



AQUALLIANCE

DEFENDING NORTHERN CALIFORNIA WATERS

VIA ELECTRONIC MAIL and CERTIFIED MAIL; RETURN RECEIPT REQUESTED

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RE: Sixty-Day Notice of Intent to Sue for Violations of the Endangered Species Act Regarding Issuance of Biological Opinion for Stonegate Development Project that Concluded No Jeopardy to Listed Species

This letter serves as official notice by the Center for Biological Diversity and AquAlliance (collectively the “Noticing Parties”) of their intent to sue the United State Army Corps of Engineers (“Corps”) and the United States Fish and Wildlife Service (the “Service”), for violations of section 7 of the Endangered Species Act (“ESA”)¹ in connection with both the Corps’ issuance of a Clean Water Act (“CWA”) section 404 permit for the Stonegate Development project (the “Project”), and the Service’s issuance of a Biological Opinion² (the “2020 BiOp” or “BiOp”) that concluded the Project would not jeopardize the continued survival of vernal pool fairy shrimp (“fairy shrimp”), vernal pool tadpole shrimp (“tadpole shrimp”), and Butte County meadowfoam (“BCM” or “meadowfoam”). This letter also conveys the Noticing Parties’ intent to sue the Corps for failing to initiate consultation regarding the Project’s potential to affect the giant garter snake (“GGS”). This letter is being provided to you pursuant to the notice requirement of the ESA citizen suit provision.³

As described more fully below, the actions taken by the Service and the Corps relating to the issuance of the 2020 BiOp and CWA 404 permit constitute an arbitrary and capricious abuse of discretion in violation of ESA Section 7. This letter serves as notice that unless the Service withdraws the 2020 BiOp and accompanying incidental take statement (“ITS”), and the Corps rescinds the 404 permit issued in reliance thereon, within 60 days of receipt of this notice, the Noticing Parties intend to challenge the unlawful conduct of the Service and the Corps in court.

The Noticing Parties

The Center for Biological Diversity (the “Center”) is a California non-profit public interest corporation with approximately 84,000 members, including members living in Butte County. The Center and its members are dedicated to protecting diverse native species and habitats through science, policy, education, and environmental law.

AquAlliance is a California Public Benefit Corporation organized to protect waters in the northern Sacramento River’s watershed to sustain family farms, communities, creeks and rivers, native flora and fauna, vernal pools, and recreation. AquAlliance has approximately 650 members who rely on Sacramento Valley groundwater for their livelihoods and live, recreate and work in and around waters of the State of California, including the Sacramento River, its tributaries, and the Sacramento-San Joaquin River Bay Delta. AquAlliance’s mission is to defend northern California waters and to challenge threats to the hydrologic health of the Sacramento River watershed.

¹ 16 U.S.C. § 1538.

² Biological Opinion on the Stonegate Subdivision Project, file number 08ESMF00-2016-F-0236-R001-6

³ 16 U.S.C. § 1540(g).

STATUTORY BACKGROUND

The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.”⁴ The statute’s primary goal is “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”⁵ The U.S. Supreme Court has recognized that “the plain intent of Congress in enacting the [ESA] was to halt and reverse the trend toward species extinction, whatever the cost.”⁶

To receive the protection of the ESA, a species must first be listed by the Secretary of the Interior as “endangered” or “threatened.”⁷ After a species is listed, the substantive obligations of the ESA apply to that species. These include the prohibition on take, the duty of federal agencies to consult with the Service, and the duty to ensure that those agencies’ actions do not jeopardize the continued existence of listed species or adversely modify critical habitat.⁸

Within the ESA’s statutory scheme, the designation and protection of critical habitat is especially important. Congress recognized the significance of habitat protection when it found that:

“[C]lassifying a species as endangered or threatened is only the first step in insuring its survival. Of equal or more importance is the determination of the habitat necessary for that species’ continued existence. . . . If the protection of endangered and threatened species depends in large measure on the preservation of the species’ habitat, then the ultimate effectiveness of the Endangered Species Act will depend on the designation of critical habitat.”^{9]}

Thus, the ESA requires the Service to designate critical habitat at the same time a species is listed.¹⁰ Any designation of critical habitat must be based on the “best scientific data available.”¹¹

Reflecting the statute’s focus on species recovery, critical habitat may include both occupied and unoccupied areas that are “essential for the conservation of the species.”¹² “Conservation,” is defined in turn to include all methods that that can be employed to “bring any endangered species or threatened species to the point at which” the protection of the ESA is “no longer necessary.”¹³ As such, “the purpose of establishing ‘critical habitat’ is for the government to carve out territory that not only [is] necessary for the species’ survival but also essential for the species’ recovery.”¹⁴

Once a species is listed and critical habitat designated, Section 7 of the ESA requires each federal agency, in consultation with a federal wildlife agency (in this case, the Service), to ensure that any proposed action is not likely to jeopardize the continued existence of a listed species, or

⁴ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978).

⁵ 16 U.S.C. § 1531(b).

⁶ *Hill*, 437 U.S. at 184.

⁷ *See* 16 U.S.C. § 1533.

⁸ *See Hill*, 437 U.S. at 180-82.

⁹ H.R. Rep. No. 94-887 at 3 (1976).

¹⁰ 16 U.S.C. §§ 1533(a)(3)(A)(i), 1533(b)(6)(C).

¹¹ *Id.* § 1533(b)(2).

¹² *Id.*

¹³ *Id.* § 1532(3).

¹⁴ *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004).

result in the destruction or adverse modification of critical habitat.¹⁵ To “jeopardize the continued existence of” means “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”¹⁶ “Destruction or adverse modification” of critical habitat means “a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation or a listed species.”¹⁷ And “conservation,” as noted, means recovery to the point where the ESA’s protections are no longer needed.¹⁸ Thus, the ultimate aim of consultation is to ensure that federal agency action does not impair the survival or recovery of a listed species.

When the “action agency” (the Corps in this case) determines in a biological assessment¹⁹ that a proposed action may affect a listed species, it must engage in formal consultation with the Service.²⁰ The ESA’s threshold for triggering the formal consultation requirement is “very low.”²¹ Formal consultation results in a biological opinion detailing “how the agency action affects the species or its critical habitat.”²²

It is essential that the Service define the scope of formal consultation to encompass the entire proposed action.²³ The term “agency action” should be interpreted broadly because “caution can only be exercised if the agency takes a look at all the possible ramifications of the agency action.”²⁴ The Service is accordingly required to consider “all phases” of the agency action in its analysis.²⁵

The Service must also take a broad view of the action’s impacts on listed species. Under Section 7’s implementing regulations:

Effects of the action are *all consequences* to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. . . . Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.^[26]

Federal agencies must “use the best scientific and commercial data available” in assessing a proposed action’s impact on a protected species.²⁷

¹⁵ 16 U.S.C. § 1536(a)(2).

¹⁶ 50 C.F.R. § 402.02.

¹⁷ *Id.*

¹⁸ 16 U.S.C. § 1532(3).

¹⁹ 50 C.F.R. § 402.12(k)

²⁰ 50 C.F.R. § 402.02.

²¹ *See* 51 Fed. Reg. 19,926, 19,949 (June 3, 1986).

²² 16 U.S.C. 1536(b)(3)(A).

²³ *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988) (citing *North Slope Borough v. Andrus*, 642 F.2d 589, 608 (D.C. Cir. 1980)).

²⁴ *Id.*

²⁵ *Id.*

²⁶ 50 C.F.R. § 402.02 (emphasis added).

²⁷ 16 U.S.C. § 1536(a)(2).

