While the other ORVs are important and may also require quantification determinations, it may be that recreation [e.g., birding] and scenery are largely a function of the riparian portion of the vegetation ORV. The CRMP should also determine a quantification for sufficient flow to occasionally flush the river system.

Typically, CRMPs are formatted with a chapter on free flowing and water quality discussions followed by treatments of individual ORVs. We believe such formatting is appropriate. While vegetation is not specifically cited in the WSR Act as an outstanding remarkable value, it certainly is an '...other special value...' We believe the description of vegetation should be

exhaustive and comprehensive. Riparian areas are exceedingly rare in the desert. And the vegetation in the Amargosa drainage constitutes a significant desert resource. Therefore, a detailed map or maps should delineate listed species and designated critical habitat, special or sensitive species of the various federal and state agencies, the mosaic of the half dozen or so vegetative communities or series, and any water sources and associated vegetative types. Finally, in the vegetative ORV or separate section, the type and location of invasive species and past and anticipated management actions should be provided. If this information is partially available in a treatment plan and monitoring data or reports it could be included as an appendix or referenced as a publicly available document. However, the effect on water flows, if any, should be specified in the CRMP. Such vegetative geospatial information for the components of the vegetative ORV as described above should extend beyond the river corridor boundary to be provided in the September draft CRMP. Some specific comments of vegetative resources in relation to the WSR corridor are below.

WSR Corridor delineation

A fundamental variable in the plan is the distribution for the 10,816 acres [33.6 miles x 320 acres/mile] outside the high water marks of the river. Presumably, this will not be precisely 320 acres per each individual mile.

The Amargosa River is a unique wild and scenic river in that the outstandingly remarkable values for which it was designated do not lie within a linear river bed. Springs, both natural and artificial, feed the river, and they frequently are not directly at the bottom of the river bed, as with the Borehole. Additionally, there are many important resources, for instance Amargosa vole marshes or sensitive plant populations, which are off the course of the riverbed. As such, the WSR boundary needs to be flexible to ensure that the maximal number of features which contribute to the outstandingly remarkable values for which the river was designated are encompassed within the WSR boundary.

The WSR boundary should be designed to capture the maximal amount of features which contribute to the ORVs for which the WSR was designated. The WSR boundary should be designed to include (from north to south):

- All mesquite bosque vegetation features within Shoshone Wetlands north of highway 178.
- All plant populations of BLM sensitive species between Shoshone and Tecopa Hot Springs Road, which primarily occur west of the river bed and east of highway 127.
- All Amargosa vole (*Microtus californicus scirpensis*) marshes and their source waters to the maximal extent possible, including the Borehole and Marsh 1/54.
- All *Nitrophila mohavensis* (Amargosa niterwort) and *Chloropyron tecopense* (Tecopa birds beak) populations between Furnace Creek Wash Road to the north and Old Spanish Trail to the south.

- All areas containing riparian vegetation within Amargosa Canyon, including any side canyons containing mesquite (honey and screwbean), willows (*Salix* spp.), or other important vegetation.
- The “slot canyon.”
- The maximal amount of riparian corridor possible up Willow Creek from the confluence with the Amargosa River toward China Ranch.
- The WSR corridor can be more narrow than average south of the Dumont Dunes access road, because the river is ephemeral there and there are relatively fewer ORVs which need to be protected.

It is of central importance to protect Willow Creek up to China Ranch by including it in the WSR corridor. The private lands at China Ranch have been protected in perpetuity through a conservation easement from The Nature Conservancy. The reach of Willow Creek between the China Ranch boundary and the confluence with the Amargosa contains essential habitat for both listed bird species and both native fish species, important recreational values with the Amargosa River Trail, indigenous cultural history sites, mining-era historic values at the “1903 cabin” and along a spur of the T&T Railroad, and abundant unique geological features. Additionally, this reach provides flow to the Amargosa River below the Confluence, extending the length of perennial flow within the Canyon.

If the proposed configuration of the WSR boundary in the draft CRMP is considered by the public to be sub-optimal, we will request that the 30 day comment period be considerably lengthened to address concerns such as: redefining the WSR boundary, amending ORV lists and analysis within the WSR corridor, & re-specifying management actions. The likelihood of this situation arising could be reduced if the BLM Barstow convenes a citizen group. This group could provide transparency and be consultative rather than advisory. To keep the group size workable, the BLM could limit it to individuals or nominees of entities that commented during scoping.

