



国际民用航空组织

电子公告

仅供知悉

EB 2023/30

2016 — 2021 年野生动物撞击分析 (IBIS)

对 2016 年至 2021 年野生动物撞击报告进行的分析，基于附篇 A 中所列的 136 个国家提交的与 194 个国家和领土内发生的撞击相关的 273,343 份报告。附篇 B 中载有一份 2016 年至 2021 年期间向国际民用航空组织 (ICAO) 鸟击信息系统 (IBIS) 提交的野生动物撞击报告摘要，附篇 C 中载有 IBIS 系统世界野生动物撞击统计数据，附篇 D 中载有野生动物物种清单。上述附篇 (仅有英文) 可查阅 www.icao.int/IBIS。

对野生动物撞击数据的分析及对野生动物活动的观察和监测可以揭示趋势，将有助于机场运营人确定关注的领域，对此，应通过管理良好的野生动物控制方案进行应对。还可以通过分析野生动物撞击数据，来确定每年或每天当中最需要进行野生动物控制的时间。

为了更好地促进事件报告和数据分析，国际民航组织已经用基于欧洲事故和征候事件报告系统协调中心 (ECCAIRS) 平台的报告系统，取代了之前的 IBIS 计算机应用程序。用户手册和软件安装手册可以从 www.icao.int/IBIS 网站下载。鼓励各国通过 ECCAIRS “e5f/e4f” 文件，或通过 ECCAIRS 基于 Excel 的表格 (该表格可以从 www.icao.int/IBIS 下载) 提交野生动物撞击报告。

2023 年 6 月 27 日

附：

- A — 2016 - 2021 年国家和领土名单
- B — 2016 - 2021 年向国际民航组织鸟击信息系统 (IBIS)
提交的野生动物撞击报告摘要
- C — 2016 - 2021 年 IBIS 系统世界野生动物撞击统计数据
- D — 2016 - 2021 年野生动物物种清单

经秘书长授权发布

ATTACHMENT A to EB 2023/30

LIST OF STATES AND TERRITORIES FOR THE YEARS 2016-2021

States Reporting (136)

| | | |
|-----------------------------------|---------------------------|-----------------------|
| Albania | Estonia | Mexico |
| Algeria | Fiji | Moldova |
| Angola | Finland | Montenegro |
| Argentina | France | Morocco |
| Armenia | Georgia | Mozambique |
| Australia | Germany | Myanmar |
| Austria | Ghana | Nepal |
| Azerbaijan | Greece | Netherlands |
| Bahrain | Greenland | New Zealand |
| Bangladesh | Guatemala | Nicaragua |
| Barbados | Guinea | Nigeria |
| Belarus | Guinea-Bissau | North Macedonia |
| Belgium | Guyana | Norway |
| Benin | Honduras | Pakistan |
| Bolivia (Plurinational State of) | Hungary | Palau |
| Bosnia and Herzegovina | India | Panama |
| Brazil | Indonesia | Peru |
| Bulgaria | Iran, Islamic Republic of | Philippines |
| Burkina Faso | Iraq | Poland |
| Cabo Verde | Israel | Portugal |
| Cambodia | Italy | Puerto Rico |
| Cameroon | Jamaica | Qatar |
| Canada | Japan | Republic of Korea |
| Chile | Jordan | Romania |
| China | Kazakhstan | Russian Federation |
| Congo, Democratic Republic of the | Kenya | Rwanda |
| Cook Islands | Kosovo | Saint Lucia |
| Costa Rica | Kuwait | Sao Tome and Principe |
| Côte d'Ivoire | Kyrgyzstan | Saudi Arabia |
| Croatia | Latvia | Senegal |
| Cuba | Lebanon | Serbia |
| Cyprus | Libya | Seychelles |
| Czech Republic | Luxembourg | Singapore |
| Czechia | Madagascar | Slovakia |
| Denmark | Malaysia | Slovenia |
| Djibouti | Maldives | South Africa |
| Dominican Republic | Mali | South Sudan |
| Egypt | Malta | Spain |
| El Salvador | Mauritania | Sri Lanka |
| Equatorial Guinea | Mauritius | Sudan |

Sweden
Switzerland
Tanzania, United Republic of
Thailand
Togo
Trinidad and Tobago
Tunisia
Türkiye
Ukraine
United Arab Emirates
United Kingdom
United States
Uzbekistan
Venezuela (Bolivarian Republic of)
Viet Nam

States/Territories of Occurrence (194)

| | | |
|--|---------------------------|----------------------------------|
| Afghanistan | Croatia | Iraq |
| Albania | Cuba | Ireland |
| Algeria | Curaçao | Israel |
| American Samoa | Cyprus | Italy |
| Angola | Czechia | Jamaica |
| Antigua and Barbuda | Denmark | Japan |
| Argentina | Djibouti | Jordan |
| Armenia | Dominican Republic | Kazakhstan |
| Australia | East Timor | Kenya |
| Austria | Ecuador | Kiribati |
| Bahamas | Egypt | Kosovo |
| Bahrain | El Salvador | Kuwait |
| Bangladesh | Equatorial Guinea | Kyrgyzstan |
| Barbados | Estonia | Latvia |
| Belarus | Ethiopia | Lebanon |
| Belgium | Europe and North Atlantic | Libya |
| Belize | Fiji | Lithuania |
| Benin | Finland | Luxembourg |
| Bolivia | France | Macao, China |
| Bolivia (Plurinational State of) | French Polynesia | Madagascar |
| Bosnia and Herzegovina | Gabon | Malaysia |
| Brazil | Georgia | Maldives |
| British Overseas Territory of Bermuda | Germany | Mali |
| British Overseas Territory of Cayman Islands | Ghana | Malta |
| British Overseas Territory of Gibraltar | Greece | Marshall Islands |
| British Virgin Islands | Greenland | Martinique |
| Bulgaria | Grenada | Mauritania |
| Burkina Faso | Guadeloupe | Mauritius |
| Cabo Verde | Guam | Mayotte |
| Cambodia | Guatemala | Mexico |
| Cameroon | Guinea | Micronesia (Federated States of) |
| Canada | Guinea-Bissau | Moldova |
| Chad | Guyana | Montenegro |
| Chile | Haiti | Morocco |
| China | Honduras | Mozambique |
| Colombia | Hong Kong, China | Myanmar |
| Congo, Democratic Republic of the | Hungary | Namibia |
| Cook Islands | India | Nauru |
| Costa Rica | Indonesia | Nepal |
| Côte d'Ivoire | Iran, Islamic Republic of | Netherlands |
| New Caledonia | South Africa | |

New Zealand
 Nicaragua
 Niger
 Nigeria
 North Macedonia
 Northern Mariana Islands
 Norway
 Oman
 Pakistan
 Palau
 Panama
 Papua New Guinea
 Paraguay
 Peru
 Philippines
 Poland
 Portugal
 Puerto Rico
 Qatar
 Republic of Korea
 Romania
 Russian Federation
 Rwanda
 Saint Barthélemy
 Saint Kitts and Nevis
 Saint Lucia
 Saint Martin
 Saint Pierre and Miquelon
 Saint Vincent and the Grenadines
 Samoa
 Sao Tome and Principe
 Saudi Arabia
 Senegal
 Serbia
 Seychelles
 Singapore
 Slovakia
 Slovenia
 Solomon Islands
 Somalia

South Sudan
 Spain
 Sri Lanka
 Sudan
 Suriname
 Sweden
 Switzerland
 Tanzania, United Republic of
 Thailand
 Togo
 Tonga
 Trinidad and Tobago
 Tunisia
 Türkiye
 Turkmenistan
 Uganda
 Ukraine
 United Arab Emirates
 United Kingdom
 United States
 United States Minor Outlying
 Islands
 Uruguay
 Uzbekistan
 Vanuatu
 Venezuela (Bolivarian Republic of)
 Viet Nam
 Virgin Islands

SUMMARY OF WILDLIFE STRIKES REPORTED TO THE ICAO BIRD STRIKE INFORMATION SYSTEM (IBIS) FOR THE YEARS 2016-2021

1. INTRODUCTION

1.1 The ICAO Bird Strike Information System (IBIS) was created to collect and disseminate information on wildlife strikes to aircraft.

