



07.2.2019

## DRAFT MISSION REPORT

following the inspection visit carried out at the Doñana National Park in Spain  
from 19-21 September 2018

Committee on Petitions

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## ***Objective***

The inspection visit to Doñana was carried out with the aim of meeting on the ground with the petitioners of petitions 0907/2009, 0051/2013, 0085/2013, 0257/2013 and 0260/2018, and engaging in dialogue with the regional and national authorities, in order to better understand the various aspects of alleged non-compliance with EU environmental legislation, in the protected area of Doñana in Huelva.

Doñana National Park is the largest natural reserve in Spain. It has a wide variety of ecosystems and plays host to numerous species of wildlife. Throughout history, the ecosystem has been constantly under threat from the drainage of marshlands, use of water for intensive agriculture and water pollution. The Doñana Natural Park is a member of the Natura 2000 network (ES0000024, ES6150009 and ES6180005) and is therefore protected under Directives 92/43/EEC and 2009/147/EC on habitats and birds.

The petitions oppose projects that aim to extract, store and transport gas in the area, as well as to illegally use groundwater for intensive agriculture, which would be incompatible with EU environmental legislation.

## **Wednesday 19 September 2018 - Seville**

### ***Meeting with petitioners in Seville on 19 September***

- *Javier Castroviejo* on behalf of the Doñana Club, Petition 0907/2009

The Doñana Club is an association with 40 years' experience in the conservation of Doñana and many of its members are scientists; the petitioner is director of the Doñana Biological Station. The petitioner explained the importance of underground aquifers and surface water in the sandy area of Doñana, which he described as a biological corridor from the Sierra Morena. He condemned the systematic infringement of the EU directives and the delay in their implementation, as well as the failure of the authorities' prevention and precaution policies with regard to the conservation of Doñana. In his opinion, the inefficient management of the park and of the millions of euros invested by the European Commission needed to be investigated. The park was at the point of no return because, according to scientists, it was threatened by: heavy metal pollution in Huelva; 10 to 15 hectares of intensive cultivation; invasive species; and overexploitation of aquifer 27, which was causing the decline of the wetlands. Changes to the aquifer systems had altered the hydrological cycle, leading to a loss of biodiversity and threatening species (e.g. white-headed duck, sturgeon, rabbit). Doñana National Park was also under siege from crops planted in surrounding fields, such as rice, strawberries and cranberries. The marsh was connected to the Guadalquivir in 1957, yet this was no longer the case due to the embankments that had been built, leading to significant changes to the vegetation: the marsh was disappearing and the pastures were advancing. The marsh was under serious threat and its conservation had to be given the highest priority.

- *Pilar González Modino*, on behalf of the *Andalusian Spring Association* [Asociación Primavera Andaluza], Petition 0257/2013

Doñana was part of the region occupied by the Turdetani, an ancient pre-Roman people who, according to the Greek geographer Strabo, were the most civilised people in Iberia and

ancestors of the Tartessos civilization. This was important not only for biological reasons but also for its culture and civilization. She warned that introducing gas storage facilities would endanger the emotional heritage of the Andalusians. The gas extraction, which involves piercing pockets of gas, carried an obvious seismic risk and was motivated by the corporate interests of energy companies rather than by the public's gas supply needs. Human activity is also at risk. The fire that took place last year in Doñana demonstrated the potential risk of introducing gas storage facilities.

- Antonio Maíllo Cañadas representing the petitioner Pedro Jiménez San José, on behalf of *Izquierda Unida de Huelva*, Petition 0051/2013

The petitioner's representative argued that Doñana was not suitable for gas storage. It was a project that put the aquifers at risk and posed a high risk of causing earthquakes in the area, leading to instability. This would have an effect on the environment due to the overexploitation of the aquifers, whether legally or illegally. He criticised the fact that the gas project had been split into four projects and the cumulative effects of these projects had not been evaluated. In his opinion this amounted to the privatisation of the subsoil of Doñana and the speculative use of this subsoil. He said that Doñana could not afford to fail for breaking the rules and that the pollution of the aquifers needed to be combated, and he hoped that the visit would help ensure that the joint action of the EP and the general public was decisive in conserving this heritage. He said the gas projects do not guarantee safety and proper studies have not been carried out to show full seismic safety after gas injections.

- Rafael Gavilán Fernández representing the petitioner Aurelio González Peris, on behalf of the *Mesa de la Ría de Huelva* association, Petition 0085/2013

The petitioner's representative condemned the fact that the Andalusian regional government had designated the province of Huelva as a centre of production, storage and distribution of fossil fuels, and criticised the use of Doñana as an extension of the *Polo Industrial Petroquímico de Huelva* [Huelva industrial petrochemical centre]. Given that the latter had exceeded its gas storage capacity, it had been decided that the Doñana subsoil should be used to alleviate this deficit. He criticised the fact that Repsol had been operating on Doñana's coastline since 1995 under the concessions known as "Poseidon Norte" and "Poseidon Sur" without any environmental impact assessments. Moreover he is critical to the fact that Enagás, as the operator of the gas storage facilities and networks that ran across Doñana, was one of the companies that had decided to convert Doñana into a large-scale gas project. According to the Mesa de la Ría association, not only should the four phases into which Gas Natural's project had been divided and evaluated jointly, also conjointly with those currently being developed by Repsol and Enagás. The gas threat to Doñana was the result of three companies' actions, and therefore all their activities needed to be evaluated together in terms of their impact upon the delicate natural balance of Doñana.

The petitioner's representative highlighted the enormous seismic risk posed by gas injection in Doñana, since the geological situation of the subsoil was much more complex than had been the case under the Castor project. As a result of this, the government having to pay more than EUR 1.3 billion in compensation to the construction company of this gas injection facility. He also criticised the fact that Gas Natural had subdivided its storage project into four phases so as to confuse the local authorities and obtain the necessary environmental permits.

Industrial activity was taking place in the vicinity of Huelva's residents and was thus condemning them to underdevelopment, as well as to the health and environmental risks that such activity entailed. He called for this situation to be reversed and for Doñana not to become an extension of the Huelva petrochemical centre.

Mr Csaky then took the floor, opening the Q&A session. He explained that the European Commission had made a statement on the situation in Doñana by initiating an infringement procedure in 2014 regarding the overexploitation of aquifers, and asked what else could be done.

Mr Castroviejo spoke next to accuse the European Commission of having opaque procedures and of not informing the public of the local authorities' breach of the rules. He requested that the used EU funds to be allocated with absolute priority to restoring the marshes.

Mr Maillo talked about the gas projects, accusing the authorities braking the projects and of conflict of interests on the part of the gas companies and politicians, who were ignoring the seismic risks.

Mr Gavilán Fernández pointed out that the gas projects were not only run by Gas Natural but also by Repsol and Enagás, which had not undergone an environmental assessment. He criticised the fact that pollution was channelled along the length of Doñana's coastline from the Huelva breakwater.

Ms Modino called for the preservation of the thousand-year-old cultural and ethnographic heritage: "the Garden of the Hesperides" and Tartessos were in the subsoil of Doñana and archaeology could attest to this, so gas should not be stored beneath valuable archaeological remains.

Mr Kyrkos stated that Doñana was threatened by the extraction of hydrocarbons and asked what effect this form of extraction had on the environment. He asked how the courts had acted when faced with the division of the project into four sub-projects, what the position of the Andalusian authorities was in this regard, and how the gas would be stored.

Ms Cabezón noted that there were different protection regulations, as the projects were located in different areas, and stressed that only the Marismas Occidental project was currently in operation. She condemned the breaking up of the project and the possible seismic risks involved in injecting gas into the holes left by extraction.

### ***Meeting in Seville on 19 September with Civil Society Organisations***

- *Plataforma Salvemos Doñana and Ecologistas en Acción* [the Let's save Doñana platform and Ecologists in Action]: Juan Romero and Abel Lacalle

Mr Romero stated that his organisation was opposed to the use of the protected natural area of Doñana and its surroundings for the creation of a natural gas storage facility by means of injecting gas through the aquifer and into the subsoil. In other words, he was opposed to the industrial storage project known as Marismas [marshes] and to all its sub-projects, which were

run by the Naturgy company (Petroleum Oil & Gas España, S.A., a subsidiary of Gas Natural Fenosa).

He explained that the company had inherited the permits and had been extracting natural gas for 30 years, but that the Marismas project had added a new activity - injecting natural gas into underground stores - after it had applied for the new permits in 2012. It had therefore become a huge gas extraction and injection project, which had been divided into four sub-projects in order to make it easier to process and implement. These sub-projects were named according to their location in Doñana: Saladillo, Marismas Occidental, Marismas Oriental and Aznalcázar.

The Marismas Occidental sub-project, located in the heart of the Doñana region, in an area that at that time could not be included in the protected area, was the only one that had all the necessary authorisations for its implementation, and required the following steps to be taken:

Transforming the 13 wells that currently existed into a gas storage infrastructure.

Opening and operating 18 new wells, beginning with extraction followed by injection.

Building a 65km-long network of gas pipelines that would be spread out across the Doñana area.

