



July 25, 2019

Via electronic mail and certified mail, return receipt requested

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U.S. Environmental Protection Agency
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Re: Sixty-day Notice of Intent to Sue Over EPA's Approval of the Aquifer Exemption for the Arroyo Grande Oil Field

Dear Administrator Wheeler:

On behalf of the Center for Biological Diversity (“Center”), we hereby provide notice under the Endangered Species Act (“ESA”),¹ pursuant to the citizen provision in Section 11(g),² that the Environmental Protection Agency (“EPA”) is in violation of Section 7(a)(2)³ of the ESA by failing to consult with U.S. Fish and Wildlife Service (“FWS”) in order to ensure that exemption of portions of the Dollie Sands Member of the Pismo Formation in the Arroyo Grande Oilfield from the protection of the Safe Drinking Water Act (“Aquifer Exemption”) does not jeopardize the continued existence of threatened or endangered species. This letter also provides notice of violations of the National Environmental Policy Act (“NEPA”),⁴ although such notice is not required under law.

The Center for Biological Diversity (“Center”) is a non-profit, public interest environmental organization headquartered in Tucson, with regional offices in Oakland and Los Angeles, and numerous additional offices located throughout the United States, dedicated to the

¹ 16 U.S.C. § 1531 *et seq.* and its implementing regulations, 50 C.F.R. Part 402.

² 16 U.S.C. § 1540(g)(2)(A)(i).

³ 16 U.S.C. § 1536(a)(2).

⁴ 42 U.S.C. § 4321.

protection of native species and their habitats through science, policy, and environmental law. The Center has more than 1.3 million members and on-line activists.

The threshold for triggering an agency’s duties under the ESA and NEPA is low—if an agency takes an action that may have environmental impacts or that “may affect” a listed species or critical habitat, then NEPA review must be conducted and ESA section 7 consultation is required.⁵ EPA’s approval of the Aquifer Exemption removes federal protection of the aquifer under the Safe Drinking Water Act (“SDWA”), which will in turn allow injection of oil waste fluids into the aquifer, and facilitate the expansion of production and injection wells at the Arroyo Grande Oilfield (“AGOF”). On May 6, 2016, the Center submitted a letter to EPA detailing the numerous endangered and threatened species at risk from the Aquifer Exemption, including but not limited to, the federally endangered Pismo clarkia, which exists only within a small area and has been confirmed to occur on the site of the Arroyo Grande Oilfield. The letter further explained that EPA’s failure to consult with FWS under the ESA prior to approving the Aquifer Exemption would result in a violation of the ESA. On March 9, 2016, the Center also submitted a letter to EPA notifying the agency that approving the Aquifer Exemption without conducting environmental review would violate NEPA. Nevertheless, EPA approved the Aquifer Exemption on April 30, 2019, without consulting with FWS under the ESA or conducting environmental review under NEPA.⁶

EPA, therefore, has violated, and continues to be in violation of Section 7(a)(2) of the ESA. If these statutory violations are not promptly and diligently rectified within the 60-day period commencing with receipt of this letter, the Center for Biological Diversity intends to file suit in federal court to seek appropriate and legal remedies.

BACKGROUND

I. LEGAL BACKGROUND

A. ENDANGERED SPECIES ACT

Congress passed the Endangered Species Act, 16 U.S.C. §§ 1531-44 (“ESA”), in response to growing concern over the extinction of plants, fish, and wildlife,⁷ and recognized that certain species “have been so depleted in numbers that they are in danger of or threatened with extinction.”⁸ Accordingly, a primary purpose of the ESA is “to provide a means whereby

⁵ 50 C.F.R. § 402.14(a).

⁶ Letter from Tomas Torres, Director of Water Division of the United States Environmental Protection Agency to Kenneth Harris Jr., State Oil and Gas Supervisor for California Division of Oil, Gas, and Geothermal Resources, Re: Approval of Aquifer Exemption for the Arroyo Grande Oil Field, San Luis Obispo County, California and Record of Decision (Apr. 30, 2019), *available at*: ftp://ftp.consrv.ca.gov/pub/oil/Aquifer_Exemptions/County/San_Luis_Obispo/Arroyo_Grande_Oilfield/Dollie_Sand_s_Pismo_Formation/Arroyo-Grande-EPA-Record-of-Decision-4-30-19.pdf.

⁷ 16 U.S.C. § 1531(a)(1).

⁸ *Id.* § 1531(a)(2).

the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such . . . species.”⁹

To reach these goals, Section 9 of the ESA generally prohibits any person, including any federal agency, from “taking” any endangered species.¹⁰ The term “take” is statutorily defined broadly as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”¹¹ “[H]arm” is been defined broadly by regulation as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”¹² Courts have found federal agencies liable for take of listed species—both endangered and threatened—where an agency authorized activities resulted in the killing or harming of ESA-listed species.¹³ With respect to endangered plants specifically, Section 9 of the ESA makes it unlawful to “remove, cut, dig up, or damage or destroy such [listed species of plants] in knowing violation of any law or regulation of any State.”¹⁴

Additionally, Section 7(a)(2) of the ESA requires federal agencies to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [the critical] habitat of such species.”¹⁵ “Action” is broadly defined to include “all activities or programs of any kind authorized, funded, or carried out, in whole or in part” by federal agencies and includes conservation measures, granting permits and licenses, as well as actions that may directly or indirectly cause modifications to the land, water, or air.¹⁶

While many of the ESA’s provisions work to effectuate the conservation goals of the statute, the “heart of the ESA” is the interagency consultation requirements of Section 7 of the ESA.¹⁷ To facilitate compliance with Section 7(a)(2), an “agency shall . . . request” from the FWS information regarding whether any listed species “may be present” in a proposed action area, and if so, the “agency shall conduct a biological assessment” to identify species likely to be affected.¹⁸ The agency must then initiate formal consultation with FWS if a proposed action “may affect” any of those listed species.¹⁹ The “may affect” standard broadly includes “[a]ny possible effect, whether beneficial, benign, adverse or of an undetermined character.”²⁰

⁹ *Id.* § 1531(b).

¹⁰ 16 U.S.C. § 1538(a)(1)(B); *see also* 50 C.F.R. § 17.31(a) (extending the “take” prohibition to threatened species managed by the U.S. Fish and Wildlife Service).

¹¹ 16 U.S.C. § 1538(a)(2).

¹² 50 C.F.R. § 17.3; *see also Babbitt v. Sweet Home Ch. of Communities for a Great Oregon*, 515 U.S. 687 (1995) (upholding regulatory definition of harm).

¹³ *See e.g., Defenders of Wildlife v. Env'tl. Prot. Agency*, 882 F.2d 1294, 1300-01 (8th Cir. 1989); *Strahan v. Cox*, 127 F.3d 155, 163 (1st Cir. 1997).

¹⁴ 16 U.S.C. § 1538(a)(2)(B).

¹⁵ 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a).

¹⁶ 50 C.F.R. § 402.02.

¹⁷ *Western Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 495 (9th Cir. 2011); 16 U.S.C. § 1536.

¹⁸ 16 U.S.C. § 1536(c).

¹⁹ 50 C.F.R. § 402.14(a).

²⁰ 51 Fed. Reg. 19,926 (June 3, 1986).

