

University of Groningen

Godwit Survival Project – Mission report Iberia 2012

Hooijmeijer, Jos; Márquez Ferrando, Rocío; Hoekstra, Gjerryt; Galama, Ysbrand; Valkema, Haije; Groen, Niko; Jager, Tom; Gerritsen, Gerrit; Tanger, Dirk; Faber, René

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Publication date:
2012

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Hooijmeijer, J., Márquez Ferrando, R., Hoekstra, G., Galama, Y., Valkema, H., Groen, N., Jager, T., Gerritsen, G., Tanger, D., & Faber, R. (2012). *Godwit Survival Project – Mission report Iberia 2012*. University of Groningen.

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Godwit Survival Project – Mission report Iberia 2012

*A mission supported by the Loulou and Paul Cooke Foundation through
Global Flyway Network*



Jos Hooijmeijer (ed.)

Gjerryt Hoekstra

Ysbrand Galama

Haije Valkema

Niko Groen

Tom Jager

Gerrit Gerritsen

Dirk Tanger

Rene Faber

Rocio Marquez-Ferrando

Titlesheet

Title

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Authors

Jos Hooijmeijer (ed.)

Gjerryt Hoekstra

Ysbrand Galama

Haije Valkema

Niko Groen

Tom Jager

Gerrit Gerritsen

Dirk Tanger

Rene Faber

Organization

RUG, University of Groningen

CEES, Animal Ecology Group

PO Box 11103

9700 CC Groningen

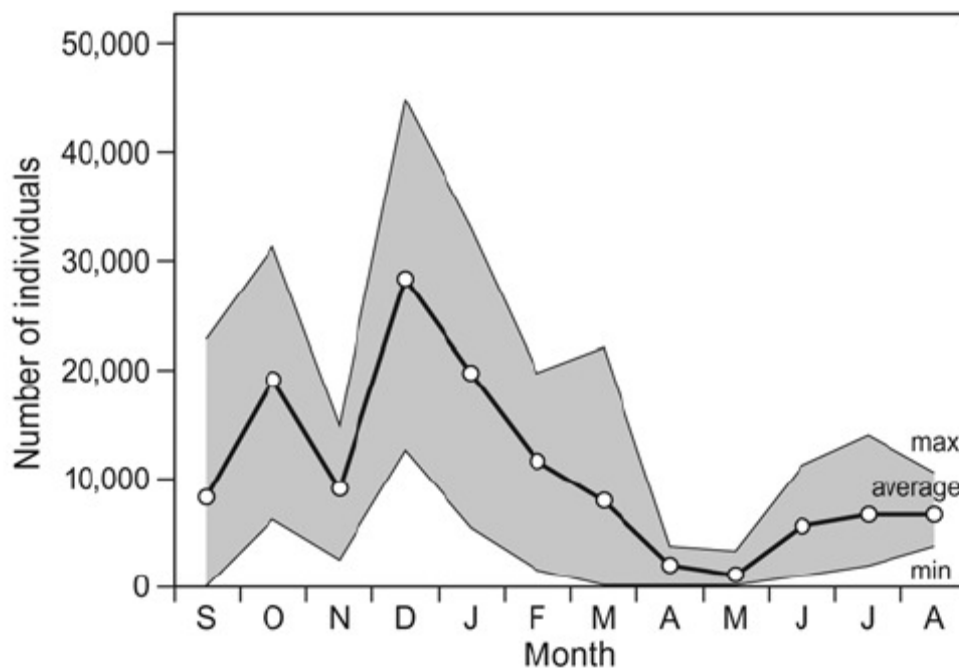
The Netherlands

Groningen, July 2012

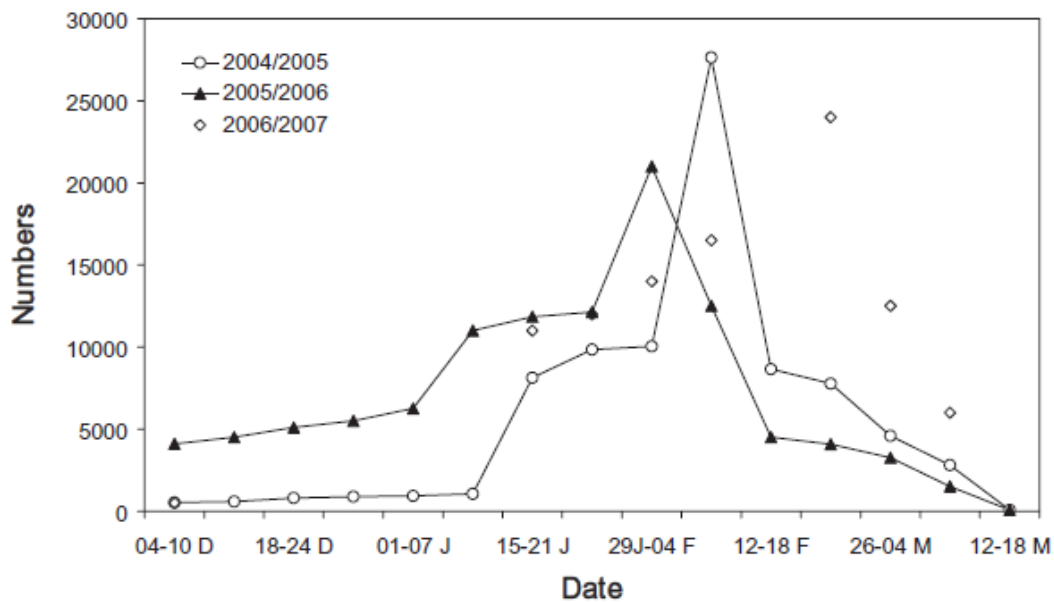
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Introduction

After their breeding season, Black-tailed Godwits (*Limosa limosa*) migrate in late spring and early summer to West-Africa where they winter (Zwarts *et al.* 2009). They can reach these wintering grounds non-stop or make a stopover in France or Spain but some birds stay in southern Iberia all winter, as we have learned from recent satellite telemetry data and these observations were confirmed during a survey in Doñana NP in November 2010. From half December onwards, the godwits leave West-Africa to their stopover areas in southern Iberia and a large proportion uses the rice fields (and fish ponds) in Doñana NP and Extremadura, Spain and the Tejo and Sado estuaries, Portugal (near Lisbon). Numbers can be as high as 45.000 in Doñana (Marquez-Ferrando *et al.* 2011), 24.000 in Extremadura (Masero *et al.* 2010) and 44.000 in Portugal (Lourenço *et al.* 2010).