Plataforma Salvemos Doñana was opposed to these plans because the scientific reports of official research organisations confirmed that there was a risk of induced seismicity that could lead to catastrophes. The Higher Centre for Scientific Research (Spanish acronym: CSIC) and the Geological and Mining Institute of Spain (Spanish acronym: IGME) did not sufficiently rule out the possibility of seismic risks. Reports from researchers at the University of Huelva demonstrated the risk of induced seismicity. In their view, seismicity was a proven fact in this area. According to Mr Romero, an unsuccessful precedent existed: a similar failed experience in Castellón (Spain), known as the Castor gas injection project, which crossed a body of water and had been cancelled following a wave of earthquakes in 2013.

Ecologistas en Acción opposed the plans because Doñana was a protected area, and a symbol of conservation for Europe. It was a mosaic of biotopes and a reservoir of biodiversity with 4800 species, representing 75% of Europe's biodiversity. The Marismas project and its four sub-projects failed to comply with Spanish and European regulations on the environment as well as with regard to environmental assessment: "Because the four projects relate to the same aquifer and the same system of plates and faults, I consider that the seismic risk represented by this project is sufficient to apply the precautionary principle and prevent its approval and implementation, as has occurred in the past with other projects and issues that could affect the conservation of Doñana". In Doñana, only one aquifer was affected: the water bodies of La Rocina and Almonte, which were part of the Natura 2000 network.

Ecologistas en Acción cited the following four infractions:

1. Programming without strategy in 2006 (without SEA)
2. Fragmentation of EIA - and accumulative impacts
3. without analysis of induced seismic risks (cited case C-50/09 EU against Ireland)
4. Under-estimation of the study area

- *World Wildlife Fund* : Felipe Fuentelsaz and Juanjo Carmona

Following years of political inaction towards illegal agriculture, the aquifer that had given life to Doñana was exhausted and with it the habitats and species that made Doñana unique. The complaint made by the WWF was backed by the Andalusian Ombudsman, the Spanish Ombudsman and the Doñana Biological Station (CSIC).

The situation was particularly worrying considering the area's value, which had earned it the titles of national park (1969), biosphere reserve (1981), UNESCO World Heritage site (1994), and wetland of international importance, the latter awarded as part of the Ramsar Convention on Wetlands (1982).

According to the WWF, existing public data revealed that the amount of water reaching the marshes had fallen by 80% compared to its natural levels, and 1000 illegal wells and 3000 hectares of illegal crops were continuing to suck dry the aquifer on which Doñana depended for its survival. The illegal and unsustainable use of water was seriously affecting the natural landscape of Doñana, and led to loss of biodiversity and the drying up of ponds.

Scientific evidence had revealed that the bodies of water, as well as the ecosystems of the Doñana Natural Area and its surroundings, were worse off than the current planning documents suggested, as they were in breach of European standards such as the Water Framework Directive and the directives on habitats and birds. The changes to vegetation, drying-out of ponds, disappearance of various species of fish, increasing scarcity of some bird species together with the spread of eutrophication and invasive species, testified to this.

In particular, the conservation of the most endangered aquatic bird species had been severely compromised for various key reasons, including human-imposed changes to the marsh's flooding regime. The EU directives imposed an obligation to adopt special conservation measures with regard to the ecological requirements of habitats and species, in order to ensure a positive conservation status, as well as - in the case of birds - their survival and reproduction in their area of distribution.

Overall, the situation of the waters and the conservation status of biodiversity in Doñana were somewhat negative. The aquatic ecosystems of Doñana were subject to the pressures of global change, on the one hand, and the specific pressures of extraction and pollution of ground and surface water on the other. This directly affected the current status of Doñana, but also prevented it from compensating for the effects of climate change.

For its part, UNESCO's World Heritage Committee warned in its 2017 decision regarding Doñana that it "notes with concern the conclusions of the 2016 annual report of the Guadalquivir Hydrographic Confederation which confirms that the current level and use of underground resources in a significant part of the groundwater bodies, if sustained, would compromise the good state of underground water bodies and the terrestrial ecosystems..." Finally, and also at international level, the European Commission had opened an infringement process against Spain (following a complaint by the WWF) for poor water management in Doñana, in breach of the birds and habitats directives and the Water Framework Directive.

In 2016 the poor condition of the waters in Doñana drove the WWF to collect the most up-to-date and complete information on the conservation status of habitats and species, as well as a wide range of scientific publications on ecosystems and water bodies in Doñana. At the same

time, a workshop for water experts was held in Doñana in May 2016, with more than 20 leading scientists and technicians, in order to compare and complete this information. These experts agreed that the conservation status of Doñana was worse than the planning documents on Doñana produced by the Spanish and Andalusian authorities suggested.

This information was used to produce the report “El Estado del Agua en Doñana: Una Evaluación del Estado de las Aguas y los Ecosistemas del Espacio Protegido” [The state of water in Doñana: an evaluation of the state of the waters and ecosystems of the protected area], one of the most complete and exhaustive scientific analyses carried out to date on the state of water in Doñana, both superficial and underground, and the effect that its deterioration was having on the area’s ecosystems. The effects that were highlighted included the decline in waterfowl populations that depended on a well-maintained marsh, such as the critically endangered marbled duck. The peridunar ponds (mostly temporary, some permanent, and one of the natural features that made Doñana so special) were drying up at an unstoppable rate. Moreover, 40% of the species of dragonflies and damselflies that lived there had been lost.

As the WWF analysis warned, based on official government data, the large aquifer that fed the wetland had suffered a dramatic decline since the 1970s, which was confirmed year after year in the basin authority’s reports. Right now, the monitoring of the use of water in Doñana was so poor that not even the total amount extracted each year from the aquifer was known. For their part, the experts concluded that the Doñana aquifer would take between 30 and 60 years to recover completely from the current overexploitation, once strong measures were taken against the illegal and unsustainable use of water in the environment.

Considering its current state, Doñana needed urgent action aimed at reversing the current trend towards degradation. This included: closing the illegal wells and monitoring the extraction of groundwater; improving irrigation practices in the area around Doñana; reducing diffuse pollution; relocating the drilling for the urban development of Matalascañas and improving the purification of the water that reached Doñana, as well as improving water governance and getting the local population involved, by demonstrating that improving the condition of Doñana’s water would benefit local residents.

The groundwater was crucial for the maintenance of the marshes and wetlands of Doñana, so the recovery of these spaces in the medium and long term would depend, among other factors, on the good condition of the body of water known as aquifer 27 or “body of groundwater” (Almonte-Marismas – divided into five sub-units in the current hydrological plan for Guadalquivir, 2015-2021). The WWF concluded that, based on the data and graphs in the 2017 report provided by the Guadalquivir Hydrographic Confederation, the aquifer’s piezometric level had not recovered since the last major drought, which occurred in the mid-1990s. Despite record rainfall, with extremely wet years, 81.25% of sectors were in a similar or worse situation today than 24 years ago. The uncontrolled, unsustainable and, in many cases, illegal growth of intensive irrigated agriculture in the area surrounding the Doñana National Park posed the greatest threat to the future of this World Heritage Site. For more than a decade, the situation with regard to irrigation around Doñana had been continuously monitored by means of on-site inspections and remote sensing techniques (satellite images) to keep track of and draw attention to the increase in the irrigated area. In order to endeavour to create order out of the chaos of crops that surrounded Doñana, in 2014 the regional government of Andalusia, together with the central government, approved - following seven years of work and with the consensus of farmers - the “strawberry plan” or “land use plan” (a special plan for the management of the

irrigated areas located north of Doñana's forest). Despite the implementation of the special plan by the authorities, irrigation continued to advance in the area. The most recent report prepared by the WWF indicated that, within the framework of the land use plan, between 2016 and 2018, 365 new hectares of intensive irrigation had been detected. These new crops were added to the 1680 hectares that appeared between 2004 and 2015, the year in which the uncontrolled growth of irrigated agriculture in Doñana was officially halted.

In general terms, the majority of the new irrigated area contained crops under plastic covering, with cranberry being the predominant crop in recent years.

This growth was worrying not only because of its immediate effect, but also in the medium and long term, since the authorities did not impede it, nor did they close down illegal plots as a precautionary measure when they were detected by agents or reported by the WWF. In addition, illegal agriculture was generally profitable, since the benefits accrued exceeded the low economic sanctions imposed.

- *ASAJA Andalucía*: Emilio Vieira; Eduardo Martín: secretary-general of ASAJA Sevilla

ASAJA had been on the board of trustees and the council of Doñana for 20 years. They represented the farmers and were very concerned about the situation of the aquifer and the situation of agriculture and livestock. They did not have the same data as the WWF, but they admitted that there was a problem in the northern part of the park, because the opening of water wells had been permitted. A way out of this situation was needed; order needed to be established between illegal irrigation farming and its legal counterpart, since the illegal irrigation exerted unfair competition on the legal irrigation. There were more legal farmers than illegal ones, and the legal farmers did not abuse their position; on the contrary, their practices were considered sustainable and exemplary (e.g. the rice field in Seville). It was not fair to tarnish all farmers with the same brush: records existed of closures of wells, meaning that the authorities did act, albeit perhaps too slowly. Agriculture was the sector that sustained life around the park, which was affected by the prolonged drought. To speak of water was to speak of agriculture and in this case of sustainable agriculture.