Data & Data Needs

There is an abundance of data which should be considered during the development of the CRMP, including in the description and quantification of ORVs, the delineation of baselines for biological and abiotic resources, and the determination of rights necessary to protect those resources. The CRMP should consider data cited below in the CRMP analysis. However, the analysis should not be limited to just the studies cited below.

Of foremost consideration should be the numerous hydrologic studies which have characterized the flows and sources of Amargosa Wild and Scenic River waters. This includes Andy Zdon's State of the Basin 2014 and State of the Basin 2020, an article from Zdon et al. in *Environmental Forensics* from 2015, the recent Halford et al. characterization of the Death Valley Regional Flow System, Belcher's 2019 characterization of the hydrogeology of the hydrogeology of the Amargosa Wild and Scenic River, and numerous other studies from USGS and others examining the complex hydrology of this region.

Data quantifying the biological resources of the Amargosa should also be considered. These include studies of the results of a BioBlitz conducted by The Nature Conservancy, surveys for endemic fishes in the Amargosa Canyon by Mike Davis and others, botany of the area by Naomi Fraga (California Botanic Garden), avian fauna surveys from Chris McCreedy (Point Blue Conservation Science) and others, and the numerous publications related to the Amargosa vole by Janet Foley (UC Davis) and collaborators.

An evapotranspiration study has been conducted by USGS which has not yet been finalized and released. The data from this study are essential to properly quantifying the flows of the WSR. The CRMP should not be released until the USGS evapotranspiration report has been finalized and released.

The scoping documents did not provide a quality map showing the river corridor. Prior to the release of the draft CRMP, a map of 7.5' base scale, with topographic features, & delineating the high water boundaries of the river corridor should be made publicly available. The map should delineate surface and subsurface ownership status within and slightly beyond the default and proposed 320 acre corridor. Similarly, individual maps should be provided which geospatially display vegetative resources, wildlife and zoological resources, and historic and cultural resources water rights. The ideal map of water rights locations would be for the entire basin.

It is imperative that there be an ongoing monitoring program of the hydrologic and biological resources of the Amargosa Wild and Scenic River. The CRMP's menu of action items should include sustained funding for hydrologic monitoring of the extensive network of monitoring wells in the area, and continued support for the spring surveys that have occurred and currently have an important ongoing data set for understanding the river. Bio Blitz's have also proven successful in the area, as demonstrated by TNC's two local efforts. The CRMP should provide a mechanism for promoting and funding such efforts. BLM should also prioritize ongoing support for data collection and surveys of imperiled flora and fauna such as the Amargosa vole, the Amargosa Canyon fish populations, and the abundant resident and migratory avifauna.

Wildlife & Plants

The Amargosa WSR is home to numerous imperiled species of animals and plants. These species are among the outstandingly remarkable values for which the WSR was designated. The conservation of these species, which are all dependent on sustained flows of groundwater feeding the WSR, should also be a guiding priority for the CRMP.

The CRMP should ensure adequate protections for *Microtus californicus scirpensis* (Amargosa vole) and its habitat, which includes:

- The maximum amount practicable of vole habitat is included in the WSR corridor, including the Borehole and Marsh 1.
- The areas containing or adjacent to vole habitat should be managed for conservation. Recreational impacts to the vole's habitat must be addressed, including those at the Borehole.

- The flows which sustain the WSR in the Tecopa area are sourced from within the town of Tecopa. These flows must be secured through conservation easements, acquisition, or other conservation measures. The CRMP should outline a process and priorities for doing so.

The CRMP should ensure adequate protections for rare plants, including *Nitrophila mohavensis* (Amargosa niterwort) and *Chloropyron tecopense* (Tecopa birds beak).

- Populations of *Chloropyron tecopense* adjacent to Highway 127 should be fenced to protect against off-highway vehicle incursions.
- Populations of *Nitrophila mohavensis* in Tecopa should be monitored for abundance, disturbance to the population and it should be fenced.
- Populations of *Nitrophila mohavensis* along Furnace Creek Wash Road are in decline due to altered hydrology. A study should be undertaken for whether and how to restore hydrological flow to sustain the wetland there.
- *Zeltnera namophila* (spring loving centaury) a federally threatened species, was historically known to occur in Tecopa Hot Springs. Recent surveys have not relocated it, but if populations are documented within the WSR boundary the CRMP should ensure that immediate protections are put in place.
- Water flows which sustain these species should be identified and protected.

