

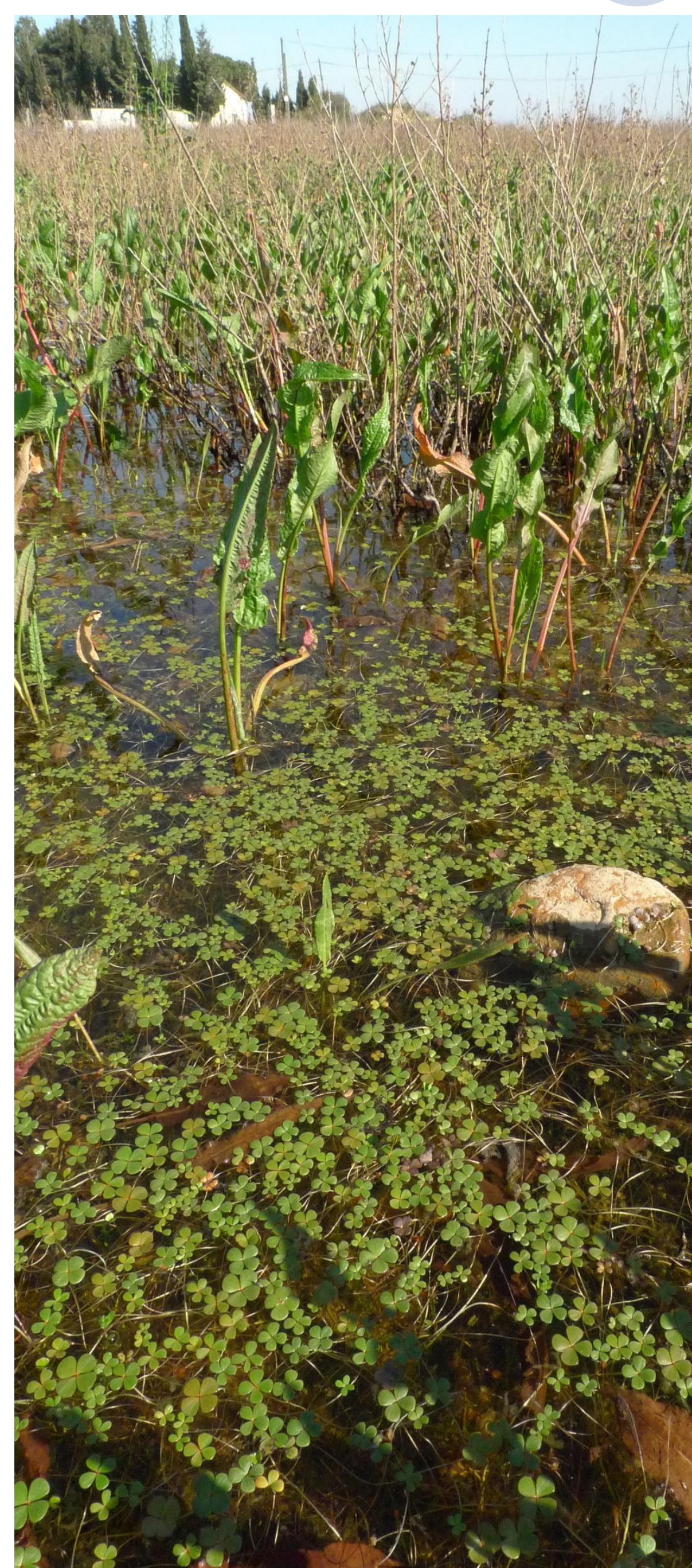
AN OPEN-SOURCE TOOL FOR MONITORING THE CONSERVATION STATUS OF HABITATS OF COMMUNITY INTEREST AT FIELD LEVEL IN THE OCCITANIE REGION