After the procedural requirements of consultation are complete the ultimate duty to protect and conserve listed species lies with the action agency. Consequently, an action agency's reliance on an inadequate, incomplete, or flawed biological opinion is arbitrary, capricious, and unlawful.²⁸

A biological opinion is a final agency action subject to judicial review under the federal Administrative Procedure Act ("APA"), which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."²⁹ A court's review under this standard, while "narrow," is also "searching and careful."³⁰

The ESA authorizes private enforcement of the consultation requirements through a broad citizen suit provision. "[A]ny person may commence a civil suit on his own behalf to enjoin any person, including . . . any . . . governmental instrumentality or agency . . . who is alleged to be in violation of any provision of [the ESA] . . ."³¹ Persons may seek to enjoin both present activities that constitute an ongoing take and future activities that are reasonably likely to result in a take.³² The ESA's citizen suit provision also provides for the award of costs of litigation, including reasonable attorney and expert witness fees.³³

FACTUAL BACKGROUND

I. The Stonegate Development Project & Consultation History

The Stonegate Project is proposed on a 314-acre site both east and west of Bruce Road and North of the Skyway in southern Chico, Butte County, California.³⁴ The mixed-use development project would include 423 single-family residential lots, 13.4 acres of multi-family residential land uses, 36.6 acres of commercial land uses, 5.4 acres of storm water facilities, 3.5 acres of park, and a 137-acre open space preserve.³⁵ The Project would fill, and thus permanently destroy, 9.14 acres of a total 20.19 acres of jurisdictional waters of the U.S. ("WOTUS") on the project site.³⁶ The permanently impacted area includes 5.92 acres of seasonal wetlands, 2.85 acres of vernal pools, 0.30 acre of ditch/canal, and 0.07 acre of excavated pit; the Project would also result in reported indirect effects to 0.02 acre of vernal pools.³⁷

The proposed on-site preserve will be managed under a Corps-approved long-term management plan, and would include 5.12 acres of WOTUS, including 1.832 acres of seasonal wetlands, 1.126 acres of perennial marsh, 0.819 acre of vernal pools, 0.289 acre of ephemeral drainage, 0.465 acre of intermittent drainage, 0.493 acres of perennial drainage, and 0.09 acre of ditch/canal.³⁸ There are also 5.20 acres of waters of the U.S. within the existing Sacramento and

²⁸ See, e.g., *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010).

²⁹ 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 790 (9th Cir. 2005).

³⁰ *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989).

³¹ 16 U.S.C. § 1540(g).

³² *National Wildlife Fed'n v. Burlington Northern Railroad*, 23 F.3d 1508, 1511 (9th Cir. 1994).

³³ 16 U.S.C. § 1540(g)(4).

³⁴ 2020 BiOp at 4,

³⁵ *Id.*

³⁶ *Id.* at 6.

³⁷ *Id.*

³⁸ 2020 BiOp at 6.

San Joaquin Drainage District Easement that bisects the preserve.³⁹The Project applicant plans to purchase compensatory mitigation credits at area mitigation banks to address the Project's impacts to waters. The applicant will purchase 15.48 acres of fairy shrimp and tadpole shrimp preservation credits at a Service-approved conservation bank.⁴⁰⁴¹

The Project is linked to previous section 404 permit assessments under the names Stonegate Subdivision, Canyon High School/Bruce Road South, and Cambridge Estates and Stonegate.⁴² An application for the current iteration of the Project was received on February 22, 2017.⁴³

The biological communities on the Project site are dominated by annual grassland, with a row of valley oak occurring along a drainage located on the eastern portion of the site.⁴⁴ Vernal pool/vernal swale complexes are spread throughout the annual grassland landscape. These aquatic features are known to support the federally-listed endangered Butte County meadowfoam, federally-threatened vernal pool fairy shrimp and the federally endangered vernal pool tadpole shrimp.⁴⁵

II. Vernal Pools and Ephemeral Wetland Habitat

Vernal pools are unique wetland ecosystems defined by their ephemeral nature.⁴⁶ Vernal pools become inundated during or shortly following winter and spring rains before disappearing during the dry season until the rains return the following rainy season.⁴⁷ The formation of vernal pools is driven primarily by climate, soil, and topography. The Mediterranean climate of California and southern Oregon provides rainy winter and spring seasons followed by dry summer and fall months, allowing vernal pools to fill and then dry cyclically.⁴⁸ Specific soil and topographic features are then needed to capture rainfall, specifically impermeable or nearly impermeable soil types at or near the surface of shallowly sloping or nearly level ground with depressions.⁴⁹ Because of the unique characteristics of vernal pools, and their development over such a long geologic timeframe, vernal pools provide habitat for highly specialized plant and animal species.⁵⁰

The concentric circles of blooming wildflowers that dot the landscape of the Central Valley during the spring are like islands in seas of grassland, marking one of the most remarkable

³⁹ Id. at 6.

⁴⁰ Id. at 8.

⁴¹ The 2020 BiOp and USACE memo of record are inconsistent regarding the amount of mitigation credits the Applicant is responsible for purchasing at Service-approved mitigation banks. Compare 2020 BiOp at 6 [see text above] with USACE memo of record at 2 [Applicant to purchase 12.22-seasonal-wetland-creation-credits at the Colusa Basin Mitigation Bank and 4.28 vernal-pool-establishment-credits at the Meridian Ranch Mitigation Bank].

⁴² USACE memo of record at 3.

⁴³ Id.

⁴⁴ Id. at 2

⁴⁵ Id.

⁴⁶ USFWS, Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon at I-1. December, 2005.

<https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/>

⁴⁷ Id.

⁴⁸ Id. at I-10.

⁴⁹ Id. at I-11.

⁵⁰ Id. at I-1.

habitats in the world: California's vernal pools. Though ephemeral pools are found in other areas in the western U.S., the pools in California are unique biological wonders.⁵¹ California's vernal pools not only support plant species common to all marshes throughout the West; the pools here are characterized by the singularity of the species they support which are not found in marshes.⁵² This clarity of speciation can be observed in pools just a stone's throw away from each other. Diversity of this magnitude does not occur in nature unless a system has been stable for a very long period of time.

Vernal wetlands provide habitation and foraging for many special status species. Two freshwater federally listed shrimp are found in pools on the Project site: vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardii*).⁵³ The shrimp are an integral part of this mosaic, providing food chain support for migratory waterfowl and other native animals.^{54 55 56}

California as a whole has lost 80%-90% of the estimated 5+ million wetland acres that were present in the 1780's, leaving less than 450,000 acres in the state.⁵⁷ Vernal pools have fared worse, with less than 10% of California's original vernal pools intact today⁵⁸ and the remainder are in imminent danger from urban sprawl, vineyard creation, and inadequate agency standards and staffing.⁵⁹

III. The Vernal Pool Fairy Shrimp & Vernal Pool Tadpole Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is an aquatic crustacean endemic to vernal pool and ephemeral freshwater habitat in California's central valley and coast ranges, in addition to small areas within the Agate Desert of southern Oregon.⁶⁰ Fairy shrimp reach sizes between 0.4 and 1.0 inches at maturity; body size at maturity is heavily influenced by environmental factors such as water temperature.⁶¹ Fairy shrimp can occur in vernal pools and vernal pool-like aquatic features of variable size and water quality; but are frequently found in small pools with an area of 0.05 acres or less.⁶² Fairy shrimp are well adapted to the ephemeral habitats they

⁵¹ Gustafson, Sarah S., 1990. *Ephemeral Edens* Pacific Discovery California Academy of Sciences. Vol 43, issue 2, pp 25-31

⁵² Martin 1990

⁵³ USFWS 2015. Letter to Bob Summerville of the City of Chico regarding the *Tentative Subdivision Map and General Plan Amendment/Rezone for the proposed Stonegate Project*.

⁵⁴ Krapu, G.L. 1974. *Foods of Breeding Pintails in North Dakota*. Journal of Wildlife Management 38:408-417.

⁵⁵ Swanson, G.A., M.I. Meyer, and J.R. Serie. 1974. *Feeding ecology of breeding blue-winged teals*. Journal of Wildlife Management 38:396-407.

⁵⁶ Silveira, J.G. 1998. *Avian Uses of Vernal Pools and Implications for Conservation Practices*. pp. 92-106 in: C,W, Witham, E.T Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (editors). *Ecology, Conservation, and Management of Vernal Pool Ecosystems - Proceedings from a 1996 conference*. California Native Plant Society, Sacramento, CA.

⁵⁷ USFWS, 2006. *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon*. p. I-1.

⁵⁸ <https://www.epa.gov/wetlands/vernal-pools>

⁵⁹ Holland, R. F. 2011. *Great Valley vernal pool distribution rephotorevised 2005*. Pages 107-122 in D. G. Alexander and R. A. Schlising (Editors), *Research and Recovery in Vernal Pool Landscapes*. Studies from the Herbarium, Number 16. California State University, Chico, CA.

⁶⁰ USFWS, Vernal Pool Fairy Shrimp 5-year review: Summary and Evaluation at 4.

⁶¹ USFWS, Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon at II-194.

