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Project Title:	Bowers Backup Generating Facility
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RESPONSE TO CEC STAFF DATA REQUEST SET 2

Bowers Backup Generating Facility (22-SPPE-01)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **GI Partners**

March 2023

DAYZEN LLC

INTRODUCTION

Attached are GI Partners responses to California Energy Commission (CEC) Staff Data Request Set No. 2 (51-57) for the Bowers Backup Generating Facility (BBGF) Application for Small Power Plant Exemption (SPPE) (22-SPPE-01). Staff issued Data Request Set No. 2 on January 27, 2023.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (51-57). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found in Attachments at the end of the document and labeled with the Data Request Number for ease of reference.

For context, the text of the Background and Data Request precede each Data Response.

GENERAL OBJECTIONS

GI Partners objects to all data requests that require analysis beyond which is necessary to comply with the California Environmental Quality Act (CEQA) or which require GI Partners to provide data that is in the control of third parties and not reasonably available to GI Partners. Notwithstanding this objection, GI Partners has worked diligently to provide these responses swiftly to allow the CEC Staff to prepare the Draft Environmental Impact Report (DEIR).

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

BACKGROUND: Particulate Matter Emission Factor

In the CEC staff Data Requests Set 1 number 6 (TN 247096), staff asked about the difference between the applicant assumed particulate matter (PM) of 10 micrometers or less in diameter (PM10) emission factor of 0.015 grams per brake horsepower-hour (g/bhp-hr) and the MIRATECH performance warranty data showing 0.02 g/bhp-hr for PM10. The applicant's response to Data Request Set 1 number 6 (TN 248070) states that the applicant believes that this project will obtain the PM10 emission guarantee of

0.015 g/bhp-hr. Staff needs documentation to verify the applicant's expected PM10 emission factor.

DATA REQUEST

51. Please provide the correct MIRATECH documentation to verify the PM10 emission factor of 0.015 g/bhp-hr.

RESPONSE TO DATA REQUEST

GI Partners has received requested performance data from Miratech to substantiate the PM10 emissions factor of 0.015 g/bhp-hr. This data is included in Attachment AIR DR-51.

BACKGROUND: Ammonia Emissions

The air quality impact analysis in the small power plant exemption (SPPE) application proposed use of selective catalytic reduction (SCR) to control oxides of nitrogen (NOx) emissions from the engines, which would also result in the emission of unreacted ammonia. Staff needs the ammonia emissions estimate to complete the impact analysis.

DATA REQUESTS

52. Please provide engine ammonia emission rates and total emissions due to the use of SCR.

RESPONSE TO DATA REQUEST 52

The following ammonia emissions from the SCR system on the QSK95 engines are based on the maintenance and readiness testing scenario only. The emissions factor for ammonia as derived from the Miratech Performance Warranty sheet is 0.05 g/bhp-hr. During maintenance and readiness testing the engine will run for a period not to exceed

1 hour. The first 15 minutes of each testing hour was evaluated as uncontrolled, while the remaining 45 minutes was evaluated as controlled. Therefore, for each testing hour, ammonia will be emitted as “ammonia slip” for only 45 minutes. The engine bhp is stated as 4,309. Each engine will undergo maintenance and readiness testing for a maximum of 50 hours per year, of which 37.5 hours/yr will be controlled.

(37.5 hrs/yr)(4,309 bhp)(0.05 g/bhp-hr)/453.39 = 17.81 lb NH_3/yr per engine

(17.81 lb NH_3/yr) / (50 hr/yr) = 0.4749 lb NH_3/hr per engine

17.81 lbs NH_3/yr/engine X 32 engines = 570 lbs NH_3/yr

53. Please provide the reference for all emission factors used in the calculation.

RESPONSE TO DATA REQUEST 53

Appendix AQ-2 of the SPPE application contains the Miratech Performance Warranty sheet which lists the emission factor for ammonia. It is included again in Attachment ARI DR-51 for completeness but note that this data sheet does not list the PM10 emissions at 0.015 g/bhp-hr. Please refer to Response to Data Request 51.

