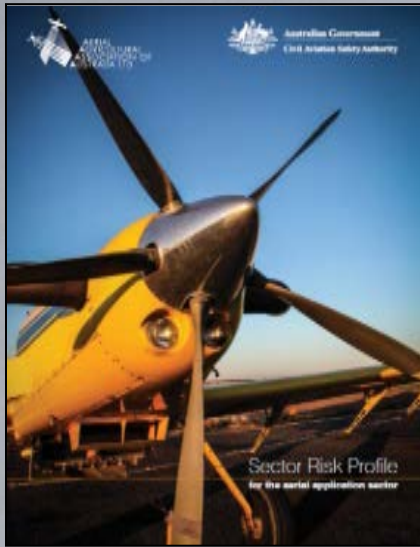
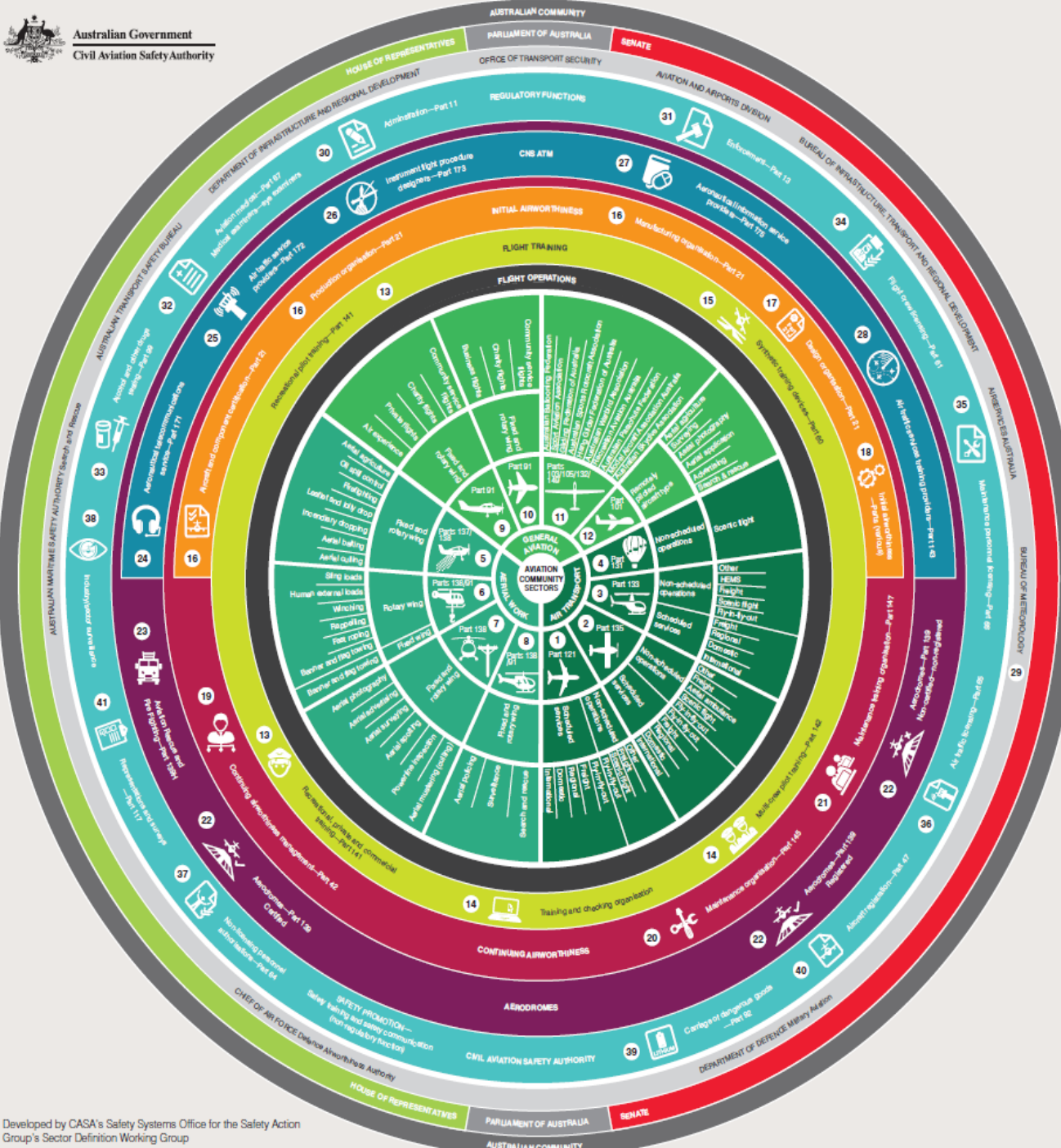


