



# Equipment powerline by drone for birds

*LIFE13/NAT/FR/000093*

Alparc conference- Drone in protected areas

Toblach/Dobbiaco, 26 &27/03/2018

Sandrine Berthillot, Vanoise national park

*Life GypHelp*



- Action included in the LIFE GypHelp (2014-2018)  
= Objective and scale of the Life project GypHelp
- Focus on equipment powerline by drone



## Life Gypptelp



Coordinator : ASTERS

6 partners :

- \* 2 national Park (Vanoise and Mercantour)
- \* Association Observatoire des Galliformes de Montagne
- \* Departemental federation of hunters from Haute Savoy
- \* Vulture Conservation Fundation

and Electricity compagny



## Conservation of the population of Bearded Vulture in the French Alps



- Decreasing human threats
  - Percussion with overhead cables (skilifts and powerlines)
  - Poisoning and intoxication
  - Disturbance of nests by human activities



- Increasing the population and the demographic parameters



## Life GypHelp: conservation of the bearded vulture population in the French Alps

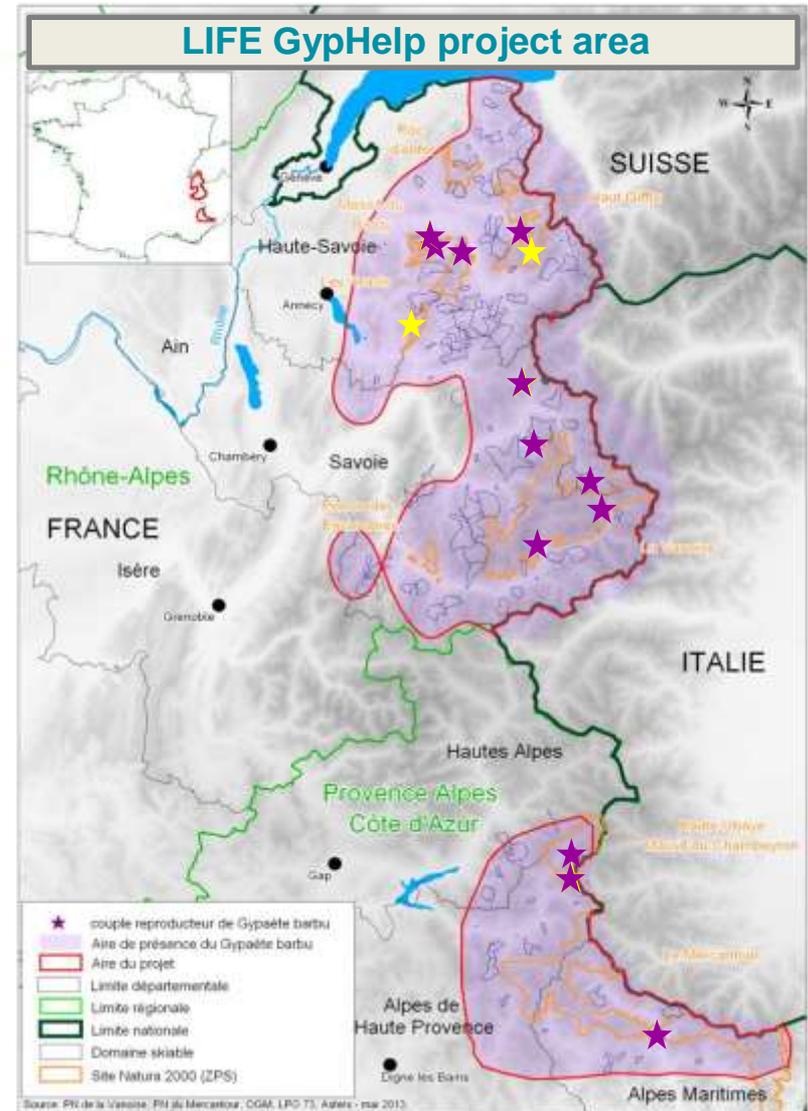
### ➔ **Bearded vulture as “umbrella species” : benefits for raptors, black grouse particularly in ski resort**

reducing the anthropogenic mortality risk in the project area, collision against aerial cables in particular

➔ securing the increase of the population of Bearded Vultures in the project area



- ★ 12 breeding pairs in the French Alps
- ★ 2 territorial pairs in the French Alps
- III 30% of the alpine pairs