BIOLOGICAL RESOURCES

BACKGROUND: Special Status Species

The Biological Resources Section 3.4 of the SPPE application appears to be based on the results of an Arborist Report conducted in June of 2021 (see TN# 245765). Section 3.4 identifies the area as developed, located in an urbanized setting, with no potential to support sensitive habitat or special status species. However, no studies or literature searches were referenced by the applicant that may have been used to determine if any state or federal-listed special-status plant or wildlife species or their habitat could occur and be affected by the project. The section does acknowledge that the large trees that occur on the site could support nesting birds and raptors. There is no mention in the report if any of the trees support stick nests, cavities, or passerine nests. In addition, there is no mention if the existing structure was inspected for signs of nesting birds or bat roosts. Both types of species can use developed areas for nesting and/or roosting. Staff needs additional information pertaining to the environmental setting of the project and surrounding habitats in order to determine potential impacts to biological resources.

DATA REQUEST

54. Please provide a copy of the results of any biological surveys performed at the site as well as a summary of any plant/animal species research conducted, such as results or queries from a U.S. Fish and Wildlife Service (USFWS) species list, California Natural Diversity Database, California Native Plant Society (CNPS) Rare Plant Inventory, California Consortium of Herbaria, or ebird, which may have been used to determine potential impacts to biological resources from the project.

RESPONSE TO DATA REQUEST 54

The project is located in a developed, urban area. The surveys requested above are not typically completed for fully developed sites. However, in response to this request, the US Fish and Wildlife's IPaC online tool was used to automatically generate a list of species and other resources such as critical habitat under the U.S. Fish and Wildlife Services jurisdiction that are known or expected to be on or near the project area. As noted in the report, this resource list is for informational purposes only and does not constitute an analysis of project level impacts. The results from IPaC have been provided electronically to CEC Staff as well as included in Attachment BIO DR-54. Additionally, a list of special status plant and wildlife species that may occur within a 9 Quad CNDDB search and two-mile CNDDB search was generated. The 9 Quad search resulted in a list of 106 species, and the two-mile search resulted in a list of 15 animal species and 3 plant species. The results of the search were also provided electronically to Staff and are included in Attachment BIO DR-54.

Although special status species may occur in the region, special status species are not expected to occupy the site due to its fully developed nature and its location in a fully urban environment, as described in the SPPE Application. The exception to this would be nesting birds, which were identified in the SPPE application and mitigated for accordingly.

CULTURAL AND TRIBAL CULTURAL RESOURCES

BACKGROUND: Description and Characterization of Excavation

Identification of cultural resources and tribal cultural resources within the study area includes requesting from the Native American Heritage Commission (NAHC) information regarding the presence of Native American sacred sites and a list of Native Americans interested in the project vicinity. Identification efforts should include contacting the individuals identified by the NAHC for the purpose of identifying cultural resources in the study area. In their response to the applicant's Sacred Lands File search request, the NAHC provides direction to the applicant to contact those on the list to assist in the identification of cultural resources in the study area.

DATA REQUEST

55. Please provide a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses, as well as a written summary of any oral responses received.

RESPONSE TO DATA REQUEST 55

As described in the SPPE Application, a Sacred Lands File (SLF) search request was submitted to the NAHC and the results were negative. Typically, outreach to Native American tribes would only be completed by the project applicant if the SLF search results were positive in order to determine if the tribes have any knowledge of whether the resources identified in the search are located in the vicinity of the project site. Because the results of the request were negative, indicating that no known tribal cultural resources are located in the project area, no follow up with the tribes was required for preparation of the SPPE Application.

Outside of the SPPE Application process, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Therefore, the consultation is intended to occur between the government agency and tribes, not between a private applicant and tribes. Under AB 52, only one tribe (Tamien Nation) in Santa Clara has requested notifications of projects; however, as mentioned above, private applicants do not conduct this outreach. We suggest this correspondence occur during the CEC's CEQA process, led by the CEC, in coordination with the City of Santa Clara.

