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RE: 60 DAY NOTICE OF INTENT TO SUE FOR VIOLATIONS UNDER THE ENDANGERED SPECIES ACT, MIGRATORY BIRD TREATY ACT, CLEAN AIR ACT, COASTAL ZONE MANAGEMENT ACT (CZMA) AND PUBLIC TRUST DOCTRINE

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(g) Citizen suits.

- (1) Except as provided in paragraph (2) of this subsection any person may commence a civil suit on his own behalf--
 - (A) to enjoin any person, including the United States and any other governmental instrumentality or agency (to the extent permitted by the eleventh amendment to the Constitution), who is alleged to be in violation of any provision of this Act or regulation issued under the authority thereof; or
 - (B) to compel the Secretary to apply, pursuant to section 6(g)(2)(B)(ii) of this Act [16 USCS § 1535(g)(2)(B)(ii)], the prohibitions set forth in or authorized pursuant to section 4(d) or section 9(a)(1)(B) of this Act [16 USCS §§ 1533(d), 1538(a)(1)(B)] with respect to the taking of any resident endangered species or threatened species within any State; or
 - (C) against the Secretary where there is alleged a failure of the Secretary to perform any act or duty under section 4 [16 USCS § 1533] which is not discretionary with the Secretary.
The district courts shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce any such provision or regulation, or to order the Secretary to perform such act or duty, as the case may be. In any civil suit commenced under subparagraph (B) the district court shall compel the Secretary to apply the prohibition sought if the court finds that the allegation that an emergency exists is supported by substantial evidence.
- (2) (A) No action may be commenced under subparagraph (1)(A) of this section--
 - (i) prior to sixty days after written notice of the violation has been given to the Secretary, and to any alleged violator of any such provision or regulation;
 - (ii) if the Secretary has commenced action to impose a penalty pursuant to subsection (a) of this section; or
 - (iii) if the United States has commenced and is diligently prosecuting a criminal action in a court of the United States or a State to redress a violation of any such provision or regulation.
 - (B) No action may be commenced under subparagraph (1)(B) of this section--
 - (i) prior to sixty days after written notice has been given to the Secretary setting forth the reasons why an emergency is thought to exist with respect to an endangered species or a threatened species in the State concerned; or
 - (ii) if the Secretary has commenced and is diligently prosecuting action under section 6(g)(2)(B)(ii) of this Act [16 USCS § 1535(g)(2)(B)(ii)] to determine whether any such emergency exists.
 - (C) No action may be commenced under subparagraph (1)(C) of this section prior to sixty days after written notice has been given to the Secretary; except that such action may be brought immediately after such notification in the case of an action under this section respecting an emergency posing a significant risk to the well-being of any species of fish or wildlife or plants.
- (3) (A) Any suit under this subsection may be brought in the judicial district in which the violation occurs.
- (B) In any such suit under this subsection in which the United States is not a party, the Attorney General, at the request of the Secretary, may intervene on behalf of the United States as a matter of right.
- (4) The court, in issuing any final order in any suit brought pursuant to paragraph (1) of this subsection, may award costs of litigation (including reasonable attorney and expert witness fees) to any party, whenever the court determines such award is appropriate.

- (5) The injunctive relief provided by this subsection shall not restrict any right which any person (or class of persons) may have under any statute or common law to seek enforcement of any standard or limitation or to seek any other relief (including relief against the Secretary or a State agency).

60 DAY NOTICE OF INTENT TO SUE FOR VIOLATIONS UNDER THE ENDANGERED SPECIES ACT, MIGRATORY BIRD TREATY ACT, CLEAN AIR ACT, COASTAL ZONE MANAGEMENT ACT (CZMA) AND PUBLIC TRUST DOCTRINE

Helping Hand Tools (2HT) is a California registered 501(c)(3) Non-profit organization organized for the purpose of protecting the environment. 2HT has members in the Carlsbad area. Rob Simpson is the Executive Director of 2HT and has participated in the proceedings for the Carlsbad Energy Center for 6 years. Bob Sarvey also participated in proceedings regarding the project. This Notice is made by 2HT, Rob Simpson and Bob Sarvey to the parties on the service list (above).

On August 4, 2015 the California Energy Commission published a Notice Of Decision¹ certifying the development of the amended Carlsbad Energy Center at 4600 Carlsbad Blvd, Carlsbad CA. Energy Commission Docket 07-AFC-06C.

The project site bisects the inner, middle and outer Aqua Hedionida Lagoon and divides the inner lagoon from the Pacific Ocean. The Agua Hedionda Lagoon is included in the North County Multiple Habitat Conservation Program (MHCP)², which covers a portion of San Diego County. Under the auspices of the MHCP, the city of Carlsbad adopted the Habitat Management Plan (HMP) for Natural Communities in the city of Carlsbad in 2004. The Habitat Management Plan (HMP) for the City of Carlsbad³ states that the Lagoon is a “Hardline Conservation Area”

Migratory birds are an important component of our national heritage and a trust resource. Birds are also important economic resources, given that they prey on numerous species that we consider pests (e.g., some insects and rodents) and generate income to communities through birdwatching. The project will prevent wildlife from being able to perform normal life functions, including feeding, territorial maintenance, migration, and evading predators. It will also result in;

* a substantial adverse effect to wildlife species that are federally-listed or state-listed and proposed to be listed; a substantial adverse effect to wildlife species of special concern to CDFW, candidates for state listing, and animals fully protected in California;

* a substantial adverse effect to plant species considered by CDFW, USFWS, or CNPS to be rare, threatened, or endangered in California with strict habitat requirements and narrow distributions; a substantial impact to a sensitive natural community (i.e., a community that is especially diverse; regionally uncommon; and of

¹ http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-06C/TN205630_20150804T133401_Notice_of_Decision.pdf

² The MHCP establishes a regional effort conducted in conjunction with Section 10a of the Federal Endangered Species Act and the California Natural Communities Conservation Planning Act

³ <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=27193>

special concern to local, state, and federal agencies);

* substantial adverse effects on habitats that serve as breeding, foraging, nesting, and migrating grounds and are limited in availability or that serve as core habitats for regional plant and wildlife populations;

* interfere substantially with the movement of native resident or migratory wildlife species and with established native resident and migratory wildlife corridors, and impede the use of native wildlife nursery sites;

* substantial adverse effect on important riparian habitats or wetlands and other "Waters of the U.S." and state jurisdictional waters;

* conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, and other approved local, regional, state habitat

The threatened species which are the subject of this notice include;

Plants

California adolphia *Adolphia californica* CRPR List 2

Coast woolly-heads *Nemacaulis denudata* var. *denudata* CRPR List 2

Cliff spurge *Euphorbia misera* CRPR List 2; HMP

Orcutt's pincushion *Chaenactis glabriuscula* ssp. *Orcuttiana* CRPR List 1B

South Coast saltscale *Atriplex pacifica* CRPR List 1B

Wart-stemmed ceanothus *Ceanothus verrucosus* CRPR List 2; HMP

Del Mar manzanita *Arctostaphylos glandulosa* var. *crassifolia* FE, CRPR 1B.1

Insects and Crustacea

Saltmarsh skipper butterfly *Panoquina errans* HMP

San Diego fairy shrimp *Branchinecta sandiegonensis* FE; HMP

Fish

Tidewater goby *Eucyclogobius newberryi* FE; CSC

Reptiles

Southwestern pond turtle *Emys marmorata pallida* CSC

Birds

American peregrine falcon *Falco peregrinus anatum* FD; CE, HMP

Belding's savannah sparrow *Passerculus sandwichensis beldingi* CE; HMP

California brown pelican *Pelecanus occidentalis californicus* FE; CE, FP; HMP

California least tern *Sterna antillarum browni* FE; CE, FP; HMP

Coastal California gnatcatcher *Polioptila californica californica* FT; CSC; HMP

Cooper's hawk *Accipiter cooperi* WL; HMP

Elegant tern *Sterna elegans* WL; HMP

Light-footed clapper rail *Rallus longirostris levipes* FE; CE, FP; HMP

Osprey *Pandion haliaetus* WL; HMP

Northern Harrier

Western snowy plover *Charadrius alexandrinus nivosus* FT; CSC; HMP

White-faced ibis *Plegadis chihi* WL; HMP

Mammals

Pocketed free-tailed bat *Nyctinomops femorosaccus*

State Status

CE = State-listed as endangered

CT = State-listed as threatened

CSC = California species of special concern

FP = Fully protected

WL = Watch list

Federal Status

FE = Federally listed as endangered

FT = Federally listed as threatened

FD = Federally delisted

CNPS Status/California Rare Plants Ranking (CRPR)

CRPR List 1B = Plants rare, threatened, or endangered in California and elsewhere