Mr Csaky appreciated the answers and explanations given by all the speakers and commented that the discussion had been very useful. He thanked everyone for the new information that had been provided, noted the complexity involved in managing Doñana National Park, and opened the floor for questions:

Ms Estaras explained that a balance needed to be found between the conservation of the aquifer and agricultural activity and thanked all the speakers for their contributions.

Ms Cabezón inquired about the actual influence of climate change in Doñana and asked how the problem of illegal wells could be tackled. With regard to climate change, Mr Carmona responded that yes, climate change was affecting the Guadalquivir estuary as well as leading to the disappearance of Matalascañas beach, and called for rapid solutions for Doñana. Mr Fuentelsaz replied to the question about the illegal wells, saying that security levels were inadequate (the number of security guards had been increased from one to five). He asked for precautionary measures to be applied to the illegally irrigated farms, for the wells to be provisionally seized. He said that the files were prescribed due to lack of processing and that the wells were only being closed in exchange for providing the farmers with surface water that

came from transfers. A request was also made for the hectares of illegally irrigated crops to be closed down.

Mr Kyrkos stated that in terms of gas, what needed to be done was to transition to clean energy; he called for the closure of illegal water wells to continue and the development of sustainable agriculture. He asked about possible leaks. Mr Lacalle replied that the seismicity induced by gas pressure could be dangerous and that what was really important was to ascertain whether the gas storage facility was still necessary to supply gas. He said that leaks were possible and without proper filters the underground would be polluted. He said there are alternatives. The project was speculative: to store gas and use it if and when necessary. The storage facility had been built at a time when a high level of gas consumption was anticipated (in 2006), and may no longer be needed.

### ***Meeting in Seville on 19 September with the authorities of the Regional Government of Andalusia***

- José Fiscal López, regional minister for the environment and territorial planning

Doñana was a natural area and included the Doñana National Park, which had been managed since 1999 as the Doñana Natural Area (120 000 hectares). It possessed unique biodiversity, and was home to symbolic species such as the Iberian lynx and the Spanish imperial eagle. It was considered a special protection area for birds (Spanish acronym: ZEPA) and a special conservation zone (Spanish acronym: ZEC); formed part of the Natura 2000 European ecological network; and had been declared a biosphere reserve and World Heritage site by UNESCO, among many other hallmarks of protection and excellence.

For the regional government of Andalusia, Doñana was a key environmental priority; the area had originally been managed by the state, yet for the last 10 years it had been run by the regional government. It was a space that throughout history had always been threatened by human activity. The threats to Doñana today were: climate change, the gas project and the status of the aquifers.

In the area surrounding Doñana, natural gas existing in the subsoil had historically been exploited, and there were several sites, wells and gas pipelines belonging to the company Petroleum Oil & Gas España S.A., part of the energy business group Gas Natural Unión Fenosa. In recent years, this business group had endeavoured to increase its gas activity in this environment by developing four new projects (Marismas Occidental, Saladillo, Marismas Oriental and Aznalcázar), located in different municipalities of the provinces of Huelva and Seville, which proposed changes to existing activities via the creation of new sites (fenced physical areas where wells and other infrastructure would be located), wells, gas pipelines, power lines and machinery, and, above all, new natural gas storage activity, in gas pockets that were currently being exploited.

Each of these four projects had been subject to an independent environmental assessment, with the following results:

- Marismas Occidental, located outside the boundaries of the Doñana Natural Area. Despite the fact that it impacted upon a site of Community importance (SCI) in the Natura 2000 network, this project received a positive environmental impact statement (Spanish acronym: DIA) on

13 September 2010, issued by the Ministry for the Environment as part of the state's environmental impact assessment procedure, and a positive integrated environmental authorisation (Spanish acronym: AAU) dated 15 November 2010, issued by the regional government of Andalusia's environment ministry. On 13 September 2015, the project's AAU was granted two additional years of validity. On 10 March 2016, the national ministry responsible for energy - then the Ministry of Industry, Energy and Tourism (MINETUR), now the Ministry of Energy, Tourism and the Digital Agenda (MINETAD) - granted substantive authorisation to the project.

- Saladillo, located within the Doñana Natural Area. This project received a positive DIA on 15 January 2013 issued by the Ministry for the Environment as part of the state's environmental impact assessment procedure. However, this project was not authorised to be carried out on non-development land in a protected natural area in accordance with Law 2/1989, and the authorisation was not compatible with the Plan for the Regulation of Natural Resources (Spanish acronym: PORN) and the General Use and Management Plan (Spanish acronym: PRUG) of the Doñana Natural Area. Consequently, the project could not be carried out.

- Marismas Oriental, located within the Doñana Natural Area. This project received a positive DIA on 15 January 2013, issued by the Ministry for the Environment as part of the state's environmental impact assessment procedure. On 8 January 2016 a resolution was issued by the regional government of Andalusia's environment ministry, which refused to grant an AAU to this project because it was not possible to authorise it in a protected natural area, and because on 14 March 2015 the Management Council of the Doñana Natural Area issued a negative report on the AAU, a report which was required for the regional ministry according to Article 21 of Law 8/1999 of the Doñana Natural Area. The project therefore could not be implemented.

- Aznalcázar, located outside the boundaries of the Doñana Natural Area. This project received a positive DIA on 15 January 2013 issued by the Ministry for the Environment as part of the state's environmental impact assessment procedure. On 8 January 2016 a resolution was issued by the Andalusian regional government's environment ministry, granting an AAU to this project and taking into account the fact that on 14 March 2015 the Management Council of the Doñana Natural Area issued a negative report on the AAU of Marismas Oriental without making a statement about the Aznalcázar project because the latter was not within the Doñana Natural Area.

The Andalusian regional government had raised questions as to whether an adequate study of the synergic and cumulative effects of the four projects on the environment had been carried out, especially on Natura 2000 sites, and particularly when the new activity to be carried out consisted of a permanent gas storage. The Andalusian regional government had been raising awareness of this situation over the years as part of various reporting procedures opened to address this issue by institutions such as the European Commission (pilot project 5081/13/ENVI) and the Andalusian Ombudsman (complaint procedures 13/1241 and 16/5654).

The regional government rejected the gas project inside Doñana and did not consider the projects outside Doñana to be suitable either; this was a clear stance that was supported by CSIC's studies: a study carried out by Dr Miguel de Las Doblas Lavigne (CSIC researcher), whose report clearly indicated that the Spanish and Portuguese coastal areas of the Gulf of Cádiz presented neotectonic activity with abundant evidence of recurrent earthquakes and tsunamis, and pointed out the need for the environmental impact assessment of the pipeline

project to include a detailed geophysical/tectonic study that assessed the seismic risk. Therefore, because the four projects in question related to the same aquifer and the same system of plates and faults, the seismic risk represented by this project was sufficient, applying the precautionary principle, to prevent its approval and implementation until the project as a whole had been adequately evaluated by an independent and multidisciplinary scientific team, as had been done in the past with other projects or issues that could affect the conservation of Doñana.

The fact that the seismic risks of gas injection were not included in the environmental impact assessment could imply that the assessment of the risk of aquifer pollution had been ignored, due to assumptions about a level of geological stability that may have led assessors to underestimate this risk. The minister referred to CSIC's report on the incidents caused by the Amposta underground natural gas storage facility, known as the Castor project, in which the seismic effects of the injection process had resulted in the non-viability of the project and the rescue of the concession by the state, despite this project having received a positive environmental impact statement.

The precautionary principle was a guiding principle when analysing any initiative that may generate, even potentially, risks to the natural landscape or to the environment. If, as was the case with Doñana, the natural environment was of incalculable value, and if in addition to these potential risks the physical safety of people and objects was under threat, the request for a revision of the environmental impact statements was highly relevant; and since one of the four projects already had substantive authorisation (Marismas Occidental), the suspension of its implementation was also crucial.

The second problem in Doñana related to water, which was the essence of the park. The ecosystem that gave life to the park was a seasonal marshland that flooded when it rained. It was necessary to recall that aquifer 27 (the "Almonte-Marismas" aquifer) which supplied Doñana was located in the Guadalquivir river basin district; in other words, it fell within the remit of the state. In the most recent data presented by the confederation in July 2018 it was clear that its deterioration had halted and, although still severe, the decline of the aquifer had slowed down. The status of the aquifer related to the increase in the areas of wooded forest and agriculture around the park; these were now responsible, legal and sustainable. Ten years ago this had not been the case and, in order to avoid putting Doñana at risk, a management plan for the northern area of Doñana's forest had been put together. The aim had been to maintain sustainable agriculture and preserve Doñana, as well as to reconcile all the interests present in the area. 400 illegal water wells had been closed, and legal action had been taken against illegal plots and wells in the forest area. Farmers had transferred surface water from reservoirs in Huelva to maintain irrigation and to make it possible to close the wells.