The CRMP should ensure adequate protections for the two rare species of fish found in the WSR, *Rhinichthys osculus nevadensis* (Amargosa Canyon speckled dace) and *Cyprinodon nevadensis amargosae* (Amargosa pupfish). This should include Willow Creek up to the boundary with China Ranch.

- The CRMP should ensure ongoing monitoring of both species within the Amargosa Canyon. Having a continuous dataset is essential for understanding population trends and factors affecting the habitat of these species.
- The CRMP should prioritize rangewide surveys for *Cyprinodon nevadensis amargosae*, which also lives in the Tecopa area in addition to the Canyon.
- The CRMP should prioritize funding for invasive species management in the Amargosa Canyon (Wild section of the WSR), including for:
 - Invasive mosquitofish and other aquatic species, which pose a threat to the native fishes of the WSR.
 - Invasive vegetation, in particular tamarisk, which reduces habitat quality and population size of native fishes.
- Water flows which sustain these species should be identified and protected.

The CRMP should ensure protections for habitat for imperiled species of birds, including *Vireo bellii pusillus* (least Bell's vireo), *Coccyzus americanus* (yellow-billed cuckoo) and *Empidonax traillii extimus* (southwest willow flycatcher).

- The CRMP should prioritize ongoing monitoring and management of invasive species including brown-headed cowbird.
- The CRMP must outline a balance between invasive species removal and nesting habitat preservation. Invasive species removal must always be accompanied by

restoration of native plants through outplanting in order to ensure sufficient canopy cover exists to permit nesting.

- The CRMP should prioritize rapid restoration in the event of disturbances to the riparian habitat such as wildfire in order to limit invasive plants and reduce erosion.
- Groundwater flows which sustain the riparian habitat that these species depend on should be identified and protected.

CRMP should require and fund consistent monitoring of imperiled species within the WSR.

The CRMP should ensure that restoration activities such as invasive species removal, native species outplanting, streambed manipulation or other techniques are permitted and are not precluded by management prescriptions.

The CRMP should promote/fund research into the imperiled species, in particular population dynamics, critical habitat mapping, habitat-relationships, etc.

Recreation

The Amargosa River is an important resource for recreation, both as a destination in itself and as a stopover for those en route to Death Valley, Ash Meadows, or BLM lands within the Basin. Hiking, bathing, birdwatching, photography, off-highway vehicle use, and bicycling are all recreational values on the Amargosa Wild and Scenic River. However, the Amargosa WSR is currently suffering impacts from unmanaged recreation. In many cases, users utilizing the land or the river in an unmanaged fashion are causing significant impacts to the ORVs for which the WSR was designated. Some of these impacts may be irreversible.

The Amargosa River Trail is a recreational resource of regional significance, following the only free-flowing perennial river in the Mojave Desert. One trailhead at China Ranch has now been fully developed in a partnership between the Amargosa Conservancy, China Ranch, BLM, TNC, and the State of California. The trail follows Willow Creek to the confluence with the Amargosa River, and then goes up the Canyon to Tecopa. Access is limited or forbidden at the Tecopa trailhead, which is on private property, near where the Amargosa River crosses the Old Spanish Trail Highway in the historic settlement of Tecopa.

- The CRMP should develop a plan for obtaining easement access across this private parcel so the public can legally complete the end-to-end hike.
- The CRMP should develop a plan for regular maintenance of the trail.
- BLM has invested time and effort in signage, in partnership with the Amargosa Conservancy, on the trail from China Ranch to the Slot Canyon. This signage should be extended along the River Trail to Tecopa.