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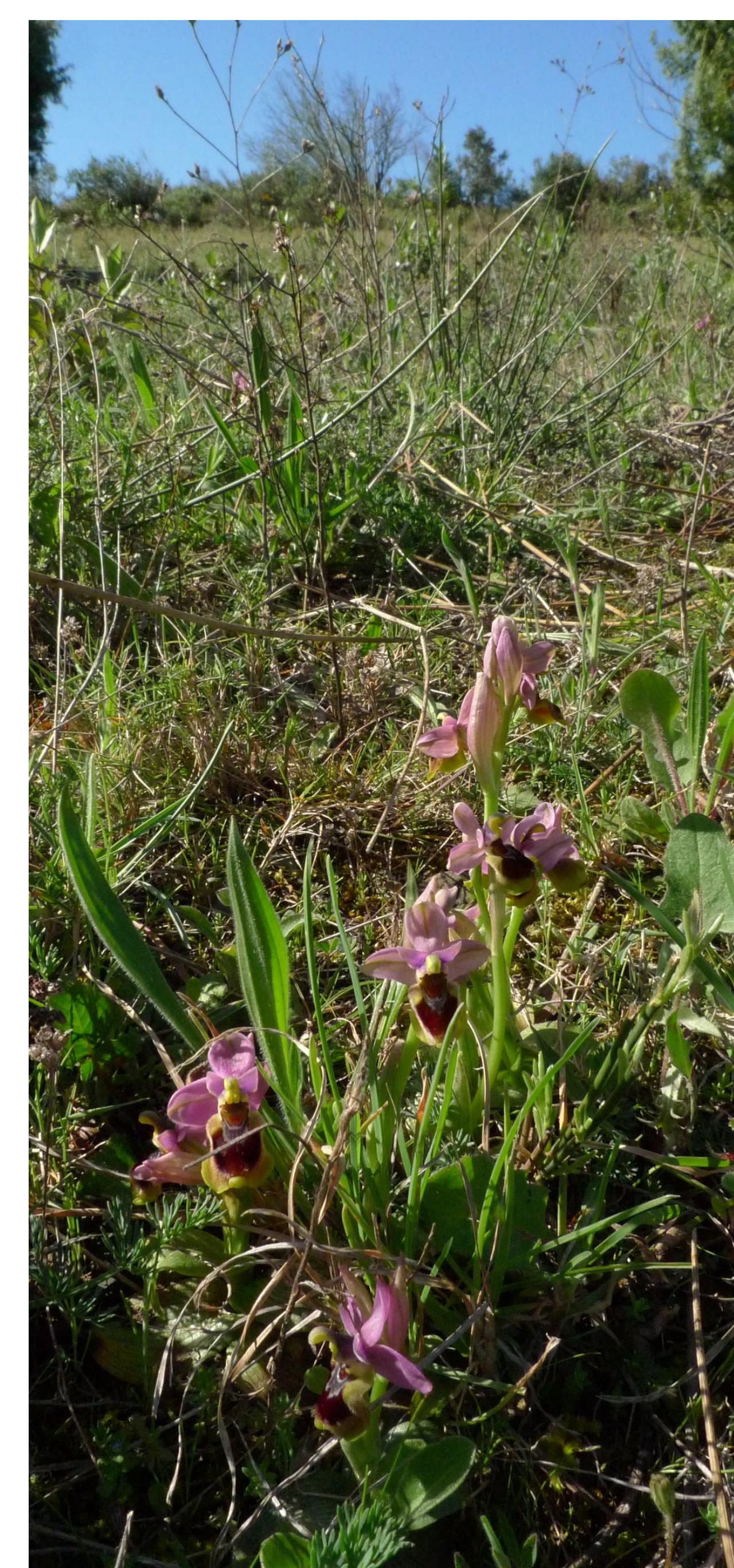
Objectives of monitoring

- Documentation of changes in the conservation status of habitats of Community interest in sites managed by the structure (> 36.000 ha) or elsewhere (Natura 2000 sites).
- Assessment of the effectiveness of the management measures implemented, at field level, for every parcel/polygon with presence of the targeted habitat (no sampling).
- Production of biologically representative data that are easily understood by colleagues and stakeholders.
- Providing a rapid method (< 15 min/ha) of monitoring the conservation status of habitats that are previously determined (no relevés needed).

