

# **Black-tailed Godwits (*Limosa limosa*) in southern Iberia, habitat description and finding colour marked birds from 1 – 26 February 2024**

Portugal (Sado, Tejo & Algarve), Spain (Doñana, Cádiz & Extremadura)



Expedition report, University of Groningen & Global Flyway Network, The Netherlands

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Last but not least, all the people and organizations that gave us their hospitality to be as a guest in their areas. We are very pleased that we could make use of this. Hope to see you all again next year!

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Chapter 1. in this report is based on and partly identical to previous reports about searching and finding Black-tailed Godwits in Spain that can be found on:

<https://www.globalflywaynetwork.org/publications>

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## 0. Summary

In this expedition from 1 to 26 February 2024 we visited the most important areas during northward migration for Black-tailed Godwits in southern Spain and Portugal. Our aim was to resight individual colour marked birds, describe the habitats godwits used and to gain information on threats and opportunities by field observations and meetings with local experts. In this report we present a daily overview of our findings with photos, locations we visited, numbers present and the first conclusions and recommendations. More reports from expeditions to Iberia and West Africa in previous years can be downloaded at: <https://www.globalflywaynetwork.org/publications>

### Tejo and Sado

When we arrived in the first week of February, the conditions in the Giganta ricefields of Associação de Beneficiários da Lezíria Grande de Vila Franca de Xira, both north and south of the N10 Porto Alto – Vilafranca de Xira were good. It had rained substantially in December 2023 and for the first time, farmers were allowed to keep the rainwater on the land till March. As a result, all parcels were wet in the full range between humid and more than godwit-belly deep. The ploughing had just started and continued throughout February, creating new foraging patches every few days. By half February about 10% of the fields were recently ploughed and a lot of the water on the land had been drained, probably in preparation before more ploughing. Regular showers must have slowed down this process throughout the month. Perhaps as a result of these favourable conditions, godwits were sometimes spread out over many different fields, foraging in groups of just a few hundred birds. The surface of ricefields was slightly higher than last year: 4900 ha. In contrast to some other years godwit numbers were high from the start. Almost 30.000 were counted at a nighttime roost N of the N10 and there might have been another roost N of the Ponta da Erva airstrip but might have been just a daytime roost. Avian predators were around but not very prominently; we only saw one successful attack by a Marsh Harrier. By half February the numbers had increased to 35-40.000; which was optimal timing for a very successful catching event in which 29 were ringed and 20 tagged with satellite transmitters. In recent years these transmitters have proven their value, not only for identification of habitat use and migration patterns but also for indicating good ring reading and catching opportunities. Around the 19<sup>th</sup> of February, numbers dropped to around 10.000 coinciding with southerly winds and a massive early arrival in The Netherlands. But only a few days later, a complete count produced 35.000 godwits again, suggesting a possible influx of new birds. Numbers remained high with 20-25.000 godwits till we left on the 26<sup>th</sup>.

In the Sado, favourable conditions were only found at Comporta where the fields were wet and recently ploughed. On almost all other sites, ploughing still had to start. Throughout February around 6-8.000 godwits were present. After a series of years without many godwits, this area has been re-established as an important site. Ring reading was not easy as the godwits were either far out, in belly deep water or on extremely muddy fields that made it difficult to identify the ring colours. Checking them was also difficult because of the very active NP wardens. The first team was halted on suspicion of being professional photographers without permission; by the time they were off the hook, the godwits had moved to a site where they could not be checked. The second team was not allowed to get closer by walking the dikes and left the group to check other places.

The other sites in this area were not productive for finding godwits. At Belmonte ploughing had not started until the last week of February; as a result, we found 0 godwits. The Samora Correia/ Porto Alto/ Benavente ricefields weren't good for any godwits either, nor were the fields at Alcochete or Barroca da Alva where the ricefields were fallow this year.

Although godwit numbers are still impressive, the years with 50-80.000 godwits in February seem to have become something of the past. This is for sure not compensated by higher numbers in Doñana or Extremadura but might just simply be a reflection of the ever-decreasing breeding population,

perhaps in combination with a higher turnover rate and earlier arrival in The Netherlands. It is unlikely that the lower numbers are a result of deteriorated circumstances at this most important staging site for Black-tailed Godwits on the East Atlantic Flyway.

### **Doñana and Cádiz**

Less than 1000 of the 40.000 hectares of rice fields in the Guadalquivir basin could be cultivated in 2023 and both nature and agriculture were suffering from that. As a result of that, in February 2024 hardly any cultivated and rice fields were available for godwits. They were confined to well-known places with predictable favourable habitat like Veta la Palma where good numbers were found at Veta de la Cuba (~2250) and the shallower fish ponds (2500; only 500 in 2023 but 20.000 in 2021!). At Veta de la Cuba the birds were too deep in the marshland to be checked for rings but conditions at other sites were far from ideal either. This time it was not so much the drought, but in the first half of February rainstorms hit the south of Spain turning roads into mud pools, reducing visibility and increasing water levels to godwit-belly-deep. This situation, in combination with no suitable rice fields available to forage on resulted in almost no godwits seen at Brazo del Este (650 last year) and at Bonanza and Algaida saltpans (400 godwits in 2023) we did not score a single colour ring nor at the El Rocio lagoon. While all numbers were low, they were not as bad as last year when we could not find more than just over 1500 godwits all together.

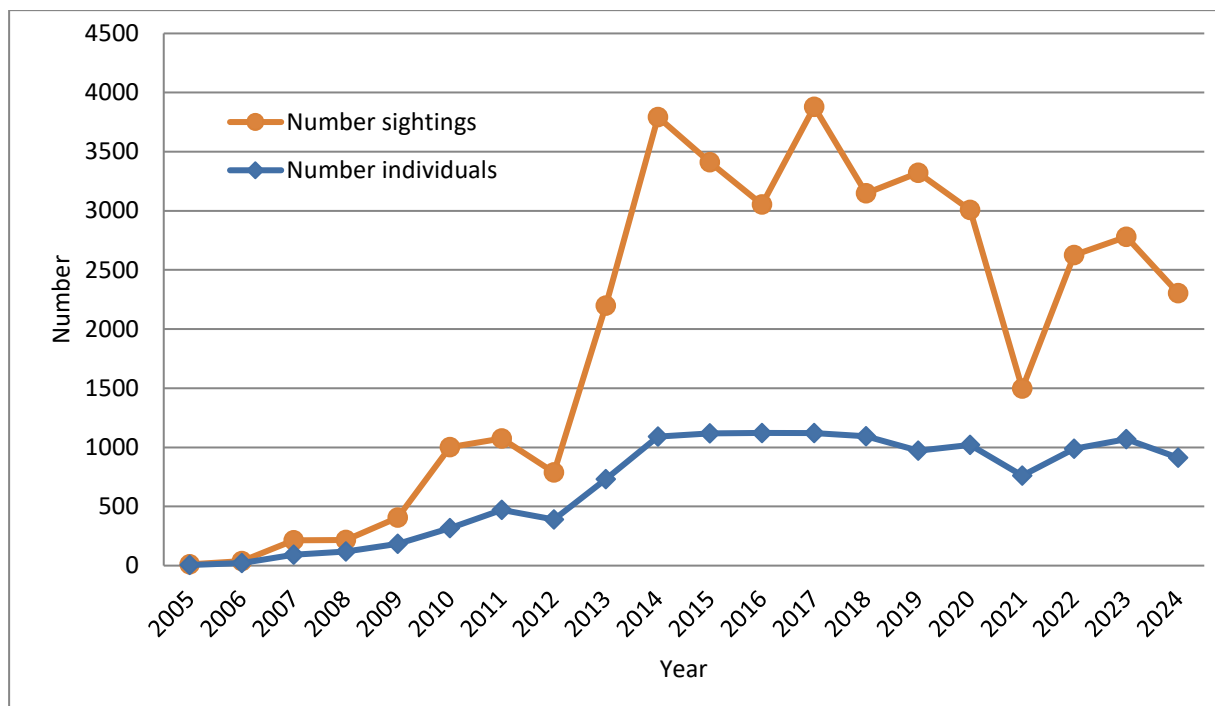
This was partially compensated by visiting the saltpans between Cádiz and Puerto Real where we had access to and information on suitable locations for godwits, thanks to a local expert. Here we found 1800-2000 godwits at various sites and managed to get quite some resightings despite the adverse weather conditions. As most of these sites are closed to the public, godwits find a quiet staging site here but numbers are never high.

### **Extremadura**

In Extremadura the loss habitat continues and as a result the numbers of godwits are dwindling. Last year only 8000 hectares of rice remained of the 25000 hectares only 2 decades ago. Prices of olive oil have gone sky high and new plantations of this crop can be found everywhere. Despite that, the situation at the traditional staging area between Santa Amalia and Hernán Cortes was again a bit better. Only a few rice fields had been ploughed recently but those attracted maximum 2200 godwits at various sites near Hernán Cortes, 1500 near Santa Amalia and 1000 near Yelbes, for sure with a large overlap and exchange between those sites. This was much more than the 300 we found there last year. Near Palazuelo and Vegas Altas we found again only small numbers but the preferred sites from last years in the east near Obando were now empty (1750 in 2023). Resighting conditions were also poor here as a result of the heavy rains making roads inaccessible and water levels too high to see godwit legs. Again, birds with satellite tags proved indispensable to locate bigger groups. When the bad weather calmed down by the 19<sup>th</sup> of February, godwits immediately became more nervous and we had the impression that they were already departing for the breeding grounds. We saw a few encounters with Marsh Harriers and Peregrines but no successful catching attempts. The rains from this year will probably slow down the crop change for a while and might provide more and better habitat next winter.

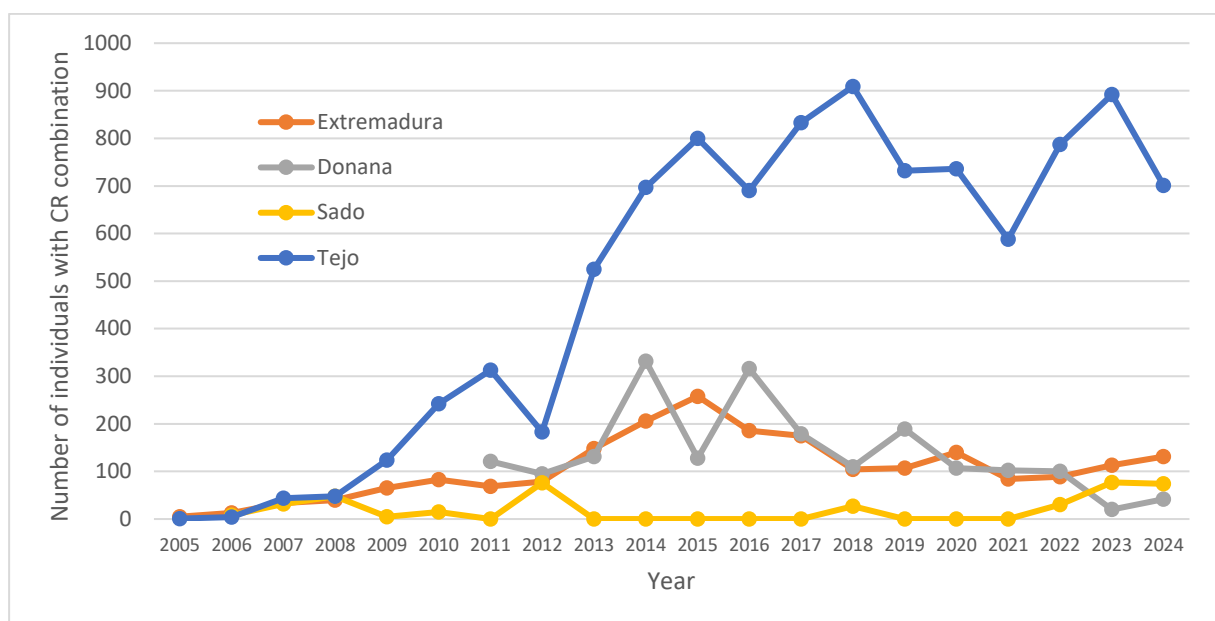
### **Numbers, individuals and percentage of the population seen**

A significant increase in the number of sightings of colour-ringed individuals from our own scheme was achieved between 2012 and 2014, largely due to a combination of an increased sighting effort and a >50% true increase of ringed birds. Despite a fairly constant resighting effort since then, the number of sightings decreased slowly from about 3.800 to just over 3.000 in 2020. After a dip in the Corona-year 2021, the number increased again in 2022 and 2023 but decreased again in 2024. However, the number of resightings was inflated in 2022 and 2023 as a result of extra sightings by our Portuguese and Spanish colleagues who contributed ~500 resightings per year in those years, considerably more than in previous years. In that light 2024 was even a little better. The number of individuals seen has remained fairly constant since 2014.



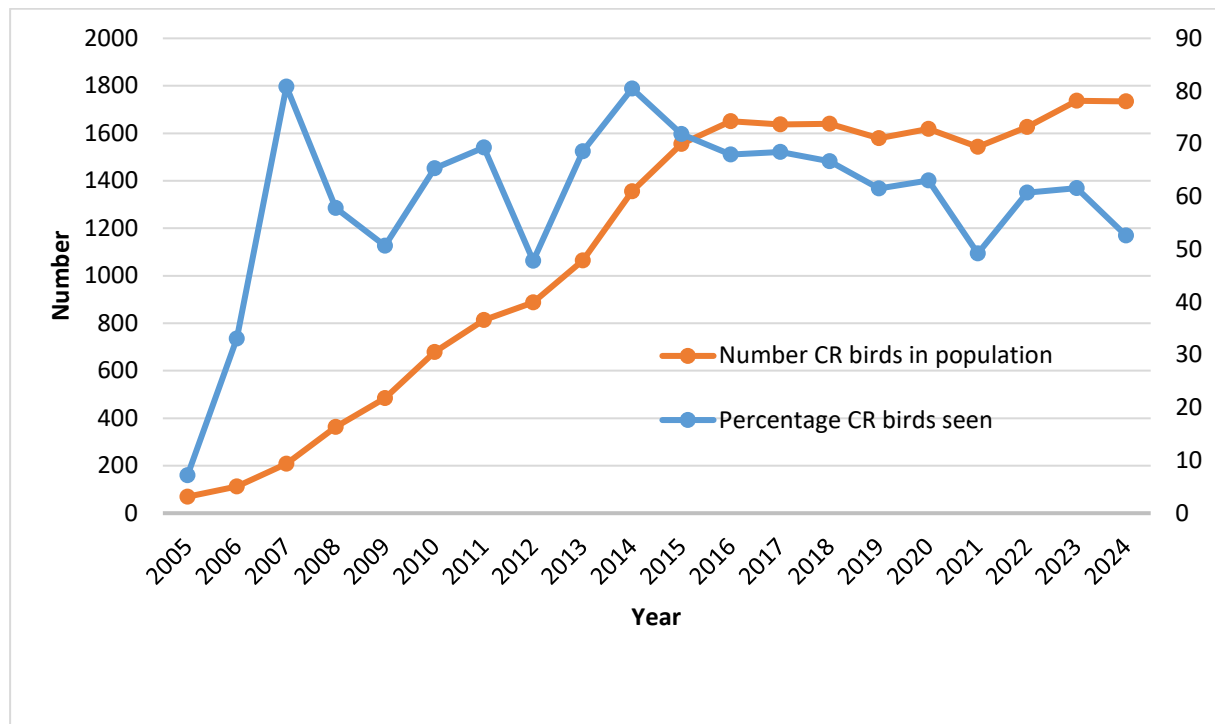
*Total number of sightings and observed ringed individuals from the RUG-scheme in Extremadura, Doñana NP, Tejo and Sado in January-February of each year (no code flags).*

If we zoom in to the different regions, it becomes clear that this overall decline since 2015 is mainly caused by Doñana. Extremadura seems to recover a little from a series of bad years. Although a little better than the record low numbers in 2023, the numbers in Doñana indicate that this region is no longer the important hub during northward migration that it used to be. The Tejo still by far produces most resightings and those numbers have remained fairly constant despite a probable decline in total numbers. In the Sado godwits have been virtually absent for years but seem to be picking up again recently and remained at that level in 2024.



*Total number of observed ringed individuals of the RUG scheme in Extremadura, Doñana NP, Sado and Tejo in January-February of each year (no code flags).*

Less ringed birds seen could also be a result of less ringed birds in the population but that is not the case. The estimated number of alive ringed individuals has increased recently to >1.700 birds as a result of 3 relatively good reproductive years in a row and many recaptures of adults where we replaced codeflags with full ring combinations. Due to higher numbers ringed in a shrinking population, one would expect higher ring densities and a higher ring reading efficiency rather than a decrease in percentage seen.



*Estimated number of colour ringed birds in the population that are still alive and the observed percentage of those birds in Extremadura, Doñana NP, Sado and Tejo Estuary all together in January-February of each year (no code flags).*

Have we become less efficient in finding them because they forage less (rings are better visible during foraging) or do they forage more in less accessible or unknown places? There is no evidence for that and actually the godwits with transmitters are a tremendous help nowadays to locate them anywhere. Another explanation is an increasing dilution of *limosa's* with *islandica's*. That simply means that you must check more birds before you encounter a bird from our scheme.

Godwits might also be using other stop-over areas like the Spanish east coast, sites in France or simply move up north faster as the winters in The Netherlands have become milder. Overall maximum numbers in Iberia have probably declined recently. After the numbers definitely started to drop already some years ago in Extremadura and Doñana, the numbers we encountered in Portugal also seem to have started to drop in recent years. A drop in individuals seen might be partially masked by a higher resighting effort by our Iberian colleagues in 2022 and 2023 or a higher turnover rate: we still record them but they stay shorter.

The estimate of the number of ringed birds in the population is based on an annual survival of 85% for adults and 45% for 1<sup>st</sup> cy birds (>10 d old). More recent estimates suggest that these figures might be too high for recent years which implies that we have probably seen a higher percentage of the ringed population than as suggested above. As you can see in the figure above, we still have resighted more than half of the ringed population which is an excellent score and indispensable for our survival models.

# 1. Black-tailed Godwit Habitat and Demographic Studies

## Introduction and backgrounds

The Black-tailed Godwit (*Limosa limosa*; BTG; godwit) is a farmland bird that predominantly breeds in The Netherlands (Verstrael 1987; Thijssen 1904). The current Dutch population is estimated at 20-25.000 breeding pairs (extrapolated from Kentie et al. 2016) and represents an important part of the total continental BTG population *Limosa limosa limosa*. However, the number of breeding pairs have declined rapidly over the last decades, as compared to the 120.000 pairs in the late 1960s (Mulder 1972). This is mainly caused by a change in agricultural land use, urbanisation and increased predation rates. Intensification and rationalisation of farmland have led to degradation of the breeding habitat, resulting in low reproduction. The population in the Netherlands cannot produce enough chicks for a stable population (Vickery et al. 2001; Newton 2004; Tscharnke et al. 2005; Teunissen & Soldaat 2006; Roodbergen et al. 2012). After the breeding season godwits migrate to southern Europe (Spain and Portugal) and West-Africa where they stay for wintering (Márquez-Ferrando et al. 2011; Hooijmeijer et al. 2013), mainly in agricultural areas such as rice fields. Throughout their annual cycle godwits select for farmland with a low to moderate land use intensity which makes them a key species to indicate routes towards sustainable agriculture. The Black-tailed Godwit qualifies since 2006 as “Near Threatened” on the IUCN Red List.

