



Wildlife Control Management

2018. 11

Park Man-kyu



1

Overview of ICN

2

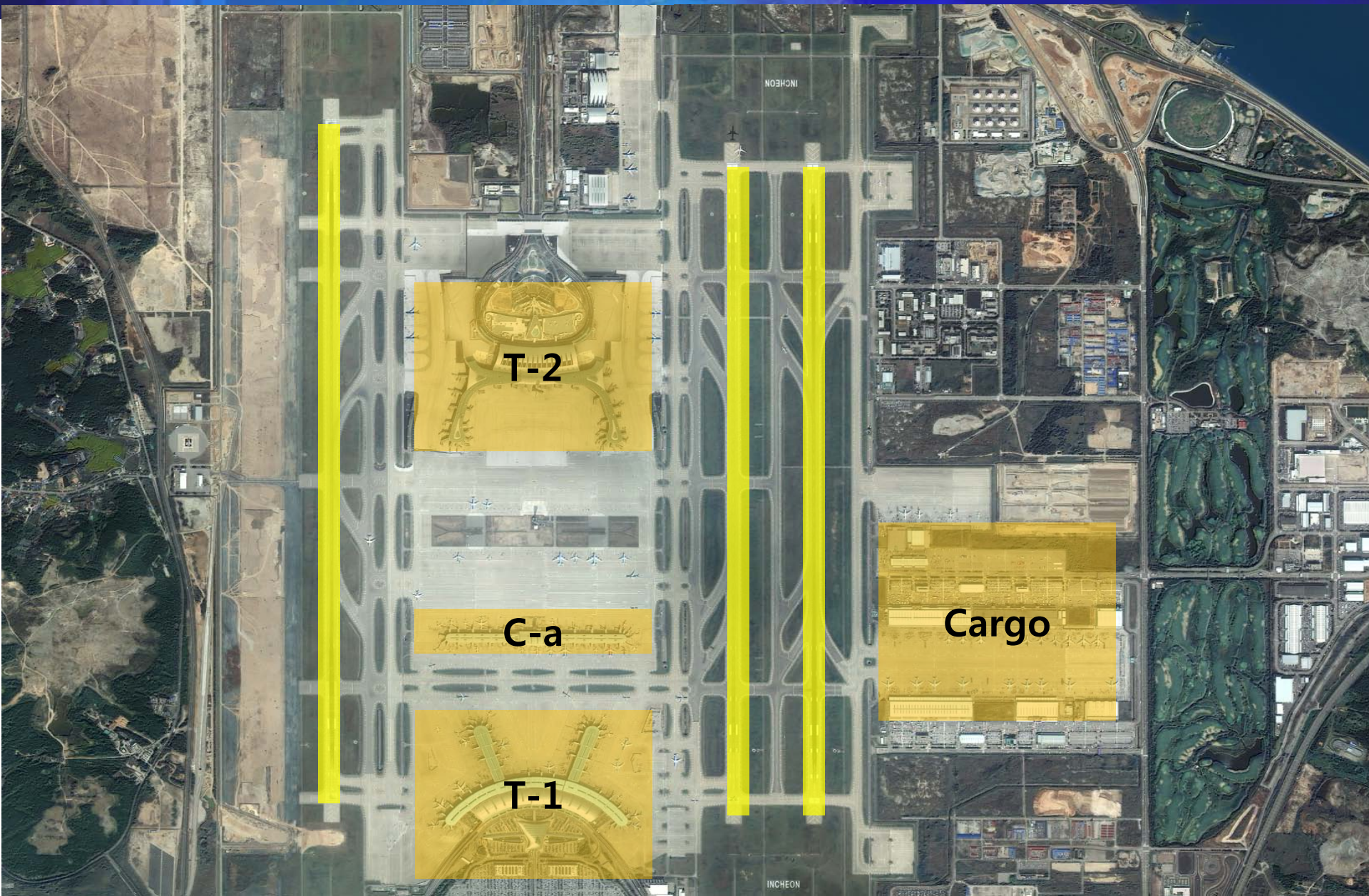
Status of Birdstrike & Habitat

3

Bird control Activities

4

Action Plan



Current Capacity



2 Passenger Terminal

1 Concourse

3 Runways



5.6 Million
Tons of Cargo



72 Million
Passengers

Airside status



1,100 Flights/day



12,698 Drivers



10,932 Vehicles/eq.