1.2 This statistical summary is intended to provide the reader with an overview of the global wildlife strike situation, as reported to ICAO for the years 2016 to 2021. It supplements the IBIS World Wildlife Strike Statistics in Attachment C to this Electronic Bulletin.

2. STATISTICAL ANALYSIS FOR THE YEARS 2016-2021

2.1 **Wildlife strike reports at Global Level:** The first data period (EB 2009/37) covered the years 2001 to 2007, seven years in total with 42 508 wildlife strike reports. The last data period (EB 2017/25) covered the years 2008 to 2015, eight years in total with 97 751 wildlife strike reports. This data period covers the years 2016 to 2021, six years in total with 273 343 wildlife strike reports. Although this data period is shorter compared to previous ones and affected by the COVID-19 pandemic, the number of wildlife strikes reported to ICAO has significantly increased by around 280 per cent compared to the last period.

2.2 For this data period covering the years 2016-2021, wildlife strikes were reported to ICAO by 136 States. These strikes occurred in 194 States and territories throughout the world. The progress of reporting of wildlife strikes to ICAO since 2001 is illustrated in Chart 1.

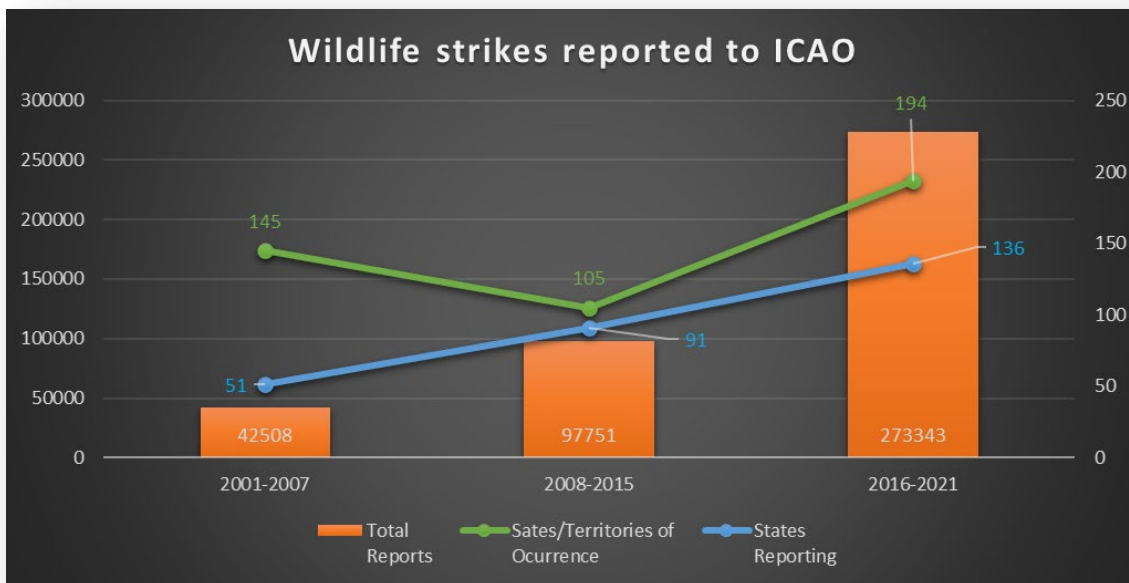


Chart 1. Wildlife strikes reported to ICAO

2.3 **Wildlife strike reports distributed by ICAO Region in which they occurred:** 33 per cent of the reported wildlife strikes occurred in the North American, Central American and Caribbean (NACC) region, and 26 per cent in the European and North Atlantic (EUR/NAT) region.

2.4 It is important to highlight the more balanced distribution of wildlife strike reports among ICAO regions for this data period covering 2016 to 2021. The first (2001 to 2007) and second (2008 to 2015) data periods demonstrated a strong concentration of around 96 per cent of the reports in the NACC and EUR/NAT regions. This data period is a more realistic account of the traffic movements vis-à-vis the number of wildlife strikes in each ICAO Region. This is a result of all the efforts made by both ICAO and States in collecting the data.

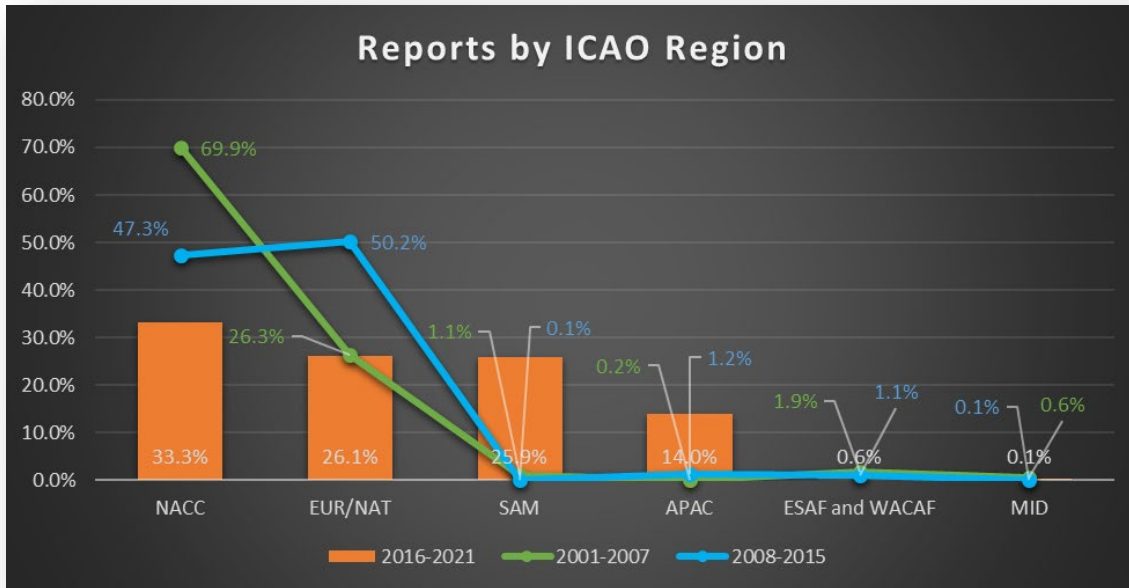


Chart 2. Wildlife strike reports distributed by ICAO Region in which they occurred

2.5 **Light conditions under which the wildlife strikes occurred:** 68 per cent of the wildlife strikes occurred during the daylight time and 19 per cent occurred at nighttime. Daylight time remained to be the highest activity of wildlife strikes and accounts for almost four times the amount of wildlife strikes during the night, which reveals a pattern of light conditions on wildlife strikes.