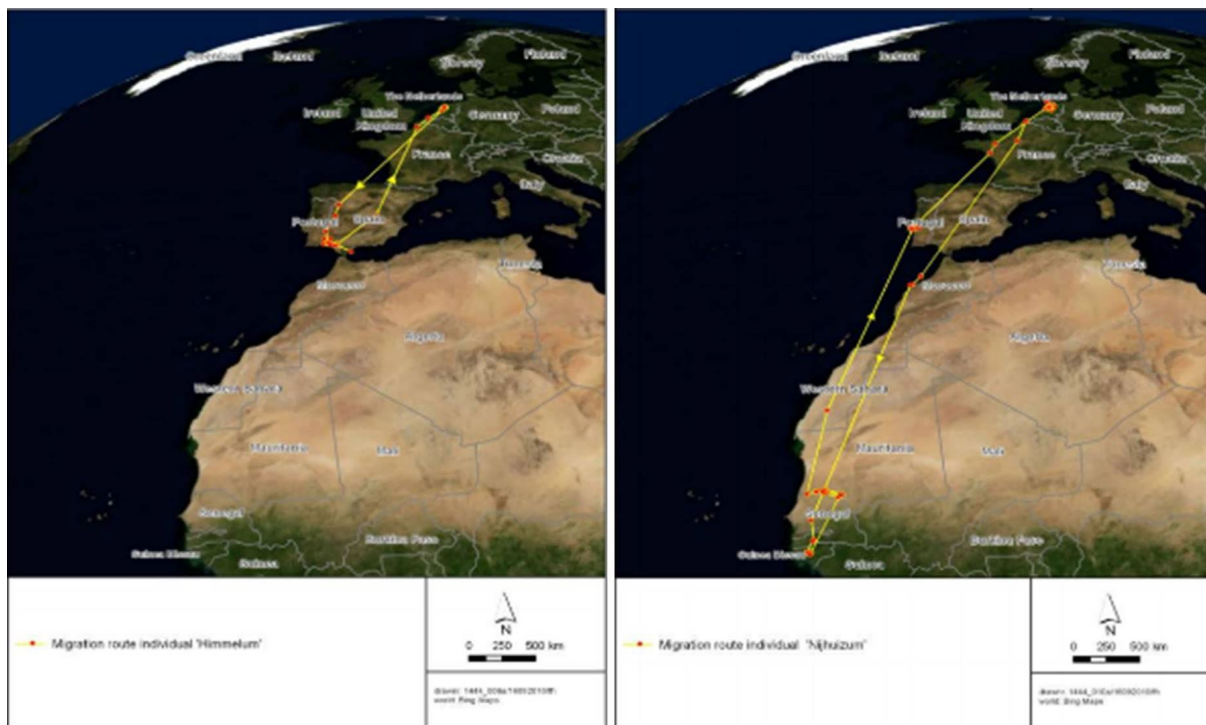
## Demographic research Southwest Friesland

To measure the changes in population numbers and unravel the causes, the University of Groningen started in 2004 long-term research in the south-western part of Fryslân, The Netherlands. In 2007 the research area expanded to 8400 hectares and since 2012 it increased again with another 1600 hectares (Groen et al. 2012). A colour-marked population of godwits was set up to make them individually recognizable. The knowledge that has been collected with this research has been implemented by policy makers and nature conservation organisations. Since 2020, the project has expanded into the Godwit Landscapes Project, still studying the godwit as a main focal species, but in context of the whole food-web of which it is part. Therefore, studies on soil macrofauna, predators, insect availability, vegetation changes and human land use management have been included (Hooijmeijer et al. 2024).

## Migration and wintering sites Black-tailed Godwit

In the 1980's most godwits were wintering in rice areas along the West-African coast in Senegal, Gambia, Guinea-Bissau and further. Big numbers of godwits also occurred in the inner Niger delta in Mali (Altenburg & van der Kamp 1985), but they probably predominantly belonged to the eastern European population. Recently, the wintering behaviour has partly changed with an increasing number of godwits deciding to winter in southern Spain and Portugal. In the 1980s during the first counts, only 4% of the NW-European population used this area as a wintering site but recent estimates suggest a big change with up to 23% of the population wintering in Spain, mainly Doñana NP and surroundings. The most important reason for this is probably the creation of new artificial fishponds and rice fields. It is remarkable that this increase is not driven by climatic changes in the Sahel zone of West-Africa (Márquez-Ferrando et al. 2014). For godwits, staying in Iberia can be advantageous because they can skip a 3000-kilometre (v.v.) travel over the Sahara, a potentially dangerous migration route and save their fat stores for the next breeding season. The change in wintering grounds is remarkable and an important reason why we also want to do (demographic) research in West-Africa. We know now that juveniles are more likely to make these kinds of shifts than adults (Verhoeven et al. 2017) and that the genetic component of their individual migration strategy is limited (Loonstra et al. 2023). These aspects can have consequences for changes in migrations patterns and survival rate of both adults and juveniles. Moreover, they can lead to differences in reproductive success, for example due to differences in body condition upon arrival on

the breeding grounds. Both are demographic parameters that can rapidly influence population dynamics.



*Two classical migration routes of Black-tailed Godwits based on satellite tracking. The left map shows the route of an Iberian wintering bird. On the right an African wintering bird. Iberian wintering birds save a 6000 km flight and don't need to cross the Sahara twice (Hooijmeijer et al. 2013).*

### Habitat study

Anthropogenic alteration of natural wetlands is having a major impact worldwide with consequences (both negative and positive) for migratory species such as continental Black-tailed Godwits. On their migratory route Black-tailed Godwits pass through France and either stage or spend the non-breeding period in southern Spain and Portugal. Many will make the Saharan crossing to overwintering sites in West Africa, namely; the Senegal Delta and coastal region of Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone and central Mali. In all these countries godwits are heavily dependent on man-made habitats like water buffers, fish farms, salt pans and rice fields.

With remote sensing techniques and the locations indicated by godwits with satellite transmitters, we found out that during the non-breeding period Black-tailed Godwits show a preference for stable habitats within a relatively low productivity range (EVI value 0.1-0.2), which are associated with open wetlands, low vegetation cover and shallow surface water (Howison et al. 2019). Additionally, godwits spend much of their time foraging either on the mudflats of saline mangrove wetlands or in wet rice fields, however little is known of the nature of the prey items at different times of the year. Remote sensing data is difficult to interpret without accurate ground-truthing information. In the past years we conducted surveys categorising and describing habitats, measuring environmental variables such as water salinity and soil penetration pressure, feeding efficiency of the godwits and carefully searching the substrate to establish the identity of godwit prey items.

### Expeditions West-Africa and Iberia

In Southern Iberia godwits are largely confined to three major staging areas during northward migration: Doñana NP and Extremadura in Spain and the Tejo and Sado estuaries near Lisbon in Portugal. Smaller numbers can be found in the area around Cádiz.



*Three main areas where many godwits can be observed during January-February; Extremadura (1), Doñana NP (2), Tejo-Sado (3)*

Since 2005 we have started working every winter in those regions in close cooperation with local colleagues to study habitat use and collect resightings of individual godwits. Ring resightings in Iberia and West Africa are an important source of data for survival estimations in the different life stages of the godwits:

- If a godwit disperses outside our study area, the chance that it will be resighted elsewhere in The Netherlands is small. Without the resightings in the stopover areas, we would assume that this individual is dead and therefore underestimate annual survival, because in the breeding areas individuals have very different resighting probabilities. Dispersal is especially interesting when looking at juveniles; resightings outside the Netherlands from adults ringed as juveniles give us inside in how many juveniles survive but go breed outside of our study area.
- Secondly, with enough resightings from the Iberian Peninsula and West-Africa we can calculate seasonal survival. In other words, we can calculate in which period of the life cycle mortalities occur more often. Or we can find out if birds that cross the Sahara have a different survival rate than birds that stay the entire winter in southern Europe.
- By measuring the density of individuals with colour rings, we can monitor the population size of the western European part of the Black-tailed Godwit population (Kentie et al. 2016)

We also regularly visit southern Iberia, in particular Doñana in the first 2 weeks of October. The reason for the timing of this fieldwork is that in these two weeks one has the best chance to identify godwits that do not migrate to Africa at all but stay in Europe for the entire non-breeding season. Based on tracks from geolocators and satellite tagged godwits we know now that godwits start returning from sub-Saharan Africa on a continuous scale between October and March, and that when the first ones are arriving the last ones are still on their way there. Thus, the first half of October is the best period for correct identification of godwits as non-trans-Saharan-migrants; that is: the least chance to misidentify a bird. You could safely say that these birds winter in Europe but a trans-Saharan-migrant is not automatically a bird that winters in Africa!

Until recently, West-Africa was the only area along the migratory flyway from which we didn't have many observations of colour-marked individuals. In the past, only small numbers of colour-ringed birds have been reported, mainly by birdwatchers and, more recently, by local scientists. Therefore, in November 2014 the University of Groningen, in cooperation with Global Flyway Network and

financially supported by Birdlife Netherlands, embarked upon their first expedition to the wintering grounds in West-Africa and since then we visited the region 2-3 times per year till 2019. This has yielded a great number of resightings. The most important goal of the first missions was to get a good overview of the wintering grounds, resighting conditions, local facilities and knowledge and to make a start with setting up a dataset of individually recognizable godwits that winter in West-Africa. Secondly, we made a pilot study of habitat choice and prey choice to collect ground truthing data for spatial analyses combining satellite imagery with GPS-tracking information. In the near future we aim to continue demographic research and set up habitat study and restorations projects in this area in close cooperation with local scientists, volunteers and conservation organisations as part of the EU LIFE-IP Projects Grass-Bird-Habitat and Life Godwit Flyway.

In this expedition from 1 to 26 February 2024 we visited the most important areas for Black-tailed Godwits in southern Spain and Portugal during northward migration. Our aim was to resight individual colour marked birds, describe the habitats godwits used and to gain information on threats and opportunities by field observations and meetings with local experts. In this report we present a daily overview of our findings with photos, locations we visited, numbers present and the first conclusions and recommendations.

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## 2. Birds and habitat, daily overviews 1 – 26 February 2024

### Portugal Team 1: Kees de Jager and Maarten Hotting, 1-10 February

#### 1 February

Sunny day, NE 2 Bft wind, max. 19°C

Total number of godwits: ~5.000

We arrived at around 16:00 - with 20 minutes delay - at Lisboa airport. Getting the suitcases and the rental car went quick and we estimated that we could just make it to the rice fields before dark. Luckily the traffic also cooperated and we indeed made it.

With the last sunlight we managed to find 2 groups of around 2.500 birds just north of the N10; along the Estrada do Camarao (see *Appendix A; location 1*). Unfortunately, no ring to be seen, but a good start of the trip.



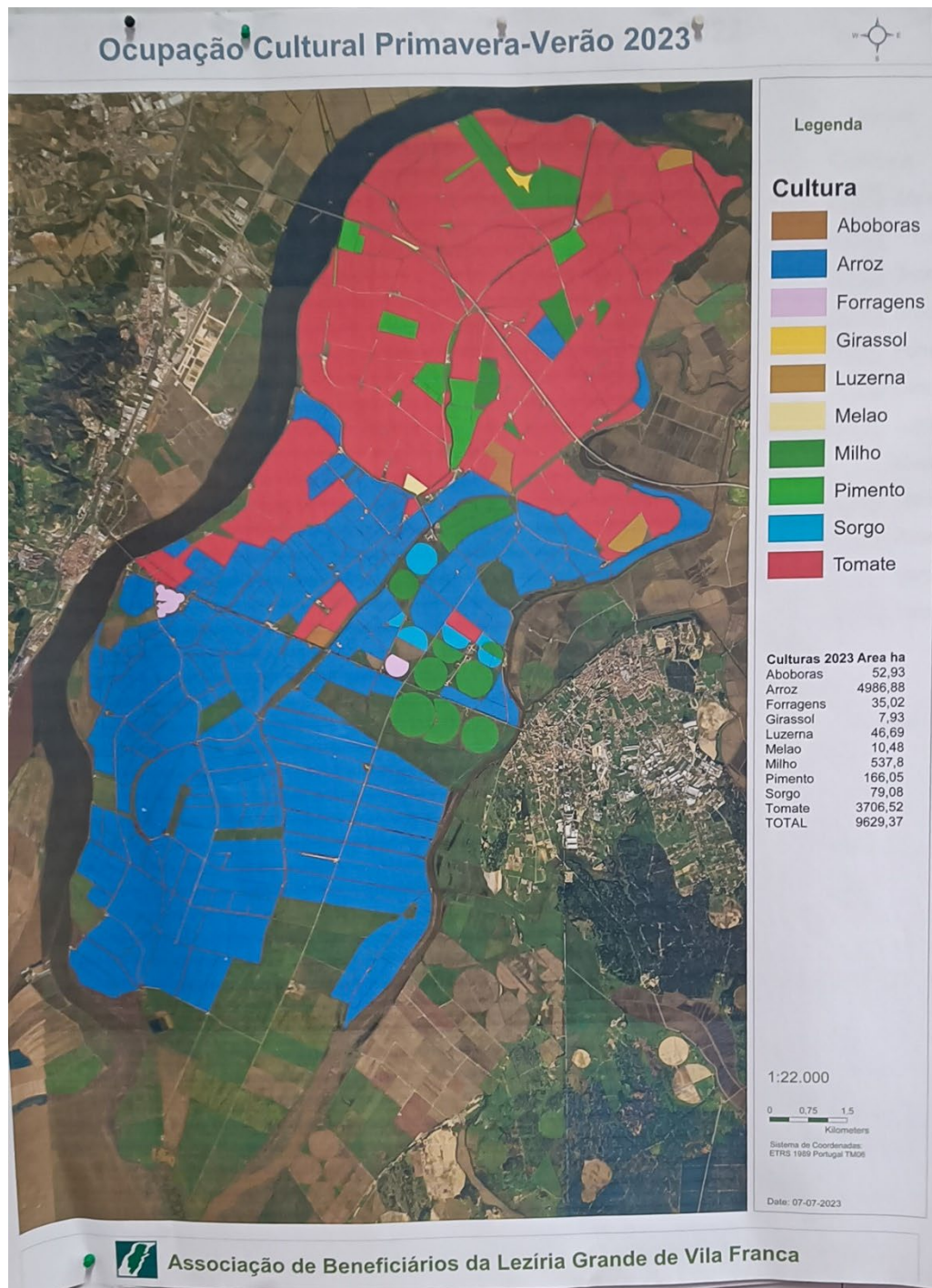
*The first godwits getting ready for the night at Estrada do Camarao.*

#### 2 February

Sunny day, NE 2 Bft wind, max. 20°C

Total number of godwits: ~17.500 - 20.000

We started with sunrise and first visited Rui Paixão at the office to collect the key card of the rice fields. Rui told us they had some good rains at end of the year, but more importantly that the farmers were – for the first time – allowed to keep water on the fields – even when not used – till March. The results of this are clearly visible in the field. Almost all of the fields are very wet. We could also photograph the card of the area with land use again. According to Rui they have this year some more rice fields (total of ~4900 ha).



*Map with land use in the Vila Franca area.*

After talking to Rui, we went into the area. Due to farmer protests, there was a long traffic jam towards Vila Franca, so we decided to take the Giganta entrance first. This quickly led to the first godwits flying over and not much later the first foraging birds. We stopped and spent some hours along the fields where this group was foraging. The foraging took place along a series of fields, all with small (200-300 exx) groups. In total we estimated that the fields contained 2.500 birds.

After some time, we went on to search for some more birds. Based on the data of some satellite birds, we checked an area near the Giganta airport but close to the Sorraia river (*location 5*). Last years we encountered a closed gate, but this year the gate was open (as Rui had told us). Directly

after the start we saw a group of ~3.000 birds flying up from a field where they were busy with ploughing. We managed to walk – with the sun in the back – along most of the fields. Due to the high water, the number of rings we could read was not high, but we estimated the area held around 10.000 birds in total. A place we will visit the next days again.

With noon approaching the air began to heat up and heatwaves made reading rings difficult. The right time to go for our lunch shoppings and collect the key of Belmonte at Rui Alves' office. Shopping went well, but we came during the lunch break off the staff, so the office was closed. So first we had lunch at the edge of the Samora rice fields (*location 6*). The fields were mostly not ploughed, although in the distance one tractor was busy. No godwit to be seen.

After lunch we went back to the office and collected the key for the Belmonte gate. At Belmonte (*location 7*) it turned out that the fields were not ploughed at all and – apart from some herons – no bird to be seen. Because the surrounding forest is beautiful as well, visiting Belmonte is always nice.



*Typical situation of the fields Belmonte this time; not ploughed, no godwits....*

At around 15:00 we went back to the Giganta rice fields and found some nice groups around the airport (*location 4*). With the sun in the back, we walked along the various fields and could read numerous birds until the sun finally set.

In the fading light we drove through the area towards the Cardal gate to look for some owls. We managed to see Short-eared Owl and could take some nice pictures. A nice end to a beautiful and productive first day.

### 3 February

Sunny day, NE 2 Bft wind, max. 20°C

Total number of godwits: ~28.000

We started at sunrise with a nice group of 6.000 birds at some deep-water fields along the Estrada do Camarao, just north of the N10. This seems to be one of the night time roosts the birds are using. As the water was too deep to read any rings, we went on towards the Cardal entrance to check the fields in that part (*location 2*). We quickly found a nice foraging group with various ringed birds in it.



*Y5RBYY foraging on recently ploughed field in a nice morning sun.*

In the rest of the Cardal area not many godwits were to be seen. Only at the same spot as yesterday some birds, but when we started to check them, they panicked and flew off. We could follow them and estimated where they must have landed. We quickly found them back at the church (*location 3*) and the part that did not start sleeping provided us with some more rings. In total we estimated this group at 3.000 birds.

Next stop was towards the airport – a bit to the north of yesterday - where a transmitter bird had been foraging yesterday. The transmitter – once again – showed us the way and we found a nice group (~5000 birds) spread along multiple fields that were just ploughed. At the same parcel ploughing still took place which attracted a lot of Lesser Black-backed Gulls and Glossy Ibises. Also from these species we managed to read some rings.

As the air started to vibrate due to the heat (20 C again), we decided to go for lunch. After buying lunch in Porto Alto we ate it in the fields at Ponta da Erva. Due to the low tide not many birds close-

by, but in the distance we could see a group of at least 900 Spoonbills .... How many rings would be in there??

Around 15:00 we moved back to “work” again and visited the Cardal Southeast fields (*location 5*) where we saw yesterday the 10k group and also some transmitter birds send their signals from there. Due to the bad road (path) conditions we needed to walk but got rewarded with some nice fields of (sleeping) godwits. Just when they started to feed a bit, a Marsh Harrier came in and managed to catch one bird. Total panic at the others of course and most of them left the area. We estimated the whole group was about 12.000 birds.

We closed the day with some ring reading between Giganta and Cardal just north of the airport. These fields proved productive again, although a portion of the birds were feeding on the fields with full backlight. When dusk approached some birds came flying in, so most likely there is a night roost here as well. Although we stayed late, most of the birds kept feeding or sleeping spread over the fields, so we could not confirm our suspicion.

#### **4 February**

Sunny day, NE 2 Bft wind, max. 18°C

Total number of godwits: ~28.500 – 30.000

We started with a check of the rice field north of the N10 that showed some transmitter position yesterday. Unfortunately, the fields at that position were covered in fog. A check of the rest of the area showed mostly fields that were not suitable for godwits.

The first group of godwits we encountered at the Ponta da Erva entrance, near the airport. This field was freshly ploughed (yesterday) and the birds took advantage of it. Two fields contained almost 1.600 birds and various rings. After they were spooked by something they flew a bit further along the path and started foraging on some other fields. Almost all the fields along this path had some godwits on it, mostly small groups (<200 exx), but some larger (~1000). Maarten drove also around to a path more south and found a day roost of minimal 6.000 birds. We estimated at least 12.000 birds foraging and resting at this location.

After a while we went on to the Cardal area and encountered some smaller groups (<1000 birds) here as well. The location at the church now didn't hold as many as yesterday, but we saw them flying a bit further from the road and not good accessible.

In the small group that was visible we discovered various rings amongst one blue code ring with a red marker below it. Unfortunately, the bird didn't cooperate and we couldn't read the ring before it flew away. We didn't know the project, but via the app group Jos helped us out. It is a German ringed bird.

After a quick visit to the shop in Vila Franca de Xira, we went back to the godwits. We had a “working” lunch; reading godwits while eating our lunch. With the lunch done, we checked some more fields in the Cardal area. Not many godwits, but a field produced a nice series of 5 ringed Pied Avocet, of which some Dutch.



*1LL7LB foraging in the group at the church; a code flag as clean as you don't often see them...*

We finished the day by checking some fields opposite of the airport, but most of these birds flew away to the other side of the road. We followed them and found the field of this morning, now packed with godwits, Glossy Ibis and gulls. We estimated a minimum of 8.500 godwits foraging (like crazy). They were fanatically foraging in a dense group. Reading rings was sometimes hard with that many birds packed together, but there were many rings to read. Dusk came to soon and made reading rings impossible. But with both of us having a count of 100+ rings, we couldn't complain.

As the birds flew off in the last daylight, we followed them and found various – wet – fields with sleeping godwits. With the help of a thermal spotting scope we estimated 28.500 godwits sleeping!



*Digiscope picture of the dense group foraging at just ploughed field*

## 5 February

Partially clouded day, NE 1 Bft wind, max. 19°C

Total number of godwits: ~8.000

Today we planned our Sado day and started with a drive towards Comporta. Just before Comporta we checked some rice fields (*location 8*) where a transmitter Spoonbill should be located. Almost no Spoonbills to be seen and no godwits as well, although part of the fields looked good for them.



