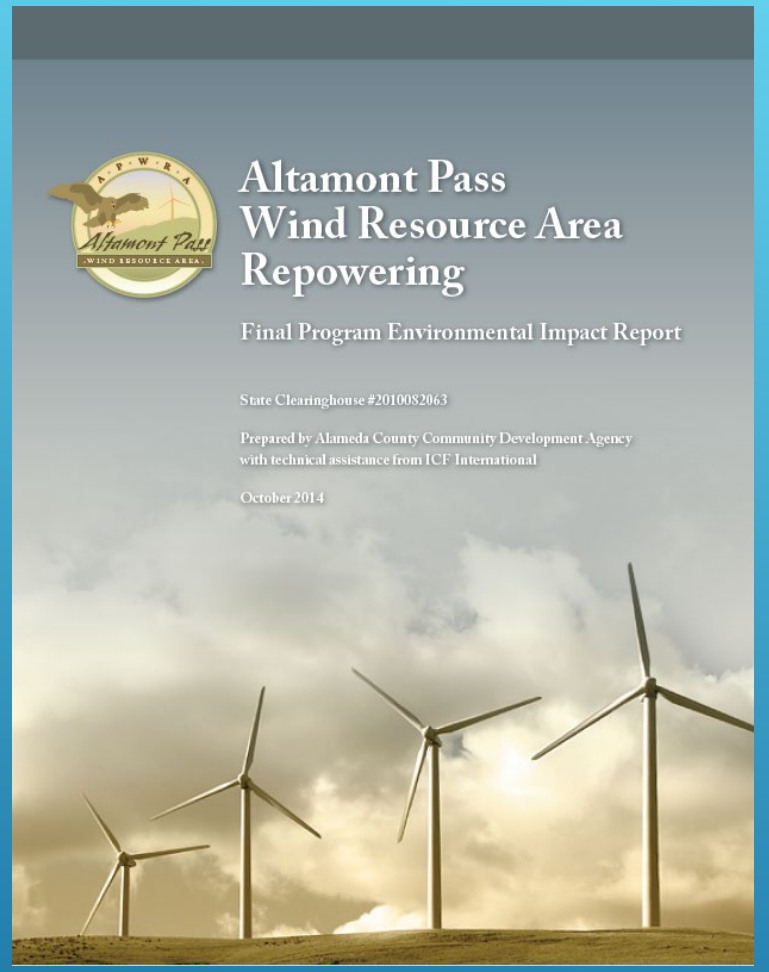
Alameda County Wind Repowering Technical Advisory Committee (TAC)

Mulqueeney Ranch Wind Project Micro-siting Recommendations to Alameda County

15 Jul 2022

Methods

The TAC is charged with assisting the County to comply with their regulatory requirements for eagle, bird, and bat impact thresholds across the APWRA and at the Project level.



Guiding Documents

- Altamont Pass Wind Resource Area Repowering Final Program Environmental Impact Report (PEIR)
  Alameda County Community Development Agency 2014
- Mulqueeney Ranch Wind Repowering Project Final Subsequent Environmental Impact Report (SEIR)
  ICF 2021
- Conditional Use Permit (CUP) PLN2019-00226

