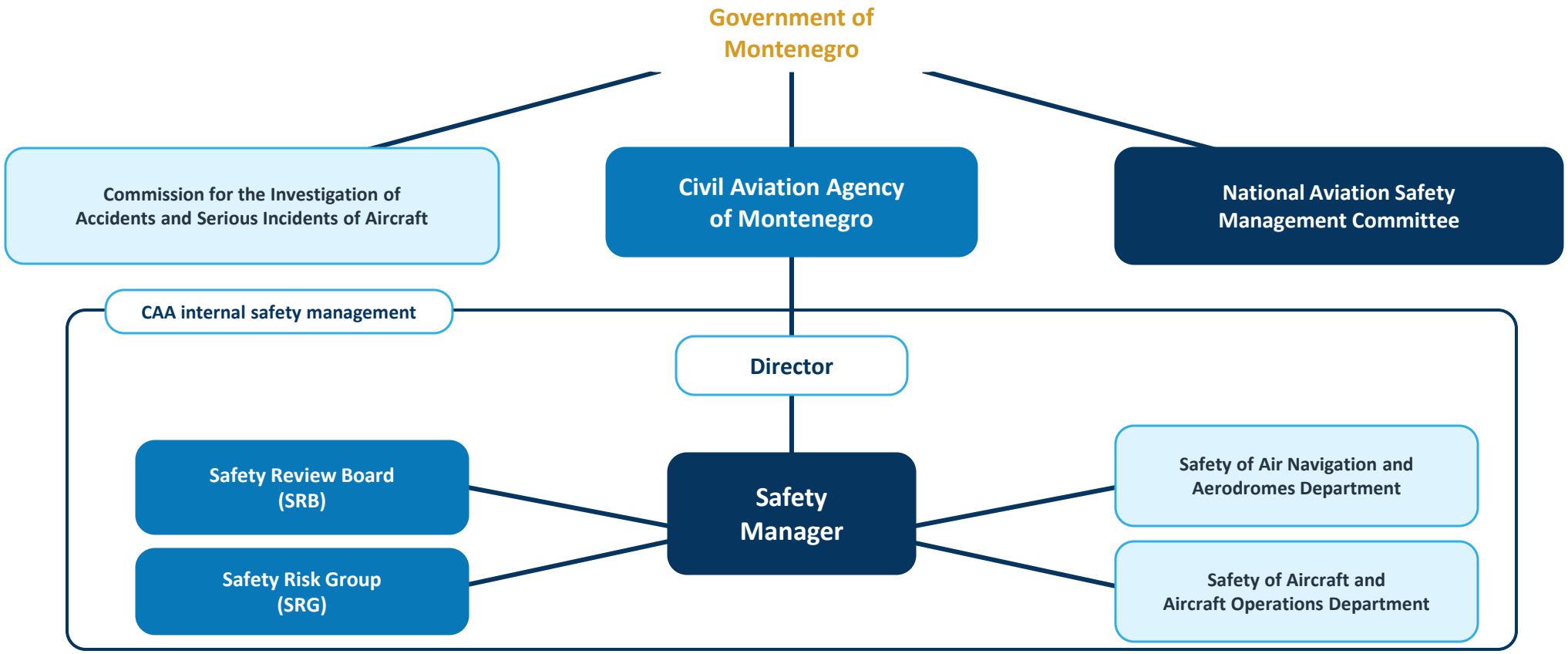
MANAGING BIRD STRIKE RISK BEYOND THE AIRPORT BOUNDARY

The Tivat Airport

Tivat, 22 September 2026

National and CAA safety management structure



Tivat Airport

Tivat Airport combines seasonal traffic with a sensitive coastal environment

- Traffic peaks during the summer season
- Coastal and wetland habitats support bird activity throughout the year
- The runway lies close to natural habitats and artificial attractants
- The airport has limited control over land use beyond its boundary

Bird habitats and attractants around the airport

Natural habitats, water sources and waste sites surround the airport

Bird species at Tivat Airport

Most frequent	Occasional	Rare
Yellow-legged gull	Black-headed gull	Grey heron
Swallow	Jackdaw	Little egret
Hooded crow	Magpie	Crane
	Starling	

The yellow-legged gull presents the most significant recurring risk

Seasonal, weather and behavioural factors

- Gulls remain present throughout the year
- Wet surfaces attract birds during and after rainfall
- Larger flocks may appear during early morning hours
- Movements between the coast and waste sites cross aircraft paths
- Summer traffic increases operational exposure

Preventive measures at Tivat Airport

- Long-grass policy, with a target height of approximately 20 to 25 cm
- Removal of food sources, organic waste and foreign object debris
- Regular inspections of movement areas and grass surfaces
- Control of nesting and resting opportunities
- Systematic wildlife monitoring and record keeping
- Increased surveillance during adverse conditions

Habitat management reduces the attractiveness of the aerodrome

Active dispersal and operational response

Dispersal

- Dedicated wildlife-control vehicle
- Species-specific distress calls
- Handheld green laser
- Combined acoustic and visual deterrence

Operational response

- Continuous coordination with air traffic control
- Monitoring until birds leave the operational area
- Delay of departure or arrival when safe conditions cannot be restored

Critical escalation in early 2025

Reports from Tivat Airport and SMATSA indicated serious concentrations of birds

Reports received

Risk entered the red level

External causes required wider action

Airport measures could not address the entire risk

CAA cross-institutional coordination

The CAA first contacted Tivat authorities, then convened all relevant stakeholders

Local authorities

Municipality of Tivat
Municipality of Kotor
Tivat and Kotor utility companies

Aviation

Tivat Airport
SMATSA
Civil Aviation Agency

State and environmental authorities

Ministry responsible for transport
Ministry responsible for environmental protection
Ministry responsible for spatial planning
Environmental Protection Agency

Temporary waste site as the main external focus

Conditions at the site

- Temporary waste site close to Tivat Airport
- Accumulation of mixed municipal waste
- Accumulation of bulky waste
- Interrupted access to the Lovanja transfer station

Aviation safety relevance

- Food source for gulls
- Bird movements across the wider airport area
- Risk driver beyond the airport boundary
- Problem requiring municipal and State action

Separate solutions for two waste streams

Mixed municipal waste

- Restore cooperation between Tivat and Kotor
- Reactivate use of the Lovanja transfer station
- Remove previously accumulated waste
- Prevent further retention at temporary site

Bulky waste

- Reduce the volume with crushing equipment
- Secure additional loading and transport capacity
- Process new arrivals without creating further accumulation
- Continue removal until the site is cleared

Acceleration of action in 2026



Progress at temporary site

Mixed waste	Bulky waste	Current operation
REMOVED	MORE THAN 60% REMOVED	NO NEW ACCUMULATION

The main waste-related bird attractant near the airport has been substantially reduced

Assessment during the next operating season

The intervention removed a major attractant. A full season of monitoring must demonstrate the safety effect.

Monitor throughout 2027	Compare like with like	Analyse exceptional events separately
Gull presence, flock size, runway occurrences and strikes	Account for traffic volume, season and weather conditions	Short-term weather-driven concentrations may have different causes

Thank you for your attention.