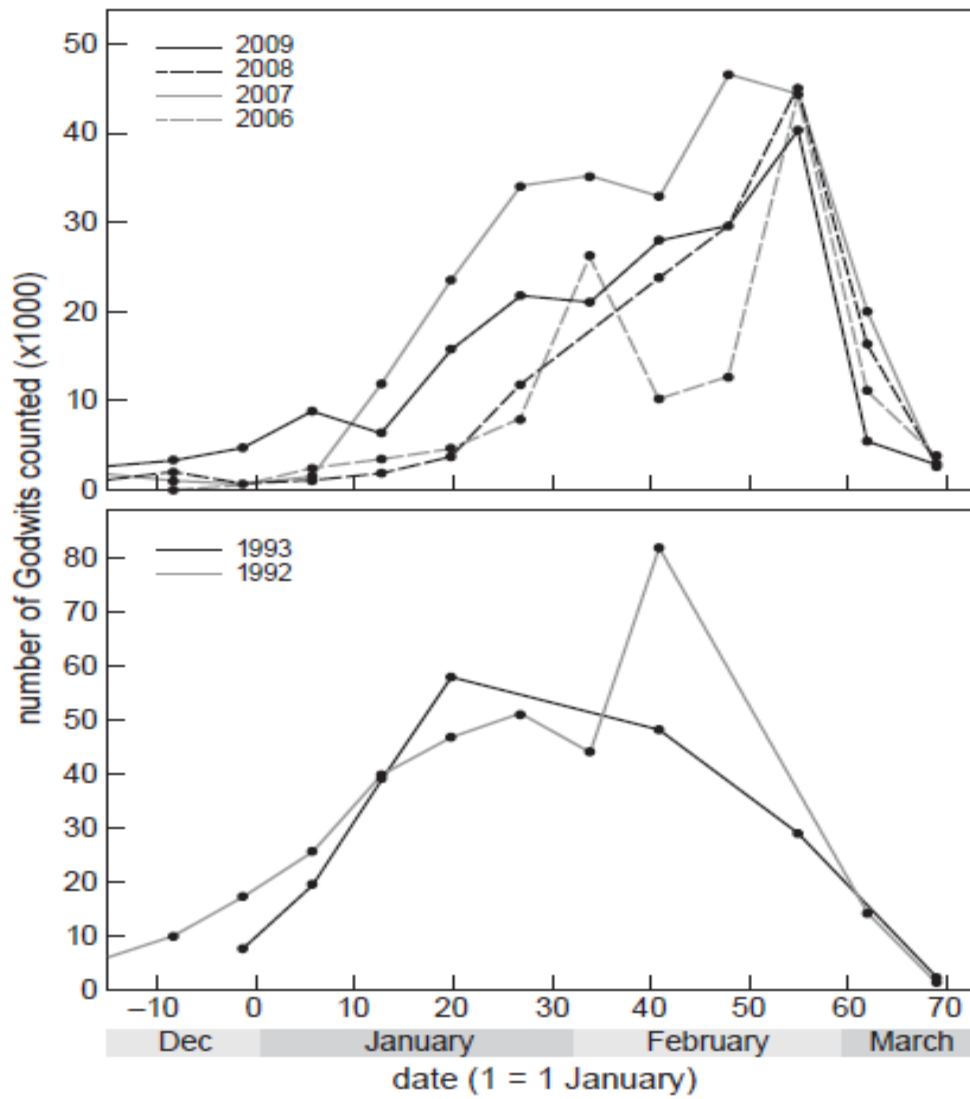


Monthly counts of Black-tailed Godwits carried out by Estacion Biologica de Doñana in Doñana Natural Park, SW Spain, during 2004-2010 (Marquez-Ferrando et al. 2011).



Black-tailed Godwit numbers in Extremadura rice fields. Data are weekly counts of the entire study area, except winter 2006/ 2007 (counts in the roosting sites at sunset). (Masero et al. 2010).

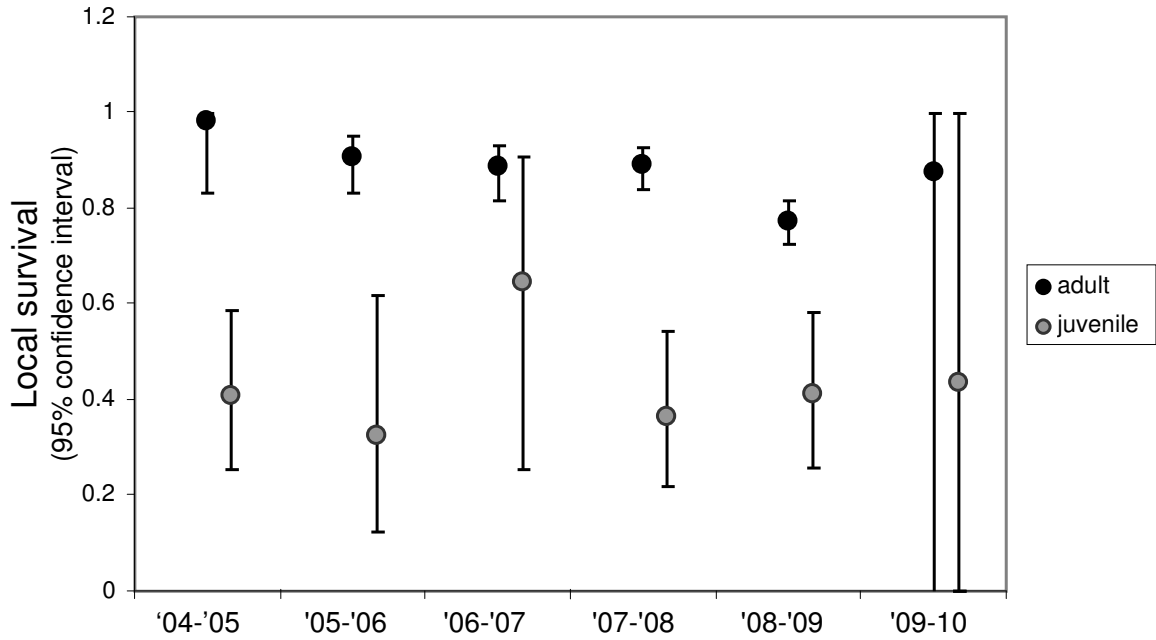
In the rice fields they forage on rice kernels which are spilled during harvesting of the crop (Lourenco *et al.* 2008). Since 2005 yearly expeditions have been made to Spain and Portugal during this stopover period to sight colour-marked Black-tailed Godwits (fig 1.). Godwits are declining rapidly in numbers (Birdlife International 2009), mainly caused by intensified use of agricultural grasslands in their breeding area (Vickery *et al.* 2001, Schekkerman 2008). To understand more about the effect of the intensification of the agricultural landscape on the godwit population, we started in 2007 a large-scale research project on the demographical variables and site faithfulness of godwits in intensively and extensively managed agricultural land. Therefore we measure annual survival of young and adult birds (fig. 2), their reproduction and locate the nests during the breeding season in The Netherlands. With this information we can decide which areas act as source areas and which as sink areas. To make birds individually recognizable, we colour-mark them. Resighting colour marked birds during the stopover period is necessary for several reasons.