Supporting Documentation:
APWRA wide thresholds - PEIR

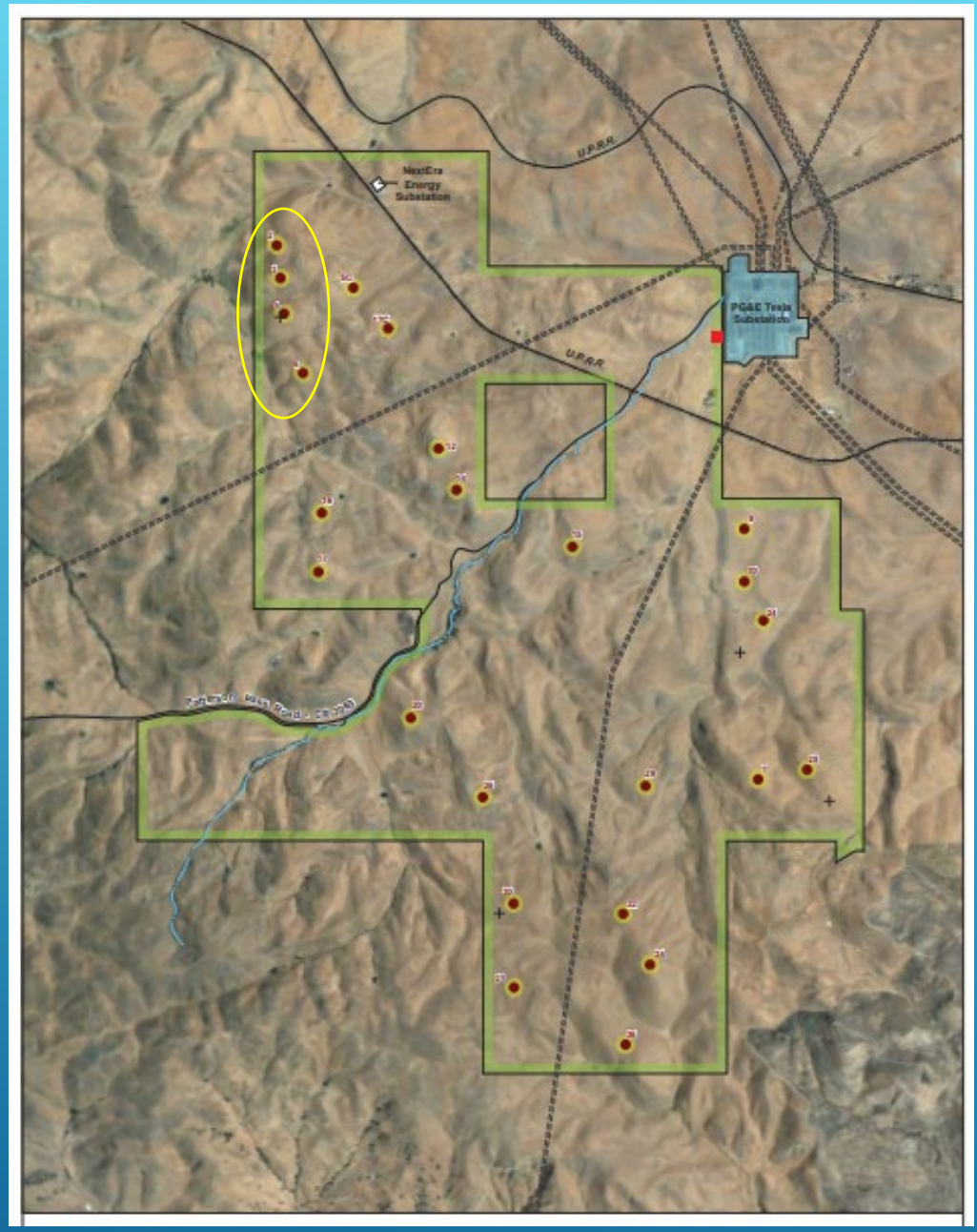
Table 2. Four focal raptor species estimated cumulative maximum annual fatality totals for the non-repowered and Repowered Program Area (417 MW) based on available information from the PEIR, Golden Hills (GH) and Golden Hills North (GHN) wind projects.

		PEIR Repowered Estimated Take		GH and GHN			GH + GHN % of APWRA cumulative total**		
Focal Species	Baseline	Low	High	Mean	Low	High	Mean*	Low	High
American kestrel	194	38	124	17	9	26	14%	23%	21%
burrowing owl	255	30	350	18	3	33	5%	9%	9%
golden eagle	27	4	17	16	9	24	92%	44%	71%
red-tailed hawk	145	42	103	57	32	84	55%	77%	81%

GH and GHN represent 132 MW of the total 417 MWs under PEIR Alternative (32%).

Recommendation:
High Risk Turbine Removal

- Remove 4 turbines on ridge in NW corner:
  - WTG-2, WTG-3, WTG-4, and WTG-6
  - Multiple data sources indicate turbines are high risk to golden eagles.
  - Moderately high risk for burrowing owls, red-tailed hawks, and American kestrels.
  - Focal species subject to Project and APWRA-wide impact thresholds per the PEIR and SEIR.



Recommendation: Alternative to Turbine Removals

If IDF proves effective at detecting focal raptor species, County could consider approving high-risk turbines:

Phased Approach for NW Ridge Turbine Approvals:

- IdentiFlight (IDF) is a promising experimental technology, but TAC concerned about limited viewshed on steep ridges
- IDF may not detect eagles in time to curtail on ridge tops in eagle high-use areas
- Therefore implement study to evaluate IDF capabilities in this topography with TAC oversight
- See Appendix B of Supporting Documentation