⁶² USFWS, Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon at II-196. December, 2005. <https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/>

occupy. Fairy shrimp have short life spans, allowing it to hatch, mature and reproduce within the usually short time that vernal pools contain water.⁶³ The eggs of fairy shrimp, also known as cysts, can remain dormant in soil during extended dry periods where the vernal pool doesn't fill.⁶⁴ Fairy shrimp move between individual pools via both water and dispersal by migratory birds.⁶⁵

While vernal pool fairy shrimp habitat occurs over a wider range than that of other fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur.⁶⁶ In the northeastern Sacramento Valley Vernal Pool Region, fairy shrimp are known to occur in and around the city of Chico in Butte County.⁶⁷ The fairy shrimp, similar to other vernal pool species, is threatened throughout its range by habitat loss and fragmentation due to urbanization, agricultural conversion, and mining.⁶⁸

The vernal pool tadpole shrimp (*Lepidurus packardii*) is an aquatic crustacean endemic to vernal pool and other ephemeral freshwater habitat in California's Central Valley and San Francisco Bay Area.⁶⁹ At maturity, tadpole shrimp range in size from 0.6 to 3.3 inches.⁷⁰ The tadpole shrimp shares many of the life history traits of the fairy shrimp, described above, as well as other vernal pool brachiopods. Notable differences are the size of the tadpole shrimp and its longer lifespan, wherein it continuously grows and periodically molts its shell.⁷¹ Tadpole shrimp also differ from fairy shrimp in that their distribution is more limited, being found only in vernal pool habitat in the Central Valley and isolated locations in around the San Francisco Bay Area.⁷² The tadpole shrimp has been observed in vernal pools on private land in the vicinity of Chico in Butte County.⁷³ The Project site contains 11.07 acres of suitable habitat for fairy shrimp and tadpole shrimp.⁷⁴

In recognition of the ongoing destruction of vernal pool habitat and decline of vernal pool-dependent species, the vernal pool fairy shrimp and vernal pool tadpole shrimp were listed as threatened and endangered, respectively, under the Endangered Species Act in 1994.⁷⁵ Critical habitat for both species was originally designated on August 6, 2003, before being revised on multiple occasions to account for economic exclusions, with the most recent revision occurring May 31, 2007.⁷⁶

⁶³ Id. at II-195.

⁶⁴ Id.

⁶⁵ Id. at II-196.

⁶⁶ Id. at II-193.

⁶⁷ Id. at II-194.

⁶⁸ Id. at I-16.

⁶⁹ USFWS, Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon at II-204.

⁷⁰ Id. at II-203.

⁷¹ Id. at II-206.

⁷² Id. at II-205.

⁷³ Id.

⁷⁴ BiOp at 15.

⁷⁵ Final Listing Rule, 59 Fed. Reg. at 48136.

⁷⁶ USFWS, Vernal Pool Fairy Shrimp 5-year review: Summary and Evaluation at 3.

IV. Butte County Meadowfoam

Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*) is an herbaceous annual found only found in vernal pool habitat in Butte County, California.⁷⁷ Meadowfoam germinates in late fall, once the rainy season has begun, and flowers are produced in March and April, depending on conditions, before the die back in May.⁷⁸ Meadowfoam is adapted to allow cross-pollination by insects, but will self-pollinate if insect pollination is not successful.⁷⁹ Cross-pollination via insects allows for genetic recombination, whereas self-pollination does not.⁸⁰ Studies have shown meadowfoam to demonstrate relatively low average genetic diversity within and among individuals in all existing populations in Butte County.⁸¹ Sloop et al found that “habitat persistence and quality” should be top of the list when considering meadowfoam recovery, but also noted the importance of genetic factors, since small, isolated populations with low genetic diversity are at greater risk of chance extirpation events.⁸²

Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*) was listed as endangered in 1982 under the California Endangered Species Act (“CESA”)⁸³ and in 1992 under the federal Endangered Species Act.⁸⁴ The California Native Plant Society (CNPS) has meadowfoam on its 1B.1 list, rare and endangered in California and elsewhere, with a state rank of S.1 and a global rank of G4T1: seriously endangered in California; less than six occurrences or less than 2,000 acres.⁸⁵

Critical habitat for meadowfoam was proposed on September 24, 2002.⁸⁶ The final rule to designate critical habitat for meadowfoam was published on August 6, 2003.⁸⁷ A re-evaluation of non-economic exclusions from the August 2003 final designation was published on March 8, 2005.⁸⁸ An evaluation of economic exclusions from the August 2003 final designation was published on August 11, 2005.⁸⁹ Administrative revisions were published on February 10, 2006.⁹⁰

⁷⁷ Sloop et al (2011).

⁷⁸ USFWS, Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon at II-36-37.

⁷⁹ Id. at II-37.

⁸⁰ Id.

⁸¹ Sloop et al (2011).

⁸² Id.

⁸³ USFWS, 2010. *Sacramento Fish & Wildlife Office Species Account BUTTE COUNTY MEADOWFOAM Limnanthes floccosa* ssp. *californica*. p. 1. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=5639>

⁸⁴ USFWS, 2008. *Limnanthes floccosa* ssp. *californica* (Butte County Meadowfoam) 5-Year Review: Summary and Evaluation. p. 1.

⁸⁵ California Native Plant Society, Rare Plant Program, 2021. *Inventory of Rare and Endangered Plants of California* (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 09 February 2021]. <http://www.rareplants.cnps.org/result.html?fulldata=Limnanthes+floccosa+ssp.+californica>.

⁸⁶ 67 FR 60033

⁸⁷ 68 FR 46684

⁸⁸ 70 FR 11140

⁸⁹ 70 FR 46924

⁹⁰ USFWS, 2008. *Limnanthes floccosa* ssp. *californica* (Butte County Meadowfoam) 5-Year Review: Summary and Evaluation. pp. 1-2; 71 FR 7117.

The federally-endangered Butte County meadowfoam surrounding the City of Chico is genetically unique from populations north and south of the City.⁹¹ The proposed Stonegate project area is designated as core habitat under the Service’s 2006 *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (hereafter Recovery Plan). The Project area was included in the Service’s 2002 draft “critical habitat” designation rule, but was excluded under section 4(2)(b).⁹² The inclusion in the draft rule demonstrates the site met the criteria for designation as critical habitat by including the primary constituent elements of critical habitat.⁹³ The Service’s exclusion of the Project site from meadowfoam critical habitat does not diminish the area’s importance to the species’ recovery as Zone 1 core habitat, “reflecting the highest priority areas” for meadowfoam recovery.⁹⁴ As the Recovery Plan recognizes:

designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Some areas within Zone 1 and Zone 2 core areas were excluded from critical habitat for economic reasons (U.S. Fish and Wildlife Service 2005), creating a discrepancy between the core area boundaries and critical habitat. We anticipate that some lands in recovery core areas outside of the areas designated as critical habitat will be necessary for recovery.⁹⁵

The Project Site contains a prime soil type for meadowfoam recovery. As mentioned in a 2015 letter to the City of Chico, the California Department of Fish and Wildlife noted, “[t]he Draft Butte County Regional Conservation Plan (BRCP) . . . conducted an extensive analysis of the soil types known to support BCM, and used this to define primary and secondary modeled habitat for BCM.”⁹⁶ The analysis determined that “[t]he Project site is located on primary modeled habitat for BCM.”⁹⁷

Because meadowfoam is listed under CESA, and Incidental Take Permit (“ITP”) must be issued by the California Department of Fish and Wildlife (“CDFW”) before the take of a listed species can lawfully occur.⁹⁸ On the Noticing Parties’ information and belief, the only ITP issued by CDFW to the Project Applicant covers the permanent loss of 0.10 acres of occupied meadowfoam.⁹⁹ The ITP covers development under phase 1 of the Project on the area east of Bruce Road, but the ITP does not assess the remaining development planned by the Project.¹⁰⁰ The 2020 BiOp concludes the Project will permanently impact 1.13 acres of occupied

⁹¹ Sloop, Christina, 2009. *Application of Molecular Techniques to Examine the Genetic Structure of Populations of Butte County Meadowfoam (Limnanthes floccosa ssp. californica)*.

⁹² 50 FR 46924

⁹³ See 50 C.F.R. § 424.12

⁹⁴ See USFWS Preliminary Comments (Nov. 24, 2015) at 2; see also Recovery Plan at III-96.