Safety Risk (Sector) Challenges

APRAST 7, Bangkok, 31 August 2015
Stephen Duffield, Manager Safety Performance



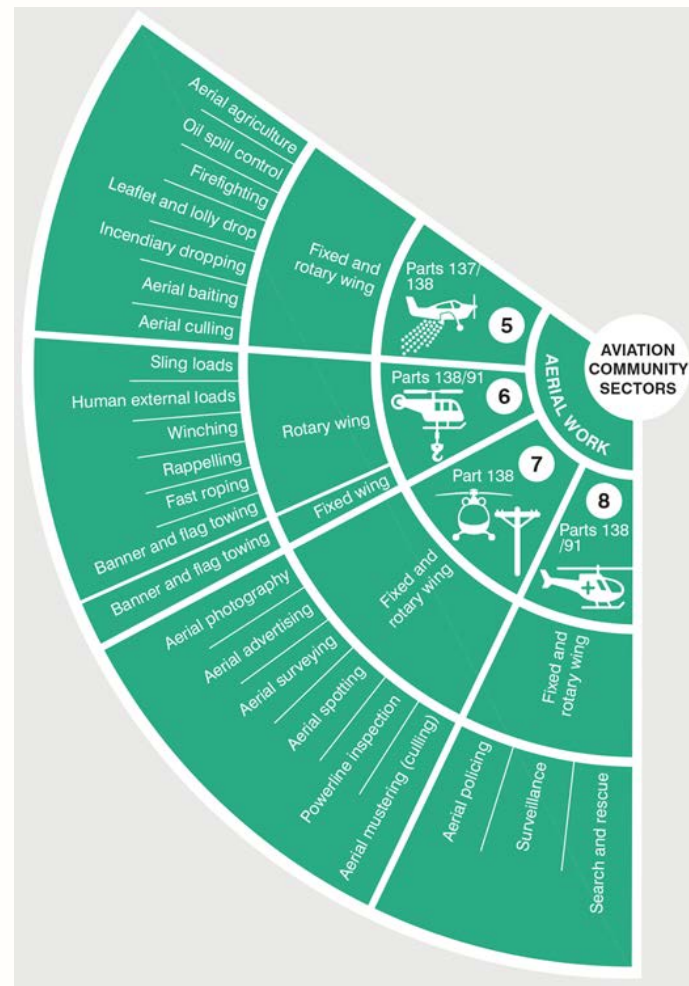
safe skies for all



- FLIGHT OPERATIONS**
- COMMERCIAL AIR TRANSPORT SERVICES**
- 1 Air Transport Operations - Large Aeroplanes - Part 121/119/91
 - 2 Air Transport Operations - Small Aeroplanes - Part 135/119/91
 - 3 Air Transport Operations - Helicopters - Part 133/119/91
 - 4 Air Transport Operations - Balloons - Part 131
- AERIAL WORK**
- 5 Dispensing and Aerial Application Operations - Parts 137/138
 - 6 External Load Operations - Fixed wing and Rotary wing - Parts 138/91
 - 7 Task and/or Role Specialist Operations - Part 138/91
 - 8 Emergency Service Operations (other than HEMS and Ambulance) - Parts 138/91
- GENERAL AVIATION**
- 9 Private Flying - Part 91
 - 10 Business Aviation - Part 91
 - 11 Self-Administered Organisations - Part 149 and Warbirds - Part 132
 - 12 Sport and Recreational - Part 103 and Parachuting - Part 105
 - 13 Remotely Piloted Aircraft Systems - Part 101
- FLIGHT TRAINING**
- 13 Recreational, Private and Commercial Pilot Training Organisations - Part 141
 - 14 Multi-crew Training Organisations - Part 142
 - 15 Synthetic Training Devices - Part 60
- AIRWORTHINESS MANAGEMENT**
- AIRWORTHINESS**
- 16 Aircraft/Component Manufacturing Organisation - Part 21
 - 17 Design Organisation - Part 21J
 - 18 Initial Airworthiness - Parts 22/23/25/26/27/29/31/32/33/35/39/90
- CONTINUING AIRWORTHINESS**
- 19 Continuing Airworthiness Management - Part 42
 - 20 Maintenance Organisation - Part 145
 - 21 Maintenance Training Organisation - Part 147
- INFRASTRUCTURE AND SERVICES**
- AERODROMES**
- 22 Certified, Registered and Other Aerodromes - Part 139
 - 23 Aviation Rescue and Fire Fighting Service - Part 139 sub-part H
- COMMUNICATION, NAVIGATION, SURVEILLANCE AND AIR TRAFFIC SERVICES**
- 24 Aeronautical Telecommunication and Radio Navigation Services - Part 171
 - 25 Air Traffic Services - Part 172