Examples of monitored habitats



3170*: Mediterranean temporary ponds (here with *Marsilea strigosa*, Natura 2000 species code: 1429)



6220*: Pseudo-steppe with grasses and annuals of the *Thero-Brachypodietea* (here with *Ophrys tenthredinifera*)



7110*: Active raised bogs (here with *Drosera rotundifolia*, *Polytrichum strictum*, *Sphagnum capillifolium*)

The open-source tool : a specific XLSForm designed for ODK

- Self-hosted ODK Central Server, ODK collect runs on Android smartphones
- On-/Offline mode
- Location capture
- Media capture (photo & annotation)
- The form provides for each habitat of Community interest a grid of indicators defined at the regional level (Kleszczewski *et al.*, 2010) : https://medias.cen-occitanie.org/grilles_eval_ec/
- Each indicator is assessed by its estimated ground cover value (e.g. Bernard *et al.*, 2013).
- Data are immediately available in dedicated database



Grids



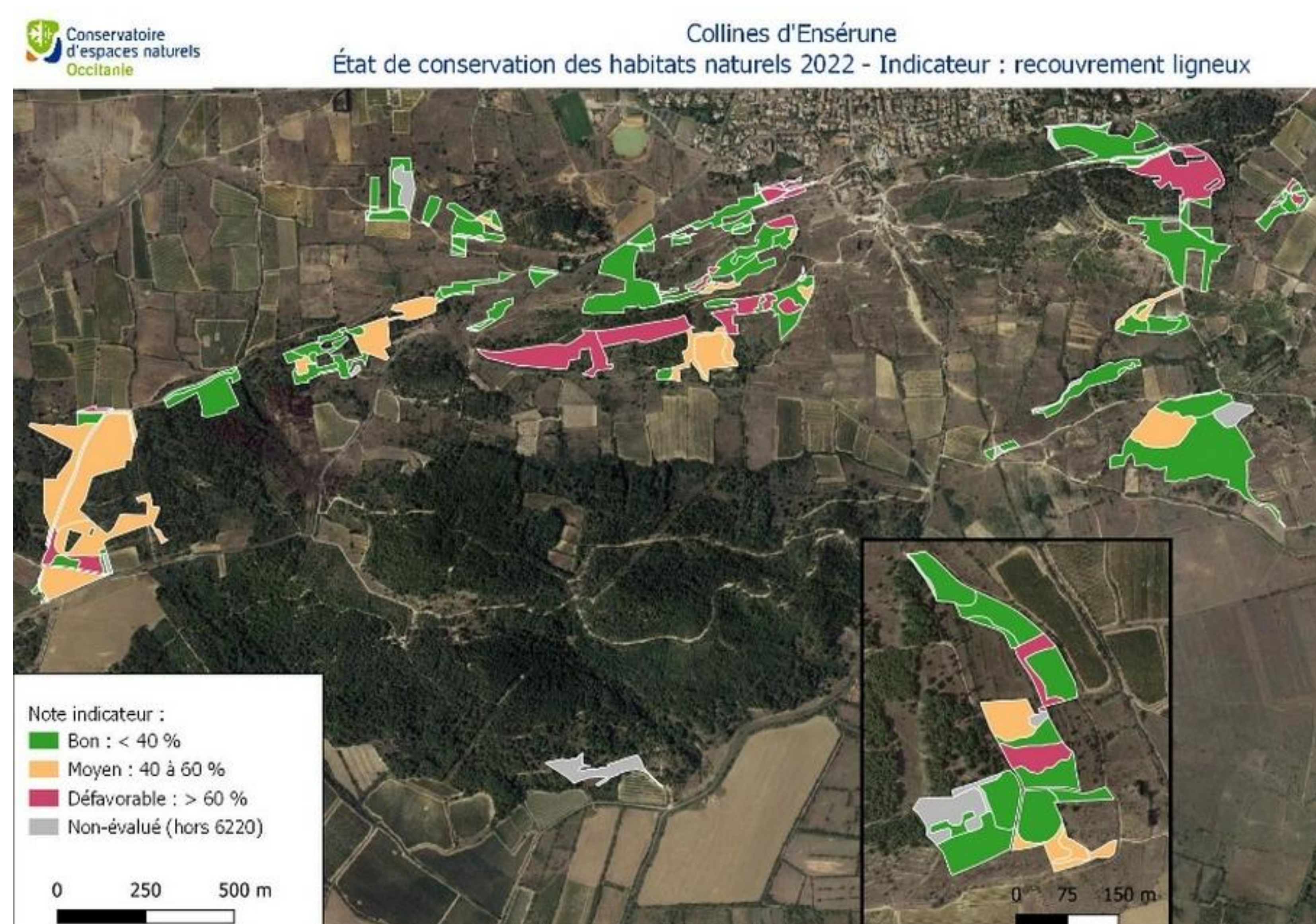
Form

Example of data collected

XLSForm:
Screenshot

6220*: Pseudo-steppe with grasses and annuals of the <i>Thero-Brachypodietea</i>			
Indicators [% ground cover]	Conservation status		
	Favourable	Inadequate	Unfavourable-bad
Litter	< 10 3	10-20	> 20
Shrubs and trees	< 40 35	40-60	> 60
Bare soil	< 10	10-20	> 20 25
Exotic species	< 1 0,1	1-10	> 10
Ruderal and eutrophic species	< 1	1-10 10	> 10
Degradations (vehicle tracks, plantings, deposits...)	< 1 0	1-10	> 10

Assessment grid for habitat 6220*.
Coloured values: Data collected for one polygon.



Example of an output: one single indicator analysis displayed (ground cover of shrubs and trees).

Perspectives