*Fields just south of Comporta, wet and ploughed, no godwits.*

At the main fields of Comporta (*location 9*) we just were about to start reading rings of a nice group of godwits foraging perfectly, when a security guard came and asked us if we had a permit, which we didn't. We were supposed to have one and could go to the office building of the company to check for one. The guard guided us to the office and we waited until someone came that spoke English. That took almost half an hour, and then it became clear that the guard thought we were commercial photographers. With explaining we were just birders looking for godwits we were done within a minute; no permits or whatever needed ....

So back to the rice fields, where the godwits unfortunately relocated to a field full of water, no legs to be seen. We could however read some Greater Flamingo rings as these birds were in the same field. After checking this group once, we went on to check some other fields for godwits and found some foraging near the road. With low density and very dirty rings, reading was tough, but we managed to get some.

Around noon we decided to check the rest of the fields and have a view over the river at the end of the rice fields (*location 10*). Here we spotted a new Portugal species for us both: Razorbill. Some 8 of them were there, next to the (expected) species as Great Northern Diver, Black-necked Grebe, Red-breasted Merganser and various waders.

After this birding, back to the godwits that were present at the same field. Again, muddy rings and low density, but we managed to get some new ones. All in a sudden the birds flew off again ... a couple with a dog came looking for the Flamingos and chased all "our" godwits away to fields out of sight.



*Godwits in belly deep water, no rings to be seen.*

We decided to move on and check some fields more to the west. This only delivered some ringed Spoonbills and one Lesser Black-backed Gull. As the tide was now low, the birds were too far away from the road to see.

When we checked the route to our next stop – Zambujal – it turned out this was almost an hour driving and with dusk approaching, we decided to let the north side of the Sado for another time and went back to the Comporta fields for some last tries on the Godwits there. They were again on the same field, mostly foraging, some resting. This time dusk came too quickly and made reading rings impossible. The larger Flamingo rings did better and we managed to read some new ones.



*Greater Flamingo in the same field as the Godwits, advantage of bigger birds, you can read rings.*

## 6 February

In the morning dense fog, sunny afternoon, SW 4 Bft wind, max. 17°C

Total number of godwits: ~32.000

We started this morning with dense fog and decided to directly do our lunch shoppings. In Vila Franca de Xira the sun was shining and that gave us some hope, but back in the rice fields the fog was still way too dense to see godwits. On a field where they were ploughing we could however read some Lesser Black-backed gull rings.

A drive towards Ponta da Erva was good for some raptors on the poles next to the road. Especially a very cooperative Merlin was appreciated.



### *Merlin*

With the fog getting a little bit less dense we decided to go back to the fields that were ploughed and there we encountered a small group of godwits close enough to the road to read some rings. With the wind getting a bit stronger, the fog finally gave way and we had visibility again. The wind also made the godwits forage against it and they came nicely close.

We had our field lunch while reading color rings of those godwits that did not go to sleep. One of them was a – currently mysterious – ringed bird with W(J1604) on the left tibia. Even the app-group didn't give the solution yet (but probably Norwegian).

With now perfect ring reading conditions we visited various fields that were freshly ploughed and could read enough rings "to compensate" for the lazy morning.

We closed the ring reading day with a foraging group of ~10.000 birds; a spectacle for eye and ear (although ring reading was tough with so many birds packed together).

The last task of the day was to confirm the night roost for the ringing team of José Alves who will do a try this weekend. We encountered the birds at the same fields as two days ago and now estimated the group even higher (~32.000) birds.

## **7 February**

Partly clouded, foggy start, SW 4 Bft wind, max. 18°C

Total number of godwits: ~30.000

The start was foggy again, but with a bit better view than yesterday. Also, the fog cleared quickly, so not a real hinder for ring reading. Most of the birds had already left the night roost when we came and some of them were foraging in the fields around. No large groups however to be found what you would expect with a night roost of more than 25k birds. Most likely they foraged a bit further than we expected.

Driving around the area we found scattered groups of max a few thousand birds. Near the church we saw the largest group (~8.000 birds) taking off various fields when a tractor started its engine. Unfortunately, we couldn't access the fields where we thought they had landed.

As lunch time approached, we decided to go to Porto Alto to get some bread and drive on towards Alcochete to check the estuary. It turned out to be high tide: no mud flats and thus no birds foraging. The nearby rice fields of Barroca de Alva seemed to be abandoned. The fields we could see didn't have any stubble on them and were full of algae water. This attracted a large group of Greater Flamingo and gave us the opportunity to read some rings.



*Group of Greater Flamingo foraging at abandoned (?) rice fields near Barroca d'Alva*

Around 15:00 we were back at the Ponta da Erva rice fields to check for larger flocks of foraging godwits. We managed to find some smaller groups and did some ring reading. With the wind the birds were sometimes foraging close to the road and we even managed to read some metal rings.

The night roost already had 15.000-18.000 birds on it when we checked it well before dusk. The birds seemed to have early bedtime today.

Based on transmitter data we believed there could be another night time roost in the northern part of the fields, so we went there to search for it. We found the fields indicated by the transmitter positions and they could function as a (small) roost, although they didn't look optimal. Today there were at least no birds to be seen.

Just north of the N10, along the Estrada do Camarao, we found a small (~1.000 birds) night time roost; they shared the nighttime roost with some European Avocets and Black-winged Stilts.

### **8 February**

Rain from 10:00 till dusk, S 5-6 Bft wind, max. 17°C

Total number of godwits: ~20.000

We started with cloudy weather with rainclouds lurking on the horizon. We managed to get the first foraging groups before the rain started. The wind made it almost impossible for Kees to read rings from a tripod outside the car, so even before the rain started, he moved to the backseat.

At around 10:00 the rain started and made reading rings on the south side of the car impossible, so only birds on the north side of the roads could be read.

The birds were foraging almost on all the fields, even if they were not ploughed and had grasses on them, hard circumstances for the ring readers....



*L3BLRL foraging on a grassy rice field*

Due to the conditions, we stayed mostly around the fields near the airport. Here we had good accessibility with the car (the paths were not too bad) and visibility on most of the fields. When we encountered a nice foraging group, we stayed with them until we thought we had seen all the legs.

We continued this strategy until dusk set in and made reading rings impossible.

Hopefully tomorrow some better weather (although the forecast for at least the morning is not that good).

## 9 February

Cloudy with rain showers in the morning, sunny with some rain in the afternoon, SW – W 5 Bft wind, max. 17°C

Total number of godwits: ~20.000

Today started with some heavy rain showers and still strong wind. The godwits however were already foraging when we entered the fields and we could read some rings from within the car near the Cardal entrance. The main groups were again foraging on the fields north of the airport and luckily the most north of the car, so we could read even when it rained.

Around noon the birds started to sleep and that was for us the signal to go towards Porto Alto to get lunch. We decided to have lunch near the church in the rice fields. No godwits to be seen, so after a quick lunch we headed back to the airport fields.

After reading some Lesser Black-backed Gulls on the field where ploughing was going on, we found a relatively small group (<800 birds) that had numerous rings. The group was very dynamic with birds going and entering the group and we could find new ringed birds for a very long time.



*L3BRYL, transmitter name: Sarilhos, one of the birds in the group*

Finally, a large rain shower dimmed the light too much and we were forced to call it a day; unfortunately also our last day. The new team had already arrived, and we went home to meet them. We had dinner together and briefed them on all the locations as this was their first visit to the area.

For us this is the end of, again, a very nice and successful trip with 546 unique RUG birds of which 100 code flags. Next to the RUG birds of course also some of the other programs of which a Norwegian -ringed as chick in 2023 – was the most special.



*Nice legs!*

## Portugal Team 2: Marie Stessens and Lisa Rose Haaksma, 9-17 February

### 9 February

Changeable weather, sunny with rainfall, max 14°C, SE wind 30 km/h

Total number of godwits: 0

Our first day! We arrived around 18h in Salvaterra de Magos, and with the sun already set we were just too late to see our first godwits. We had dinner with Maarten and Kees, and they taught us all the tips and tricks about the areas we will discover during the coming days. For both of us, it is the first time in the area.



*Map of the godwit hotspots in the Giganta rice fields - groups of multiple thousands of godwits - during our stay. Blue circles are night time roosts, green circles depict daytime foraging locations and yellow circles depict locations that function as both night time roost, day time roost and foraging locations. We will refer later in the text to the different locations.*

## 10 February

Mostly sunny, some sudden rain showers, max 13°C, SW wind 25 km/h

Total number of godwits: 25.000

After saying goodbye to Kees and Maarten, we spent the whole day discovering the rice fields of Giganta. In the morning we saw some smaller groups of a few hundred to max 3000 birds south of the N10 (Cardal area). All were sitting in fields that were completely submerged and rings were hard to read. But we made some habitat descriptions of the rice fields, of which the majority seemed to be quite wet this year. We also met up with José Alves and Josh Nightingale, who were filming a news item about godwits in the Tagus delta and the recent news to not renew the environmental declaration for the new Lisbon airport, which will (hopefully) prohibit the settlement of the new airport in Montijo.



*Small group of godwits (500) sitting on a completely-submerged field in the Cardal area (Location 4)*



*Screenshot of the national news channel that made an item about the importance of the Giganta rice fields as a stopover site for godwits. José Alves is speaking here.*

After two much needed shots of espresso and a pastel de nata in Samora, we headed back to the eastern part of Cardal, close to the small airport (*location 6*). Maarten and Kees told us this was currently the hotspot for godwits and the night roost was also located there. And indeed, we found multiple flocks of thousands of godwits in a small region. All godwits were on ploughed, fully to half submerged rice fields. We spent the whole afternoon there, reading as many rings as possible. One of our last resightings was of transmitter bird Jouke Sjoerds, who stopped sending locations about 2 months ago. Around 18h we headed back home for some Vinho Verde and a home-made ratatouille.



*Most godwits were standing/resting on one leg (left). Quite some fields around the small airport area are recently ploughed and are fully or half submerged (right)*

### **11 February**

Cloudy day with a lot of fog, almost constant rain, 15°C, E wind of 25 km/h

Total number of godwits: ~30.000

We started at the same place where we ended yesterday, at the night roost of the godwits in eastern Cardal (*location 6*). Upon arrival we noticed that the godwits were not concentrated in one place but were scattered around many fields in small groups of around ~300 birds. Sad to say, it was raining quite heavily in the morning and there was fog hanging above the rice fields, so it was hard to read any rings. Most birds were also resting so we could only see one leg. Around 11h the fog cleared and we discovered two fields with ~1000 birds each so the two of us split up and approached the flocks from the dike. We were able to read some of the rings but unfortunately the rain started pouring again so we had to find shelter again in the car.



*Cloudy afternoon in the rice fields: ring-reading conditions were not great today (left).*

*Observing birds at the mud flats near Alcochete (right).*

After lunch, with again a double espresso and a pastel de nata, we visited the mud flats at the Sitio das Hortas nearby Alcochete. We stood there for a while and observed some Shelducks, Common Ringed plovers, Spoonbills, Bar-tailed Godwits, Kentish Plovers, Redshanks and many Avocets. In the far distance we also noticed a large group of around 5000 godwits foraging on the mudflats, but they were too far away to read rings.

Around 15h we drove back to Cardal with the hopes of finding a nice big flock of godwits. After an unsuccessful hour of discovering only small flocks and a shabby-looking Red Fox, we suddenly witnessed an immense flock of thousands of godwits coming our way. This time luck was on our side and around ~15.000 of godwits landed right in front of our car. However, history repeated itself and only around 5 percent of the group was foraging and showing both legs. All the other birds were already sleeping and standing on one leg. Around 18.00h we decided to drive back home; this time all hell broke loose and the rain started to pour down on us.



*Large group of godwits in the afternoon on the Giganta rice fields*

## **12 February**

Sunny, 19°C, S wind 40 km/h

Total number of godwits: 35.000 - 40.000

Yesterday we did not have luck on our side, but today we did! We arrived in the Giganta rice fields around 07h45 and close to the Cardal entrance, we saw a good flock of +- 4000 birds (*location 4*). They were in quite deep water, but we could filter out some ring combinations. Afterwards, we went to the location of the large night roost (*location 6*), and yes, the godwits were there! Spread out in groups of a few thousands over multiple parcels. The godwits were sleepy and around 95% of them were standing on one leg (frustrating!). Around 11h00, they slowly started to wake up; preening and walking around a little bit. So, for an hour, we could read rings quite well until the heat waves started

to become too strong. We headed to Villa Franca for a warm lunch (which was spectacular, Lisa Rose even needed to cook her own meal!).



*Lisa Rose cooking her own meat during lunch in Villa Franca*

In the afternoon we headed to the east of Giganta, to Portas do Cap Mor (*location 7*) since we saw online that two transmitter birds recently transmitted there. We entered the area by foot (there are only impassable roads), and discovered multiple flocks of thousands of birds spread over a few parcels. We split up and went to different flocks to read rings. Around 16h30, Lisa Rose's flock flew off and she went back to the night roost spot (*location 6*). There were again around 10.000 birds. With the evening sun and the flock close by, this was the walhalla for ring reading. Marie stayed close to Portas do Cap Mor at what

looked like what would become a night roost. Around 17h, a farmer was done ploughing the field next to the roost and almost immediately +- 4000 godwits flew there and started to forage actively, together with a flock of Glossy Ibises. More and more small flocks started to join the night roost, until there were in total around 16.000 birds. Both of us read rings until (the beautiful) sunset. As we drove out of the rice fields we were also surprised by a Short-eared Owl that flew by very close to our car. Unfortunately, the Estrada do Campo was closed off because part of the road was completely flooded (this lasted the whole week). Tomorrow we would have a long day ahead of us with bird ring reading during the day and catching in the evening. To be continued...



*Sunset views over the rice fields*

### 13 February

Cloudy, 17°C, little SE wind

Total number of godwits: 30.000

Around 07h30, we headed out to check two locations in the Giganta rice fields between the N10 and A10 as they both showed recent fixes of transmitter birds during the nights. One of the places was empty (*location 3*), and in the other one a flock of around 2000 birds was present (*location 2*).

However, they directly flew off when we arrived. Afterwards, we went back to the area around the airport (*location 6*) to find large flocks to read rings. There were again multiple groups of birds, and we split up to read rings at different flocks until lunch. Ring reading conditions were not ideal as it was mainly cloudy the whole day. Around 13h, we went for some espressos and sweets in the town of Samora and headed back to Giganta for a final hour of ring reading.

Around 15h we met up with the Portuguese team (lead by Afonso Rocha) to help with the catching event in the evening. We headed towards the expected roost (*location 2*) and set up the mist nets in



the rice field, installed the tent for ringing and prepared everything for the catching event. We were with quite a large team of 8 people, but that turned out to be necessary: we had a really successful night! We checked the nets for the first time around 20h and already 10 godwits were in. With every hourly check afterwards, new godwits were in the nets. During the whole evening, we ringed 29 godwits and deployed 20 tags. We even caught Dutch transmitter bird Wolvetinte (C3CCPP) who was carrying an unreliable transmitter and had extremely dirty rings. The Portuguese team did not have a new colour ring set for them, but we cleaned the rings as good as possible and gave Wolvetinte a brand new tag. After a long and intensive evening, we got home at 3am in the morning.

*José Alves tagging a godwit with a GPS-transmitter*



*Rings of transmitter bird Wolvetinte before (left) and after (right) cleaning. Unfortunately, there were no rings of the Dutch scheme to replace them, but we cleaned them.*

### 14 February

Mostly cloudy, only a few times the sun came through, max 20°C, NE wind 20 km/h

Total number of godwits: 20.000

Due to the catching of yesterday, we allowed ourselves to start a bit later today. Firstly, we went to the Belmonte strip to check for godwits. There were none. This was not surprising as we did not see any recently ploughed fields, only fields with mostly stubbles. Afterwards we went back to the Giganta rice fields to our usual place (*location 6*). We spent the whole afternoon reading rings around the airport and further north (*location 5*). On different ploughed fields, we had groups of a few thousand individuals. Especially the moments the sun came through, it was a nice afternoon of ringreading. Finally, we headed to the north of the N10 close to the office of Leziria (*location 3*). There was a flock of around 2000 individuals roosting in belly deep water. In the evening, we celebrated valentine's day with a big bottle of red wine and the leftover dinner from the day before.



*Typical stubble fields in Belmonte*

### 15 February

Rainy in the morning, sunny in the afternoon, max 17°C, SE wind 40 km/hr

Total number of godwits: 20.000

Today we decided to visit the Sado estuary. We started our journey in the rice fields of Comporta. After driving around the rice fields for an hour, we discovered a large group of godwits (~8.000). Unfortunately, the group was standing very far away, and the park ranger told us we were not allowed to walk onto the dikes. We decided to drive around a bit more in the hopes that the group

would move a bit closer to the dirt road. On a recently ploughed field we discovered a group with thousands of Flamingos and Glossy Ibises. We observed the birds for a little while before returning to the godwit field. Upon arrival we noticed that another car was already observing the large group of godwits, it turned out to be Ronald Messemaker and Astrid Kant. We chatted with them for a bit and decided to continue our journey northwards to the rice fields around Monte Novo, as they kept waiting for the group to come closer. The gravel road led us to an abandoned village that was completely taken over by breeding White Storks.

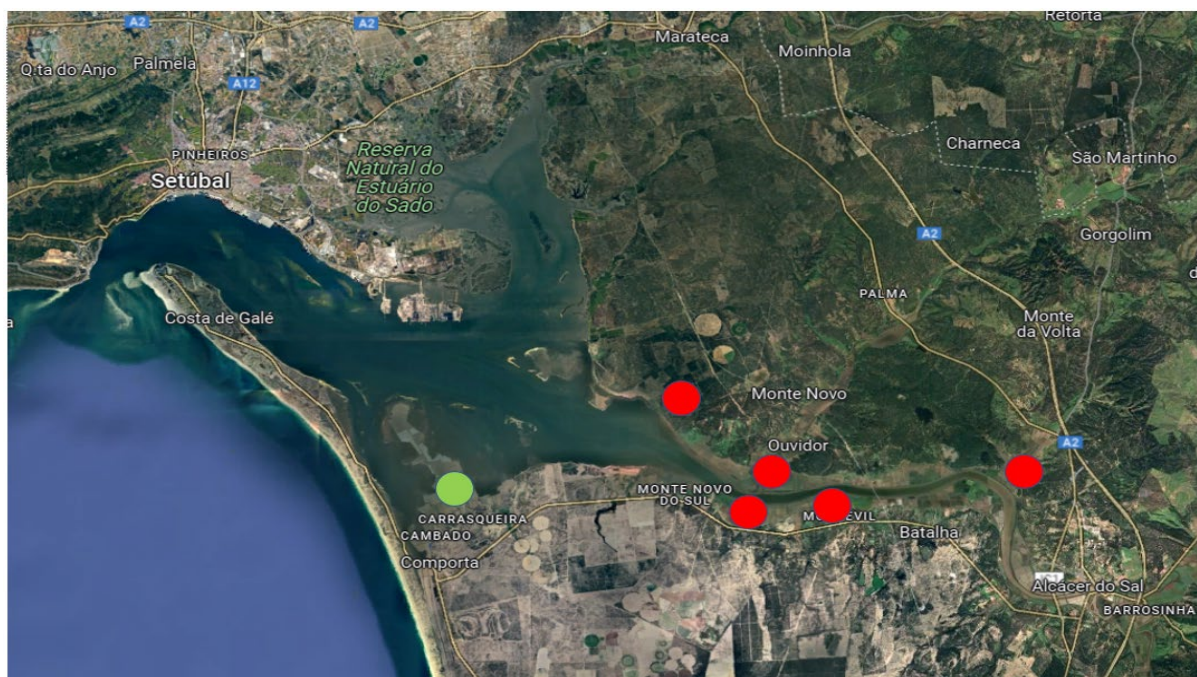


*Thousand of flamingos and glossy ibises in Sado estuary (Comporta) and an abandoned village completely taken over by breeding storks.*

After that, we spent hours driving around the whole Sado estuary, but none of the rice fields had any godwits. Most of the ricefields were dry and unploughed, so the habitat for godwits was just not there. After the lunch break, we decided therefore to head back to Cardal to read some rings there.



*Dry and unploughed rice fields all around the Sado estuary*



*Locations of visited rice fields around the Sado estuary. On the red dots there were no godwits to be seen, mostly unploughed fields. Close to Comporta (green dot) there was a large flock of +- 8.000 godwits.*

When we arrived back in Cardal, we saw the most beautiful group of godwits we had yet seen on this trip (*location 6*). The ring reading conditions were perfect as the group was large (~10.000 godwits) and very active, the lighting was perfect (golden hour), and the birds were standing only 50 metres from the road. We stayed there until sunset and both of us were extremely wowed by how lucky we were.