Total counts of Black-tailed Godwits in Portuguese (Tejo and Sado) rice fields in 2006-2009 and 1992-1993 (Lourenço et al. 2010).

Firstly, 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 area, we would assume that this individual is dead and therefore underestimate annual survival. Secondly, with enough resightings in the Iberian Peninsula we can calculate seasonal survival. In other words, we can calculate in which period mortalities occur more often. Thirdly, by measuring the density of individuals with colour marks, we can monitor the

population size of the western part of the Black-tailed Godwit population. Lourenço et al (2010) estimated this population to be 135.000 – 140.000 individuals in 2007-2009.



Annual survival of adult and juvenile Black-tailed Godwits between 2004 and 2010.

Results 2012

Large numbers of godwits are found during the stopover period in the Iberian Peninsula in three main areas: Doñana NP and Extremadura in Spain and the rice fields surrounding the Tejo and Sado estuaries near Lisbon in Portugal.

In total 10 experienced ring readers covered these areas in the main staging period from 31st of January until the 28th of February 2012. In Doñana NP godwits are surveyed year round nowadays since Rocio Marquez-Ferrando has started in 2011 a postdoc research project on godwit staging and migration at the Estacion Biologica de Doñana in Sevilla. This is a great opportunity to learn more about the importance of this area for wintering and staging godwits and the connectivity between the 3 main staging sites in southern Iberia. Last winter she could clearly show that godwits of the *limosa* subspecies winter in considerable numbers in this important wetland. The birds were predominantly found in Veta La Palma, an extensive fishfarm complex. The area is probably so attractive because it holds constant water levels and food resources, making it a predictable and therefore favorable location for birds that prefer to spend the winter in a part of Europe, where precipitation amounts differ a lot between years.

In Extremadura we could use again the field station of the University of Badajoz in Zujar. In Portugal we rented a summer cottage near Benavente (Foros de Salvaterra) since we could not use the field station of the 'Reserva Natural do Estuário do Sado' in Mourisca near Setubal nor the field station of the 'Reserva Natural do Estuário do Tejo' in Hortas. In Donana NP we slept at Huerta Tejada, a field site of the EBD.

Extremadura

Southern Iberia experienced one of the driest winters of the past 20 years. When we arrived in Extremadura, we found hardly any suitable rice fields for godwits. Less than 5% contained enough water to forage efficiently. Still about a quarter of the fields were already ploughed by half February. In normal years this would mean that a lot of rice kernels would become available to the birds but this year the fields were so dry that the farmers used normal tractors and ploughs instead of the special constructed devices to prevent them from sinking into the mud. Godwits therefore switched from wet ploughed

fields to recently burned fields that had been burned to get rid of the stubble. On these fields they forage superficially and make frequent flights to drink. You can easily find rice kernels on the burned fields but as long as the stubble is on, this is much more difficult. However, these fields were only attractive for a few hours after burning, probably due to rapid depletion and perhaps competition from passerines.

The wintry conditions in Extremadura with ice on the rice fields till noon made the few wet sites unsuitable for foraging for up to 40 % of the day light period. These harsh conditions probably forced birds to move on north rapidly. Numbers went down from 5000 to about 2500 birds between early and mid-February, whereas there can be up to 25.000 birds present in this time of the year (Masero *et al.* 2010). Low resighting rates also indicated that stop-over time was short and several birds that were seen in Extremadura were already back in The Netherlands by end February where we experienced a mild end of the winter. For three years in a row now, the area does not constantly hold the big numbers that could be encountered in 2004-2007. In 2011 eventually a flock of 30.000 birds showed up on 13-14 February at an unexpected roosting site north of Valdehornillos whereas in the weeks before only small numbers were seen (pers. com. J.A. Masero, UNEX).