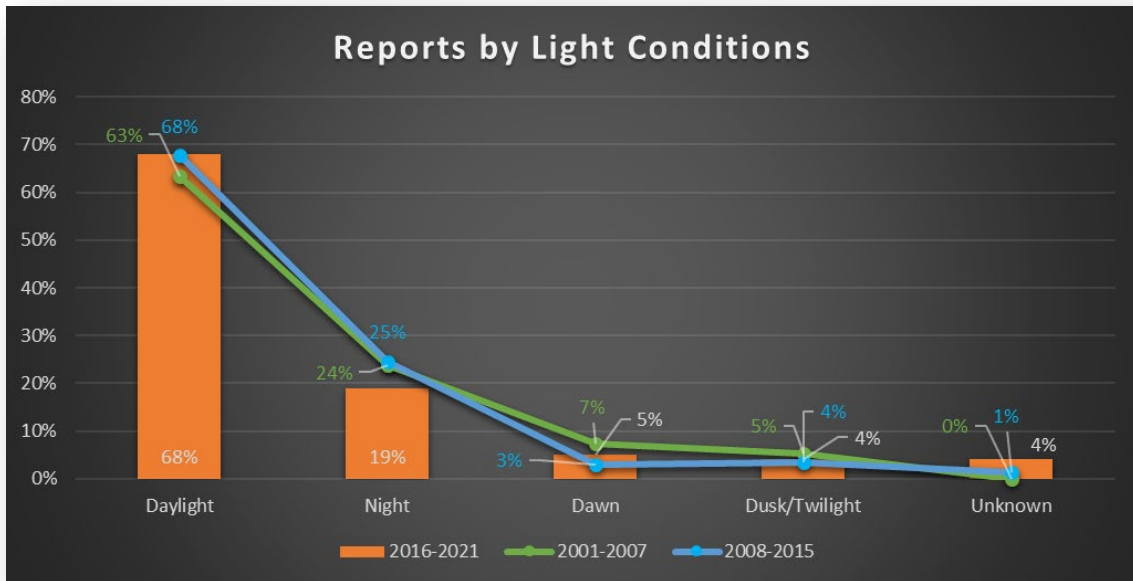


Chart 3. Wildlife strikes reported by light conditions

2.6 When the wildlife strikes occurred during the year: It was possible to identify two spikes of wildlife strikes during the year. The first one occurred between February and May. The second one occurred between June and August, from which the activity of wildlife strikes started to reduce until reaching the lowest rates in December, January and February.

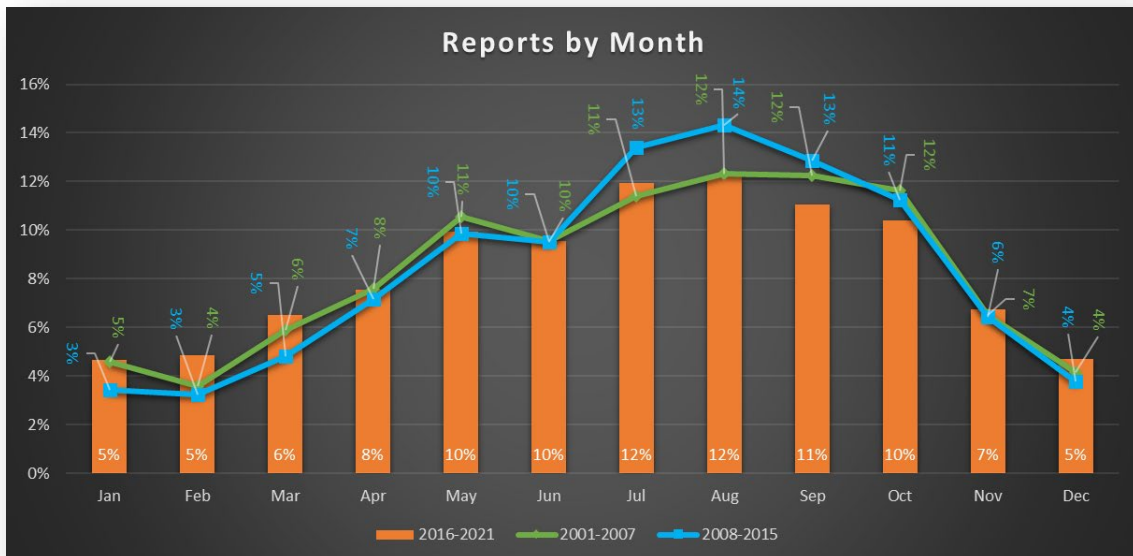


Chart 4. Wildlife strikes reported by month of occurrences

2.7 Flight phases in which the wildlife strikes occurred: 74 per cent of the wildlife strikes occurred on or near the aerodrome. 24 per cent of these occurred during the take-off phase while 46 per cent occurred during the approach and landing phase. Flight phase classified as “unknown” had covered 21 per cent.

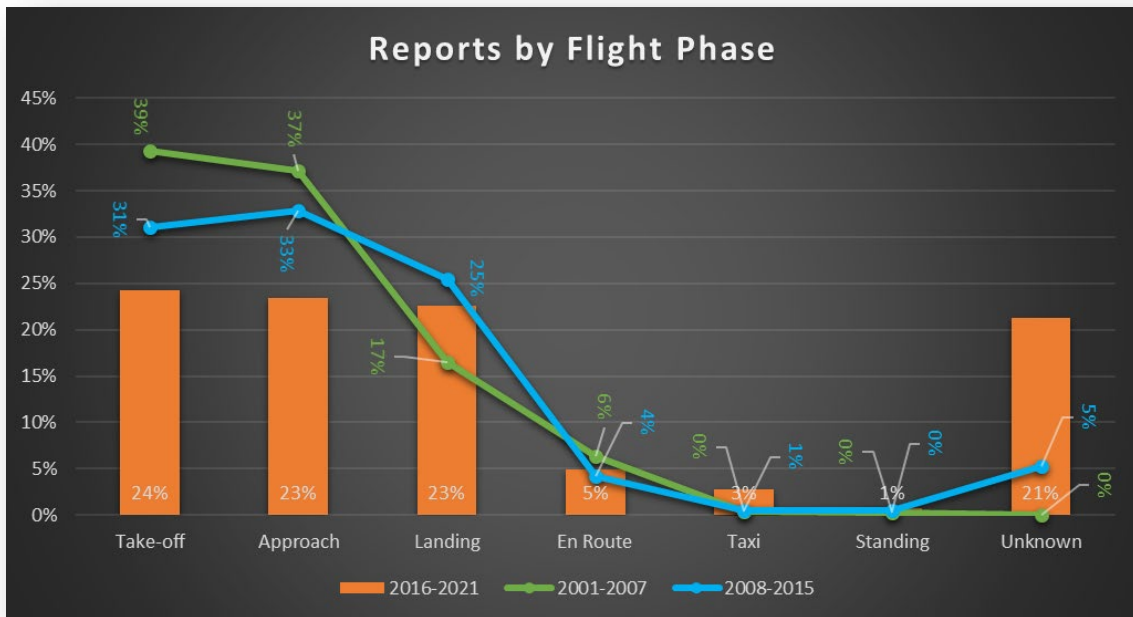


Chart 5. Wildlife Strikes reported according to flight phase

2.8 Wildlife species most frequently struck: Hawks, eagles and vultures were the most reported species, accounting for 28 per cent of all the reported strikes with information on species. Perching birds accounted for 27 per cent, and shore birds represented 18 per cent. The reported species with more than 1 per cent, excluding those classified as “unknown”, are illustrated in Chart 6.

