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Researcher in Residence: sharing the daily professional life of nature conservation

Gaëlle Ronsin

Introduction

- 1 The “researcher in residence” experiment, born in France in 2015 from a collaboration between the Écrins National Park and the Alpine Ecology Laboratory, aims to enrich collaborations between the world of research and the world of nature conservation in the Alps (Arpin *et al.*, 2019).
- 2 Parks and reserves institutions are particularly conducive to relations with the research world, according to multiple and versatile links that have evolved over time. Since their creation in the 1960s, French national policies first asked the scientific community to take an interest in conservation problems and situations, in an academic and operational logic in order to define, inventory and monitor remarkable species and environments (Arpin and Cosson, 2021). The legitimacy of natural areas depends indeed on a strong alliance between law and science for protection purposes (Cosson, 2014). This research “in the parks” (national (Pillet, 1981) but also regional parks or reserves) allows researchers to rely on protected areas that offer logistical, technical and financial support in order to enrich the knowledge of their territories. Scientific activities are also carried out “by the parks,” using their own material and human resources, particularly within the services dedicated to knowledge of the heritage. Finally, research “for the parks” implies the definition of programs where the questions, methods, studies or analysis are shared by both the management and research worlds. The objects of analysis and monitoring are broad, such as the effects of climate change on socio-ecosystems or the spatial reconfiguration of land use. This third aspect has been in demand for several years now, and many mechanisms have been created to “bridge the gap” between science and action in the field of

conservation. Their lack of linkage is regularly criticized by actors in these two spheres (Pullin *et al.*, 2004).

- 3 Mechanisms have been created to remedy this, for example PhD CIFRE (Conventions industrielles de formation par la recherche) which bring together academic and non-academic actors. In addition to scientific issues, some of the mechanisms and resources are now focusing on the way to produce transdisciplinarity between people from different professions who are involved in environmental knowledge missions. Transdisciplinarity is defined here as a scientific and intellectual approach to understanding complexity by bringing together knowledge across disciplines and promoting exchanges between sectors, for openness and research. Finding ways to improve knowledge exchange at the interface of science and management is even becoming a field of research in itself, as evidenced by the large number of publications, especially in environmental sciences on this topic (Cvitanovic *et al.*, 2016; Raymond *et al.*, 2010).
- 4 This literature focuses mainly on scientific knowledge and its translation without exploring the other issues of professional scientific activity. In fact, the mobilization of researchers and managers to bring new modes of knowledge cannot focus exclusively on scientific knowledge, and must include “activities that aim to and have the effect of bringing together different social worlds” (Prete, 2010, p. 22). It is a question of producing a work dedicated to the creation of links called, according to the authors, intermediation or mediation (Callon, 1991), in order to put in contact people, with the intention to find a connection of ideas and knowledge. The sociology of science invites us to observe not only in the exchange of knowledge but also in the activities deployed in order to get to know each other.
- 5 This article looks at an experiment carried out in the Alps called “Researcher-in-residence”¹, which consists of inviting a researcher or protected area manager to carry out an “immersion” mission lasting several days, depending on the case, in a department (scientific or otherwise) of a protected area or in a research unit. By encouraging stakeholders to spend several days in a row on “other people’s” sites, this experience aims to bring them together for moments dedicated to the production of knowledge, and to develop everyday interactions between them.
- 6 “Researcher in Residence” was conceived on the model of artist-in-residence programs when art is put at the service of educational or social institutions (Filiot, 2012). Artists’ residencies take place in schools, universities or territories, to carry out research, creation and/or pedagogical work in relation to the place and its audiences. It is an artistic and cultural project that allows the artist to benefit from various resources: generally, a place to work (studio), accommodation, technical assistance and financial aid. These programs can be essential sources of income for the artist who is called upon to multiply his activity in order to “live off art” (Bureau *et al.*, 2009). On the other hand, the majority of “researchers in residence” are tenured and do not depend on this experience to finance their positions. Residencies allow to dedicate working time to a more discrete part of the research activity, such as prospective meetings or technical work on tools or documents. Its also include sharing time for daily life (meals, transportation, etc.).
- 7 Based on the study of residency experiences in the Alps and the professional trajectories of the actors or organizations involved (researchers, managers, laboratories and scientific services), this article examines the reconfiguration of