TRANSPORTATION

BACKGROUND: Federal Aviation Administration (FAA) Form 7460-1, Notice of Proposed Construction or Alteration for Bowers Backup Generating Facility and Bowers Data Center Buildings

The San Jose International Airport is located approximately 1.8-miles (9,504-feet) east of the project site. Title 14, Part 77.9 of the Code of Federal Regulations requires FAA notification for construction or alterations within 20,000 feet of an airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending outward and upward from the nearest point of the nearest runway of the airport (CFR 2020). The threshold for the FAA notification 100 to 1 surface exceedance height is approximately 95 feet at the project site. If a project's height, including any temporary equipment (such as cranes used during construction) or any ancillary structures (such as transmission poles), exceeds the 100 to 1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

The mechanical equipment screen on the roof top of the data center building would extend to a height 103 feet therefore the project applicant must file FAA Form 7460-1 Notice of Proposed Construction or Alteration to comply with federal

requirements. Compliance with this federal requirement is established through FAA determinations.

DATA REQUEST

56. Please prepare and submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA for the proposed project's buildings, transmission poles, and temporary construction equipment, such as cranes, that would exceed the 100 to 1 surface height of 95 feet. Submit the FAA's determinations to the project docket log once they are received.

RESPONSE TO DATA REQUEST 56

FAA Form 7460-1 has been prepared and submitted. A copy of the FAA determination will docketed when received.

BACKGROUND: Operational Worker Numbers

Staff reviewed the SPPE application and could not locate an estimated operational workforce number for the Bowers Data Center (BDC). Staff requested operational workforce numbers in Data Request Set 1 number 32, but the applicant did not

provide the estimated operational workforce number for the BDC in the response. Staff has adequate construction worker numbers and is again requesting the estimated number of operational workers required for the BDC. An estimated operational workforce number for the BDC is needed in order to assess the actual trips generated by the project's operational workers. The Institute of Transportation Engineers rate provided in Table 1, Project Trip Generation, in the applicant's vehicle miles traveled (VMT) analysis (Appendix G of the SPPE application) are trip rates based on the data center's square footage with the existing office use rates deducted. The VMT analysis states, "When assessing an office or industrial project, the project's VMT is divided by the number of employees and evaluated based on VMT per employee." To verify the project's VMT per employee, staff needs to know the estimated number of operational employees for the BDC.

DATA REQUEST

57. Please provide the CEC staff with the estimated number of operational workers required to operate the BDC.

RESPONSE TO DATA REQUEST 57

The table below summarizes the anticipated headcount of personnel and visitors that would be on-site throughout a typical day. It is anticipated that on an average day there will be 33-35 people at the building throughout the day, with 17-30 people in the building at the same time.

Anticipated Average Daily Headcount Table		
Type	Daily Persons	Persons Per Shift
Operational	14	2 – 9[1]
Security	5	2 - 5[2]
Janitor	2	1 - 2
Tenant Personnel	10 - 12	10 - 12
Visitors	2	2
Total	33 - 35	17 - 30

[1] Operational staff work in three shifts: day (nine employees), swing (three employees), and graveyard (two employees).
[2] There would be two security staff stationed at the building and three shift rovers that patrol the project building.

ATTACHMENT AIR DR-51

Generator and Emission Data Sheets

VANJEN GROUP

MIRATECH

Equipment Specification

Proposal Information

Proposal Number:	VJG-23-001229	Date:	**2/22/2023**
Project Reference:	Cummins - CEC Passive DPF		

Engine Information

Engine Make:	Cummins	Speed:	Rated
Engine Model:	QSK95-G12	Power Output:	4,309 bhp
Rated Speed:	1800 RPM	Exhaust Flow Rate:	26,265 acfm (cfm)
Fuel Description: (ULSD)	Ultra-Low Sulfur Diesel	Exhaust Temperature:	912 ° F
		Fuel Consumption:	38.3 gal/hr
Hours Of Operation:	200 Hours per year	O_2:	10%
Generator Power:	3000 ekW	H_2O:	12%
Load:	100%		

Emission Data (100% Load)