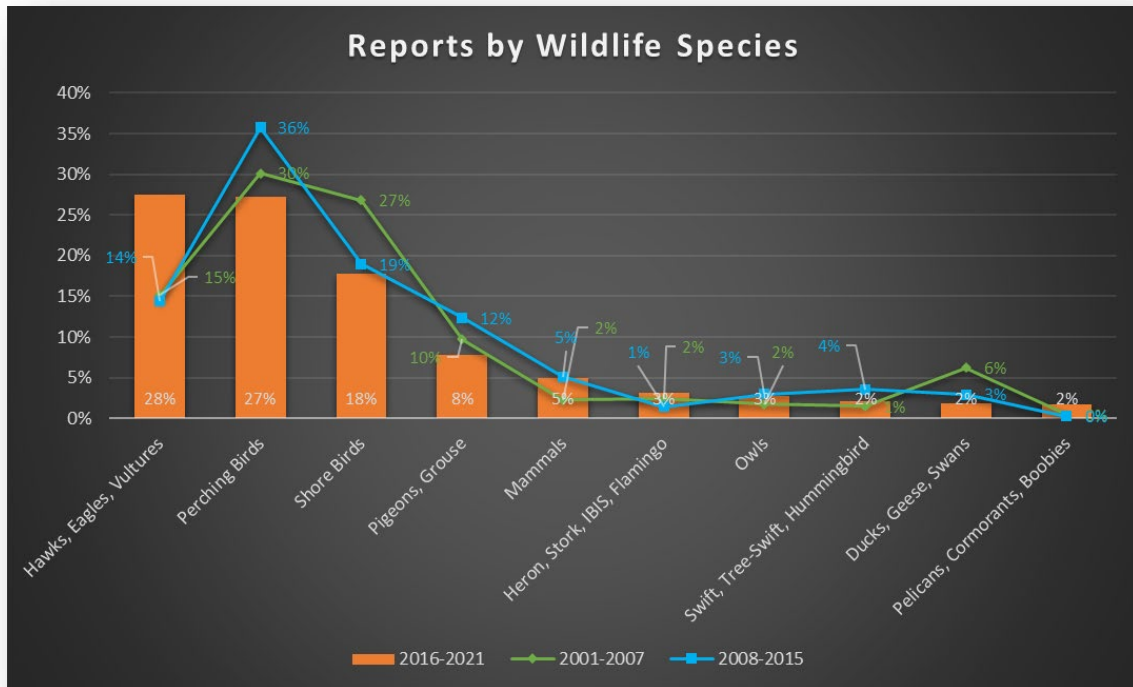


Chart 6. Comparison between wildlife species

2.9 It should be noted that there has been a significant reduction since 2008 in the number of wildlife species reported as “unknown”, which is illustrated in Chart 7.

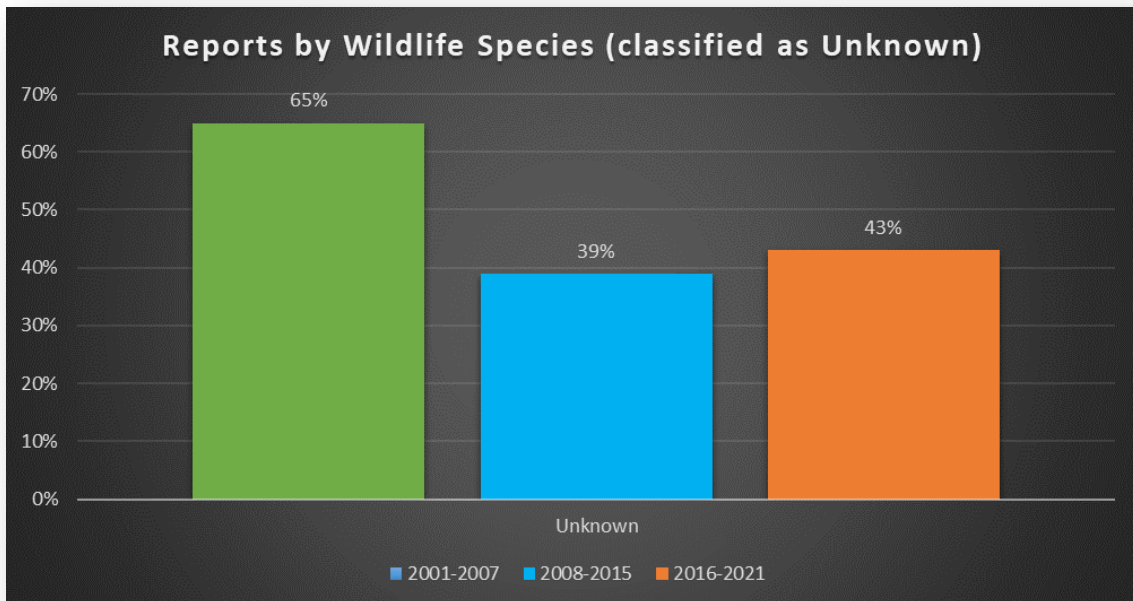


Chart 7. Wildlife species classified as “Unknown”

2.10 **Parts of Aircraft Struck and/or Damaged:** Parts of aircraft struck were reported in 21 per cent of the total reports. The parts struck most often, as reported, were the Engines with 17 per cent followed by the Radome, Windshield and Wing/Rotor with 14 percent each, and then by the Fuselage with 12 per cent.

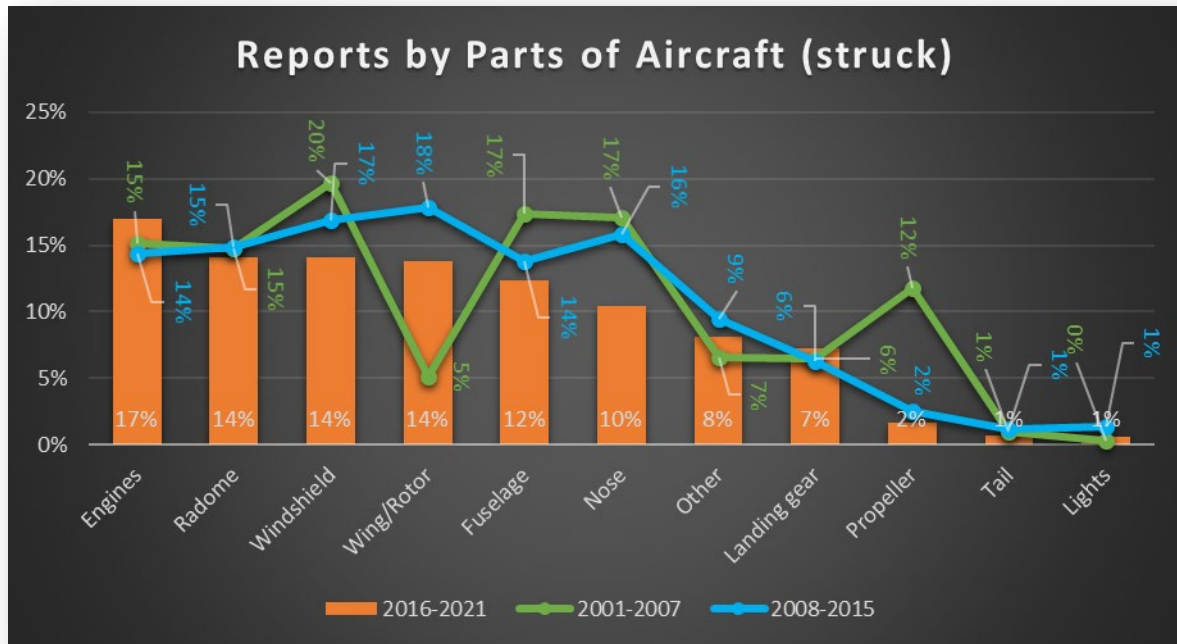


Chart 8. Wildlife strikes reported by parts of aircraft (struck)