⁹⁵ USFWS, 2006. *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon*. p. I-2–3

⁹⁶ CDFW, 2015. Letter to the City of Chico re the BRCP. p. 3.

⁹⁷ *Id.*

⁹⁸ Cal. Fish & Game Code §§ 2018(b),(c); Cal. Code of Regs, tit. 14, § 783.0 et seq.

⁹⁹ CDFW, Incidental Take Permit No. 2081-2018-082-02 at 3.

¹⁰⁰ *Id.* at 2

meadowfoam habitat.¹⁰¹ The Project must receive additional take coverage for remaining phases of development not yet permitted, in order to comply with the ESA and California state law.¹⁰²

V. Giant Garter Snake

The giant garter snake was listed as a federally threatened species on October 20, 1993.¹⁰³ The giant garter snake (*Thamnophis gigas*, or “GGS”) is an endemic species to Central Valley California wetlands.¹⁰⁴ The Butte Basin population is one of 9 extant populations observed in 2016.¹⁰⁵ The giant garter snake, as its name suggests, is the largest of all garter snake species, not to mention one of North America’s largest native snakes, reaching a length of up to 64 inches. Less than 5% of historic GGS wetland habitat remains in the Central Valley of California.¹⁰⁶ GGS now inhabits what remains of its historic habitat, occupying fragmented wetlands, marshes, ponds small lakes, low-gradient streams with silt substrates, and managed waterways.¹⁰⁷ Although GGS is predominantly an aquatic species, it utilizes upland habitat during spring and summer periods of activity, and has been found seeking refuge in burrows as far as 50 meters from the edge of aquatic habitat.¹⁰⁸ Studies indicate “longest average movement distances of 0.62 miles, with the longest being 1.7 miles, for sixteen snakes in 2006, and an average of 0.32 miles, with the longest being 0.6 miles for eight snakes in 2007.”¹⁰⁹ However, in response to droughts and other changes in water availability, the GGS has been known to travel up to 5 miles in only a few days.

VI. Consultation Under the ESA and the Service’s Biological Opinion and Corps’ Project Approval

The Corps requested the initiation of formal consultation with the Service on the Project on July 17, 2018.¹¹⁰ The Service issued the BiOp for the Project on March 4, 2019.¹¹¹ An amended BiOp was issued December 18, 2019, which addressed revisions to the on-site preserve boundary that excluded the Butte Creek Diversion Channel from the on-site preserve.¹¹² A second amended BiOp (BO, 08ESMF00-2016-F-0236-3) was issued on January 23, 2020 to address typographic errors.¹¹³ On August 5, 2020, the Corps issued its Memorandum for Record for the Project, which constitutes the “Environmental Assessment, 404(b)(1) Guidelines Evaluation, as applicable, Public Interest Review, and Statement of findings for the subject application.”¹¹⁴

¹⁰¹ 2020 BiOp at 18.

¹⁰² Id. at 21 [while ESA §§ 7(b)(4) and 7(o)(2) don’t apply to listed species, the Act prohibits “the destruction of endangered plants on non-federal areas in violation of state law or regulation ...”].

¹⁰³ 58 FR 54053

¹⁰⁴ USFWS, 2017. *Recovery Plan for the Giant Garter Snake*. p.I-8.

¹⁰⁵ Id. at p. I-11.

¹⁰⁶ USFWS, 2017. *Recovery Plan for the Giant Garter Snake*. p.I-2.

¹⁰⁷ Id.

¹⁰⁸ Id. at p. I-3.

¹⁰⁹ USBR, 2009. *Biological Assessment for the 2009 Drought Water Bank*. p. 16.

¹¹⁰ BiOp at 2.

¹¹¹ Id. at 3.

¹¹² Id. at 1.

¹¹³ Id. at 4.

¹¹⁴ USACE memo of record

ESA VIOLATIONS

I. The 2020 BiOp Fails to Describe the Status of the Listed Species

The Service can't meet its substantive requirements under section 7 of the ESA without first preparing a biological opinion that provides the information and analysis required by ESA regulations and guidance. The 2020 BiOp generally describes the analytical framework that will guide its jeopardy determination, but fails to provide the promised information and analysis.¹¹⁵ A clear presentation of a species' status includes a discussion of population trends, and new threats that may not have been considered during the listing or previous status reviews.¹¹⁶ The BiOp fails to provide this information for both the vernal pool shrimp species and meadowfoam.

Regarding the vernal pool shrimp species, the BiOp's brief description of the species' status offers conflicting information while failing to clearly present the species' population trends.¹¹⁷ The BiOp begins by stating there has been no listing status change since 2007, before listing a multitude of ongoing threats to vernal pool species and their habitat that contribute to continued loss of vernal pool habitat throughout areas within the Recovery Plan.¹¹⁸ The assessment of the species' status then ends with the BiOp noting that despite the continued loss of habitat, and ongoing threats, the Service has never before issued a biological opinion of jeopardy for a project within the Recovery Plan region.¹¹⁹ There is no discussion of the location, time, amount or scope of the projects analyzed by previous biological opinions.

The Service's record of finding previous projects won't jeopardize the species' continued survival is not a statement of the current population trends of the species. The BiOp's status assessment of vernal pool shrimp is completely bereft of any analysis of new threats to the species' survival, namely climate change. The BiOp acknowledges that changes in surface and subsurface hydrology can alter and disrupt the health of vernal pool habitat, but fails to assess how the changing climatic conditions will alter the amount and timing of precipitation, factors that significantly influence the occurrence and longevity of vernal pools.

Regarding meadowfoam, the BiOp again offers conflicting information that obscures a clear understanding of meadowfoam population trends. The BiOp claims meadowfoam status has changed little since the most recent 2008 status review, apparently because 9 of the 21 populations are "partially or completely protected[.]"¹²⁰ There is no indication how many of those populations are partially protected or what that level of protection means for the long-term viability of those populations. The BiOp then lists the factors threatening the remaining populations, presumably those not partially or fully protected, including inappropriate grazing.¹²¹ The BiOp admits that such inappropriate grazing is occurring on some lands otherwise protected from development. There is no discussion of how many "protected" properties are subject to grazing, what controls are or aren't in place to prevent grazing from adversely impacting

¹¹⁵ 2020 BiOp at 9.

¹¹⁶ FWS, Final ESA Section 7 Consultation Handbook (1997) at 4-21,22.

¹¹⁷ See BiOp at 9-10.

¹¹⁸ 2020 BiOp at 10.

¹¹⁹ Id.

¹²⁰ Id.

¹²¹ Id.

meadowfoam, or if grazing will be allowed on areas of meadowfoam habitat that may be protected in the future.

The BiOp fails to discuss meadowfoam status in the context of a changing climate which, similar to other vernal pool species, has the potential to dramatically alter surface and subsurface hydrological conditions. The ability of the remaining 21 meadowfoam populations to persist in the foreseeable future is foundational to the BiOp's jeopardy assessment for this Project. The BiOp failed to consider how climate change will impact existing populations, protected and unprotected alike, undermining its ability to accurately analyze whether the Project will jeopardize the species' survival and recovery.

II. The 2020 BiOp Fails to Adequately Describe the Baseline Conditions of the Listed Species

The ESA requires that the Service properly define the “environmental baseline” as an integral aspect of conducting a lawful jeopardy analysis in a biological opinion.¹²² ESA regulations define the environmental baseline as “refer[ing] to the condition of the listed species or its designated critical habitat in the action area, without the consequences of the listed species or designated critical habitat caused by the proposed action.”¹²³ As explained by the ESA consultation Handbook, “[t]he environmental baseline is a ‘snapshot’ of a species’ health at a specified point in time.”¹²⁴

Here, the BiOp fails to clearly or accurately describe a current “snapshot” of the species’ health. The baseline assessment offers, at best, a snapshot of existing occupied habitat within the Project site.¹²⁵ The BiOp falls short in presenting a clear account of the listed species’ health in the context of past population sizes and the trajectory of the species. Specifically concerning meadowfoam, the BiOp relies largely on outdated studies, wherein numerous threats and habitat decline are noted, but fails to describe the current status in the context of the species apparent continued decline.¹²⁶ The BiOp relies heavily on the 2011 Sloop et al. study, which discusses the risks posed by development, genetic isolation and small population extirpation.¹²⁷ The BiOp does not discuss the populations present within the Project site in the context of past and current trends of decline, nor is there a reference to recent species-wide population data. The Service is in no position to evaluate the incremental adverse effects of the Project on meadowfoam, without first clearly describing the existing condition of the species and how the populations within the Project fit within the larger context and trajectory of the species’ health.