*Amazing and large group of godwits near the airport strip in the Giganta rice fields (left) and great ring reading condition as well (right)*

When the sun finally set, we headed back to our car and drove to Kimeo beach bar in Alcochete. Our Portuguese colleagues from the other night were already there for their weekly drinks and they invited us over as well. We were not the only international godwit researchers over there because Pete Potts from the UK was also visiting the Tagus region together with his wife. Around 10pm our belly was full with Portuguese food and drinks and we headed back home.



*Having some drinks at a beach bar in Alcochete with the Portuguese (and English) godwit researchers*

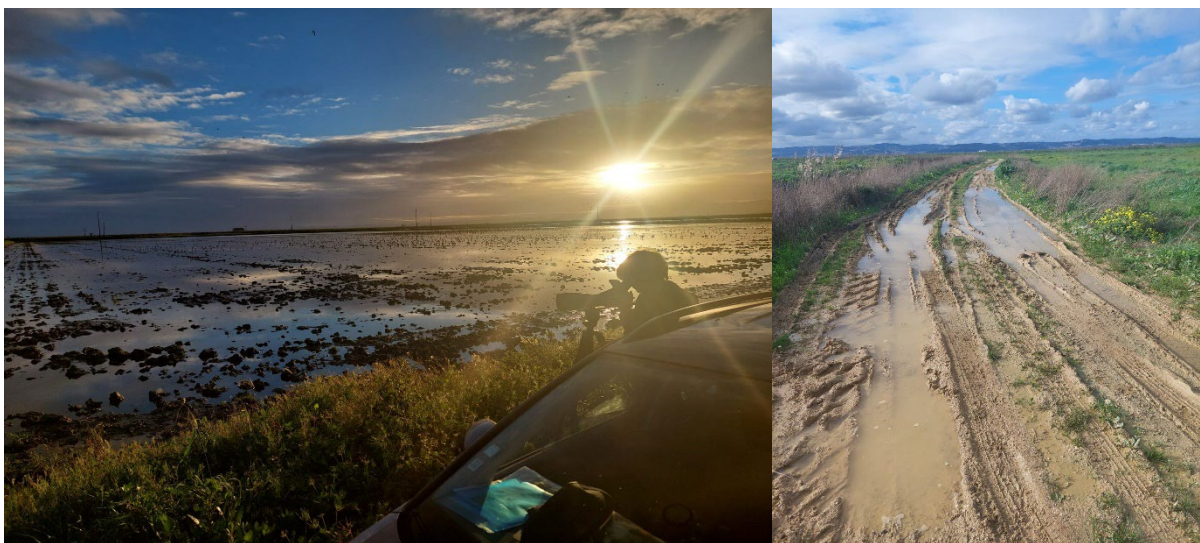
## 16 February

Cloudy, no rain, max 17°C, SW wind 15 km/hr

Total number of godwits: 25.000

Today we spent the whole day in the Giganta rice fields again. In the morning we read some rings on the first road strip (*location 4*). What we have noticed this whole week was that the godwits are not really concentrated on one or two fields but are rather scattered throughout multiple fields. Ring reading can therefore be a bit harder as we have to move constantly.

For lunch we decided to visit the Evoa bird center where we sat for a while observing the different birds. On the way there, we saw a (less shabby) Red Fox run through the fields. Afterwards we headed to the east of Cardal, to Portas do Cap Mor where we met up with Afonso and João Belo (*location 7*). They returned the old GPS-transmitter of Wolvetint to us. There were two relatively large groups (~2000 birds each) on two different fields. However, most birds were standing still on one leg and we were not able to come closer because there was a ditch between us and the group. We therefore decided to head back to our favourite place (*location 4 and 6*) to finish our day of ringreading. Once again there were multiple groups of godwits scattered over several fields (~1000



*Marie observing the godwits during sunset (left) and slippery roads in the East of Giganta (right)*

per field). Finally, we also saw an Osprey flying over with a fish in its talons, which went to devour its caught prey on a pole just a few metres from us. A great ending to our amazing day.

## 17 February

Cold morning, warm afternoon (sunny), max 20°C, practically no wind

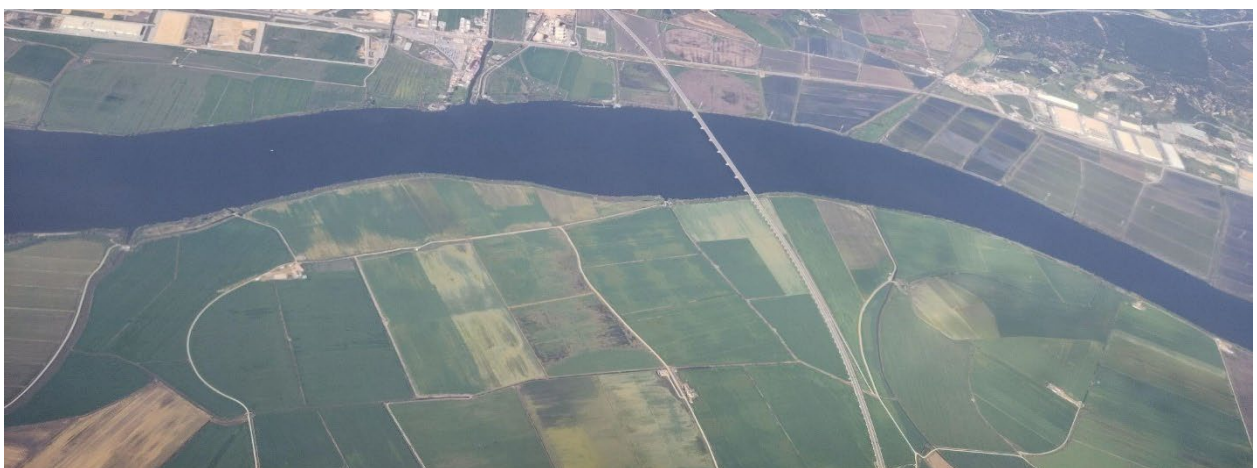
Total number of godwits: ~35.000

We started our final day again in the Giganta rice fields. For the last time, we scanned the whole Cardal area thoroughly and read quite some rings in the usual places (a.o. *location 4, 5, 6 and 7*). In the afternoon, we were keen to visit a site north of the A10 (*location 1*), as we saw on the GPS data that several birds spent their nights there last week. However, we could not enter this area with the card we had. We therefore decided to go to Rui's office around lunchtime to ask for permission. Once there, he kindly welcomed us and also showed us a map of which crops are grown in the Giganta area. He also indicated that if we wanted to look at the plots north of the A10 in the afternoon that we should call him so that he could open the gate. After our visit to Rui, we had lunch at the restaurant next to the Lezirias' office. During lunch, we saw a blond guy around our age walking into the restaurant wearing trousers with the Frisian flag on them. We soon started talking and found out that he was the farmer of the famous Frisian flag farm. He invited us to drink a coffee if we passed by again another day, we however sadly had to decline the offer as it was our last field day in Portugal, maybe next year!

After lunch we headed out to check for godwits close to the A10 (*location 1*). Upon arrival we however did not see any godwits (only a wet Mongoose), so the GPS locations of the tagged birds are most probably night roost locations. To finish off our day we therefore decided to drive back to Giganta. Again, we spent a lovely afternoon around the airport strip visiting several godwit groups. When the sun set, we cleaned our car and met up with Bob en Jacob Jan (the next team). We went out for dinner in a restaurant nearby and we talked about our adventures over the last 9 days.

## 18 February

Early in the morning, we headed back to the Airport to catch our flight. During take off we got to say goodbye to the rice fields with a great bird-eyes view. We think we saw some godwits, and even Jacob Jan and Bob watching them ;-)



*Bird-eyes view of (part of) the Giganta rice fields*

## Portugal Team 3: Bob Loos en Jacob de Vries, 17-26 February

### 17 February

How wonderful it is to be welcomed by a singing Chiffchaff at the closed gate of Cardal around 17.30, while it is slowly getting darker! Marie and Lisa Rose were at that moment with a large group of godwits, and of course they could not open the gate for us. On the way to our accommodation in Salvaterra de Magos we fortunately saw several hundred godwits in belly deep water northeast of the office of the Associação de Beneficiários da Lezíria Grande de Vila Franca de Xira along the Estrada do Camarão, so that we could note the first colour rings before sunset. In the evening we extensively exchanged experiences and tips and tricks with Marie and Lisa Rose in a local restaurant.

### 18 February

Mostly cloudless, sunny, maximum 21°C, NO2

Total number of godwits: 20.200

First a big round through the rice fields south of the N10; roughly estimated < 10% of the plots had been ploughed recently. Most fields had little water and only one plot was completely flooded in which 1,000+ ducks were swimming; mostly Shoveler and Common Teal, but also some Pintails and a male Eurasian Wigeon. Two male Garganey in the reed edge, where possibly more conspecifics were hiding. Spent the whole day in the area. The largest group of godwits contained 12.000 birds of which more than 95% were asleep at 12:15. A total of 16.700 godwits in the area estimated, but possibly not all birds could be traced. At Toneca (Estrada do Camarão) more than 3.500 ex.



*(almost) illegible...fortunately the Nikon P900 or P1000 provides clarification*

## 19 February

Until about 10:00 dense fog, then almost cloudless, sunny, maximum 23°C, NO2

Total number of godwits: 9.200

Spent the whole day in Giganta ricefields. Largest group of godwits 9.200 ex, clearly less than yesterday! Some already left for the north? There were already enthusiastic reports from The Netherlands where the godwits had arrived earlier than in previous years. Remarkable is the large number of rings that are contaminated by deposits or mud, which means that the original colour cannot be determined with 100% certainty. At least a quarter of the ring combinations could not be noted because of this! We fear that the number of read ring combinations will be clearly below the level of previous years, and this handicap certainly has an influence on the survival calculations!



*Dutch picture? No, the Portuguese Giganta rice fields with the mist rising*

## 20 February

Some scattered cloud fields, maximum 24°C, NO2

Total number of godwits: 8.500

The well-known round of the Estuário do Sado southeast of Setúbal, Samouco and Alcochete went a bit differently than planned. We had not taken the tide into account, so we were at Carrasqueira at low tide and at Praias do Sado at high tide, a clear case of the right men in the wrong place.

A lesson learned for next year. At Comporta the first ploughing activities in the rice fields this week; a feast for the thousands of Glossy Ibises, Lesser Black backed Gulls and Black-headed Gulls.

The godwits (6.000) kept a bit aloof and were unfortunately very difficult to approach. The vast rice fields north of Cambado were all dry and deserted. Not a single godwit seen, but several groups of a few hundred Ringed Plovers in the company of just as many Sanderlings. Also, the only Merlin seen this week. At the Zambujal bridge about 750 Avocets, but no godwits at all. A single Spoonbill, but much too far away to check for rings. Unfortunately, we did not visit Moinho de Mare da Mourisca

and Salinas do Samouco this year, and in order still to score godwit rings we went back to Cardal where in the late afternoon we were fortunately able to note a few rings and flags in a group of about 2.500 birds.

### **21 February**

In the morning some fog banks, then sunny. Completely cloudy afternoon, max. 24°C, W/NW2  
Total number of godwits: 0 at Belmonte

A rather unmemorable day; in the morning Cardal and Ponta da Erva, in the afternoon visited Belmonte for the first time, where in the westernmost part two rice fields were ploughed at the same time. Not a single godwit could be discovered, of course Glossy Ibises and gulls, but also a group of 140 resting Spoonbills including seven birds with Dutch colour rings. In the late afternoon ring reading again in Ponta da Erva.

### **22 February**

Cloudy, various light rain showers, maximum 18°C, W/NW3  
Total number of godwits: 34.000 – 35.300

From 7:45 to 9:30 in all rice fields south of the N10, Toneca and Zé do Pinho we counted the godwits to get a complete picture. They were found at three locations; Toneca 8.050-8.800; Cardal 6.185-6.285 and Ponta da Erva 19.700-20.200. The rest of the morning was of course spent in Ponta da Erva until an adult Peregrine Falcon struck a godwit and the other birds fled. The victim was released and crashed in the rice field; further fate unknown. In the afternoon back to Belmonte, but again no godwits and initially only eight Spoonbills; this number grew to 189 ex. at 16:30. Unexpected; of the 13 colour-ringed Spoonbills, we had only read two the day before, which could indicate migration.

### **23 February**

Cloudy periods, light rain showers, but also clear spells, maximum 14°C, NW3-4

Spent the whole day in Ponta da Erva, with a short visit to Belmonte in the afternoon before we had to return the key of the Belmonte gate to the Lezíria office. Most noteworthy is a colour-ringed Little Stint in a group of 14 ex, unfortunately we have not yet been able to trace the origin.

### **24 February**

Cloudy areas, short light rain showers, but also sunny spells, maximum 15°C, gusty wind NW3-4  
Total number of godwits: >10.000

From 7:40 in position at the well-known rice fields in Ponta da Erva behind the storage shed, and there all day until 16:50 watched (the legs of) foraging godwits that regularly came within 10 meters of us. Despite the sometimes very short distance between bird and observer, several dozen colour ring combinations were too dirty to be able to record the original colour with certainty. Due to the short distance, a record of 24 lime flags was read, and in addition three Finnish birds, one of which had also been noted yesterday. Among the 10.000+ godwits a single foraging Ruff and a dozen White Wagtails. Marsh Harriers (all females today) were the only source of disturbance today, although we were unable to observe any attacks.

## 25 February

Total number of godwits: 23.400

Given yesterday's success, it was not surprising that we spent the entire day at the same location today. Around 9:35 we counted the four successful fields; in two fields almost all 20.700 godwits were sleeping, in the other two almost exclusively 2.700 birds were foraging. Unfortunately, we had to leave in the late afternoon to prepare our flight to Amsterdam the next early morning. We will arrive in The Netherlands (much) earlier than the godwits we have seen today!



*The ultimate shelter.....thankfully not our car!*

## **Spain Team 1 & 2: Wim Tijssen, Willem Brandhorst, Wouter Vansteelant and Arne van Eerden, 4-21 February**

**Planning:** First three days in the larger Doñana area (Sevilla), 2/3 days in the Cadiz area and rest of the period in the Extremadura area (Santa Amalia), depending on godwit numbers.

### **4 February**

Arrived in Seville at the end of the afternoon and travelled on to our accommodation in Villamanrique de la Condesa, where we also stayed for several days last year. As it is almost dark when we arrive, binoculars and telescope remain in the bag for a while.

### **5 February**

Slightly cloudy and sunny, wind 1 Bft, max. 17°C

Total number of godwits: 3.000 – 3.250

For the first 2 days, the team consists of the three W's, namely Wim Tijssen, Wouter Vansteelant and Willem Brandhorst. From the town of Villamanrique, the first 3 days are dedicated to the area west of the great Guadalquivir River. This river forms a natural border of the Doñana National Park, an area currently severely ravaged by drought during the last years. This is especially evident in the surrounding large-scale agricultural area, and maybe less in the Veta la Palma fish ponds (Appendix A) and the remaining natural habitat of the delta of this immense river that flows right through Seville. Before diving into the swamp and the roughs of the fishing ponds, we stock up on plenty of groceries at Isla Mayor's local supermarket.

We then reported to the entrance of the complex where the guard approved our permission papers for the National Park survey. And so, the barrier opened and we could proceed towards the office, which houses the staff working in the Veta la Palma fishpond complex. We were welcomed by Miguel Medialdea, manager of this part of the National Park. After getting acquainted and handing over the specialty from Wim's homeplace, the famous "Wieringer Jodekoeken", we checked together where we were most likely to see Black-tailed Godwits. We paid particularly attention to two GPS-transmitter godwits that had been hanging out in the marsh area Veta de la Cuba for more than a week.

On the map is seemed an almost inaccessible area, but Miguel showed us how we could probably get there anyway. Although it is private land and owned by a family that has cattle running there.... Possibly pretending to be lost perhaps if there is control, or the farmer comes by, in case of emergency we could call Miguel...



*Miguel Medialdea pointing out the fishponds*

We had to go through about six fences and barbed wires (always close them when you're at a farmer's place with cattle!), but eventually ended up in the marsh/estuary and reached the part where the Black-tailed Godwit transmitters had given their last signal.

One of them is Black-tailed Godwit 'Boerestreek', which was caught by Wim Tijssen and Jos Hooijmeijer last spring near Gaast and was the last Black-tailed Godwit to be fitted with a transmitter that year. 'Boerestreek' chose not to go all the way to Africa, instead spending autumn and winter in the fishpond complex and the last rice fields in the area.

From the river, water feeds and drains run into the area, so a choice had to be made on which side of the canal we would enter the estuary in search of the godwits. Wouter chose the right side and the other W's the left side of the canal. After half an hour of walking, it turned out that Wouter had chosen the wrong side, while in the distance a few clouds of Black-tailed Godwit took to the skies and he could go no further... Unless he dared to use a tree trunk as a springboard. Wisely, he decided not to. The other W's made another attempt to get a little closer to the godwits, but it got wetter and muddier and in fact we only got further away from the godwits while reading rings was almost impossible due to the high vegetation in the estuary. Nevertheless, we got a good impression of the area and counted some 2.000 to 2.500 Black-tailed Godwits in total.

Walking back, then!



*Wim searching for 'Boerestreek'*



*Wouter searching for a way out*

The map showed us another narrow dirt road, which ran through the swamp. This little road, in the form of a half-dike, could bring us a bit closer to the flock of godwits. It seemed hard enough because of the dryness, so we took the risk. It yielded mostly flying Black-tailed Godwits again and a few that were up to their bellies in the estuary water, so it didn't really work out....

Just along the edge of the dike walked a ringed godwit and Wim was the lucky one to read the first and at the same time the only godwit of today. Willem discovered a Black-tailed Godwit with a striking white head! If Wim's memory is correct, it's often seen at the Twisk water storage area of nature organization Landschap Noord-Holland in his province, and photographed there many times.



*The 'white-headed' from Twisk in its breeding habitat in North-Holland, Netherlands. Photo: Renate Visscher-Fokkens*

We earned ourselves a cup of coffee and a piece of delicious butter cake from Barry Brandhorst that Willem had brought along, like lunch!

Then another half-hour back on the bumpy country roads back through the estuary. After which we checked out the real fishpond area from Veta la Palma where there are always some Black-tailed Godwits in the various water tanks and fish ponds.

And yes, at the end of the afternoon, by now it was 4.30 pm, we read in pond C2 with combined efforts two code flags of the RuG project, a German Black-tailed Godwit and a Spoonbill! All of which took patience, as they stood on one leg and refused to move...

Of course, that became our first 'snicker moment', because you have to celebrate something like that! The sun came out too, so that was nice with 17 degrees and no wind. Then another drive to the end of the area (C8) where we scored about 600 more birds and 2 rings. By then the light really stopped. The three W's will start a bit earlier tomorrow and try to read more rings in the Veta la Palma area, to be continued!



*No comments necessary....!*

## 6 February

Fog and (slightly) cloudy and sunny, wind 1 Bft, max. 17°C

Total number of godwits: 2.495 (east- and west parts of fishponds)

Today again towards the fish ponds of Veta la Palma, Isla Mayor. Due to the dense fog, we started in a small world, which slowly got bigger with the warming sun. On arrival at the fishing ponds, the last patches of fog created a special atmosphere. The start today was at the C2 fishpond where we ended last night. The water levels in the deep parts were too high to see the legs well for rings, but with some efforts we scored new ringed birds. Not only Black-tailed Godwits but also Spoonbills, so a nice start! Then on to the southern side of the complex.

On the way there, we were startled by a sharp grinding noise at one of the front wheels. The general idea was that we had hit something like iron wire or the like that got stuck. But what do you do when you can't find anything and the grinding noise has actually pretty much disappeared? Exactly drive on. On to yesterday's large group, which was still present in roughly the same spot (C8). Here, too, several new rings. This reading spot in the very south of Veta la Palma borders the Rio Guadalquivir. A river navigable for ocean-going vessels calling at the port of Seville.



As we continued, the screeching noise at the front wheel started to reappear. Something Wouter could no longer tolerate. *Risking his life, he crawled under the car in search of the cause.* And what appeared to be the culprit was a stone between/against the brake disc. Fair's fair, it drove a lot more relaxed after that. Thanks to Wouter!