Emission	Raw Engine Emissions						Target Outlet Emissions						Calculated Reduction
	g/bhp-hr	*tons/yr*	*ppmvd @ 15% O_2*	*ppmvd*	*g/kW-hr*	*lb/MW-hr*	*g/bhp-hr*	*tons/yr*	*ppmvd @ 15% O_2*	*ppmvd*	*g/kW-hr*	*lb/MW-hr*	
NO_x*	*3.9*	3.7	315	581	5.23	11.53	*0.5*	0.47	40	75	0.671	1.48	87.2%
CO	*0.4*	0.38	53	98	0.536	1.18	*2.6*	2.47	344	636	3.487	7.69	
NMNEHC**	*0.07*	0.07	16	30	0.094	0.21	0.14	0.13	32	60	0.188	0.41	
PM_{10}	*0.04*	0.04	12	23	0.054	0.12	*0.015*	0.01	5	9	0.02	0.04	62.5%

System Specifications

DOC/SCR/DPF (M3-100-90-36PF-B-R4, ACIS-3)

SCR Catalyst Space Velocity:	9,264 1/hr
Sound Attenuation:	25-30 dBA insertion loss
Reactant:	Urea
Percent Concentration:	32.5%
Design Exhaust Flow Rate:	26,265 acfm (cfm)
Design Exhaust Temperature:	912° F
Exhaust Temperature Limits:	572° F – 977° F
Minimum Regeneration Temperature:	500° F
SCR Catalyst Volume:	64 ft³
System Dosing Capacity:	60 L/hr
System Pressure Loss:	16.0 inH_2O (Clean)
Total Catalyst Volume:	64 ft³
Estimated Reactant Consumption:	9.5 gal/hr (36 L/hr) / Per Engine

* MW referenced as NO_2

** MW referenced as CH_4. Propane in the exhaust shall not exceed 15% by volume of the NMHC compounds in the exhaust, excluding aldehydes. The 15% (vol.) shall be established on a wet basis, reported on a methane molecular weight basis. The measurement of exhaust NMHC composition shall be based upon EPA method 320 (FTIR), and shall exclude formaldehyde.

RENOSA CORPORATION

MIRATECH

Application & Performance Warranty Data

Project Information

Site Location:	Santa Clara
Project Name:	TBD
Application:	Standby Power
Number Of Engines:	1
Operating Hours per Year:	100

Engine Specifications

Engine Manufacturer:	Cummins
Model Number:	QSK95-G9
Rated Speed:	1800 RPM
Generator Power:	3000 ekW
Type of Fuel:	Ultra-Low Sulfur Diesel (ULSD) 1
Type of Lube Oil:	wt% sulfated ash or less
Lube Oil Consumption:	0.1 % Fuel Consumption
Number of Exhaust Manifolds:	2

Engine Cycle Data

Load	Speed	Power	Exhaust Flow	Exhaust Temp.	Fuel Cons.	NO_x	CO	NMHC	NMNEHC	PM_{10}	O_2	H_2O
%		*bhp*	*acfm (cfm)*	*F*		*g/bhp-hr*	*g/bhp-hr*	*g/bhp-hr*	*g/bhp-hr*	*g/bhp-hr*	*%*	*%*
100	Rated	4,308	23,369	830		5.2	0.2	0.07	0.04	0.04	8.7	14

Emission Data (100% Load)

Emission	Raw Engine Emissions						Target Outlet Emissions						Calculated Reduction
	g/bhp-hr	*tons/yr*	*ppmvd @ 15% O_2*	*ppmvd*	*g/kW-hr*	*lb/MW-hr*	*g/bhp-hr*	*tons/yr*	*ppmvd @ 15% O_2*	*ppmvd*	*g/kW-hr*	*lb/MW-hr*	
NO_x*	5.2	2.47	405	838	6.973	15.37	0.5	0.24	39	81	0.671	1.48	90.4%
CO	0.2	0.09	26	53	0.268	0.59	2.6	1.23	333	688	3.487	7.69	
NMHC**	0.07	0.03	16	32	0.094	0.21	0.14	0.07	31	65	0.188	0.41	
PM_{10}	0.04	0.02	12	25	0.054	0.12	0.02	0.01	6	12	0.027	0.06	50%
NH_3	0	0	0	0	0	0	0.05	0.02	10	21	0.064	0.14	

* MW referenced as NO_2

** MW referenced as CH_4. Propane in the exhaust shall not exceed 15% by volume of the NMHC compounds in the exhaust, excluding aldehydes. The 15% (vol.) shall be established on a wet basis, reported on a methane molecular weight basis. The measurement of exhaust NMHC composition shall be based upon EPA method 320 (FTIR), and shall exclude formaldehyde.