III. The 2020 BiOp Fails to Meaningfully Analyze the Impacts of the Action on the Survival of the Listed Species

¹²² 50 C.F.R. § 402.14(h)(ii)

¹²³ Id. § 402.02.

¹²⁴ ESA Consultation Handbook, p. 4-22 (1998). https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

¹²⁵ 2020 BiOp at 15-16.

¹²⁶ Id. at 13.

¹²⁷ Id. at 10.

A biological opinion must analyze whether a project is likely “to reduce appreciably the likelihood of *both the survival and recovery* of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”¹²⁸

As courts have explained, the ESA “is concerned with protecting the future of the species, not merely the preservation of existing” individuals.¹²⁹ “Since the point of the ESA is to ensure the species’ recovery, it makes little sense to limit its protections to the habitat that the existing, threatened population currently uses.”¹³⁰ Rather, the Service must ensure the protection of all of “the features necessary for future species protection.”¹³¹ The fact that the listed species here might continue to “cling to survival” despite the Project’s impacts does not mean that the project will not appreciably diminish the species’ chance for recovery.¹³²

A. Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Here, the 2020 BiOp ignores the Service’s mandate to consider, and promote, the recovery of the listed shrimp species. Instead, without real consideration of recovery, the BiOp concludes that while adverse, the effects are not likely to rise to the level of jeopardy given the relatively small amount of habitat destroyed by the Project.¹³³ The BiOp notes the risks posed to both the fairy shrimp and tadpole shrimp by development like the Project, also acknowledging the continued loss of vernal pool habitat throughout the regions identified in the 2005 Recovery Plan.¹³⁴ But in place of a thorough, meaningful analysis of the Project’s effects, the Service defaults to habit, stating that despite ongoing habitat loss within the region, “to date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for either species.”¹³⁵ The continued adherence to the status quo, no jeopardy finding as long as the effects are determined to be relatively small compared to a regionwide baseline, will result in death by a thousand cuts for the vernal pool shrimp species.

Despite a no jeopardy finding based on a theory of relative effect, the 2020 BiOp’s jeopardy analysis is fatally flawed because it fails to identify a tipping point that, once past, the shrimp

¹²⁸ 50 C.F.R. § 402.02 (emphasis added); *see also Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 931 (9th Cir. 2008) (concluding that the “jeopardy regulation requires [the expert agency, in this case FWS,] to consider both recovery and survival impacts”); *Gifford Pinchot Task Force*, 378 F.3d at 1070 (9th Cir. 2004) (“[T]he purpose of establishing ‘critical habitat’ is for the government to carve out territory that not only necessary for the species’ survival but also essential for the species’ recovery.”).

¹²⁹ *Alaska Oil and Gas Ass’n v. Jewell*, 815 F.3d 544, 555 (9th Cir. 2016).

¹³⁰ *Id.* at 556.

¹³¹ *Id.* at 561; *see also Gifford Pinchot Task Force*, 378 F.3d at 1070 (“Congress said that ‘destruction or adverse modification’ could occur when sufficient critical habitat is lost so as to threaten a species recovery even if there remains sufficient critical habitat for the species’ survival.”).

¹³² *Wild Fish Conservancy*, 628 F.3d at 527 (citing *Nat’l Wildlife Fed.*, 524 F.3d at 931); *see also Nez Perce Tribe v. NOAA Fisheries*, Case CV-07-247-N-BLW, 2008 U.S. Dist. LEXIS 28107 *23 (D. Idaho, April 7, 2008) (“NOAA’s view, even if the hardy steelhead could survive for a while in the unimproved habitat, they will certainly not recover there. And both survival and recovery are essential under the ESA.”); *Alliance For the Wild Rockies v. Lyder*, 728 F. Supp. 2d 1126, 1138 (D. Mont. 2010) (explaining that FWS’s focus on “core” populations and habitat “ensures the survival of lynx but not the conservation of the [species].”).

¹³³ FWS 2020 BiOp at 20.

¹³⁴ *Id.* at 10.

¹³⁵ *Id.*

species can no longer recover.¹³⁶ Without knowing, or even having a rough estimate of, the point at which recovery is no longer feasible, FWS has no measuring stick against which to compare the project's impacts. In the absence of a scientifically grounded threshold for population, habitat, and/or distribution, the Service's record of finding that all projects in the region pose no jeopardy to the vernal pool shrimp species is troubling, and this BiOp's finding is arbitrary and capricious.

The BiOp further obscures the magnitude of the Project's harm by using inconsistent habitat quantifications to describe Project effects relative to existing and preserved habitat. The BiOp discusses observed vernal pool habitat in the Northeastern Sacramento Valley Vernal Pool Region, as well as "908 acres of *vernal pool grasslands* within the Doe Mill core area."¹³⁷ The BiOp goes on to state that 20% of currently known *vernal pool grassland* within the Doe Mill core area will be preserved when adding the Project's 137-acre open space to existing preserves.¹³⁸ Yet, when discussing the Project's effects, the BiOp only quantifies the effects to jurisdictional WOTUS habitat for which the 404 permit is sought.¹³⁹ This apples to oranges comparison understates the Project impacts, because it leaves out the impacts to upland grassland habitat that is important to the survival of vernal pool species. Research found that, "[G]roundwater discharge from the uplands to vernal pools stabilizes vernal pool water levels causing vernal pools to be inundated over larger areas for longer periods of time than would otherwise be the case."¹⁴⁰ It is clear that "[t]he stabilizing effect of groundwater discharge from the uplands to the vernal pools increases the likelihood that certain vernal pool flora and fauna will flourish."¹⁴¹

The lack of clarity in how affected habitat and preserved habitat are described is not without practical consequence. The Recovery Plan sets forth targets for habitat preservation within core areas based on rating zones. A zone 1 ranking, which the fairy shrimp was given, recommends that 85% of existing habitat, as of 2005, be preserved, whereas the zone 2 designation for the tadpole shrimp recommends the protection of 95% of the habitat in existence in 2005.¹⁴² Notably, the BiOp states that "[P]rotection of habitat within Zone 1 core areas is necessary to prevent the extinction or irreversible decline of one or more species."¹⁴³ The BiOp acknowledges it is not known how much vernal pool habitat existed in the Doe Mill core area in 2005, but estimates that, as discussed above, 908 acres of vernal pool grasslands are currently present, and that by the Service's accounting 76 acres of vernal pool grassland have been lost to development.¹⁴⁴ By this rough calculation less than 92% of vernal pool grassland remains, which is already less than what the Recovery Plan deems "necessary to prevent the extinction ..." of

¹³⁶ *Wild Fish Conservancy*, 628 F.3d at 528.

¹³⁷ BiOp at 14 (*emphasis added*).

¹³⁸ BiOp at 17 (*emphasis added*).

¹³⁹ *Id.*

¹⁴⁰ Rains, M. C., G. E. Fogg, T. Harter, R. A. Dahlgren, and R. J. Williamson. in press. *The role of perched aquifers in hydrological connectivity and biogeochemical processes in vernal pool landscapes. Hydrological Processes*. p. 18 found in Williamson, Robert J.; Fogg, Graham E.; Rains, Mark C.; and Harter, Thomas H., "Hydrology of Vernal Pools at Three Sites, Southern Sacramento Valley" (2005). School of Geosciences Faculty and Staff Publications. 1233 at pdf p. 70. https://scholarcommons.usf.edu/geo_facpub/1233

¹⁴¹ *Id.* p. 19 at pdf p. 71.

¹⁴² BiOp at 14.

¹⁴³ *Id.*

¹⁴⁴ *Id.*

vernal pool tadpole shrimp. Ultimately, it is not disclosed how many acres of vernal pool grassland would be lost due to the Project, so the recommendations of the Recovery Plan, a Service document, are rendered useless.

The different zone classifications given to fairy shrimp and tadpole shrimp raises another issue with the BiOp's assessment. While both vernal pool shrimp species utilize the same habitat, they are biologically and legally distinct. Tadpole shrimp are listed as endangered, whereas fairy shrimp are threatened. Given the tadpole shrimp's more limited range and lower population projections, the BiOp's treatment of the two species as one for the purposes of its effects analysis is inadequate. The loss of vernal pool tadpole shrimp must be assessed in light of the baseline population conditions for that species, and the BiOp's failure to do so undermines the adequacy of the no jeopardy finding.