Incheon Airport Phase I



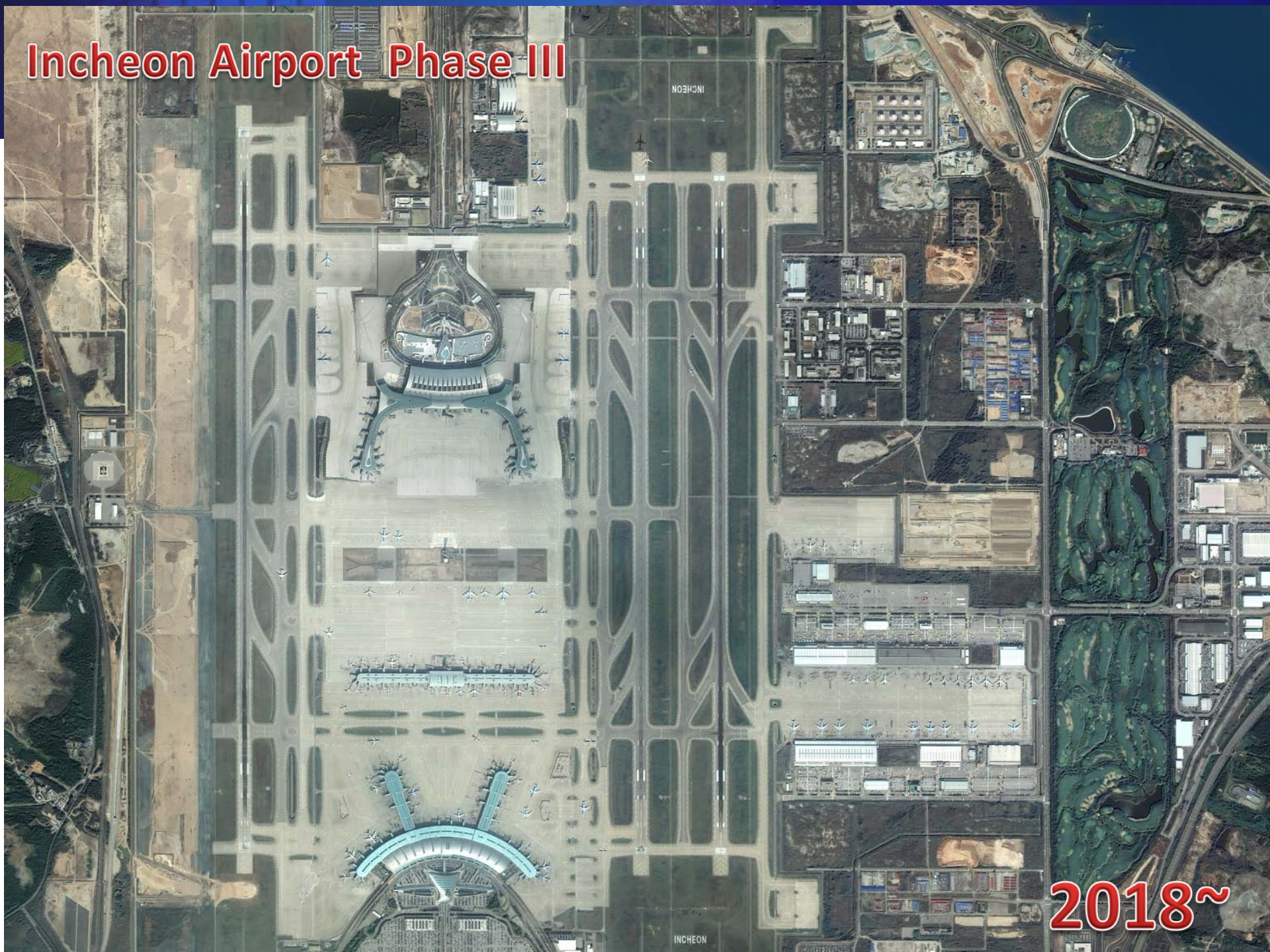
2001~

Incheon Airport Phase II



2008~

Incheon Airport Phase III



2018~

Phase 1 Construction <~2001>

1단계 부지조성공사 착공 (1992. 11)

남.북측 방조제공사 완공 (1994. 10)

제1,2활주로 공사 착공 (1996. 12)



1단계 개항 (2001. 3. 29)



Phase 2 Construction <~2008>

2단계 부지조성공사 착공 (2002. 11)



제3활주로 시설공사 착공 (2005. 9)



제3활주로등 공항시설 시운전 (2000. 10)



2단계 운영 (2008. 6. 20)







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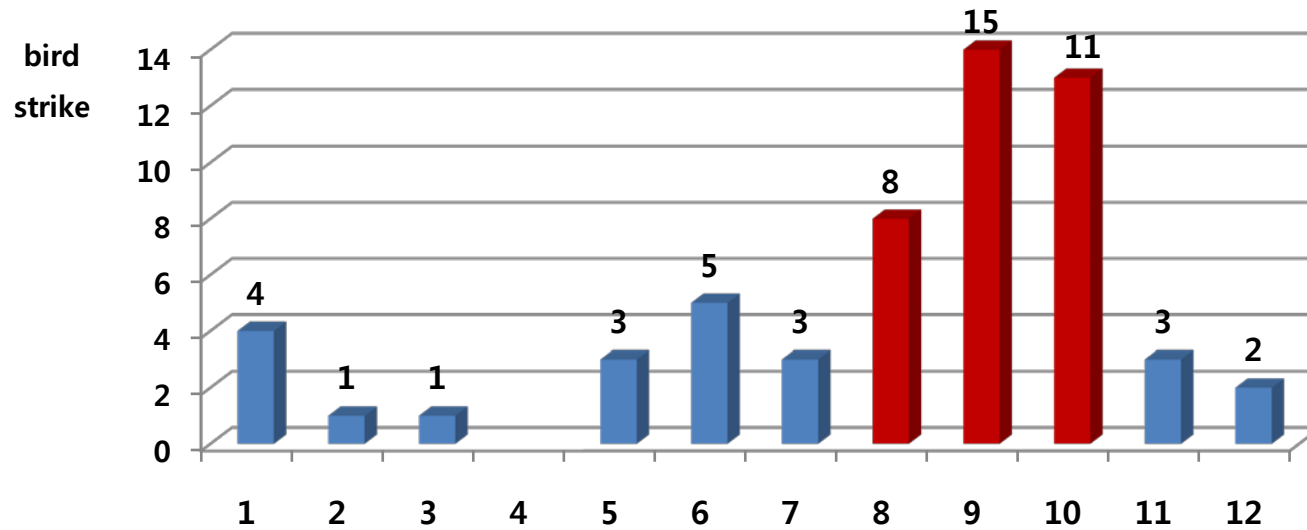
Bird control Activities