Off-highway vehicle (OHV) use in the WSR area is regulated by the travel management plan component of NEMO (the Northern and Eastern Mojave Desert Plan), which designated open and closed routes across the California side of the Amargosa Basin. While some existing open

routes are problematic, a much more significant problem is the widespread illegal off-route use that is occurring and damaging resources, particularly in the Tecopa area. Therefore, there are two primary categories of activities that the CRMP must identify to address OHV recreation in the WSR corridor:

- BLM must revise their travel management plan to address issues where open routes are causing conflicts with or damage to the WSR's ORVs.
 - The CRMP must immediately require a survey of all existing roads in and around the WSR. The inventory of roads or routes should be updated. Any newly identified routes not on the BLM's RMP need to be designated as closed. Additionally, routes which are no longer considered necessary or are in conflict with the protection of the ORVs for which the WSR was designated need to also be designated as closed.
 - There are several routes which bring recreational users in close contact with sensitive habitat along what will likely be the WSR corridor, especially in the Tecopa area. These routes need to be closed.
 - We are particularly concerned about resource damage on the WSR associated with motorized vehicle use along Sperry Wash. The lower Amargosa Canyon is a site of significant impacts to the ORVs for which the WSR was designated. Users drive directly up the river bed. Engine oil and other vehicle fluid spills, trampled habitat, possible direct mortality to native fishes, all significantly impact the River. BLM has devoted resources to this route even prior to WSR designation. Any past regulatory or informational signing, barriers, restoration efforts, and BLM staff presence need to be specified. Monitoring needs to be required and data regarding the effectiveness of those efforts should also be documented and provided in the CRMP. BLM needs to re-route access to the Sperry Wash Route out of the Amargosa Canyon altogether, and then the Canyon needs to be closed from the Dumont Dunes road all the way up to the Sperry Wash route.
- Second, it is important that BLM vastly increase their efforts to regulate vehicle use and enforce laws, past plan decisions, and all CRMP decisions to ensure resource protection.
 - Road closures should be clearly delineated by signs and barriers, enforced, and riders educated to use designated open routes.
 - Rather than generic management actions, the CRMP should specify geographically specific signing, barrier installation, and restoration management sites as techniques and education efforts to control illegal off-route OHV use.
 - There is widespread off-route use in the mud hills near the Borehole, causing potential direct impacts to Amargosa vole habitat. Fencing and enforcement need to be stepped up to ensure there is not permanent degradation of resources nor impacts to endangered species habitat.
 - There is significant off-route use associated with the power line road between the river channel and Highway 127 north of Tecopa Hot Springs Road. This road should be fenced and have limited access.
 - There are significant impacts to the WSR associated with the Dumont Dunes OHV Open Area. There are tens of thousands of OHV users in this area on peak

weekends, and their use inevitably impacts the River. The CRMP needs to develop and implement a comprehensive plan to ensure that Dumont Dunes users do not unduly impact the ORVs for which the WSR was designated. A high priority Management Action needs to be the preparation and implementation of such a plan or the review, revision and implementation of any such existing plan.

One of the most significant recreational uses of the Amargosa WSR is for hot spring soaking at The Borehole. User impacts at the Borehole have increased dramatically in recent years, as the site has become publicized on social media and in guidebooks. The Borehole is within federally designated critical habitat for the Amargosa vole and is an acutely sensitive area. The CRMP must address recreation at the Borehole, and in particular must rein in the overuse which threatens the ecological integrity of the area.

- The CRMP needs to include a survey and estimate of current recreational use of the Amargosa River WSR, including at Borehole.
- The CRMP needs to include a plan for managing recreational use of the Borehole, including extensive use of fencing, barriers, user capacity limits and possible timed entry permits, and other mechanisms to ensure recreation does not unduly impact resources.
- The CRMP should also provide for better and more permanent OHV barriers along Tecopa Hot Springs Road, to ensure vehicular damage to the mud hills does not permanently destroy ORVs.

BLM must adequately address how visitor use will impact the ORVs for this WSR. It must describe an actual level of visitor use that will not adversely impact the ORVs. It must also describe an actual level of visitor use that will not adversely impact the Amargosa's ORVs. The Draft CRMP needs to clearly document the methodology used to determine the user capacity. The NEPA analysis needs to evaluate the impacts from the proposed user capacity(ies). Existing user capacity needs to be determined and used as a basis for evaluating impacts for the different designations (Wild, Scenic, Recreational). Consideration of access and how that affects ORVs and sensitive resources also needs to be included. For example, if vehicular parking is required for access, where/how will that affect not only the WSR, but if that parking is outside the boundaries of the WSR corridor, how will it affect existing resources, public safety, air/water quality etc. Monitoring of the user capacity is requisite, and the CRMP will need to provide clear triggers that immediately decrease user capacity if ORVs are being negatively affected.