CRPR CNPS List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere

HMP for Natural Communities in the City of Carlsbad

HMP = covered species

STANDARD OF REVIEW FOR ENDANGERED SPECIES ACT

The United States Supreme Court describes the ESA as the “most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). The ESA is designed to provide “a means whereby the ecosystems upon which endangered and threatened species depend may be conserved.” 16 U.S.C. § 1531(b). The U.S. Fish and Wildlife Service (“USFWS”), an agency of the Department of the Interior, administers the Act. Species are listed as “endangered” or “threatened” by the USFWS under Section 4 of the Act, 16 U.S.C. § 1533. A species is “endangered” if it “is in danger of extinction throughout all or a significant portion of its range” 16 U.S.C. § 1532(6). Under Section 9(a)(1)(B) of the ESA it is “unlawful for any person subject to the jurisdiction of the United States to . . . take any [endangered] species within the United States.” 16 U.S.C. § 1538(a)(1)(B). Section 9(a)(1)(G) of the ESA makes it unlawful to violate any regulation pertaining to a threatened or endangered species. 16 U.S.C. § 1538(a)(1)(G). Under Section 4(d) of the Act, USFWS may promulgate regulations extending this prohibition to threatened species when “necessary and advisable to provide for the conservation of the species.” 16 U.S.C. § 1533(d). The legislative history of the ESA indicates that “[t]ake is defined . . . in the broadest possible manner to include every conceivable way in which a person can ‘take’ or attempt to ‘take’ any fish or wildlife.” S. Rep. No. 93-307 at 7 (1973). Section 3 of the ESA defines “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. § 1532(19).³ The statutory definition of the term “take” is further defined by regulations promulgated by the USFWS which define the terms “harm” and “harass,” as used in the Act’s definition of “take.” The USFWS regulations define “harm” to mean: [a]n act that actually kills or injures wildlife. Such acts 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. 50 C.F.R. § 17.3.

The United States Supreme Court upheld this definition of “harm” in *Babbitt v. Sweet Home Chapter of Communities for a Greater Oregon*, 527 U.S. 687 (1995). “Harass” is defined to mean “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding or sheltering.” *Id.* The destruction of habitat relied upon by ESA-listed species constitutes “take.” See

Marbled Murrelet v. Babbitt, 83 F.3d 1060, 1069 (9th Cir. 1996) (activity could be enjoined before take occurs and “a habitat modification which significantly impairs the breeding and sheltering of a protected species amounts to ‘harm’ under the ESA”); Marbled Murrelet v. Pacific Lumber Co., 880 F. Supp. 1343, 1367 (N.D. Cal. 1995) (timber harvesting during breeding season could “harass” marbled murrelets by “annoying them to such an extent that it will significantly disrupt their normal behavior patterns”). The primary mechanism for avoiding liability under Section 9 is to apply for and receive an incidental take permit (“ITP”). 16 U.S.C. § 1539(a)(1)(B). In exchange for permission to “take” a listed species pursuant to an ITP, the permit applicant must commit to implement a plan that conserves the species. *Id.* §§ 1539(a)(1)(B), (a)(2)(A); see also *Sierra Club v. U.S. Fish and Wildlife Serv.*, 245 F.3d 434, 441-42 (5th Cir. 2001) (“[c]onservation’ is a much broader concept than mere survival” because the “ESA’s definition of ‘conservation’ speaks to the recovery of a threatened or endangered species” (emphasis added)). This plan is called a Habitat Conservation Plan (“HCP”) and it must delineate “the impact which will likely result from such taking” and the “steps the applicant will take to minimize and mitigate such impacts” 16 U.S.C. § 1539(a)(2)(A).

The recipients of this notice are causing harm through allowing significant habitat modification or degradation, which will result in death or injury to the California Gnatcatcher and the other threatened, and protected species and species of special concern identified in this notice, by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. This will result in injury and death to known endangered species described herein as a result of the destruction and degradation of suitable habitat.

Additionally, you are liable for any actions that you authorize others to undertake on your behalf. *Strahan v. Coxe*, 127 F.3d 155, 163 (1st Cir. 1997), cert. denied, 525 U.S. 830 (1998) (holding state liable for take of endangered right whales by virtue of its licensing of private commercial fishing with equipment that caused whale entanglements and deaths); see also *Loggerhead Turtle v. County Council of Volusia County*, 148 F.3d 1231, 1251 (11th Cir. 1998), cert. denied, 526 U.S. 1081 (1999); *Defenders of Wildlife v. Administrator, EPA*, 882 F.2d 1294 (8th Cir. 1989); *Cascadia Wildlands v. Kitzhaber*, 911 F. Supp. 2d 1075 (D. Or. 2012).

This notice provides the grounds upon which we will file suit. We intend, at the close of the 60-day notice period, to file a citizen suit against you under Section 11 of the Endangered Species Act for these and any and all similar violations seeking declaratory and injunctive relief, as well as fees and costs. We are willing to discuss effective remedies for the violations in this letter during the 60-day notice period. If you wish to pursue such discussions in the absence of litigation, please contact me.

The recipients decisions are subject to judicial review to ascertain whether "the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." *Citizens to Preserve Overton Park, Inc. v. Volpe*, [*supra*, 401 U.S. at 416, 91 S.Ct. at 824, 28 L.Ed.2d at 153](#). See Title 16, U.S.C., Section 1540(g).

This letter is provided pursuant to the 60-day notice requirement of the citizen suit provision of the Act, 16 U.S.C. § 1540(g)

Each recipient of this notice failed to follow their mandate and are in violation of Section 7 of the ESA for failing to: Complete consultation on the project within the prescribed timeframe as required by Section 7(b); b. Insure its actions are not likely to jeopardize the continued existence of endangered and threatened species as required by Section 7(a)(2); The recipients are in violation of Section 9 of the ESA for unlawful take of endangered and threatened species because: Section 9 of the ESA prohibits any "person" from "taking" threatened and endangered species. 16 U.S.C. § 1538. The definition of "take", also bans those acts of a third party that bring about the acts exacting a taking. . . . [A] governmental third party pursuant to whose authority an actor directly exacts a taking of an endangered species may be deemed to have violated the provisions of the ESA." *Strahan v. Coxe, et al*, 127 F.3d 155, 163 (1st Cir. 1997)

The test for obtaining a preliminary injunction under the ESA is different from the traditional test. "Congress has determined that under the ESA the balance of hardships always tips sharply in favor of endangered or threatened species." *Marbled Murrelet*, 83 F.3d at 1073. In order to prevail, "[t]he plaintiff must make a showing that a violation of the ESA is at least likely in the future." *Nat'l Wildlife Fed'n v. Burlington Northern R.R., Inc.*, 23 F.3d 1508, 1511 (9th Cir. 1994).

We alerted the recipients throughout the licensing of this project that a substantial dispute existed, that violations of the ESA and other laws would occur if the project was certified. The recipient's analyses (and/or failures to analyse) likely biological impacts actions were methodologically flawed, reliance on which was arbitrary and capricious. They did not adequately consider the best evidence or science in their decision(s). This constituted an abuse of the agency's discretion. We may not wait 60 days to file suit on issues that are not subject to the 60 day notice requirement.

The major impacts to species from the facility would stem from; the toxic thermal plumes, new web of overhead high voltage wires, plus the light and noise from construction and operation of the facility. These issues are further briefed in my filings before the CEC and incorporated herein.

TOXIC THERMAL PLUME

This is merely the latest in a string of flawed decisions involving the CEC and NRG team. In the Ivanpah decision significant avian impacts resulted from heat impacts and the USFWS is presently investigating⁴. The CEC declined to recognize the similarities. With no further explanation than the Decision statement The comparison to the Ivanpah facility is inappropriate as Ivanpah's avian issues are related to solar flux, a phenomena not present here. The asinine statement is not based in science or fact. Solar flux in this context is a type of thermal plume, The NRG Carlsbad facility will incinerate birds even more effectively than Ivanpah particularly due to its location in the middle of a wildlife sanctuary. One could design a more efficient bird killing system. If Ivanpah is a **mega-trap** as the USFWS report states, Carlsbad will be a **turbocharged super mega-trap**

⁴http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN202538_20140623T154647_Exh_3107_Kagan_et_al_2014.pdf

The USFWS further clarified its report ⁵We determined that a minimum temperature of 400° Celsius is required to damage feathers. The question remains whether birds exposed to lower, but still potentially fatal, temperatures suffer soft tissue burns and/or hyperthermia. Birds flying through the solar flux at various speeds and distances from the power tower will encounter a range of elevated temperatures. Exposure to temperatures as low as 65° Celsius for 5 seconds and 160° Celsius for 0.3 milliseconds has been shown to cause cell death in laboratory studies (Simanovskill et al., 2005). This suggests that some birds exposed to solar flux could experience temperatures sufficient to cause death without producing feather burns. Feathering, body size and time spent within the solar flux field are variables that may affect the character of injury.