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Action Plan



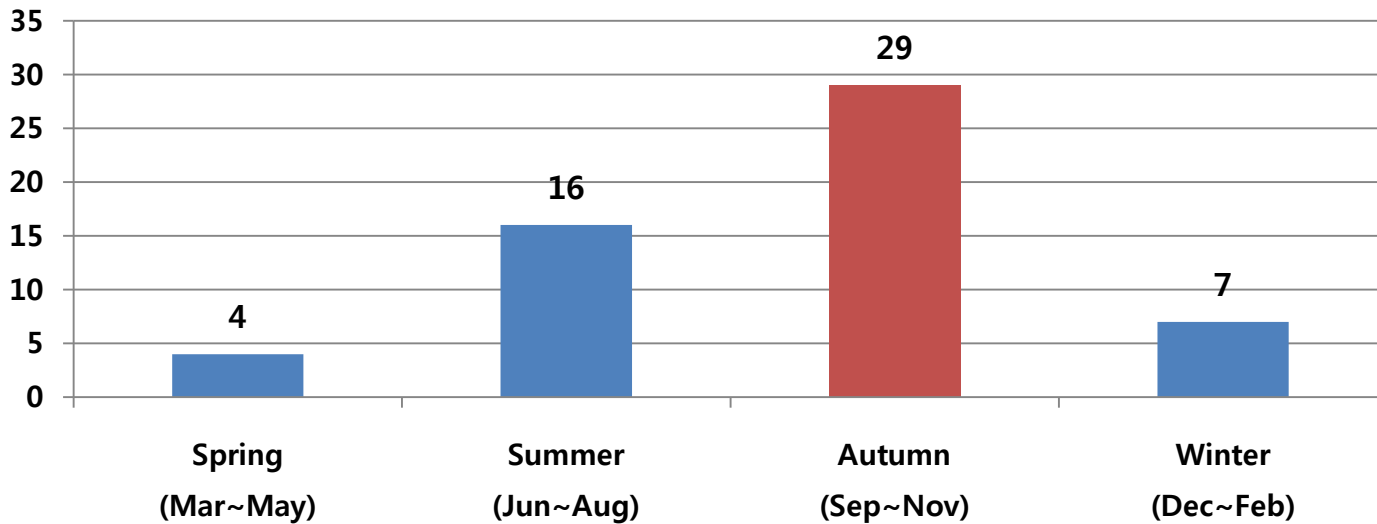
Incheon Airport Birdstrike (On airport/2014~2018.9)



Classification	1	2	3	4	5	6	7	8	9	10	11	12	total
2014	1		1		1	1		2	3	1		1	11
2015	1	1						1	1	3	2		9
2016	1					1			3	4	1	1	11
2017	1				1		1	1	2	3			9
2018					1	3	2	4	6				16
계	4	1	1	0	3	5	3	8	15	11	3	2	56



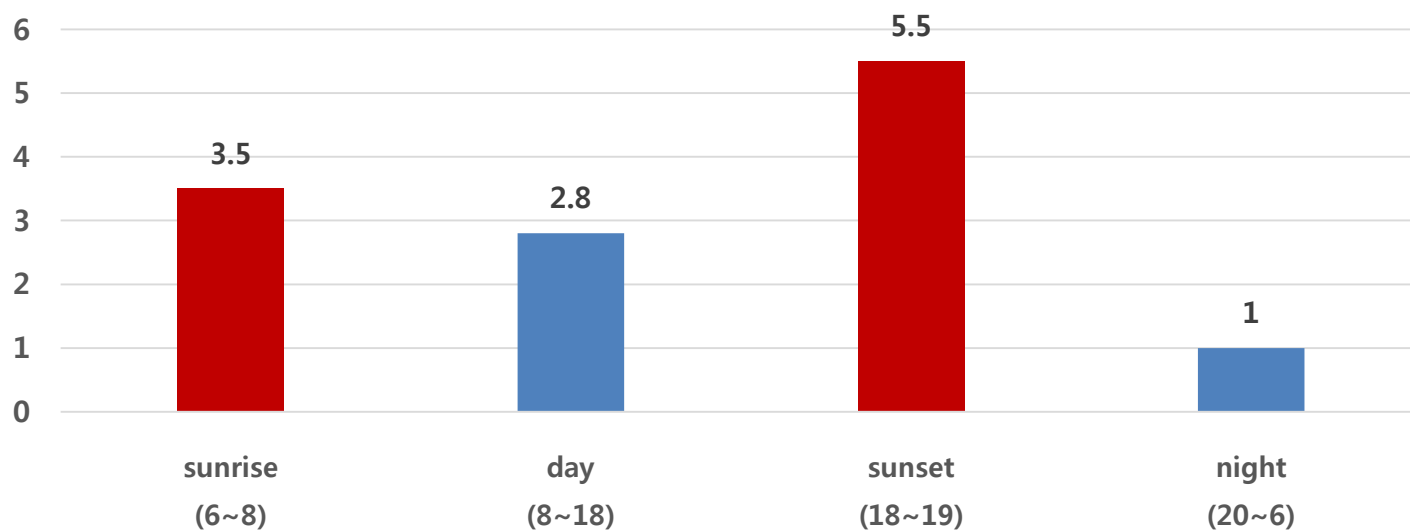
Seasonal birdstrike(2014~2018.9)



Classification	Spring (Mar~May)	Summer (Jun~Aug)	Autumn (Sep~Nov)	Winter (Dec~Feb)
Birdstrike	4	16	29	7
Ratio	7%	28%	52%	13%