research practices in protected natural areas and what it produces in terms of iterative learning between science and conservation, in terms of knowledge, but also of the socio-professional divisions of these two poles. First, it traces the genesis and concretization of the “Researcher-in-residence” experience through the account of professional paths. This experience appears to be the result of a collaboration between a research director in ecology in Grenoble and the head of the scientific department of the Écrins Park, supported by a strong investment by the park in the interface with the academic world. This first part seeks to understand why this park has always been considered, at the national and local levels, as a “model” in the construction of relations with the scientific world. Secondly, based on other experiences of residencies, the article shows what these exchanges produce —or not— and how they allow people to “get to know each other”, particularly professionally, through cross-learning, in a daily temporality. The attention paid to this interprofessionality at work and to its actors finally leads to a loosening of the strict categorization between researchers (ecologists) on the one hand and practitioners (managers of natural areas) on the other.

Presentation of the system studied and the method

- 8 Five “residency” experiments were carried out in the Alps between 2014 and 2020, funded by the Zone Atelier Alpes (ZAA), a multidisciplinary observation and research facility on the trajectories and functioning of socio-ecosystems at the scale of the Alps (Collins *et al.*, 2011; Granjou and Mauz, 2011).

Table 1: Presentation of the residencies carried out in the Alps

Number	Year	Beneficiary of the residence	Home Institution	Place of residence	Stated objectives of the residency
1	2014 (before the residency program was created)	scientific officer	Écrins National Park	Environnements dynamiques et territoires de la montagne (EDyTEM, CNRS laboratory)	training in software and instruments for the study of high altitude lakes
2	2015	research director	Alpine Ecology Laboratory (LECA, CNRS)	Écrins National Park	transmit a computer program to analyze satellite data
3	2016	doctoral student	Mountain Ecosystems and Societies Laboratory (LESSEM, IRSTEA)	Vercors Regional Nature Park	exchange on the construction of a scientific strategy for the park

4	2020	research fellow	LESSEM (INRAE)	Écrins National Park and Chardonnet site in the Clarée valley	develop observations on a site to understand the coexistence between recreational activities and other uses of ecosystems; exchange with the park's tourism and scientific services
5	2020-2021 (delayed in part due to the pandemic)	scientific officer	Parc des Écrins	LECA	exchange between scientific and management communities on a subsurface soil temperature dataset

- 9 The article draws on the observation of a researcher's residency in the Écrins Park (case n° 2), based on informal (unrecorded) conversations and ethnographic notes taking in field notebooks. It also mobilizes the author's own experience of a one-week residency in 2016 at the Vercors Regional Nature Park (case n° 3 in Table 1), following an approach explained in inset 1. The study is completed by interviews (n=10) with actors involved in the residencies conducted in the Alps. Interviews with the main protagonists of the two residencies observed were conducted at different stages of the experiment (before, during and after the residency). Interviews were also conducted with actors during the residency in 2020.²
- 10 Finally, the article is part of a larger ethnography conducted on collaborative spaces between researchers and managers of protected natural areas in the Alps. This investigation was carried out between 2015 and 2018 during a thesis, financed by a doctoral contract from the Labex Innovation et Territoire de Montagne which focused on scientific councils, one of these forms of partnership collaboration (Ronsin, 2018).

Table 2: List of interviews conducted

Interview number	professional function of the respondent	time of the interview
1	National Park Scientific Officer	after the residency
2	National Park Scientific Officer	after the residency
3 and 4	Director of Research (CNRS)	during and after the residency
5 and 6	Head of a national park science department	before and after the residency
7	Assistant National Park Director	after the residency

8	Reserve Manager	after the residency (and informal interview during the residency)
9	Research Officer	current residence
10	Scientific officer	current residence

Inset 1 : Presentation of the doctoral research process and the author's residency at the Vercors Regional Natural Park in 2016

My doctoral research focused, among other things, on the scientific council of the Vercors Reserve and Regional Natural Park (PNR). At the end of 2015, I proposed to the reserve's manager in charge of scientific missions to respond jointly to the ZAA's call to finance a one-week stay in their premises. My initial idea is to take advantage of these days to work together on the ongoing files of the scientific council that I study. After discussion and at their request, the operation is oriented towards a reflection on how to position the PNR du Vercors in the local or regional scientific networks and on the possibility of establishing a scientific strategy to enhance the work done and guide the partner laboratories. These four days of residency, carried out in May 2016, allowed me to access one of my fields from another angle, by responding to a "commission" and working in association with park agents. This operation gives me legitimacy to access and discuss technical topics. During these four days, I mainly worked on my computer in an office on the first floor (next to the natural heritage department), had informal exchanges with the managers and rangers, conducted an interview planned for my thesis and held discussions (e.g. during lunch) with other park employees.