ATTACHMENT BIO DR-54

US Fish and Wildlife's IPaC Online Tool Results

CNDDB Plan and Wildlife Species Search Results

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Santa Clara County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

California Clapper Rail Rallus longirostris obsoletus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4240

California Condor Gymnogyps californianus — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8193

California Least Tern Sterna antillarum browni — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS

Delta Smelt Hypomesus transpacificus — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus — Candidate
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS
Robust Spineflower Chorizanthe robusta var. robusta Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9287	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your

list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Willet Tringa semipalmata — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

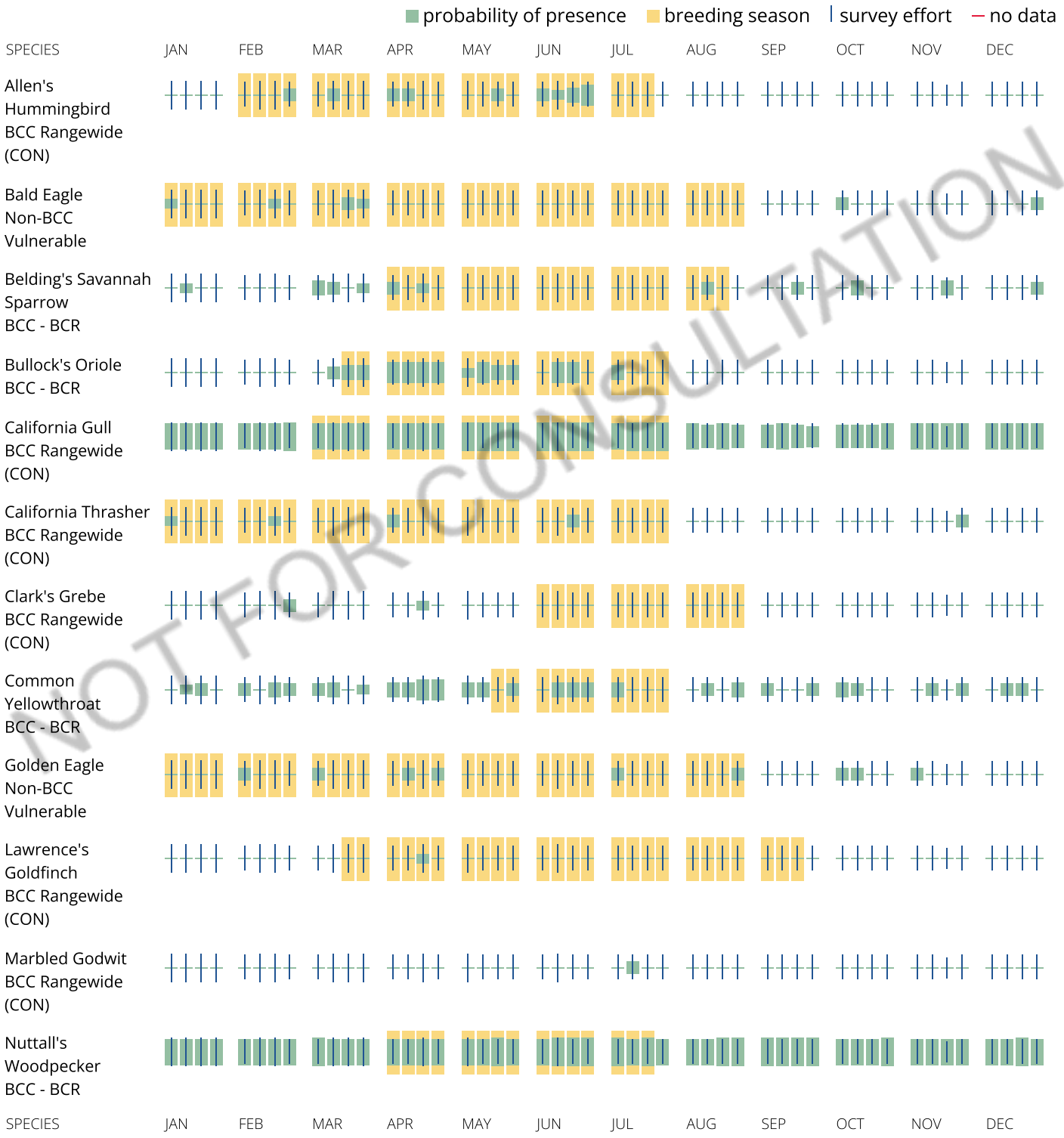
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