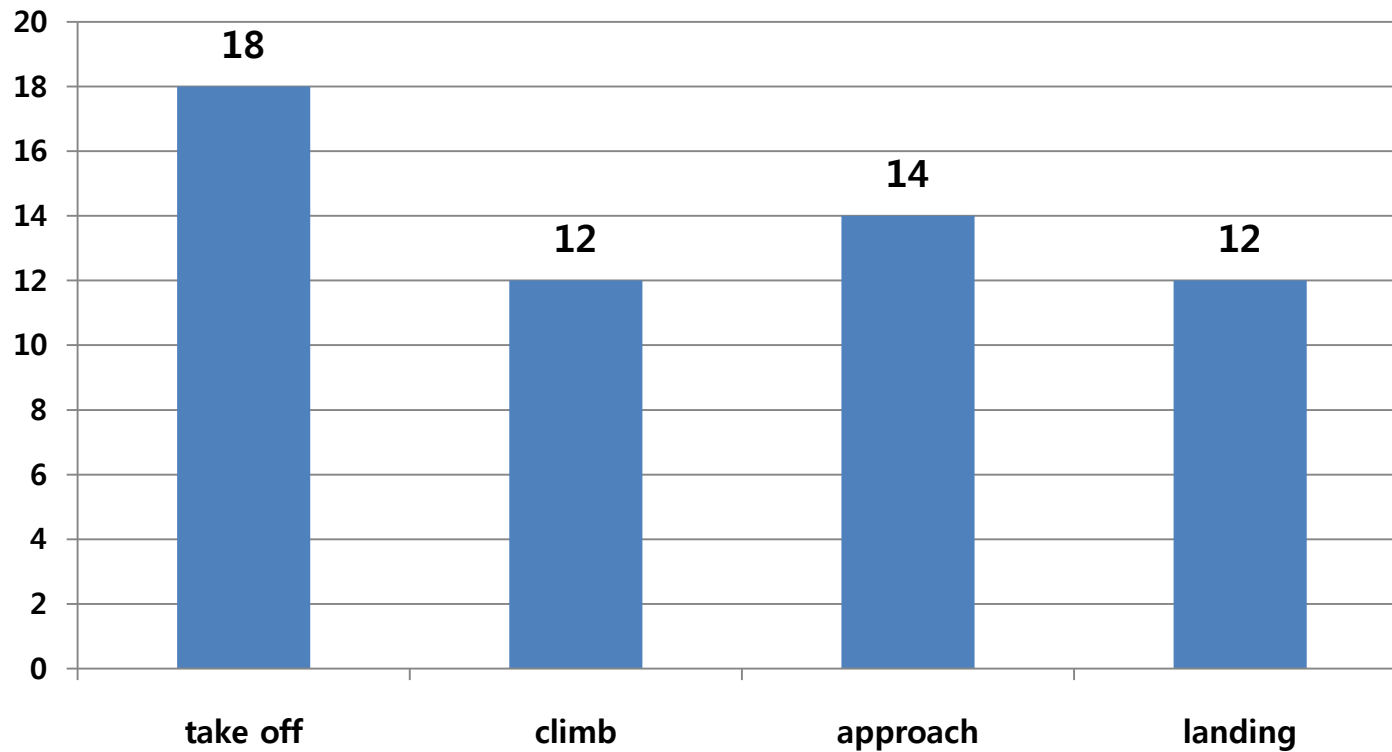
Time period of Birdstrikes (2014~2018.9)



Classification	Sunrise (6-8)	Day (8-18)	Sunset (18-19)	Night (20-6)
Birdstrike (Time mean)	7 (3.5)	28 (2.8)	11 (5.5)	10 (1.0)
Ratio	27%	22%	43%	8%

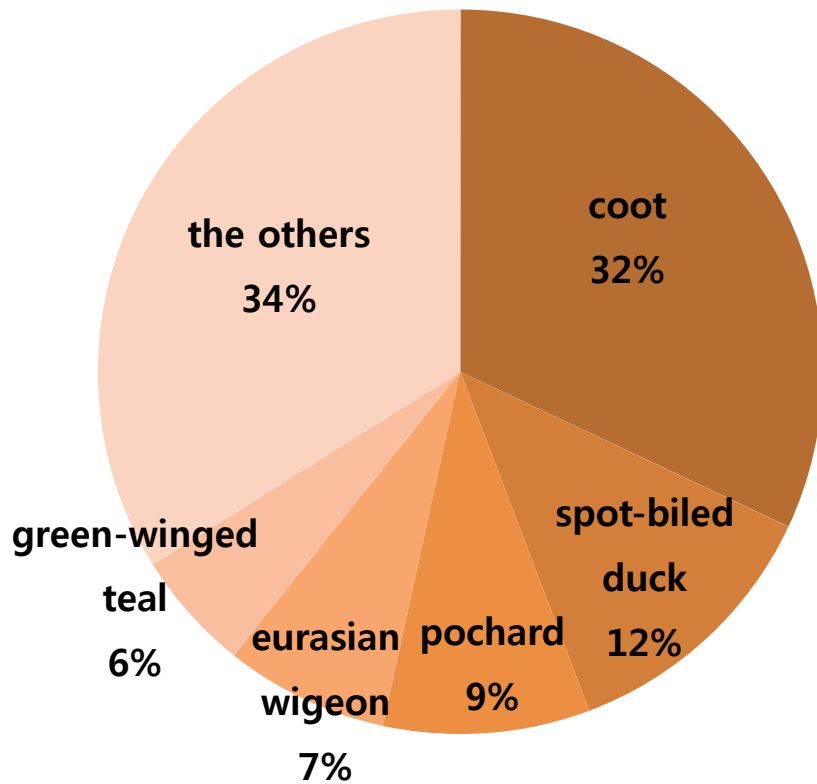


Birdstrikes per flight stages (2014~2018.9)