2.11 Parts of aircraft damaged were reported in 3 per cent of the total reports. The parts damaged most, as reported, were the Engines with 34 per cent followed by the Wing/Rotor with 18 per cent and then by the Radome with 11 per cent.

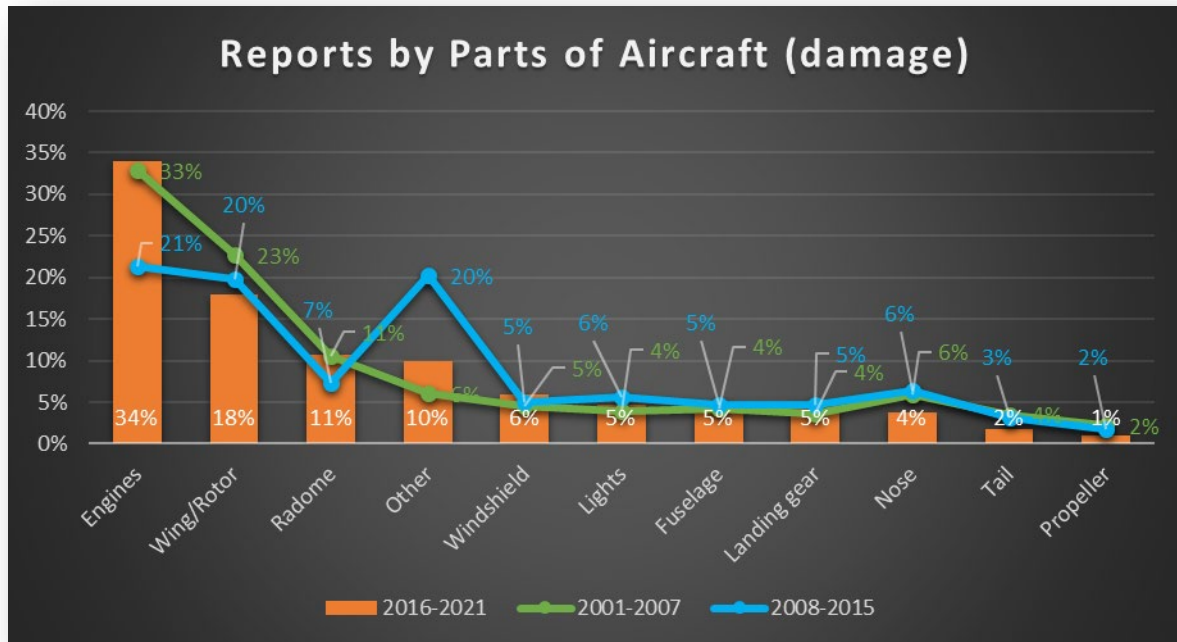


Chart 9. Wildlife strikes reported by parts of aircraft (damage)

2.12 The comparison between the parts struck and the parts damaged by wildlife strikes for the data period covering the years 2016 to 2021, is illustrated in Figure 1.

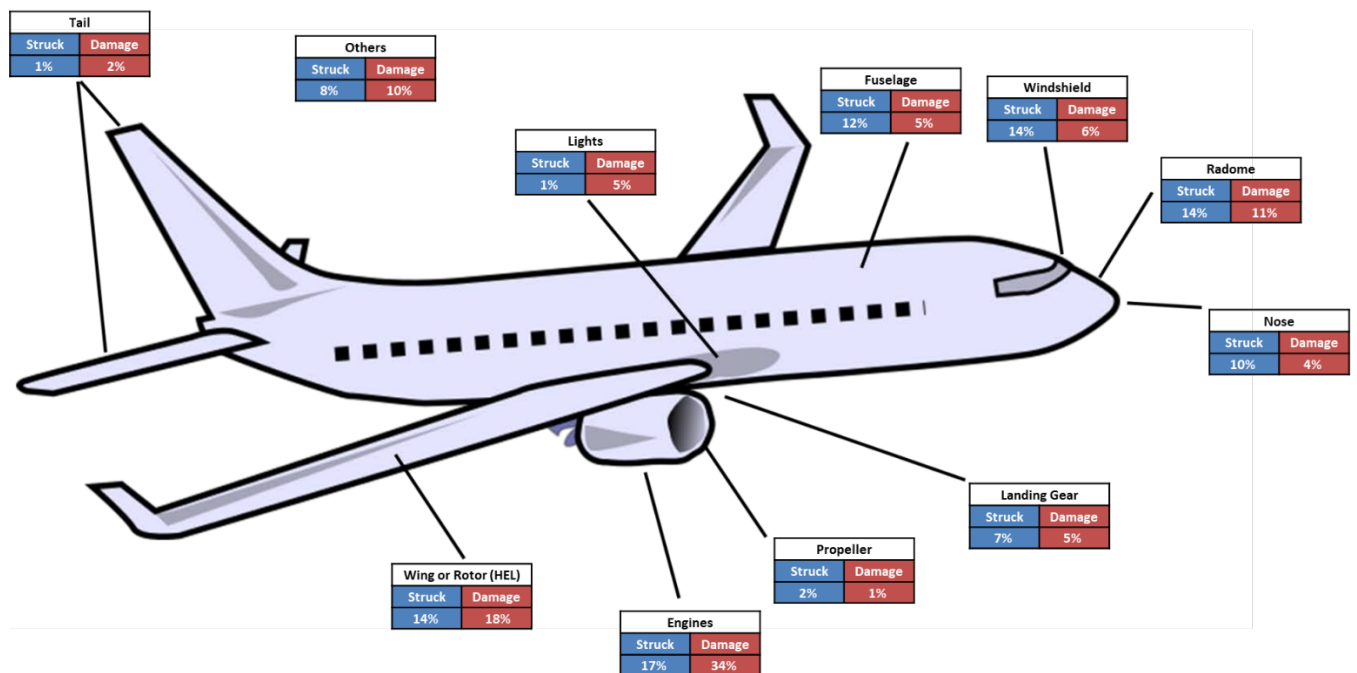


Figure 1. Illustration of parts of aircraft struck and damage

2.13 ***Brief summary of wildlife strikes:*** Table 1 below provides a brief summary of wildlife strike characteristics for the data period covering the years 2001 to 2021.

