

NSW SAC Risk Assessment

Topic of Risk Assessment: Collision with wildlife

This assessment establishes the level of risk associated with a potential collision between aircraft and wild animals or birds in the runway vicinity at YWBN. The assessment identifies additional risk controls for the airfiled operator to further reduce the level of collision risk.

Risk Context

The airfield at YWBN is surrounded on all sides by national park and natural bushland which forms a wildlife sanctuary. There are four dams adjacent to runway 17/35 combined with an abundant food source in the airfield environment, creating a favourable habitat that is attractive to water birds and wading birds as well as kangaroos, wallabys and hares. Large numbers of wild ducks (n>40) and kangaroos can be observed in the runway vicinity, presenting a risk of collision with aircraft during takeoff, landing and ground operations.

Other birds such as cormorants and masked lapwings (plover) can be observed on the airfiled in lower numbers.

The airfield is unfenced. Hares, kangaroos and wallabys typically appear on the airfield to begin nocturnal feeding a couple of hours before sunset. There are anecdotal accounts of near collisions between aircraft and kangaroos.

Ducks on the ground may not be visible to a pilot in flight. Observations show that when harassed on the runway, the ducks typically fly to the safety of the two middle dams. This risk assessment should be read in conjunction with the ATSB Guideline on Ducks [Managing bird strike risk at Australian airports](#).

Date 25 March 2022

Persons completing this risk assessment:

Name: Mal Kains	Position: Pilot Member

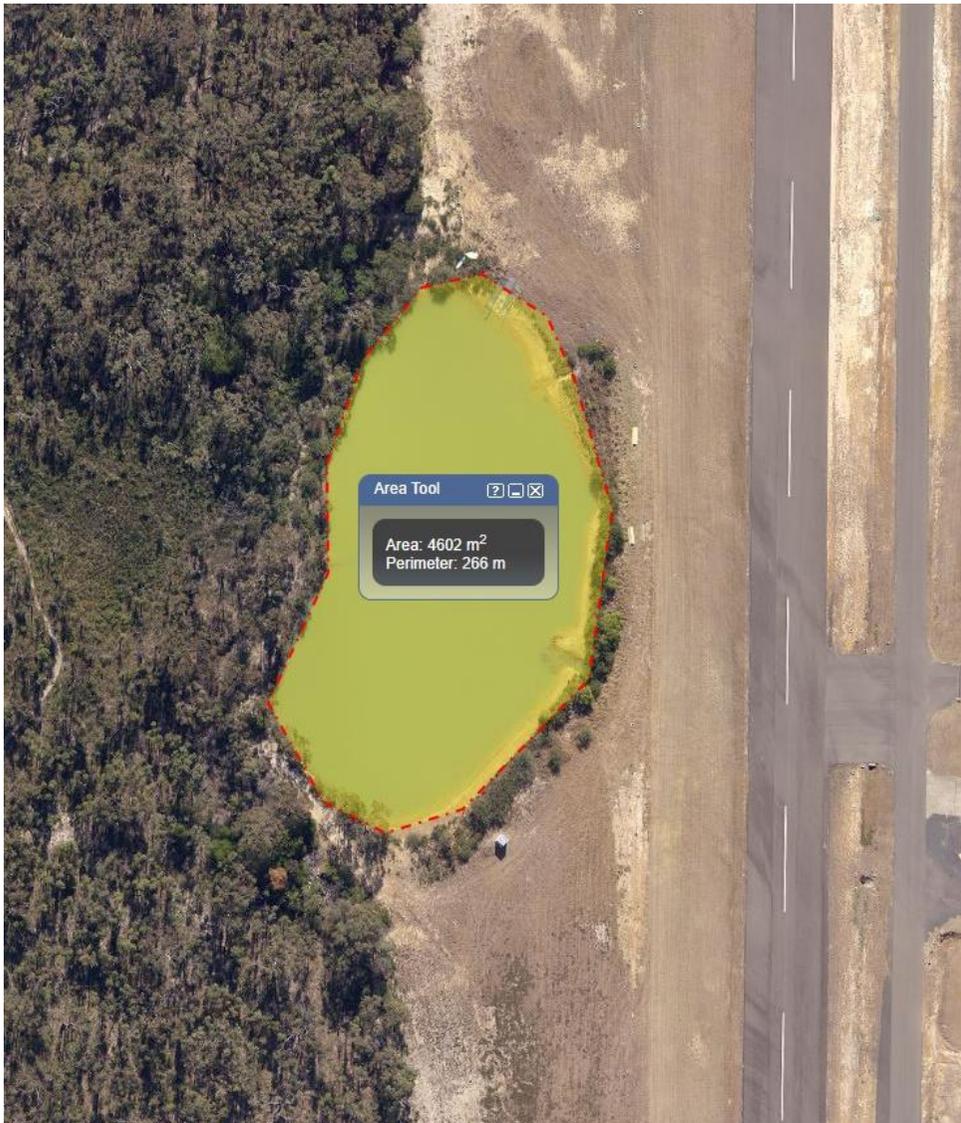
Risk Assessment

1	2	3	4	5	6	7	8	9	10	11
Risk Type	Risk Statement	Consequence	Likelihood	Inherent Risk Rating	Controls	Control Effectiveness	Consequence	Likelihood	Residual Risk Rating	Risk Treatment
Safety	When a large number of ducks are present, landing or departing aircraft may collide with multiple birds near the runway, causing a rejected takeoff, pilot incapacitation or aircraft damage that results in an aircraft crash.	Severe	Possible	High	<ul style="list-style-type: none"> Warning to pilots published in ERSA: Animal and bird hazard exists at all times Warning to pilots published in Country Airstrip Guide: Beware animals and birds, including kangaroos and ducks 	Slightly Effective	Severe	Possible	High	<ul style="list-style-type: none"> Bird hazard warning signs erected as required Publish an article on the bird hazard in the club magazine to raise awareness among pilots. Develop an ongoing wildlife management plan consisting of active management and habitat modification, eg: <ul style="list-style-type: none"> to disperse ducks the club should encourage (non-lethal) harassment of birds by people & vehicles to discourage ducks from the airfield conduct a trial of swan, owl and alligator decoys in 2 middle dams conduct a trial of water spray systems to disturb the surface of the two middle dams if unsuccessful, investigate netting of two middle dams
Safety	In the late afternoon or early morning, landing or departing aircraft may collide with kangaroos, wallabys or hares on the runway, causing a rejected takeoff, pilot incapacitation or aircraft damage that results in an aircraft crash.	Severe	Possible	High	<ul style="list-style-type: none"> As above 		Severe	Possible	High	<ul style="list-style-type: none"> Investigate the installation of sloped 1.8m or electric fencing in strategic locations

1	2	3	4	5	6	7	8	9	10	11
Risk Type	Risk Statement	Consequence	Likelihood	Inherent Risk Rating	Controls	Control Effectiveness	Consequence	Likelihood	Residual Risk Rating	Risk Treatment
Financial	Wildlife may collide with a taxiing aircraft causing a prop strike or other aircraft damage, resulting in a liability claim against the Association.	Major	Unlikely	Medium	<ul style="list-style-type: none"> Club maintains public liability insurance 	Not Effective	Major	Unlikely	Medium	As above

Note that the existing risk controls are 'administrative' in nature and are assessed as 'slightly' or 'not' effective. The existing controls therefore do not alter the consequence or likelihood of the risk and as a result there is currently no reduction between the inherent and residual level of risk.

The proposed risk treatments are intended to reduce the likelihood of the risk by discouraging the ducks from nesting at the airfield. If these treatments are successful the risk level could be reduced from high to medium.



Estimate of the surface area of the two middle dams

Instructions

The purpose of a risk assessment is to aid decision making and to demonstrate due diligence.

For each identified risk, complete the risk assessment template as follows:

Risk Identification

1. Risk Type

Categorise the type of risk from the following list:

- Strategic
- Regulatory
- Service Disruption
- Financial
- Reputation
- Environmental
- Safety

2. Risk Statement

Provide a description of the risk in terms of what could happen and why it could happen.

3. Consequence

Refer to the relevant risk type within the Consequence Ratings Table to determine the worst credible consequence if the stated risk eventuates.

4. Likelihood

Refer to the Likelihood Ratings Table to determine the likelihood of the risk consequence eventuating.

5. Inherent Risk Rating

Refer to the Risk Rating Matrix to determine the inherent risk rating (i.e. uncontrolled level of risk) by finding the intersection between the identified consequence and likelihood ratings.

Risk Mitigation

6. Controls

Provide a description or list of the actions/controls that are in place to minimise or mitigate the risk stated in column 2.

7. Control Effectiveness

Refer to the Control Effectiveness table to rate the control(s).

8. Consequence

Taking the effect of the identified risk controls into account, re-evaluate the consequence rating.

9. Likelihood

Taking the effect of the identified risk controls into account, re-evaluate the likelihood rating.

10. Residual Risk Rating

Refer to the Risk Rating Matrix to re-calculate the level of risk with controls in place.

The Residual Risk Rating demonstrates the effectiveness of the risk controls. It also describes the effective operational level of risk.

Risk Treatment

11. Additional Risk Controls

Identify any additional risk controls that are considered necessary. Nominate the person responsible for actioning the control and the due date.