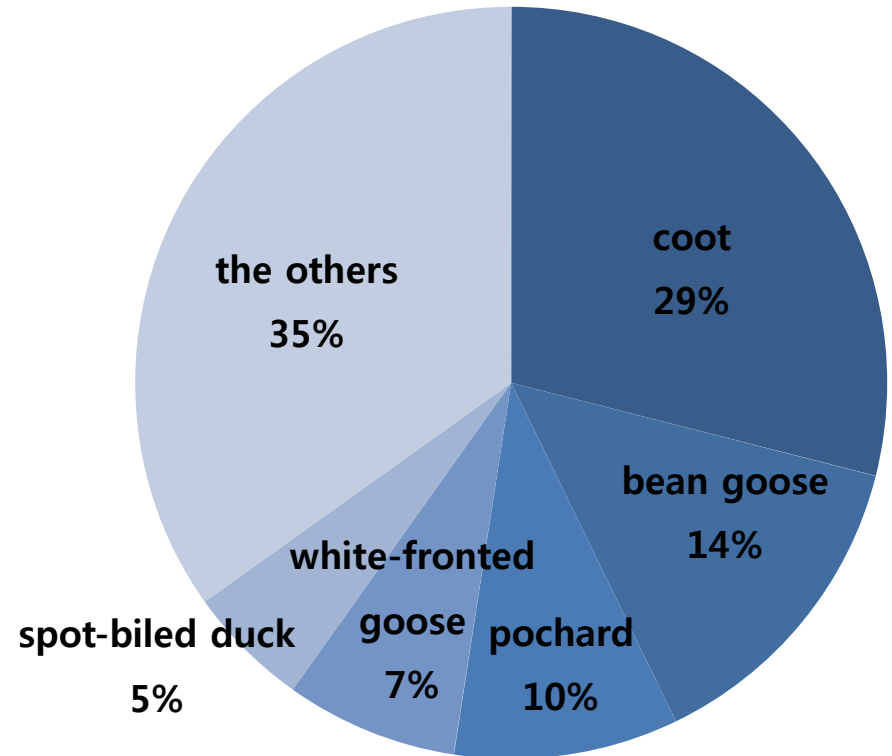


Bird species 2016 / 2017

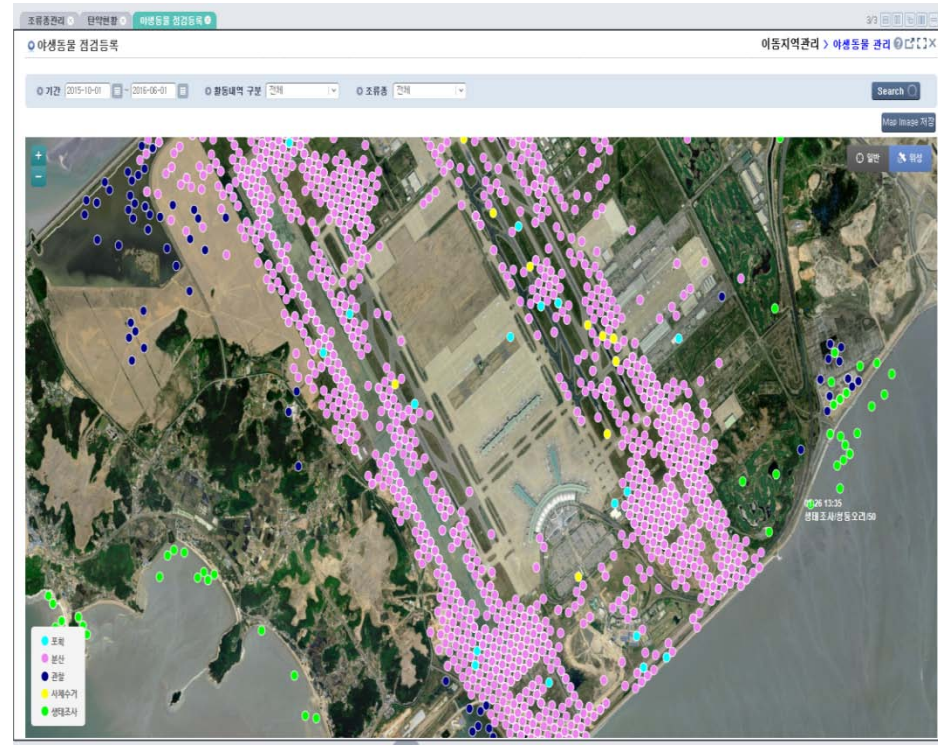
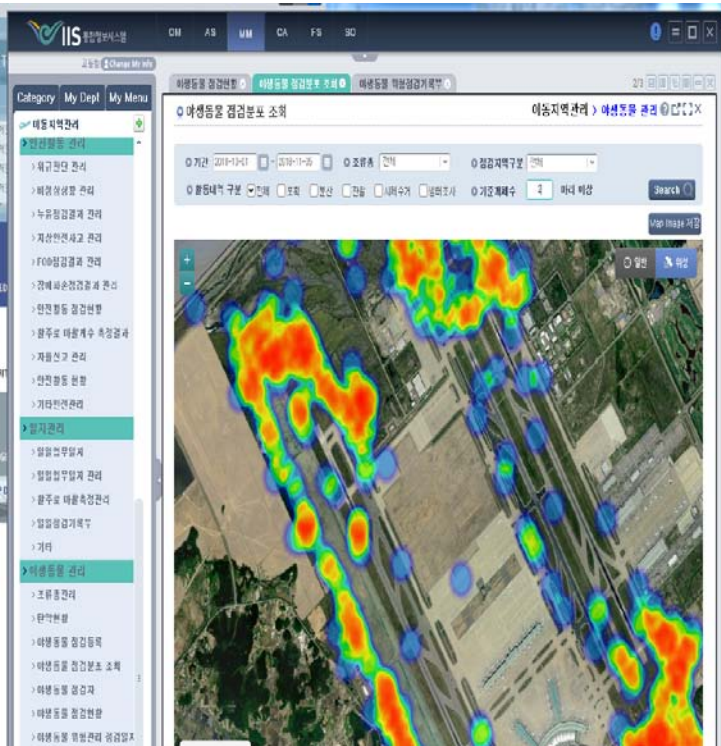
2016