| Data | 2001-2007 | 2008-2015 | 2016-2021 |
|---|------------------------|------------------------|----------------------------|
| <i>States reporting</i> | 51 | 91 | 136 |
| <i>States/territories of occurrence</i> | 145 | 105 | 194 |
| <i>Strikes reported</i> | 42 508 | 97 751 | 273 343 |
| <i>Day time strikes</i> | 63% | 68% | 68% |
| <i>Night time strikes</i> | 24% | 25% | 19% |
| <i>Peak month activity</i> | 12% (August) | 14% (August) | 12% (July and August) |
| <i>Strikes during takeoff</i> | 39% | 31% | 24% |
| <i>Strikes during approach</i> | 37% | 33% | 23% |
| <i>Strikes during landing</i> | 17% | 25% | 23% |
| <i>Wildlife specie most frequent</i> | Perching birds | Perching birds | Hawks, eagles and vultures |
| <i>Part struck most frequent</i> | Engines and Radome | Engines and Radome | Engines and Radome |
| <i>Part damage most frequent</i> | Engines and Wing/Rotor | Engines and Wing/Rotor | Engines and Wing/Rotor |

Table 1. Data comparison

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ATTACHMENT C to EB 2023/30

IBIS WORLD WILDLIFE STRIKE STATISTICS FOR THE YEARS 2016-2021

| Month of Occurrence | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
|---------------------|----------|----|--------|--------|--------|-----|-----|-----|------|----|---------|------|----------|---------|----|-----|---------|-----|--------|---------|------|-------|---------|--------|
| Jan | 367 | 3 | 2 | 2 | 5 | 261 | 316 | 243 | 2197 | 30 | 26 | 1506 | 525 | 59 | 22 | 374 | 11 | 39 | 3 | 58 | 1179 | 415 | 5051 | 12694 |
| Feb | 444 | 2 | 4 | 3 | 1 | 251 | 367 | 225 | 2579 | 20 | 43 | 1452 | 464 | 51 | 24 | 289 | 6 | 37 | 3 | 41 | 1320 | 366 | 5230 | 13222 |
| Mar | 492 | 12 | 5 | 4 | | 218 | 378 | 323 | 3807 | 21 | 55 | 1780 | 489 | 55 | 42 | 345 | 10 | 43 | 6 | 54 | 1775 | 404 | 7421 | 17739 |
| Apr | 563 | 28 | 1 1 | 9 | 3 | 186 | 308 | 253 | 3684 | 33 | 79 | 2012 | 689 | 45 | 43 | 266 | 26 | 232 | 3 | 70 | 2670 | 334 | 9064 | 20611 |
| May | 631 | 60 | 8 | 4 | 2 | 253 | 418 | 221 | 3704 | 25 | 68 | 2389 | 114 6 | 45 | 70 | 269 | 97 | 815 | 1 7 | 94 | 4576 | 399 | 11848 | 27159 |
| Jun | 580 | 66 | 3 | 3 | 6 | 177 | 369 | 164 | 3704 | 29 | 43 | 2353 | 132 3 | 46 | 42 | 333 | 62 | 826 | 1 7 | 73 | 4384 | 408 | 11111 | 26122 |
| Jul | 914 | 55 | 5 | 4 | 2 | 236 | 448 | 104 | 5406 | 23 | 38 | 2998 | 169 4 | 63 | 42 | 355 | 79 | 534 | 3 0 | 79 | 6358 | 418 | 12744 | 32629 |
| Aug | 125 0 | 26 | 9 | 4 | 6 | 211 | 447 | 174 | 5215 | 33 | 78 | 3341 | 188 4 | 57 | 48 | 371 | 15 0 | 307 | 4 6 | 56 | 5729 | 390 | 13561 | 33393 |
| Sep | 962 | 24 | 3 | 7 | 6 | 263 | 461 | 220 | 4228 | 25 | 93 | 3119 | 146 5 | 10 0 | 77 | 354 | 23 6 | 285 | 1 4 | 12 2 | 4942 | 368 | 12802 | 30176 |
| Oct | 708 | 17 | 8 | 1 2 | 1 2 | 205 | 441 | 332 | 3378 | 44 | 10 5 | 2619 | 105 2 | 66 | 80 | 372 | 33 | 144 | 3 | 18 3 | 4931 | 419 | 13235 | 28399 |
| Nov | 408 | 7 | 1 6 | 1 0 | 5 | 233 | 420 | 377 | 2485 | 41 | 70 | 2125 | 723 | 68 | 29 | 425 | 12 | 36 | 6 | 78 | 2719 | 437 | 7641 | 18371 |
| Dec | 323 | 5 | 9 | 4 | 1 1 | 177 | 409 | 279 | 1966 | 17 | 27 | 1683 | 572 | 75 | 18 | 455 | 10 | 27 | 2 | 59 | 1377 | 400 | 4914 | 12819 |
| Light Conditions | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
| Dawn | 171 | 2 | 2 | 1 | 2 | 493 | 748 | 130 | 2235 | 24 | 35 | 1645 | 384 | 23 | 69 | 200 | 17 | 36 | 6 | 39 | 1012 | 299 | 2350 | 9923 |
| Unknown | 339 | 3 | | | 1 | 11 | 74 | 97 | 476 | 11 | 4 | 490 | 110 | 13 8 | 2 | 54 | 4 | 160 | 5 | 1 | 928 | 32 | 5336 | 8276 |
| Night | 219 2 | 14 | 1 1 | 2 6 | 1 3 | 88 | 275 | 842 | 2017 | 22 | 12 4 | 2553 | 522 | 42 | 67 | 970 | 10 4 | 44 | 3 | 70 | 2977 | 818 | 19658 | 33452 |
| Daylight | 858 | 54 | 5 0 | 9 | 2 | 195 | 283 | 858 | 2916 | 14 | 30 | 1471 | 489 | 47 | 32 | 146 | 10 | 136 | 8 | 72 | 1755 | 3264 | 46223 | 127436 |
| Dusk/twilight | 211 | 4 | 5 | | 1 | 58 | 152 | 158 | 1349 | 12 | 22 | 910 | 298 | 19 | 22 | 186 | 15 | 67 | 8 | 31 | 1026 | 253 | 3351 | 8158 |