Doñana NP

Donana NP is an important wintering and staging area for Black-tailed Godwits. Peak numbers of 30-45.000 birds are generally counted in December and decline to on average 12.000 birds in February (Marquez-Ferrando *et al.* 2011). When we arrived in early February, at least 7500 birds were present but numbers dropped rapidly to less than 1500 by half February whereas by the end of the month only a few hundred birds could be found at the best sites. This suggests that godwits also left this area early and did not stay longer to avoid the harsh conditions in Extremadura (and Portugal).

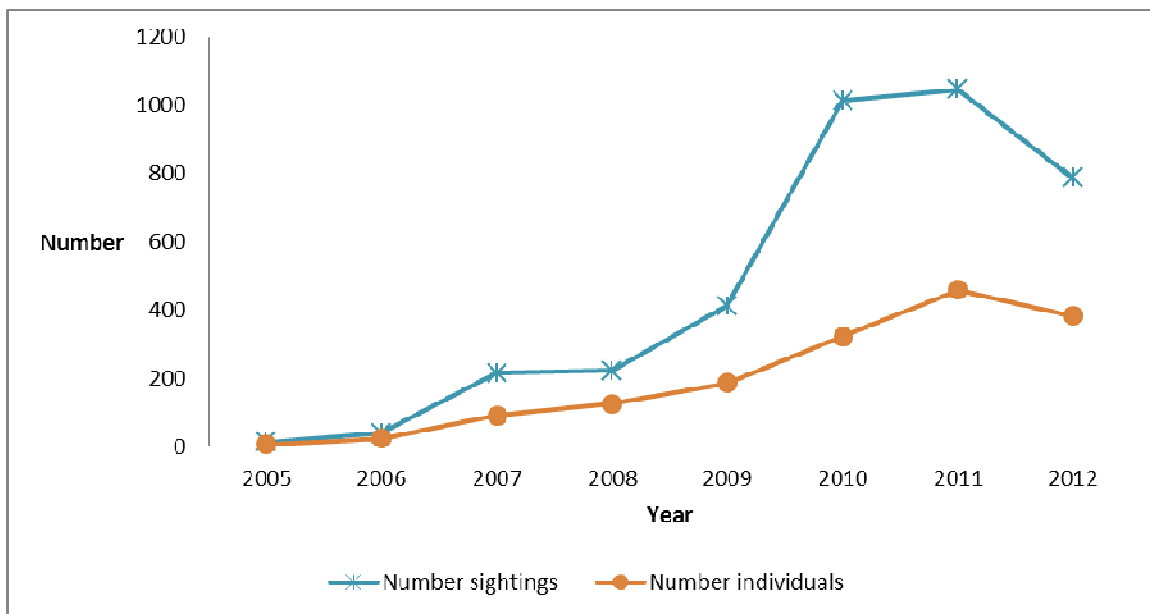
Tejo and Sado

As in Extremadura, the ricefields in the Tejo and Sado estuaries were extremely dry this year. Here also, some farmers were ploughing dry rice fields but we did not see any large scale burning of stubbles. Other farmers chose to irrigate the fields before ploughing but

we have no clue which makes them decide for either option. In the past few years, we have had the impression that the Sado has become less important whereas the Tejo still holds good numbers. However, in early February birds were mainly found in the Zambujal/ Marateca area in the north of the Sado estuary where up to 9000 birds were present. There were reports of flocks in the Tejo rice fields near Vilafranca in late January but they seemed to have left the area. But like in recent years no birds could be found south of Zambujal and on the entire south bank of the Sado between Alcacer do Sal and Comporta. For some reason the birds seem to avoid this area completely nowadays. We have noticed frequently that birds are scared by distant gunshots but we have no information that the hunting pressure, and thereby disturbance, has increased in recent years. By half February numbers dropped at Zambujal to about 3000 birds but at the same time a flock of 6-11.000 birds was seen near Porto Alto in the Tejo estuary. Colour ring readings confirmed that a part of the Zambujal flock had moved to the north. The Tejo ricefields became attractive when farmers started flooding and ploughing the paddies and numbers rose to about 10.500 birds by 23 February at two spots where we hardly saw any birds in earlier years: Toneca and Ruivo between Benavente and Vilafranca. At the same time 1100 birds were still present at Zambujal/ Marateca. Only in the last days of February numbers rose to more normal levels close to 20.000 birds but this is still only half the numbers counted between 2006 and 2009. We know now that these birds were present neither in Extremadura nor in Doñana NP. At traditional French staging sites, there were no reports of much higher numbers. Although we suspect that birds arrived in The Netherlands early this year, it still remains a mystery where the birds might be when they are not at their traditional sites. In the near future we hope to unravel these mysteries with the use of ever tinier transmitters and logging devices.