2017

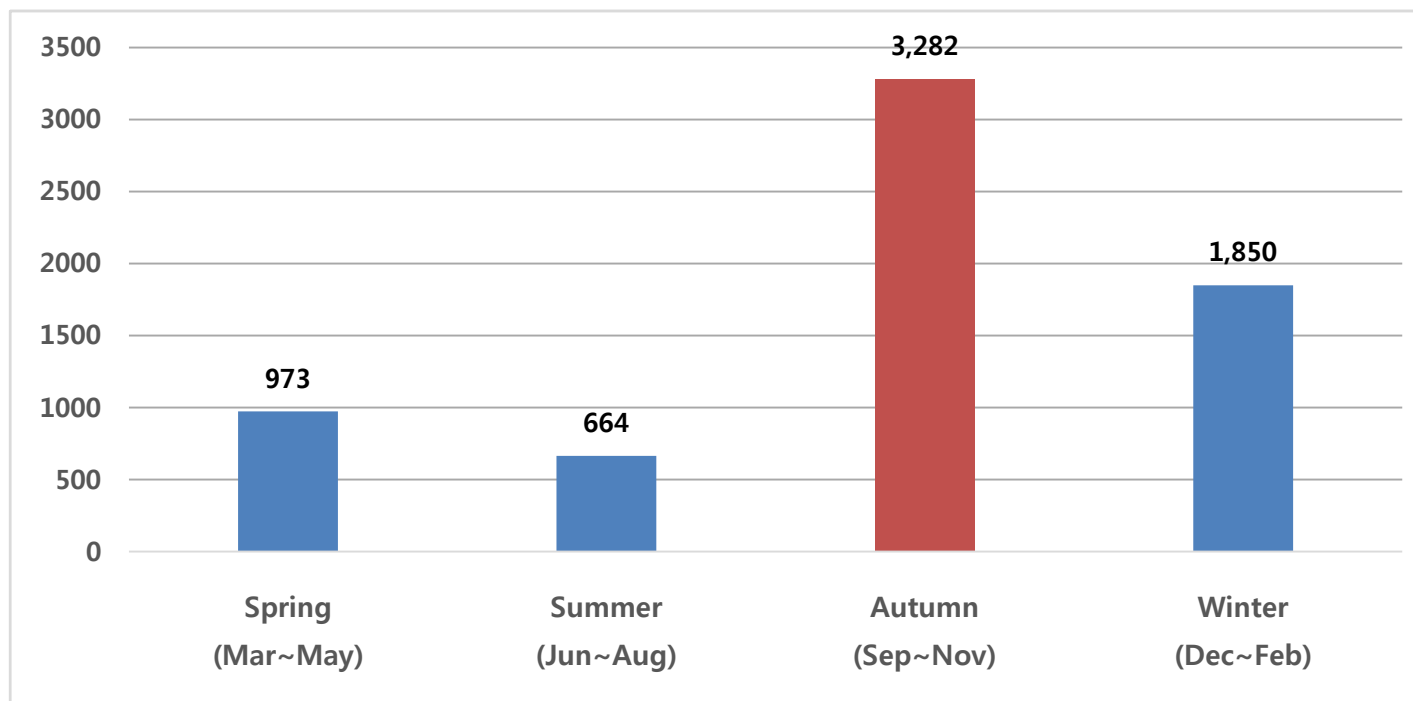


Birdstrike & Habitat





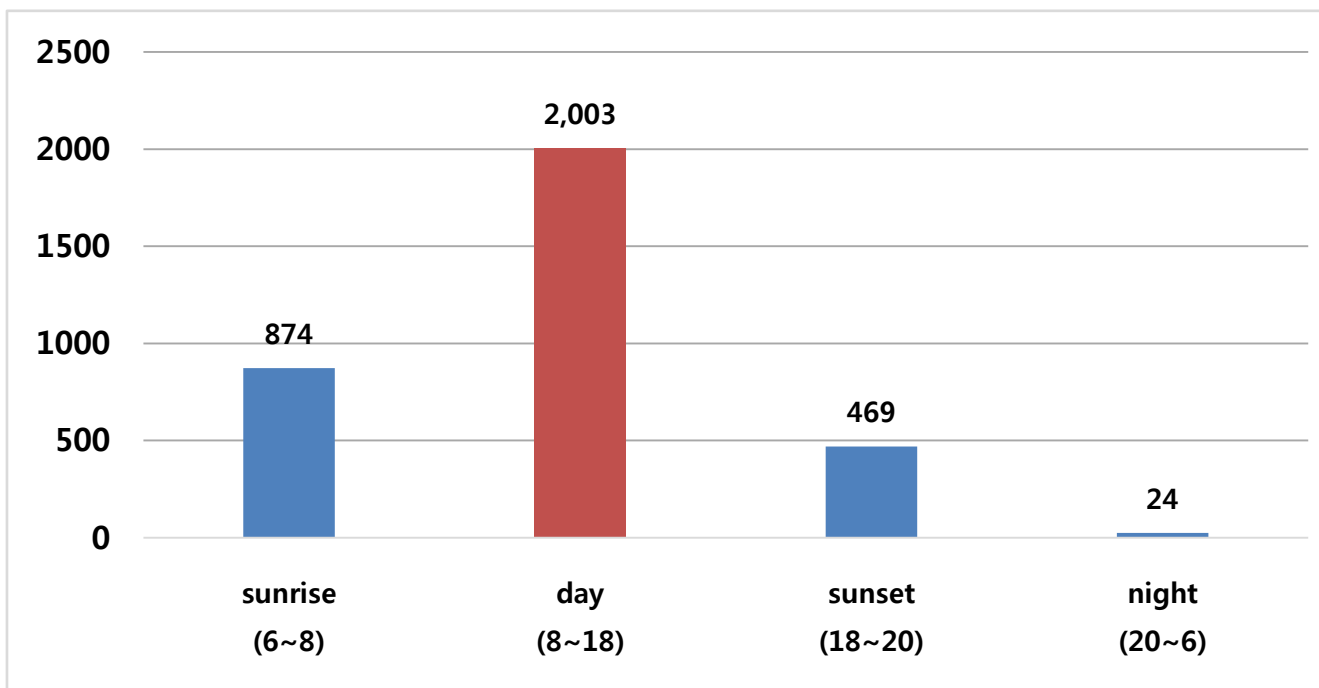
Seasonal Habitat (2014~2018.9)



구분	Spring (3~5)	Summer (6~8)	autumn (9~11)	winter (12~2)
조류서식량(분기평균)	973	664	3,282	1,850
비율	15%	10%	48%	27%