The genesis of the residences: trajectories of encounter between a researcher, a manager and a park

- 11 The "Researcher-in-residence" experiment was co-designed by Philippe Choler, director of research at the CNRS, member of the Laboratoire d'Écologie Alpine (LECA) in Grenoble, and Richard Bonet, head of the scientific department of the Écrins³ National Park. Firstly, the reconstitution of their relational trajectory shows that they have already experienced different ways of getting to know each other. Indeed, the residencies are mainly carried out by scientists with previous experience of collaboration and the different mechanisms appear to be intertwined. This is also the case for the institutions. As shown in the list of residencies carried out (table 1), the Écrins Park is almost systematically mobilized. The principle of residency has not been exported to other parks, with the exception of the Mercantour Park, which has developed a different residency format, based on hosting students for a field trip in the park.⁴
- 12 The Écrins Park has, in fact, a long history of investment in collaborations with the academic world and is an example in the national field of nature conservation according to a history and modalities explained in a second time.

Steps of creation of the experiment

- 13 Philippe Choler became a member of the Scientific Council (SC) of the Écrins National Park in 2001, replacing an ecologist who had retired. This entry marks the beginning of his professional collaboration with the park. He did his thesis, defended in 2002, on the flora and vegetation of altitude in the sector of Lautaret Galibier (Isère), in the adhesion area of the park. The Joseph Fourier Alpine Station is located at the Lautaret Pass, a joint service unit of the Grenoble-Alpes University and the CNRS. It offers a set of infrastructures and devices for experimentation and observation of mountain ecosystems and environments. It facilitates the deployment of research at this location and explains its concentration at this place. After his thesis, Philippe Choler continued to carry out research in this area and extended his fields of study to other sectors of the park, while at the same time becoming involved in navigation park's scientific policy via its Scientific Council (SC). The SCs of protected areas can be understood as places of transdisciplinary interactions with a partial logic of collaboration. A majority of SC members (about 65%) maintain professional relations with the protected area by carrying out activities in the territory: research, studies, data collection, resource management, etc. (Ronsin, 2018). Participating in a council can therefore be a way to consolidate past or ongoing partnerships between one or more researchers and one or more employees of an environmental institution and to maintain these collaborations. The latter require a significant time and human investment (Mazart, 2017) and the council is a way of "activating the links".
- 14 But after more than ten years, Philippe Choler decided to leave the Scientific Council (SC) of the Écrins Park in 2014. His departure does not mean that he is distancing himself from the park, but rather that he wishes to renew his collaboration with the team. The relationships he was able to build with the agents of the scientific service (botanist, "physical measurements" officer, or head of the service) through the activities of the scientific council alone seem to him too punctual and narrow:

With the scientific council, you come for a day where you exchange. You can discuss things with the scientific department beforehand ... but it's still a very specific intervention. You give an opinion, but there is still a very, very specific aspect. Afterwards, everyone goes back to their labs and continues to go about their daily business. There's a frustrating aspect. After a while, you say to yourself, well ... we have to try to organize things perhaps a little differently ... , something that we build over time (extract from interview n°3).
- 15 His long stay at the CS allowed him to understand the functioning of the park, the way the scientific service agents work, and thus to identify ways of "joining forces". Thus, he continues to be involved in the park's territory through research programs, notably on the phenology of mountain pasture vegetation, some of which have a collaborative dimension. The Alpages Sentinelles project, created in 2007 and in which Philippe Choler is involved, aims, for example, to better understand and anticipate the consequences of climate change on selected mountain pastures in a partnership approach (protected natural areas, agricultural and pastoral technical services, breeders and shepherds, research organizations) in order to "carry out work at the interface between scientific research and development actions" (excerpt from the website⁵). Philippe Choler is directing a thesis, partly financed by the park, which is studying mountain pastures part of this program in the Écrins.

- 16 This way of getting to know each other is particularly easy in the Écrins National Park because of its long history of relations with the academic world.

The Écrins Park: a model for building relationships with science?