Formal consultation under Section 7(a)(2) results in the preparation of a biological opinion by FWS that determines if the proposed action is likely to jeopardize the continued existence of a listed species or adversely modify the species' critical habitat.²¹ If so, the opinion may specify reasonable and prudent alternatives ("RPAs") that avoid such jeopardy.²² If FWS concludes that the action or the RPAs will not cause jeopardy, but will result in the take of a listed species, FWS will issue an incidental take statement ("ITS") as part of the biological opinion that specifies "the impact, i.e., the amount or extent, of . . . incidental taking" that may occur, and any measures necessary or appropriate to minimize such impact on the listed species.²³ The take of a listed species in compliance with the terms of a valid ITS is not prohibited under Section 9 of the ESA.²⁴ However, the issuance of an ITS serves several important purposes over time, one being that the thresholds and measures contained in an ITS ensure that, as a project is implemented, it does not have greater impacts on a species than originally anticipated. Specifically, regulations require consultation to be reinitiated if "the amount or extent of taking specified in the incidental take statement is exceeded,"²⁵ serving as "a check on the agency's original decision that the incidental take of listed species resulting from the proposed action will not jeopardize the continued existence of the species."²⁶ A biological opinion must also contain Reasonable and Prudent Measures the action agency must take to minimize and mitigate any adverse impacts on listed species.²⁷

B. NATIONAL ENVIRONMENTAL POLICY ACT

NEPA, America's "basic national charter for protection of the environment," requires federal agencies to take a "hard look" at the environmental consequences of their actions before taking action.²⁸ In this way, NEPA ensures that federal agencies "will have available, and will carefully consider, detailed information concerning significant environmental impacts" and that such information "will be made available to the larger [public] audience that may play a role in both the decisionmaking process and the implementation of the decision."²⁹

To that end, NEPA requires federal agencies to prepare an EIS for all "major Federal actions significantly affecting the quality of the human environment."³⁰ NEPA's implementing regulations define "major federal action" to include the "[a]pproval of specific projects, such as construction or management activities located in a defined geographic area" and specify that "[p]rojects include actions approved by permit or other regulatory decision."³¹

²¹ 16 U.S.C. § 1536(b).

²² 16 U.S.C. § 1536(b); 50 C.F.R. 402.14(h)(3).

²³ 50 C.F.R. § 402.14(h)(3), (i).

²⁴ 16 U.S.C. §§ 1536(b)(4), (o)(2); 50 C.F.R. § 402.14(i)(5).

²⁵ 50 C.F.R. § 402.16(a).

²⁶ *Ctr. for Biological Diversity v. Salazar*, 695 F.3d 893, 911 (9th Cir. 2012) (quoting *Natural Res. Def. Council, Inc. v. Evans*, 279 F. Supp. 2d 1129, 1182 (N.D. Cal. 2003)).

²⁷ *Id.* 1536(b)(3)(a).

²⁸ 40 C.F.R. § 1500.1(a); see also *Kleppe v. Sierra Club*, 427 U.S. 390, 410, n. 21 (1976).

²⁹ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

³⁰ 42 U.S.C. § 4332(2)(C).

³¹ 40 C.F.R. § 1508.18.

NEPA's implementing regulations also specify factors that must be considered in determining when a major federal action may significantly affect the environment warranting the preparation of an EIS.³² Specifically, in determining whether an action may have "significant" impacts on the environment, an agency must consider the "context" and "intensity" of the action.³³ "Context" means the significance of the project "must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality."³⁴

The intensity of the action is determined by considering the ten factors enumerated in the regulations, which include: (1) impacts that may be both beneficial and adverse; (2) the degree to which the proposed action affects public health or safety; (3) unique characteristics of the geographic area such as proximity to ecologically critical areas; (4) the degree to which the effects on the human environment are likely to be highly controversial; (5) the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks; (6) the degree to which the action may establish a precedent for future actions with significant effects; (7) whether the action is related to other actions with individually insignificant but cumulatively significant impacts; (8) the degree to which the action may cause loss or destruction of significant scientific, cultural, or historical resources; (9) the degree to which the action may adversely affect a species listed under the Endangered Species Act ("ESA") or its critical habitat; and (10) whether the action threatens a violation of federal, state or local environmental laws.³⁵

The presence of even just "one of these factors may be sufficient to require preparation of an EIS in appropriate circumstances."³⁶ If there are "substantial questions as to whether a project . . . may cause significant degradation of some human environmental factor," an EIS must be prepared.³⁷ Accordingly, in order for a court to find that an EIS is warranted, "a plaintiff need not show that significant effects will in fact occur" only that there are "substantial questions whether a project may have a significant effect on the environment."³⁸

II. FACTUAL BACKGROUND

A. THE UIC PROGRAM AND EPA'S AQUIFER EXEMPTION

California's Underground Injection Control ("UIC") Program has long been out of compliance with both the SDWA and state law. A 2011 report revealed that state regulations were not adequately protecting aquifers as required by the SDWA and the state's primacy

³² *See id.* § 1508.27(b).

³³ *Id.* § 1508.27.

³⁴ *Id.* § 1508.27(a).

³⁵ *Id.* § 1508.27(b)(1)-(10).

³⁶ *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 865 (9th Cir. 2005).

³⁷ *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998).

³⁸ *Nat. Resource Defense Council v. Winter*, 502 F.3d 859, 867 (9th Cir. 2007) (citations omitted).

agreement, which authorizes DOGGR to oversee California's UIC Program.³⁹ The U.S. EPA requested that DOGGR immediately provide an action plan to address regulatory and other deficiencies by September 1, 2011.⁴⁰ In 2015, DOGGR conducted an internal audit, which revealed multiple breakdowns in the state's UIC Program, including DOGGR's failures to: require Area Review evaluations to ensure that the proposed injections were zonally isolated as required under federal regulations; conduct required annual reviews of permitted wells; retain quality control data; and assess well integrity to prevent pollution or initiate remediation.⁴¹ Perhaps the most startling revelation was that DOGGR had allowed thousands of wells across the state to inject wastewater directly into aquifers that were supposed to be protected.

In response to the defects in the state's UIC Program, and the widespread illegal injection, the state acknowledged the urgent need for corrective action.⁴² In 2015, DOGGR adopted emergency regulations, and committed to complete a review of the problems and either exempt affected aquifers or shut-down the illegal wells by February 15, 2017.⁴³ However, when the deadline approached, DOGGR announced that it would not enforce it and would instead allow some 1,650 injection wells to continue to operate illegally and continue to seek aquifer exemptions.⁴⁴

Procedurally, an aquifer exemption requires (among other steps) that: (1) an operator proposes to the state agency (DOGGR) that an aquifer be exempted from the SDWA; and (2) if DOGGR approves and the Water Board concurs, DOGGR proposes the exemption to EPA.⁴⁵ Both federal and state law lay out the conditions that must be met in order for DOGGR, the Water Boards, and EPA to consider whether to exempt an aquifer from the protections of the SDWA. EPA approves an aquifer exemption as a program revision to the state's UIC program.⁴⁶

³⁹ Horsley Witten Group, Inc., California Class II Underground Injection Control Program Review (2011), *available at*:

<https://www.conservation.ca.gov/dog/Documents/DOGGR%20USEPA%20consultant's%20report%20on%20CA%20Underground%20injection%20program.pdf>; Letter from David Albright, Manager, Ground Water Office, United States Environmental Protection Agency Region IX, to Elena Miller, State Oil and Gas Supervisor, California Division of Oil, Gas, and Geothermal Resources (July 18, 2011).

⁴⁰ *Id.*

⁴¹ California Division of Oil Gas Geothermal Resources, Underground Injection Control Program Report on Permitting and Program Assessment, Reporting Period of Calendar Years 2011-2014 (2015) ("SB 855 Report"), *available at*: <ftp://ftp.consrv.ca.gov/pub/oil/Publications/SB%20855%20Report%2010-08-2015.pdf>.

⁴² *Id.*; California Division of Oil Gas Geothermal Resources, Renewal Plan for Oil and Gas Regulation: Changing Past Practices to Usher in a New Era of Oil and Gas Regulation (2015) ("Renewal Plan"), *available at*: <ftp://ftp.consrv.ca.gov/pub/oil/Publications/Renewal%20Plan%2010-08-2015.pdf>.

⁴³ Cal. Code. Reg., tit. 14, § 1779.1 (a)(3); California Division of Oil, Gas, and Geothermal Resources, Cease and Continue spreadsheets (Mar. 14, 2017) (by Kristen Bailey on behalf of DOGGR in response to California Public Records Request 16-00148).

⁴⁴ Letter from Steve Bohlen, State Oil and Gas Supervisor, and Jonathan Bishop, Chief Deputy Director, State Water Resources Control Board, to Michael Montgomery, United States Environmental Protection Agency (Jan. 17, 2017), *available at*:

http://www.conservation.ca.gov/dog/general_information/Documents/L_Michael%20Montgomery_UIC%20Well%20Review_01-17-17.pdf.

⁴⁵ Cal. Pub. Resources Code § 3131; 40 C.F.R. § 145.32; *see also United States v. King*, 660 F.3d 1071, 1079 (9th Cir. 2011).

⁴⁶ 40 C.F.R. § 145.32(b)(3).