The special plan for the management of irrigated areas located north of Doñana's forest in 2014 guaranteed the survival and sustainability of the irrigable agricultural area, without impairing Doñana's water intake. With regard to the Autonomous Community's sphere of competence, regularisation processes had been completed by granting water concession rights to those agricultural areas that met the established criteria. Appropriate monitoring had been introduced to ensure their effectiveness. 226 inspection reports had been drawn up to verify the physical situation of the land, as a preliminary phase prior to sanctioning and legal/administrative procedures. In addition, work had begun on the initiation of 80 disciplinary proceedings in relation to forestry, unauthorised land use changes, and land restitution, which would affect a total area of 302 hectares, with the obligation to stop using the water catchments which were

currently being used for irrigation. 41 catchments had been closed in the Tinto-Odiel-Piedras Confederation and 254 (294 termination records initiated) in the Guadalquivir Hydrographic Confederation, for a total of 295.

The transfer of 14.99 hectometres of surface water from the Tinto-Odiel-Piedras provided assistance to the irrigators, and the Finca Los Mimbrales had been moved into the public domain, which had reduced the irrigable area of the plan's scope by more than 216 hectares.

According to UNESCO, the general health of the park was being maintained, and species in danger of extinction, such as the Iberian lynx (LIFE project) and the Spanish imperial eagle, had recovered their numbers. These efforts needed to continue, but according to Miguel Delibes (former director of the Doñana Biological Station) "the park is in good health" and would be around for years to come. There were still significant threats and work would need to take place to ensure that these were not irreversible; however, the most important aspect was the gas project, which to this day did not make sense.

Mr Csaky was grateful for the explanations provided. He acknowledged the complexity involved in managing Doñana and took note of the priorities set: illegal wells, illegal agricultural activity, the injection of gas into the subsoil and pollution of the aquifer. He proposed that questions be put to the state government during the upcoming visit to the ministry for the environment in Madrid.

Mr Kyrkos agreed that the mistakes of the past could be reversed and more diligence could be applied when it came to closing the illegal wells.

Ms Estaras agreed with the closure of illegal wells and believed that reasonable steps were being taken; however, with regard to the gas issue she pointed out that the DIA for the gas projects had been signed 10 years previously by the then minister for the environment, and had been accepted by the regional government of Andalusia at that time; she also pointed out that in order to reverse the situation, care would need to be taken with the legal procedure so as to avoid judicial reversals.

The minister, Mr Fiscal López, pointed out that with regard to the gas project, the central government was aware of the negative environmental impact of this project, but wanted to adopt measures with the maximum legal certainty, in view of the potential future claims of the company (EUR 359 million in asset compensation). The best approach would be to discard the original environmental impact statements and draft a new one that applied to all four projects as a whole. The reason they had authorised these projects at the time - bearing in mind that this was an activity that had taken place for 35 years - was because in those days there were other priorities and concerns; however, today the project had changed and instead of extracting gas, the aim was to inject it. Nevertheless, the regional government, with the support of CSIC's and IGME's scientific reports, wanted to take a step back and put the issue aside for now.

As for the 3000 hectares of illegal agriculture, he explained that many areas were cultivated with eucalyptus, for which the cultivators paid agricultural royalties in 2004, but they were set aside for growing trees and nowadays they were planted with blueberries. In that case were they forest or agricultural land? Nevertheless, the regional government would practise the utmost diligence in applying the regulation by closing illegal water wells.

## *Meeting in Seville on 19 September with the Ombudsman of Andalusia*

- Jesus Maeztu Gregorio de Tejada

The Ombudsman of Andalusia began his presentation by explaining the reasons for launching an own-initiative enquiry into the situation in the Doñana Natural Area, and then went on to explain the actions taken and the conclusions drawn from this enquiry.

The Doñana Natural Area, declared a World Heritage site by UNESCO and part of the Natura 2000 network, was located between two continents; it was an exceptional place of passage, breeding and wintering for birds from Europe and Africa and had a very rich and varied fauna. This, together with the richness of its flora, meant that it constituted a unique ecosystem, which was considered to be the largest ecological reserve in Europe. However, this had not prevented the carrying out of activities and infrastructure projects that had given cause for alarm due to the risks that they might entail for the preservation and conservation of this unique area. The Park development led him to support various measures aimed at protecting the fundamental rights of Andalusian citizens, including the right to enjoy a decent and adequate environment.

The first of these had been a cause for concern for many years and was related to the state of the aquifer, which nourished the wetlands of the park and was essential to its environmental and ecological value.

The second issue related to the activities of a gas company, which had been exploiting various deposits in the protected area and its surroundings for years, and which planned to install a gas pipeline to connect these operations to the construction of the infrastructure needed to use the existing wells as a place to store injected gas.

1. Regarding the status of the Doñana aquifer, the Ombudsman faced a problem with regard to the distribution of powers, since the ultimate responsibility for the monitoring and supervision of this aquifer resided with an organisation (the Guadalquivir Hydrographic Confederation) which as an organisational unit of the state authorities was outside of the sphere of competence of his institution, which was restricted to overseeing the Andalusian autonomous authorities.

To overcome this difficulty, he resorted to the existing mechanisms for collaboration with the State Ombudsman and informed them of his concern about the status of the aquifer; he also requested that they consider the possibility of exercising their supervisory powers over the confederation. This request led the State Ombudsman to open an investigation. In addition, the Ombudsman's office had also initiated actions with the regional authorities, specifically the regional environment ministry, based on the premise that the protection of the Doñana Natural Area fell within the competences of these authorities and they were therefore obliged to adopt a proactive position with regard to any situation that could constitute a threat to the survival of this protected area. This intervention led to a resolution calling on the regional environment ministry to bring an action before the Guadalquivir Hydrographic Confederation, demanding the adoption of the necessary measures to safeguard the quality and quantity levels of the Doñana aquifer. Likewise, they had requested that the regional ministry, in cooperation with the confederation and the local authorities of the area, adopt measures to solve the main issues that were affecting this aquifer, i.e.: the risks arising from the overexploitation of the aquifer as a result of illegal wells on farms; owners of legal wells

exceeding the authorised extraction limit; and the increase in extractions from the aquifer in order to supply water to tourist sites located near the Doñana Natural Area.

2. With regard to the risk derived from the implementation of the gas pipeline and gas storage project in Doñana, the Ombudsman considered that this project was of very serious concern to a large part of the Andalusian population, the green movement, various political groups and diverse members and institutions of the scientific community. A large section of the project's route ran through the Doñana Natural Park; another was located in an area adjacent to the Doñana National Park and would be implemented in an environment that was inseparable from these protected areas. The Ombudsman felt that the implementation of the Doñana gas pipeline project was not compatible, according to the precautionary principle, with the need to guarantee the conservation and maintenance of the Doñana Natural Area; therefore, he called for the permanent suspension of the project for the following reasons:

- Firstly, a joint assessment of the four planned routes had not been carried out before granting the necessary permits, as was required by EU legislation. An integrated evaluation was needed that would make it possible to carry out the necessary analysis of the cumulative and synergistic issues that could affect the protected ecosystem of the Doñana Natural Area.
- Secondly, as could be seen from the CSIC report, in the environmental impact statements (DIA) made on each of the four sections into which the project had been divided “the risks associated with the injection of gas in the subsoil have not been identified or assessed.” This is despite the fact that, as the regional government pointed out, “the gas injection process could cause seismic movements and an assessment of this should have been included in the environmental impact statement”.
- Thirdly, according to the State Ombudsman, which had analysed the report sent by the IGME, the location of the projects may not be ideal, and doubts about the feasibility of gas exploitation and storage projects in Doñana had not been adequately addressed.

The preservation of a natural area could not be based exclusively on the adoption of measures aiming to protect its ecological value at any price; it should be possible to combine the defence of this value with the safeguarding of the legitimate rights to economic and social development of the people who lived in the surrounding area. For this reason, protecting the Doñana aquifer could be reconciled with satisfying the needs of the farmers and ranchers living in the area as well as with the tourist and industrial development of nearby populations; nevertheless, illegal extraction had to be stopped.

Regarding the gas pipeline and storage project in Doñana, he felt that the risks posed by this project to the preservation of a unique ecosystem were not sufficiently justified. He stated that the precautionary principle was a fundamental element of European environmental regulation. He therefore concluded that if the benefits and interests of this project were to be weighed against the ecological value of the Doñana Natural Area, there was no doubt which was more important: common sense and due caution should therefore be applied.

Mr Csaky thanked the speakers for their responses and opened the Q&A session by asking whether the Andalusian Ombudsman and the State Ombudsman were in agreement in their analysis of the overexploitation of the aquifers and the need for a joint assessment of the four gas projects. The Andalusian Ombudsman replied that yes, they shared the same perspective regarding the preservation of the aquifer and the need for a joint assessment of the four gas projects in an integrated manner that included a seismic evaluation.

Mr Kyrkos thanked them for their responses and for the presentation.

### **Thursday 20 September 2018**

#### **Visit to the Doñana National Park - Huelva**

On 20 September, the delegation made a field visit to the Doñana National Park accompanied by: the regional minister of the environment and territorial planning of the regional government of Andalusia, José Fiscal López; the director of Doñana Natural Park, Juan Pedro Castilian, the director general for the management of the natural environment and protected areas of the regional government of Andalusia, Javier Madrid, and Miguel Delibes de Castro, former director of the Doñana Biological Station (1988-96) and current president of the Management Council of the Doñana Natural Area.