Other Outstandingly Remarkable Values

We would expect some discussion of the archaeological resource, although we would understand if a map of sites is not publicly available. There are many historic features [e.g., TTRR] which should be described and Management Actions developed.

The Scenic ORV is quite spectacular. However the vegetative component of scenery is most dependent on water, whereas we consider the geologic component to be less so. As such, most Management Actions would be to protect scenic values by protecting the vegetative resource. Any water qualifications for this ORV should be supplemental to that for the vegetation ORV.

This Geologic ORV contributes to the scenic and scientific aspects of the WSR. There should be some description and associated Management Actions, such as reducing surface disturbing actions on more sensitive or paleontological resources.

Alternatives

We are concerned with the alternatives proposed in the CRMP scoping document.

It is not clear whether a plan and analysis for the 'No Action' alternative will be provided. Since a Court would probably consider a 'No Action' alternative to be inadequate as a plan, we would recommend that any analysis and plan, if produced, be in a NEPA supplement to the draft plan or otherwise distinguished from the proposed CRMP plan

One alternative needs to address the issue of the substantial alteration of hydrology in Tecopa Marsh resulting from the construction of the Tonopah and Tidewater Railroad (T&T). It is possible that the roadbed and associated berm could be breached in certain areas to create hydrologic connection with the marshes on the west side of the T&T, thereby increasing vole and marsh habitat. The CRMP needs to analyze the possibility for this conservation action, as well as the environmental consequences of doing so.

The scoping document seemed to imply that the preferred alternative would primarily consist of management prescriptions from the Amargosa South ACEC management plan in the DRECP. This is not sufficient. The Amargosa Wild and Scenic River has a specific set of management needs and resource concerns which need specific tailored policy prescriptions to address. Simply defaulting to some previous document will not fulfill the mandate of protecting the ORVs for which the WSR was designated.

A previous draft of a CRMP for the Amargosa WSR which was located in the Amargosa Conservancy office details significant and concrete management actions which should be pursued to protect the ORVs in the river, which should be included in this CRMP including:

- "Assert a federal reserved water right in a quantity sufficient to accomplish the purposes of the Wild and Scenic Rivers Act. The determination of what constitutes a sufficient quantity shall be based on the best information available at the time of the determination, including information obtained after completion and implementation of this [CRMP].
- Identify proposed land use changes on both public and private land that have the potential to reduce instream flows in the Amargosa River. Work with landowners, developers, local governments, and other parties to minimize or eliminate the impact of

proposed projects or activities on instream flows and/or groundwater levels in the Amargosa ACEC and WSR corridor.

- Evaluate all additional legal, political, and regulatory options for protecting instream flows and groundwater levels, and pursue those options that are likely to result in the greatest level of protection for river flows.”

A complete list of the recommended management actions can be found in the 2011 Draft CRMP attached to this comment letter. We are also aware there is a more recent draft of the CRMP that has been prepared by BLM, as recently as 3 years ago, which contains similar or the same management prescriptions. We consider these recommendations to be a baseline from which BLM can build, but management prescriptions along the lines outlined in quotations above are clearly what is required to protect the ORVs in the WSR, and the CRMP must contain similar recommendations to fulfill its objectives.

Issues related to Indigenous Communities

The Amargosa River is home to one extant indigenous community, the Timbisha Shoshone, who have reservation lands within the Amargosa Basin at Furnace Creek in Death Valley and at Death Valley Junction. The Amargosa Wild and Scenic River area was also formerly inhabited by Southern Paiute tribal members, before many of their settlements were taken over by white colonizers. Some of their descendents still live in the Amargosa Basin today, including among the non-federally recognized Pahrump Paiute.

Additionally, the area holds significance to a wider community of indigenous people. The Western Shoshone have long maintained the Poo-Ah-Bah retreat in Tecopa, which includes a hot spring that indigenous people have been bathing in since time immemorial.

The CRMP needs to ensure adequate consultation with local indigenous communities and tribal nations. Consultation is more than just sending a letter in the mail. The indigenous inhabitants of the Amargosa Basin and those who have a cultural tie to the area must have a central role and voice in the development of this management plan. Culturally appropriate and properly contextualized consultation is a focus of the Interior Department right now, and the CRMP could be an opportunity to try new approaches at engagement.