DOGGR may begin issuing permits to inject as soon as EPA sends an approval letter to the state.⁴⁷

Under state law, DOGGR and the Water Boards must determine that the aquifer is zonally isolated — that injection of fluids will remain isolated in the exempted portion of the aquifer and will not affect any water that is, or can reasonably be in the future, used for any of these other beneficial uses.⁴⁸ Under the Federal Regulations, DOGGR and EPA cannot exempt an aquifer from the protections of the SDWA to allow Class II injection wells if the aquifer currently serves as a source of drinking water, can or could in the future serve as a source of drinking water, or if the water is between 3,000 and 10,000 mg/L TDS and reasonably expected to supply a public water system.⁴⁹ These criteria narrowly focus on impacts to drinking and other beneficial uses of water, and thus do not substitute for the broader review of an exemption’s foreseeable adverse impacts on the environment or species.

In October 2014, the previous owner of Arroyo Grande, Freeport McMoran LLC (“Freeport”),⁵⁰ submitted an application to the Division of Oil, Gas, and Geothermal Resources (“DOGGR”) seeking to expand the boundaries of the currently designated exempted area for the Aquifer. The Exemption would remove the Aquifer from the protections of the Safe Drinking Water Act in order to allow continued expanded injection of oil wastewater into the aquifer via Class II wells.⁵¹ Class II wells include: (i) enhanced oil recovery (“EOR”) wells, used to boost oil production through cyclic steam and steam flooding, where steam is injected to raise the reservoir temperature, decrease the oil viscosity, and increase oil migration to associated production wells; and (ii) disposal wells, which inject contaminated “produced water” consisting of “concentrated brine” and toxic chemicals like benzene and selenium.⁵²

Indeed, in approximately October 2015, Freeport sought to extend an expired conditional use permit (“CUP”) for a “Phase IV” expansion to build 31 new wells, including Class II wells. The Center opposed the extension and appealed the Planning Commission’s grant of the extension to the San Luis Obispo County Board of Supervisors. The appeal has been pending since November 2015. Freeport—now Sentinel—has also been planning a major “Phase V” expansion that was on hold awaiting the outcome of the aquifer exemption process.⁵³ The

⁴⁷ 40 C.F.R. § 145.32(b)(4).

⁴⁸ Cal. Pub. Resources Code § 3131.

⁴⁹ 40 C.F.R. § 146.4.

⁵⁰ The oilfield has since been acquired by Sentinel Peak Resources.

⁵¹ California Division of Oil Gas Geothermal Resources, Arroyo Grande aquifer exemption application, *available at*: <https://www.conservation.ca.gov/dog/Pages/Aquifer-Exemptions-Status.aspx#arroyo grande>.

⁵² Freeport-McMoran Oil & Gas, Revised Project Description, Phase V development of the Arroyo Grande oil field: Project description (2013) at pp. 8-10 (“Phase V Project Description”); California Council on Science and Technology, An Independent Assessment of Well Stimulation in California, Vol. II: Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulations (2015) at pp. 5-51, 96-98 (“CCST Study Vol. II”), *available at*: <https://ccst.us/wp-content/uploads/160708-sb4-vol-II-7.pdf>.

⁵³ Freeport McMoRan Oil & Gas, Phase V conditional use permit: Ongoing status report (last updated Sept. 23, 2015) at p. 2 (“8/12/15, Request by applicant to postpone completion of the DEIR until completion of the State Aquifer Exemption process”); *see also generally* Phase V Project Description.

anticipated expansion would significantly increase the number of wells constructed, revitalized, and repurposed yielding a possible ten-fold increase in oil production from current levels.⁵⁴

On April 30, 2019, EPA approved the Aquifer Exemption, removing Phase IV from the protections of the SDWA and state law, and clearing the way for the state and local governments to issue injection permits and approvals for new wells. In the Record of Decision accompanying the decision, EPA claimed it has no responsibility to engage in ESA consultation because its Aquifer Exemption decision is not the legal cause of any later species impacts that might occur, and that it is not required to conduct any NEPA review because the SDWA provides functionally equivalent environmental protections.

In July 2019, the County Board of Supervisors notified the Center that the Board wished to schedule a hearing on the CUP extension that will allow the operator to build the 31 new wells.

B. THE ADVERSE IMPACTS OF THE EXEMPTION TO ESA-LISTED SPECIES

The operation and expansion of Class II injection wells in the proposed aquifer exemption area will clearly result in adverse impacts to myriad ESA-listed species found on and nearby the exemption area. Activities accompanying the expansion of the injection wells, such as clearing, grading, drilling, injection and disposal of produced water will increase traffic and noise, as well as air and water pollution, resulting in negative impacts to these species. Granting the aquifer exemption permanently sacrifices the aquifer to the whims of the oil industry in operating and expanding the facility, clearing the way for this expansion and injection to occur.⁵⁵

The species that is most likely to suffer direct impacts by the aquifer exemption approval is the federally endangered Pismo clarkia (*Clarkia speciosa* ssp. *immaculata*), whose several populations exist within the boundaries of the proposed aquifer exemption area, as confirmed by population maps in FWS's most recent five-year review of the highly imperiled flower.⁵⁶ (See Figures 1 and 2 for overlap of Pismo clarkia populations and the proposed aquifer exemption site.) Further, the existence of Pismo clarkia populations in the AGOF has been repeatedly confirmed in numerous AGOF environmental documents: the 2004 Final Environmental Impact

⁵⁴ Phase V Project Description at pp. 1-4; San Luis Obispo County Department of Planning and Building, Initial Study Summary – Environmental Checklist Re: Plains exploration & production – Phase V oil field expansion conditional use permit [ED12 083 (DRC2012-00035)] (2012) at p. 2 (“Phase V Initial Study”).

⁵⁵ See, e.g., Sneed, David, Oil Company Plans to Drill 481 New Wells at Price Canyon Oil Field,” SAN LUIS OBISPO TRIBUNE, Mar. 26, 2016, available at:

<http://www.sanluisobispo.com/news/local/article68494287.html#storylink=cpy> (“The first step is to get approval from the EPA to expand an area within the oil field into which wastewater containing brine and other liquid byproducts of the oil production process can be injected. The company wants to triple the size of this injection area and says this expansion is crucial to its growth plans.”).

⁵⁶ United States Fish and Wildlife Service, Clarkia speciosa subsp. immaculate (Pismo Clarkia) – 5-Year Review: Summary and Evaluation (2009) at p. 5, available at: http://ecos.fws.gov/docs/five_year_review/doc2547.pdf (“FWS Pismo Clarkia Review”).

Statement for the Phase IV project (“Phase IV FEIR”),⁵⁷ the 2012 Initial Study for the Phase V project (“Phase V Initial Study Summary”),⁵⁸ the 2013 Biological Resources Assessment Report for the Phase V project (“Phase V BRAR”),⁵⁹ and the 2015 Sensitive Plant Survey Report for the AGOF Phase IV EIR Area (“Phase V Plant Survey”).⁶⁰ Critically, the Phase V Initial Study stated that the impact of Phase V operations would be “potentially significant” on the “loss of unique or special status species in their habitats” which includes the Pismo clarkia.⁶¹ Overall, granting the aquifer exemption may both directly destroy the highly imperiled flower’s populations and impact its habitat so as to threaten its overall existence.

Additionally, as the proposed aquifer exemption area encompasses a significant portion of Pismo Creek, and the operator disposes of filtered wastewater into the creek, several ESA-listed species known to live in the water body—either within the boundaries of the aquifer exemption area or downstream—may be impacted should the exemption be granted. Specifically, AGOF operations that use the produced water from the aquifer, filter the water, and finally release such water into Pismo Creek will adversely affect the critical habitat of the federally endangered Tidewater goby (*Eucyclogobius nerberryi*) and the federally threatened South-Central Coast Steel Trout (*Oncorhynchus mykiss*) and California red-legged frog (*Rana aurora draytonii*) occurring in Pismo Creek either within the boundaries of the exemption area or downstream. Significantly, FWS in a response letter recommending ESA consultation for Project V expansion clearly identified this potential negative impact on critical habitat and the overall populations of these three species for Phase V of the project.⁶²

Finally, granting the aquifer exemption will affect numerous other federally-listed species occurring near the exemption site, due to the operation and expansion of injection wells themselves, the parallel operation and expansion of oil-producing wells dependent on the existence of such injection wells, and the impact of these operations on the Pismo Creek and other water bodies downstream. Specifically, the documents prepared for Phase IV and Phase V of the AGOF project identify numerous federally-listed species potentially impacted by AGOF operations. Given that the site for the aquifer exemption is within the boundaries of the larger AGOF site and has, as mentioned above, impacts on land and water beyond the exemption area, it is common sense that the impacts of the aquifer exemption decision may potentially affect the myriad of already identified species—triggering the requirement that the EPA perform Section 7 consultation. As an initial matter, the Phase IV FEIR, the Phase V Initial Study, and the FWS

⁵⁷ San Luis Obispo County, Final Plains Exploration and Production Phase IV Development Plan: Environmental Impact Report (2004) at section 5.5 (“Phase IV FEIR”).