C-2

| Flight Phase | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
|--------------|----------|---------|--------|--------|--------|----------|----------|-----|------|---------|---------|------|----------|---------|---------|----------|---------|-----|--------|---------|-----------|-------|---------|-------|
| Approach | 882 | 1 | 2 4 | 1 5 | 6 | 198 | 394 | 865 | 8030 | 21 | 14 0 | 2994 | 110 5 | 57 | 78 | 363 | 67 | 661 | 8 | 89 | 5714 | 750 | 32216 | 54678 |
| En Route | 62 | | 4 | 4 | 4 | 54 | 108 | 109 | 2470 | 8 | 20 | 563 | 138 | 2 | 10 | 48 | 4 | 40 | 1 | 14 | 975 | 184 | 6487 | 11309 |
| Landing | 158 4 | 27 | 9 | 2 | 1 5 | 121 | 574 | 380 | 7665 | 11 4 | 92 | 5044 | 211 0 | 24 9 | 40 | 851 | 76 | 982 | 6 1 | 38 | 8068 | 804 | 23736 | 52642 |
| Manoeuvring | 1 | | | | | | 6 | | 24 | | | 3 | | | | 1 | | 2 | | | 6 | | 87 | 130 |
| Post-impact | 9 | | 1 6 | | 4 | 170 2 | 191 0 | 112 | 7595 | | 83 | 6467 | 964 | 40 | 26 8 | 885 | 21 | 37 | 7 | 63 8 | 1777 | 1674 | 3331 | 27540 |
| Standing | 35 | 2 | | | 2 | 7 | 22 | 12 | 175 | 1 | 5 | 110 | 49 | 2 | 1 | 13 | 2 | 6 | 1 | 1 | 132 | 40 | 1216 | 1834 |
| Take-off | 105 5 | 21 | 1 3 | 1 0 | 8 | 216 | 667 | 522 | 8716 | 98 | 13 1 | 4480 | 227 1 | 27 9 | 43 | 570 | 60 | 887 | 4 5 | 55 | 7185 | 943 | 28120 | 56395 |
| Taxi | 134 | 9 | 2 | | 5 | 307 | 549 | 27 | 1809 | 14 | 23 | 990 | 131 | 13 | 43 | 93 | 4 | 10 | 2 | 12 | 249 | 271 | 1855 | 6552 |
| Tow | 1 | | | | | | | | | | | 1 | | | | | | | | | | | 3 | 5 |
| Unknown | 320 1 | 19 0 | 1 4 | 3 2 | 1 1 | 58 | 466 | 722 | 4848 | 67 | 19 2 | 5512 | 428 0 | 54 | 46 | 117 7 | 40 4 | 600 | 2 2 | 95 | 1473 6 | 66 | 12765 | 49558 |
| Parts Struck | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
| Radome | 106 | 0 | 1 | 0 | 3 | 21 | 68 | 48 | 751 | 7 | 9 | 536 | 391 | 6 | 7 | 65 | 10 | 176 | 1 5 | 7 | 1113 | 138 | 6162 | 9640 |
| Windshield | 100 | 0 | 1 | 0 | 2 | 22 | 57 | 49 | 663 | 1 | 6 | 487 | 364 | 4 | 3 | 78 | 4 | 196 | 5 | 9 | 1243 | 142 | 6170 | 9606 |
| Nose | 102 | 1 | 0 | 0 | 6 | 17 | 36 | 45 | 549 | 7 | 8 | 401 | 256 | 6 | 4 | 58 | 10 | 159 | 1 2 | 6 | 1236 | 61 | 4110 | 7090 |
| Engines | 55 | 0 | 5 | 0 | 2 | 36 | 122 | 138 | 1541 | 25 | 24 | 947 | 544 | 6 | 8 | 117 | 10 | 66 | 4 | 9 | 803 | 184 | 6931 | 11577 |
| Propeller | 20 | 0 | 0 | 1 | 1 | 1 | 24 | 18 | 247 | 10 | 9 | 160 | 47 | 7 | 0 | 12 | 1 | 5 | 0 | 1 | 110 | 18 | 417 | 1109 |
| Wing/Rotor | 127 | 0 | 2 | 2 | 2 | 31 | 118 | 140 | 1083 | 20 | 21 | 775 | 382 | 16 | 7 | 54 | 16 | 72 | 1 5 | 4 | 1129 | 100 | 5276 | 9392 |
| Fuselage | 57 | 0 | 4 | 0 | 0 | 28 | 77 | 52 | 980 | 8 | 13 | 685 | 277 | 3 | 10 | 87 | 7 | 156 | 3 | 10 | 1013 | 179 | 4791 | 8440 |
| Landing gear | 311 | 9 | 2 | 1 | 3 | 14 | 72 | 66 | 861 | 26 | 12 | 524 | 228 | 4 | 7 | 97 | 11 | 39 | 1 | 7 | 405 | 96 | 2130 | 4926 |
| Tail | 2 | 0 | 1 | 0 | 0 | 4 | 5 | 12 | 78 | 0 | 1 | 38 | 28 | 2 | 0 | 3 | 0 | 5 | 0 | 0 | 58 | 6 | 235 | 478 |
| Lights | 6 | 0 | 0 | 0 | 0 | 1 | 1 | 11 | 42 | 1 | 0 | 43 | 26 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 33 | 12 | 229 | 408 |
| Other | 88 | 2 | 1 | 0 | 0 | 21 | 64 | 38 | 572 | 6 | 8 | 426 | 185 | 6 | 3 | 58 | 4 | 27 | 0 | 5 | 833 | 120 | 3088 | 5555 |

| Parts Damage | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
|--------------|----|---|---|---|---|----|----|----|-----|----|---|-----|-----|---|---|----|---|---|---|---|----|-------|---------|-------|
| Radome | 1 | 0 | 0 | 0 | 0 | 9 | 10 | 24 | 110 | 0 | 2 | 67 | 29 | 0 | 1 | 5 | 0 | 5 | 1 | 1 | 31 | 9 | 583 | 888 |
| Windshield | 3 | 0 | 1 | 1 | 0 | 5 | 7 | 9 | 63 | 1 | 0 | 30 | 12 | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 21 | 7 | 274 | 440 |
| Nose | 3 | 0 | 0 | 0 | 0 | 5 | 2 | 16 | 57 | 0 | 0 | 6 | 6 | 1 | 0 | 5 | 0 | 8 | 0 | 0 | 22 | 5 | 180 | 316 |
| Engines | 9 | 0 | 3 | 0 | 0 | 16 | 38 | 52 | 434 | 10 | 4 | 267 | 225 | 0 | 2 | 21 | 0 | 2 | 0 | 3 | 78 | 57 | 1463 | 2684 |
| Propeller | 6 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 15 | 3 | 2 | 13 | 7 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 38 | 101 |
| Wing/Rotor | 24 | 0 | 0 | 1 | 0 | 12 | 28 | 53 | 251 | 5 | 7 | 104 | 40 | 1 | 0 | 10 | 1 | 3 | 0 | 1 | 48 | 18 | 764 | 1371 |
| Fuselage | 9 | 0 | 1 | 0 | 0 | 2 | 9 | 10 | 56 | 0 | 3 | 12 | 2 | 1 | 3 | 4 | 0 | 2 | 0 | 0 | 27 | 10 | 187 | 338 |
| Landing gear | 29 | 0 | 1 | 0 | 0 | 2 | 4 | 3 | 83 | 0 | 1 | 33 | 31 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 10 | 4 | 153 | 358 |
| Tail | 6 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 21 | 1 | 0 | 7 | 28 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 12 | 3 | 62 | 146 |
| Lights | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 9 | 71 | 2 | 0 | 35 | 22 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 12 | 11 | 218 | 386 |
| Other | 7 | 0 | 0 | 0 | 0 | 5 | 7 | 5 | 123 | 5 | 1 | 198 | 77 | 1 | 1 | 6 | 0 | 1 | 0 | 0 | 85 | 7 | 726 | 1255 |

| HEIGHT (FT) | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
|-----------------|-----|----|--------|---|--------|----------|----------|-----|-----------|----|---------|-----------|----------|---------|---------|----------|----|-----|--------|---------|------|-------|---------|-------|
| 0 up to 1000 | 795 | 12 | | | 1 | 27 | 241 | 199 | 2307 | 38 | 30 | 1872 | 920 | 15 2 | 5 | 132 | 17 | 147 | 1 3 | 4 | 3719 | 137 | 11445 | 22213 |
| 1001 up to 2500 | 27 | | 1 | 2 | 1 | 9 | 7 | 39 | 141 | | 2 | 39 | 45 | 2 | | 1 | | 10 | | 2 | 138 | 19 | 1427 | 1912 |
| Above 2500 | 84 | | 4 9 | 4 | 2 6 | 243 4 | 301 0 | 219 | 2427 2 | | 27 1 | 1072 2 | 151 0 | 86 | 42 4 | 154 7 | 65 | 91 | 8 | 77 5 | 2994 | 4327 | 15425 | 68343 |