Issues Related to Private Property

There are some portions of the potential WSR corridor which intersect private property, most notably in Shoshone Wetlands and in Modine Meadows in the Canyon. These areas are of high conservation value, and the degree to which they are healthy ecosystems directly affects the ORVs of the WSR on public land. For instance, tamarisk infestation on these private lands will inevitably contribute to ongoing invasion or reinvasion post-treatment on public lands. The CRMP needs to address the opportunity for cooperative agreements to protect the ORVs.

Conclusion

Thank you for your consideration of our comments on the Amargosa Wild and Scenic River Comprehensive River Management Plan. The community of the California desert has been advocating for the conservation of this special desert gem for decades, and the CRMP is the instrument through which the River will finally achieve long-term protection. We have high hopes that it will outline a plan to thoroughly protect, restore, and enhance the outstandingly remarkable values for which the Amargosa Wild and Scenic River was designated.

Sincerely,

Chris Roholt
Board President
Amargosa Conservancy

Jora Fogg
Policy Director
Friends of the Inyo

Demi Espinoza
California Desert Program Manager
National Parks Conservation Association

Elyane Stefanick
CA Program Director
Conservation Lands Foundation

Lisa Belenky
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Center for Biological Diversity

Kevin Emmerich
Co-founder
Basin and Range Watch

Laura Cunningham
California Director
Western Watersheds Project

Geary Hund
Executive Director
Mojave Desert Land Trust

References. attached to this letter:

Bureau of Land Management, 2011. Comprehensive River Management Plan for the Amargosa Wild and Scenic River - Administrative Draft.

Zdon, A. 2014. "2014 State of the Basin Report, Amargosa River Basin." Prepared for: The Nature Conservancy. 90 pp.

Zdon, A., Davisson, M.L., & Love, A.H. 2015. "Testing the Established Hydrogeologic Model of Source Water to the Amargosa River Basin, Inyo and San Bernardino Counties, California." *Environmental Forensics*, 16:4, pp. 344-355.

Zdon, A. 2020. "2020 Amargosa State of the Basin Report." Prepared for: The Amargosa Conservancy. 101 pp.

Attachment B

Borehole Spring User Monitoring Data

User Data								
Date	Time	Observer	Cars	Users	Off-Leash Dogs	Users on East side	Campfires	Notes
1/14/2015	7:00 PM	PD			5	0	0	0
1/16/2015	7:00 PM	PD			7	0	0	0
1/18/2015	7:00 PM	PD			15	1	0	1 fire left unattended
1/20/2015	7:00 PM	PD			7	0	0	0
1/22/2015	9:00 PM	PD			5	0	3	0
1/23/2015	6:00 PM	PD			3	0	0	0
1/24/2015	8:00 PM	PD			3	0	0	0
1/25/2015	2:00 PM	PD		6	15	0	0	0
1/31/2015	5:00 PM	PD			15	2	0	0
2/1/2015	1:00 PM	PD			11	1	2	0 dog predatory behavior
2/1/2015	4:00 PM	PD		3	13			
2/3/2015	8:00 PM	PD		5	12	3	0	0 predatory behavior
2/4/2015	4:25 PM	USGS		3	7	1	0	0
2/4/2015	8:00 PM	USGS		1	2	0	0	0
2/5/2015	7:00 AM	USGS		0	0	0	0	0
2/5/2015	12:46 PM	USGS		3	5	1	0	0
2/5/2015	2:45 PM	USGS		8	20	1	0	0
2/6/2015	6:10 PM	USGS		3	5	2	0	0
2/6/2015	7:00 PM	USGS		0	0	0	0	0
2/6/2015	12:15 PM	USGS		5	14	2	3	0
2/7/2015	7:48 AM	USGS		1	3	0	0	0
2/7/2015	10:05 AM	USGS		2	4	0	0	0
2/7/2015	12:30 PM	USGS		5	10	0	0	0
2/7/2015	2:30 PM	USGS		5	6	0	0	0
2/7/2015	4:50 PM	USGS		5	7	0	0	0
2/7/2015	8:45 PM	USGS		1	2	0	0	0
2/7/2015	9:15 PM	USGS		2	6	0	0	0
2/11/2015	7:20 AM	Colleen		4	6	1		