⁵⁸ Phase V Initial Study at pp. 14-15.

⁵⁹ URS, Biological Resources Assessment Report for the Phase V Development of the Arroyo Grande Oil Field San Luis Obispo County, California (2013).

⁶⁰ Letter from Mitch Siemens, Arcadis, to David Foote, Firma, Re: 2015 Sensitive Plant Survey Report, Freeport McMoRan Arroyo Grande Oilfield Phase IV EIR Area (Sept. 22, 2015). *See also* Letter from Brandon Sanderson, California Department of Fish and Wildlife, to John McKenzie, Re: Plains Exploration & Production Phase V Oil File [sic] Expansion EIR Notice of Preparation SCH # 2012121005 (Jan. 8, 2013) (“2013 California DFW Letter”).

⁶¹ Phase V Initial Study at p. 13.

⁶² Letter Diane K. Noda, Field Supervisor, United States Fish and Wildlife Service, to John McKenzie, County of San Luis Obispo, Re: Notice of Preparation of a Draft Environmental Impact Report for the Plains Exploration & Production Phase V Oil Expansion Project (DRC2012-00035), San Luis Obispo County, California (Dec. 27, 2012).

letter with respect to Phase V, collectively identified the following federally-listed species potentially impacted by the project activities (in addition to the species discussed above): Chorro creek bog thistle (*Cirsium fontinale* var. *obispoense*), Gambel’s watercress (*Rorippa gambellii*), Indian Knob mountain balm (*Eriodictyon altissimum*), La Graciosa thistle (*Cirsium loncholepis*), Marsh sandwort (*Arenaria paludicola*), Morro Manzanita (*Arctostaphylos morroensis*), Nimpomo Mesa Lupine (*Lupinus nipomensis*), Moro shoulderband snail (*Helminthoglypta walkeriana*), and species occurring in the Pismo State Beach area including the Western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), Brown pelican (*Pelecanus occidentalis*), and Southern Sea Otter (*Enhydra lutris nereis*). Moreover, these environmental documents identify numerous federal species of concerns potentially impacted by the project activities.⁶³ (See Exhibit A for list of potentially impacted special-status species excerpted from the Phase IV FEIR.) Overall, that the scope of species that are either federally-listed or of federal special concern impacted by the aquifer exemption site has not been examined is clear reason for the EPA to engage in Section 7 consultation and develop a biological opinion for the project actions.

C. THE SPECIFIC THREATS THE AQUIFER EXEMPTION POSES TO THE PISMO CLARKIA

While numerous federally-listed species will potentially be impacted by granting the aquifer exemption, the Pismo clarkia is of special concern because it has been confirmed to occur on the aquifer exemption site. The Pismo clarkia (*Clarkia speciosa* ssp. *immaculata*) was listed as a federally endangered species under the ESA in 1994.⁶⁴ Under state law, the Pismo clarkia was also classified as a rare species under the California Native Plant Protection Act (“NPPA”) in 1978.⁶⁵ In addition, the flower has been classified as extremely rare by the California National Plant Society (“CNPS”).⁶⁶ An annual herb, the Pismo clarkia grows up to 20-inches tall and blooms fan-shaped flowers that are white or cream-colored at the base streaking into pinkish or reddish-lavender at the tips.⁶⁷

The known distribution of the species ranges from San Luis Obispo south to the Nipomo Mesa area, an area approximately 14 miles long by 7 miles wide.⁶⁸ The species occurs in pockets of dry sandy soils within grassy openings in chaparral and oak woodlands.⁶⁹ Due to the patchy distribution of these openings, the Pismo clarkia’s populations are fragmented by nature.⁷⁰

⁶³ Phase IV FEIR at section 5.5; 2013 California DFW Letter; Phase V Initial Study at pp. 13-18.

⁶⁴ 59 Fed. Reg. 64613 (Dec. 15, 1994).

⁶⁵ See California Natural Resources Agency, Department of Fish and Wildlife, State and Federally Listed Endangered, Threatened, and Rare Plants of California, *available at*: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline> (last updated Apr. 22, 2019) (“FWS Pismo Clarkia Review”).

⁶⁶ California Native Plant Society, *Clarkia speciose* ssp. *immaculata* (Pismo clarkia), *available at*: <http://www.rareplants.cnps.org/detail/170.html> (last visited July 15, 2019).

⁶⁷ FWS Pismo Clarkia Review at p. 4.

⁶⁸ *Id.* at p. 5.

⁶⁹ 59 Fed. Reg. 61614 (Dec. 15, 1994).

⁷⁰ FWS Pismo Clarkia Review at p. 5.

In the FWS's 2009 five-year status review on the species, as required by Section 4(c)(2) of the ESA, there were 14 populations of the Pismo clarkia presumed to be extant.⁷¹ (*See* Figures 1 and 2 to cross-reference populations with the aquifer exemption area.) Since the flower's listing in 1994, it is known that at least five populations of the species have been extirpated.⁷² As required by the ESA, the FWS is undertaking the next five-year status review of the endangered flower, initiated in 2013.⁷³ Overall, FWS has concluded that the priority to recover the Pismo clarkia is very high, as the subspecies faces a high degree of threat.⁷⁴



The Pismo clarkia
© Aaron Schusteff. Artist's permission

The perilous status of the species is primarily driven by the continued threat from construction and other development projects in areas where the species occurs. “Development has adversely affected or threatens to adversely affect 9 of the remaining 14 known populations, and fragmentation due to development is a serious concern for the survival of the species as a whole.”⁷⁵ Furthermore, development was found to eliminate habitat that supports populations of pollinators and seed dispersal vectors and habitat that contains a seedbank, in cases where there is no germination in a given year when surveys are conducted.⁷⁶

In addition to direct habitat loss, habitat fragmentation driven by development also severely affects the persistence of the flower's populations within such fragments. As infrastructure, commercial, and residential development continue to rapidly increase within areas in close proximity to existing and potential Pismo clarkia populations, these developments have also occurred *between* existing populations which may have increased their isolation from each other.⁷⁷ While fragmentation does not necessarily lead to the extinction of a species within a habitat patch, small populations in small habitat patches have an increased likelihood of extinction and are increasingly affected by their surroundings.⁷⁸ Development eliminates adjacent suitable habitat that otherwise would allow for natural population expansion and movement as suitable microhabitats shift in the landscape.⁷⁹ Habitat fragmentation has also

⁷¹ *Id.* at p. 4 (“Currently, there are 14 populations listed within CNDDDB that are extant or presumed to be extant (EO 2, 3, 4, 5, 6, 8, 11, 12, 13, 14, 18, 19, 20, and 21) and five populations that have been extirpated or are presumed to have been extirpated (EO 7, 9, 10, 16, and 17.”). Fourteen of the populations presumed to be extant were documented by the California Natural Diversity Database (“CNDDDB”), which is maintained by the California Department of Fish & Wildlife.

⁷² *Id.*

⁷³ 78 Fed. Reg. 19,510-19,514 (Apr. 1, 2013).

⁷⁴ *Id.* at p. 3. The recovery priority number for the Pismo clarkia is 3C based on a 1-18 ranking system where 1 is the highest-ranked recovery priority and 18 is the lowest. 48 Fed. Reg. 43098 (Sept. 21, 1983).