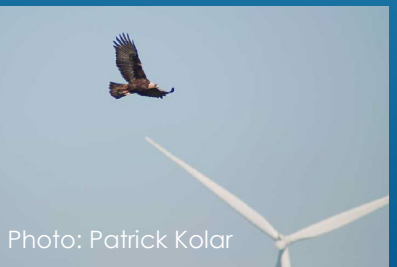
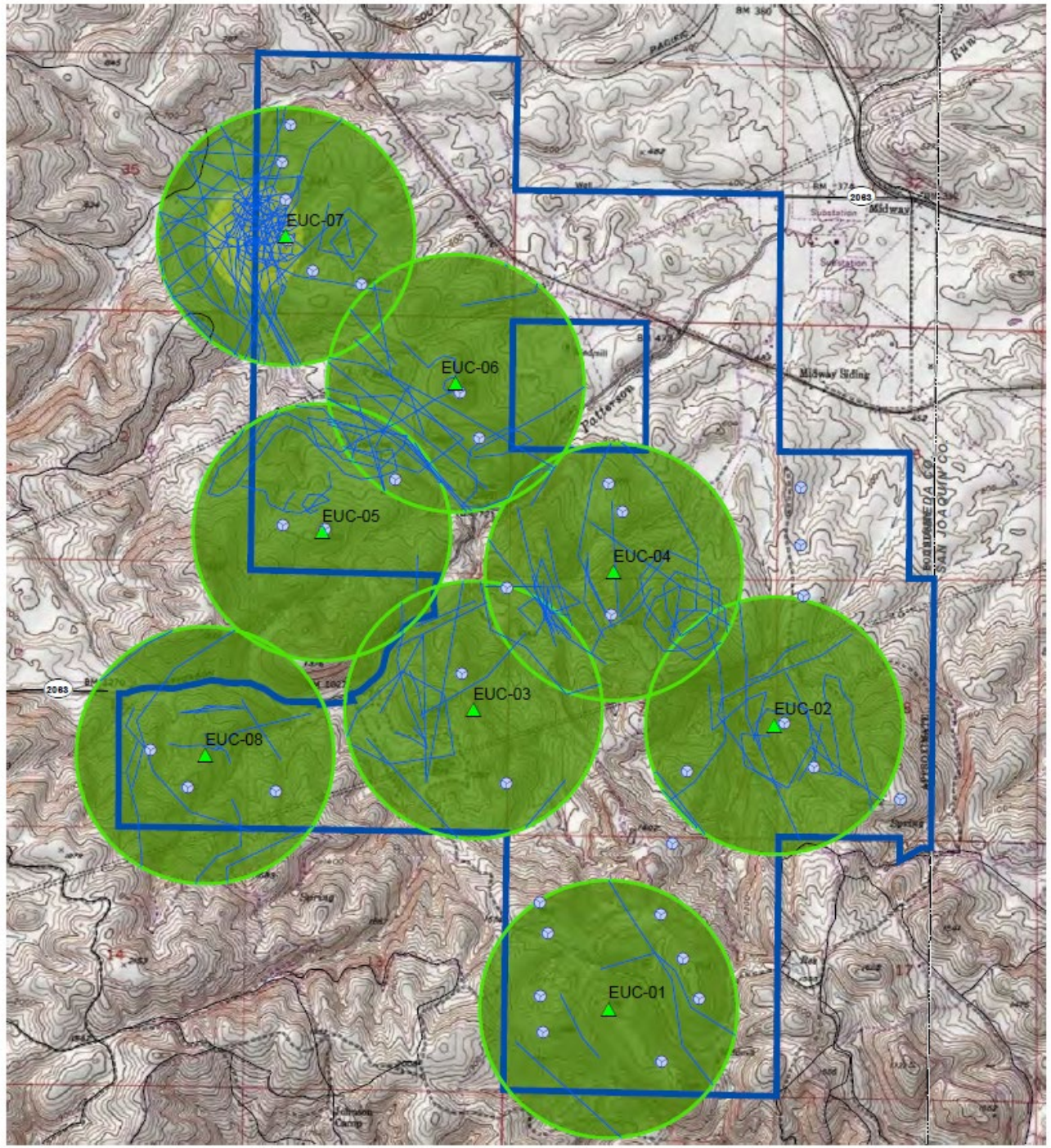


Photo: Patrick Kolar



Supporting Documentation:

Golden Eagle Use Surveys (ICF 2020)

