

..title

Receive and discuss information about amending the Travis Air Force Base and Rio Vista Airport Land Use Compatibility Plans to further address bird strike hazards resulting from wildlife restoration efforts and provide direction to staff.

..body

Published Notice Required? Yes ___ No X

Public Hearing Required? Yes ___ No X

RECOMMENDATION:

Receive and discuss information about amending the Travis Air Force Base and Rio Vista Airport Land Use Compatibility Plans to further address bird strike hazards resulting from wildlife restoration efforts and provide direction to staff.

DISCUSSION:

On February 10, 2022, the Airport Land Use Commission (ALUC) held a discussion item and received information regarding the various habitat conservation and restoration efforts occurring throughout Solano County and their proximity to Travis Air Force Base (Travis AFB) and the Rio Vista Airport. Potential outreach to the various public and private agencies/organizations involved in these restoration efforts to inform them about the ALUC's concerns regarding bird strike hazards potentially created by their projects was discussed. This included advising them on placement of new restoration projects beyond five miles from an airport, or as an alternative second option, to provide other mitigation measures, such as design, plantings or other passive and active physical measure to decrease bird attractants that could lead to increased bird strike hazards. The ALUC requested additional information about amending the Airport Land Use Compatibility Plans for the airports; specifically, about the process involved and information relating to the correlation between increases in habitat restoration projects and bird strikes with the goal to protect Travis Air Force Base and Rio Vista Airport operations.

According to State Law, the ALUC may review airport land use compatibility plans as often as necessary to accomplish its purpose. However, amendments are limited to once a calendar year. The Travis AFB Land Use Compatibility Plan was last updated in 2015 and Rio Vista Airport Land Use Compatibility Plan was last updated in 2018. Therefore, both plans may now be amended in accordance with State Law (refer to Attachment A). The amendment process is subject to CEQA, which could include a Notice of Exemption, Negative Declaration, Mitigated Negative Declaration, or a full Environmental Impact Review. Determining the appropriate CEQA process will depend on the extent of the amendments proposed and their potential impacts.

Amendments, such as outright prohibition on bird attractants within five miles of an airport, could have far reaching implications which affect land uses other than habitat. For example, golf courses, landfills, parks and water treatment plants can increase bird attraction. Additionally, consideration should be given to the geographical extent of the amendments such as prohibiting wildlife attractants within the Cache Slough and Suisun Marsh area consistent with the Delta Plan or including the Assault Landing Zones as a component of the tactical runway at Travis AFB. Amendments to the plans could also include requiring Wildlife Hazards Assessment for some projects instead of the Wildlife Hazards Analysis currently required in the Travis Plan. Wildlife Hazards Assessment is a detailed study conducted by a FAA certified biologist and may provide the ALUC better information to minimize bird strikes, but could be very costly and limit smaller projects with potentially less impact (refer to Attachment B for memo regarding comparison

between Wildlife Hazards Analysis and Wildlife Hazards Assessment). Project level mitigation measures utilized to minimize birds strikes such as Bird Strikes Hazards Programs or floating balls as bird deterrents may also be incorporated into the plans.

Amendments to the plans should be based on technical information, such as that requested by the ALUC regarding the correlation between bird strikes and increases in habitat. No study or data was readily available regarding this issue specific to Solano County and a detailed study which includes data collection and statistically analysis conducted by experts in aviation flight and birds would be required. A general overview of bird strike hazards throughout California is included as Attachment C. To better understand bird strike hazards to Travis AFB, Solano County staff are in the initial process of establishing a Technical Advisory Committee (TAC). Should the TAC be successfully established, the information obtained through its effort could assist the ALUC in guiding the amendment process.

Staff will return at subsequent ALUC meetings with updates to inform the ALUC on status or findings of the TAC and to provide an opportunity for the ALUC to discuss potential amendments and provide general direction to staff. The ALUC can provide general direction to staff, including specific items to address in a potential amendment and to return to the ALUC for discussion.