Back up along the western side past the fish ponds, with a nice large group of 1467 and lots of new rings in section A5. Today, besides RuG rings, also a Finnish and German ringed Black-tailed Godwit.



And in an area with fishing ponds, you should also expect Osprey. We encountered several, at one location even three at a time. At the same spot as last year, an observation hut along 'Lucio del Cuquero Grande' water reservoir, sat 'our' Barn Owl again. The water level in this natural reservoir was very low (2cm) with only some Dunlins feeding here, while the water level in reservoir Lucio Cuquero Chico was too high.

We ended the day where we started it along the first shallow pond (C2), where always godwit legs are more or less visible due to the shallow water. This time with the image of the setting sun behind us. What a beautiful day. On to tomorrow!

## 7 February

Fog and (slightly) cloudy and sunny, wind 1 Bft, max. 20°C

Total number of godwits: 691 in Veta la Palma and approx. 400 in Cadiz area.

The 3-W's team reduced to two today. Wouter Vansteelant headed to El Rocio today for scientific matters and consultations with Spanish colleagues. And for Wim and Willem, it was partly a travel day. Today we moved some 175 km south to the salt flats between Cadiz and Puerto Real. In the latter place we would stay two nights, so that during the day, under the guidance of biologist Francisco Hortas (Paco for friends) from the University of Cadiz, we could search for godwits. The Bay of Cadiz is a vast tidal area, with huge salt pans and you can't just enter the (natural) areas here because of all sorts of restrictions and permits. A totally new area for us to explore. Paco has arranged all permits for us in advance and spent part of the time with us to show us around this 15 x 15 km area. And to show us the places where we would most likely encounter Black-tailed Godwits. Information from godwits with transmitters has shown that godwits regularly used this area in the past. And as part of the Black-tailed Godwit Landscape Project from the University of Groningen (RuG), we are of course happy to map it ourselves.

We had planned to first visit the Veta la Palma fishpond complex today to satisfy our hunger for rings, and then make the 2.5-hour journey towards Cadiz mid-day from there to avoid traffic jam in the morning around Seville. In that way we could search there for a few more hours with the better light later in the afternoon, with also an appointment with Paco Hortas, who will show us around.



*This morning in Isla Mayor, the village we crossed on our way to Veta la Palma, oranges were harvested in the village street by municipality workers.*



*As we approached the fishing ponds, visibility became increasingly poor due to fog....*

We couldn't see much and eventually it wouldn't lit up until 11.30 am. Nothing worse than fog for 'ring-reading-fanatics' and researchers! That made a mess of our plans for today.

In the end, we were still able to find almost 700 godwits in Veta la Palma, but unfortunately could only read a few rings due to the poor conditions. We filmed the Black-necked Grebes, which were very numerous here. There were also a couple of Wild Boars in the fishpond complex, but they managed to escape the cameras, as did about three Red Foxes.

We finally left the area towards Cadiz only at 14:00. On the way some traffic jams on the bridge near Seville, but near Las Cabezas things really went wrong on the A4 motorway. Demonstrating farmers were stopped by the Guardia Civil from entering the motorway but there was already a sizeable column of tractors in front of the motorway entrance.... Apparently, some tractors had managed to get onto the motorway after all, only to use up all the tarmac..., because we drove for about 10 or 15 km at a tractor/ snail's pace in the traffic jam. So, we ended up arriving at our meeting-point with Paco in the salt pans only by 5.30 pm.

So immediately we set off for the last 1.5 hours of daylight. From a bridge over the motorway and railway overlooking the area, Paco thought he saw a large group of godwits. En route in the estuary we ran into another group of godwits, nearly 100, unfortunately all without rings. Paco had already told us that we had to walk to get to the large group of godwits. Adding to the surprise was the taking of some obstacles.



*First, an iron entrance gate, suitable only for slim people. Then, in the Salinas, we had to cross a puny and rickety little bridge made of some half-rotten planks, a real challenge! But.... we made it.*

Then into the estuary.... lots of birds flew away because of our presence, all of them Avocets! The big flock of Black-tailed Godwits could be around the corner according to Paco, so we walked on through the salt marsh vegetation. And also, he assured us there was a better way back so we didn't have to risk our lives over the moving and creaking plank bridge. After 15 minutes, we still came to the conclusion that there were no godwits around the corner. Unfortunately! The other exit out of the salt marsh turned out not to be there after all, so we went down the same path, and thus back over the rickety one-board crossing, only to wriggle through the iron closed gate again! So, one hour later, sadly enough, half an hour of daylight remained....

That half-hour of daylight turned out to be good enough to find 2 small groups on the other side of the motorway after all. With even a couple of rings. All in all, a nice end to the day, and an adventure not soon to be forgotten!

Tomorrow we will spend the whole day with Paco again to map the use by godwits of this area. Thursday evening and on Friday itself, there is going to be a blast of rain and a lot of wind, so Friday will bring little here. We also have to go to our next area that day, the Brazo del Este between Seville and Cadiz, so that will be another partially traveling day but hopefully we will be able to see some godwits between the showers. In terms of numbers, there are not very many (estimate about 1000 to 1500) godwits in these salt pans here according to information from Paco, but we will count them tomorrow together!

## 8 February

Sunny start, cloudier during the day, ending with rain. Max. 18°C. Wind start 1Bft ending 5Bft. Total number of godwits seen: 1969, but ~200 double counted?

The Spanish writer Rafael Alberti, in his book *Marinero en tierra* [1924], writes: "Dejo de ser marinero, madre, por ser salinero". Which freely translated means, "I stopped being a sailor mother, to become a salt farmer!".



*And the salt farmers work hard here, entire mountain landscapes of white salt were encountered*

Paco told us that people even come here to get salt on the sporadic occasion that it's slippery in Spain. He took us in tow today to explore the area around Puerto Real. And that was no luxury. What a jumble of (motorway) roads, local roads and (un)paved, exciting paths it is here. He is an active birdwatcher himself and knows the area like the back of his hand. So, he also knows the best godwit spots in the area. We started this morning at Salina Marisma de Cetina. A huge complex for salt extraction. These salt pans are not open to the public. Through Paco's intervention, however, we were able to enter the area. And there they were, spread over the area in several small groups. About 400 in all, including a number of ringed RuG birds.

The quietness of the area means you come across some nice species here. As in the fish ponds of Veta la Palma, you find Ospreys, many small waders, a resting place with some 1000/1500 Lesser Black-backed Gulls and of course the pink candy canes (Flamingos).

The day was also a bit dominated by the weather forecast. From about 5 in the afternoon, lots of rain and strong wind was predicted. So, enjoying all the other beauty was out of the question, we had to keep going....



*The weather forecast was stormy so hats needed in preparation....*

On to Salina de la Tapa, a somewhat smaller area for salt extraction. This area lies directly east of the A-4 motorway. Salina de la Tapa borders the Salina Marisma de Cetina, which are separated by the Rio de San Pedro.

In this second area somewhat fewer godwits. We came to about 200 birds but again with a small number of color-rings. Meanwhile, it was afternoon and we noticed that the wind was starting to increase and the clouds were getting darker. We quickly left the area and headed for lunch. But not before we had photographed a group of Little Terns with 11 Caspian Terns in between.



*Caspian Terns and Lesser Black-Backed Gulls in Salina de la Tapa*

On Paco's advice, we had lunch at a local restaurant where the group of volunteers always gathers to count all birds in this area, with Paco as coordinator. We had delicious local specialties!

And then on. On to the area we visited briefly yesterday afternoon. And there we found most of the godwits. Scattered all over the area several groups, including one group of almost 700 adding up to some 1000 birds. We picked up lots of ringed birds, including several code flags, Wim's specialty. Reading the code flags is really fiddly work. The rings are often stained, making the 3-digit/letter code difficult to read. Not for Wim, today he read 4. Valuable because these rings are used for godwit chicks, whose exact birthplace is known.

At the last group of 700 birds, it was already so dark that reading was no longer possible. Besides that, the wind had increased to wind force 4-5 Bft and the first drops of rain fell. By mutual agreement, we quickly returned to the car. And after a heartfelt goodbye, quickly into the cars back to our flat. On the motorway, the storm erupted.

We'll see what the weather does tomorrow. The forecast is not good. Lots of rain, 50 to 60 mm and strong winds, not ideal for reading rings. But who knows, maybe it won't be too bad.

### 9 February

Storm and heavy rain in the morning, ending with sunny spells in the late afternoon.

Total number of godwits: up to 1000 in total in Cadiz-Puerto Real area, hard to be precise because of movements.

orkaanachtige windvlagen in Spanje door storm Karlotta



Storm 'Karlotta' raged over Puerto Real last night and part of the morning, with wind gusts of up to 90 km/hour. Nevertheless, we went out looking for godwits and reading rings. And not without merit. Then you see what tough guys those godwits (and other birds) are. Despite strong winds and rain, they foraged all day long. With the aim of fattening up for the rest of the journey north.



*Car as shelter for researchers...*



*Despite strong winds and rain, the food search continues*

Despite the weather conditions, we had high hopes, because godwits are extra hungry in these kinds of conditions and like to forage in salt pans in 'het oppertje' (shelter) into the wind direction. And let those be exactly on the good side of the car, with no wind and rain in your face and telescopes..., so Willem could use his window tripod to watch the birds from the back seat without having to leave the car with tripod and telescope. Every abandoned salt pan was quite full of godwits and the stormy wind made them walk against the wind at lowering tide, flying from salt pan to salt pan to forage. In total, we collected 16 ring combinations (including 2 code flags) and drove the same

small stretch of paved road 3 times, each time with new ringed birds. You have to be lucky, they say, and that certainly applied to us today, despite the rain!

At 2 pm, it was time for lunch and a beer at the same restaurant where we were yesterday with Paco. After devouring the famous Spanish croquettes, saying goodbye to the waiters with the promise that we would come back next year, it turned out that the weather had also cleared up a bit. So quickly to the spot where we saw 700 birds at the end of the day yesterday on the other side of the highway, but couldn't read anything due to dusk.

Now there were only 125 but we decided, now that it was dry for a while, to take the risk, a walk of over 15 minutes full into the strong wind. When we arrived at the group, many were standing on one leg napping, so that didn't get us very far. But we could tell by the rings that they were mostly the same ones from our extended morning-afternoon session in the rain. And more and more were landing on 2 legs and then you have to be very quick as a ring reader.... Fortunately, we got unexpected help from a group of Flamingos, which, due to our presence, walked a bit through the group of godwits. Just when we were about to take a big reading session (by now 750 birds) another zone of rain came... It took about 15 minutes for it to pass, and all the while we stood together, like cows, with our asses in the wind.



*Stay as low as possible because of strong winds*



*When finally able to make our move, the whole bunch flew up after 5 minutes, without returning.*

Anyway, we had probably already seen most of them, so quickly back to the car, just before the next showers would erupt. We left the Cadiz area for our next goal, the Brazo del Este area on the east side of the Guadalquivir and staying in Las Cabezas de San Juan.

## 10 February

Sunny with scattered clouds, Wind 1-2 Bft, ending with 4Bft, temp. up to 18°C, no rain!

Total number of godwits: 13 (Brazo del Este), 0 (Bonanza), 650 (Puerto Real)

This morning on getting up in our accommodation in Las Cabezas de San Juan, we immediately noticed that the weather today is much friendlier than yesterday. Storm 'Karlotta' had passed, the sun was shining again, it was slightly cloudy and when we set out there was virtually no wind. First on the program was the Brazo del Este. We had already heard from colleague Wouter Vansteelant and Dutch observer Mario Huizinga (developer of the "Bird-Ring-App") that there were not many godwits over there, probably due to the drought and changing agriculture, which has also started in this huge area, but who knows? Maybe 'Karlotta' had brought some new arrivals from the south?

On the way, just before Pinzón, we met the first Spanish farmers on their tractors, apparently on their way to a next protest meeting....

The Brazo del Este is a nature reserve east of the Guadalquivir River. In the past, upon reaching the marshlands, this river branched into several arms. Brazo del Este was one of them. With canalization, it lost its relevance and was further cultivated. However, the wetland with its marshy vegetation proved ideal circumstances for waterbirds. This led to the area being declared a Ramsar wetland in 2002. Today there were plenty of waterbirds, but only 13 godwits. Probably due to the high-water levels by heavy rainfall with storm 'Karlotta', there is not much for godwits to get in this area at the moment. Last year at lower water levels, there were plenty of them. And the surrounding 'industrial' agricultural area does not look interesting to the godwits anyway, because the lack of suitable ploughed stubble rice fields. Plenty of other nice birds, though. Large flocks of Storks. Purple Swamphens and of course Flamingos.



*Loads of 'dancing' Flamingo's but only 13 Black-tailed Godwits in Brazo del Este*

The sandy dirt roads besides the river Guadalquivir were not passable due to the excessive rainfall from the last two days, so we took the paved road towards the salt flats of Salinas de Bonanza. When we arrived at the A-471 motorway, which should take us south, we met our tractor-friends again.... They had the same plan, cozy following each other south on the A-471 at a speed of 20km/hour. The police had closed the motorway for this and showed us an alternative route. Very friendly, but it

turned out to be partly unpaved.... Strange world, tractors on the motorway and cars on unpaved dredging roads!

Finally, we scoured the salt flats north of Sanlucar, but here, too, high water levels and not a single godwit seen. Absolutely no chance to visit this area via the muddy road through the estuary, so this year no exciting narrow escapes from the Bonanza salt pans....



*In many places, we came across a yellow flowering plant, the Knikkende Klaverzuring/Nodding wood sorrel, which flowers profusely here from December to May.*

Since we had gone down a long way south anyway, we continued towards Puerto Real again where we encountered plenty of godwits yesterday. On the way there, we drove through a real horticultural area. Plenty of leeks, cabbages, melons and winter carrots. Harvesting is still real handwork here. We drove past a field where 43 men/women were uprooting carrots by hand at the time. Cozy communal activity for Saturday afternoon.

In the salt pans near Puerto Real, where we were successful yesterday, there was now again a large group of some 650 birds. The wind had picked up by now, but with sunshine it was a lot more comfortable than yesterday. Unfortunately, for no apparent reason, the group left after about 15 minutes with unknown destination. Until then, only two rings could be read. Sometimes things work out, sometimes...

So, we read some Flamingo rings, after all, you have to keep practicing. As our lunch address of the previous two days was not open, tonight we will have dinner in Las Cabezas de San Juan. The drive home was nice and smooth, our tractor friends probably already heading towards carnival. Due to the low numbers of godwits in Brazo del Este, we decided to head for Veta la Palma tomorrow.

### **11 February**

Temp. 17°C, cloudy and rain predicted from 11.00 to 15.00 hour. Wind 2Bft, southwest.

Total number of godwits: 635 at Veta la Palma, 0 at El Rocio

Up early (06:30 am) for the last day of the 2 W's. From our accommodation in Las Cabezas de San Juan, between Cadiz and Seville, it was a 1.75-hour drive to the Veta la Palma fishponds near Isla Mayor. Yesterday we had decided that this would be the best option, as there were few birds in the Brazo del Este and Bonanza salt pans. We hoped that due to the heavy rains, the godwits might have moved from the estuary to the fishpond complex, so that we could read more ring combinations.

Early on Sunday morning, so there was little traffic and we were able to pass the bottleneck at the bridge near Seville smoothly. This saved considerable time, which would be needed as rain was forecast from 11:00am to 3:00pm.

At 09.03 we started in the fishpond complex with our first group of godwits, with still little daylight, while the first drops were already falling. The start was hopeful, there was no wind and in the first tank (C2) there were a fair number of godwits and... immediately a code flag, which was read.



*Despite the rain, this was the best ring reading day in Veta la Palma area, so a good decision after all.*

One of the goals was to see transmitter godwit 'Boerestreek' again. The Animal-Tracker-app showed that it regularly ran in section C2/C3. Black-tailed Godwits kept coming out of the sky, giving five readings within 15 minutes. Meanwhile, they seemed to be moving to section C3, which could then possibly include 'Boerestreek'. But alas.... But then all godwits, with the new birds, moved to section C1, where the rings were clearly visible. That yielded two more difficult-to-read code flags and we ended up with 12 ringed birds! Happy reserachers, and glad that we made a good decision yesterday to visit this area again.

Meanwhile, it started raining more and more, but fairly perpendicular down and wind somewhat from south, and the godwits on the good side of the car for our telescopes, so we were lucky.



*We decided to go along the narrow and somewhat slippery middle path all the way to the south...*

On the way to the south, where we had been successful earlier on, it was already a bit slippery in places, but with caution and in 2nd and 3rd gear we managed....'

Slowly but steadily the rain got worse and worse, but we kept seeing new ringed godwits and at 2.45 pm the counter stood at 24! By that time, it should have stopped raining, according to the rain radar. And we hadn't seen 'Boerestreek' yet.... So we were going to drive along the eastern side to track it down. But after all that rain, our semi-paved path had turned into a slide and after 800 meters we were glad to have a slightly harder stretch after almost getting stuck. We had been warned about this of course, and know this about the area, especially after 50mm had fallen the day before yesterday. Then it becomes slippery. At the crossroads where we stood, we could take a narrow dike as the shortest way to the slightly harder main path, or decide to take the long way along the eastern side. Together we took the first 100 meters on foot to see how we could get out of this predicament in the 'middle of nowhere'....

We didn't dare take the shortest route back, that path sloped and then we would definitely slide into the fish ponds.... In fact, neither did we take the other long east side track as it was getting softer, muddier and more slippery there.... Finally made the decision to drive the same 800 meters back to the slightly harder middle path. And that worked, we got out.... Oops!

But now another 7.5km on the main path back which was also tricky on the way out, with only 50cm of space on either side of the dike, and the risk of ending up 4m down in the fishponds. The first 2km was the worst, although semi-surfaced, but with big potholes and with so much rain and mud and riding right next to the precipice, the sweat was on our backs....

With a dose of luck and good steering from Wim, we drove back at 15km/h in 2nd gear over the total 7.5km of embankment to the base office of the Veta la Palma.

How glad we were to have made it. Willem was worried for a while that we would run aground due to lack of fuel, but fortunately, apart from a red light and more stress, this too did not lead to any more trouble. All's well that ends well. We thought we deserved a (0.0) beer after this adventure, with a daily record of 24 readings.

Having survived this, we tried our luck some more by driving to the pilgrimage site of El Rocio. Last year we had our first ringed godwit there. But even there, due to the extremely high water levels, no godwit to be seen. We could look back on a successful week though, despite the storm, rain etc. And for all the adventures, because after the 'Great escape' with Siebe Bonthuis at night from the Bonanza salt pans, and the 'Narrow escape' last year with Willem also from the same area with a closed gate at the end of a narrow dyke, we can now add the 'Big escape' from the Veta la Palma fishponds...!



*On leaving the fishing ponds, the rain gauge showed 17mm*



*Now the Wild Boars could not escape us anymore, very close to our car, after the 'Big-escape'....*

## **12 February**

Relocation day from southern Spain to Extremadura and changing of the team

Total number of godwits: 1.010 at Hernán Cortes

This morning Wim said goodbye to Willem Brandhorst at the airport of Seville, while colleague Arne van Eerden came down from the sky with the same plane in which Willem left again for the Netherlands a few hours later. Willem took a nice picture from the plane of the Extremadura, which is about halfway between Seville and Madrid and actually at the same height as Lisbon. After driving more than two hours north, we arrived in Santa Amalia, which is located almost centrally in this huge rice-growing area.

Last year it was extremely dry here and many rice fields had changed to other crops such as cereals resulting in a record low number of godwits. Now, due to the recent rains, things were looking different here and there seemed to be some more rice being grown again.... Favorable for the godwits, who hope to have dinner with the old fallen rice grains and leftovers on the wet fields.

We still had 1.5 hours left, after settling in the same apartment as last year in Santa Amalia, before it got dark at 19.00 hour. First, we had a look behind the tomato puree factory, where last year always godwits were foraging. Now Wim immediately 'jumped on his feet' when a field with similar silhouettes loomed up in the distance. Arne had already installed himself on the good side of the car behind the driver, in order to start ring reading right away. But... it turned out to be a field of 3 to 400 Black-Winged Stilts! Apparently, the wish was the father of the thought in this case.

Fortunately, there was a German GPS-tagged bird in the area and he showed us the way by the Global Flyway Network website and by the Animal-Track-App. So straight on to Hernán Cortes, turn

right and then at the bottom of the mountain turn right again so you have a nice overview of the land. The country road towards it was, as in Veta la Palma, full of water and not very promising, so a kind of rendezvous.... But Wim's visiting here for the 5<sup>th</sup> time now and knows that it has a hard surface, so lots of splashing water around the car and go with that Banana!