Carlsbad will emit a 415° Celsius 80 mile per hour toxic plume. The plumes will cause instant death to any species that comes into contact with it. The project is planned to be positioned in the most direct fly zone between the lagoon and Pacific Ocean. The CEC acknowledges that avian resources utilize this airspace. The September 25, 2014 - Public Workshop, Biological Resources Presentation ⁶ states, "Species occurring at the CECF site are common species, acclimated to development, such as small rodents, lizards, and birds such as crows and pigeon. There is also potential for brief interaction of less urbane species associated with the Lagoon, such as overflight."

The FSA states; "a vertical velocity of 4.3 m/s (plume average velocity) has been determined as the critical velocity of concern to light aircraft. For the amended gas turbines the worst-case height at which the plume average velocity drops below 4.3 m/s is calculated to be 2,200 feet, which is much higher than the 1,070 feet calculated for the approved gas turbine/HRSG design. At this 2,200 foot height the plume diameter for the amended gas turbines is calculated to be 673 feet which is much greater than the 299 foot diameter of the plume for the approved gas turbines/HRSG at 1,070 feet. Therefore, the amended gas turbine design would increase the potential risk to light aircraft from plume turbulence. For the amended air cooler design the worst-case height at which the plume average velocity drops below 4.3 m/s is calculated to be 1,020 feet. This is somewhat lower than for the approved air cooler design that had a calculated worst-case height of 1,410 feet with a 4.3 m/s plume average velocity."

The facility cannot be operated without threat to all species in the fly zone. While it is unclear at what height the plume goes from kill to harassment of avian species, the plume represents a threat to aviation at 2200 feet and at that height the plume diameter would be 673 feet or (356,787 square feet), which will be well into the airspace above the lagoon, even without considering the effects of the prevailing

⁵ http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN202786_20140724T081947_Response_to_Request_for_Clarification_Regarding_Solar_FluxRelat.pdf

⁶ http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-06C/TN203136_20140930T134724_September_25_2014_Public_Workshop_Biological_Resources.pdf

wind. It is not just the temperature, velocity or toxic emissions in the plume that represent negative impacts but the combination of the three, and the plumes from the cooling equipment. Birds, bats and insects may also be lured to their death as a result of the lighting to be installed on each of the 6 smokestacks. Notably the proceeding before the CEC was an amendment of an environmentally superior, yet still flawed, approval for a project with 1/3 the number of smokestacks and less than 1/2 the plume velocity. The noise and light from the facility may interfere with plant life as well as animal life. The project should demonstrate what volume of insect life will be sucked up into its vortex of death and what impact the loss will have on the food supply for animals that eat insects like the Gnatcatcher. Notably the HCCP identified the entire project site as within the Saltmarsh Skipper Butterfly habitat.

Because the Plume will cause the airspace in the vicinity to be closed, air traffic will be redirected. It appears that this redirection will cause air traffic to utilize space above the adjacent wetlands. This impact must also be studied under Memorandum of Agreement Between the Federal Aviation Administration, the U.S. Air Force, the U.S. Army, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture to Address Aircraft-Wildlife Strikes Carlsbad 2003⁷

WEB OF OVERHEAD HIGH VOLTAGE WIRES

The project includes a web of new high voltage wires in the coastal zone which represents another detrimental edge effect against the habitat. Avian species will be killed through impact with the transmission lines. This could have been mitigated by placing the wires underground, but the CEC declined to adopt this mitigation.

These issues are of particular concern for the California Gnatcatcher. U.S. Fish and Wildlife Service Carlsbad Fish and Wildlife Office Carlsbad, California 2010 Coastal California Gnatcatcher 5-year Review *states*; "The gnatcatcher generally disperses short distances through contiguous, undisturbed habitat, but juvenile gnatcatchers are capable of dispersing long distances (up to 22 kilometers) (14 miles) across fragmented and highly disturbed sage scrub habitat, such as that found along highway and utility corridors or remnant mosaics of habitat adjacent to developed lands (Bailey and Mock 1998, p. 359; Famolaro and Newman 1998, p. 449; Galvin 1998, p. 330)." ⁸ The utility project is planned to be directly adjacent to Scenic Highway One.

The spacing of the wires is insufficient to protect the brown pelican from touching both leads at once and becoming electrocuted, despite repeated requests that the CEC provide adequate spacing.

NOISE AND LIGHT

The Notice for the project discloses a plan for 5 years of construction of the new facility and demolition of existing facilities. The FSA includes extensive evidence of

⁷ http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-06C/TN204350_20150424T110405_CARLSBAD_supplemental_BRIEF.pdf

⁸ http://www.fws.gov/ecos/ajax/docs/five_year_review/doc3571.pdf

noise above 60db in the lagoon during construction. The rudimentary mitigation proposed by the CEC (a phone number to call with noise complaints) is woefully inadequate to protect the habitat and affected species. The CEC should not rely on the 60db threshold to demonstrate no impact on the estuary. An actual analysis of the impact should occur. The noise causes a net loss of estuary and shoreline habitat. The HMP no net loss rule requires that the project include mitigation in the form of replacement habitat.

The Decision states **Noise Table 1 Predicted ACECP Construction Noise Impacts** Construction noise is estimated to be 90 dBA at 50 feet, based on the loudest activities, site clearing and cleaning.

The 2009 Decision states; “excessive construction noise has the potential to disrupt the nesting, roosting, or foraging activities of sensitive wildlife, especially wildlife in the middle lagoon of Agua Hedionda, which is approximately 110 feet north of the CECP site.”

The CEC Final Decision⁹ defers consideration and public scrutiny of biological issues. With the Decision’s feigned ignorance of the issues raised herein there is no indication that these issues will subsequently be considered. The Decision states; “The Biological Resources Mitigation Implementation and Monitoring Plan **BIO-6** The project owner shall submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFW and USFWS (for review and comment) and shall implement the measures identified in the approved BRMIMP”

This falls well short of the HMP requirement. It omits the requirement for USFWS et al, written concurrence or even approval, which should ostensibly be at this time since the CEC has already determined that noise will exceed the threshold at the riparian canopy edge. If the CEC prior submission to USFWS and purportedly to CDFW is any indication of how they will manage this submission it will be woefully inadequate¹⁰. This 60-Day Notice of Intent to Sue for Violations of the Endangered Species Act Includes Failure to Initiate Consultation with the U.S. Fish and Wildlife Service

The HMP states; Construction noise levels at the riparian canopy edge shall be kept below 60 dBA Leq (Measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a one-hour period on an a weighted decibel (dBA)(i.e., 1 hour Leq/dBA). Noise levels shall be

⁹ http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-06C/TN205625_20150803T162317_Carlsbad_Amen_dments_Final_Commission_Decision.pdf

¹⁰ Notably the CEC apparently sent “Solicitation For Agency Participation in the Review of Amendment Requests to the Licensed Carlsbad Energy Center Project” but the document can be categorized as more of a smokescreen, rainbows and unicorns, sales pitch, extolling purported benefits of the project instead of alerting decision makers of actual potential impacts of the project. It wrongly states a number of issues including “Transmission components and alignments will not be modified from the licensed CECP.” The service list appears to exclude California Department of Fish and Wildlife and is sent without a particular recipient to the local USFWS office. http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-06C/TN202717_20140717T093934_Solicitation_For_Agency_Participation_in_the_Review_of_Amendmen.pdf

monitored and monitoring reports shall be provided to the jurisdictional city, USFWS, and CDFG. Noise levels in excess of this threshold shall require written concurrence from USFWS and CDFG and may require additional minimization/mitigation measures. HMP

The CECP's (operational) noise levels at both M5 and M7 were predicted to reach 51 dBA Leq... Measuring Location M5: On a bluff above the Hubs-SeaWorld facility and on a residential property line, approximately 2,450 feet northwest of the center of the ACECP site... Measuring Location M7: On a bluff at the end of Harbor Drive, overlooking the Agua Hedionda Lagoon and I-5, approximately 2,350 feet north-northwest of the center of the ACECP site. *And that* M4: North of Tierra Del Oro Southwest corner of EPS housing 400 feet 72 db. There is no explanation of how noise in the adjacent habitat will remain below 60db when operational noise in the other direction will be 72 db at 400 feet.

Instead of an actual operational noise analysis for the proposed project the CEC relied on an analysis that occurred for another facility (Sentinel). Relevant excerpts from the FSA include; "Sentinel is a nominally rated 850-megawatt (MW) electrical generating facility consisting of eight GE LMS100 CTGs in a simple-cycle configuration. Each unit consists of inlet housing, intercooler, cooling tower, selective catalytic reduction (SCR) system, oxidation catalyst and exhaust stack. Zero Liquid Discharge equipment and fuel-gas compressors are also located at the facility. A noise survey was conducted on April 10, 2013 to verify the facility's compliance with its Energy Commission license (CPV2013). The results of the survey concluded that the noise level from the facility was 48 dBA at approximately 1,750 feet from the center of the power plant site. Sentinel's electrical generation during the period of the measurement survey was steady state at approximately 850 MW. Based on the operational noise data for Sentinel, staff expects that the amended CECP (a 632 MW project consisting of only six GE LMS100 CTGs) would be able to comply with **NOISE-4's** 53 dBA at the nearest residential receptors, M2 and M7, which are approximately 2,950 feet and 2,350 feet from the center of the proposed project site, respectively... **Sound and Distance** Doubling the distance from a noise source reduces the sound pressure level by six dB... **PUBLIC COMMENTS** Laura Keany provided public comment on noise and vibration during the evidentiary hearings, indicating her preference that noise be minimized, particularly during demolition and construction. Jan Berry also commented that the project size should be reduced due to noise issues. As we discuss above, we have adopted conditions of certification to minimize noise levels. There is no evidence of a correlation between the size of the project (number of turbine generators) and its noise generation...