| Speed IAS (KT) | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
|----------------|-----|---|--------|---|--------|----------|----------|-----|-----------|----|---------|-----------|----------|----|---------|----------|----|-----|--------|---------|------|-------|---------|-------|
| 0 up to 150 | 284 | | 4 3 | 3 | 2 8 | 238 0 | 308 4 | 319 | 2375 5 | 36 | 25 4 | 1162 6 | 220 1 | 76 | 40 1 | 157 1 | 69 | 185 | 1 2 | 75 7 | 5256 | 4187 | 22818 | 79345 |
| 151 up to 250 | 32 | | 6 | 1 | 1 | 60 | 74 | 45 | 2120 | | 29 | 413 | 152 | 2 | 24 | 62 | 2 | 15 | | 20 | 332 | 296 | 3993 | 7679 |
| Above 250 | 1 | | 1 | | | 8 | 7 | | 186 | | 4 | 44 | 4 | | 1 | 5 | | 1 | | 3 | 20 | 19 | 179 | 483 |

| Pilot Warned | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
|-----------------|------|-----|----|----|----|------|------|------|-------|-----|-----|-------|------|-----|-----|------|-----|------|----|-------|-------|-------|---------|--------|
| No | 912 | 34 | 8 | 14 | 5 | 44 | 302 | 865 | 3295 | 124 | 40 | 3711 | 1418 | 6 | 10 | 440 | 40 | 244 | 7 | 26 | 6517 | 209 | 25549 | 43820 |
| Unknown | 3476 | 240 | 17 | 39 | 9 | 84 | 653 | 992 | 5357 | 95 | 249 | 6700 | 5658 | 11 | 75 | 1208 | 538 | 877 | 13 | 113 | 19562 | 48 | 22746 | 68760 |
| Yes | 676 | 19 | 15 | 10 | 8 | 217 | 510 | 554 | 5218 | 18 | 101 | 3498 | 1483 | 11 | 48 | 466 | 82 | 498 | 17 | 184 | 6774 | 722 | 8552 | 29681 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Wildlife Seen | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
| 1 | 1770 | 27 | 20 | 12 | 17 | 525 | 1260 | 478 | 9971 | 79 | 155 | 5497 | 1710 | 347 | 94 | 946 | 95 | 563 | 38 | 252 | 8186 | 1522 | 22297 | 55861 |
| 2 up to 10 | 229 | 2 | 19 | 4 | 16 | 1040 | 1505 | 666 | 13185 | 63 | 162 | 7236 | 1674 | 169 | 227 | 789 | 30 | 300 | 13 | 388 | 4488 | 1629 | 10509 | 44343 |
| 11 up to 100 | 20 | 2 | 11 | 2 | 3 | 846 | 753 | 165 | 5559 | 6 | 53 | 2513 | 578 | 20 | 111 | 266 | 13 | 56 | 1 | 130 | 1403 | 702 | 2789 | 16002 |
| More | 6 | | | | 1 | 61 | 71 | 27 | 271 | | 3 | 253 | 94 | 14 | 1 | 9 | 1 | 7 | 2 | 1 | 277 | 38 | 494 | 1631 |
| Unknown | 3289 | 198 | 16 | 41 | 8 | 71 | 556 | 943 | 4645 | 98 | 214 | 6125 | 4999 | 10 | 69 | 1133 | 470 | 1212 | 12 | 18553 | 78 | 46373 | 89236 | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Wildlife Struck | 1 | 2 | C | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | W | X | Y | Other | Unknown | Total |
| 1 | 5842 | 287 | 35 | 52 | 25 | 179 | 1241 | 1859 | 14410 | 223 | 378 | 12113 | 8166 | 99 | 105 | 2325 | 635 | 2595 | 87 | 182 | 31147 | 199 | 61138 | 143322 |
| 11 up to 100 | 4 | | | | | 2 | 2 | 11 | 8 | 2 | 1 | 124 | 201 | 8 | | | | 6 | | | 201 | 3 | 234 | 807 |
| 2 up to 10 | 252 | 5 | | 11 | 2 | 22 | 136 | 613 | 602 | 66 | 32 | 2099 | 1397 | 41 | 5 | 70 | 27 | 316 | 26 | 6 | 4431 | 62 | 5939 | 16160 |
| More | 3 | | | | | | | | 1 | | | 3 | 1 | | | 2 | 1 | 1 | | | 15 | 8 | 20 | 55 |
| Unknown | 77 | 2 | | | 2 | | 84 | 27 | 500 | 11 | 3 | 537 | 156 | | | 16 | | 36 | | | 821 | 91 | 23614 | 25977 |

ATTACHMENT D to EB 2023/30

LIST OF WILDLIFE SPECIES FOR THE YEARS 2016-2021

| 2016-2021 CODE | SCIENTIFIC NAME | ENGLISH NAME | NUMBER OF CASES |
|---------------------------|------------------------|-----------------------------------|----------------------------|
| 1 | MAMMALIA | MAMMALS | 7642 |
| 2 | REPTILIA | REPTILE | 305 |
| C | APTERYGIFORMES | KIWI | 83 |
| F | PODICIPEDIFORMES | GREBE | 66 |
| G | PROCELLARIIFORMES | ALBATROSS, SHEARWATERS, PETREL | 59 |
| H | PELECANIFORMES | PELICANS, CORMORANTS, BOOBIES | 2671 |
| I | CICONIIFORMES | HERON, STORK, IBIS, FLAMINGO | 4782 |
| J | ANSERIFORMES | DUCKS, GEESE, SWANS | 2915 |
| K | FALCONIFORMES | HAWKS, EAGLES, VULTURES | 42353 |
| L | GALLIFORMES | CHICKEN-LIKE BIRDS | 341 |
| M | GRUIFORMES | CRANES, RAILS | 725 |
| N | CHARADRIIFORMES | SHORE BIRDS | 27377 |
| O | COLUMBIFORMES | PIGEONS, GROUSE | 12026 |
| P | PSITTACIFORMES | PARROT, MACAW, PARAKEET, LORIE | 730 |

| 2016-2021 CODE | SCIENTIFIC NAME | ENGLISH NAME | NUMBER OF CASES |
|-------------------|------------------|------------------------------------|--------------------|
| Q | CUCULIFORMES | CUCKOOS | 537 |
| R | STRIGIFORMES | OWLS | 4208 |
| S | CAPRIMULGIFORMES | GOATSUCKER, NIGHTJAR, FROGMOUTH | 732 |
| T | APODIFORMES | SWIFT, TREE-SWIFT, HUMMINGBIRD | 3325 |
| W | CORACIIFORMES | KINGFISHERS, MOTMOTS, HORNBILL | 150 |
| X | PICIFORMES | WOODPECKERS, TOUCANS, BARBETS | 967 |
| Y | PASSERIFORMES | PERCHING BIRDS | 41960 |