⁷⁵ Ventura Fish and Wildlife Office, Recovery Plan for the Morro Shoulderband Snail and Four Plants from Western San Luis Obispo County, California, Draft Amendment (2018) at pp. 3-4, *available at*: https://ecos.fws.gov/docs/recovery_plan/Draft%20Recovery%20Plan%20Amendment%20IKMB%20CCBT%20PismoClarkia_1.pdf (“2018 draft amended recovery plan”); *see also* FWS Pismo Clarkia Review at p. 6.

⁷⁶ *Id.*

⁷⁷ FWS Pismo Clarkia Review at pp. 6-7.

⁷⁸ *Id.* at p. 7.

⁷⁹ *Id.* at p. 7.

been found to lead to a decrease in pollination and reduced reproductive success due to the decreased visitation from pollinators to small and isolated populations.⁸⁰

Recently added delisting criteria highlight the need to actively manage development and habitat in order for the Pismo clarkia to begin to recover. These include, for instance, that “[t]hreats are reduced or eliminated so that populations are capable of persisting without significant human intervention, or perpetual endowments are secured for management necessary to maintain the continued existence of the species” and that “[a]ll existing populations are stable or increasing in the wild for at least 10 years.”⁸¹

The 2009 FWS status review of the Pismo clarkia—as well as the 2018 draft amended recovery plan—highlight the inadequacy of both state and federal regulatory mechanisms to protect against threats to the highly imperiled flower’s existence. The flower continues to be threatened by development and the loss of suitable habitat. Despite the ESA’s Section 7 consultation requirement, no formal consultations had been conducted on effects on the Pismo clarkia since its listing in 1994 to 2009, the most recent date for which the FWS has completed a study on the species.⁸² This letter seeks to compel EPA to comply with the ESA mandate as required for the AGOF aquifer exemption request.

III. DISCUSSION

A. GRANTING THE AQUIFER EXEMPTION WITHOUT ENGAGING IN ANY SECTION 7 CONSULTATION VIOLATES THE ENDANGERED SPECIES ACT

By granting the Aquifer Exemption, EPA removed a substantial area of the Aquifer—spanning 1.5 square miles across and one-third of a mile deep from federal and state protection under the SDWA and the California UIC program. The Aquifer Exemption allows existing wells to continue to inject, and DOGGR can issue rework or injection permits at any time that would facilitate more injection, production and steam generation, increasing the likelihood of spills, ruptures, seismicity, and climate damage, and bringing more equipment onto the site, all of which have potential impacts. Produced water commonly contains concentrated formation brines, toxic chemicals, byproducts, and naturally occurring contaminants—including carcinogens, like benzene, and other toxic chemicals, like naphthalene, selenium, strontium, barium, and radioactive materials. In addition, chemicals and acids, such as hydrochloric and hydrofluoric acids, are often injected into wells for maintenance and cleanout, and can be present, along with reaction and degradation byproducts, in the produced water.⁸³ In addition,

⁸⁰ *Id.*; Kearns, C., and D. Inouye, Pollinators, flowering plants, and conservation biology: much remains to be learned about pollinators and plants, 47 *BioScience* 5, pp.297-307 (1997), available at: <https://academic.oup.com/bioscience/article/47/5/297/222685>.

⁸¹ 2018 draft amended recovery plan at p. 7.

⁸² FWS Pismo Clarkia Review at p. 9.

⁸³ See e.g., CCST Study Vol. II at pp. 49-50, 86-87, 97-98, 403, 423-424. See also Benko, Katie L. and Jorg E. Drewes, Produced water in the western United States: Geographical distribution, occurrence, and composition, 25 *Environmental Engineering Science* 2 (2008) at pp. 239-246.

the operator is now moving ahead with its Phase IV expansion and will likely begin working on its planned Phase V expansion.

Thus, the Aquifer Exemption—whose express purpose is Class II injection—will likely result in myriad environmental and health threats commonly associated with oil development and operation. These include, among others: contamination of water and soil through leaks, spills, fractures, faults, casing failures, plugged wells, and other pathways;⁸⁴ air pollution, including emissions of toxic chemicals like benzene, toluene, and ethylbenzene, criteria pollutants like VOCs and NO_x that harm human respiratory systems, and greenhouse gases including methane and CO₂;⁸⁵ noise and light pollution due to drilling activity;⁸⁶ and risks of induced seismicity, as well as risks from earthquakes themselves, which can open new pathways for fluid flow.⁸⁷ Additionally, Arroyo Grande is an energy- and carbon-intensive oil field due to its use of steam injection and its high water-to-oil production ratio—and climate impacts are likely to worsen as the field expands.⁸⁸ Moreover, potential impacts also include the physical impacts of foreseeable expansion, which could include, among others: negative impacts to soils, geology, water, and hydrology, by causing sedimentation and erosion, spills and leaks, and changing the composition and flow of surface or groundwater;⁸⁹ adverse air quality impacts;⁹⁰ release or exposure of hazardous materials to the environment;⁹¹ significant noise impacts;⁹² and a nine-fold growth in the number of oil-transporting truck trips.⁹³

The inevitability of the Aquifer Exemption leading to concrete environmental harms, including to threatened and endangered species, is further highlighted by the recent, massive, ongoing oil spill at another California oil field, where surface expressions in a field that heavily relies on steam injection have already resulted in almost *one million* gallons of oil and water spilling into a dry stream bed, fortunately during a period of no rain.⁹⁴ Like the Cymric Oil Field,

⁸⁴ CCST Study Vol. II at pp. 104-109, 122-129.

⁸⁵ *Id.* at pp. 44-46, 184-266.

⁸⁶ *Id.* at pp. 429-432.

⁸⁷ *Id.* at pp. 30-32, 267-268, 276-309. See also *See also* Hamilton, Douglas H. and Richard L. Meehan, Ground Rupture in the Baldwin Hills, 172 *Science* 3981(1971) at pp. 333-344; Brodsky, Emily E. and Lia J. Lajoie, Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field, *Science Express* (2013); Ellsworth, William L., Injection-Induced Earthquakes, 341 *Science* (2013).

⁸⁸ See Phase V Initial Study at pp. 11-12; California Air Resources Board, Calculation of 2014 Crude Average CI Value (2015), available at: https://ww3.arb.ca.gov/fuels/lcfs/crude-oil/2014_crude_average_ci_value_final.pdf. See also California Air Resources Board, Crude Oil Lifecycle Assessment (last reviewed June 17, 2019), available at: <http://www.arb.ca.gov/fuels/lcfs/crude-oil/crude-oil.htm> (OPGEE I. IE). Oil produced at AGOF has a low API (high specific gravity) of 14, which means that it is an extra heavy oil, thus energy intensive to refine as well as to produce. According to this data, the state average is approximately 25.

⁸⁹ Phase V Initial Study at pp. 20-23, 44-48.

⁹⁰ *Id.* at pp. 10-13.

⁹¹ *Id.* at pp. 23-28.

⁹² *Id.* at pp. 28-33.

⁹³ Phase V Project Description at p. 19.

⁹⁴ Goldberg, T., As Chevron Gets Ready to Appeal State Order, Kern County Spill Continues to Grow, KQED, July 22, 2019, available at: <https://www.kqed.org/news/11762863/as-chevron-gets-ready-to-appeal-state-order-kern-county-spill-continues-to-grow>; McDaniel, P., After 800,000-gallon spill, Chevron site is still leaking oil, LOS ANGELES TIMES, July 18, 2019, available at: <https://www.latimes.com/environment/story/2019-07-18/chevron-oil-spill-california-diane-feinstein>; Goldberg, T., Key State Lawmakers to Call for Hearings Into Chevron Oil Spill,

where the spill is occurring, AGOF relies on steam injection to produce crude, and an increase in steam injection activities makes surface expressions more likely to occur.