Distance from Nearest Biological Receptor (feet) Highest Noise Levela (dBA Leq)

Demo ASTs 1,2, 4 ~350 feet from Lagoon 73

Demolition EPS ~600 feet from Lagoon 68"

Using the nebulous 48 db at 1750 feet from Sentinal, which does not consider Carlsbad wind patterns and other local effects and the fact that "Doubling the distance from a noise source reduces the sound pressure level by six dB" and conversely that halving the distance increases sound pressure by 6 db, at half the distance 875 feet the noise level would be 54 db and half that distance 437.5 feet the

noise would be 60 db. The FSA further states that the project is ~350 feet from Lagoon, this means that much of the lagoon at least between ~350-437.5 feet from the lagoon will be subject to operational noise levels above 60db. Prevailing winds will greatly exacerbate this threat to the habitat. There is no disclosure of, if the tones from the facility operation will act as an attractant the wildlife luring them to their death or a repellent causing them to abandon the habitat.

PUBLIC TRUST DOCTRINE/CZMA VIOLATIONS.

"By the law of nature these things are common to mankind — the air, running water, the sea and consequently the shores of the sea."(Institutes of Justinian). All of the violations in this notice are violations of the Public Trust Doctrine. Violations that are also specific to the Public Trust Doctrine include the closure of airspace in the Coastal Zone.

The FSA states; In addition to airport departure and arrival traffic over the existing EPS and amended CECP site, small aircraft pulling banner ads along the Pacific coastline beaches and aircraft patrolling traffic conditions along I-5 regularly fly within the coastline Flyway Zone at altitudes below 1,500 feet AGL and regularly fly directly over the existing EPS and amended CECP site (CEC2015v)...

As discussed earlier in this **Traffic and Transportation** section, aircraft departing from and arriving at McClellan-Palomar Airport could possibly experience impacts from the plumes. Aircraft using the VFR route directly over the site could also possibly experience plume impacts, as could California Highway Patrol and lifeguard helicopters that regularly fly within close proximity of the amended CECP site during patrol of state highways and beaches...

TRANS-3 Prior to start-up and testing activities of the plant and all related facilities, the project owner shall work with the FAA **and the county of San Diego at McClellan-Palomar Airport** to notify all pilots using the McClellan-Palomar Airport and airspace above the CECP of potential air hazards. These activities would include, but not be limited to, the applicant's **project owner** working with the FAA in issuing a notice to airmen (NOTAM) of the identified air hazard and updating the Terminal Area Chart and all other FAA-approved airspace charts used by pilots that include the CECP site to indicate that pilots should avoid direct overflight."

The Public Trust Doctrine is; "The principle that certain natural and cultural resources are preserved for public use, and that the government owns and must protect and maintain these resources for the public's use. For example, under this doctrine, the government holds title to all submerged land under navigable waters. Thus, any use or sale of such land must be in the public interest."¹¹

The FSA states; "INTERVENOR: HELPING HAND TOOLS/ROBERT SIMPSON, TN 203587

¹¹ Definition from Nolo's Plain-English Law Dictionary

Comment 21. Please explain whether the waters of Agua Hedionda are waters of the United States as defined in the Coastal Zone Management Act. Response: Yes, the lagoon is considered a water of the U.S."

The public has a right to use the airspace in the Coastal Zone as common highway for commerce, trade and other uses. The parties subject to this notice may not impede or obstruct navigation of aircraft. The CEC condition to seek FAA approval after the project is built creates a Fait accompli whereas the FAA would need to approve the airspace restriction or California would be burdened with a billion dollar facility and possible need for electricity that could not otherwise be readily satisfied.

The restriction of airspace in the coastal zone will obstruct scenic flights and transportation to the sea (including by emergency services). It will obstruct commerce like "aircraft pulling banner ads along the Pacific coastline beaches" and freedom of the press like "aircraft patrolling traffic conditions along I-5 (AKA scenic Highway one)" To be clear this is not some, no trespassing sign on the way to the shoreline. This is anti-aircraft device will be a death trap. It will emit an often invisible barrier with that can literally blow aircraft out of the air and send the occupants to fiery deaths, if they even accidentally enter the airspace. The kill zone may greatly exceed the plume velocity impact area because the toxic emissions will displace the oxygen that aircraft engines rely on to operate.

PSD DETERMINATION VIOLATION

The CEC exceeded its authority by making a PSD determination "We delete existing Condition of Certification **AQ-SC11** as Prevention of Significant Deterioration (PSD) permitting does not apply to the ACECP" The CEC does not have authority to make such a determination. This is a violation of the Clean Air Act. The project is subject to a PSD determination by the EPA.

VIOLATIONS OF THE HABITAT MANAGEMENT PLAN/MIGRATORY BIRD ACT

The following excerpts from the HMP are the areas that the project violates, particularly the areas that we have emphasised by underlines. The Lagoon represent Hardline Conservation Core area 4 in zone 8;

Conserved Populations/Locations: Estuarine and salt marsh habitats associated with Buena Vista, Agua Hedionda, and Batiquitos support major/critical populations of the Western Snowy Plover. The HMP will conserve 100% of these habitats. The HMP will conserve all known nesting locations within the preserve. Measures to Reduce Threats to Species' Survival: Management measures will focus on restricting activities within the preserve that degrade this species' foraging and nesting habitats by controlling nonnative plants, maintaining the hydrology and water quality of salt marsh and estuarine habitats, and protecting these habitats from physical disturbances. Human activity will be restricted near nesting habitat during the breeding season (April 1 through August 31). Management measures may also

include a predator control program and the restoration and enhancement of breeding areas. Expected Impacts Direct Impacts: No direct impacts to the Western Snowy Plover are expected because salt marsh and estuarine habitats will be 100% conserved by the HMP preserve system and the City's no-net loss of wetlands policy.

The specific biological objectives of the Plan are to: • Conserve the full range of vegetation types remaining in the City, with a focus on rare and sensitive habitats; • Conserve areas of habitat capable of supporting the HMP Species in perpetuity; and • Maintain functional wildlife corridors and habitat linkages within the City and to the region, including linkages that connect gnatcatcher populations and movement corridors for large mammals. The specific conservation objectives of the Plan are to: • Maintain functional biological cores; • Maintain functional linkages and movement corridors; • Conserve rare vegetation communities; • Conserve narrow endemic species and maintain populations of target species; and • Apply a "no net loss" policy to the conservation of wetlands, riparian and oak woodland habitats. The specific land use objectives of the Plan are to: • Protect important wildlife habitats while allowing for orderly growth and development;

Harass: A form of incidental take under the federal Endangered Species Act; defined in federal regulations as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering (50 CFR 17.3). Harm: A form of incidental take under the federal Endangered Species Act; defined in federal regulations as an act which actually kills or injures wildlife. Such acts 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 (50 CFR 17.3). Incidental Take: The taking of a federally listed wildlife species, if such taking is incidental to and not the purpose of carrying out otherwise lawful activities. (Also see Take.)

Mitigation: Measures undertaken to diminish or compensate for the negative impacts of a project or activity on the environment, including: (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (e) compensating for the impact by replacing or providing substitute resources or environments.

Preserve: As a noun, an area set apart for the protection of wildlife and natural resources.

D. Core 4 and Linkage FPAs The Core 4 FPA, (approximately 1,063 acres), located in west-central Carlsbad, includes Agua Hedionda Lagoon and upland habitats immediately east of the lagoon. Critical vegetation communities within this Core include saltmarsh, freshwater marsh, and riparian scrub. Major areas of coastal sage scrub are also present, as are small patches of grassland, southern maritime chaparral, southern mixed chaparral, and coastal sage scrub/chaparral. Critical populations of saltmarsh skipper butterfly, light-footed clapper rail, western snowy plover, California least tern, and Belding's Savannah sparrow occur in the estuarine habitats associated with Agua Hedionda Lagoon¹². This coastal wetland is also critical for American peregrine falcon and California brown pelican. A major population of wart-stemmed ceanothus is associated with southern maritime chaparral east of the lagoon. Core 4 has linkages to Core 2 (Linkage Area B, see above), Core 3 (Linkage Area B, see above), Core 6 (Linkage Area F), and Core 8 (Linkage Area F).