Borehole Spring User Monitoring Data

<u>User Data</u>								
Date	Time	Observer	Cars	Users	Off-Leash Dogs	Users on East side	Campfires	Notes
2/11/2015	3:15 PM	Colleen		6	5	0		
2/12/2015	7:00 AM	Colleen		2		0		
2/12/2015	3:20 PM	Colleen		3	2	1		
2/13/2015	7:00 AM	Colleen		1	2	0		
2/14/2015	11:45 AM	Colleen		7	8	2		
2/14/2015	12:00 PM	PD		1				
2/14/2015	6:00 PM	PD		9	27			
2/14/2015	9:00 PM	PD		5	20	0	1	0
2/15/2015	8:00 PM	PD		9	19			
2/16/2015	1:00 PM	PD		3	8			
2/16/2015	4:00 PM	PD		7	22			
2/17/2015	7:00 AM	Colleen		1	2	0		
2/17/2015	3:15 PM	Colleen		4	3	1		
2/17/2015	8:00 PM	PD		7	15	0	0	0
2/18/2015	7:10 AM	Colleen		0	0	0	0	0
2/19/2015	3:00 PM	Colleen		3		0		
2/20/2015	7:25 AM	Colleen		2		0		
2/20/2015	8:00 PM	PD		1	1	0	0	0
2/21/2015	11:30 AM	Colleen		5	3	1		
2/21/2015	8:00 PM	PD		1	1	0	0	0
2/23/2015	3:05 PM	Colleen		3	4	0		
2/24/2015	7:25 AM	Colleen		2	4	0		
2/25/2015	8:00 AM	PD		5	19			
2/25/2015	10:00 AM	PD		4	7			
2/28/2015	9:00 AM	PD		5	12			
2/28/2015	11:00 AM	PD		2	6			
2/28/2015	6:00 PM	PD		10	31			

Borehole Spring User Monitoring Data

<u>User Data</u>								
Date	Time	Observer	Cars	Users	Off-Leash Dogs	Users on East side	Campfires	Notes
2/28/2015	9:00 PM	PD		10	30	0	2	1 campfire left unattended
3/2/2015	7:00 AM	Colleen		3				
3/2/2015	3:30 PM	Colleen		2	4	1		
3/3/2015	7:15 AM	Colleen		1				
3/3/2015	3:15 PM	Colleen		2	3	1		
3/4/2015	7:20 AM	Colleen		1				
3/4/2015	4:00 PM	Colleen		3	5			
3/5/2015	7:15 AM	Colleen		2	4			
3/5/2015	4:15 PM	Colleen		1				
3/6/2015	7:00 AM	Colleen		2				
3/6/2015	8:10 PM	Colleen		9	11	1		
3/9/2015	7:15 AM	Colleen		2	3			
3/9/2015	3:20 PM	Colleen		1				
3/10/2015	7:00 AM	Colleen		1				
3/12/2015	7:20 AM	Colleen		4				
3/12/2015	8:15 PM	Colleen		6	4	1		
3/17/2015	7:10 AM	Colleen		3				
3/17/2015	4:15 PM	Colleen		5	3			
3/19/2015	3:20 PM	Colleen		4	6	1		
3/20/2015	8:30 PM	Colleen		5				
3/24/2015	7:15 AM	Colleen		2	3			
3/24/2015	4:10 PM	Colleen		3				
3/25/2015	7:00 AM	Colleen		1	2 (coyotes)			
3/27/2015	8:10 PM	Colleen		4	2			
3/31/2015	7:00 AM	Colleen		3				
3/31/2015	5:00 PM	Colleen		2				
4/2/2015	7:15 AM	Colleen		2	5			