- As for our collected data on species, implementation of an automated export of data on the conservation status of habitats at the polygon level to national databases (SINP: French Natural Heritage Inventory Information System).
- Similar work had been initiated by Jullian (2010) regarding the breeding habitats of certain animal species of Community interest. This work could also be made accessible and operational through the development of a dedicated XLSForm designed for ODK.

References:

- Bernard P., Thompson J., Gauthier P., Girardin S., Kleszczewski M., Papuga G., Pons V., Argagnon O., Disca T., Hamza N., Lepart J. & Suisse T., 2013. Suivre l'état de conservation des habitats naturels pour évaluer les mesures de gestion sur les espaces naturels sensibles de l'Hérault. - *Guide technique CEFE & CEN L-R pour le Conseil Général de l'Hérault* : 155 p. @ : https://www.researchgate.net/publication/330542756_Guide_technique_-_Suivre_l%27etat_de_conservation_des_habitats_naturels_pour_evaluer_les_mesures_de_gestion_sur_les_espaces_naturels_sensibles_de_l%27Herault
- Jullian R., 2010. État de conservation d'habitats de reproduction d'espèces d'intérêt communautaire. Méthode d'évaluation appliquée au Languedoc-Roussillon. *Rapport de stage Master 2 Professionnel, Spécialité Ingénierie de la Biodiversité, Parcours Expertise Écologique et Gestion de la Biodiversité, Université Paul Cézanne Aix-Marseille III, Conservatoire d'espaces naturels du Languedoc-Roussillon*, 26 p. & annexes.
- Kleszczewski M., Barret J., Baudot C. & Fleury J., 2010. Évaluer l'état de conservation des habitats naturels à l'échelle du terrain : approches dans le Languedoc-Roussillon. *Revue Forestière Française* 62 (3-4) : 417-427. <https://hal.science/hal-03449686/document>
- ODK: <https://getodk.org>