



MITIGATING BIRD STRIKE RISK

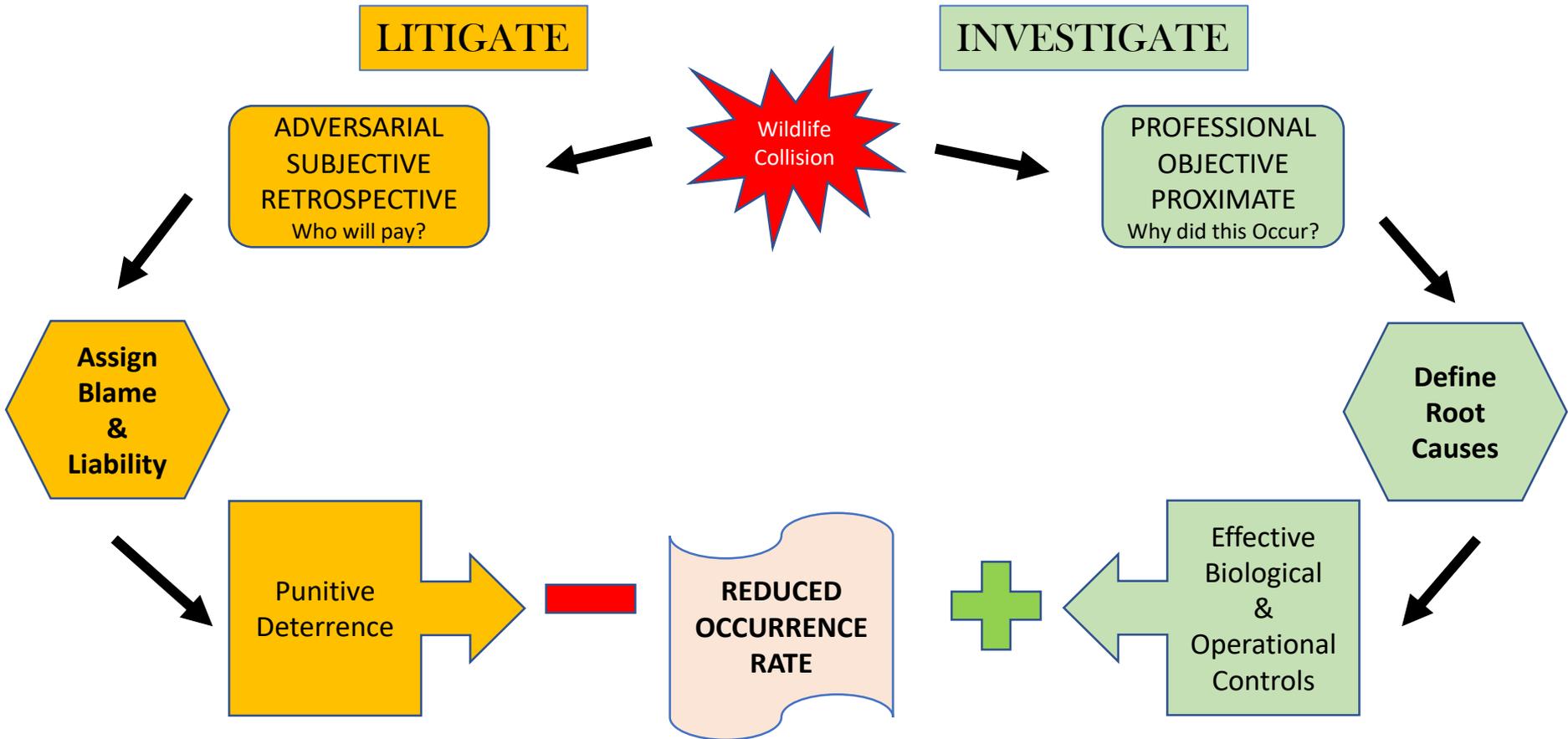
Investigate, Litigate or Prevaricate Part II