# Focus on equipment powerline by drone



- Cooperation with national electricity compagny for powerlines Enedis 20 000 voltage (ERDF)



- Inventory and hierarchisation of the risks of percussioin and electrocution (multi species)
- Improvement and test of visualization material
- Equipment of power lines promotion and communication
- Data entry in an Internet platform

# Focus on equipment powerline by drone

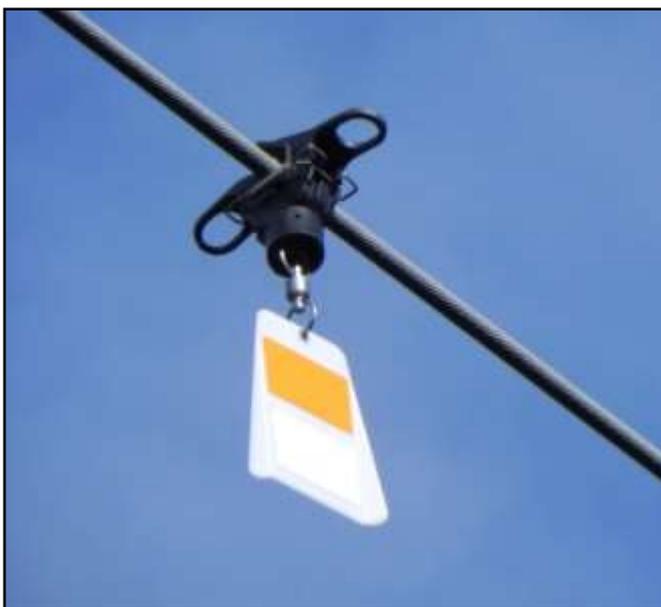
## ➤ Current equipment of powerlines Enedis

- Equipement by truck with a cabine or from the ground with a pole
- Mainly lines easily accessible



## ➤ Current equipment of powerlines Enedis

- Materiel: « Firefly alpine » produced by



- New materiel tested at present



## ➤ Limitation for current equipment

- Price : 500 € for 100 m linear (material and human means)  
1000 € per pylon

*(budget 50 000 € per year consacred to equipment in Haute-Savoie and Savoie), => 4 years would be needed to equip all*

- Conditions to equip a line: accessible by humans means and height < 6/7 meters equipped => some dangerous powerlines cannot be equipped : mountain area, forest, high level **line...**



New experimentation of powerline equipment by drone

*Video*

*Test powerlines equipment by drone*

*First in France in october 2016*

<https://youtu.be/uLSoLdNf8g4>

*Collaboration with :*

*Startup Drone from slovakia :*



*Tag markers for birds :*



# Focus on equipment powerline by drone



1 year later : october, 2017

1500 meters with drone in the same site  
Villaret du Nial (France)



# Focus on equipment powerline by drone

Approximatly same price : \* humans means = 500 € for 100 m linear  
\* drone = 500 € for 100 m linear

Advantage : cable at 25 meters high equipped and time saving



# Project : equipment skilifts by drone



Skilifts : problem collision Birds

Equipment program in each ski resorts (250 in France) : since 20 years in Vanoise

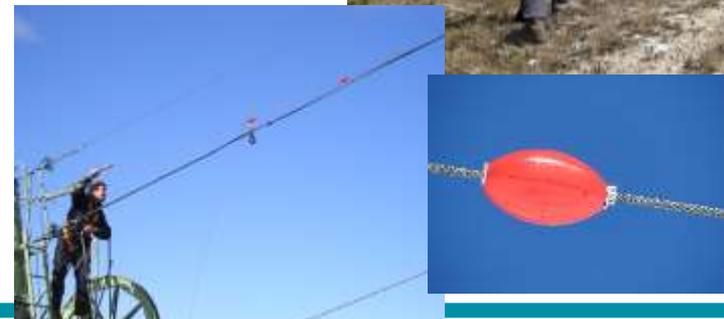
With humans ressources : from chair with a pole

For security and time saving = Test equipment chairlift by drone

A first in France : 3 july 2018, Pralognan la Vanoise (Savoy)



Partnership Vanoise National Park / e-Sense



Video clip to promote collaboration with electricity company and present the different technical installation of visualization equipment for Birds :

- RTE : Electricity Transmission Network
- Enedis : distribution

*vidéo*





Thanks for  
your attention !

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