For all of these reasons, the 2020 BiOp fails to consider the Project's effects on the recovery of listed species and therefore is arbitrary, capricious, and contrary to the ESA.

B. Butte County Meadowfoam

Butte County meadowfoam is a highly specialized plant endemic to Butte County, and its populations are decreasing. The Project will directly affect 1.13 acres of occupied habitat, which represents 20% of the meadowfoam present in the action area.¹⁴⁵ The Project will destroy one of the seven remaining meadowfoam populations in the Doe Mill core recovery area.¹⁴⁶ Despite the existence of only 21 populations of meadowfoam, the BiOp concludes that losing one due to the Project would not jeopardize the continued survival of the species.¹⁴⁷ This conclusion ignores significant amounts of evidence in the record of this Project that demonstrates the importance of the site's meadowfoam population.

The BiOp recognize the value of the site, stating “[H]owever, even though the site is not pristine vernal pool grassland habitat, it still contains some of best remaining intact vernal pool crustacean and Butte County meadowfoam habitat within the Doe Mill core area.”¹⁴⁸ As noted above, the Project site was initially included in the critical habitat designation in 2002, but later removed for reasons not related to the site's ecological importance.¹⁴⁹ Furthermore, during the course of the Corps' consideration of the Project application, the EPA provided multiple comments that the vernal pool habitat on site was considered an Aquatic Resources of National Importance (“ARNI”), and as such, the EPA and “other federal and state agencies objected to the development east of Bruce Road.”¹⁵⁰ The Project site's importance to meadowfoam's survival has been well documented for nearly two decades, and during that time there has not be an increase in the Butte County populations. Quite the opposite, as the BiOp acknowledges that remaining occurrences of meadowfoam are threatened by development, even those populations

¹⁴⁵ BiOp at 18.

¹⁴⁶ Id.

¹⁴⁷ BiOp at 20.

¹⁴⁸ Id. at 16.

¹⁴⁹ See USFWS Preliminary Comments (Nov. 24, 2015) at 2.

¹⁵⁰ USACE memo of record at 7.

on protected sites are at risk of extirpation due to the small population size and low genetic diversity.¹⁵¹

In a clear demonstration of the value of the area to continued meadowfoam survival, the Service produced a draft BiOp for an adjacent development that included a jeopardy finding for meadowfoam. The draft BiOp for the Eastgate development project found that the issuance of a permit to fill 1.59 acres of vernal pool habitat would jeopardize the continued existence of the endangered Butte County Meadowfoam.¹⁵² The Eastgate project was proposed on property that is approximately 1 mile north of the Project site on the east side of Bruce Road.¹⁵³ The draft BiOp for the Eastgate project provided the follow reasons for its jeopardy finding:

Given the critically endangered status of the meadowfoam and the importance of each population to the survival and recovery of this species, preservation of existing habitat, ideally with management for viable populations, is essential to its conservation.

The Eastgate site represents one of the last, relatively large areas occupied by the species. It is particularly significant to the conservation of the meadowfoam given the highly fragmented and degraded status of remaining populations and the continuing growth of the Chico area.

The proposed action would result in the direct loss of at least 33 percent of this population, and because of the preserve design, would likely result in the loss of all remaining meadowfoam plants on this site over time. Both the direct and indirect impacts constitute substantial losses in the numbers and distribution of this species, and are expected to exacerbate its highly fragmented distribution, increase the vulnerability of the species to stochastic events, and further reduce its genetic diversity through loss of a significant seed bank.

*The proposed compensation measures of on-site habitat preservation do not address or offset the significant adverse effects on the distribution and numbers of the meadowfoam associated with the loss of the plant's habitat at the Eastgate site.*¹⁵⁴

The Stonegate Project would directly affect 1.13 acres of occupied meadowfoam habitat.¹⁵⁵ The Project's meadowfoam population is no less essential to the survival and recovery of the species than the population that was threatened by the Eastgate project. The jeopardy finding in the draft BiOp for Eastgate recognized the value of all remaining meadowfoam populations. The Service's 2020 BiOp for Stonegate is clearly inconsistent with previous analyses and lacks any attempt to distinguish the relative value of the Project's meadowfoam population from that threatened by Eastgate. Further demonstrating the arbitrary treatment of similar meadowfoam

¹⁵¹ BiOp at 10.

¹⁵² USFWS, 2002. Draft biological opinion regarding the Anny Corps of Engineers' proposed issuance of a Clean Water Act section 404 permit to Drake Homes, Inc. for the Eastgate project in the City of Chico, Butte County, California.

¹⁵³ Id.

¹⁵⁴ USFWS, 2002. Draft biological opinion regarding the Anny Corps of Engineers' proposed issuance of a Clean Water Act section 404 permit to Drake Homes, Inc. for the fill of 1.59 acres of vernal pools and seasonal wetlands on the Eastgate project in the City of Chico, Butte County, California.

¹⁵⁵ BiOp at 18.

populations, the Corp was also aware of this previous analysis, as it referenced the draft Eastgate BiOp when discussing alternatives to the Stonegate Project.¹⁵⁶

The BiOp ignores numerous accounts of the critical importance of the Project site to the continued survival, and possible recovery, of Butte County Meadowfoam. Therefore, the 2020 BiOp's flawed analysis of the project's effects on the survival and recovery of the meadowfoam is arbitrary, capricious, and contrary to the ESA.

IV. The 2020 BiOp Fails to Meaningfully Analyze the Impacts of the Action on the Survival of the Listed Species

As noted above, a biological opinion must analyze whether a project is likely “to reduce appreciably the likelihood of *both the survival and recovery* of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”¹⁵⁷ The fact that the listed species here might continue to “cling to survival” despite the Project's impacts does not mean that the project will not appreciably diminish the species' chance for recovery.¹⁵⁸

The 2020 BiOp does not meaningfully analyze the Project's potential to appreciably reduce the listed species' likelihood of recovery. Concerning meadowfoam, the BiOp ignores the aspect of recovery in its assessment of Project effects.¹⁵⁹ The BiOp notes the Project will impact 20% of the property's meadowfoam population, but fails to substantively address how such a loss will not undermine the likelihood of recovery, which is striking considering how rare meadowfoam is.¹⁶⁰

Concerning the Project's potential to appreciably reduce the likelihood of vernal pool shrimp recovery, the BiOp seems to concede the point, noting how the Project violates preservation policies set forth in the Recovery Plan. The Recovery Plan sets targets for habitat preservation within core areas based on rating zones. A zone 1 ranking, which the fairy shrimp was given, recommends that 85% of existing habitat, as of 2005, be preserved, whereas the zone 2 designation for the tadpole shrimp recommends the protection of 95% of the habitat in existence in 2005.¹⁶¹ Notably, the BiOp states that “[P]rotection of habitat within Zone 1 core areas is necessary to prevent the extinction or irreversible decline of one or more species.”¹⁶² As

¹⁵⁶ USACE memo of record at 22.

¹⁵⁷ 50 C.F.R. § 402.02 (emphasis added); *see also Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 931 (9th Cir. 2008) (concluding that the “jeopardy regulation requires [the expert agency, in this case FWS,] to consider both recovery and survival impacts”); *Gifford Pinchot Task Force*, 378 F.3d at 1070 (9th Cir. 2004) (“[T]he purpose of establishing ‘critical habitat’ is for the government to carve out territory that not only necessary for the species' survival but also essential for the species' recovery.”).

¹⁵⁸ *Wild Fish Conservancy*, 628 F.3d at 527 (citing *Nat'l Wildlife Fed.*, 524 F.3d at 931); *see also Nez Perce Tribe v. NOAA Fisheries*, Case CV-07-247-N-BLW, 2008 U.S. Dist. LEXIS 28107 *23 (D. Idaho, April 7, 2008) (“NOAA's view, even if the hardy steelhead could survive for a while in the unimproved habitat, they will certainly not recover there. And both survival and recovery are essential under the ESA.”); *Alliance For the Wild Rockies v. Lyder*, 728 F. Supp. 2d 1126, 1138 (D. Mont. 2010) (explaining that FWS's focus on “core” populations and habitat “ensures the survival of lynx but not the conservation of the [species].”).