North American Birdstrike Conference, Halifax, Nova Scotia 2019

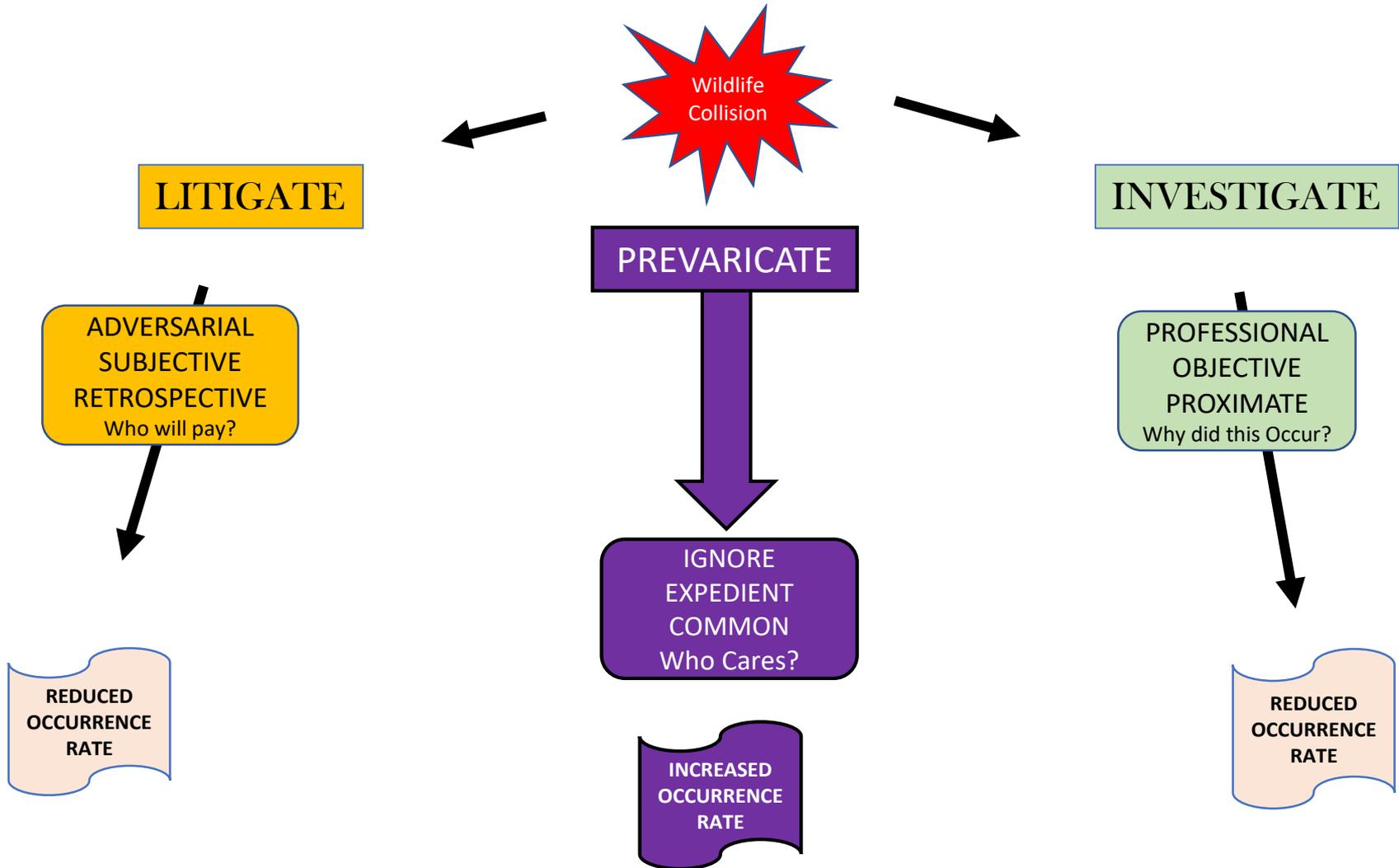
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Reactive Roads to Accident Prevention



The Third Option



Do You Really Want to Litigate?



How Does the Court Do a Risk Assessment?