Critically, as explained above, the EPA’s approval of the Aquifer Exemption is a federal action that will permit the operator to expand and operate wastewater injection wells in an area documented to contain known populations of several ESA-listed species, including, but not limited to, the federally endangered Pismo clarkia. In addition, the operation and expansion of wastewater injection wells will impact water in the Pismo Creek, potentially affecting the habitat and populations of the federally endangered Tidewater goby and the federally threatened South-Central steelhead trout and the California red-legged frog, whose populations are documented to occur in the Creek, whether within the boundaries of the aquifer exemption site or downstream. Separately, as articulated in environmental documents prepared for Phase IV and V of the AGOF projects, there are numerous other species that are either federally listed or of special federal concern that are potentially impacted by these projects and, by the nature of the aquifer exemption area lying inside the greater AGOF project site, the proposed aquifer exemption operations as well. Specifically, granting the aquifer exemption may affect these other federally-listed species occurring on or near the exemption site, due to the operation and expansion of injection wells themselves, the parallel operation and expansion of oil-producing wells dependent on the existence of such injection wells, and the impact of these operations on the Pismo Creek and other bodies of water downstream. Therefore, these collective potential impacts of EPA’s approval of the aquifer exemption meet the standards affirmatively triggering the agency’s legal obligation to initiate and complete Section 7 consultation to ensure that authorizing the exemption will not jeopardize any listed species or adversely modify their critical habitat.

EPA’s failure to consult with the FWS and obtain a biological opinion prior to approving the aquifer exemption thus violates the procedural requirements of Section 7 of the ESA. As explained above, all federal agencies are required to consult whenever they take an “action” that “may affect” ESA-listed species or their critical habitat.⁹⁵ The “may affect” standard includes “[a]ny possible effect, whether beneficial, benign, adverse or of an undetermined character.”⁹⁶ Here, the EPA’s approval of the aquifer exemption clearly constitutes a federal “action” that meets the broad “may affect” threshold under the ESA and its implementing regulations.⁹⁷ By failing to engage in consultation, the EPA is in violation of its substantive duty to ensure that its actions do not jeopardize the continued existence of threatened and endangered species found within and near the zone of the proposed Class II injection wells under the aquifer exemption, or adversely modify any listed species’ critical habitat. As the Center has explained in prior

KQED, July 18, 2019, available at: <https://www.kqed.org/news/11762169/key-state-lawmakers-to-call-for-hearings-into-chevron-oil-spill>; Goldberg, T., Chevron Well at Center of Major Oil Spill in Kern County Oil Field, KQED, July 12, 2019, available at: <https://www.kqed.org/news/11760192/chevron-well-has-leaked-a-quarter-million-gallons-of-oil-in-central-valley-since-may>.

⁹⁵ 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a) (“Each Federal agency shall review its actions at the earliest possible time to determine whether any action may affect listed species or critical habitat. If such a determination is made, formal consultation is required...”); see *Wash. Toxics Coalition v. EPA*, 413 F.3d 1024, 1032 (9th Cir. 2005); *Defenders of Wildlife v. Administration*, 882 F.2d 1294 (8th Cir. 1989).

⁹⁶ 51 Fed. Reg. 19,926 (June 3, 1986).

⁹⁷ 50 C.F.R. § 402.02.

correspondece, but the EPA has thus far ignored, the species that may be affected include, but are not limited to, the Pismo clarkia (*Clarkia speciosa* ssp. *immaculata*), Tidewater goby (*Eucyclogobius nerberryi*), South-Central Coast steel trout (*Oncorhynchus mykiss*), California red-legged frog (*Rana aurora draytonii*), the Chorro creek bog thistle (*Cirsium fontinale* var. *obispoense*), Gambel's watercress (*Rorippa gambellii*), Indian Knob mountain balm (*Eriodictyon altissimum*), La Graciosa thistle (*Cirsium loncholepis*), Marsh sandwort (*Arenaria paludicola*), Morro Manzanita (*Arctostaphylos morroensis*), Nimpomo Mesa Lupine (*Lupinus nipomensis*), Moro shoulderband snail (*Helminthoglypta walkeriana*), and species occurring in the Pismo State Beach area including the Western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), Brown pelican (*Pelecanus occidentalis*), and Southern Sea Otter (*Enhydra lutris nereis*).

Finally, while in issuing the Aquifer Exemption EPA claimed that ESA consultation is not necessary because it will not lead to concrete impacts on species, the history of this program – and the FWS's own letter – belie this conclusion. Over the past four years, EPA has issued approximately two dozen Aquifer Exemptions,⁹⁸ and with each one has inevitably come the very surface and subsurface environmental degradation that granting the Exemptions allows. Given these facts, EPA cannot put its head in the sand and pretend that granting the Aquifer Exemption will have no impacts on imperiled species. Rather, it must comply with the ESA's fundamental mandate to protect species by consulting with the FWS to both assess the threats these exemptions – and the future actions they inevitably will bring to this area – will have on species, and the steps that can be taken to minimize and mitigate those harms. Anything less violates the ESA.

B. GRANTING THE AQUIFER EXEMPTION WITHOUT PREPARING ANY NEPA REVIEW VIOLATES THE NATIONAL ENVIRONMENTAL POLICY ACT

Given the foregoing, it is also evident that the Aquifer Exemption decision will have myriad environmental impacts that must be assessed in a legally adequate NEPA review, presumably an Environmental Impact Statement. EPA's claim that NEPA review is unnecessary because these issues are addressed in the SDWA process fundamentally misapprehends the NEPA process, which forces agencies to both consider and disclose the environmental impacts of its decisions, and also to consider reasonable alternatives. The SDWA process achieves none of these objectives, and thus EPA is violating NEPA by ignoring this statutorily mandated process in going forward with the Aquifer Exemption.

IV. CONCLUSION

Thank you for your attention to the legal violations detailed in this notice letter. Should EPA fail to remedy these violations within 60 days, the Center for Biological Diversity intends to initiate litigation in federal district court.⁹⁹ If you have any questions, please contact me at the number below.

⁹⁸ California Division of Oil Gas Geothermal Resources, Arroyo Grande aquifer exemption application, available at: <https://www.conservation.ca.gov/dog/Pages/Aquifer-Exemptions-Status.aspx#arroyogrande>.

⁹⁹ 16 U.S.C. § 1540(g)(1)(A).

Sincerely,



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FIGURE 1

Figure 1. Intersection of *Pismo clarkia* populations in San Luis Obispo and Proposed AGOF Aquifer Exemption Site




Source: FWS 5-Year Review of *Pismo Clarkia* (2009); DOGGR map of Proposed Aquifer Exemption Site (2016).

FIGURE 2

Legend

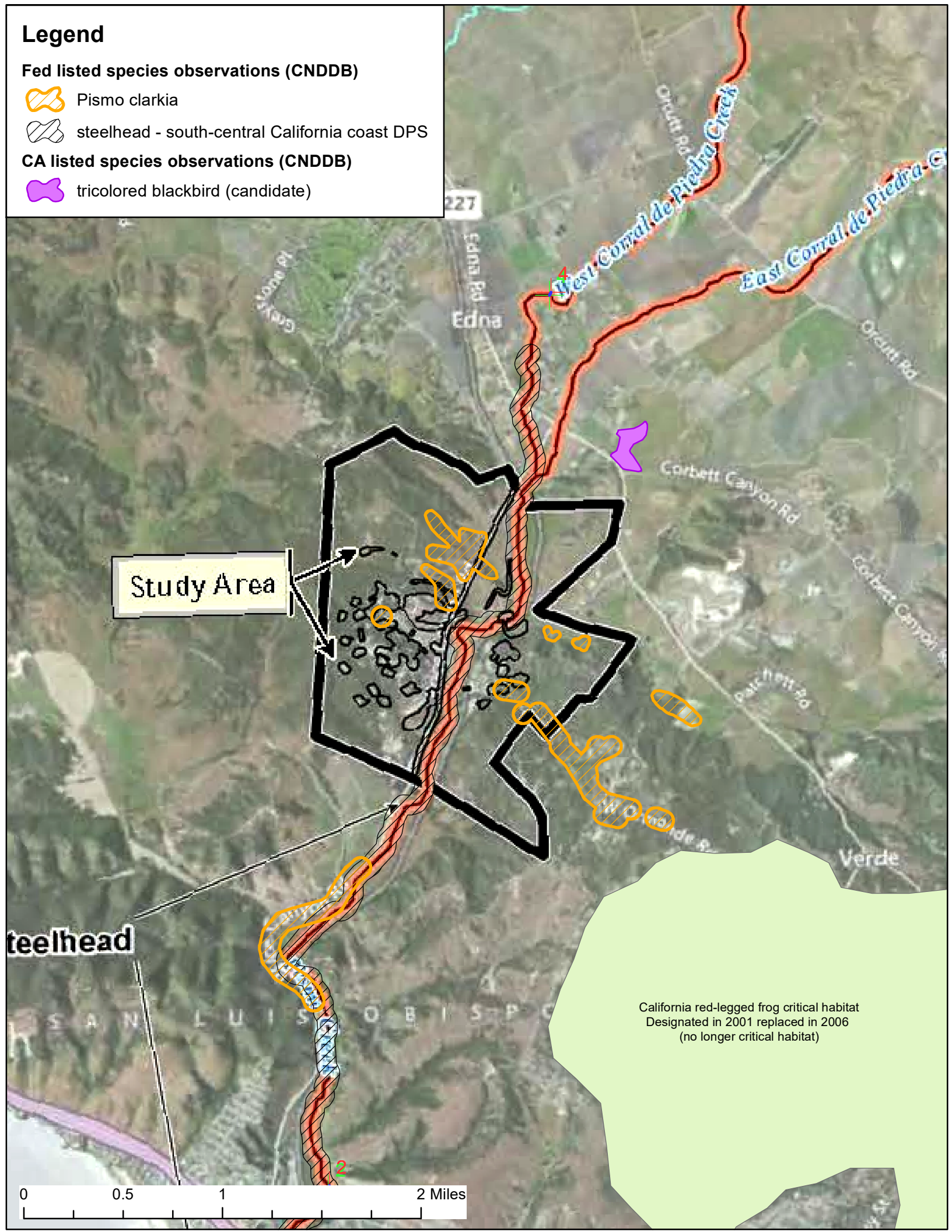
Fed listed species observations (CNDDDB)