 - 26 Instrument Flight Procedure Designers - Part 173
 - 27 Aeronautical Information Services - Part 175
 - 28 Air Traffic Services Training - Part 143
- METEOROLOGICAL SERVICES**
- 29 Meteorological Services (not regulated by CASA)
- REGULATORY FUNCTIONS**
- 30 Regulation Administration - Part 11
 - 31 Regulation Enforcement - Part 13
 - 32 Aviation Medical Examinations - Part 67
 - 33 Alcohol and Other Drugs Testing - Part 99
 - 34 Flight Crew Licensing - Part 61
 - 35 Maintenance Personnel Licensing - Part 66
 - 36 Air Traffic Services Licensing - Part 65
 - 37 Authorisations for Non-licensed Personnel - Part 64
 - 38 Industry/Sector Surveillance - Civil Aviation Act 1988
 - 39 Consignment and Carriage of Dangerous Goods by Air - Part 92
 - 40 Registration of Aircraft and related matters - Part 47
 - 41 Representations and surveys - Part 117
 - 42 Safety Promotion - safety training and safety communication
- AVIATION INSURANCE* - not shown**

Sector Risk Profiles – challenges...

- Defining the sectors
 - Established a Sector Definition Working Group (SDWG)
 - A mix of current and future regulations
 - Primary (inner circle)
 - Secondary (outer rings)
 - Sectors / sub-sectors
 - Aviation Community stakeholders
 - Represents the 'system'
 - SSP – SMS integration



Sector Risk Profiles – challenges...

- **Prioritising the sectors**
 - SDWG task
 - 8 elements
 - aircraft occupant characteristics
 - aircraft fleet diversity
 - diversity of aircraft activity
 - quantum of occurrences
 - grade of infrastructure and support services
 - progress of regulation review and reform
 - extent of surveillance
 - extent of safety promotion

Sector Priority

#	Sector	#	Sector
1	Small Aeroplanes	7	Dispensing and Aerial Application
2	Helicopter	8	External Load Operations
3	Balloons	9	Private Flying
4	Large Aeroplanes	10	Business Aviation
5	Emergency Services Operations	11	Self- Administered Organisations
6	Task and Role Specialist Operations	12	Remotely Piloted Aircraft Systems