		Probability/Likelihood					
		Very Low	Low	Moderate	High	Very High	Certain
Severity/Consequence	Very Low	1	2	3	4	5	6
	Low	2	4	6	8	10	12
	Moderate	3	6	8	9	15	18
	High	4	8	9	16	20	30
	Very High	5	10	15	20	25	36
Low Risk: no further action beyond current management is required							
Medium Risk: review current management practices and options for additional action required							
High Risk: immediate action required to reduce the current risk							

What Happens When the Law is Tested?

Negligence

A duty of care is a legal obligation to avoid causing harm, and arises where harm is foreseeable.



What Happens When the Law is Tested?

Typically 2 Defences

- *No power: meaning, no control – no responsibility.*
- *Due Diligence typically decided using the 'reasonable person' test*



The Reasonable Person

The reasonable person is not any particular person or an average person... The reasonable person looks before he leaps, never pets a strange dog, waits for the airplane to come to a complete stop at the gate before unbuckling his seatbelt, and otherwise engages in the type of cautious conduct that annoys the rest of us... “This excellent but odious character stands like a monument in our courts of justice, vainly appealing to his fellow citizens to order their lives after his own example.”

J M Feinman (2010). *Law 101. Everything You Need to Know About American Law*. Oxford University Press. Page 159.

What Happens When the Law is Tested?

26 February 1973. Atlanta, Georgia, USA. 7 people killed and seriously injuring 1 person on the ground.

Judgment: the airport manager could be held liable for failing to take the precautions possible at his level to end bird hazards.

12 December 1973. Norwich, England. Severe damage to both engines.

Judgment: Damages against Airport because it failed to show due diligence in managing the airport's bird hazards

14 June 1975. Watertown, South Dakota, USA. Aircraft destroyed.

Judgment: full value of the destroyed aircraft was entered against the airport operator

12 November 1975. New York, New York, USA. Aircraft destroyed. 30 injuries but no deaths.

Judgment: The total settlement, in excess of \$15 million. Amounts paid by each party and their insurance companies are not known.

What Happens When the Law is Tested?

11 January 1990. Nashville, Tennessee, USA. Engine tore loose from the plane.

Judgment: The lawsuit was won in trial court \$1.4 million, but lost in the Tennessee Court of Appeals based on the Tennessee Governmental Tort Liability Act (TGTLA) capping government liability for property damage to \$50,000 (Neill 2003).

3 June 1995. New York, New York, USA. Shrapnel from the #3 engine destroyed the #4 engine and cut several hydraulic lines and control cables.

Judgment: The French Aviation Authority sued the Port Authority of New York and New Jersey and eventually settled out of court for \$5.3 million.

22 March 1998. Marseille Provence Airport, France. #2 engine destroyed.

Judgment: The air carrier received \$4 million.

20 January 1995. Paris, France. 10 dead

Judgment: Involuntary manslaughter charges for three Paris Airport Authority staff

Pula, Croatia 1996



- Croatian Airlines B737-200 ingested a gull on take-off
- Rejected take-off, engine destroyed
- Airline insurer billed the airport for the engine replacement (US\$1.4 million)
- Airport refused payment and litigation ensued



- **Judgment: The airport was liable for damages**
- **Airport argued they had a permanent NOTAM stating 'Bird Hazard Exists'.**
- **The JUDGE commented that the permanent NOTAM only acknowledged that the hazard existed . It DID NOT prove that they took adequate steps to mitigate**

Pula, Croatia 1996



WHAT DIDN'T HELP – the A/D had a mature and reasonably well resourced Wildlife Hazard Management Plan - But they were out of the habit of logging management activities.

- There was no record of proof that they did any management at all !!!
- The Judge assumed that in fact they didn't do anything at all and they were attempting to “hide behind” the NOTAM.