¹⁵⁹ See BiOp at 18-19.

¹⁶⁰ Id. at 18.

¹⁶¹ BiOp at 14.

¹⁶² Id.

discussed in the previous section, the Project does not meet the preservation target for zone 1 core areas. The BiOp omits any discussion of the Project's impacts on potential recovery, despite failing to meet a preservation standard that the Recovery Plan deemed necessary to stave off extinction.¹⁶³

V. The 2020 BiOp Does Not Use the Best Available Scientific Information and Fails to Give the Benefit of the Doubt to the Species.

The duty to “use the best scientific and commercial data available” implies a requirement to avoid speculation and guesswork in making key findings regarding species conservation.¹⁶⁴ Moreover, when data is unclear or unavailable, the ESA requires the Service to “give the benefit of the doubt to the species.”¹⁶⁵

The scientific community and most agencies reject on-site creation for mitigation for the wetland and wetland dependent species impacts, recognizing that there are no long-term monitoring data that indicate that re-created vernal pools provide long term habitat for the impacted species. Research has identified vernal pools as the most difficult wetland to create, due in large part to the challenges of recreating the seasonal hydrology that is a defining characteristic of vernal pools.¹⁶⁶ Additionally, it is highly speculative that these re-created systems provide sufficient ecosystem function, value and plasticity to buffer them against catastrophic events such as floods and droughts, introduction of new pathogens, stochastic genetic drift, etc. Restoration of degraded pools near the project and out of kind creation of other wetland habitat is preferred to creation on-site or of any kind.¹⁶⁷

The Service has itself recognized the challenges associated with the creation of vernal pool habitat. In a biological opinion for a nearby development project, Meriam Park, the Service noted that “long-term success of created vernal pools has yet to be determined, and in some cases, created vernal pools do not support federally-listed vernal pool crustacean species.”¹⁶⁸ The Meriam Park BiOp further noted that “the proposed creation/restoration of vernal pool habitat within the onsite preserve could result in indirect effects.”¹⁶⁹ The Service’s previous analysis of Meriam Park’s effects on vernal pool species found that onsite and offsite vernal pool creation offers uncertain, and potentially deleterious, outcomes for protected species.

The Meriam Park BiOp also discussed the negative impacts of development adjacent to existing vernal pool habitats. “Indirect effects include alteration to surface and subsurface water flow and alteration of and/or mechanical means to control vegetation along right of ways; increases in erosion and sedimentation, potential effects to plant pollinators, the introduction of exotic

¹⁶³ *Id.*

¹⁶⁴ 16 U.S.C. § 1536(a)(2).

¹⁶⁵ *Conner*, 848 F.2d at 1454 (quoting legislative history of Endangered Species Act).

¹⁶⁶ National Research Council (2001). *Compensating for wetland losses under the Clean Water Act*. National Academy Press, Washington, D.C.

¹⁶⁷ Windmiller, B., & Calhoun, A. (2007). *Conserving Vernal Pool Wildlife in Urbanizing Landscapes*. In *Science and Conservation of Vernal Pools in Northeastern North America* (pp. 233–251).

¹⁶⁸ USFWS, 2007. *Section 7 Formal Consultation on the Meriam Park Development Project (Corps File Number 200501036)*, Butte County, California p. 16.

¹⁶⁹ *Id.* p. 18.

vegetation, and changes in land use patterns (i.e., urbanization).”¹⁷⁰ Vernal pool habitat includes not only the areas of seasonal inundation, but also the upland grassland habitat and underlying geologic characteristics that are essential parts of the pools watershed and that provide buffering and filtration functions. The Project’s development will completely alter the site’s hydrology and will threaten the areas the Service claims to preserve.

VI. The 2020 BiOp’s Reliance on the Proposed Conservation Measures Violates the ESA

If the Service and the Corp are going to rely on the proposed conservation measures, specifically the collection of meadowfoam seeds to create new populations within the preserve and the acquisition of mitigation bank credits for vernal pool shrimp impacts, they must adequately ensure that those measures will effectively prevent jeopardy and adverse modification. Assumptions or stated beliefs that the measures will be effective are not sufficient.

Courts have held that such mitigation measures “must be reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise-enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.”¹⁷¹ They must also provide sufficient detail for the Service to analyze, based on the best available science, whether they will actually avoid jeopardy and adverse modification.¹⁷² Although the ESA’s implementing regulations¹⁷³ now state that agencies need not “demonstrate” that “binding plans” exist with respect to mitigation measures, this new regulatory language does not replace the standard described in *Ctr. for Biological Diversity v. Rumsfeld*, and to the extent the new regulations conflict with that standard, they are the subject to pending litigation. Furthermore, regardless of the legality of the new regulations, they do not eliminate federal agencies’ underlying statutory duty to ensure that the proposed action will not jeopardize the continued existence of the species, or adversely modify its critical habitat.¹⁷⁴

The Service and the Corps must therefore ensure that the mitigation measures are adequate to ensure the listed species’ survival and recovery. Basing a “no jeopardy” or “no adverse modification” opinion on the bare assumption that mitigation will be successful violates the requirement to use the best scientific and commercial data available, particularly when the proposed mitigation, such as the creation of wetland and new meadowfoam populations, is highly uncertain, speculative, and controversial.

The 2020 BiOp, however, gives no such assurance. Although the BiOp includes a laundry list of measures, many of these are vague, unenforceable, and ineffective. At the heart of the BiOp’s

¹⁷⁰ USFWS, 2007. *Section 7 Formal Consultation on the Meriam Park Development Project (Corps File Number 200501036)*, Butte County, California p. 17-18.

¹⁷¹ *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 1139, 1152 (D. Ariz. 2002) (citing *Marsh*, 816 F.2d 1376).

¹⁷² See 50 C.F.R. § 402.14(g)(8); see also Regulations for Interagency Cooperation, 84 Fed. Reg. 44,976, 45,002-03 (Aug. 27, 2019) (detailing the action agency’s duty “to include the level of detail necessary for the Services to understand the action and evaluate its effects to listed species or critical habitat”).

¹⁷³ 84 Fed. Reg. at 44,979-80, 45,017.

¹⁷⁴ 50 C.F.R. § 402.14(g)(8).

reasoning for a no jeopardy finding is the mitigating effect of the on-site preserve and the requirement that the applicant purchase mitigation credits at a Service-approved mitigation bank.

Concerning meadowfoam, the measures outlined in the BiOp rely on the collection of seeds from within the development footprint and subsequently planted with the preserve area.¹⁷⁵ The BiOp acknowledges the challenges associated with translocating meadowfoam, stating that it shouldn't be done without "sufficient prior evaluation of the feasibility and effectiveness of human induced gene flow."¹⁷⁶ The BiOp offers no such evaluation, despite the Service's reliance on the success of the measure to support the BiOp's no jeopardy finding.

Further, there is a lack of detail about where the seeds will be planted, whether they will be planted in existing vernal pool habitat, or if vernal pool habitat will be created prior to planting. If the planting will occur within existing vernal pools, will it be within existing occupied meadowfoam habitat? This would undermine the claimed compensatory value of the action, as the removal of an established, distinct population would be folded into an existing population. If the planting doesn't work, the meadowfoam measure hedges by allowing the applicant to replant off-site (at a yet to be determined site), preserve existing habitat (see compensatory issue above), or purchase conservation bank credits (of which availability is unknown and unstated).¹⁷⁷ The compensatory measure that supposedly addresses effects to meadowfoam results in cascading uncertainty that ultimately undermines the BiOp's conclusion that effects to meadowfoam can be lessened to a point where a no jeopardy finding is supportable.

The preservation of approximately 4 acres of existing meadowfoam populations within the onsite preserve, alone, does not ensure the Project won't jeopardize the species' survival or recovery. The BiOp improperly claims that "attempt[s] to expand the amount of habitat occupied" within the preserve will allow the perpetuation of genetics of the population within the development footprint.¹⁷⁸ The presumption that transplanting the impacted population will succeed is unsupported by the best available science, and the lack of information about how the measure will be enacted further undermines the BiOp's no jeopardy finding.