Most of Zone 8 is comprised of existing or proposed hardline preserve areas. The habitats in Zone 8 comprise much of Core Area 4, and link to other cores to the northeast (via Linkage Area B), southeast (via Linkage Area F), and west (Agua Hedionda Lagoon). This zone supports a variety of sensitive habitats, including critical salt marsh, freshwater marsh, and riparian scrub habitats as well as a major stand of coastal sage scrub. A small patch of southern maritime chaparral is located in and adjacent to agriculture, non-native grassland, southern mixed chaparral, and disturbed land. Marsh habitats associated with Agua Hedionda Lagoon support critical populations of California least tern, western snowy plover, Belding's Savannah sparrow, light-footed clapper rail, and potentially salt marsh skipper. Riparian habitats support breeding least Bell's vireos and potentially southwestern willow flycatchers. California gnatcatchers inhabit most of the sage scrub in this zone, and Del Mar manzanita occurs in the southern maritime chaparral

1. Biological Resource Issues Most of Zone 8 is comprised of existing or proposed hardline preserve areas. The habitats in Zone 8 comprise much of Core Area 4, and link to other cores to the northeast (via Linkage Area B), southeast (via Linkage Area F), and west (Agua Hedionda Lagoon). This zone supports a variety of sensitive habitats, including critical salt marsh,

¹² (Notably the updated MHCP identifies a "critical location" for the Western Snowy Plover and California Least Tern directly next to the project site)

http://www.sandag.org/programs/environment/habitat_preservation/mhcp_vol2.pdf

(Notably the updated MHCP identifies a "critical location" for the Western Snowy Plover, Belding's Savannah Sparrow and California Least Tern directly next to the project site)

http://www.sandag.org/programs/environment/habitat_preservation/mhcp_vol2.pdf

freshwater marsh, and riparian scrub habitats as well as a major stand of coastal sage scrub. A small patch of southern maritime chaparral is located in and adjacent to agriculture, non-native grassland, southern mixed chaparral, and disturbed land. Marsh habitats associated with Agua Hedionda Lagoon support critical populations of California least tern, western snowy plover, Belding's Savannah sparrow, light-footed clapper rail, and potentially salt marsh skipper. Riparian habitats support breeding least Bell's vireos and potentially southwestern willow flycatchers. California gnatcatchers inhabit most of the sage scrub in this zone, and Del Mar manzanita occurs in the southern maritime chaparral. 2. HMP Conservation Goals Ensure no net loss of wetland habitats and minimize loss of sensitive upland habitats within Core Area 4, especially occupied coastal sage scrub. Conserve major and critical populations of HMP species and populations of Narrow Endemic species. Maintain contiguity between upland and wetland habitats within the zone, as well as continuity of sensitive upland habitats across the zone from southeast to northwest.

Panoquina errans (Saltmarsh Skipper Butterfly) • Conserve Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh habitat within the City. • Manage preserve areas to minimize edge effects, control invasive non-native plants, maintain Saltmarsh hydrology and water quality, and protect Saltmarsh habitat from physical disturbances. • Where opportunities arise, restore and enhance habitat in preserve areas. Control exotic plants. • Preserve habitat adjacent to the lagoons to the maximum extent possible

Falco peregrinus anatum (American Peregrine Falcon) • Conserve Saltmarsh habitat (i.e., foraging) at Buena Vista, Agua Hedionda and Batiquitos Lagoons and in SRAs consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh habitat within the City. • Manage conserved areas to minimize edge effects, control invasive nonnative plants, maintain Saltmarsh hydrology and water quality, protect Saltmarsh habitat from physical disturbances and control predators. • Where opportunities arise, restore and enhance habitat in preserve areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible. Measures to Reduce Threats to Species' Survival: Management measures will focus on stabilizing and maintaining the wintering foraging opportunities for the peregrine. Management will also focus on restricting activities within the preserve that degrade or disturb this species' foraging habitat.
c. Expected Impacts Direct Impacts: Direct impacts to the species are unlikely to occur due to the 100% preservation of the lagoons, the City's no-net-loss of wetlands policy, and additional protection afforded wetland habitat by federal and state regulations. Indirect Impacts: Indirect impacts to the Peregrine Falcon are likely to be negligible and may occur due to disturbances and degradation of habitat adjacent to the lagoons. d. Basis for Take Authorization The HMP meets

take authorization standards for this species due to adequate conservation of winter foraging habitat within Batiquitos and Agua Hedionda lagoons; additional protection afforded wetland habitat by federal and state regulations; and the City's no-net-loss of wetlands policy

Passerculus sandwichensis beldingi (Belding's Savannah Sparrow) • Conserve Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons and in SRAs consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh habitat within the City. • Conserve all major populations of this species at Agua Hedionda and Batiquitos Lagoons. • Manage conserves areas to minimize edge effects, control invasive nonnative plants, maintain Saltmarsh hydrology and water quality, protect Saltmarsh habitat from physical disturbances, and control predators. • Where opportunities arise, restore and enhance habitat in preserve areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible.

Passerculus sandwichensis beldingi. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the major nesting areas at Agua Hedionda and Batiquitos Lagoons, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.

Pelecanus occidentalis californicus (California Brown Pelican) • Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City. • Manage preserved areas to minimize contamination by pesticides, oil, and other pollutants; reduce disturbances at important foraging and roosting areas, and maintain lagoon hydrology and water quality (e.g.; 100 foot setback from existing wetland habitats).

Pelecanus occidentalis. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the major resting areas at Agua Hedionda, Buena Vista and Batiquitos Lagoons, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.

Sterna antillarum browni (California Least Tern) • Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons (considered critical locations) consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City. • Manage preserved areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, protect habitats from physical disturbances, control

predators, and maintain vegetation to provide optimal conditions for breeding. • Where opportunities arise, restore and enhance habitat in preserved areas and preserve habitat adjacent to the lagoon. • Manage nesting sites at Batiquitos Lagoon.

Habitat/Distribution The California Least Tern requires coastal beaches and saltflats for colonial breeding and intertidal and estuarine waters for foraging. The colonially breeding species is distributed along the coast from San Francisco Bay to Baja California. San Diego County supports nearly half of the state's breeding Least Terns. In northern San Diego County, only Batiquitos Lagoon supports breeding Least Terns (Fancher 1992). b. Conservation Goals Conserved Habitat: Buena Vista, Agua Hedionda, and Batiquitos lagoons contain approximately 934 acres of estuarine and salt marsh habitat that support or potentially support the California Least Tern. Of this total, approximately 917 acres (98%) are located in preserve areas. In addition, 100% conservation of salt marsh and estuarine habitat outside of preserve areas is expected due to a low potential for impacts, the City's no-net-loss of wetlands policy, and the additional protection afforded these habitats by state and federal wetlands regulations. Conserved Populations/Locations: Estuarine and salt marsh habitats within Buena Vista, Agua Hedionda, and Batiquitos lagoons support major populations and are considered critical locations for the California Least Tern. These habitats are expected to be 100% conserved by the HMP. Measures to Reduce Threats to Species' Survival: Management measures will focus on minimizing adverse edge effects; controlling nonnative plants; predator control; maintaining of salt marsh and estuarine habitats; and protecting these habitats from physical disturbances. Restrictions will be placed on human activities near roosting and breeding areas during the breeding season. Management measures may also include the enhancement of habitat at Buena Vista and/or Agua Hedionda Lagoons to induce the initiation of new breeding colonies. Vegetation will be managed at existing nesting areas to maintain optimal conditions for Least Tern breeding. c. Expected Impacts Direct Impacts: No direct impacts to the California Least Tern are expected because salt marsh and estuarine habitats will be 100% conserved by the HMP preserve system and the City's no-net loss of wetlands policy. However, lagoon maintenance or enhancement projects or essential public works projects may temporarily take California Least Tern habitat. These impacts would be mitigated through creation of expanded California Least Tern sparrow habitat. Indirect Impacts: Indirect impacts to the Least Tern could result from the degradation of estuarine and salt marsh habitats. These impacts could include adverse changes in the hydrology or water quality of salt marsh and estuarine habitats as well as increases in adverse edge effects and human related disturbances. Potential indirect threats to this species will be minimized by preserve-level and site-specific management measures. d. Basis for Take Authorization The HMP meets take authorization standards for this species due to conservation of major populations at Buena Vista, Agua Hedionda and

Batiquitos Lagoons; 100% conservation of salt marsh and estuarine habitats; the City's no-net-loss of wetlands policy and application of measures contained in Table 9; and specific management measures intended to reduce identified threats to conserved populations.

Sterna elegans (Elegant Tern) • Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City. • Manage preserved areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, protect habitats from physical disturbances, control predators, and maintain vegetation to provide optimal conditions for breeding. • Where opportunities arise, restore and enhance habitat in preserved areas. • • Habitat adjacent to the lagoons will be preserved to the maximum extent possible.