Attachments

[A – ALUCP Amendment Memo](#)

[B – ALUCP Wildlife Hazard Assessment - Analysis Memo](#)

[C – Relationship between Aviation Safety and Wildlife Strikes](#)



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memorandum

date February 22, 2022

to Nedzlene Ferrario, Solano County Planning Department

cc

from Chris Jones, AICP

subject Solano County ALUC - ALUCP Amendments and Updates

During the Solano County Airport Land Use Commission Meeting of February 10, 2022, a question was raised about the timing requirements for amending or updating an Airport Land Use Compatibility Plan (ALUCP). California State law limits amendment of all ALUCPs to no more than once per calendar year:

21675. (a) Each commission shall formulate an airport land use compatibility plan that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission, and will safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The commission's airport land use compatibility plan shall include and shall be based on a long-range master plan or an airport layout plan, as determined by the Division of Aeronautics of the Department of Transportation, that reflects the anticipated growth of the airport during at least the next 20 years. In formulating an airport land use compatibility plan, the commission may develop height restrictions on buildings, specify use of land, and determine building standards, including soundproofing adjacent to airports, within the airport influence area. **The airport land use compatibility plan shall be reviewed as often as necessary in order to accomplish its purposes, but shall not be amended more than once in any calendar year.** (PUC § 21675(a).)(emphasis added).

In the guidance provided in the California Airport Land Use Compatibility Planning Handbook (Caltrans Handbook), the Caltrans Division of Aeronautics, recommends a comprehensive review and update of each ALUCP at least every five years. As stated in the Caltrans Handbook, the amendment process follows the same steps as "the original adoption process which includes preparation of a draft ALUCP and environmental document, circulation for review and comment among affected agencies and the public, a noticed public meeting, incorporation of comments, and adoption by resolution of the ALUCP and its CEQA document. Coordination with local jurisdictions is important, particularly if the changes affect general and specific plan consistency with the ALUCP." (Caltrans Handbook, Pg. 2-9).



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date February 25, 2022

to Nedzlene Ferrario, Solano County Planning Department

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from Chris Jones, AICP

subject Solano County ALUC - ALUCP Amendments and Updates

The purpose of this memorandum is to clarify the distinctions between a Wildlife Hazard Assessment, as described by the Federal Aviation Administration (FAA) in Advisory Circular 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*, and the Wildlife Hazard *Analysis* discussed in the Travis Air Force Base (AFB) Land Use Compatibility Plan (LUCP) and the Rio Vista Municipal Airport Airport Land Use Compatibility Plan (ALUCP). The specific details of each type of study will be described below followed by a discussion of how each differs from the other.

Wildlife Hazard Assessment

FAA Advisory Circular (AC) 150/5200-33C, *Hazardous Wildlife Attractants on or near Airports*, and AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*, provide guidance pertaining to development of Wildlife Hazard Assessment. This guidance describes a Wildlife Hazard Assessment as a document prepared by an airport as the initial step in the completion of a Wildlife Management Plan. The Wildlife Hazard Assessment's purpose is to determine and describe the baseline conditions concerning the presence of wildlife hazards to aircraft and any potential attractants providing wildlife food, water, or shelter. Per AC 5200/150-33C, preparation of a Wildlife Hazard Assessment should only be performed by a qualified airport wildlife biologist (QAWB) who has met specific education, training, and experience benchmarks as defined in FAA Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*. The Wildlife Hazard Assessment should include the following information:

- An analysis of the event or circumstances triggering the Wildlife Hazard Assessment (this criterion is applicable to airports and pertains to aircraft bird strike)
- Identification of the wildlife species present and their locations, numbers, movement patterns, and any daily and seasonal occurrences

- Identification of attractants on or proximate to the airport
- Descriptions of any specific hazards present
- Recommendations for reducing any observed hazards

The FAA recommends the methodologies applied to a Wildlife Hazard Assessment be reproducible, and that data collection protocols be established in a manner that can also be used for continuous monitoring. The typical timeframe for completion of a Wildlife Hazard Assessment is one year.