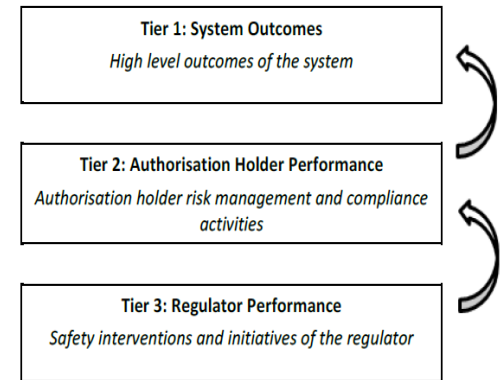
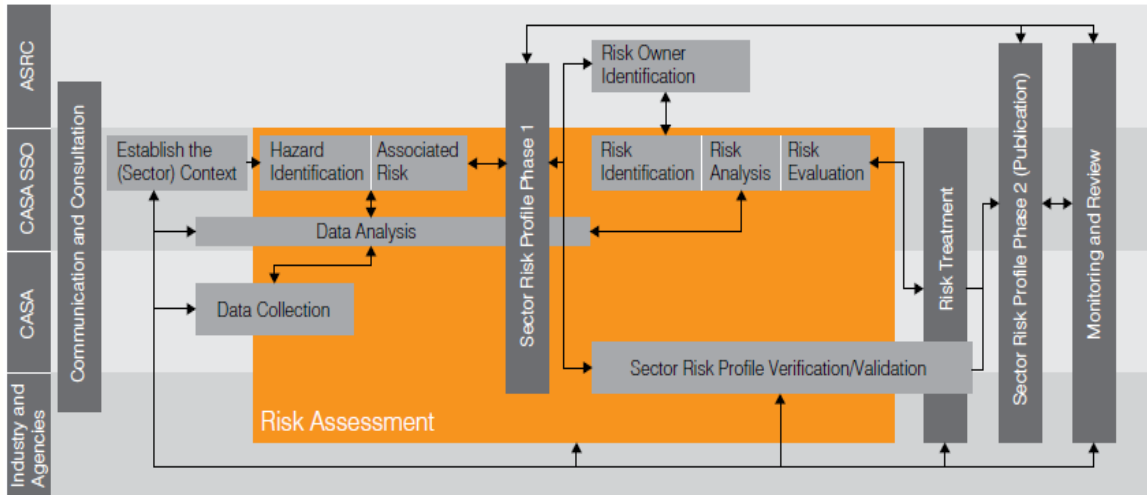
Sector/Sub-Sector Priority

Sector Priority	Sector	Sector Class	Sub-sector Priority	Sub-sectors	Schedule
1	Small Aeroplanes	Scheduled/Non-Scheduled	1	Regional	15/16
1	Small Aeroplanes	Scheduled/Non-Scheduled	1	Domestic	
1	Small Aeroplanes	Scheduled/Non-Scheduled	1	FIFO	
2	Helicopter	Non-Scheduled	2	HEMS	15/16
2	Helicopter	Non-Scheduled	3	FIFO - Offshore	15/16
1	Small Aeroplanes	Scheduled/Non-Scheduled	4	Aerial ambulance	16/17
3	Balloons (Phase2)	Non-Scheduled	5	Scenic flight	16/17
4	Large Aeroplanes	Scheduled/Non-Scheduled	6	International	16/17
4	Large Aeroplanes	Scheduled/Non-Scheduled	7	Domestic	17/18
4	Large Aeroplanes	Scheduled/Non-Scheduled	7	Regional	
4	Large Aeroplanes	Scheduled/Non-Scheduled	8	FIFO	17/18
5	Emergency Services Operations	Rotary wing	9	Search and rescue	17/18

Current Sector Risk Profiles

- **Aerial Application**
 - Completed phase 2: risk register and joint public report released
 - Working with AAAA in development of SPIs
- **Aerial Mustering**
 - End of phase 2: risk register and joint public report (WIP)
- **Aerodromes**
 - Work in progress – phase 2, completed draft risk register
- **Warbirds**
 - University (RMIT) research project – phase 1
- **Commercial Balloons**
 - Work in progress – phase 1 (end of August)
- **Commercial Air Transport Small Aeroplane**
 - Commenced phase 1

Sector Risk Profile Process



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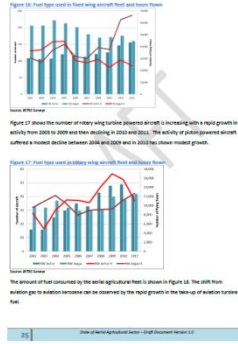
ISO 31000:2009