Sterna elegans. Conditions for coverage - The long-term preserve management plan shall provide area specific directives to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Incidental take of the species during the breeding season is prohibited except as specifically authorized on a case-by-case basis by the wildlife agencies. The long-term management plan shall address enhancement of other potential Elegant Tern nesting areas, such as Buena Vista Lagoon, including nesting sites and water quality.

Sterna elegans, Elegant Tern a. Habitat/Distribution Estuarine and intertidal zones of beaches are foraging habitat for Elegant Terns. Beaches and lagoon shoreline provide roosting habitat. This bird is an abundant summer resident in San Diego County. Elegant Terns first bred north of Baja California in 1959 on the dikes of the Western Salt Works in south San Diego Bay. This site is the only known colony in San Diego County, which has steadily grown in size since its discovery. No breeding colonies are known in the MHCP area. A colony has recently formed at the Bolsa Chica wetlands in Orange County. b. Conservation Goals Conserved Habitat: Buena Vista, Agua Hedionda, and Batiquitos lagoons contain approximately 934 acres of estuarine and salt marsh habitat that support or potentially support the Elegant Tern. Of this total, the HMP includes approximately 917 acres (98%) in preserve areas. In addition, 100% conservation of salt marsh and estuarine habitat outside of preserve areas is expected due to a low potential for impacts, the City's no-net-loss of wetlands policy, and the additional protection afforded these habitats by state and federal wetlands regulations. Conserved Populations/Locations: Estuarine and salt marsh habitats within Buena Vista, Agua Hedionda, and Batiquitos lagoons are considered critical locations for the Elegant Tern. These habitats are expected to be 100% conserved by the HMP. Measures to Reduce Threats to Species' Survival: Management measures will focus on minimizing adverse edge effects; controlling

nonnative plants; maintaining the hydrology and water quality of salt marsh and estuarine habitats; and protecting these habitats from physical disturbances. Restrictions will be placed on human activities near roosting or potential breeding areas during the breeding season. Management measures may also include a predator control program and the enhancement of habitat to induce the initiation of new breeding colonies. Special Considerations: Although no breeding colonies are known from the planning area, a breeding colony has recently formed at the Bolsa Chica wetlands in Orange County.. Expected Impacts Direct Impacts: No direct impacts to the Elegant Tern are expected because salt marsh and estuarine habitats will be 100% conserved by the HMP preserve system and the City's no-net loss of wetlands policy. Indirect Impacts: Indirect impacts to the Elegant Tern could result from the degradation of estuarine and salt marsh habitats. These impacts could include adverse changes in the hydrology or water quality of salt marsh and estuarine habitats as well as increases in adverse edge effects and human related disturbances. Potential indirect threats to the this species will be minimized by preserve-level and site-specific management measures. d. Basis for Take Authorization The HMP meets take authorization standards for this species due to 100% conservation of salt marsh and estuarine habitats; the City's no-net-loss of wetlands policy and application of measures contained in Table 9; and specific management measures intended to reduce identified threats to conserved populations.

Passerculus sandwichensis rostratus (Large-billed Savannah Sparrow) • Conserve approximately 99% of Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons. • Assure no net loss of Saltmarsh habitat within the City. • Manage conserved areas to minimize edge effects, control invasive non-native plants, maintain Saltmarsh hydrology and water quality, protect Saltmarsh habitat from physical disturbances, and control predators. • Where opportunities arise, restore and enhance habitat in preserve areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible

Passerculus sandwichensis rostratus, Large-billed Savannah Sparrow a. Habitat Requirements Large-billed Savannah Sparrow is restricted to salt marsh, mud flat, and low coastal strand vegetation during the winter. This wintering subspecies of Savannah Sparrow typically inhabits coastal marshes and beaches and has remained scarce during the 1980s, although small numbers have appeared intermittently along the southern California coast and at the Salton Sea (Unitt 1984). b. Conservation Goals Conserved Habitat: Buena Vista, Agua Hedionda, and Batiquitos lagoons contain approximately 151 acres of southern coastal salt marsh habitat within the City of Carlsbad. Of this total, an estimated 140 acres (93%) are located within the preserve areas. In addition, 100% conservation of salt marsh habitat outside of preserve areas is expected due to a low potential for impacts, the City's no-net-loss of wetlands policy, and the additional protection afforded wetlands by state and federal regulations.

Conserved Populations/Locations: Salt marsh habitats within Agua Hedionda and Batiquitos lagoons are considered critical locations for this species in the planning area. These habitats are expected to be 100% conserved by the HMP. Measures to Reduce Threats to Species' Survival: Management measures will focus on minimizing edge effects; controlling invasive, nonnative plants; maintaining salt marsh hydrology and water quality; and protecting salt marsh habitat from physical disturbances. Management measures may also include a predator control program and a habitat enhancement or restoration program designed to allow for the expansion of Large-billed Savannah Sparrow populations into new locations.

c. Expected Impacts Direct Impacts: No direct impacts to Large-billed Savannah Sparrow are expected because salt marsh habitats will be conserved by the HMP preserve system and the City's no-net loss of wetlands policy. In addition, specific adaptive management measures will address water quality and protect this species against detrimental edge effects from developing recreational impacts, and other direct and indirect impacts.

Indirect Impacts: Indirect impacts to the Large-billed Savannah Sparrow could result from the degradation of salt marsh habitat. These impacts could include an increase in adverse edge effects or changes in salt marsh hydrology or water quality. Potential indirect threats to the Large-billed Savannah Sparrow will be minimized by preserve-level and site-specific management measures.

d. Basis for Take Authorization The HMP meets take authorization standards for this species due to 100% conservation of salt marsh habitat; the City's no-net-loss of wetlands policy and application of measures contained in Table 9; and specific

Passerculus sandwichensis rostratus. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the potential nesting areas at Agua Hedionda and Batiquitos Lagoons, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.

Rallus longirostris levipes (Light-footed Clapper Rail) • Conserve Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Conserve freshwater marsh used by Rails during the fall and winter. • Assure no net loss of Saltmarsh or freshwater marsh habitats within the City. • Manage preserve areas to control non-native plants, maintain hydrology and water quality, control predators, and restrict physical disturbances. • Where opportunities arise, restore and enhance habitat in preserved areas. • Restrict human activity near nesting habitat during the breeding season (April 1 through August 31). • Where appropriate, introduce Clapper Rails into suitable, unoccupied habitat. • Pursue experimental cordgrass reintroduction at Batiquitos Lagoon

Rallus longirostris levipes. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for known or potential nesting areas at Agua Hedionda, Batiquitos and Buena Vista Lagoons and upstream freshwater marsh habitats, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts

Pandion haliaetus (Osprey) • Conserve habitat within Buena Vista, Agua Hedionda, and Batiquitos Lagoons (areas are considered critical locations for the species) consistent with the City's wetlands policy. • Assure no net loss of wetland habitats within the City. • Manage preserve areas to maintain lagoon hydrology and water quality and restrict activities that would disturb nesting. • Consider provision of nesting platforms adjacent to foraging areas as part of detailed management plan

Pandion haliaetus, Osprey a. Habitat/Distribution Osprey habitat includes coastal estuaries and large lakes and reservoirs that support forage fish populations. Ospreys are a widely distributed species in North America, but are an uncommon wintering species and are relatively rare during the breeding season in San Diego County. Ospreys have been recorded at Agua Hedionda Lagoon and Lake Hodges. b. Conservation Goals Conserved Habitat: In the City of Carlsbad, approximately 850 acres of Osprey habitat are associated with the Buena Vista, Agua Hedionda, and Batiquitos lagoon systems. The HMP includes approximately 827 acres (97%) of this habitat within preserve areas. Of an estimated 837 acres of habitat located within biological core and linkage areas, approximately 826 acres (99%) are located within preserve areas. In addition, 100% conservation of this species' habitat outside of preserve areas is expected due to a low potential for impacts, the City's no-net-loss of wetlands policy, and the additional protection afforded these habitats by state and federal wetlands regulations. Conserved Populations/Locations: Buena Vista, Agua Hedionda, and Batiquitos lagoons have been identified as critical locations for this species. The HMP will conserve 100% of Osprey habitat in these areas. Measures to Reduce Threats to Species' Survival: Management measure will focus on maintaining lagoon system hydrology and water quality and restricting activities within the preserve that could disturb Osprey nesting activities. Management techniques, such as the provision of nesting platforms adjacent to foraging areas, may also be used to enhance Osprey populations. c. Expected Impacts Direct Impacts: No direct impacts to the Osprey are expected because estuarine and open freshwater habitats will be 100% conserved by the HMP preserve system and the City's nonet loss of wetlands policy. Indirect Impacts: Indirect impacts to the Osprey could result from the degradation of estuarine and open freshwater habitats. These impacts could include adverse changes in the hydrology or water quality of coastal lagoon systems. Potential indirect threats to the Osprey will be

minimized by preserve-level and site-specific management measures. d. Basis for Take Authorization The HMP meets take authorization standards for this species due to 100% conservation of estuarine and open freshwater habitats; the City's no-net-loss of wetlands policy and application of measures contained in Table 9; and specific management measures intended to reduce identified threats to conserved populations.