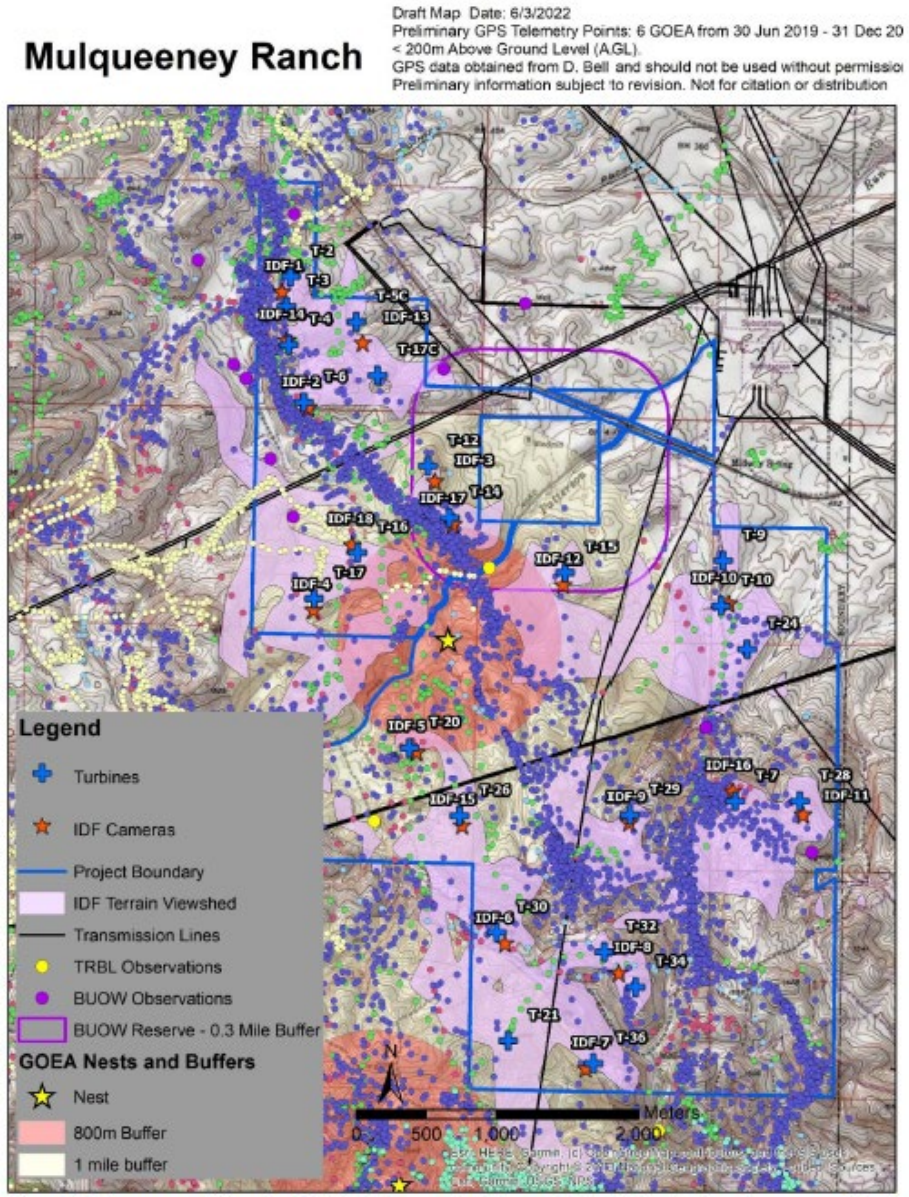
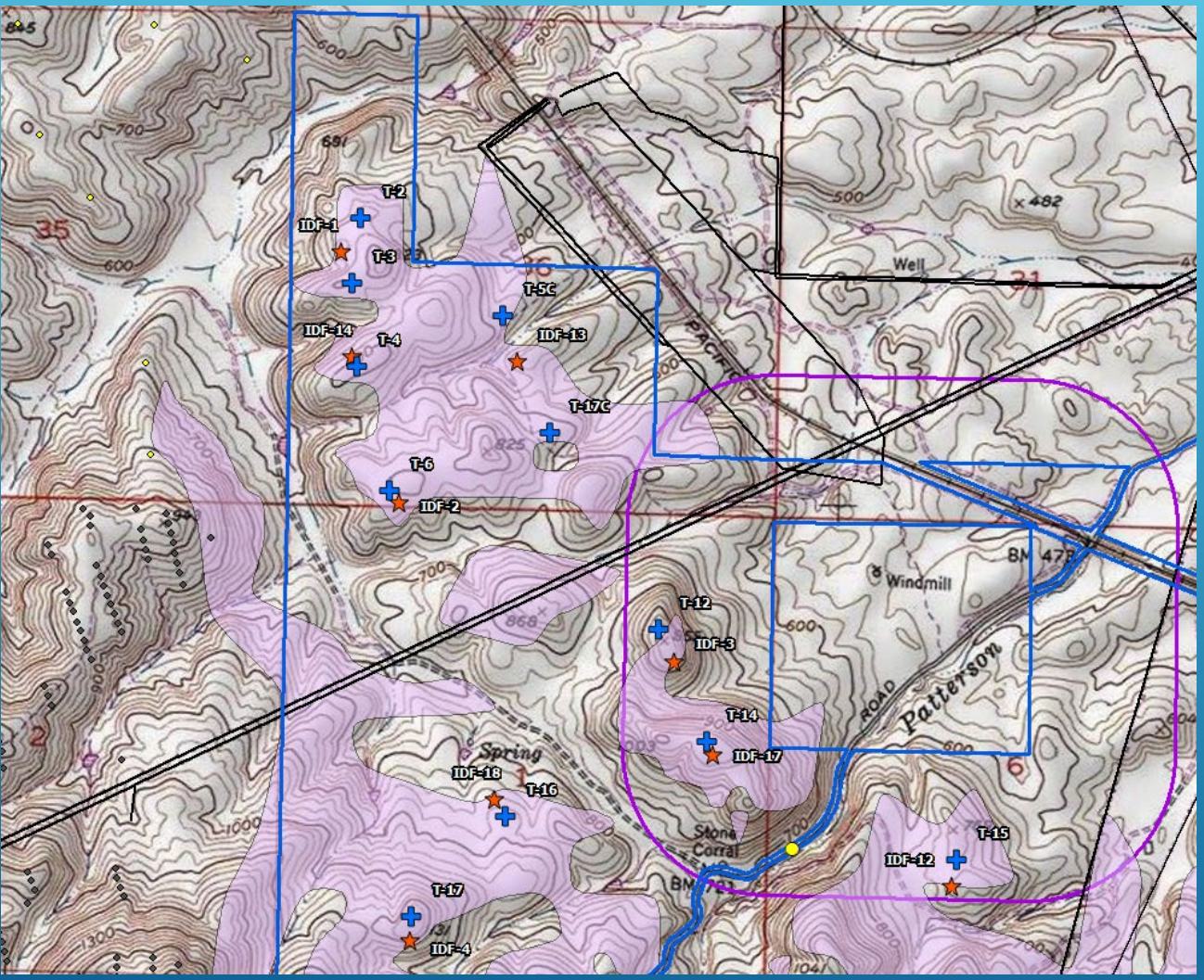


Figure 5. Telemetry positions for 6 GPS-telemetered golden eagles in flight <200m above ground level (AGL) obtained from Doug Bell in March 2022 (D. Bell, unpublished data), flying across or within the vicinity of the Mulqueeney Ranch wind project between 30 June 2019 and 31 Dec 2020. Purple circles represent telemetry positions. All other data are as described in Figure 1.