Borehole Spring User Monitoring Data

<u>User Data</u>							
Date	Time	Observer	Cars	Users	Off-Leash Dogs	Users on East side Campfires	Notes
4/2/2015	3:15 PM	Colleen		4	6	1	
4/3/2015	7:20 AM	Colleen		3	3		
4/3/2015	8:15 PM	Colleen		5	6	1	
4/6/2015	7:10 AM	Colleen		2			
4/6/2015	4:20 PM	Colleen		2	4		
4/7/2015	4:15 PM	Colleen		2			
4/8/2015	7:05 AM	Colleen		1			
4/9/2015	7:00 AM	Colleen		1			
4/10/2015	7:45 PM	Colleen		8 25+			
4/11/2015	11:45 AM	Colleen		3		1	
4/13/2015	7:00 AM	Colleen		1			
4/14/2015	7:15 PM	Colleen		1			
4/15/2015	7:00 AM	Colleen		2	3		
4/16/2015	7:10 AM	Colleen		5 12+			
4/17/2015	7:10 AM	Colleen		1	3	1	
4/17/2015	8:30 PM	Colleen		4 10+			
4/18/2015	11:30 AM	Colleen		2	4		
4/20/2015	7:20 AM	Colleen		1	4	1	
4/21/2015	7:00 AM	Colleen		1	2		
4/22/2015	7:15 AM	Colleen		1	1		
4/23/2015	7:10 AM	Colleen		2	4		
4/23/2015	3:10 PM	Colleen		2	3	2 (coyotes)	
4/24/2015	7:00 AM	Colleen		1			
4/24/2015	7:15 PM	Colleen		5 10+			
4/27/2015	7:10 AM	Colleen		2			
4/28/2015	7:15 AM	Colleen		2	4		
4/29/2015	7:00 AM	Colleen		1	3		

Attachment C



PO Box 63
Shoshone, CA 92384
760.852.4339
www.amargosaconservancy.org

Borehole Spring Visitor Signage Proposal

The Amargosa Conservancy is a 501(c)(3) non-profit located in Shoshone, California. We are dedicated to the future of the Amargosa River Watershed, engaging the natural and human communities of the northern Mojave Desert in collaborative conservation.

The Amargosa vole (*Microtus californicus scirpensis*) has been described as the most endangered mammal in North America, with fewer than 150 individuals remaining in the wild. It has been federally listed as “endangered” since 1984. All of these animals reside in isolated patches of bulrush habitat in Tecopa Marsh, surrounding the community of Tecopa Hot Springs.

One of the stronghold locations of the vole’s habitat has been the marsh surrounding Borehole Spring. This spring is also a popular location for bathers, as its temperature hovers between 110° and 118°. As bathing at Borehole Spring has increased in popularity (it was recently featured on the cover of a California Hot Springs guidebook), the impacts from these users have begun to negatively impact the vole habitat. Impacts such as human waste, unattended campfires, harvesting of mud, bank erosion, off-leash predatory dogs, and trampling of bulrush have likely negatively impacted vole numbers at Borehole Spring.

We are currently working with BLM, community members, and other stakeholders to devise a strategy to deal with these impacts long-term. In the meantime, we have worked with community members to develop an informational sign to be posted at the entrance to the spring. Because there are no official regulations about behavior at Borehole Spring, the sign has been worded to inform visitors as to how community members behave when we visit the spring.

It is hoped that this sign will inform visitors about proper conduct at Borehole Spring, and how to protect and preserve the habitat. There is near universal agreement that BLM closing Borehole Spring to use would be a negative and unmanageable outcome. A sign such as this one will help to address the negative impacts to the vole habitat while more formal regulations are developed. These efforts will hopefully obviate the need for a closure of the spring.

The draft text of the sign is attached.

Location: Borehole Spring, 1 mile north of Tecopa Hot Springs, Inyo County, California.

Cost: \$650 for sign printing and installation materials.

Match: Labor for installation would be provided by Amargosa Conservancy local volunteers.

Dedicated to the future of the Amargosa Watershed



PO Box 63
Shoshone, CA 92384
760.852.4339
www.amargosaconservancy.org

Welcome to our community!

The citizens of Tecopa and Shoshone, and the Amargosa Conservancy have adopted this extremely ecologically sensitive area. We support the continued restoration of this habitat and continued public access to this resource, by conducting ourselves according to the following **common sense standards of conduct:**

- We stay out of all vegetated areas, by using only bare dirt areas.
- For the safety of visitors and wildlife, we do not bring dogs past this sign.
- We pack out all of our trash.
- We don't leave human waste here. Public bathrooms are available at the County park, ½ mile that way →
- We don't bring our bicycles past this sign.
- To protect our community from fire danger, we do not build campfires here.
- To preserve the pristine nature of our waters, we do not wash with soap or shampoo here.
- This mud is for the enjoyment of all visitors- so we do not remove it.

Our community thanks you for your visit, and encourages you to respect this unique and beautiful spring.

To find out more about this special area, please visit the Shoshone Museum, or inquire at one of our local businesses in Tecopa. Questions or concerns can be emailed to info@amargosaconservancy.org