A Wildlife Hazard Site Visit (Site Visit) is preliminary to a Wildlife Hazard Assessment. A Site Visit consists of gathering airport information, field observations, and a final report with recommendations. It is recommended that a Site Visit be performed by a QAWB. A Site Visit can help to determine if a more detailed Wildlife Hazard Assessment should be prepared or an update to the Wildlife Management Plan is needed. Like Wildlife Hazard Assessments, Wildlife Hazard Site Visits are described in FAA Advisory Circular 150/5200-38.

Wildlife Hazard Analysis

A Wildlife Hazard Analysis was intended to be a report identifying the types of wildlife hazards present in the project area. A Wildlife Hazard Analysis will typically focus on a single project in the airport environs, as it is completed as part of a proposed project's discretionary review. Although the Wildlife Hazard Analysis was intended to be less complex than a Wildlife Hazard Assessment, it should provide information sufficient to respond to the relevant questions in the CEQA Guidelines Appendix G, *Environmental Checklist*. Because projects subject to discretionary review are subject to CEQA, it is presumed that the effort to prepare the Wildlife Hazard Analysis would only need to be sufficient enough for purposes of supporting the appropriate level of CEQA environmental review. The Wildlife Hazard Analysis should include recommendations for mitigating and minimizing any potential hazards posed by a proposed land use action.

In determining the presence of wildlife hazards attractants, a Wildlife Hazard Assessment will encompass the airport property and surrounding areas. A Wildlife Hazard Analysis is project focused, evaluates areas beyond airport property, and will evaluate the potential for a proposed land use action to attract wildlife or induce the movement of wildlife to and from other nearby attractants. While a Wildlife Hazard Analysis involves a level of study intended to support the ALUC in its consistency review process, a Wildlife Hazard Assessment is an extended effort that precedes preparation of an airport's Wildlife Management Plan.



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ATTACHMENT C
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memorandum

date February 23, 2022

to Nedzlene Ferrario, County of Solano

cc

from Chris Jones, AICP, Principal Associate

subject Relationship between Aviation Safety and Wildlife Strikes

Solano County Airport Land Use Commission staff has requested information concerning collisions between wildlife and aircraft in flight and the potential implications for aviation safety. To address this request, ESA has referenced the Federal Aviation Administration (FAA) Wildlife Strike Database.¹

A search query of the FAA Wildlife Strike Database was run to collect a sample of wildlife strikes occurring in California from February 22, 2012 to February 22, 2022. In order to focus on the degree of damage associated with wildlife strikes, the sample was filtered to eliminate incidents with no recorded data on sustained damage. To further concentrate on incidents involving aircraft in flight, the sample was filtered again to isolate incidents by phase of flight. The retained phases of flight included: Climb, Departure, Approach, and Arrival. The remaining sample included 3,833 incidents.

The analyzed wildlife strike incidents were distributed into four categories of sustained damage: None, Uncertain, Minor, and Substantial. The majority of wildlife strike incidents were reported as resulting in no sustained damage at approximately 90 percent of the incidents analyzed. Incidents resulting in substantial damage represented less than two percent of the incidents analyzed with 49 incidents occurring during the 10-year time period. No wildlife strikes in the sample resulted in an aircraft being destroyed. The proportion of reported incidents by the damage sustained to the aircraft is summarized in **Table 1**.

¹ Federal Aviation Administration, <https://wildlife.faa.gov/search> (accessed February 22, 2022).