*Rendez vous; challenging roads to ride in the Extremadura by the heavy rainfall from last period*

That brought us 1010 godwits, but almost all of them up to their bellies in water on this flooded and plowed rice field; so screening legs was almost impossible. However, we got three readings anyway, including a chick which Wim ringed in his own 'home-town-research-area' together with farmer Jan Mulder and released in 2019 on "Lange Akkers" in the Normerpolder, Wieringen, Nths. Arne also managed to score one despite all the cane cuttings spoiling our view, and thus the godwit feet kept hidden for a bit.... Around sunset the birds flew in groups to the roost northeast of Hernán Cortés, so we were going to watch and investigate all that in detail tomorrow!



*Changing landscape in many places in the rice fields of Extremadura*

### 13 February

Temperature 13°C-18°C, wind 12 km/h S, cloudy, some drizzle in the morning, later on sunny

Total number of godwits: 1480 around Hernán Cortes

It's our first full day in the Extremadura. Yesterday, we drove from Seville to Santa Amalia and today we are eager for rings. German-ringed and satellite-tagged godwit named 'Handlanger', which had been frequently spotted in the rice fields near Hernán Cortes would show us the way we hoped.... (see overview right)

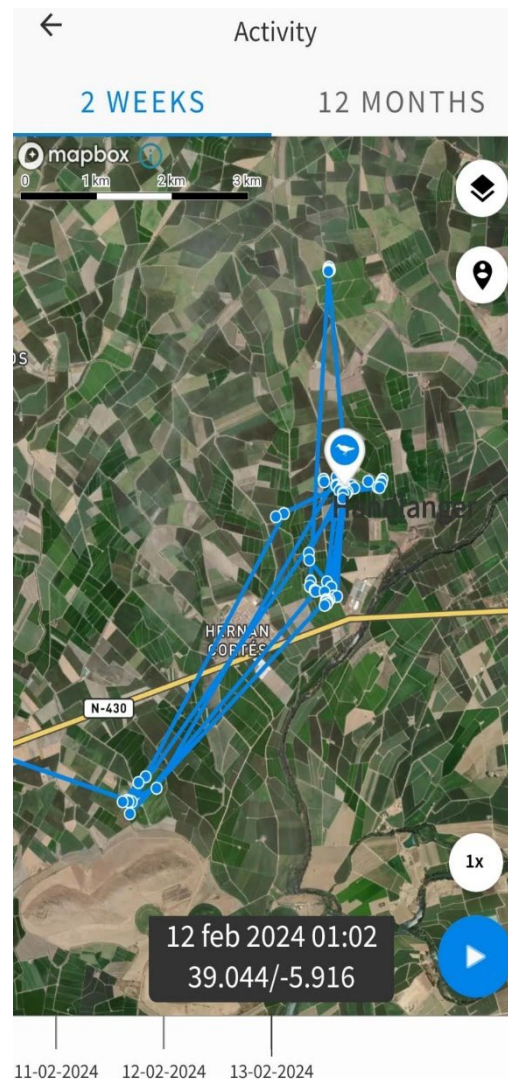
We turned off the main road and found a large group at the second basin, conveniently located next to the road. The persistent drizzle couldn't discourage us. Wim hadn't seen so many rings in Doñana and was thrilled to do some ring reading.

We were delighted to see the Dutch flag ring combination: red, white, and blue.

The rain didn't diminish our excitement as we examined the rings on the godwits' legs. After a successful morning, we continued our trip around the rice fields. We checked every single one of them but couldn't find any more godwits. There were many lapwings, cranes, stilts, and some golden plovers, but the godwits were elusive. We passed through Santa Amalia and crossed the road to the southern side. We drove through many rice fields that had been converted into olive plantations. The Dutch news just sent a push notification that the price of olive oil had increased the most out of all products in the supermarket. The farmers in this region opted for other profits by replacing the rice with olive trees in many areas as we have seen for a few years now.

The landscape was filled with small young trees, all carefully protected by a small white plastic sheet around the stem, and plenty of pesticides on the plants in between. Most of the rice fields were not yet ploughed and therefore unattractive for godwits to forage. The roads were full of pits filled with water, making driving around the landscape challenging. It was better to run over these roads, as demonstrated by an otter that swiftly sprinted in front of us.

We ended our day south of Hernán Cortes where the water levels in the rice fields were quite high. The godwits looked like little boats transferring through the water and reading rings was not easy. We persevered however, and were able to read a handful of rings in this flock of 810 birds.



## February 14

Temp. 8°C up to 22°C, sunny, almost no wind, no rain

Total number of godwits: 1045 around Hernán Cortes, 145 at Vegas Altas

The 2nd full day in Extremadura. Yesterday was a cloudy day here, today we tapped the 22 degrees in the afternoon. Just like in the Doñana it had rained quite a bit lately (80mm) and Wim did not have experienced such wetness here during the last five years of research in this area. No doubt the Spaniards will be happy about it because the big problem here is precisely drought, due to global warming?

We started from our village of Santa Amalia directly 5km away, where, like yesterday at the town of Hernán Cortes, we found ourselves with a group of 1045 birds on a wet upturned rice field. But most important for us is, we could see the legs (rings) well and scored 26 today.



*Finally nice ring reading circumstances near Hernán Cortes, with good visible legs*

Including a Finnish bird, a GPS-tagged German, a GPS-tagged Spaniard AND the GPS-tagged 'Woudburen' from our research area in SW-Friesland. Last year we also saw him here and he was quite lame, I really did not give a quarter for it anymore.... But the transmitter was still working, and he has been up and down Friesland-Africa again! He foraged vigorously and is less lame than last year. Tough rascals those godwits!

We also discovered some Ruffs. They foraged here along with the godwits now that it is so wet, also resulting in large flocks of Lapwings and Golden Plovers in the fields. All waders thrive on wetness (more food!). Not to mention cranes... Our impression was that more rice was grown last year.



*Subsidized ‘plasticification’ of the supply channels*

Like everywhere in Europe, agriculture is heavily subsidized here too. We regularly saw signs from the European Commission that another agricultural improvement had been made somewhere. We were thinking in this case of the ‘plasticification’ of the concrete water supply channels to irrigate the fields that were already very old and subject to decay.



*You almost got a wet suit if you take a snapshot of the wet situation on the country roads like Arne did. But so far, we have survived everything.*

Of course, the wetness also caused some inconvenience because several roads are non-drivable. The roads leading to potential godwit fields were decreasing from semi-paved dirt roads, to gravel and sometimes only clay between the fields. In recent years it has been dusty here, but now you'll have to be careful not to get stuck in the mud.

Until about 11 or 12 o'clock, most godwits foraged, then stood on one leg to digest their food and take a quick siesta. That was the signal for us to move to the 'far east', at least 50 kilometers further, near the village of Obando. Here we have had many godwits (max. 2000) for the last two years. Our Spanish colleagues had not been there for 14 days, and we were curious to see what was there and if the area had changed. Last year they were already constructing facilities, like thick blue pipes, in this large-scale agricultural area to improve the water supply.

Well... they were still at it and just as in the rest of this former rice region, the olive plantations were increasing, which made us ask ourselves whether in 10 years rice will still be grown in this region? We saw a lot of Cranes and Flamingos there now, but no godwits. And on the road was a dead Otter, after we fortunately also saw a live one running in front of us at Santa Amalia yesterday.



*Hoopoe on the roof of the abandoned farm in the Obando rice fields*

Arne's hobby is nature photography, so of course we pay attention to that, when there are no godwits around. At the abandoned farm in the Obando rice fields a beautiful Hoopoe family, singing Serin, Spanish Sparrows, and Red Partridge. Arne has never been able to capture these so beautifully! And for Arne this area is new, having been on a godwit research trip in the Tagus estuary

last year. Here it is much more driving around and tracking the low numbers of godwits in a much more diverse landscape.

Our return trip we did via some smaller rice areas. And so, at Vegas Altas we came across 145 godwits, one of which had a code flag.... which we didn't want to let go before we read it. But that was easier thought than done. After two attempts we gave up, especially since there was a lot of danger from barking dogs near a dog kennel. Although barking dogs don't bite, they say, one had escaped from its pen.... Through Madrigalejo, Palazuelo, Zurburan, Villar de Rena, Puebla de Alcolarin and Casar de Miajadas back to our shelter. But no more godwits to be seen unfortunately.



*There were more and more olive plantations everywhere where rice was grown in the past. Apparently olive oil is more profitable than rice!*



*And it was Valentine's Day, as was evident because the storks were doing a great job today...*

So did the lapwings and godwits, with these temperatures, we could hear the occasional courtship calls bouncing around!

## February 15

Temp. 5-15°C, wind 2Bft, cloudy and some rain forecast during the day

Total number of godwits: 2194 around Hernán Cortes

We began our ring reading expedition east of Hernán Cortes. The heavy rainfall from the previous night had made the landscape even wetter. Unfortunately, we found no godwits there now, even though by now this had become a customary morning ritual. We continued our survey and searched for godwits in every rice field through north of Hernán Cortes, but we came up empty-handed. Finally, the godwits appeared, flying across the horizon straight to the southwest. Our math and topography teachers had prepared us for exactly this moment. We knew immediately that they were flying towards the other rice field, where we had seen a group two days earlier. We arrived at the rice field, parked the car, and ventured further on foot. There was a sizable group of 1359 birds present, and we began reading rings, although the birds were often belly-deep in water, sh... We did see a newly ringed bird with shiny Spanish rings, which had been ringed the previous night by the University of Extremadura-team.

*It was again a "Hollandica," but this time with Blue-Yellow A! So, there are now at least three in circulation.*



Our observation site was not ideal because of the vegetation that obstructed our view of the godwits. After a concerted sneak peak, we continued our attempt to read a code flag and slowly approached the group. Still unsatisfied with our new spot, and encouraged by the singing Zitting Cisticolas, Quails, and Corn Buntings, we stealthily moved closer. However, we got a little too close for the godwit's liking, and alarmed Stilts threw even more of a spanner in the works. Fortunately, they landed two fields away, where more rings could be seen because of the lower water level in that rice field. That yielded considerably more rings!



*Arne tries to approach unseen the big group of godwits behind the reed beds like a hunter....*

As noon approached, the godwits were having siesta, so we couldn't read any more rings, everything stayed on one leg. We returned to the car with muddy shoes, drank coffee and sought shelter from the approaching heavy rain in Santa Amalia. After the rain subsided in the late afternoon, we returned to the fields east of Hernán Cortes and miraculously our group of godwits had returned to the good field where ring reading was a piece of cake. Before we set up our telescopes, we spotted a Stone Curlew on the road ahead!

The group numbered 835 birds and finally we were able to read our codeflag nemesis with the code flag that had kept us busy for two days and was barely readable due to the dirt and tarnish. It turned out to be 1LK5NB. Ringed in 2022 on May 7 as one of the first chicks that season by Lisa Rose Haaksma together with Jos Hooijmeijer on the Workumerwaard. We also saw newly ringed birds with once again Red, White and Blue rings on their left leg, presumably to make sure they are granted access to Dutch airspace by the air traffic control....

The showers started again and once they passed; the group flew to two freshly ploughed rice fields from two days earlier. We approached very carefully and read many new rings that we had not recorded before while enjoying the warmth of the sun. Unfortunately, it didn't last long, as the group split up and dispersed. And with the godwits, the sun also disappeared as another shower approached, so we decided to call it a day as well. Back to Santa Amalia, we had coffee in the local pub, Arne cooked a vegan meal and went to bed to start the new day fresh. We watched football game Ajax-Bodo Glimt after dinner and of course processed all the data from this wonderful top day!

## **February 16**

Wind NW 2Bft, temp. 5-15°C, mostly sunny, cloudy 20%.

Total number of godwits: 1000 around Hernán Cortes

Our field at Hernán Cortes was empty this morning. So, we headed to our 2<sup>nd</sup> option, the rice field at the bottom of the hill south of Hernán Cortes with unfortunately very much water. Here we found them with the godwits up to their bellies in the water. That didn't work out much; after an hour of torture only two ring combinations. We saw some groups flying away in NW direction, high and far away but eventually descending. So, we headed in that direction, towards Valdehornillos. After quite a lap and a lovely walk, during which a Griffon Vulture came flying by at Santa Amalia, of course noticed by the always sharp Arne van Eerden, we still had not found the godwits. Delightful sounds of large flocks of passing Cranes, though! First a cup of comfort in our local coffee shop and going over the tactics for the rest of the day. We decided to look on the other side of the Burdalo River. We had never been there before, but in the past birds have been seen here and the birds that left the Santa Amalia-Hernán Cortes area, they did go that way....

Spanish colleague Julián Cabello suggested to check out Almoharin, the most northern spot of rice fields in this area, but alas. We did some shopping in Miajadas, our old base of operations. Via Alonso de Ojeda we started the way back and after that a very western route via Santa Amalia and Yelbes. There used to be birds here for many years, but now it was just olive plantations. Finally, we arrived back at where we had started in the morning, at the bottom of the mountain. Now there were as many as 1000 birds in both deep rice fields.



*Again, many almost impassable roads, and we kept the 'running gag' alive for a while, this time with Arne behind the wheel, Wim kept it dry as photographer....*



*Still from film: para motorist causing a big disturbance near Hernán Cortes*

Suddenly there was great panic among the birds, and it soon became apparent why.... A paramotor made all the birds on land take to the skies in panic! The silhouette plus sound of such a thing always causes a great disturbance to nature. The paramotor pilot had a nice view, a few godwits flew away for good, but after 10 minutes the peace had returned, and we went after the group anyway. That yielded some ringed birds and once again the transmitter bird 'Woudburen' was present. The godwits were in good condition, as we noticed, and this was reflected in the weights of the captured birds by our Spanish colleagues. Rain provides food for both man and beast in Spain.

Around sunset, Arne had the bright idea to take a look at Hernán Cortes NE-spot, some groups were flying in that direction. Just at sunset we arrived and yes it looked good, but reading rings in the twilight and with some backlight is not easy. But... who knows, maybe tomorrow morning they'll be looking that beautiful again!

### **February 17**

Sunny, temp. 8-19°C, Wind 1Bft, no rain

Total number of godwits: 1450 near Santa Amalia, 0 at Obando, 2045 at Hernán Cortes

The misty morning greeted us with the dawn chorus of Spotless Starlings and the graceful flight of House Martins as they left their nests to capture the first insects of the day. The mist veiled Santa Amalia but the sun soon pierced through, casting its warm rays upon us. Eager to explore, we set off early towards the fields east of Hernán Cortes, where we had spotted godwits the previous evening. To our disappointment, they had vanished without a trace. Undeterred, we decided to take a detour around the area, hoping for a stroke of luck. As we made our way along the irrigation canal, a Sparrowhawk joined us, swooping low above the vegetation to startle the passerines upon surprise. It flew alongside our car for an extended period, captivating us with its flight. With no sign of the godwits, we turned to technology for help. Using the Animal-Tracker-app, we discovered that German godwit 'Handlanger' lived up to its name and left clues from the previous day near Santa Amalia. Following the muddy road, we stumbled upon a large flock of 1450 birds.



*A female Marsh Harrier spoiled the ring reading opportunity*

Excitement filled the air as we anticipated reading new color combinations in the crisp morning weather. Discussing different tactics, we ventured on foot to the higher rice fields. A female Marsh harrier, perched on a nearby hill, seemed to share our goal. As she glided down towards the group, the godwits took flight and headed northwards.

Disappointed, we returned to the car to sip our coffee. Here we saw a small flock of 201 birds landing back in the field. A Little Owl's falsetto call echoed from a nearby farmhouse as we neared the group, finally able to read some rings. One particular German-ringed godwit even revealed its satellite antenna, though the rings themselves puzzled us. After meticulously reading all the rings, we retraced our way back to Santa Amalia, where we paused for a well-deserved coffee at the local bar. Despite the siesta hour beckoning, our curiosity led us to seek out if the godwits had discovered the rice fields near Obando already. Arriving at Navavillar de Pela an hour later, we searched the rice fields where godwit Patrick had resided the previous year, but the unploughed stubble rice fields yielded no signs of the birds. Our journey continued to Obando, where the freshly ploughed fields greeted us with cranes and flamingos, but no godwits. Undeterred, we pressed on to Vegas Altas, only to be met with the same disappointing outcome - no birds in sight.

Undaunted by our string of unsuccessful resightings, we embarked on a grand round trip back to Santa Amalia, hoping that luck would finally be on our side. Yet, once again, the godwits remained elusive. Determined to read rings, we ventured to the southern Hernán Cortes fields. Spread out over three fields, a group of 2045 godwits awaited us. The conditions were perfect - no wind, sunny weather, and the air felt crisp. However, in two of the fields, the godwits were mostly sleeping, and the third field was fenced by shrubs, obstructing our view of their legs.



*Our almost daily visit on the 'hotspot' by Hernán Cortes along the hill, far away and too much water!*

As the sun disappeared behind the hills, the day came to a close, mirroring its beginning. Many godwits were in sight, the weather conditions ideal, but the number of rings read fell short of our expectations. Returning to our *casa* in Santa Amalia, Wim checked the individuals we had encountered throughout the day, discovering a few new individuals among them. This small victory brought us a sense of fulfilment, fueling our dreams of the group that awaited us the following morning. Would our dreams prove prophetic? Only time would tell. We settled into bed, ready to greet the new day and uncover the mysteries that lay before us.

### February 18

Fresh start, 6°C rising to 19°C. Sunny, slightly veil clouds during the day. Almost no wind.

Total number of godwits: 1869 Hernán Cortes

We started this morning at our regular large group where we ended last night. Hoping that some of the birds would be in the rice field where there is virtually no water, so we could see some rings for some time, just like yesterday. But alas, there were 1869 birds in a heap in the rice field with high water, virtually no movement. Well... what do you do then?



*Belly deep water, so hard to read some rings on godwits, wishing they were Black-winged Stilts....*

Still, we read in one hour of full patience together nine rings, but.... There could be many more, if they would have legs as long as stilts!

So anyway, on to the spot from yesterday morning, at Santa Amalia where the Marsh harrier disturbed our party. But alas, nothing nada. A round behind the tomato factory, nothing. A round east of Hernán Cortes, nothing. Back to our group of 1869 birds, maybe there was some movement

in the meantime.... But no, still the same number and only sleeping on one leg and in deep water. What to do now?

Wim remembered a spot where in 2021(Corona year) our Spanish colleague Pablo Macias discovered a group near Valdetorres, across the river Guadiana. In 2022 this spot seemed to be so industrialized in terms of agriculture that it was less suitable, but you never know? So we headed for it. Wim's memory did not fail, as we flawlessly knew how to find the roads and turns. But the area is now really unsuitable and there is no more rice cultivation here. By now it was already some hours after noon. And Arne had not yet seen the castle of Medellin and the Romanesque bridge and theater, so that was a nice diversion with this beautiful T-shirt weather. Wim more or less promised Arne the Purple Swamp-hen as a new species. And incredibly, for the 3rd year in a row this bird was nesting under the bridge in practically the same spot. She stepped off the nest for a moment and we saw that it was a "brood"!



*The Purple Swamp-hen showings its brood under the Romanesque bridge*

Immediately we showed this in the BFVW-app that the 1st egg for spring 2024 was already spotted by us. We hung out on the sun-drenched terrace and then did some shopping via Don Benito, although the Lidl and the Dia are closed on Sundays, but fortunately there was still a Carrefour open.

Then back to in fact the only large group of godwits here; so for the 3rd time we drove down the hotspot country road. Unfortunately, again they were not in the shallow rice field, but backlit in the deep one.... We detoured and via the wet mountain road made sure we had the birds with the evening sun in the back. And just after we put the car down everything flew up.... The culprit was a Peregrine Falcon that scared the hell out of them. It took a while for everything to calm down again. We hiked down the mountain trail into the field for the umpteenth time this week. There was a pile of rocks in one corner of the field, giving you a better view over the tall cane spikes along the ditch, so you could at least see something. If a godwit did some walking you would have a chance of getting rings above water, literally and also figuratively....

After a while most of the birds flew to the next field, also full of water, and only along the sides you had a chance to see legs as they foraged there. And damn, finally we saw our German-tagged godwit 'Handlanger'! This bird put us on the trail of the satellite data to reveal such a spot near Santa Amalia behind the mountain, where you would otherwise never look for a godwit!

With another hour of light, we saw some birds leaving towards Santa Amalia and so did we. When we arrived, there was nothing, but out of the blue sky some flocks of godwits came tumbling down and landed behind a concrete water supply. Carefully maneuvering we got a little closer to them.... And guess who had flown with us? Our 'Handlanger' of course, which means accomplice in English!