- 17 The Écrins National Park is considered, at the national and local levels, as a “model” in the construction of relations with the scientific world. In addition to its scientific council, which constitutes “the park’s first relationship with science” (extract from interview n° 2), specific means have been set up to collaborate with scientists.
- 18 Firstly, a scientific service was created in 1977⁶ with the mission of implementing a policy of acquisition, management and analysis of scientific knowledge on the territory. In 2018, the service counts nine people and allocates regular financial means to support or initiate research projects on its territory within the framework of the “scientific strategy”, the park’s guiding document. Apart from a few conservatories natural areas or parks (Quayle, 2015), few protected area services are so named and dedicated to science. The counterpart services to the Écrins service are rather called “Knowledge and management of the heritage”, as in the Mercantour Park, and encompass broader tasks.
- 19 Maintaining close ties with the academic world is not a common strategy in French protected areas:
- The first parks were built in ‘63, but as far as I can remember, they did not have a scientific service. It’s a big debate that has always been going on (...) We have always fought to have this word “scientific service”. Many times, for different reasons, the directors, or other parks, wanted us to be called not scientific service but knowledge service, study and management service, service ... There was opposition for a long time, “You can’t call yourselves a scientific service because you are not a research laboratory. We said no, we can do science without being a research laboratory and we are scientists. (...) The directors, the supervisory authorities have always been afraid that the parks’ scientific services would be a laboratory within a national park” (extract from interview n° 5).
- 20 The fear, mentioned in the interview excerpt above, that science and conservation may compete with each other reveals a pattern of thinking in which researchers and conservationists belong to two distinct social systems that must remain clearly separate (Merton, 1973).
- 21 Mechanisms, more or less institutionalized, were then invested or invented to maintain the links between the world of science and the agents of the scientific service. Since 2010, the scientific council of the Écrins park has, for example, systematically held an annual meeting in the laboratories of its members, in order to strengthen the links between the park and research structures. This trip contributes to the construction of collaborations:
- This allows us to better understand what we do, that we can host research in our territory. We saw this very clearly when we went to Aix-en-Provence, the director of the lab became a little more aware of the interest of involving research labs in territories like the park (extract from interview n° 7).
- 22 Every year, the “researchers/scientific service agents meetings” take place. It consists of a mountain outing, organized in the summer by the service’s agents and intended to be informal and without a defined scientific program (photo n° 1). These two days bring together researchers chosen according to their existing or future relations with the

park, in connection with the scientific council and/or research programs. This festive expedition has the stated objective of building relationships between participants from different professional worlds in order to establish a familiarity between languages, disciplines, and ways of knowing (Ronsin, 2018). The moments of hiking invite a freedom of discussion. The register of conviviality is particularly highlighted during this event. Postulating that the amplification of personal relationships leads to the creation of efficient work routines, this operation is close to “*team building*” and management techniques (Chevrier, 2004).

Photo 1: The “meeting researchers/science service agents”, refuge A. Planchard hut, Parc des Écrins, 9 July 2015.

Credit: Renaud Jaunâtre

- 23 The development of relations between the worlds of science and management also involves more individual actions. For example, the “physical measurements” officer in the Park’s scientific department has herself carried out a residency in a partner laboratory, even before this program existed (case n° 1 in table 1). During the winter of 2014, she spent two days at the EDyTEM laboratory (Environnements, DYnamiques et Territoires de la Montagne) in Bourget-du-Lac (Savoie) to work with a CNRS engineer. These two days allowed her to learn about software and materials that she is required to manipulate in a research program on high altitude lakes.
- 24 National Park staff also travel to the research world. Several examples can be cited. R. Bonet is a member of the ZAA steering committee, along with several representatives of laboratories and protected areas in the Rhône-Alpes region. As members of several groups that bring together researchers and protected area managers, P. Cholet and R. Bonet have developed a wide range of relationships (photo 2). Such a pair is indeed often the basis for the development of transdisciplinary collaborations (Mazart, 2017).

Photo 2: P. Choler (second from left) is invited to the scientific council meeting (although he is no longer a member) held on 12 July 2016 at the edge of the Lauvitel integral reserve.

Credit: Gaëlle Ronsin

- 25 The “researcher in residence” experiment is thus part of an already well-established collaboration.

It was because I was in the SC that I had a precise knowledge of the main projects they [park managers] were working on. This allowed me to see in what areas we could join forces and build things together. I think that you have to reach a certain degree of maturity in the joint reflections, in the discussions with the scientific department to do the residency ... it's more the result of something that has matured over a relatively long period of time than something that will initiate collaborations (extract from interview n° 3).