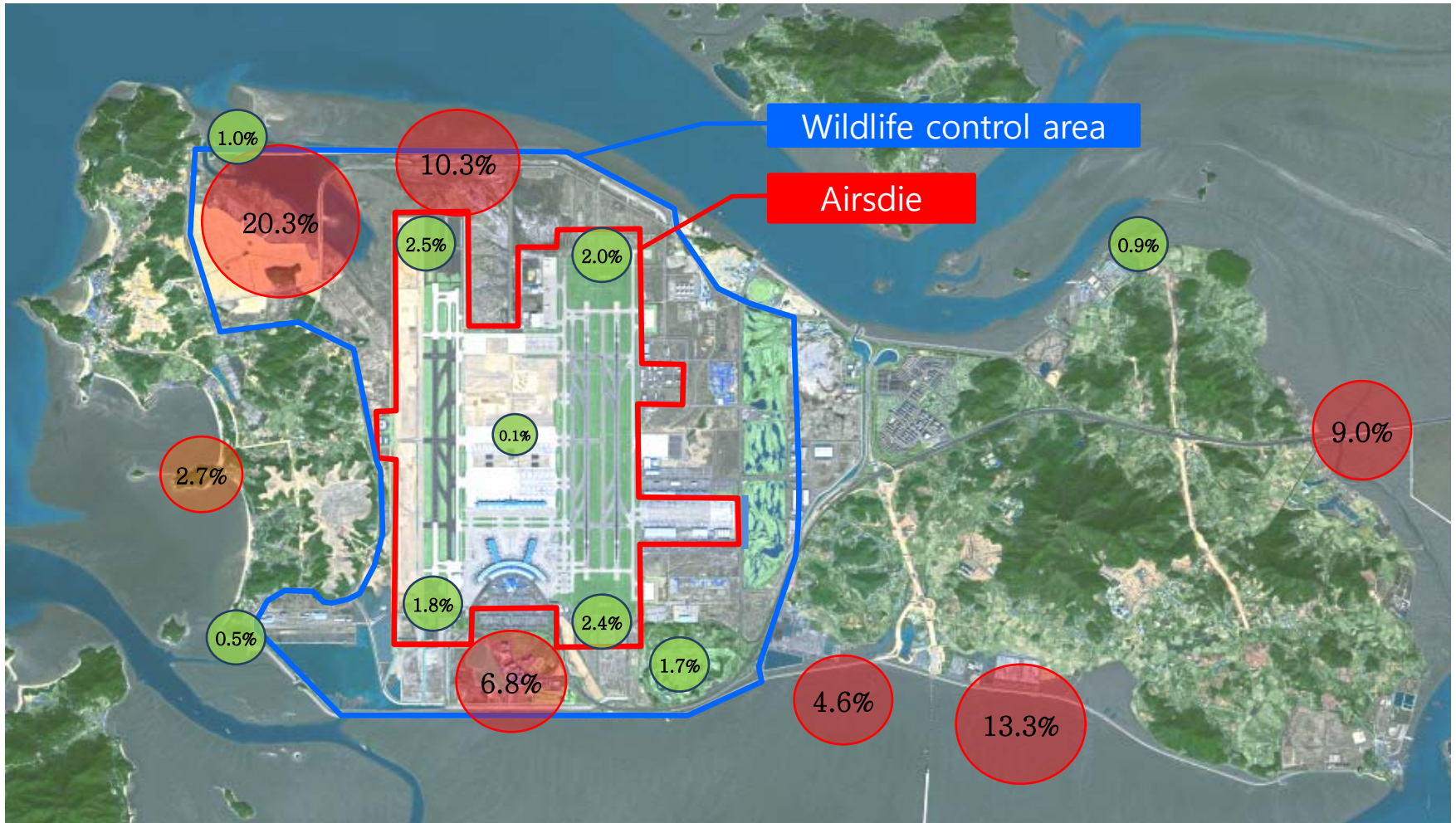


Time period of Habitat (2014~2018.9)



구분	sunrise (6~8)	day (8~18)	sunset (18~20)	night (20~6)
조류서식(연평균)	1,747 (874)	20,032 (2,003)	939 (469)	240 (24)
Ratio	26%	59%	14%	1%

Distribution of birds per region



Bird habitat A/S vs L/S (2014~2018.9)

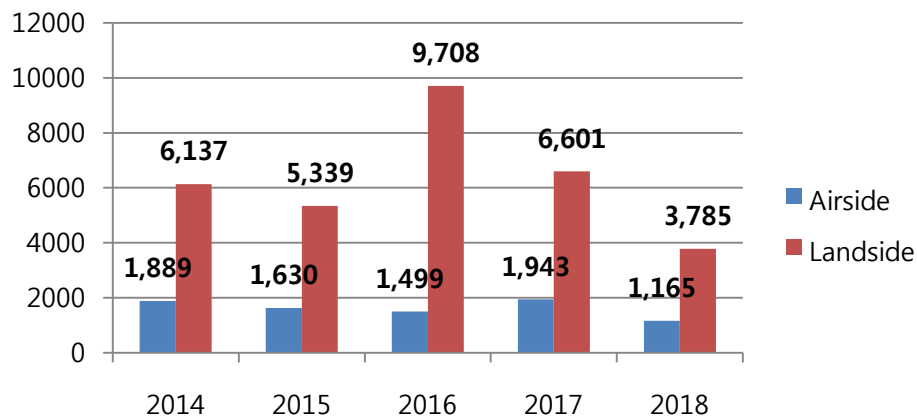
■ Airside

Classification	2014	2015	2016	2017	2018
Total amount of birds	1,889	1,630	1,499	1,943	1,165
Total amount of species	83	76	69	69	53

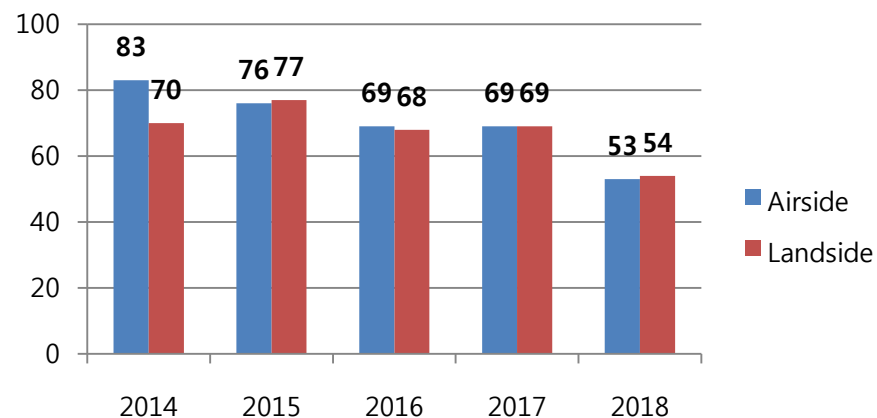
■ Landside

Classification	2014	2015	2016	2017	2018
Total amount of birds	6,137	5,339	9,708	6,601	3,785
Total amount of Species	70	77	68	69	54