Members discovered various ecosystems, such as beach dunes, pine thickets, shore areas and reeds, and marshes. It included a tour of the Montaña del Río region and the areas of Cangrejo, Travieso and Caño Guadiamar, as well as the Coto del Rey. The itinerary of the visit was as follows:

El Rocío – Coto del Rey (scrub with cork trees) – Caño Guadiamar (marshlands) – Travieso (marshlands) – Crab (marshlands) – Cherry (marshlands) – Brenes (marshlands) – Montaña del Río (pine forest and marshlands) – Marismillas (pine forest) – Inglesillo – dunes and the beach – Cerro de los Ánsares (dune, reed and marshland) – El Puntal (scrub, shore area and marshland) – Biological Station (scrub and shore area) – Los Sotos (scrub and shore area) – La Rocina visitor centre.

The director of the park, Juan Pedro Castellano, provided a series of explanations:

He said that during the El Rocío pilgrimage in the spring a million people passed through the Doñana National Park and on the weekends there may be as many as 200 000 people in the village. The pilgrimage was very significant, as it was a tradition that generated a lot of work for the managers of the park. One of the traditional uses of Doñana's land was for grazing livestock (horses and cows). In the Coto del Rey area, which was scrubland, there had been sightings of lynx, although this was quite rare. There were mastic trees beneath the pines; the area looked different depending on the season, and these changes were linked to the distance of the vegetation from the water table; at the time of the visit, it was the driest season. The marsh flooded in the autumn and was completely flooded in January-February; in early spring it began to dry so that by the summer it was completely dry.

Doñana employed 75 people to maintain the park's security and had a total staff of more than 120 people. The national park restricted entry to private visitors, and the concession for visits had been granted to a private company that managed them.

The group paused to locate its position on a map of the park that showed some 120 000 hectares; the clay zone was the area that was flooded in winter, and this clay was carried there by the river when it overflowed. The sand in the sandy area was brought there by the sea. The group then moved south to the banks of the Guadalquivir and ended its tour in Matalascañas.

It was important to distinguish the different ecosystems from each other: the sand was very permeable and the clay very impermeable. The marshland and its surface waters depended on rainfall and not on the waters of the underground aquifers. Use in Doñana was regulated and the different zones had different degrees of protection (park, buffer zone and transition zone).

Doñana had become protected in the sixties, when wetlands were protected which would normally have been drained because it was an unhealthy malarial area, and the sand had been saved from eucalyptus trees being planted. Areas had been recovered and transformed: the "Marisma gallega" which had been being cultivated had been restored and reconnected to the river. Eucalyptus plantations had been removed. There were areas of the national park surrounded by cereal crops. There were 30 000 hectares of wetland in the national park and 20 000 more in the natural park containing crops and aquaculture.

In the 2005 Doñana water regeneration project, farms that were no longer working were purchased compulsorily, drainage channels were removed and the old channel - the Travieso channel - established. This was the restoration process for the Caracoles farm. In 2012 work was carried out to restore the Travieso channel, which had carried water to the whole of the marsh and where many ducks still nested. Caracoles was an agricultural area within the park where it was possible to hunt. At the edge of the park were rice fields (reclaimed marshland), which flooded when the park was being drained and where many birds nested. The synergies between the rice fields and the park were significant. In the Entremuros channel there were large colonies of overwintering waterfowl from the north of Europe or from Africa. In Entremuros, on the Guardiamar riverbed, water entered from the river. A section of the wall had been lowered in order to open up a connection with the marsh, but with caution because of the quality of the water. The water followed the path of the restored Travieso channel. It flowed past Lucio del Cangrejo. Recovery of groundwater in the Doñana marsh had involved two operations: the Travieso channel (operation already completed) and the Guardiamar channel operation, which had not been completed because scientists had advised against it. Operations had been opted for instead which allowed the river to be penetrable via floodgates.

The marsh had tiny raised parts, variations in the terrain, which were the refuge of wildlife, and, on the other hand, pools where the water flowed and channels through which the marsh water drained and flowed. Doñana was the park with the greatest biodiversity in Europe, with 35 different habitats (according to the Habitats Directive), and in the Doñana National Park there were no agriculture, gas wells, or gas plant.

The delegation then moved to the Doñana Biological Station (CSIC), where a round table was held with scientists.

**Thursday 20 September 2018, Round table with scientists in the Doñana Biological Station (Scientific Research Council)**

- Dr Jordi Figuerola, Deputy Research Director, Doñana Biological Station (Scientific Research Council)

Mr Figuerola described the situation at Doñana from the water point of view. He explained that longer-term changes could be seen in the state of the ponds, whose level reflected that of the water table. Recent trends in the levels showed a general fall in the water table depth: a clear negative trend over the past 20 years which had resulted in the ponds being flooded fewer days per year given that the wet period was becoming shorter. The ponds were drying out (Brezo and Charco del Toro ponds). Vegetation was starting to clog the site of the permanent ponds. Ponds such as the Santa Olalla only had water when it rained, whereas they had had water all the time before. The Guadalquivir Water Plan viewed the Doñana ponds as being in a good state, but intensive groundwater use had had an impact on the ecosystems in some very significant places. These included, notably, less water available for freshwater channels, changes in the natural flooding period for many small wetlands, and changes in the salt balance of some wetlands. This was accompanied by a fall in the numbers of certain species such as dragonflies and ducks. Another problem for the Doñana wetlands was the entry of water containing excessive nutrients or agricultural fertilizers, there was an excess of toxic waters, the Doñana wetlands were experiencing rapid eutrophication, with exponential increases in phosphorus and nitrogen. The groundwater level was falling and extraction was now not sustainable. Furthermore, he said that the groundwater extraction level had risen. Peridunal and permanent ponds were disappearing, leaving temporary ponds dependent on rain. Scientific evidence showed that the water bodies and ecosystems of the Doñana Natural Park and its surroundings were in a worse condition than suggested by the Guadalquivir Water Plan. The changes in vegetation, drying-out of ponds, disappearance of various species of fish and dragonfly, increasing scarcity of some bird species together with the advance of eutrophication and invasive species testified to this.

- Dr Carlos Mediavilla and Santiago Martin Alfageme, Spanish Institute of Geology and Mining (IGME)

Mr Mediavilla and Mr Alfageme explained that the gas projects in the area of Doñana had Environmental Impact Statements (EIS) and that these projects were now subject to pressure from public opinion.

They explained that Aquifer 27 was part of the Guadalquivir water system and that it could not be denied that the aquifer - i.e. water table - levels were falling. The authority should take steps and intervene with safety measures to preserve the aquifer - Doñana's real problem was the surface area of illegal irrigation. Intense groundwater extraction for irrigation, together with the fact that it was concentrated in certain places, had resulted in a significant fall in groundwater levels, a decrease in natural recharge and replacement thereof with artificial recharge and, locally, inversion of the hydraulic gradient and direction of groundwater, encouraging salinisation.

- Francisco Manuel Alonso Chaves and Antonio Rodríguez Ramírez, (University of Huelva)

Doñana was part of the seismic areas in the south of the Iberian Peninsula. The current geomorphological configuration of Doñana was influenced by tectonic activity, with SW-NE and NW-SE faultlines. The terrain in Condado de Huelva was affected by countless tectonic lines, reflected by the river network. These lines corresponded to faults running from the base to the surface through quaternary formations. They showed that tectonic activity in the region is real. The Spanish Geological and Mining Institute (IGME)'s maps revealed the existence of faults in the gas activity area. Tectonic activity was perceptible even in holocene formations (10 000 years old). What problems could the gas project encounter in terms of the aquifer and surface water? The aquifer had intrinsic vulnerability with high values: clay, separating the Doñana aquifer from the gas formations, had low permeability, allowing some flow. The existence of faults and other seams/breaks in the earth encouraged water interchange, with the consequent danger of contamination. The gas activity zone was located in highly sensitive areas and affects temporary ponds and streams (La Rocina, El Partido, Cañada Mayor), which were very important for Doñana's water supply. The hydrodynamic system, particularly that located near the aquifer discharge area, was exceptionally vulnerable and it was here that gas activity would take place. Gas fields had been sealed for 5 million years; gas could be introduced under pressure, but in the event of excessive pressure there would be fracturing - the 1765 earthquake in Lisbon and the 13 tsunamis over 10 000 years should not be forgotten. Early warning projects were needed and a better knowledge of the environment.

In addition to aquifer problems, there were overexploitation and contamination from agricultural activities; the result of the fall in the aquifer level was the disappearance of natural springs or wellsprings; very important in summer and bringing water in times of drought, 99% of eyes had disappeared, and artesian wells had also disappeared. The aquifer was fed from surface run-off and the streams of Huelva did not currently carry water to the wetland ecosystems of Doñana, resulting in the disappearance of ponds. The Condado de Huelva drainage basin was the only source of surface water for Doñana and it was in grave danger because of the fall in the piezometric levels of the aquifer. There was intense clogging of the Marisma because of the way the drainage basins were poorly managed. Storm water recovery as water supply for Doñana (envisaged in the 2005 Doñana plan) would have provided significant water supply to the park, and its connection with the Guardiamar channel in the Doñana Natural Park played a very important role in supplying surface water to the Marisma Norte, especially in periods of low precipitation. Mining activity had caused heavy metal contamination, to which was to be added the damburst in 1998. Opening it up again would have been a serious threat once again.