- 26 This observation is true for three other residency experiences financed by the ZAA⁷, and which took place after Philippe Choler's (see table n° 1). Two of them are part of an already established relational pairing (cases n° 3 and n° 5), and the third (case n° 4) is part of a long professional trajectory of collaborations with, once again, the Écrins Park.
- 27 The addition of a new collaborative framework and the accumulation of resources dedicated to building relationships signals that a real effort is still needed to connect these two professional worlds. Far from being linear and automatic, relationships between environmental science and the professional nature conservation sector are complex and need to be built and maintained over time (Hulme, 2014). The “Researcher-in-residence” experiment, by bringing researchers into the offices of a protected area, is part of a movement that proposes “solutions” to make the boundary between science and conservation more permeable (Besnard, 2013; Mermet *et al.*, 2005; Van Enst *et al.*, 2014).

Exploring professional temporality and daily life

- 28 “Researcher-in-residence” can be likened to an “embedded researcher” experience, as it has been defined in the social science literature (Gardien, 2013). Embedded research consists of the researcher placing themselves in a position of participant observation to discover and act in a professional environment where they conduct their work. In the social sciences, this posture of embarkation refers to the links and involvement of a researcher in his field, in a wide variety of forms: funding the survey by a stakeholder, immersion in a professional structure, undercover or not observation⁸, participant or non-participant observations, etc. Sociologists and anthropologists invent multiple ways of joining professional spheres in order to conduct their research (Bourrier, 2013).
- 29 In the field studied for this article, ecology, positioning oneself as an “embedded researcher” in a professional structure is unusual. The discovery of the nature conservation environment usually takes place in the field, i.e. “in the open air”, in order to work together on scientific objects. However, transdisciplinarity, demanded in the field of nature conservation, is, by definition, interprofessional and requires knowledge and mastery of a foreign professional environment. The way of “getting to know each other” is therefore not limited to the research objects alone and involves various activities in the daily work environment.

Embedding in a daily work environment

- 30 The residencies are directly dedicated to two salient elements: the discovery of the work environment and the sharing of daily work life, whose direct apprehension by the actors (unlike other collaborative arrangements where these two processes are only indirectly addressed) deserves attention.
- 31 The embedded experience allows P. Choler to discover the scientific service “from the inside” by sharing everyday moments rather than in formal scenes such as the scientific councils (see inset 2).

Inset 2: Observation transcription of P. Choler’s residency in the Écrins Park in 2015

In February 2015, Philippe Choler spent three days at the Écrins Park headquarters in Charance (Hautes-Alpes). The paragraph below is a transcript of the author’s (G. Ronsin) observation of his second day in residence. The account of this day is reconstructed from notes taken from the field notebook.

Philippe arrived in Charance on Wednesday. He was supposed to come on Monday but a death kept him in Grenoble. The Park put at his disposal a vacant office of the scientific service. The park’s computer specialist connected his computer to the internal network, so that he could follow his emails during the day.

He shares the life of the service team for three days (lunch, coffee break, meetings). On Wednesday morning, shortly after my arrival, we had a coffee break with the rest of the park team before going to Richard’s office so that he could explain the idea of this residency to me. We had lunch in the room upstairs with

several people from the team, a trainee etc. The “physical measurements” project manager had prepared food for Philippe.

Philippe spends most of his time in the office of Cédric Dentant and Clotilde Sagot, managers in the scientific department, to pass on a computer program for automating observations. This is a “script”⁹ that Philippe developed using “R” software to download and analyze satellite data on soils. They use this device to feed the data into the “Alpages sentinelles” research program, which aims to understand and anticipate the impact of climate change on mountain pastures. The discussions therefore focused on an ongoing professional collaboration.

Richard returns in the afternoon. Richard and Philippe lead a meeting with different actors (for example members of the Alpine National Botanical Conservatory) to talk about the creation of an observatory of ecosystems on the scale of the Alps (the future ORCHAMP). I leave at the end of the day. Philippe spends the morning of Friday working on the script and leaves at the end of the day for Grenoble where he lives.

- 32 This need is expressed in this exchange between Philippe and a science officer (C.) at the beginning of the residency:

Philip: I'd like to know what you do in the scientific department.

C. C.: We've been working together for a long time and you don't know what I do?

That's the real problem with the scientific council, you don't know the team.

Philippe: And there, at the end of the corridor, I have never seen some heads (extract from the field notebook).