Birds



Species



Incheon Airport Birdstrike (On airport/2014~2018.9)

Classification	2014	2015	2016	2017	2018.9	total
Birdstrikes	11	9	11	9	16	56
Filghts	290,043	305,446	339,673	360,295	288,704	1,584,161
Birdstrikes / 10,000 flights	0.38	0.29	0.32	0.25	0.62	average
						0.37



Damage Status (On airport/2014~2018.9)

Classification	2014	2015	2016	2017	2018.9	total
ENGINE	1					1
RADOM			1			1
TOTAL	1		1			2

- **Return flight due to damage of engine blade : 1 (2014/Mallard)**

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Manpower & Equipment

CLASSIFICATION		Obtained	Content
Control personnel	Incheon airport wildlife control center	30	With in the airport(30)
	Wildlife management association	27	Outside the airport(27)
shotgun		30	Two type live ammunition One type blank ammunitiom
Scary Man		3	–
Acoustic equipment		6	

Field inspection



Bird control activities

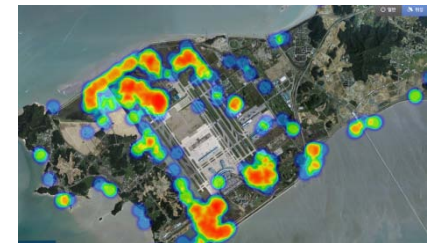
IIAC mainly controls wild life 24 hours throughout the year by experts.
We focus on vulnerable period/area control of wild life by analyzing data.

■ Co-control of wild life 24 hours



■ Effective bird control

- By **man's control** due to learning ability of bird
- Applications of **analyzing existing data**
: focus on vulnerable and critical area/period
(migratory birds visit season, breeding season)
- **Habitat survey** periodically
: pre-emptive control of wild life



Remove Water





Install a net to prevent inflow of birds





Remove a magpie's house



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Using Drones



Birdscontrol & Research





Wildlife control plan

Long range acoustic device

'18.12



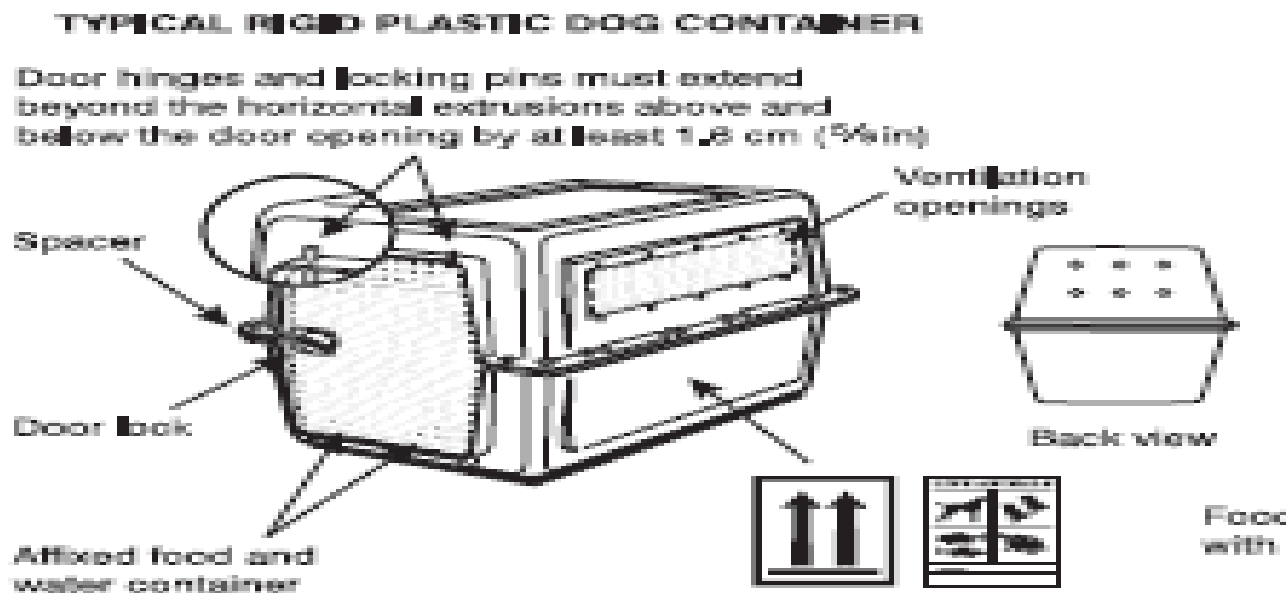
SMART wildlife control system

'20yrs ~



『Revision for IATA Live Animals Regulations on Container Requirement』

■ Existing States of IATA LAR on Container Requirement

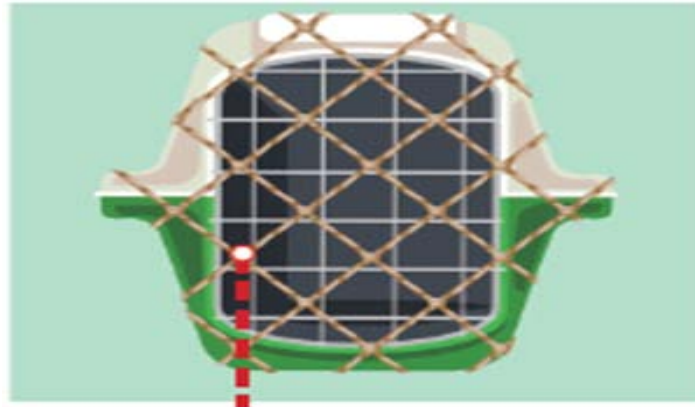


※ Captured from IATA Live Animals Regulations (43rd Edition, January 2017)

『Revision for IATA Live Animals Regulations on Container Requirement』

■ Measures

- **Strictly checking cage when taking over live stock**
- **Installing double safe equipment**
 - **wrapping around cage with a『net』**



Mandatorily Wrapping around Container with a Net



Thank you