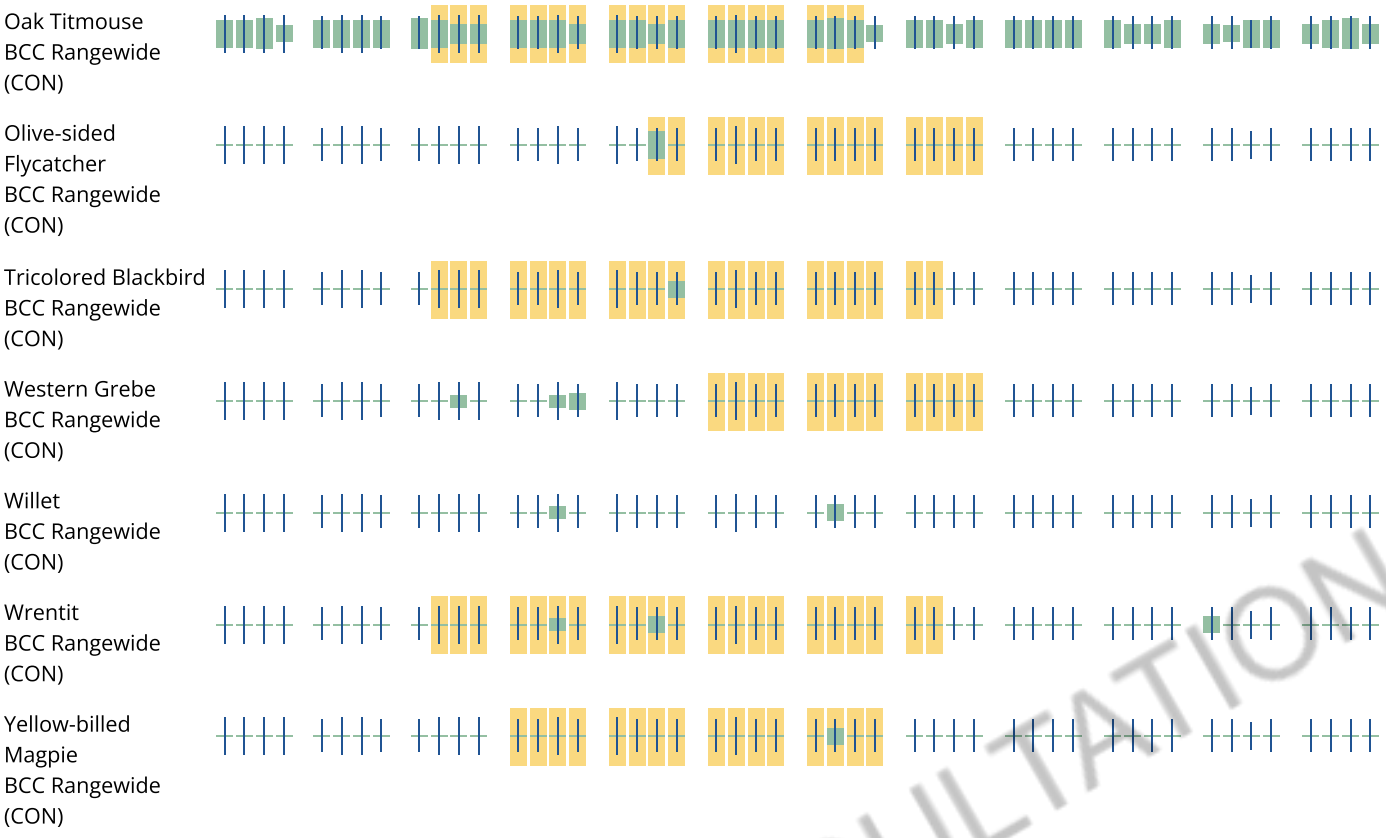
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high

survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.