- 33 Sharing the professional life of the scientific service's agents during these three days invites, indeed obliges, him to focus his attention in a new way on the modes of work and their organization:

I understand a little better how they operate, who manages the data, their constraints, knowing how they were involved in this, that they were going to have an intern ... (interview extract n° 4, one month after the researcher's residency).

- 34 Philippe was also able to share with them elements of his own professional life. On Tuesday evening, for example, he distributes to the agents a draft of an article he has written. One of them reads it the evening. When they talk about it the next day, Philip explains his work: his article is going to be evaluated and he dreads the evaluation on certain points. With a high level of confidence, he tells them about the difficulties and fears he has to face in his job as a researcher.

- 35 The desire to devote time to discovering another professional environment can be observed in other residency experiences. An ecologist carried out a (partial) residency in 2020 in a valley and at the Écrins Park office (case 4 in Table 1). She explained that she wanted to learn more about the work of the professionals she was going to meet:

Before the residency project, I did interviews on a site, to see the different actors, to understand their relationship to the environment, to other actors and their ways of working. (...) I'm looking for a first network of collaboration. It [the residency]¹⁰ gives me an excuse to go to the park, to see the services (...) create links and see what they had as data. (...) It's exploratory, it's a way of getting to know them to understand the ways they work and the issues (excerpt from interview n° 9).

- 36 In the two cases observed directly (P. Choler's and mine), the residencies strengthen the relationships of trust between academic and operational actors in nature, the

importance of which the literature on transdisciplinarity has shown (Harris and Lyon, 2013). Thus, some time after my experience as a researcher in residence at the Vercors Park, the reserve's manager asked me to intervene as an expert on the thorny issue of revising the internal guidelines of the scientific council (Ronsin and Mounet, 2020): he gave me the confidence and legitimacy to intervene in his structure.

Exploring the practicality of science

- 37 In addition to the discovery of professional habits, these experiences are of course part of knowledge translation operations (Callon, 1986) and efforts to improve their mobilization and facilitate their use.
- 38 The residencies allow us to explore areas of practicality in science, i.e. the set of practical, often collective and invisible tasks (sending emails, naturalist inventories, managing schedules, financial organization, reviewing articles, etc.) that make up scientific work (Vinck, 2007). In two cases observed, the activity during the residencies focuses on the manipulation of tools (such as the script) or skills from a researcher to a scientific service. But by spreading out over entire days, the other tasks are made more visible to both parties.
- 39 In other words, a residency makes it possible to shed light on a whole area of scientific activity that is sometimes little valued in collaborative experiments, often described solely by the results obtained. This experience makes it possible to approach and share scientific practices in a transdisciplinary way by discussing “the kitchen, or even the back kitchen of science” (extract from interview n° 4). Rather than opposing scientific knowledge and practical knowledge, this form of collaboration, in all the residencies studied, thus aims to produce “actionable knowledge” (see Kirchhoff *et al.*, 2013) that both worlds can use. This knowledge refers to knowledge that is relevant in a scientific discourse but can also be put into action, in other words “knowledge of doing, in, by and for action” (Avenier, 2000).
- 40 The observations made show that the residencies make it possible to reinforce work habits around these types of knowledge that will take shape in other places and temporalities; such as so-called “co-constructed” research projects associating researchers and managers (Caudron *et al.*, 2012), like the Alpages Sentinelles project mentioned above. These complex projects require the mastery of codes related to each discipline, such as the notions, methods and visions of science, but also of institutions, their operating rules and the trajectories, motivations and interests of stakeholders.
- 41 For Philippe Choler, it is the development of transdisciplinary research programs such as Alpages Sentinelles has necessitated the training of managers in scientific tools specific to his discipline and the development of residencies:

In the Alpages Sentinelles, I work on the physical characterization of the environment and vegetation, with a strong emphasis on remote sensing, something I have tried to develop in recent years. I have tried to develop this over the last few years. Exchanges are developing with the scientific department, because there is also a need to transfer skills and knowledge. The exploitation of data is not necessarily the core job of the scientific department. So there is a need for an exchange to find out how we can share and develop this data together. (extract from interview n° 3)
- 42 These transfers seem to be designed in a linear approach, from science to management. But the residency project conducted jointly in 2020 and 2021 by Philippe Choler and the

scientific department of the Écrins Park appears to be more collaborative (case 4, see table 1). Indeed, it aims to work jointly on temperature data that have been collected for many years by a scientific officer of the park in order, on the one hand, to make them available to the scientific community (researcher or manager) in an open manner and, on the other hand, to share simple pre-analysis methods. Following a dual path in science and action, as a manager with advanced academic training working in the scientific department of the Park, appears to be an asset for getting to know each other. However, being on the border of the two professional worlds and learning to move between them with ease can then cause difficulties in situations, such as the SC meetings, where the borders are reaffirmed:

I am in a situation where I have academic recognition, I frequent research, I have my place there, marginal but recognized. But in the park's power games, my presence breaks down the hierarchy (...) I'm in a kind of in-between position where I have to keep a low profile. That's not easy to live with, on the one hand. (extract from interview n° 1). This type of situation finally led this project officer to enrol in a doctorate.

Conclusion

- 43 Producing transdisciplinary research requires time and particular investment by the protagonists. In order to support these approaches, mechanisms such as “Researcher-in-residence” have been created.
- 44 While work on this theme often focuses on the type of knowledge produced, it turns out that these experiments also involve activities for “getting to know each other”. The mobilization of science in society is not always about knowledge, but also about intermediation activities between social worlds (Prete, 2010). It is therefore necessary to make a twofold opening: to analyze other practices than just the transfer of knowledge; to call upon a sociological framework that allows for the analysis of interprofessional relations rather than focusing on a single world.
- 45 Looking at the experiment of “Researcher-in-residence” in the Alps contributes to this opening up. It is interesting because it allows a renewal of the modes of interaction between ecology and nature protection, between researchers and managers or simply between scientists from different professional worlds. Philippe Choler's first experience with the scientific council enabled him to prepare and train himself to carry out work “at the interface”, in collaboration with the staff of the scientific service, in order to experiment other forms of relationship between researchers and practitioners different from expertise.
- 46 Thus, “Researcher-in-residence” is similar to the experiences of embedded scientists. While gathering information for research, it aims to deepen transdisciplinary collaboration in a trajectory of already rich relationships and interactions, notably through the development of pairs. This experience generates a direct collaborative work, in the register of the everyday, in complementarity with the other existing mechanisms.
- 47 This experience, highlighted by its institutionalization, should not make us forget that this principle of residency surely already exists elsewhere, in a more discreet way. Internships or theses financed and hosted within protected areas are also a way of

cultivating interprofessional knowledge that can then be used to establish collaborations.

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NOTES

1. Later referred to as “Staff-in-residence”, see <http://www.za-alpes.org/Les-appels-a-projets>
 2. Due to the COVID-19 pandemic, these residences were limited and direct observations could not be made in 2020.
 3. The article chooses not to anonymize the actors presented, with their agreement, in order to restore the relational ranges studied and their singularity. Anonymization could only be imperfect (Weber, 2008), as the actors could be very easily identified because of their professional functions.
 4. <http://www.mercantour-parcnational.fr/fr/actualites/chercheurs-en-herbe>
 5. <https://www.alpages-sentinelles.fr/>
 6. Four years after the creation of the Écrins National Park
 7. Residencies were instituted as a permanent part of the ZAA’s annual call for projects in 2016, initially dedicated to researchers and then later also to managers (from 2018) with the aim of “contributing to knowledge and skill sharing” (from the ZAA website).
 8. Expression used to designate the observation position: either the researcher is incognito (the observer is not presented as a sociologist) or not (he presents himself as a sociologist carrying out a study).
 9. That is to say, a program responsible for executing a predefined action.
 10. She did a half-week residency in the tourism department of the Écrins Park in 2020.
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ABSTRACTS

The “Researcher-in-residence” experiment was born in 2015 in the Écrins National Park with the aim of enriching collaborations between the world of research, in environmental sciences, and the world of nature conservation. This incentive is based on the observation, shared by various authors and actors, that the links between these two professional worlds are too distant. Creating mechanisms for getting to know each other in a transdisciplinary manner would thus improve the ways of working and responding to the pressing issues of biodiversity conservation. This article firstly traces the genesis and concretization of this experiment through the singular trajectories of its first protagonists, which inform us about the relational, institutional and professional investments made in order to “get to know each other.” Secondly, the story of this experience illustrates that transdisciplinary collaboration involves moments of cross-professional learning. The interest of a residency, even a one-time one, thus lies in the sharing of temporalities and everyday knowledge in order to get to know each other in an epistemic and professional way.

INDEX

Keywords: transdisciplinarity, embedded research, national park, socio-ecosystems, workshop area

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