



Unmanned Aircraft Systems (Drones) in protected areas: opportunities and threats

International ALPARC Conference

26th – 27th of March 2018

Toblach/Dobbiaco – Nature Parks South Tyrol (ITALY)

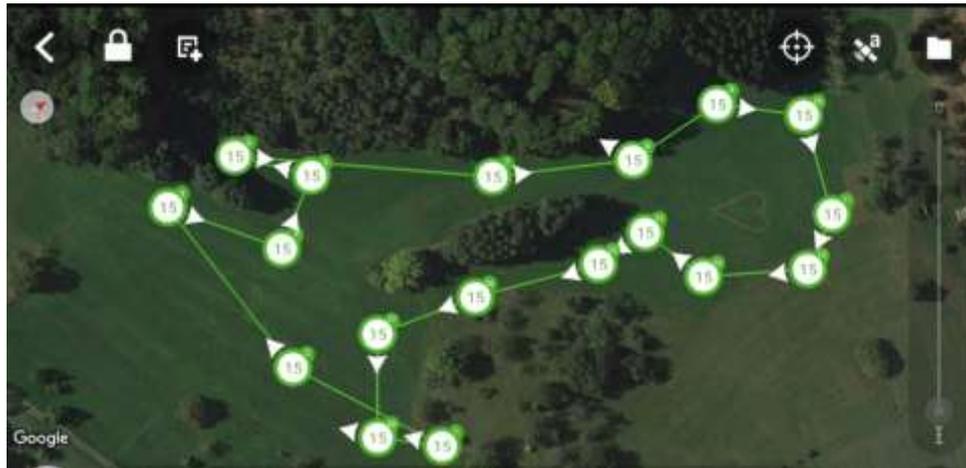
With the financial support of:



Bundesministerium
für Umwelt, Naturschutz,
Bau und Reaktorsicherheit

idm
SÜDTIROL
ALTO ADIGE

Potential of a new technology for daily tasks in protected areas management



Dr. Yann KOHLER, ALPARC

Drones (Unmanned aerial vehicle UAV)

An unmanned aerial vehicle (UAV), commonly known as a drone, is an aircraft without a human pilot aboard. UAVs are a component of an unmanned aircraft system (UAS); which include a UAV, a ground-based controller, and a system of communications between the two. The flight of UAVs may operate with various degrees of autonomy: either under remote control by a human operator or autonomously by onboard computers (*Wikipedia, March 2018, modified*).

Water vehicles can also be included by the term of Drone.



Origins and categories

UAVs were originally mostly used for military purposes. The technological advances and the miniaturization of components have facilitated the emergence of mass production

→ Decreasing prices and proliferation of UAS in civil applications

Civilian UAVs now vastly outnumber military UAVs (2.5 million sold in USA in 2016).



- 1) Leisure activities (sports)
- 2) For commercial use (aerial images, etc.)
- 3) For monitoring activities (forestry, agriculture, etc.)

Use in Protected areas

- Remote sensing (vegetation, glaciers, ...)
- aerial photography (and video)
- Infrastructure inspections
- (wildlife) monitoring
- product deliveries
- Robotics
- ...



Advantages

- May facilitate access to remote areas
- May reduce disturbance impact (if certain using conditions are respected)
- May considerably reduce costs
- Provides spectacular pictures
- In samplings: may avoid removals
- ...



Risks

- On the ground in case of crash
- In the air (collisions)
- Violation of privacy rights
- Wildlife disturbance
- ...



Current use in Alpine Protected Areas

ALPARC survey

- High interest of all EPA in the topic
- Existing experiences (no so much), mainly in National Parks
- 2 alpine Parks have their own drones, other cooperate with scientist (research centers) or private companies
- Wildlife disturbance through drones use by private users (mainly leisure) has been identified as a main concern
- Numerous interrogations about legal questions
- Development of “guideline for responsible use of drones in PA”