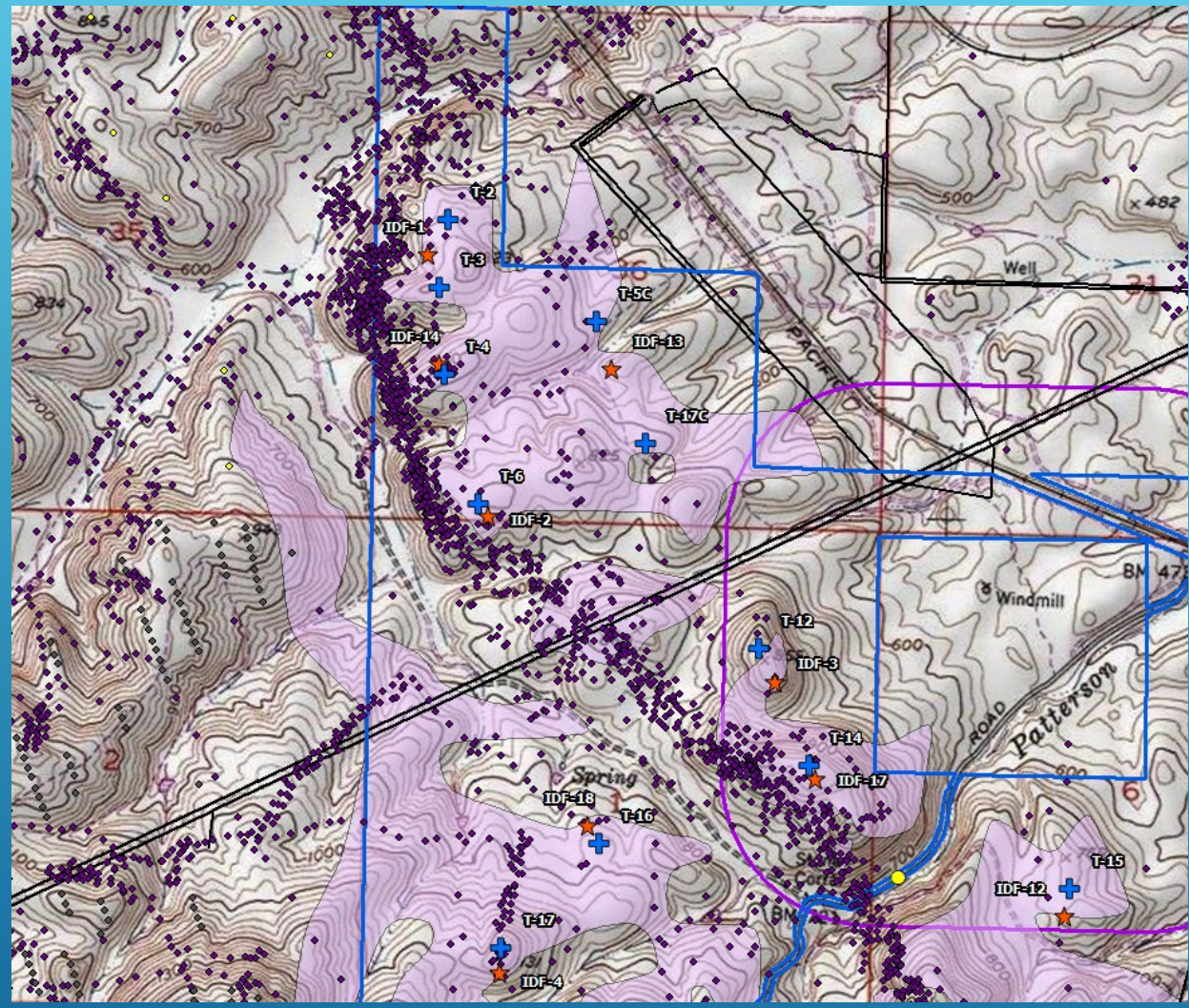
Supporting Documentation:

- IDF Viewshed
- Golden eagle telemetry data
- Golden eagle nest buffers
- Burrowing Owl, Tricolored Blackbird data

Supporting Documentation:



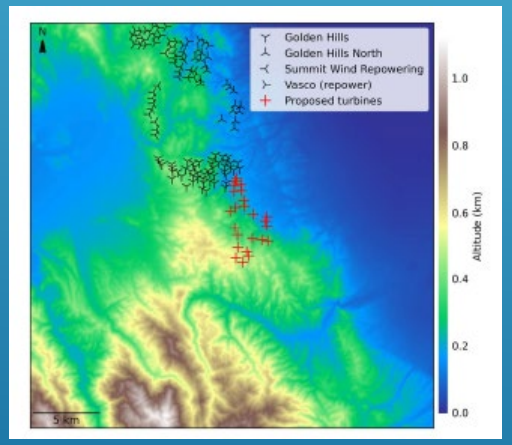
IDF Viewshed

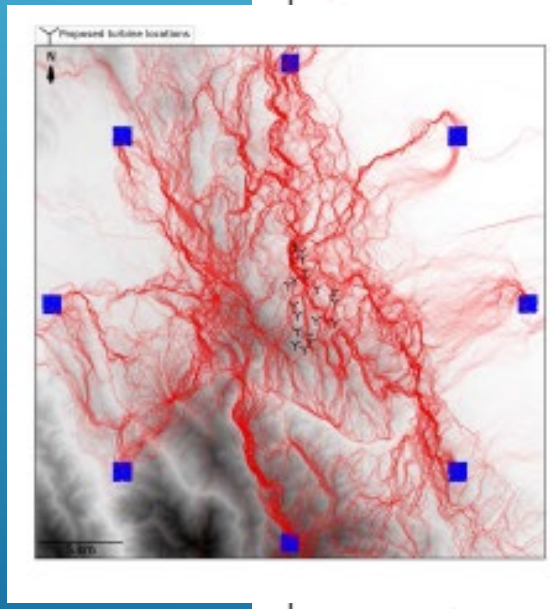


Golden Eagle telemetry data <200m AGL

Supporting Documentation

National Renewable Energy Lab (NREL) Stochastic Soaring Raptor Simulator (Sandhu 2022, Sandhu et al. 2022).





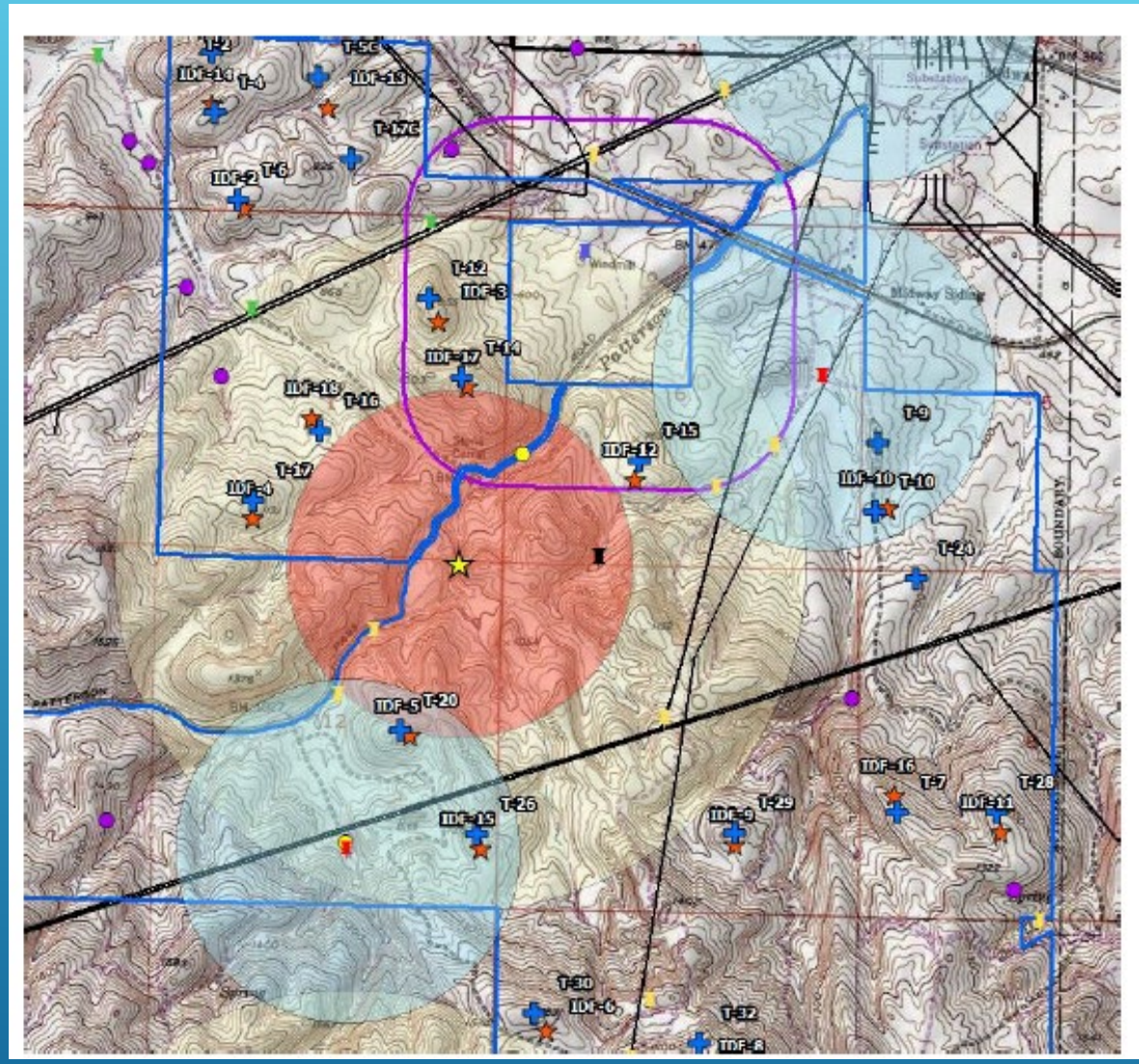
Recommendation:
Turbine Re-siting

Micrositing

- Relocate 3 turbine(s) 0.3 miles from Two Sister's Burrowing Owl Preserve
- WTG-12, WTG-14, and WTG-15