The preservation of existing meadowfoam populations within the onsite preserve appears to be lower than what was required by mitigation included in the CEQA review of the Project. The City of Chico's consideration of the Project, and applicable responses to public concerns about impacts to meadowfoam, reveal that a 19:1 mitigation ratio was required to compensate for the impacted meadowfoam population.¹⁷⁹ That analysis found that 4.38 acres of preserved meadowfoam habitat was enough to address the 0.23 acres impacted by the Project.¹⁸⁰ But the BiOp acknowledges that 1.13 acres of meadowfoam will be directly, and permanently, impacted.

¹⁷⁵ BiOp at 8.

¹⁷⁶ Id. at 13.

¹⁷⁷ Analysis of data available on CDFW's website, and discussions with CDFW staff, confirm there are no available mitigation credits at any approved mitigation banks for Butte County Meadowfoam. The last approved mitigation bank was Dove Ridge, which no longer has credits available. See <http://wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>.

¹⁷⁸ BiOp at 18.

¹⁷⁹ City of Chico, 2018. City Council Agenda Report *Stonegate Subdivision and General Plan Amendment/Rezone Project AP Nos: 002-190-041, 018-510-007, 018-510-008, and 018-510-009*, p. 4.

¹⁸⁰ Id.

Under the 19:1 mitigation ratio established within the Project's EIR, which presumably represents what is necessary to reduce potentially significant impacts to meadowfoam, 21.47 acres of meadowfoam habitat would need to be preserved.

A 19:1 mitigation ratio was also required for the Meriam Park project, for which the Service issued a no jeopardy biological opinion in 2007.¹⁸¹ There, the preservation of 8.74 acres of existing meadowfoam habitat to offset the loss of 0.46 acres of occupied habitat was found to be a beneficial effect, which supported the no jeopardy finding.¹⁸² The BiOp doesn't address its change in policy toward mitigation requirements for meadowfoam, nor does it discuss why a substantially reduced mitigation ratio of less than 4:1 is adequate to compensate for the loss of one of the few remaining meadowfoam populations. This radical change in the Service's approach to endangered species mitigation, without any accompanying reasoned explanation for that shift, is an arbitrary and capricious abuse of discretion.¹⁸³

As for the vernal pool shrimp measures, the Project's effects will be addressed by the applicant purchasing 15.46 acres of fairy shrimp and tadpole shrimp preservation credits at a service-approved conservation bank(s).¹⁸⁴ There is a lack of clarity here, as the permit issued by the Corps requires the purchase of *establishment* credits, as opposed to *preservation* credits.¹⁸⁵ As noted above, the creation of vernal pool habitats is difficult and often fails to result in habitat of like quality to what was impacted.

Considered together, the measures proposed by the Corps to minimize the Project's effect on listed species are ill-defined and their efficacy is unproven. The Service's conclusion that, with the implementation of these measures, the Project will not jeopardize the continued survival and recovery of the listed species arbitrary and capricious, and in violation of law.

VII. The Corps' Reliance on the Service's 2020 BiOp Violates the ESA

Section 7 of the ESA imposes a substantive duty on the Corps to ensure that the Project is not likely to jeopardize the continued existence of any listed species, or result in the destruction or adverse modification of critical habitat.¹⁸⁶ The Corps "cannot meet its section 7 obligations by relying on a Biological Opinion that is legally flawed."¹⁸⁷ The Corps must also 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."¹⁸⁸ Here, during consultation, the Corps proposed compensatory mitigation measures, that were ultimately included in the BiOp, that do not represent the best available scientific or commercial data, undermining the Service's review of the Project's effects. The Corp then relied on the 2020 BiOp produced by the Service in order to satisfy its ESA obligation

¹⁸¹ USFWS, 2007. *Section 7 Formal Consultation on the Meriam Park Development Project (Corps File Number 200501036)*, Butte County, California p. 9.

¹⁸² *Id.* at 9, 20.

¹⁸³ See *FCC v. Fox TV Stations, Inc.*, 556 U.S. 502, 515-16 (2009).

¹⁸⁴ BiOp. at 7.

¹⁸⁵ USACE memo of record at 45.

¹⁸⁶ 16 U.S.C. § 1536(a)(2); *Ctr. for Biological Diversity v. United States BLM*, 698 F.3d 1101, 1127 (9th Cir. 2011).

¹⁸⁷ *Ctr. for Biological Diversity v. United States BLM*, 698 F.3d at 1127-28.

¹⁸⁸ 50 C.F.R. § 402.14(d); see also *Resources Ltd. v. Robertson*, 35 F.3d 1300, 1304 (9th Cir. 1994).

regarding the issuance of a CWA 404 permit to the Stonegate Project. Because the 2020 BiOp does not comply with the ESA or its implementing regulations, the Corps' reliance on it is arbitrary and capricious, and in violation of the law.

VIII. The Corps' Failure to Initiate Consultation Regarding the Project's Potential to Affect the Giant Garter Snake

The Corps violated its mandate under section 7 of the ESA by failing to assess the Project's potential effects on giant garter snake ("GGS").¹⁸⁹ The "may affect" threshold for triggering consultation under the ESA is "relatively low," such that "[A]ny possible effect, whether beneficial, benign, adverse or of an undetermined character, triggers the requirement."¹⁹⁰ This threshold is purposefully low "to allow Federal agencies to satisfy their duty to insure' that their actions do not jeopardize listed species or adversely modify critical habitat."¹⁹¹ The Corps neglected to discuss GGS at any point in the biological assessment for the Project, despite GGS being observed near the Project site, and an adjacent project being required to mitigate for potential effects on the species.

GGS are not mentioned in the 2020 BiOp, yet both Corps and the Service are aware GGS inhabit waterways and land in southeast Chico. "A giant garter snake...was sighted during a sight [sic] visit in close proximity to Dead Horse Slough, therefore GGS habitat is assumed to exist within Dead Horse Slough."¹⁹² Deadhorse slough is approximately one mile from the northern boundary of the proposed Project. The Meriam Park development is just across Bruce Road and 20th Street from the proposed Stonegate project and was required to mitigate for GGS. "The Service has determined that the proposed project [Meriam Park] is likely to adversely affect Butte County meadowfoam, vernal pool fairy shrimp, vernal pool tadpole shrimp, giant garter snake, and the valley elderberry longhorn beetle."¹⁹³ Additionally, the Butte Creek Diversion Channel runs between Little Chico Creek north of the Project south to Butte Creek through the eastern developed portion of the proposed Project. This waterway may run full during high storm events and dry during the hottest times of the year, providing GGS with enticing aquatic access to the Project site during many months of a year.

Because the giant garter snake is known to occur within the project area and the proposed project will directly destroy prime GGS habitat and present numerous other impacts to the GGS that may affect the listed species, the Corps was required to initiate formal consultation with the Service to determine whether the Project is likely to jeopardize GGS's continued survival.¹⁹⁴

¹⁸⁹ 50 C.F.R. § 402.12(a).

¹⁹⁰ *Karuk Tribe of California v. United States Forest Service*, 681 F.3d 1006, 1027 (9th Cir. 2012) [internal quotations omitted].

¹⁹¹ *Id.* quoting 51 Fed. Reg. at 19,949.

¹⁹² City of Chico, 2006. *State Route 32 Road Widening Project Biological Assessment*. p. 1.

https://www.ci.chico.ca.us/sites/main/files/file-attachments/appendix_i_biological_assessment-02of11pg01-07.pdf?1578205231

¹⁹³ USFWS, 2007. *Section 7 Fonnal Consultation on the Meriam Park Development Project (Corps File Number 200501036)*, Butte County, California. p. 2.

¹⁹⁴ 50 C.F.R. § 402.02.

CONCLUSION

As set forth above, the Noticing Parties intend to pursue litigation in federal court after sixty days, and will seek injunctive, declaratory, and other relief, including an award of fees and expenses incurred in investigating and prosecuting this action. To avoid litigation, the Service and the Corps should immediately halt reliance on the 2020 BiOp and ITS for lethal take of vernal pool fairy shrimp, vernal pool tadpole shrimp, and Butte County meadowfoam in the project area until the agencies reinitiate and lawfully complete formal consultation, concerning impacts to the above referenced species in addition to giant garter snake, under section 7 of the ESA and its implementing regulations. Until the reinitiation of consultation and issuance of a legal BiOp has occurred, the Corps and Project Applicant are prohibited from taking any actions that would foreclose future compliance with the ESA.¹⁹⁵ If you have any questions or wish to discuss this matter further, please contact us.

Sincerely,



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¹⁹⁵ 16 U.S.C. § 1536(d).