 Pismo clarkia

 steelhead - south-central California coast DPS

CA listed species observations (CNDDDB)

 tricolored blackbird (candidate)



Study Area

steelhead

California red-legged frog critical habitat
Designated in 2001 replaced in 2006
(no longer critical habitat)

0 0.5 1 2 Miles

Exhibit A
Excerpts from Phase IV FEIS of Special Status Species Potentially Impacted By AGOF Project

[See attached.]

**Table 5.5-2
Definitions of Special-Status Plant Species**

Special-Status Plant Species
<ul style="list-style-type: none"> ➤ Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species). ➤ Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register Vol. 67, No. 114, pp. 40657-4067, June 13, 2002). ➤ Plants that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380). ➤ Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in California Native Plant Society, 2001). ➤ Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4 in California Native Plant Society, 2001). ➤ Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5). ➤ Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). ➤ Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), state and local agencies or jurisdictions. ➤ Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range (<i>State CEQA Guidelines</i>, Appendix G).

**Table 5.5-3
Special-Status Plant Species Potentially Occurring in the Project Area**

Common Name Scientific Name	Status	Habitat	Habitat Present/ Absent	Nearest Known Location
Beach spectaclepod <i>Dithyrea maritima</i>	FSC / ST / List 1B	Coastal dunes, coastal scrub	A	Pismo State Beach, 1.5 miles south of Pismo Beach, 3 miles west of Arroyo Grande (CNDDDB, 2003).
Black-flowered figwort * <i>Scrophularia atrata</i>	FSC / -- / List 1B	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub	P	Species observed on-site during 2003 botanical surveys.
Blochman's dudleya <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	-- / -- / List 1B	Coastal scrub, coastal bluff scrub, valley and foothill grassland	P	Froom Ranch, west of intersection of Los Osos Valley Road and U.S. 101, just outside city limits of San Luis Obispo (CNDDDB, 2003).
Brewer's spineflower <i>Chorizanthe breweri</i>	-- / -- / List 1B	Chaparral, cismontane woodland, coastal scrub, closed-cone coniferous forest	P	Price Canyon Road about 1 mile southwest of Highway 227, south of San Luis Obispo (CNDDDB, 2003)
Chorro creek bog thistle <i>Cirsium fontinale</i> var. <i>obispoense</i>	FE/ SE / List 1B	Chaparral, cismontane woodland, and serpentine seeps	P	Froom Ranch, west of Los Osos Valley Road, South of San Luis Obispo (CNDDDB, 2003)

Common Name Scientific Name	Status	Habitat	Habitat Present/ Absent	Nearest Known Location
Congdon's tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	FSC / -- / List 1B	Valley and foothill grassland	P	Laguna Lake, near San Luis Obispo (CNDDDB, 2003)
Fuzzy prickly phlox* <i>Leptodactylon californicum</i> ssp. <i>tomentosum</i>	-- / -- / List 4	Chaparral, coastal dunes and scrub	P	Species observed during botanical surveys conducted on-site (Levine Fricke, 2002)
Gambel's watercress <i>Rorippa gambellii</i>	FE / ST / List 1B	Freshwater and brackish marshes	A	Black Canyon, Oceano (CNDDDB, 2003).
Hoover's bent grass * <i>Agrostis hooveri</i>	-- / -- / List 1B	Chaparral and grassland	P	Species observed during botanical surveys conducted on-site (Levine Fricke, 2002)
Indian knob mountainbalm <i>Eriodictyon altissimum</i>	FE / SE / List 1B	Chaparral, cismontane woodland	P	Indian knob, about 4 miles north of Pismo and 3 miles south of San Luis Obispo (CNDDDB, 2003).
Jones's layia <i>Layia jonesii</i>	FSC / -- / List 1B	Chaparral, valley foothill grassland	P	1.75 mile southwest of San Luis Obispo (CNDDDB, 2003)
La Graciosa thistle <i>Cirsium loncholepis</i>	FE / ST / List 1B	Coastal dunes, brackish marshes and riparian scrub	A	Callendar dunes, south of Oceano (CNDDDB, 2003).
Leafy tarplant <i>Deinandra increscens</i> ssp. <i>foliosa</i>	-- / -- / List 1B	Valley and foothill grassland	P	Immediately NE of Lopez Reservoir (CNDDDB, 2003)
Marsh sandwort <i>Arenaria paludicola</i>	FE / SE / List 1B	Marshes and swamps	A	Pismo Beach, San Luis Obispo County (CNDDDB, 2003)
Morro manzanita <i>Arctostaphylos morroensis</i>	FT / -- / List 1B	Chaparral, cismontane woodland, coastal dunes, coastal scrub	P	Edge of Prefumo Canyon Road in Prefumo Canyon, Southwest of San Luis Obispo (CNDDDB, 2003)
Nipomo Mesa lupine <i>Lupinus nipomensis</i>	FE / SE / List 1B	Coastal dunes	A	Oceano dunes (CNDDDB, 2003)
Obispo Indian paintbrush <i>Castilleja densiflora</i> ssp. <i>obispoensis</i>	-- / -- / List 1B	Valley and foothill grassland	P	See Canyon, San Luis Obispo (CNDDDB, 2003)
Pecho manzanita <i>Arctostaphylos pechoensis</i>	FSC / -- / List 1B	Closed cone coniferous forest, chaparral, and coastal scrub	P	Davis Canyon, Irish Hills (CNDDDB, 2003)
Pismo clarkia * <i>Clarkia speciosa</i> ssp. <i>immaculata</i>	FE / SR / List 1B	Chaparral, cismontane woodland, valley and foothill grassland	P	Species observed on-site during 2003 botanical surveys.
Saint's Daisy* <i>Erigeron sanctarum</i>	-- / -- / List 4	Chaparral, cismontane woodland and coastal scrub	P	Species observed during botanical surveys conducted on-site (Levine Fricke, 2002)
San Luis mariposa lily <i>Calochortus obispoensis</i>	-- / -- / List 1B	Chaparral, coastal scrub, valley and foothill grassland	P	Western ridge of Indian Knob, about 4 miles north of Pismo Beach (CNDDDB, 2003)