Pandion haliaetus. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for foraging areas at Agua Hedionda, Batiquitos and Buena Vista Lagoons and upstream freshwater marsh habitats, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts

Charadrius alexandrinus nivosus (Western Snowy Plover) • Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City. • Conserve all major populations within the City, i.e., at Agua Hedionda and Batiquitos Lagoons. • Assure no direct impacts to nesting areas. • Manage preserve areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, protect habitats from physical disturbances, and control predators. • Where opportunities arise, restore and enhance habitat in preserved areas. • Restrict activities near nesting habitat during the breeding season (April 1 through August 31). • If populations are present during the non-breeding season, implement access control measures if warranted. Charadrius alexandrinus nivosus. Conditions for coverage - The major and critical population at Batiquitos Lagoon shall be managed by the California Department of Fish and Game to control predators, control weed growth on nesting areas, and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Incidental take of the species or occupied habitat during the breeding season (April 1 through August 1) is prohibited except as specifically authorized on a case-by-case basis. The long-term management plan shall address enhancement of other potential Snowy Plover nesting areas, such as Buena Vista Lagoon, including nesting sites and water quality

Charadrius alexandrinus nivosus, Western Snowy Plover a. Habitat/Distribution The breeding and winter distribution of the Western Snowy Plover in California is along coastal sandy beaches, dunes, estuarine habitat, and at interior lakes and salt flats such as Mono Lake. It is a common migrant and winter visitor and localized breeding resident in San Diego County (Unitt 1984). Breeding localities within northern San Diego County include San Luis Rey River mouth and Agua Hedionda, Batiquitos, and San Elijo Lagoons. A major breeding population exists at Batiquitos Lagoon on nesting "islands" created by the Lagoon Enhancement

project. b. Conservation Goals Conserved Habitat: Buena Vista, Agua Hedionda, and Batiquitos lagoons contain approximately 934 acres of estuarine and salt marsh habitat that support or potentially support Western Snowy Plover. Of this total, the HMP includes approximately 917 acres (98%) in preserve areas. In addition, 100% conservation of salt marsh and estuarine habitat outside of preserve areas is expected due to a low potential for impacts, the City's no-net-loss of wetlands policy, and the additional protection afforded these habitats by state and federal wetlands regulations. Conserved Populations/Locations: Estuarine and salt marsh habitats associated with Buena Vista, Agua Hedionda, and Batiquitos support major/critical populations of the Western Snowy Plover. The HMP will conserve 100% of these habitats. The HMP will conserve all known nesting locations within the preserve. Measures to Reduce Threats to Species' Survival: Management measures will focus on restricting activities within the preserve that degrade this species' foraging and nesting habitats by controlling nonnative plants, maintaining the hydrology and water quality of salt marsh and estuarine habitats, and protecting these habitats from physical disturbances. Human activity will be restricted near nesting habitat during the breeding season (April 1 through August 31). Management measures may also include a predator control program and the restoration and enhancement of breeding areas. c. Expected Impacts Direct Impacts: No direct impacts to the Western Snowy Plover are expected because salt marsh and estuarine habitats will be 100% conserved by the HMP preserve system and the City's no-net loss of wetlands policy. Indirect Impacts: Indirect impacts to the Snowy Plover could result from the degradation of estuarine and salt marsh habitats. These impacts could include adverse changes in hydrology or water quality, and increases in adverse edge effects and human related disturbances. Potential indirect threats to the Snowy Plover will be minimized by preservelevel and site-specific management measures. d. Basis for Take Authorization The HMP meets take authorization standards for this species due to complete (100%) conservation of major and critical populations in existing hardline conservation areas; 100% conservation of salt marsh and estuarine habitats; the City's no-net-loss of wetlands policy and application of measures contained in Table 9; and specific management measures intended to reduce identified threats to conserved populations.

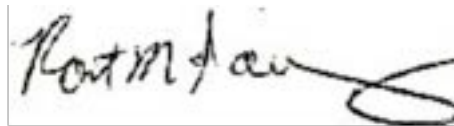
Plegadis chihi (White-faced Ibis) • Conserve approximately 1,150 acres of marsh, water, and estuarine habitat within preserve areas and assure no net loss of these habitats within the City. • Conserve populations at Buena Vista and Batiquitos Lagoons, including a critical breeding population at Buena Vista Lagoon. • Manage preserve areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, and protect habitats from physical disturbances. • Restrict human activities in occupied habitat during the breeding season (March to June). • Enhance habitat to increase breeding and wintering populations. Plegadis chihi. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for foraging

areas at Agua Hedionda, Batiquitos and Buena Vista Lagoons and upstream freshwater marsh habitats, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.

Sincerely,



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Enclosure: July 5, 2015 Letter from Professor Travis Longcore, Ph.D. to Rob Simpson

July 5, 2015

Rob Simpson
Executive Director
Helping Hand Tools

Dear Mr. Simpson:

I am responding to your email in which you brought to my attention citation to my research on avian collisions with regard to the Carlsbad Energy Center Project Amendment: Final Staff Assessment. As I understand the project, it would involve replacing two 400-ft stacks with six 90-ft stacks that would emit high-velocity, high-temperature plumes extending several thousand feet into the air. I looked over relevant sections of the Final Staff Assessment and have the following observations, which you are welcome to share with the California Energy Commission. I have prepared this letter for you *pro bono* as an effort to ensure that the best available science is used in the environmental review process. My use of letterhead is meant to provide contact information and establish my identity. It does not represent any endorsement by the University of Southern California as an institution. The contents of this letter are my professional opinion and not the position of my employer.

The Final Staff Assessment relies on our paper in *The Auk* (Longcore et al. 2008) to conclude that avian collisions with the new stacks would be less than with the old stacks. The *Auk* paper addresses avian collisions with tall communication towers and therefore is limited to the impacts on the species that tend to collide with those towers, which are almost entirely nocturnally migrating songbirds. The proposed project is adjacent to a wetland, which poses collision risks for a different suite of avian species. Our 2008 research was updated with a quantitative estimate of mortality by tower height classes (Longcore et al. 2012), but this work was not cited. Ignoring any potential impacts of the thermal plumes and looking at the potential collisions resulting from the height of the stacks themselves, both configurations (existing and proposed) would kill very few of the birds for which risk of collision increases with height (i.e., nocturnally migrating songbirds). A 400-ft obstruction lit only with strobe lights might result in 4 collisions per year, while a 90-ft obstruction similarly lighted would result in less than 1 collision per year, but these numbers apply to the suite of species that are sensitive to obstruction height and do not take into account collision risk that derives from proximity to the wetland habitat or the impacts of the thermal plumes.

The issue of nocturnally migrating songbirds colliding with the proposed stacks is not the most relevant impact at the project site, which is located adjacent to a significant coastal wetland with large numbers of migratory waterbirds, waterfowl, and shorebirds. The impacts to waterbirds and other species associated with the lagoon and Pacific Ocean are much more relevant than potential collisions by nocturnal migrant songbirds. Our research does not address collisions with structures next to wetlands. Avian collisions with structures are generally higher next to wetland sites (Drewitt and Langston 2008) and indeed researchers



are particularly concerned about collisions with power lines that are located next to wetlands, where waterbirds, waterfowl, and shorebirds collide with obstructions (Willard and Willard 1978, Erickson et al. 2005). A study of effects of the project on waterbirds, waterfowl, and shorebirds as they approach and take off from Agua Hedionda Lagoon, which is bisected by the project site, would be far more relevant to the impact analysis than is our research. It is critically important that impact analysis concentrate on the different groups and species of birds that will be impacted and not on a generalized idea of “birds” that obscures differential impacts on different groups (Longcore et al. 2013, Longcore and Smith 2013).

Our research does not address the impacts of production of high-velocity, high-temperature plumes extending upward from the stacks into the atmosphere. As described in the Final Staff Assessment, these plumes would extend several thousand feet up into the air and the shorter height of the tower does not offset this feature. The Final Staff Assessment refers to an unpublished white paper to argue that these plumes have no significant impact on birds:

The Energy Commission closely monitors all projects under its jurisdiction, including solar thermal, coal- and gas-fired. Evidence of significant and predictable injury or mortality from thermal or exhaust plumes has not been reported or documented at other power plants; has not been noticed at the Encina plant, and is not expected to occur with the proposed CECP project. The question of impacts associated with thermal plumes and/or exhaust stacks has been raised in previous siting cases. In 2009, the Contra Costa County Airport Land Use Commission (ALUC), filed a letter with the Energy Commission requesting data on potential avian—specifically raven-attraction to the Mariposa Energy Project (MEP) cooling stacks. The MEP consultants performed a literature review investigating avian interactions exhaust stacks and plumes (CH2M Hill, 2010). This technical paper included interviews with CEC senior biologist Rick York, and failed to identify any significant mortality or injury associated with these project features at operating power plant sites. Staff has conducted an updated literature review, and, as mentioned, has no further internal Energy Commission data or published data that would indicate impacts would occur with a frequency or intensity that would have an adverse biological effect. It is not uncommon for raptors and scavenging species such as vultures to utilize thermal currents to search for prey and carcasses. While it is possible that a raptor may be attracted to a thermal upcurrent emanating from the stacks, there is no data to suggest that a raptor could be injured or killed while doing so, and staff is unaware of any significant documented events of this nature; although it certainly is possible. The stacks would not provide roosting or nesting opportunities for birds or bats, and given the industrial characteristics and pervasive human presence on the CECP site, the data indicates that most wildlife would have sufficient environmental cues to avoid the site (Final Staff Assessment, p. 4.3-21).