SPIs

Sector Risk Profile outputs

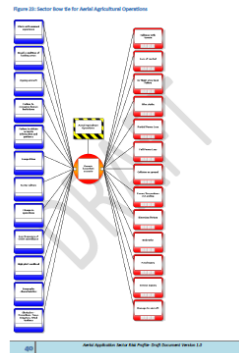
STATE OF AERIAL AGRICULTURAL SECTOR
DRAFT

Safety Systems Office



SECTOR RISK PROFILE - PHASE 1
AERIAL AGRICULTURE
Safety Systems Office

DRAFT



PART 5: SUMMATION OF RISKS

ID	System	Risk event	Event	Rate	Notes
1	Aerial	Human Factors	Operator error	1.0	Operator error is the most common cause of aerial agricultural accidents. It is caused by a number of factors, including fatigue, distraction, and poor decision-making. It is a major cause of aerial agricultural accidents.
2	Aerial	Weather	Low visibility	1.0	Low visibility is a major cause of aerial agricultural accidents. It is caused by a number of factors, including fog, mist, and rain. It is a major cause of aerial agricultural accidents.
3	Aerial	Weather	Thunderstorms	1.0	Thunderstorms are a major cause of aerial agricultural accidents. They are caused by a number of factors, including lightning, hail, and turbulence. They are a major cause of aerial agricultural accidents.
4	Aerial	Weather	Wing icing	1.0	Wing icing is a major cause of aerial agricultural accidents. It is caused by a number of factors, including low temperatures and high humidity. It is a major cause of aerial agricultural accidents.
5	Aerial	Weather	Clear air turbulence	1.0	Clear air turbulence is a major cause of aerial agricultural accidents. It is caused by a number of factors, including wind shear and jet streams. It is a major cause of aerial agricultural accidents.
6	Aerial	Weather	Thunderstorms	1.0	Thunderstorms are a major cause of aerial agricultural accidents. They are caused by a number of factors, including lightning, hail, and turbulence. They are a major cause of aerial agricultural accidents.
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Figure 21: Summary of Risks

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Volume 1 – State of Sector
Volume 2 – Sector Risk Profile
Volume 3 – Data Sources



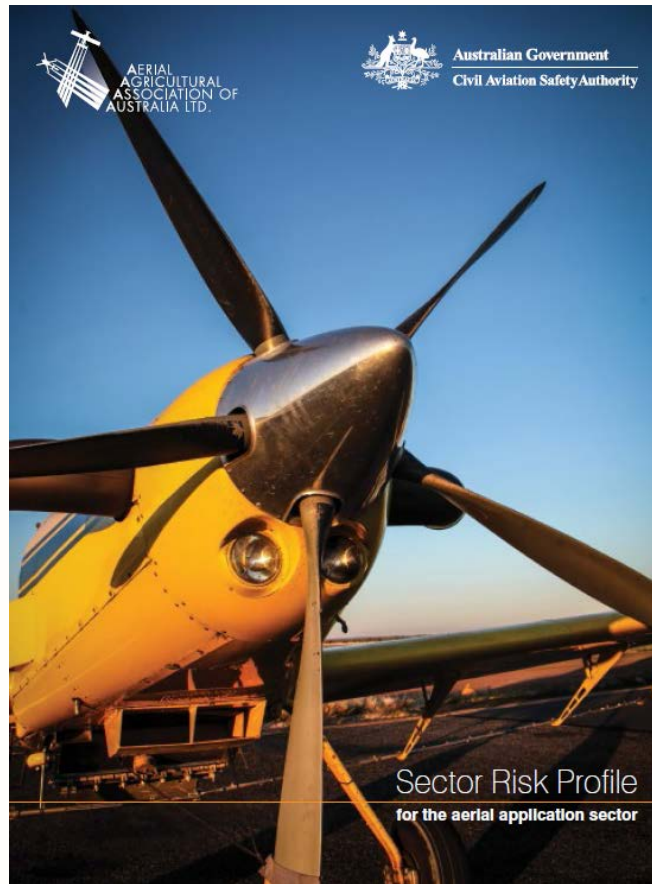
INTRODUCTION

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Sector Risk Profile - challenges

- When to involve industry (aviation community)
- Relationships - trust - share data
- Stakeholders (internal & external)
- Risk management process (ICAO Doc 9859 / ISO 31000)
- Common understanding of risk
- Common understanding of hazards (source of risk)
- Ownership of risk, controls and treatments
- Risk register (short form version – public report)
- Public report
- Treatment action (work) plan – follow up



https://www.casa.gov.au/sites/g/files/net351/f/_assets/main/media/download/sector-risk-profile-aerial-app-sector.pdf

Questions