Genoa, Italy 1989



- A BAE 146 departing Genoa Airport at night flew through a flock of gulls at rotation.
- Three engines were damaged and the A/C RTB.
- The carrier sued for damages
- After 11 years of litigation, judge awarded the carrier USD \$2 million in compensation.
- Liability was assigned as 50% to the Ministry of Transport, 30% to A/D operator, and 20% to the Port Authority (Battistoni 2003)
- Reverted on Appeal in 2015
 - The airport complied with national regulations
 - It was a fortuitous, exceptional and unpredictable case



Genoa, Italy 1997



- Antonov 124 multiple strike on rotation
- 40 Gulls dual ingestion, and dual Engine Failure (#2,#3), went round and followed up with an emergency overweight landing on remaining engines
- Major damage, both #2 & #3 engines replaced, ~USD\$2.5M in damage repair delays and inspections
- The carrier's insurance company sued for damages
- Judgement in 2006 – Italian Courts.
NOT A NATURAL EVENT
IS AN AVOIDABLE EVENT
INSUFFICIENT EFFORT PUT TO MITIGATING THE HAZARD
- In favour of the Plaintiff.
35% Genoa Airport Operator; + 35% ENAC (ATS); + 22.5% Italian CAA;
+ 7.5% Former airport operator/owner who was subcontracting the A/D OPS.



Pilansberg International Airport, South Africa, 2015



- A B200 on landing struck a Warthog and sustained substantial damage to the value of ~ USD\$500K
- The A/C operator sued the A/D operator for damages and court costs
- The A/D operator argued that they were not liable as they had:
 - a substantial fence around the airport which was patrolled every three hours and immediately repaired as required.
 - No previous issues or history with warthogs on the A/D



Pilansberg International Airport, South Africa, 2015

The Judge awarded full damages and court costs to the Plaintiff



- Warhogs frequented the off-airport area and so should have been included in the off-airport risk assessment
- The A/D operator should have been aware that warhogs are semi fossorial and could easily burrow under their fence design.
- Local and ICAO Annex 14 Regulations were clearly breeched “an aerodrome should have a fence or other suitable barrier to prevent the entrance to the movement areas of animals large enough to be a hazard to aircraft.”
- The fence design was clearly unsuitable to the specific needs of that airport



Pilansberg International Airport, South Africa, 2015

WHAT DIDN'T HELP

The airport (local government) had a documented history of ignoring wildlife management and fencing recommendations

“.....in her testimony the expert witness stated that she did engage the airport manager about the state of the fence but didn't get any answers or co-operation.....”



Toulouse-Blagnac Airport, France, 2015

9:00am – Wildlife contractor reported the presence of several birds on the Toulouse airport runway.

9:43am and 9:46am – an aircraft landed and another one took off without trouble.

9:53am – an Embraer 135 reported to the air traffic controller that there were a number of birds next to and on the runway.

9:54am – an Air France operated Airbus A 321 received authorisation to take-off and following bird ingestion had to land immediately. One of its engines was severely damaged by the bird ingestion.



[Source: https://www.internationallawoffice.com/Newsletters/Aviation/France/Odi-se-Avocats/Liability-for-damages-caused-by-bird-strikes?redir=1](https://www.internationallawoffice.com/Newsletters/Aviation/France/Odi-se-Avocats/Liability-for-damages-caused-by-bird-strikes?redir=1)

Toulouse-Blagnac Airport, France, 2015

Judgment: The lower courts found that all of the parties involved were liable:

The state, acting as the air traffic controller, was responsible for authorising the take-off, despite the Embraer 135's warning.

The Wildlife contractor for not taking the necessary measures to prevent the risk of collision by dealing with the presence of the birds.

The airport had a duty to supervise.

The airline as the pilot had received the Embraer 135's warning and not heeded it.



Appeals:

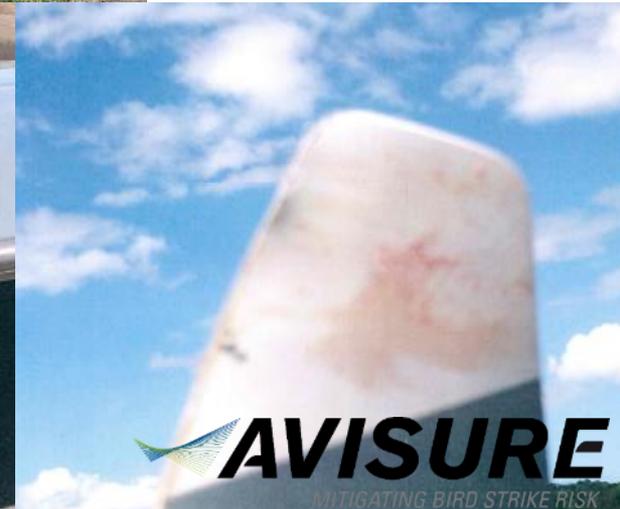
Airline successful on grounds that they should have been able to trust ATC