Note: The hierarchy of risk controls should be taken into account to prioritise those controls that are more effective.

Consequence Ratings Table

	Risk Type	Consequence Definitions
1 Severe	Strategic	Most objectives can no longer be achieved. Complete revision of long-term structure of the Association required.
	Financial	> \$100,000 financial impact (one off) or > \$5,000 (recurrent)
	Environmental	Very serious irreversible damage to environment and/or multiple sites or ecosystems, prosecution of the Association
	Regulatory	Significant breach leading to investigation by external agency resulting in successful prosecution of the Association
	Reputation	Sustained negative national media coverage, total loss of stakeholder trust in the Association, damage to reputation that takes many years to repair
	Safety	Loss of life or serious permanent injury, class action against the Association
	Service Disruption	Inability of the airfield to operate for >4 weeks
2 Major	Strategic	A number of significant club objectives can no longer be achieved.
	Financial	\$10,000 - \$100,000 financial impact (one off) or \$1,000 - \$5,000 (recurrent)
	Environmental	Significant long term impact on built & natural environment, investigation of the Association with adverse findings
	Regulatory	Major breach leading to investigation by external agency resulting in negative findings, fines or penalties
	Reputation	Significant adverse media at state level, isolated loss of stakeholder trust, damage to rep. that takes many months to repair
	Safety	Injuries requiring major medical treatment
	Service Disruption	Inability of the airfield to operate for 2 to 4 weeks
3 Moderate	Strategic	Some important club objectives can no longer be achieved.
	Financial	\$1,000 - \$10,000 financial impact (one off) or \$500 - \$1,000 (recurrent)
	Environmental	Serious medium-term effects on built & natural environment from single incident (eg one off pollution spill)
	Regulatory	Minor breach of legislation resulting in warnings, improvement notices etc
	Reputation	Concerns from some key stakeholders, major local media coverage (short duration)
	Safety	Injury requiring minor medical treatment
	Service Disruption	Inability of the airfield to operate for 3 days to 2 weeks
4 Minor	Strategic	Some reprioritisation of resources to enable the clubs objectives to be achieved.
	Financial	\$500 - \$1,000 financial impact (one off) or \$100 - \$500 (recurrent)
	Environmental	Short term effects on built & natural environment, damage to a single property or parcel of land
	Regulatory	Investigation finding technical breach of legislation
	Reputation	Heightened concerns from individual stakeholders, some short-term media concern
	Safety	Minor injuries or illness from normal activities treated by first aid
	Service Disruption	Inability of the airfield to operate for 1 to 3 days
5 Minimal	Strategic	Little or no impact on the clubs objectives.
	Financial	< \$500 financial impact (one off) or <\$100 (recurrent)
	Environmental	Minor effects on built & natural environment, breach of guidelines, perception of damage
	Regulatory	Minor non-compliance not resulting in any action
	Reputation	One off insignificant adverse local media or complaint
	Safety	Incident and/or 'near-miss' with low potential for harm
	Service Disruption	Usual scheduled interruptions, unscheduled interruptions for less than 1 day

Likelihood Ratings Table			Control Effectiveness Rating		
Likelihood	Description	Quantification	Effectiveness	Description	Quantification
A Almost Certain	The event is expected to occur in normal circumstances. The event has occurred frequently in the past.	Several times a year.	0 Not Effective	The control does not address risk	0%
B Likely	The event will probably occur. The event has occurred occasionally in the past.	Once a year.	1 Slightly Effective	The control is not reliable as it is not well designed, documented and/or communicated.	1-20% effective
C Possible	The event may occur sometime. There have been warning signs the event might occur.	Once every 5 years.	2 Somewhat Effective	Control may be reliable but not very effective as control design can be improved.	21-40% effective
			3 Reasonably Effective	Control is reliable but not effective as documentation and/or communication could be improved.	41-60% effective
D Unlikely	The event could occur in some circumstances. No past event history.	Once every 20 years.	4 Mostly Effective	The control is mostly reliable and effective. Documentation exists but can be better communicated.	61-80% effective
			5 Very Effective	Control is reliable and effective. Fully documented process and well communicated.	81-100% effective
E Rare	The event may occur but only in exceptional circumstances. No past event history.	Once every 50 years or more.			

Risk Rating Matrix					
	Consequence				
Likelihood	5 Minimal	4 Minor	3 Moderate	2 Major	1 Severe
A Almost Certain	Medium	High	High	Very High	Very High
B Likely	Medium	Medium	High	High	Very High
C Possible	Low	Medium	Medium	High	High
D Unlikely	Low	Low	Medium	Medium	High
E Rare	Low	Low	Low	Medium	Medium