Common Name <i>Scientific Name</i>	Status	Habitat	Habitat Present/ Absent	Nearest Known Location
San Luis Obispo County lupine <i>Lupinus ludovicianus</i>	FSC / -- / List 1B	Chaparral, cismontane woodland	P	Hills north of Price Canyon, north of Pismo Creek, NNE of Pismo Beach (CNDDDB, 2003).
Santa Lucia manzanita <i>Arctostaphylos luciana</i>	FSC / -- / List 1B	Chaparral	P	1.75 miles NNE of Slide Hill, East of San Luis Obispo (CNDDDB, 2003)
Santa Margarita manzanita <i>Arctostaphylos pilosula</i>	FSC / -- / List 1B	Closed-cone coniferous forest, and chaparral.	P	Vicinity of Indian Knob, about 3.5 miles NNW of Pismo Beach, South of San Luis Obispo (CNDDDB, 2003)
Surf thistle <i>Cirsium rhotophilum</i>	FSC / ST / List 1B	Coastal dunes, costal bluff scrub	A	Pismo Beach (CNDDDB, 2003)
Well's manzanita * <i>Arctostaphylos wellsii</i>	-- / -- / List 1B	Chaparral, closed-cone coniferous forest	P	Species observed during botanical surveys conducted on site (Padre, 2003)

Status Codes:

FE	Federal Endangered (U.S. Fish and Wildlife Service [USFWS])
FT	Federal Threatened (USFWS)
List 1B	Plants rare, threatened, or endangered in California and elsewhere (CNPS)
List 4	"Watch list" for plants of limited distribution (CNPS)
SE	State Endangered (CDFG)
ST	State Threatened (CDFG)
SR	State Rare (CDFG)
*	Species observed during recent surveys (Padre 2003, Levine Fricke 2002)

To determine the presence and/or absence of the special-status plant species listed in Table 5.5-3 above, a focused botanical survey of the project site was conducted in May 1 and 8, 2003, during the typical flowering period for the majority of the species listed. In addition, supplemental biological surveys were conducted in August and September 2003 and resulted in the identification of several other "late-blooming" species. For a complete listing of vascular flora observed within the project site, please refer to Appendix E.

Special-status plant species that could potentially occur within the project site based on known occurrences within the vicinity of Price Canyon or adjacent portions of San Luis Obispo County included Blochman's dudleya, Brewer's spineflower, Jones' layia, Obispo Indian paintbrush, San Luis mariposa lily, Chorro creek bog thistle, Congdon's tarplant, and leafy tarplant. However, none of these species were observed during the 2003 botanical surveys conducted within the project area or during past botanical surveys conducted by Levine Fricke in 2000, 2002 and SAIC in 1994.

In addition, Well's manzanita was the only species of *Arctostaphylos* identified in the project area and represents the dominant component of the Central maritime chaparral habitat occurring within the site. Therefore, Morro manzanita, Santa Margarita manzanita, Pecho manzanita, and Santa Lucia manzanita are not expected to occur within the project site. Moreover, special-status plant species associated with specific habitats types such as surf thistle, beach spectaclepod, La Graciosa thistle, Nipomo Mesa lupine, Gambel's watercress, and marsh sandwort were not observed during surveys and are not expected to occur within the site due to the lack of suitable habitat (i.e., require coastal foredune and marsh habitat, which is not present within the project site).

**Table 5.5-4
Definitions of Special-Status Wildlife Species**

Special-Status Animal Species
➤ Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
➤ Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register Vol. 67, No. 114, pp. 40657-4067, June 13, 2002).
➤ Animals that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i> , Section 15380).
➤ Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5).
➤ Animal species of special concern to the CDFG (Remsen, 1978 for birds; Williams, 1986 for mammals).
➤ Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

**Table 5.5-5
Special-Status Wildlife Species Potentially Occurring within the Project Area**

Common Name Scientific Name	Status	Nearest Known Occurrence(s)
Invertebrates		
Morro shoulderband snail <i>Helminthoglypta walkeriana</i>	FE	Between Calle Joaquin Road and Highway 101, San Luis Obispo (CNDDDB, 2003)
Monarch butterfly <i>Danaus plexippus</i>	SA	Pismo Dunes State Vehicular Recreation Area District Office, Grover Beach (CNDDDB, 2003)
Fish		
South-central California coast steelhead <i>Oncorhynchus mykiss irideus</i>	FT, CSC	Pismo Creek and West Corral de Piedra Creek, Price Canyon (CNDDDB, 2003)
Tidewater goby <i>Eucyclogobius newberryi</i>	FE, CSC	Pismo Creek (from mouth to 1.0 mile upstream), Pismo Beach (CNDDDB, 2003)
Reptiles		
California horned lizard <i>Phrynosoma coronatum frontale</i>	FSC, CSC	El Chorro Regional Park, San Luis Obispo County (CNDDDB, 2003); Guadalupe Dunes, San Luis Obispo County (Unocal, 2000)
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	FSC, CSC	Pismo Creek (Morro Group, 2001)
Two striped garter snake <i>Thamnophis hammondi</i>	CSC	Cuyama River, Los Padres National Forest (CNDDDB, 2003)
Amphibians		
California tiger salamander <i>Ambystoma californiense</i>	FC, CSC	Biddle Regional County Park, Lopez Canyon, southeast of San Luis Obispo (CNDDDB, 2003)
California red-legged frog <i>Rana aurora draytonii</i>	FT, CSC	Corbett Canyon Creek, Arroyo Grande (CNDDDB, 2003)
Birds		
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT (nesting), CSC (nesting), M	Pismo State Beach (CNDDDB, 2003)
California least tern <i>Sterna antillarum browni</i>	FE (nesting colony), SE (nesting colony), M	Pismo State Beach (Padre, 2003)

Common Name Scientific Name	Status	Nearest Known Occurrence(s)
Brown pelican <i>Pelecanus occidentalis</i>	FE (nesting colony), SE (nesting colony), M	Pismo State Beach (Padre, 2003)
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	SE (nesting) FC (nesting), M	San Luis Obispo. Last documented occurrence was 1921. (CNDDB, 2003)
Cooper's hawk * <i>Accipiter cooperii</i>	CSC (nesting), M	Observed during 2003 surveys conducted on-site.
American peregrine falcon * <i>Falco peregrinus anatum</i>	FSC (nesting), SE (nesting), FP, M	Observed during 2003 surveys conducted on-site.
Loggerhead shrike <i>Lanius ludovicianus</i>	FSC (nesting), CSC (nesting), M	Observed on site during previous survey (ERCO, 1981)
Northern harrier <i>Circus cyaneus</i>	CSC (wintering), M	Known from region; nearest occurrence unknown
Sharp-shinned hawk <i>Accipiter striatus</i>	CSC (nesting), M	Known from region; nearest occurrence unknown
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	SE (nesting), M	Known from region; nearest occurrence unknown
Yellow warbler <i>Dendroica petechia</i>	CSC (nesting), M	Recorded at Pismo Beach and Oceano (SAIC, 1994)

Mammals

San Diego desert woodrat <i>Neotoma lepida intermedia</i>	CSC	Green Peak, approximately 1.5 miles southeast of Diablo Canyon (CNDDB, 2003)
Southern sea otter <i>Enhydra lutris nereis</i>	FT, FP	Pismo State Beach (Padre, 2003)

Status Codes:	FE	Federal Endangered (USFWS)
	FT	Federal Threatened (USFWS)
	FSC	Federal Species of Special Concern (USFWS)
	FC	Federal Candidate Species (USFWS)
	SE	State Endangered (CDFG)
	ST	State Threatened (CDFG)
	CSC	California Species of Special Concern (CDFG)
	FP	Fully Protected under California Fish and Game Code
	SA	Special animal (CDFG)
	M	Protected under the Migratory Bird Treaty Act of 1918
	*	Species observed during recent surveys (Padre 2003)

For the purposes of impact analysis, the following briefly presents the legal status and applicable ecological and range information for those special-status wildlife species identified within the proposed impact areas and/or for those that have a high likelihood of occurrence based on the presence of suitable habitat. Special-status wildlife species associated with coastal and/or marine habitats located west of the project area such as the southern sea otter, least tern, western snowy plover, and brown pelican were not observed during surveys and are not expected to occur within the site due to the lack of suitable habitat.

Invertebrates

Morro shoulderband snail (*Helminthoglypta walkeriana*). The Morro shoulderband snail is a Federally endangered species. This species inhabits the accumulated litter and undersides of low shrub branches that exhibit dense, low growth and ample contact to the ground, particularly mock heather (*Ericameria ericoides*), seaside golden yarrow (*Eriophyllum staechadifolium*), deerweed (*Lotus scoparius*), and dune almond (*Prunus fasciculata* var. *punctata*) (USFWS, 2003). Based on this observation, favorable

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