In conclusion, the countless attacks affecting Doñana needed to be taken into account and appropriate measures taken to counter the ineffective action of the respective authorities. Europe could not afford to lose this natural and cultural heritage.

- Prof Dr. Cesar Ranero and Dr Arantza Ugalde, Barcelona centre for Subsurface Imaging, Spanish National Research Council - CSIC

Mr. Ranero and Ms. Ugalde initially presented their professional credentials and expertise in seismicity (in projects such as 'Castor' gas storage site in Tarragona). Based on the official seismic catalogue of the Spanish National Geographic Institute (IGN), they later explained that, within the context of Andalusia, the Guadalquivir basin is characterised by low seismicity levels. The official seismic hazard maps (IGN, 2012) assign a Peak Ground Acceleration (PGA) value ~ 0.1 for the Guadalquivir basin near Marismas project. The maximum PGA (~ 0.24)

occurs in Granada. In the Marismas area, no seismic activity of magnitude greater than 2.9 has been observed during the last 30 years of gas extraction activities (including 5 years of injection tests). During the period of operation of a local monitoring network (from 31/10/2016 to 17/09/2017), that included injection tests, no earthquake was recorded at a distance within 25 km from the network. Seismic studies have determined that the potentially induced seismic event is of a maximum magnitude of 3.5, which would not pose an additional seismic hazard to the natural seismicity of the region. The large tectonic faults in the region have been inactive for the last 6-7 million years. Soledad Cabezón opened question time and noted the difference between the points of view of the two last contributors in terms of seismic risks and explained that the IGME had assessed the seismic risk in the area in 2010, but wondered whether the situation was still the same in 2017 when the permit had been granted. Ms Cabezón explained that water was the future, it was life and economic development, that the authorities were willing to preserve the park and strike a good balance between the uses. In the face of the threats positive action had been taken, such as that of Los Mimbrales farm and the Corona Norte land-use plan. She said that the threats were being addressed. The natural park had recommitted human activity to being more sustainable.

Florent Marcellesi talked of the water problems in Doñana and the seismic risk presented by the gas project because of induced seismicity.

The scientists said that the Castor project had been different in that the seismicity had been due to the rupture of the fault and not to induced seismicity. The fault had moved as the pressure conditions changed when gas was injected and now the site had been closed.

If the pressure level conditions regarding injected gas were respected there would be no seismicity problems - the lessons of the Castor project had been learned.

**Thursday 20 September 2018, visit to the *Saladillo well and the Marismas base gas plant in Almonte (Huelva)* with the company *Gas Natural Fenosa - Naturgy*.**

- Javier Garcia (Naturgy head of operations), Francisco Velasco Heredero (project head) and Santiago Ledesma Mateo (technician)

Natural gas production in the immediate surroundings of the Doñana Natural Park had been being carried out for over 30 years, in safe conditions and without incident. The company's first objective was to modernise the infrastructure to achieve better security and sustainability. Secondly, to renew and expand the infrastructure to extract the remaining gas and then use it as storage installations. The activities had been grouped in four sub-projects: Aznalcázar, Marismas Oriental, Marismas Occidental and Saladillo.

- Most of the wells already exist and new wells would be drilled only in existing locations:
- If possible, existing pipelines would be utilised and over 60% of the extensions would be renewal of already existing pipelines;
- The new 20 km gas pipeline connecting the well site locations was outside the National Park and its route ran through unpaved roads, fire breaks and paths. At no point did it run along animal migration routes or nesting or hibernating areas; pipelines paths were chosen purposely to avoid natural areas of special interest;

- The work would avoid the most active biological periods for the majority of sensitive species. The route with the least environmental impact would be followed, numerous measures would be taken focusing on minimising impact on fauna and flora: reforestation (11 ha) and restoration of the lynx habitat (release of rabbits, etc.);

- Existing gas fields will be used as underground storage so no new deposits will be built. These gas reservoirs are located at a depth of 1000 m, 800 meters of thick impermeable claystone separate the aquifer from the gasreservoirs. There was a gas leak monitoring network for detecting any impact on groundwater and the aquifer was completely isolated from production pipes by means of various barriers.

The Environmental Impact Assessment (EIA) had concluded and contained a specific statement ensuring compatibility of impact with the Natura 2000 network. We had an environmental safety plan which would apply throughout the project's lifespan and included all the preventive and corrective aspects. In the 30 years of exploitation of gas in the area there had been no impact:

- The adequacy of gas storage is demonstrated by the fact that reservoirs have been storing natural gas for 6 million years. On the other hand, injection tests conducted since 2005 and analysed by international experts, confirmed the suitability of the gas storage. The natural geological structure made it effective. The condition of "no impact" on the Marismas-Almonte aquifer had been treated as a priority and a number of geological, hydrological, seismic, geotechnical and hydrogeological assessment studies had been carried out. The different types of risks had been evaluated in multiple reports, including seismic risk. The project was located in one of the lowest areas of seismic activity in Andalusia. The induced seismicity risk was below the current natural seismicity thresholds, and did not create any additional risk. The plant had been designed to withstand seismic effects covering recurrence intervals of 5000 years. The seismic monitoring network and the traffic light system protocol had been implemented under the supervision of the National Geographic Institute (responsible for monitoring seismicity in Spain) and the risk of potential impact due to tsunamis from the Gulf of Cadiz had been ruled out.

These gas storage sites would complete the Spanish gas network, increasing Spanish gas reserves and providing 10% of Andalusia's gas requirements. The Marismas project would complement national storage and was included in national planning for the gas and electric sectors. The underground gas storage site was the only one available in the south of Spain, where a considerable amount of gas imported from Algeria entered the country.

The Ministry of the Environment had stressed several times that the proper environmental assessment procedure had been carried out. The European Commission had not noted a breach of European legislation. The works were grouped into 4 projects based on their environmental characteristics, following the guidance of the Ministry of Environment and the four projects were filed at the same time and supervised by both the regional and national administrations. Furthermore, the Environmental Impact Assessment (EIA) had included the Natura 2000 network impact analysis and the cumulative synergy effects. A proper seismic assessment had been included. No seismicity had been recorded in 30 years of operating; by contrast, induced seismicity in the Castor project arose immediately after the gas operations began.

In conclusion:

- no gas storage site would be built. Natural gas reservoirs (formed 6 million years ago) would be reused as geological gas storage sites once the original gas had been extracted;
- it does not imply a new activity in the area; gas exploitation in the Doñana Natural Park had been carried out in the area for over 30 years in conditions of safety without incident;
- two-thirds of the infrastructure necessary for the project already exist;
- the environmental assessment processes had been exhaustive and no significant impact had been noted, as by all Administrations and specialized agencies;
- the Environmental Impact Assessment (EIA) concluded that there are no accumulative nor synergic effects from the four projects;
- the European Commission had analysed the environmental assessment and had not observed any breach of European directives (PILOT 5081/13/ENVI);
- the project does not involve any disturbance of geological formations nor aquifer impact;
- the project pose no natural or induced seismicity risks, as demonstrated by various specialists; there had been no seismicity in over 30 years of gas operations; (the study incorrectly attributed to CSIC, carried out by 'Dr Miguel de Las Doblas Lavigne', should not be taken into account as an official CSIC report as its president has denied authorship by this institution, its elaboration and responsibility lying solely on that individual);
- the project did not have any hydrological impact and did not affect the aquifer.

Florent Marcellesi asked whether the location of the project under Doñana was suitable. Mr Marcellesi was informed that the whole Marismas storage project is located outside Doñana National Park, also that the Company did not choose the location arbitrarily; it was selected because they are naturally gas storage sites (formed 6 million years ago), the only gas storage facility feasible in Southern Spain, and they were strategically well-placed for storing gas from Algeria. He asked about compensation for the company if the project was stopped or not completed and was told that the project's direct investment was EUR 200 million during the construction phase, and up to 400 people were directly involved in this phase as direct and indirect labour. The operating and maintenance costs were approximately EUR 3 million/year. Mr Marcellesi commented on the amount allegedly requested by the company should the project be stopped (EUR 350 million) and asked whether this amount included income forgone.

***Thursday 20 September 2018, Meeting with farmers — Los Mimbrales farm***

- Eugenio Zambrano and José Joaquín Aguirre (Los Mimbrales farm) (a meeting which could not be held because of lack of time and light; the contributors sent their contributions in writing)

The petitioners claim that they are the only producers in this region who have reported the acts committed by illegal farmers for over 20 years. They are a totally legal business in terms of taxes, labour, sustainable agricultural practices and use of water for irrigation. They gave an overview of what is happening in the area: certain berry growers are stealing water from Doñana

and they cannot be lumped all together. They have been complaining of this situation since 2005. They submitted a complaint to the public prosecutor for the environment in Huelva in 2012, but they were forced to withdraw it owing to pressure from the local authority, and since then they have had to deal with the consequences.

The petitioner said that the Commission set up by the Almonte-Marismas Plan recommended low intensity agriculture, sustainable tourism and avoiding putting pressure on the community around this extremely fragile area, but unfortunately all these recommendations were forgotten and today, aquifer extraction must stand at around 125 hm<sup>3</sup> and it can be said that the aquifer is totally overexploited and no-one is doing anything about this fraud.