Alternative to micrositing

- Monitor and curtail turbines within 0.3 miles of any active burrow



Recommendation:
Curtailment

Golden Eagle

- Consistent with USFWS recommendations
- Daytime curtailment of turbines w/in 1 mile of golden eagle nest
  - Breeding season (Jan. 1–July 15)
  - Until qualified biologists verifies nest is not in use
  - Curtailment may end if nest is not in use by April 7 (no eggs/young)

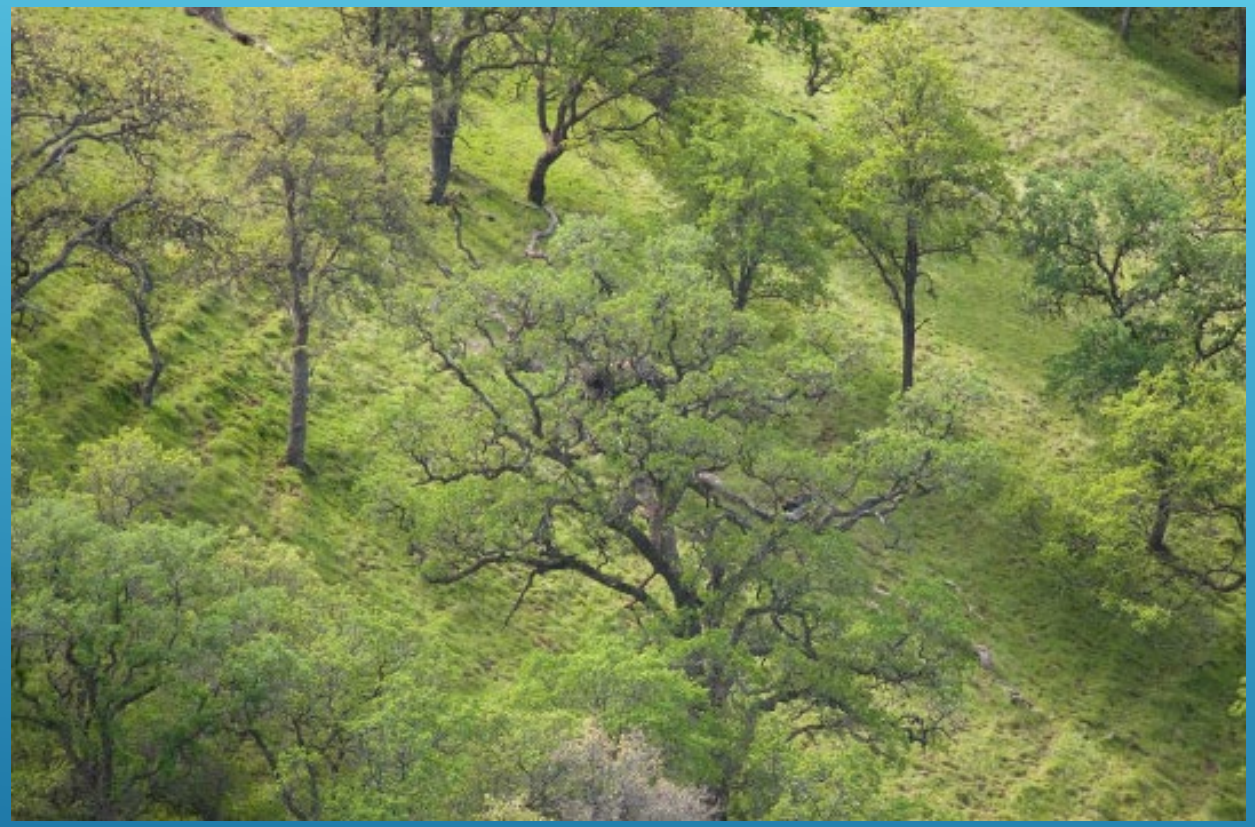
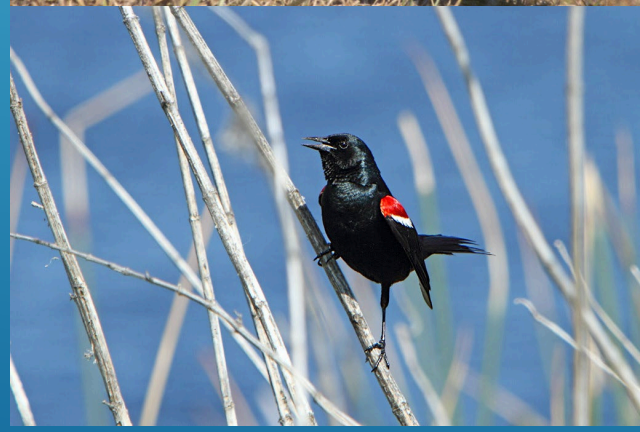


Photo: Patrick Kolar

Recommendation:
Curtailment

Recommend limited nest monitoring and curtailment: Curtail turbines proximate to active nests of other sensitive species

- burrowing owl
- tricolored blackbird
- Swainson's hawk
- red-tailed hawk & other raptors
- Bats – consistent with recommendations to other projects and SEIR
  - seasonal nighttime
  - four-month period between May 1 and September 30



Recommendation:
Rotor-to-Ground Distance

Consistent with the Draft Avian Protection Program submitted with the PEIR (ICF 2013 and supporting data within):

- Turbines should be sited to ensure that the distance of the lowest point of the turbine rotor (i.e., the tip of any blade at the 6:00 position) is no less than 29 meters (95 feet) from the ground surface.