Airport successful because it was not demonstrated there was a lack of reasonable care and supervision

Source: <https://www.internationallawoffice.com/Newsletters/Aviation/France/Odi-se-Avocats/Liability-for-damages-caused-by-bird-strikes?redir=1>

Kempsey Australia, 2014

- Mooney M20TN, landed at Kempsey Aerodrome under VFR
- Impact with Eastern Grey Kangaroo
- **Judgment:** Airport to pay for damages plus costs ~\$250,000



Kempsey Australia, 2014



WHAT DIDN'T HELP –

1. Airport had been warned in multiple annual serviceability and regulator inspection of the roo hazard and they should put up a fence
2. Airport didn't follow their SOP and raise a NOTAM when numbers were significant

S 42 Civil Liability Act 2002 – airport as a voluntary service

“If a government chooses to provide a voluntary service of this kind, prima facie it must take all such precautions against the risks of injury which the provision of those services will create and, in particular, it is prima facie not open to it to plead lack of resources if it does not do so. A plaintiff may say that, if it has not the resources to make such provision against risk, it should not offer to provide the services.”

Overtaken on appeal, 2 judges to 1. AIP indicated that “Kangaroo Hazard Exists”

Managing Bird Strike: the Ostrich Strategy

If you can't be bothered investigating and you don't really care one way or the other about litigating you can always just ignore the issue:



Case Studies in Prevarication

- Missed him the first time, Stork & B738s, 2018
- “Australian Roulette” , A333 & A322, 2016



A triple AAA Management team

2018: How many 738's are required to kill one stork?



BLACK-NECKED STORK (Jabiru mycteria)



2018: How many 738's are required to kill one stork?



- No 1 Landing B738: reports may have hit bird on touchdown
- B350 at Holding confirms vortex strike and advises that a disorientated Stork walking around Touch Down Markers
- No 2, A320 lands regardless and misses
- No.3 Next B738 conducts Missed approach (well done!)
- No 4. Next B738 lands regardless - ingestion and engine replacement
- Nos 5-9: 5 more narrow-bodied A/C land on the resulting FOD
- ANSWER: AT LEAST TWO!!



2016: How many Flying Foxes are required to “take-out” an A330-300? An A320-200?



A333

© AIRBUS S.A.S. 2010 - COMPUTER RENDERING BY FIXION - GWLNSD



A322



BLACK FLYING FOX (*Pteropus alecto*)

2016: How many Flying Foxes are required to “take-out” an A330-300? An A320-200?



- Airport WCOs and ATC TWR sight & advise large flock FFs inbound through the GS on Final
- No.1 Landing A333 elects to land regardless and hits 15 FFs (~15kg multiple strike) on short final. Minor damage to undercarriage
- ATC advises of continuing hazard and that previous A333 had multiple strike
- No2. A320 also elects to land regardless and also has multiple strike with another 15 animals
- Rwy Undershoot contaminated with ~ 30kg FOD

- ANSWERS: A333 >15, A322 >15



A333



A322



FF100000

Lessons Learned

- *Don't operate an airport/airline/ATS unless you are prepared to pay for safety measures that would be expected by a "reasonable person"*
- *Don't prepare Plans that you don't implement or SOPs that you don't follow – always keep them updated*
- *Do stay abreast of current best practice (not just minimum regulatory requirements)*
- *Do make your WHMP 'outcomes focused' rather than 'legislation focused'*
- *Engage all sectors of the industry (particularly airspace managers and airspace users) and diverse external stakeholders in the solution*
- *Do investigate strikes thoroughly and frequently*
- *Be proactive, innovate, document efforts to manage risks*
- *Do maintain training*



US-CAN BSC, Halifax, 2019

You cannot keep doing the same thing,
the same way, and keep expecting
something different to happen.

“ quote fancy

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