They stated that there are the following types of farmers:

- 100% legal farmers, who abide by the 1985 Water Act, have a sufficient volume of water for irrigation and have had registered water rights since 1968;
- partially illegal farmers, who are irrigation associations and therefore the majority of farmers, “public law” entities with great responsibilities. The Guadalquivir Water Authority (CHG) grants them an amount of water per hectare to be irrigated, but it is estimated that they extract double the amount legally granted to them as a concession to irrigate their fields. The authority is aware of this situation but does not want to go near it;
- then there are those who have no irrigation right and even have leased municipal land with no irrigation right, but they dig a well and start to irrigate and everybody knows it:- municipality, Water Authority, Region of Andalusia - as happens, for example, in Lucena or Matalagrana.
- Finally, there are those which are totally illegal - those who cut down a wood (registered in the Andalusia Forestry Register), dig a well and start to grow crops.

The solution proposed by the petitioners was to enforce legislation and thus observe legality. Carry out audits, inspect wells; with a very simple approach: each well for berries is connected to the power line and by multiplying consumption in KW/h the output of each pump can be calculated and the volume of water extracted from each well obtained. With the proposed measures and inspections activated at the same time, the result would be more effective.

- Antonio Ramos - *Ecologistas en Acción* (Ecologists in action)

(a meeting which could not be held because of lack of time and light; the contributors sent their contributions in writing)

The representative of *Ecologistas en Acción* called on the Members of the European Parliament to put pressure on the Kingdom of Spain and on the authorities of Andalusia to urgently and effectively implement measures to prevent in all possible ways the unstoppable deterioration of the water masses and natural areas around Doñana, on which it depends for its medium- and long-term survival. The measures provided for in the different plans for the area are necessary and cannot be put off any longer. The issues include the following:

- closing illegal extraction plant and monitoring those which could result in an estimated saving in the current Water Plan of up to 325 hm<sup>3</sup>;
- reducing pressure on groundwater;
- eliminating illegal crops;
- cancelling scheduled transfers;
- reviewing authorisation concessions for groundwater use with existing resources;
- increasing the number of flood wardens with the support of remote monitoring and remote sensing techniques, with the aim of matching resources to water use right and authorisations;
- declaring that the aquifer is overexploited and adopting a land-use plan for extraction.

He referred to point 2.2.3 (83) of the European Commission's reasoned opinion on infringement procedure 2014/2090, dated 28/4/16, clearly states that, according to the Guadalquivir Water Authority's reports, during the period 2015-2016 the aquifer was in an overall state of pre-alert. The contradiction between what was reported to the European Commission and the data provided to the Doñana Management Council's Water Committee is a clear example of the inappropriate way of working of those responsible for water in Doñana. In this light of this contradiction, they believe that the European Parliament should urge the European Commission to bring disciplinary proceedings against the Kingdom of Spain before the Court of Justice of the European Union for clear, evident, continuous breach of the guidelines on safeguarding the Doñana National Park.

### **Friday 21 September 2018 – Madrid**

#### ***Meeting with the heads of the Ministry of Ecological Transition and the Guadalquivir Water Authority***

Pál Csáky, the head of the delegation, expressed his thanks, and stressed the constructive spirit of the visit and his desire to better understand the issues relating to environmental protection in Doñana: water management, the issue of illegal wells and protection of Doñana against industrial and gas-related activities. He also expressed his hope that the result of the dialogue with the different authorities and the visits made in the previous days to Seville and Doñana would help the delegation to achieve the appropriate recommendations.

- José Domínguez Abascal, Secretary of State for Energy

Mr Abascal said that “Parques Nacionales” (National Parks) was an autonomous body of the central government, which did not directly manage the Doñana National Park, as that was managed directly by the Region of Andalusia (the state just owned Las Marismas farm).

Doñana National Park had the highest possible protection, it had been established by a law in 1969 and had a very powerful management instrument: the Doñana National Park use and management plan. The Ministry just coordinated general activities among the different national parks.

- Manuel Menéndez Prieto, Director-General for Water

Mr Menéndez Prieto explained that water management was the remit of the Ministry as the Guadalquivir river ran through a number of autonomous communities and its basin was therefore managed by the Guadalquivir Water Authority and was subject to the Water Framework Directive. The 2016-2021 Water Plan was in force and the next plan (2022-2027) was currently being drawn up.

In connection with stage 2 of the Guadalquivir Water Plan and the implementation schedule for the North of the Forest Crown of Doñana, a considerable number of measures had been grouped together and launched which implemented the provisions of European, national and regional legislation. For example:

a) Measures for reducing extraction:

- acquisition by the Spanish government of Cortijo Los Mimbrales farm (EUR 50 million), in the Forest Crown of Doñana, with the aim of improving the quantity status of the La Rocina groundwater body, which accounts for a volume of 6.8 hm<sup>3</sup>/year of water extraction over 922 hectares of land. This initiative had come to an end in 2015 and the surrounding area had experienced a considerable improvement in piezometric levels,

- finalisation in 2015 of the work on the *Consolidation and improvement of the El Fresno irrigation area*, along with the infrastructure for transferring 4.99 hm<sup>3</sup>/year of surface water from the neighbouring river basin district of Tinto-Odiel-Piedras. This initiative, consolidated by the concession granted in September 2018, had allowed 300 wells to be closed and replaced with high-quality surface water. This volume could increase to up to 15 hm<sup>3</sup> following the consideration by the Congress recently given to this new measure provided for by the Water Plan,

- replacement of groundwater with surface water in the area of Los Hatos (Marismas): a number of intakes were being developed in the Guadiamar River which would reduce extraction in that area, which had experienced one of the largest drops;

b) Monitoring and surveillance measures:

- real-time satellite-based monitoring of irrigation (remote sensing), which made it possible to direct and prioritise the actions of the flood wardens,

- monitoring of aquifers with a total of 273 piezometers. There were more piezometers in the aquifers in the Doñana area than in the 55 km<sup>2</sup> that made up the rest of the basin (208);

c) Governance measures:

- in 2017 the Guadalquivir Water Authority had carried out a total of 668 inspections, which had led to 359 reports of breaches and 107 actions brought in connection with breaches of the Water Act. In 2018 937 inspections had been carried out, with 328 complaints and 86 actions brought,

- between 2017 and 2018 to date, 276 fines had been imposed, many of which were due to acts carried out in previous years,

- reviewing authorisation concessions for groundwater use with existing resources: 315 cases had been reviewed. An abstraction record had been drawn up,

- drafting of an annual extraction plan in La Rocina water body, with collaboration from the Spanish Institute of Geology and Mining (IGME) under the Region of Andalusia's Decree on the Water Plan and the Management Plan for the Forest Crown of the North of Doñana. This plan would be drawn up each year and determine the maximum amount of water that can be extracted,

- its extension to the other two water bodies which had not achieved the good quantity status (Almonte and Marismas), would be explored, subject to a "water body at risk" declaration (the old way of referring to overexploitation), with the establishment of the relevant user communities as provided for in Article 56 of the Water Act;

d) Research and knowledge-building measures:

- hydrogeological research project with the Spanish Institute of Geology and Mining (IGME) and Pablo de Olavide University (UPO). This included developing a mathematical model to support management on the edge of the Forest Crown of the North of Doñana and various monitoring campaigns, particularly around the complex of the National Park's ponds;

- satellite-based monitoring of Doñana's ponds. The CHG had written a study on its evolution from 1984 until today.

- Sergio Lopez, Deputy Director for Fossil Fuels and Energy

He explained that Spain lacks fossil fuels and that gas has been extracted in the Marismas since 1988. The problem was market variability and limiting the impact on consumers, which had been the reason for deciding to store gas in the Marismas. The projects functioned as separate watertight structures. The Marismas occidental had been established by Royal Decree in 2011 and had a capacity of 1600 megawatt/hour. It was a small storage site but it allowed supply to be adjusted in line with gas market demand. The 4 Doñana gas projects had been grouped together in 2006-07; in 2010 the Marismas occidental had obtained its EIS and in 2013 the other three projects had obtained theirs; they comply with the current legislation and were favourable.

Pál Csáky said that the fact that the four projects had been evaluated independently was perhaps not the most appropriate way of doing it, and in addition the project had not assessed the seismic activity. Given that Andalusian society was against it, perhaps Doñana was not the most appropriate location for the project, and he asked whether the possibility was being explored of making a joint assessment of the 4 projects including the possible seismic activity in the area.

The Deputy Director for Fossil Fuels and Energy replied that when the Environmental Impact Assessment was carried out in 2008 seismicity was not included, but the developer had submitted seismic studies subsequently.

In 2010-13 there had been no public opposition to the project, which was hardly disputed at all; at the authorisation stage seismicity studies had been submitted and there were in effect seismographs installed in the Marismas occidental and the seismicity protocols had been validated by the IGME. A bipartite committee had been set up involving the state and the Andalusian regional government to resolve the dispute on the EIAs.

Miltiadis Kyrkos said that the authority had to take measures in Doñana, that the ponds were dry and that that was affecting biodiversity and species. Doñana was dying, there was no rain and illegal wells are still being used. With regard to gas, he noted that the authorities had given the green light for one project, but both petitioners and experts were opposed to them and had different opinions. As well as this the Ombudsman was saying one thing and the company was saying another.