## **February 19**

Weather; sunny, temp. 12 to 21°C , almost no wind

Total number of godwits: 850 Santa Amalia, 397 Palazuelo, 200 Hernán Cortes

Full of anticipation, we began our day around the hill near Santa Amalia. The air conditions were perfect and we had breathtaking views of the surrounding hills and mountains. As we looked behind the hill, a large flock of godwits filled the sky. We could only see their silhouettes with the sun directly behind them. We opened the car window and heard the godwits calling. They seemed reluctant to land, and instead circled over the landscape in larger and larger circles. Their calls grew louder, and the group moved more frenetically as they checked each nearby field before moving on. Some individuals clearly took the lead, signaling their intention to separate from the group in another direction. Others followed, leading to the gradual dismantling of the 850-strong swarm into smaller groups that spread out over the horizon.

This was certainly a stark contrast to the past few days, when we had observed mostly fat godwits with high API's (Abdominal Profile Index) resting a bit in the water without showing us their rings. Now the sky was filled with small groups, all in flight, as if saying goodbye to their temporary home in Extremadura (and their Dutch stalkers with telescopes) and continuing their northward migration to the breeding grounds. We followed a small group to the hill south of Hernán Cortes, where the godwits flew over and headed north again. We followed their direction, checking every field north of Hernán Cortes and straining our ears to catch their distinctive sound. Against the backdrop of a clear blue sky, we once again saw them flying over us. Again, they seemed restless, and their silhouettes disappeared into the blue rather quickly. Determined to see the group in the field, we drove in the direction they left, carefully searching every field between Hernán Cortes and Santa Amalia.

Unfortunately, they remained elusive, and our efforts seemed in vain.

We became a little discouraged, as it was already 10:30 and we had yet to find a single group with their feet on the ground. We crossed the village and took a peek behind the tomato factory, hoping

for a glimpse of the godwits. And finally, our perseverance paid off. We saw our first group of godwits of the day on the ground. The group was not large, only 170 birds, but they were foraging in a plowed rice field with an inch or 5 of water on it. For an hour we carefully observed and read the group's rings. The sun cast a warm glow on the scene, highlighting the intricate patterns of the feathers as they moved through the water. Suddenly, two fighter jets penetrated the sky, disrupting the peaceful scene. The sudden noise and commotion startled not only us, but also the other birds in the area. The stilts flew up in a flurry of wings, adding to the chaos. The godwits seemed puzzled by the disturbance, their posture erected, and their heads moved in all directions, unsure of what was going on. They lost confidence in their surroundings. Fortunately, we thought we had had a good read on all the rings in the group and could start looking for a new group.



*Black-tailed godwits heading for the Netherlands or just to another foraging area?*

After a well-deserved coffee break, we continued our journey to Palazuelo. The sight of freshly plowed rice fields caught our attention, as they seemed perfect for foraging godwits. As we drove, we passed huge irrigation pipes, each three meters in diameter. It was a reminder of the importance of water in this region. This year there was an abundance of water because of the exceptionally wet season, which made it even stranger that there were not more godwits in the area. In fact, the maximum number we have observed so far was only 2,200 birds. Undeterred, we continued on and soon saw a permille of that group, namely 22 birds in the freshly plowed fields just north of Palazuelo. Unfortunately, they were all unringed. However, the in-field foraging Spotted redshanks brought some joy to this little field. And the Common Greenshanks dipped their beaks into the water and chased insects with great agility.

However, we came here for the godwits, so we drove on and soon came across another group, this time it was 375 birds. They were actively foraging, and we saw many familiar rings we had seen the previous days, as well as those of the morning group. The freshly plowed field also attracted Black Ibis and Spoonbills in the field behind it. We managed to read the ring of one of the Spoonbills, adding to our growing list of sightings. As the sun began to sink to the horizon, we thought we had seen and noted all the rings in the group. The clock was ticking; if we wanted to read any more rings, we had to be quick. Our thirst for more sightings led us to drive quickly to Hernán Cortes, where we had a hunch that the godwits would be foraging in a freshly plowed field. When we arrived, we were greeted by a large flock of lapwings to our left. And then, among their silhouettes against the sunlight, we saw the distinctive long beaks of godwits. We quickly parked the car next to the field. Our intuition proved correct!



*Two happy researchers! Finally, some good visible legs in a group of 375 godwits, all rings read well*

As the setting sun cast a warm, reddish glow on the scene, we intently observed a flock of 200 godwits foraging in the semi-plowed fields among the rice stubble. They were accompanied by a hundred or so Pied wagtails foraging from the stubble to catch late-flying insects. It was a fascinating sight, with the godwits moving gracefully among the stubble and the wagtails fluttering about.



*As the sun dipped below the horizon of Hernán Cortes, darkness began to envelop the field.*

The godwits, with their bellies full of a successful foraging session, chose the skies and flew off to rest for the night in a nearby field. We felt a sense of satisfaction that we had finally been able to read a significant number of rings. Thinking back over the day's events, we realized that many of the godwits had probably begun their journey to their breeding grounds, signaling the beginning of their spring migration. It was a bittersweet realization, knowing that our time in Extremadura was coming to an end and that we too would soon return to the Netherlands.

On our way back to Santa Amalia, with a day and a half to go before our departure, we couldn't help but feel a mix of emotions. We were satisfied with the progress we had made in our godwit sightings, yet a part of us longed for more. But that's the nature of the beast, you always want just a little more.

### **February 20**

Weather; Plenty of sun, no wind, temp. 8 to 20.5°C and last full day

Total number of godwits: 85 around Hernán Cortes, 267 at Palazuelo, 206 at the tomato factory and 1027 near Yelbes

Both yesterday and today, we finally got to see legs of godwits a little easier. You have to do some work for it (lots of miles), but in the end that makes you feel more satisfied. This morning, we were greeted by the singing Barn Swallows, small numbers of which have been wintering here recently according to our Spanish colleague Julián Cabello Vergel from the University of Extremadura, who made a weekly inventory of the godwits. We had about five options this morning to start with. The 1st one behind the mountain of Santa Amalia yielded nothing. However, there was a farmer who thought there were too many plants and flowers on the roadside, where half of the inhabitants of Santa Amalia make their walking rounds during the whole day. We were surprised...



*At full breezeway, both the roadside, the irrigation canal and ditch were briefly treated against uninvited vegetation....*

The 2nd option behind the tomato factory of the Guadiana right next to our village brought only stilts; the 3rd at the bottom of the mountain south of Hernán Cortes where the large group always stayed was, like yesterday, also empty while the fog patches slowly cleared. A small group right next to the highway gave Arne a ring and just east of Hernán Cortes at the regular lapwing spot a group of 47 with a few rings.

By then it was already 10:30, we headed to Palazuelo, where we found yesterday a nice group of over 300 with well visible and readable legs. When it gets hot with this sun, heat waves make reading and distinguishing colors very difficult, but we found the group again, now 267 birds in size. They were standing still at first, but under the influence of a group of Glossy Ibises the bunch got moving well and we could read all the rings! Time for a lovely 'coffee in the field', the sunshine, so what more could a researcher want, with the birds all around you!

We explored the whole rice field again and took paths that we had never been on before, now the weather had dried them up a bit more manageable. That yielded us a ringed Spoonbill that Arne snuck up on very carefully, because the ringed one stayed on the wrong leg, but he managed to read the code. Will not happen often that one is read here!

At noon we decided to go for a coffee in the local pub of Villar de Rena, with the most beautiful bus-stop in Extremadura, colleague Siebe Bonthuis probably remembers it. Where all old rice farmers with hats come to get a 'snap-shot' at the bar, and at 2 o'clock go home to have a hot meal here in Spain. And maybe immediately after that an afternoon nap we guess....

Our Spanish colleague Julian, also came to do his rounds again this afternoon, and he promised to keep us informed if he saw a group of godwits. He reported 200 birds behind the tomato factory near Santa Amalia.... well damn, they weren't there this morning!

We did another big lap around Hernán Cortes, taking some unexplored roads we hadn't driven yet, but to no avail. Where would most of the birds be now anyway? The area here is so large and hilly that it's easy to miss a group. But fortunately, Julián was still in the air and discovered a group of 1200 near Yelbes! So, we immediately dashed over there. If we hadn't turned left in the morning from behind the tomato factory but right, we would have tracked them down too, but that's how it goes....

First, however, we had to do a little job for our colleagues from the RuG and Wageningen University. We took some soil samples from a couple of fields where we saw godwits foraging, to learn more about how and where godwits get in contact with pesticides.

The group turned out to consist of 1027 godwits, counted one by one as we mapped almost everything exactly. Nice to meet Julián again, because we had a lot of App-contact about where the godwits were seen and vice versa. He told us that only 8,000 acres of rice are now grown in this area, which used to be 25,000 acres. But because there is not always more water available and allocated by the government, this has now been decimated. But the local government, now some water has fallen again, has promised the rice farmers to have more water for next season hopefully....



*Sampling mud on a wet rice field for research on possible pesticide residues*

As we stood there, a noisy Great Spotted Cuckoo flew by, for both of us a "lifer" as it's called in birding language. Around Santa Amalia a lot of Magpies, including Azure-Winged Magpies, and that's where this Cuckoo dumps it's eggs.... And even in those of the Hoopoe's!

It was warm and some godwits started sunbathing in the water, but after a while they flew in groups to a place to roost at the end of the day, towards Hernán Cortes. That also became our last goal for today.



*Stone Curlew roost in the rice fields*

Julián did alert us to a common roost of the Stone Curlew that was right next door! The last breeding event of the Stone Curlew in the Netherlands dates back to the year Wim was born, 1958. And it is known as the 'ghost bird' because its great camouflage; a stony and pebbly background makes it capable of disappearing completely.... We hadn't noticed it before, even though we had been there before, although Arne saw one bird. But yes, of course we concentrated mainly on our own national bird!

### **February 21**

Sunny, no wind, temp. 20°C

Total number of godwits: 993 at Yelbes

Our last day, which certainly only turned into a half, as we had a big packing up to do before leaving the apartment. Not only that, but we also had to deliver our rental car clean and polished. It looked like hell after two and a half weeks of driving through mud, split and all kinds of clay grit on the very special 'roads', mainly unpaved!



*Two hours cleaning of cleaning car....*

To top it off, we briefly visited our large group from yesterday at Yelbes. Although many were in somewhat too deep water for ring reading, as usual here, it was again very difficult. Arne succeeded in reading some new ones.



*Black-tailed transmitter godwit 'Woudburen' near Yelbes, as usual on one leg!*

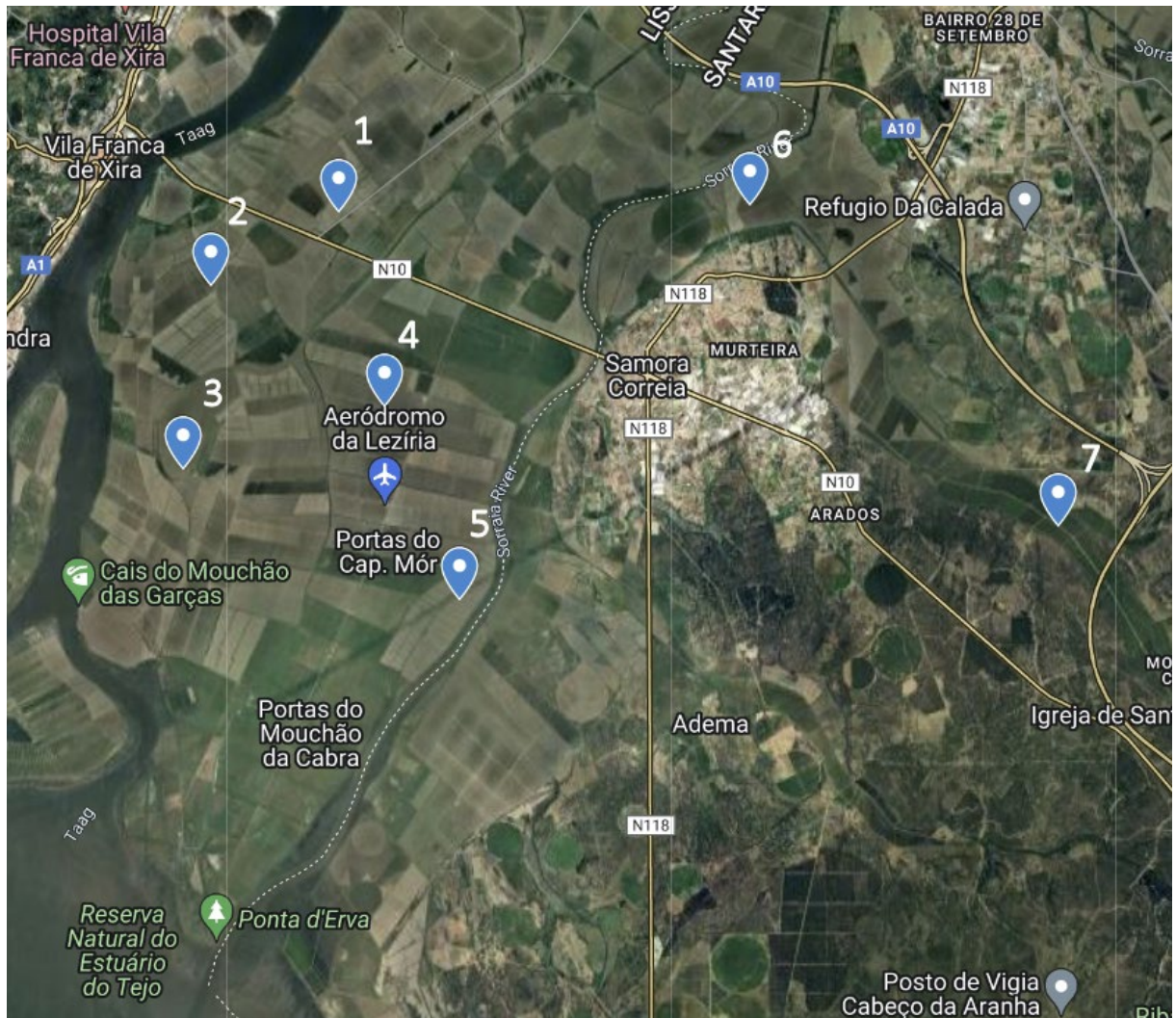
But with views of the Santa Amalia rice silos and a lovely sunshine it was no punishment. The last godwit we saw among 993 that were sleeping mostly on one leg at Yelbes, was transmitter bird 'Woudburen'. He stood on his good leg, because on the left he is a bit limping, but much better than last year. Really toff those godwits, we will pick him, and many others, up again soon in SW Friesland and the rest of 'Hollandica'!



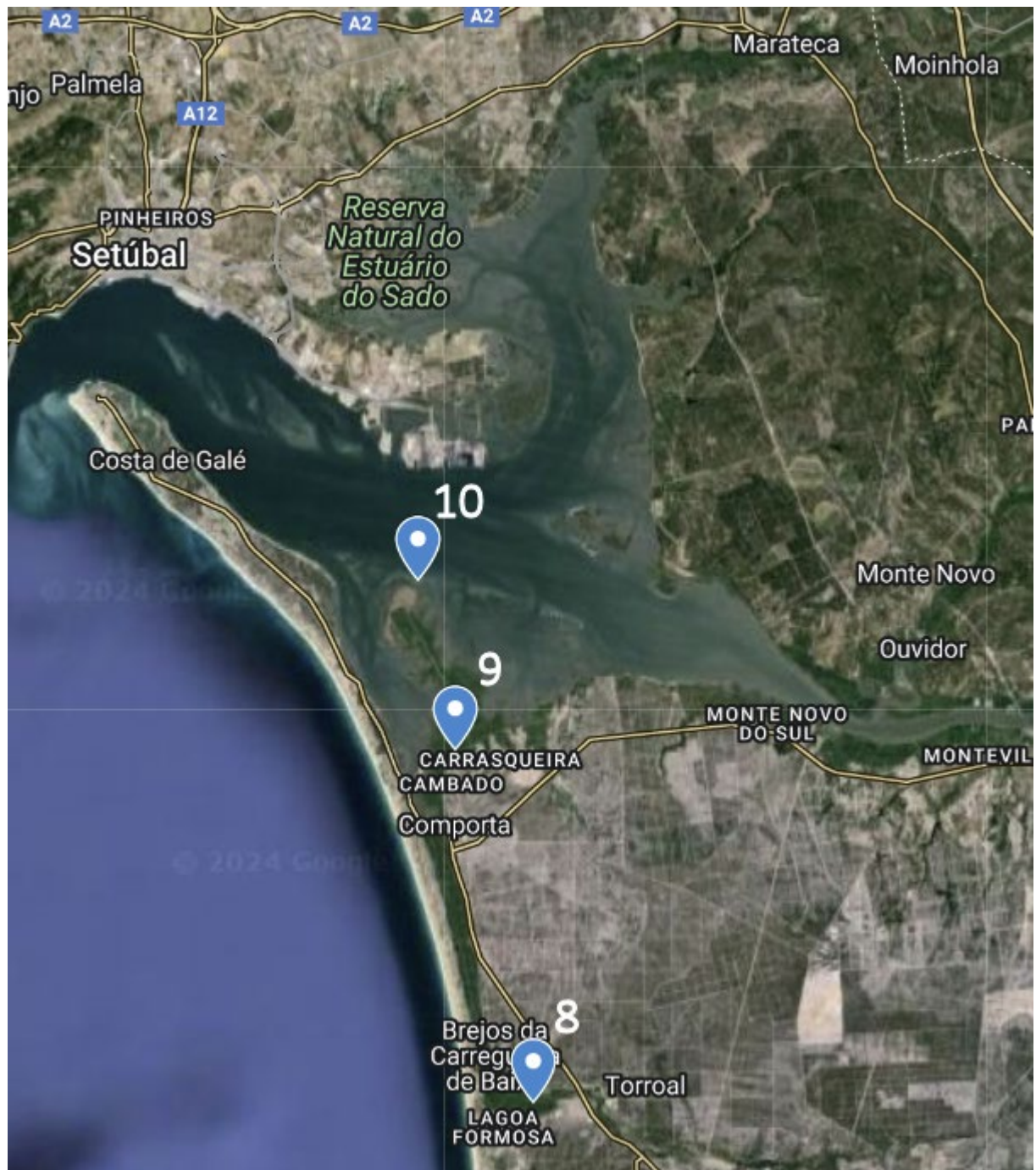
*Godwits behind the tomato factory and rice storage silos outside Santa Amalia*

## Appendix A: Locations visited (see text)

### Tagus estuary / Vila Franca rice fields



## Sado estuary



## Doñana



Detailed map Veta la Palma fishponds



## Extremadura



## Appendix B: Godwit locations in S Iberia

ID	Region	Location	Latitude	Longitude
26	Extremadura	Hernan Cortes	39.03333	-5.93333
33	Tejo	Samouco, Samouco saltpans	38.73472	-9.00361
37	Algarve	Tavira, Ria Formosa NP, Tavira saltpans	37.10833	-7.63611
40	Algarve	Castro Marim, Cerro do Bufo	37.2	-7.45
46	Extremadura	Santa Amalia	39.00389	-5.98611
56	Extremadura	Valdehornillos	39.05028	-5.97583
57	Tejo	Samora Correia, Samora Correia rice fields	38.94194	-8.88528
58	Sado	Montevil, Cachopos	38.4	-8.60806
59	Sado	Carrasqueira	38.40222	-8.76028
60	Sado	Comporta	38.40417	-8.70972
61	Sado	Monte Novo da Palma, Rib. De S. Martinho	38.42944	-8.64278
77	Extremadura	Don Benito	38.98333	-5.88333
103	Algarve	Ludo, Ludo salt pans	37.03056	-8.00028
104	Sado	Zambujal	38.57306	-8.73472
105	Sado	Palma, bridge over Rib. de Sao Martinho	38.47222	-8.585
106	Sado	Alcacer do Sal	38.365	-8.50389
107	Tejo	Santo Estevão, Paul de Belmonte	38.85556	-8.745
108	Algarve	Vila Real de Santo António, Esteiro da Carrasqueira	37.18917	-7.46417
110	Sado	Marateca	38.58444	-8.675
111	Tejo	Benavente	38.98389	-8.81167
112	Extremadura	Yelbes	38.96944	-6.00167
174	Tejo	Vila Franca de Xira	38.83861	-8.96028
182	Extremadura	Palazuelo	39.11583	-5.73778
183	Extremadura	Ruecas	39.04528	-5.875
192	Tejo	Porto Alto, Giganta rice fields, Ponta da Erva	38.91667	-8.93333
194	Doñana	Puebla del Rio, Dehesa de Abajo	37.20139	-6.18028
196	Extremadura	Guadiana del Caudillo	38.93333	-6.68333
199	Doñana	Trebujena, Donana NP, El Codo de la Esparraguera	36.9	-6.28333
200	Doñana	El Rocio, Cota Donana, Lucio de las Gangas	37.07611	-6.38583
203	Tejo	Alhos Vedros, Alhos Vedros saltpans	38.65	-9.01667
204	Algarve	Olhão, Fuseta saltpans	37.05	-7.73333
211	Algarve	Faro, airport saltpans	37	-7.96667
221	Sado	Hortas West	38.76111	-8.93417
221	Tejo	Hortas West	38.76111	-8.93417
222	Extremadura	Conquista del Guadiana	39.05611	-6.0575
223	Extremadura	Medellín	38.98861	-5.96056
224	Tejo	Alcochete, Alcochete saltpans	38.74694	-8.92583
256	Algarve	Olhão, Olhão saltpans	37.01667	-7.85
268	Algarve	Tavira, East of Tavira saltpans	37.11667	-7.61667
278	Algarve	Tavira, West of Tavira saltpans	37.1	-7.63333
284	Doñana	Matalascañas, Laguna del Zahillo, Parque Natural de Doñana	36.98778	-6.50722
285	Doñana	Isla Mayor, Entremuros (Parque Natural de Doñana)	37.08611	-6.26028
286	Doñana	El Rocio, Marismas de El Rocio (Parque Nacional de Doñana)	37.12833	-6.50528