This analysis, and the report upon which it relies, are insufficient to conclude that the high-velocity, high-temperature plumes would not have an impact on birds and bats at the project site. The cited memorandum is focused on attraction of ravens to thermal plumes and relies on anecdotal reports from staff at power stations to assess any adverse impacts to wildlife. It is not clear that the observations were at stacks with high-velocity, high-temperature plumes from gas-fired turbines. The text of the report does not specify that any of the power plants described in that report were in fact of the type proposed for the Carlsbad Energy Center Project Amendment. The conclusion that birds will “avoid the site” is likewise tenuous, given that the project site is adjacent to wetlands and in fact birds might fly over the site to get from one part of the lagoon to another or to move from the ocean to the lagoon. Furthermore, the plumes reaching up several thousand feet would provide no visual cues whatsoever and birds approaching the lagoon would have no warning of them until they were encountered.

As a scientist interested in bird collision issues and anthropogenic avian mortality in general, I am unaware of any published studies addressing the impacts of high-velocity, high-temperature thermal plumes on birds, especially in sensitive locations such as next to wetlands. The information put forth in the Final Staff Assessment is unconvincing, especially because the main focus of the reference cited in support of the evaluation has to do with raven attraction to thermal plumes and not the potential for accidental flight through high-temperature plumes causing injury or death, such as what occurs when birds encounter the solar flux at concentrating solar power plants (McCrary et al. 1986, Kagan et al. 2014). No information is presented on the effects of thermal plumes from gas-fired power plants on small passerines, shorebirds, waterbirds, waterfowl, or bats, all of which might attempt to fly over the project site.

As a final item, I noticed that the Final Staff Assessment uses the “60-decibel rule” in assessing impacts to wildlife from noise. This threshold does not have biological validity and is not supported by current scientific research. The 60 dB(A) Leq threshold for impacts on avian species was first put forward in 1991 in an unpublished study conducted for the San Diego Association of Governments in which “it was theoretically estimated that noise levels in excess of 60 dB(A) Leq in [Least Bell’s] vireo habitat would mask the bird’s song, subsequently reducing the reproductive success of this species during their breeding season...” (County of San Diego 2000). This study has never been published or peer reviewed. The only citation in the scientific literature to the rule is a conference presentation by Bowles and Wisdom (2005), and this paper did not support the 60 dB(A) Leq standard:

The rule was originally intended to prevent masking of species-typical songs of endangered birds such as the Coastal California Gnatcatcher. However, no research is available to demonstrate the effectiveness of the rule for any noise-related impact. Although A-weighting is probably a conservative estimator of bird exposure in the range from 125 Hz to 8 kHz, it may underestimate exposure at very low frequencies. Its utility as a weighting function has not been tested against other possible weighting procedures, such as use of the species-typical auditory threshold function. Additionally, where sources are intense but intermittent, Leq is unlikely to be a useful metric (Bowles and Wisdom 2005).

Scientific understanding of the effects of noise on birds has improved greatly, with studies published that present heuristic and mathematical models that quantify the pattern of impacts caused by noise (Hill 1990, Reijnen and Foppen 1994, Reijnen et al. 1996, Reijnen et al. 1997, Forman et al. 2002, Peris and Pescador 2004, Slabbekoorn and Ripmeester 2008, Barber et al. 2010, Naguib 2013, Halfwerk and Slabbekoorn 2015). Evidence shows that breeding bird habitat can be degraded at noise levels as low as 36 dB(A) (Reijnen et al. 1996, Reijnen et al. 1997). Rather than relying on undocumented research that has never been published in a peer-reviewed journal, the CEC should incorporate published scientific evidence of the impacts of noise on wildlife into its analysis.

Sincerely,



Travis Longcore, Ph.D.
Associate Professor (Research) of Spatial Sciences

Literature Cited

- Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2010. The costs of chronic noise exposure to terrestrial organisms. *Trends in Ecology & Evolution* **25**:180–189.
- Bowles, A. E., and S. Wisdom. 2005. The 60-dB rule for birds: an example of the application of a weighting function in environmental impacts mitigation [abstract]. *Journal of the Acoustical Society of America* **118**:2018.
- County of San Diego. 2000. Revised Partial Draft Environmental Impact Report for Gregory Canyon Landfill. Department of Planning and Land Use, San Diego County, San Diego.
- Drewitt, A. L., and R. H. W. Langston. 2008. Collision effects of wind-power generators and other obstacles on birds. *Annals of the New York Academy of Sciences* **1134**:233–266.
- Erickson, W. P., G. D. Johnson, and D. P. Young, Jr. 2005. A summary and comparison of bird mortality from anthropogenic causes with an emphasis on collisions. Pages 1029–1042 in C. J. Ralph and T. D. Rich, editors. *Bird conservation implementation and integration in the Americas: proceedings of the Third International Partners in Flight Conference*. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191. Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture, Albany, California.
- Forman, R. T. T., B. Reineking, and A. M. Hersperger. 2002. Road traffic and nearby grassland bird patterns in a suburbanizing landscape. *Environmental Management* **29**:782–800.
- Halfwerk, W., and H. Slabbekoorn. 2015. Pollution going multimodal: the complex impact of the human-altered sensory environment on animal perception and performance. *Biology Letters* **11**:20141051.
- Hill, D. 1990. The impact of noise and artificial light on waterfowl behaviour: a review and synthesis of the available literature. *British Trust for Ornithology Report No. 61*, Norfolk, United Kingdom.
- Kagan, R. A., T. C. Viner, P. W. Trail, and E. O. Espinoza. 2014. Avian mortality at solar energy facilities in southern California: a preliminary analysis. *National Fish and Wildlife Forensics Laboratory*.
- Longcore, T., C. Rich, and S. A. Gauthreaux, Jr. 2008. Height, guy wires, and steady-burning lights increase hazard of communication towers to nocturnal migrants: a review and meta-analysis. *Auk* **125**:485–492.
- Longcore, T., C. Rich, P. Mineau, B. MacDonald, D. G. Bert, L. M. Sullivan, E. Mutrie, S. A. Gauthreaux, Jr., M. L. Avery, R. L. Crawford, A. M. Manville, II, E. R. Travis, and D. Drake. 2012. An estimate of avian mortality at communication towers in the United States and Canada. *PLoS ONE* **7**:e34025.
- Longcore, T., C. Rich, P. Mineau, B. MacDonald, D. G. Bert, L. M. Sullivan, E. Mutrie, S. A. Gauthreaux, Jr., M. L. Avery, R. L. Crawford, A. M. Manville, II, E. R. Travis, and D. Drake. 2013. Avian mortality at communication towers in the United States and Canada: which species, how many, and where? *Biological Conservation* **158**:410–419.
- Longcore, T., and P. A. Smith. 2013. On avian mortality associated with human activities. *Avian Conservation and Ecology* **8**:1.
- McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. Avian mortality at a solar energy power plant. *Journal of Field Ornithology* **57**:135–141.
- Naguib, M. 2013. Living in a noisy world: indirect effect of noise on animal communication. *Behaviour* **150**:1069–1084.
- Peris, S. J., and M. Pescador. 2004. Effects of traffic noise on passerine populations in Mediterranean wooded pastures. *Applied Acoustics* **65**:357–366.

- Reijnen, R., and R. Foppen. 1994. The effects of car traffic on breeding bird populations in woodland. I. Evidence of reduced habitat quality for willow warblers (*Phylloscopus trochilus*) breeding close to a highway. *Journal of Applied Ecology* 31:85–94.
- Reijnen, R., R. Foppen, and H. Meeuwsen. 1996. The effects of traffic on the density of breeding birds in Dutch agricultural grasslands. *Biological Conservation* 75:255–260.
- Reijnen, R., R. Foppen, and G. Veenbaas. 1997. Disturbance by traffic of breeding birds: evaluation of the effect and considerations in planning and managing road corridors. *Biodiversity and Conservation* 6:567–581.
- Slabbekoorn, H., and E. A. P. Ripmeester. 2008. Birdsong and anthropogenic noise: implications and applications for conservation. *Molecular Ecology* 17:72–83.
- Willard, D. E., and B. J. Willard. 1978. The interaction between some human obstacles and birds. *Environmental Management* 2:331–340.