The Director-General for Water replied that the piezometric level of the aquifer was improving thanks to the measures taken (closing illegal wells, more monitoring and purchase of farms), along with monitoring of the water drawn from legal wells.

- Antonio Carlos Ramón Guinea, President of the Guadalquivir Water Authority (CHG)

Mr Ramón Guinea explained that water in Doñana is governed by the CHG's annual extraction plan, which manages water use and surface water transfer. The La Rocina water body was the one that was in the worst state. Increasing surveillance, monitoring and resources would make it possible to close the illegal wells and regulate the existing wells. Risk effectiveness would be increased. Farmers are being given surface water instead of groundwater (from transfers from the Tinto Odiel basin). However, he acknowledged that the social situation needed to be brought into line with the state of play, and was in favour of regulated economic activity.

Florent Marcellesi asked how the gas project fit in with the Minister's ideas, if there were no possible alternatives to gas storage and for the possible compensation if the project changed course to be taken into account, as the gas company had asked for EUR 350 million in that eventuality. With regard to the infringement procedure opened by the Commission on the issue of water management in Doñana, the Commission's recommendations had been followed, and the problem was the park's surroundings, which were having a medium- and long-term effect on the National Park.

The Secretary of State for Energy said that the ministry would not consider creating a gas storage site under those conditions. When the gas plan had been drawn up, renewables had been in their infancy. That is why the administrative position taken needed to be resolved, with legal certainty and meticulous care regarding the position to be followed.

The Deputy Director for Fossil Fuels and Energy said that in 2006 there had been 16 different gas projects which had been divided into four groups, which had been assessed at the same time and had not been changed; if they had been, a new EIA would have been necessary.

The Director-General for Water referred to the infringement procedure relating to overexploitation of the Doñana aquifer, saying that they had received the letter of formal notice, a reasoned opinion had been issued and the ministry had disputed it.

However, the important thing was to see how the aquifer was functioning in terms of the IGME data, and from this data to define the maximum extraction with the Confederation annual water extraction plan (this applied to La Rocina and extended to Almonte Marismas). The next Water Plan included establishing an irrigation association in Almonte Marismas and quantifying the extraction and its impact. Doñana was carrying out oversight work in the Guadalquivir basin.

Pál Csáky asked for the illegal wells to be counted and they answered that the ministry wanted to close them but it was difficult, and penalties were the remit of the CHG and the water

concessions needed to be reviewed. The ministry wanted to step up security and warden presence, and put in place piezometers for monitoring wells. It wanted the water bodies to be restored. There were alternative resources for farming such as surface waters. Human activities had to cater for environmental protection.

The Secretary of State for Energy replied that the ministry was looking out for the general interest and that measures would be adopted with the regional government and the Ministry of Agriculture in relation to the widespread nitrate pollution. With regard to the aquifer levels, he said that they were in line with the climate and that they were improving; with regard to the pond complex he said that the water had fallen, resulting in woody vegetation growing around it and that there was more evaporation due to the temperature increase. Climate change was also affecting Doñana.

With regard to the seismology study, he said that it was the company which had submitted it but that it had been assessed by the IGME. He finished by saying that the gas project might not now be carried out, but that the situation needed to be resolved with maximum legal certainty.

Pál Csáky, head of the delegation, expressed his thanks, and stressed the constructive spirit of the meeting and his desire to better understand the issues surrounding water management in Doñana, along with the implications of the gas projects for the park's environment. He said that the outcome of these discussions and the visits made in the previous days to Doñana and the meetings with petitioners and various authorities would help the delegation to make the appropriate recommendations.

## *General comments*

During the visit the delegation had observed that more productive dialogue was necessary and trust needed to be re-established between the petitioners and the relevant public authorities. In general, the authorities, farmers, agricultural associations and the Guadalquivir river basin Water Authority had asserted that the situation of the Doñana aquifer was in line with the Water Framework Directive and that had been recovering; the petitioners and scientists had stated the exact opposite. Furthermore, the latter had pointed to potential breaches of the Habitats and Wild Birds Directives, such as surface-water scarcity due to the drought that the whole of Spain has suffered for 4 years, and pollution of and unhealthy surface water bodies, which affect various different Natura 2000 network areas.

The visit had highlighted the water scarcity in southern Spain owing to climate change, tourist activities and irrigation needs. In order to ensure the urgent restoration of the aquifer more adequate measures need to continue, such as limiting water extraction and only permitting legal drilling.

The scientists had demonstrated how exploitation in Doñana may be affecting decline of natural species and had suggested possible measures for mitigating its effects on the National Park, which was protected by the Habitats and Wild Birds Directive and the Ramsar Convention and was a UNESCO biosphere reserve. The various stakeholders (scientists, experts and ecologists) had pointed out the following problems relating to the Doñana aquifer: illegal wells and water pollution. In this respect, UNESCO's latest report has recognised the efforts already taken.

During the visit, the delegation had carefully studied the project to build a gas pipeline and gas storage site in Doñana, made up of four sub-projects: Aznalcázar, Marismas Oriental, Marismas Occidental and Saladillo. The delegation had received opinions from the local Administration and certain organisations which questioned the fact that a proper study had not been carried out on the synergy and cumulative effects of the four projects on the environment and, particularly, on the Natura 2000 sites. The delegation had also been told that they questioned the fact that the seismicity studies in the project area had been carried out late and had not been taken into account at the time of the Environmental Impact Assessment.

The delegation thought, with regard to the implications of the gas project in the Doñana natural environment, in order to preserve a unique ecosystem, and taking into account the precautionary principle, a complementary integrated study of the four gas projects would be necessary, including a seismic assessment; that would strengthen the necessary analysis of the cumulative and synergy effects of the project as a whole.

The delegation was also aware that, in order to reverse the situation, measures in line with the procedure would have to be explored, with maximum safety and legal guarantees for the parties involved.

The delegation explained that the Member States had to apply and put into practice EU legislation, and that problems needed to be addressed first at local, regional or national level through dialogue and cooperation between authorities and citizens.

## ***Recommendations***

The Committee on Petitions:

1. Considers that the water resource management model in Spain should be further implemented, making any potential distribution of use conditional on compliance with the environmental requirements of the Water Framework Directive and the Guadalquivir Water Plan as is currently the case and taking into account environmental social and economic requirements;
2. Calls on the Commission to report on the latest developments with regard to petitions Nos 0907/2009, 0051/2013, 0085/2013, 0257/2013 and 0260/2018 and all open reports of breaches concerning exploitation of the Doñana aquifer, as well as gas projects in the area, since there is an urgent need to continue delivering solutions to avoid deterioration of Doñana by reducing pressure on the ecosystems;
3. Calls on the Commission to monitor the situation in Doñana closely in the next report on the implementation of the Water Framework Directive as the hydrographic confederation of the Guadalquivir already does; calls on the Commission to monitor the way in which European legislation is applied to the water plan for stage 2 of the Guadalquivir basin management plan;
4. Calls on the national authorities to continue working together with the regional authorities, local authorities, NGOs, scientists, farmers, professional agricultural representatives and civil society, and engage with them in constructive dialogue to turn today's important (as it has been recognized by Unesco in its last review), but yet incomplete action plan to a holistic, and feasible one, including the measures necessary for the recovery of the aquifer, including limiting extraction;
5. Calls on national, regional and local authorities and the Guadalquivir Water Authority to work together to continue closing illegal wells and to immediately stop existing water extraction and illegal abstraction, thus as a precautionary measure closing the illegal wells, as is currently the case and stopping use of unlicensed infrastructure (intake from streams, ponds) and subsequently decommissioning it;
6. Calls on the relevant authorities, as well as the municipalities, farmers and agricultural associations in the area, to ensure compliance with the Special Management Plan and to report new growth that might endanger the sector and the image of agriculture in Doñana;
7. Calls for an extraction plan for the aquifer to be adopted and implemented; calls for the water needs of the ecosystems of Doñana to be identified, in order to achieve the conservation objectives previously defined for the protected area; calls for facilitation of the implementation of the Plan;
8. Calls for more EU funding to be allocated for the conservation of national parks under Natura 2000 and to help promote alternative sustainable activities in the area;
9. Calls for more effective purification of the water flowing into Doñana and for the widespread pollution of farming and industrial origin to be reduced; calls for proper purification and continuous monitoring of water flowing into Doñana;

10. Calls for water governance in Doñana to be further improved and for coordination between authorities; calls for scientific and technical management, and for active public participation to continue involving the local community, farmers and professional agricultural representatives and water users in decision-making, both to enable them to benefit from the value that Doñana and its ecosystems bring to their own quality of life and economic activity in the area, and to involve them in improving the management and reducing pressure;
11. Calls on all the authorities responsible for the gas project in Doñana to carry out a complementary, combined assessment of the four gas projects (Saladillo, Marismas Occidental, Marismas Oriental and Aznalcázar) which includes a seismic assessment; and a necessary analysis of the cumulative and synergy effects of the project as a whole; calls on the relevant authorities to implement the precautionary principle, in order to preserve this unique ecosystem; stresses the need to explore measures which respect the legal procedure and provide maximum legal certainty and guarantees for the parties involved.