TABLE 1 - SUMMARY OF DAMAGED SUSTAINED TO AIRCRAFT IN FLIGHT

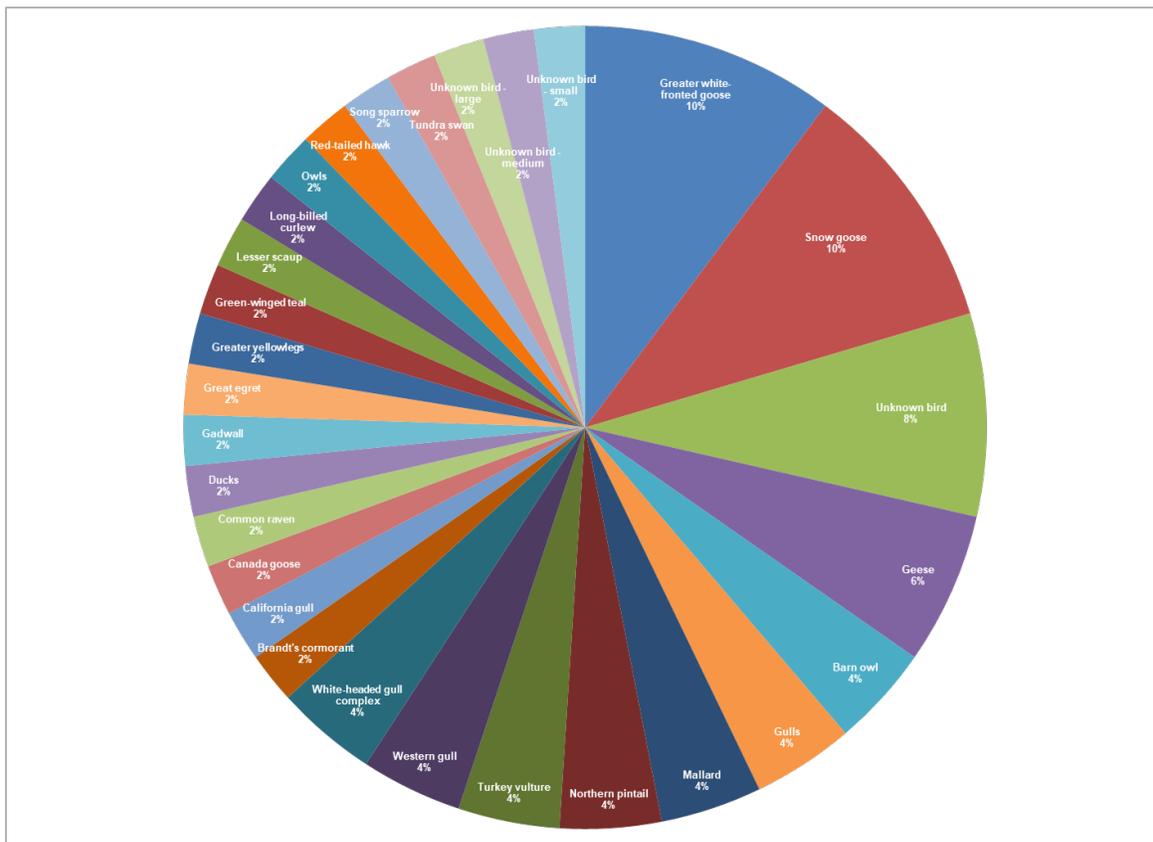
Damage Sustained to Aircraft	Incidents	Percentage
None	3,445	89.88%
Uncertain	224	5.84%
Minor	115	3.00%
Substantial	49	1.28%
Total	3,833	

SOURCE: Federal Aviation Administration, 2022.

For perspective, the National Transportation Safety Board (NTSB) accident database features only 1,237 incidents in California during the same time period, presumably because a wildlife strike resulting in minor or no damage would not be recorded in a database of aircraft accidents.²

Among the wildlife strikes resulting in substantial damage, 27 percent involved varieties of geese. Other species with significant representation in the sample included varieties of gulls, owls, and ducks. The precise distribution of wildlife strike incidents by species is depicted on **Figure 1**.

Figure 1 - Wildlife Strikes by Species



SOURCE: Federal Aviation Administration, 2022.

² National Transportation Safety Board. <https://data.ntsb.gov/carol-main-public/basic-search> (accessed February 22, 2022).

The data analyzed indicates a substantial majority of wildlife strikes results in either minor or no damage to aircraft in flight. However, during a 10-year period in California, 49 incidents did occur which resulted in damage that was reported as substantial. This averages to five incidents per year statewide in which aircraft in flight sustain substantial damage due to collisions with wildlife. While wildlife strikes have not tended to result in devastating effects on aviation in California, the potential for substantial damage to aircraft and possible injury to crew and passengers remains a legitimate concern.