Recommendation: **Decommissioned Turbine Removal**

- Recommend removal non-operational turbines of the Patterson Pass Wind ASAP
- Removal was required to have been completed by December 2015 under expired CUP for that project
- Structures create hazardous attractant

Bats

Recommendation:

Seasonal Curtailment is an Appropriate Tool to Reduce Bat Fatalities

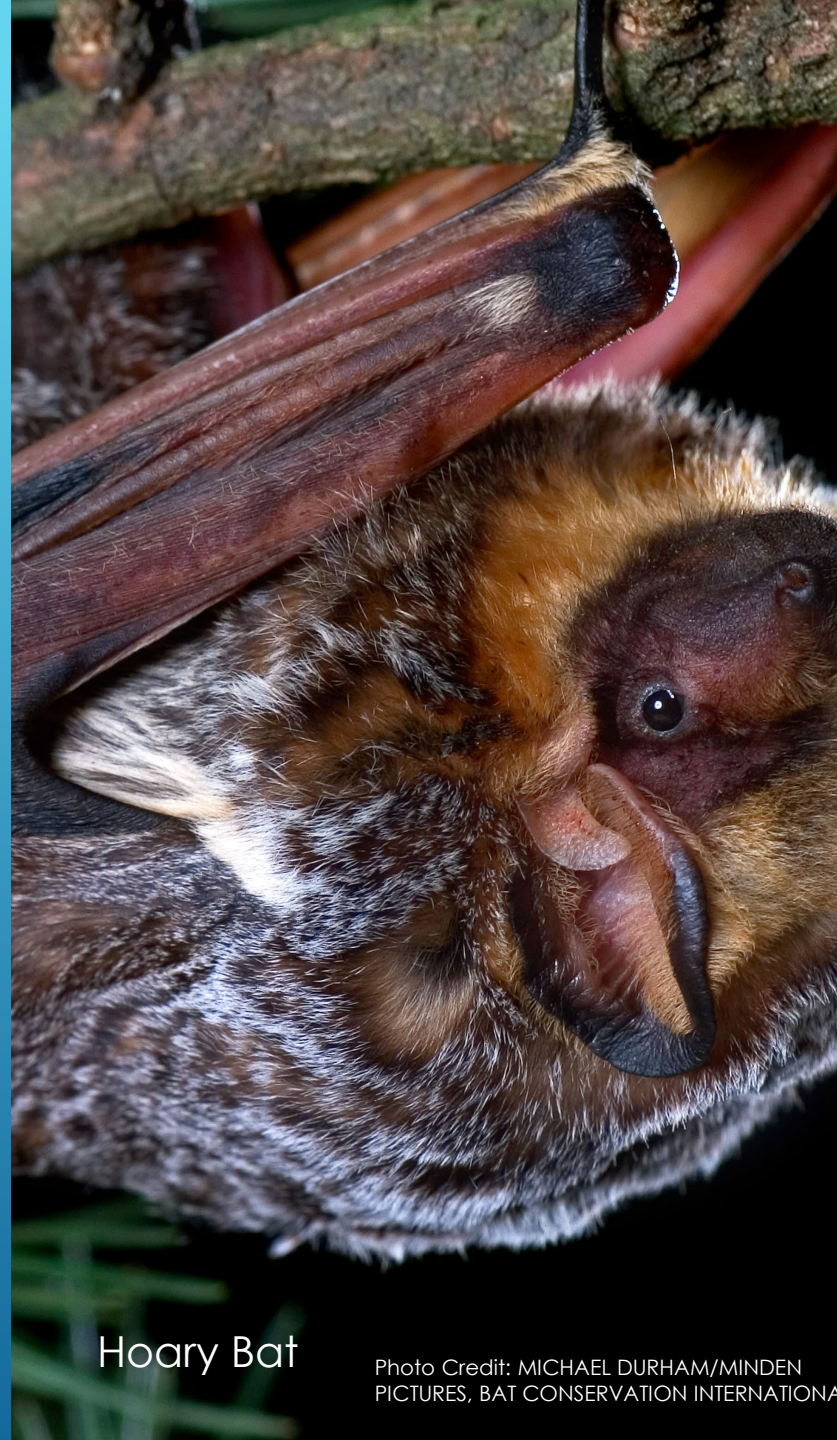
Appreciate commitment to begin implementing ADMM-7 at commencement of operations

However, Recommend Adjusting Season

Four-month period between May 1 and Sept 30

No Tubine Removal or Further Micrositing

Lack of detection of maternity roosts within 750 feet of turbines



Hoary Bat

Photo Credit: MICHAEL DURHAM/MINDEN PICTURES, BAT CONSERVATION INTERNATIONA


Thank you