296	Algarve	Castro Marim, Natural Reserve saltpans	37.21667	-7.41667
297	Algarve	Bias, Bias saltpans	37.03333	-7.75
307	Tejo	Samorra Correia, Belmonte rice fields	38.91667	-8.83333
310	Extremadura	Pizarro	39.15139	-5.80528
315	Extremadura	Vivares	39.08333	-5.88722
382	Tejo	Alcochete, Pata salt pans	38.73222	-8.98861
383	Tejo	Alcochete, Almada salt pans	38.74194	-8.9825
384	Tejo	Alcochete, Restinga salt pans	38.73167	-9.00917
385	Tejo	Alcochete, Vasa Sacos	38.83333	-8.95
386	Tejo	Benavente, Paul de Trejoito	39.01917	-8.72222
387	Tejo	Alcochete, Barroca d'Alva	38.73056	-8.9
388	Tejo	Porto Alto, Ze do Pinho	38.96222	-8.89167
435	Doñana	Sanlúcar de Barrameda, Salinas de Bonanza, PN de Doñana	36.86667	-6.33333
452	Algarve	Santa Lucia, Santa Lucia saltpans	37.11139	-7.645
473	Tejo	Alcochete, Hortas	38.76306	-8.93694
475	Doñana	Isla Mayor, Veta la Palma	36.97083	-6.235
476	Sado	Monte Novo do Sul	38.40889	-8.68111
516	Algarve	Faro, Salgados de Faro	37.01889	-7.89472
529	Algarve	Armação de Pêra, Lagoa dos Salgados	37.1	-8.33333
552	Sado	Pontes, Pinheiro Torto saltpans	38.54889	-8.7925
559	Extremadura	Gargáligas	39.06556	-5.645
560	Extremadura	Zurbarán	39.0575	-5.71528
590	Doñana	Isla Mayor, Veta la Palma, rice fields	37.03556	-6.195
591	Doñana	Puebla del Río, Isla Mínima, rice fields	37.14278	-6.12417
594	Doñana	Isla Mayor, rice fields	37.13944	-6.18944
598	Tejo	Porto Alto, Cara Larga	38.96167	-8.92056
599	Tejo	Porto Alto, Toneca	38.95361	-8.93639
600	Tejo	Porto Alto, Ruivo	38.96667	-8.90194
601	Tejo	Granho, Foros de Benfica, Paul da Casa do Cadaval	39.10639	-8.6475
626	Doñana	Matalascañas, Laguna de Santa Olalla	36.98389	-6.46694
655	Tejo	Lisbon, Sacavém, Vasco da Gama bridge	38.78833	-9.08889
680	Sado	Setúbal, Salinas da Bonita	38.51667	-8.8
692	Doñana	La Puebla del Rio, Paraje Natural Brazo del Este	37.13333	-6.03333
713	Doñana	El Rocio, Lucio de Mari Lopez	37.04833	-6.30472
719	Extremadura	Puebla de Alcollarín	39.11667	-5.78333
720	Algarve	Lagoa, incl. Alagoas Brancas	37.13333	-8.45
721	Extremadura	Campo Lugar	39.2	-5.76667
724	Extremadura	Almoharin	39.15	-6.03333
725	Extremadura	Casar de Miajadas	39.13333	-5.85
742	Extremadura	Miajadas	39.14056	-5.89333
863	Extremadura	Valverde de Mérida	38.9	-6.16667
894	Doñana	Trebujena, Algaida Saltpans	36.88722	6.32944
932	Doñana	Matalascanas, Donana NP	36.93333	-6.45
945	Tejo	Porto Alto, Evoa	38.85	-8.96667
1032	Tejo	Alcochete, Murraça (sapal) salt pans	38.74184	-8.99042
1089	Algarve	Olhão, Ilha do Lebre	37.01	-7.86

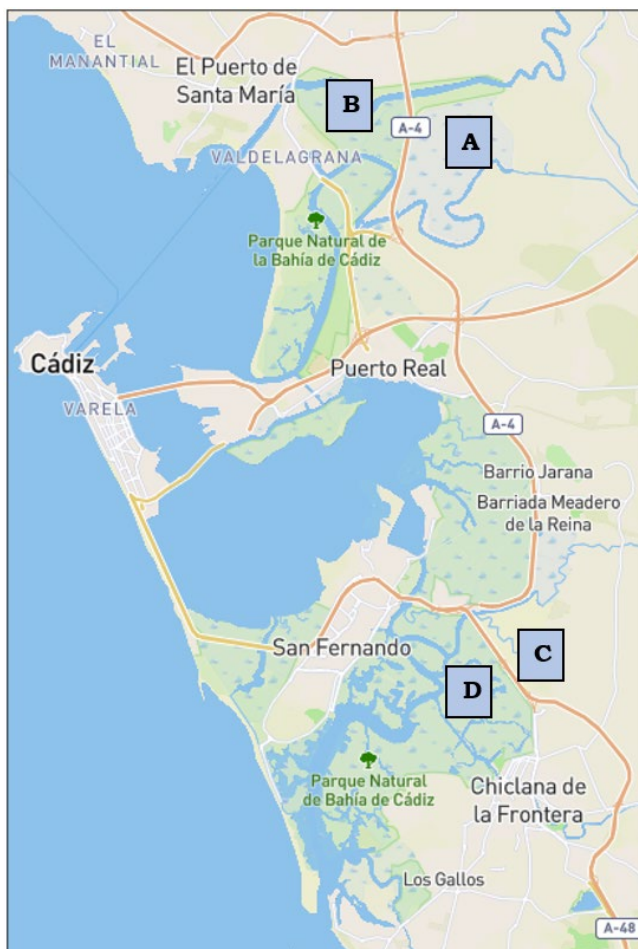
1130	Extremadura	Galisteo	40.03	-6.28
1138	Extremadura	La Albuera, Laguna de la Albuera	38.686	-6.74567
1147	Doñana	Isla Mayor, Arrozales next to Brazo de la Torre	37.194	-6.186
1148	Doñana	Aznalcázar, Caracoles	37.3	-6.25
1296	Tejo	Porto Alto, Paul das Lavouras rice fields	38.866396	-8.8468
1307	Doñana	Las Cabezas de San Juan, Guadalquivir marshes	37.0569	-6.0833
1308	Doñana	Los Palacios y Villafranca, Isla Menor, Brazo del Este	37.103	-6.039
1337	Extremadura	Navalvillar de la Pela	39.09	-5.47
1338	Doñana	Isla Mayor, Lucio del Cuquero Grande, Veta la Palma	37.012	-6.241
1430	Sado	Bairro da Bonita, Salinas do Pinheiro Torto	38.549469	-8.79327
1434	Tejo	Lisbon, Parque Tejo	38.782691	-9.0913
1439	Algarve	Quarteira, Praia do Almargem	37.06	-8.08
1447	Extremadura	Hernan Cortes - Santa Amalia	39.03	-5.959
1448	Extremadura	Hernan Cortes - Medellín	39.006	-5.943
1449	Extremadura	Casa del Cuadradillo	39.057	-6.056
1450	Extremadura	Alonso de Ojeda	39.103	-5.956
1451	Extremadura	Santa Amalia, Tomato Factory	39.004	-6.013
1452	Extremadura	Santa Amalia - Valdehornillos	39.037	-5.993
1453	Tejo	Vila Franca de Xira, Giganta rice fields	38.938	-8.968
1454	Tejo	Porto Alto, Giganta rice fields, Ponta da Erva, East	38.910421	-8.920
1455	Tejo	Samorra Correia, Belmonte rice fields, Southeast	38.893934	-8.79492
1456	Tejo	Porto Alto, Giganta rice fields, Cardal	38.921737	-8.977
1460	Tejo	Benavente, Vale de Frades salt pans	38.78	-8.923
1564	Sado	Grândola	38.22	-8.47
1579	Sado	Montijo	38.698	-8.965
1609	Tejo	Carregado, rice fields	39.029416	-8.941

## Appendix C: Additional information on the Cadiz area

As part of the godwit research for the Global Flyway network and RUG, Wim Tijssen and I, visited several sites in south-west Spain from 4 to 11 February 2024. One was the Parque Natural Bahía de Cádiz (further PN), consisting of several wetlands and salt pans, situated around the towns of El Puerto de Santa María and Puerto Real in the north and San Fernando and Chiclana de la Frontera in the south. The A-4 and A-48 motorways east of PN make these areas easily accessible.

The salt mining complex is closed to the public. The wetlands are owned and managed by different owners. Although these areas are not entirely closed off, they are still not freely accessible. There are public itineraries but they cannot be done by car. Only on foot.

We explored this area in 3 days, where we were helped by Francisco Hortas. He works as a biologist at the University of Cadiz. He is also involved in waterbird counts in this area. Among other things, Francisco arranged permission for us to enter areas that are not freely accessible.



The areas we visited were:

- A. Salinas de Cetina (not freely accessible)
- B. Salinas La Tapa (not freely accessible )
- C. Salinas San Pablo (not freely accessible)
- D. Santa Beatriz (fishfarms) , Santa Matilde (saltpans), Los Hermanos (saltpans) and San José y San Enrique (saltpans) (not freely accessible)

Address details of the various sites are attached.

### Salinas de Cetina

In northern PN, along the A-4 motorway, there is a large saltworks complex called Salinas de Cetina. The complex can be reached from Puerto Real, via local road CA-3113. On the way, you pass through the forests of recreational area Dehesa de la Yeguas.

The complex is not open to the public. Permission was obtained through the intervention of Francisco Hortas. The complex is bordered on the south side by the Rio de San Pedro river. On the other side of the river is a wetland called Marismas de Cetina.

### Marismas de Cetina

This marsh area can also be reached via local road CA-3113. Along this road is a parking area intended for visitors to the Dehesa de las Yeguas recreational park. The road to the wetlands is called Camino de la Dehesa de las Yeguas. Part of the area is free and open to the public.

Another part is closed and access can only be obtained through the caretaker of the complex.

Information about the marsh area and the route to it can be found on the website

<https://www.birdingplaces.eu/en/birdingplaces/spain/marismas-de-cetina>

### Salinas La Tapa

This saltworks complex is bordered by Salinas Santa Maria. The San Pedro River separates part of the Santa Maria salt flats from the Cetina salt flats. This complex is not freely accessible. The complex is located in the town of El Puerto de Santa Maria and can be reached via the N-IVa, Avenida de Valdelagrana and then the Camino del Tiro Pichon. Pass under the railway line and then at the bend turn left onto the dirt road towards the complex.

### Salinas de San Pablo

This wetland area is located northeast of the A-48 motorway. It is not freely accessible but there are good views of the area from the unpaved parallel road that runs alongside the A-48. This parallel road can be reached by following the A-48 north towards San Fernando and then taking exit 2.

### Santa Beatriz, Santa Matilde, Los Hermanos and San José y San Enrique

These wetlands are located southwest of the A-48 motorway. At the same elevation as Salinas de San Pablo. These areas can be reached by following the A-48 south towards Chiclana de la Frontera.

Again, take exit 2 and then at the exit lane immediately turn right onto the dirt road. This dirt road leads after 150 metres to a bridge that crosses the railway line. From this bridge you have a good overview of the whole area. From this bridge you also have an overview of Salinas de San Pablo which is on the other side of the highway.

After the bridge, the road runs along the A-48 as well as through part of the area. A large part of the salinas is freely accessible by car or on foot. Some parts are not freely accessible and closed by fences.

**Addresses:**

- Salina de Cetina, saltworks complex, 11510 Puerto Real, Cadiz. Reached from the north of northern Puerto Real, via local road CA-3113
- Marismas de Cetina, 11510 Puerto Real, Cádiz. Reached from north of Puerto Real via local road CA-3113, towards the Dehesa de la Yeguas recreation area.
- Salina La Tapa, saltworks complex, Coto de la Isleta, 11500 El Puerto de Santa Maria, Cadiz.

Total overview of marshlands and salt pans Cadiz area

Besides the areas surveyed as part of the Iberia 2024 Black-tailed Godwit survey, the entire area around the city of Cadiz includes many more marshlands and salt pans. Based on resightings of colour-ringed Black-tailed Godwits from the RUG survey, the information from godwits with transmitters, and observations from Observation.org, it appears that many more areas are used by godwits, both in spring and autumn.

Areas used – colour rings

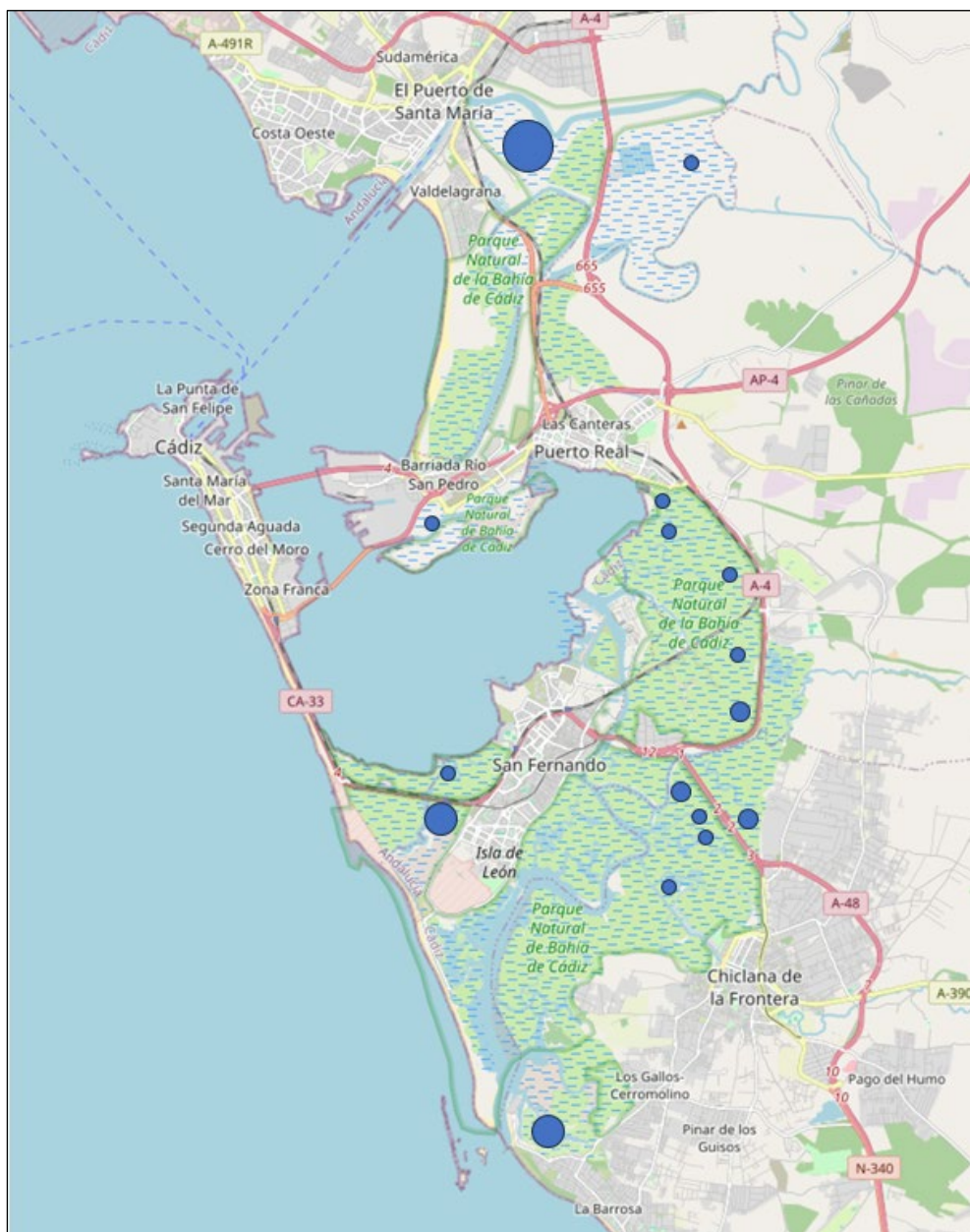
In particular, it is some avid Spanish ringers that provide the bulk of Spanish returns from these areas. The different areas where these sightings were made are included in the summary below. The blue outlined areas have already been described above. The yellow outlined areas were not visited. They can be found more or less clustered and numbered on the map below.



It involves the following areas:

- 1: Marismas de Cetina
- 2: Salina Victoria del Trocadero
- 3: Salina la Molinera, Salina de San Rafael, Salina de San José y Animas
- 4: San José del Palmar, Salina del Populo, Salina del Molino de Ossio
- 5: Salina de San Federico, Salinas de Chiclana
- 6: Salina Dolores, Salina de los Tres Amigos
- 7: Sancti Petri ponds

It involves a total of 235 sightings of RUG birds made over the period from 2005 to 2023. By far the most sightings (177) were made in the La Tapa saltworks complex near the town of El Puerto de Santa Maria. In the other areas, the number ranges from 1 to a maximum of 9.



Overview of observations (n=235)

Most sightings are made in the period after the breeding season. From 1 June to 15 September, these were 153 sightings (65%). If it is assumed that sightings in the period from mid-September to the end of December involve wintering birds, then these accounted for a quarter of the sightings.

#### Areas used - godwits with transmitters

Using data from birds with transmitters, it can be seen that several birds stay for short or longer periods in the marshlands and salt marshes around Cadiz in spring and autumn. Through the Animal Tracker app, the movements of a number of them can be accessed over a period of the past 12 months. This shows that a number of Black-tailed Godwits have been in the Cadiz area in the past year.

#### Grutte Polder - C1WWGG

The available data show that Grutte\_Polder stayed in some marsh areas around San Fernando from 27 February to 23 March 2023 before leaving for Friesland. By 18 June 2023, Grutte\_Polder had returned. In 3 months, it visited a large number of wetlands between around Puerto Real and San Fernando. On 6 September 2023, Grutte\_Polder left for Senegal, returning to this area on 11 February 2024. Clearly, almost the entire area is being used.

Although some avid Spanish ringers and observers are active in the area, Grutto\_Polder has not been observed. There is only 1 foreign sighting. On 10 July 2019, Grutte\_Polder was seen by Gerrit Gerritsen near San Fernando.



### Oarsom - C2CCWC

Oarsom also visited the area around Cadiz for several days. Oarsom left Friesland on 5 July 2023 to arrive in Marismas de Cetina on 16 July 2023. He then spent just under two weeks in the area of Marismas de Cetina, Cetina saltworks, Salinas La Tapa and the Santa Maria saltworks.

Although the vast majority of sightings were from this area, Oarsom was not seen.

There are 2 sightings of Oarsom, both in Portugal. On 23 February 2021, there was a sighting in the rice fields of Porto Alto and on 13 February 2023, Oarsom was read by Astrid Kant and Ronald Messemaker in the rice fields near Samora Correia.



Our own experiences from the areas visited, combined with the colour-ring readings over the past years and the information coming from the birds with transmitters show that the marshlands and salt marshes around Cadiz are interesting for godwits. Observations from this area can be an important addition to the bigger picture.