Sightings 2012

Since 2005, observers from the University of Groningen have visited southern Iberia to get resightings of individually colour-ringed Black-tailed Godwits during spring migration. At first this was mainly in Extremadura but since Pedro Lourenço started his PhD on the Portuguese staging sites in spring 2006, we have tried to cover both areas during the period that peak numbers occur. Since 2011, when Rocio Marquez-Ferrando started her project in Doñana NP, we also have resightings from this very important stop-over site and the number of sightings increased to more than 1000 CR observations per year in January-February in southern Iberia in 2011. The number of individuals seen in all 3 areas together grew from 91 birds in 2007 to 459 in 2011 but in 2012 we did not manage to find more than 383 individuals.



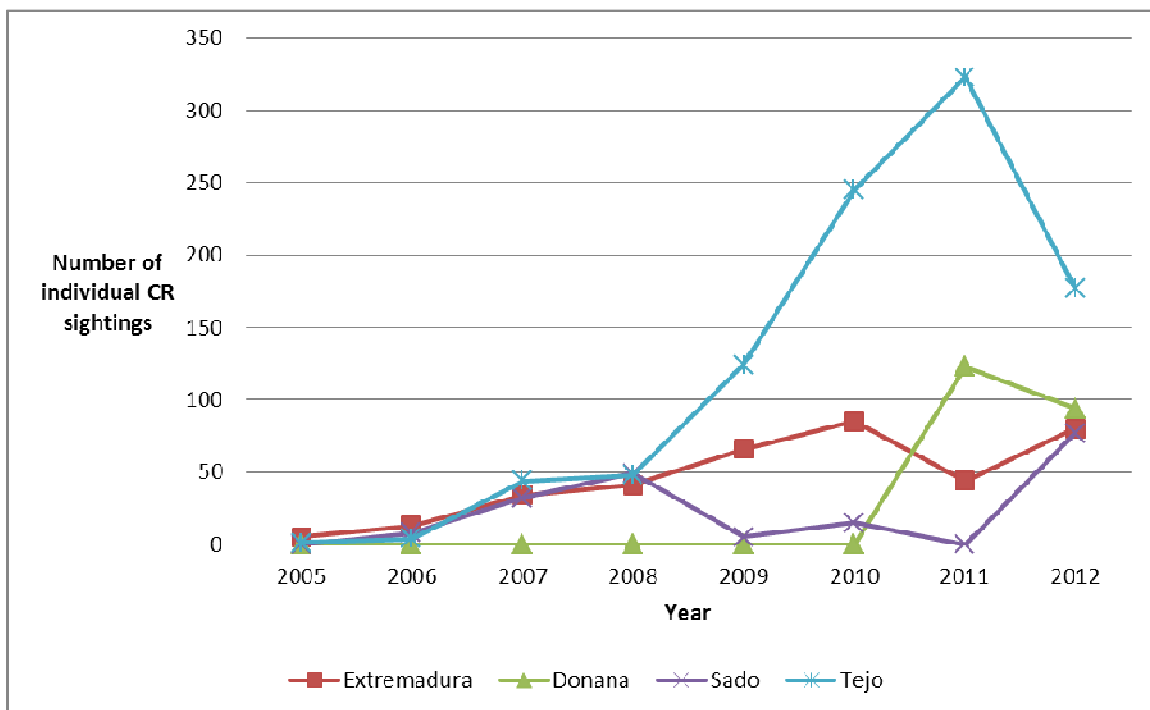
Total number of sightings and observed individuals in Extremadura, Doñana, Sado and Tejo Estuary in January-February of each year.

As can be seen in the figure below, this was mainly caused by much less resightings from the Tejo estuary where we saw almost half the number of individuals of the year before. The rice fields near Porto Alto and Samora Correia were extremely dry this year and only in the last days of February there seemed to be an influx when numbers grew to a modest 20.000 individuals. It remains unclear if the birds stayed in Africa much longer or if they

moved on to other locations in Europe. After 3 years with hardly any individuals from the Sado, 2012 was again a good year for this area. But one has to keep in mind that the birds were restricted to only one location which makes them extremely vulnerable in this National Reserve.

The low number of birds in Extremadura made us fear that our efforts would be in vain but to our surprise, we did not find less individuals than in the past 3 years, probably due to high turnover rates. This clearly shows that it is still worthwhile to keep on checking this area in the future.

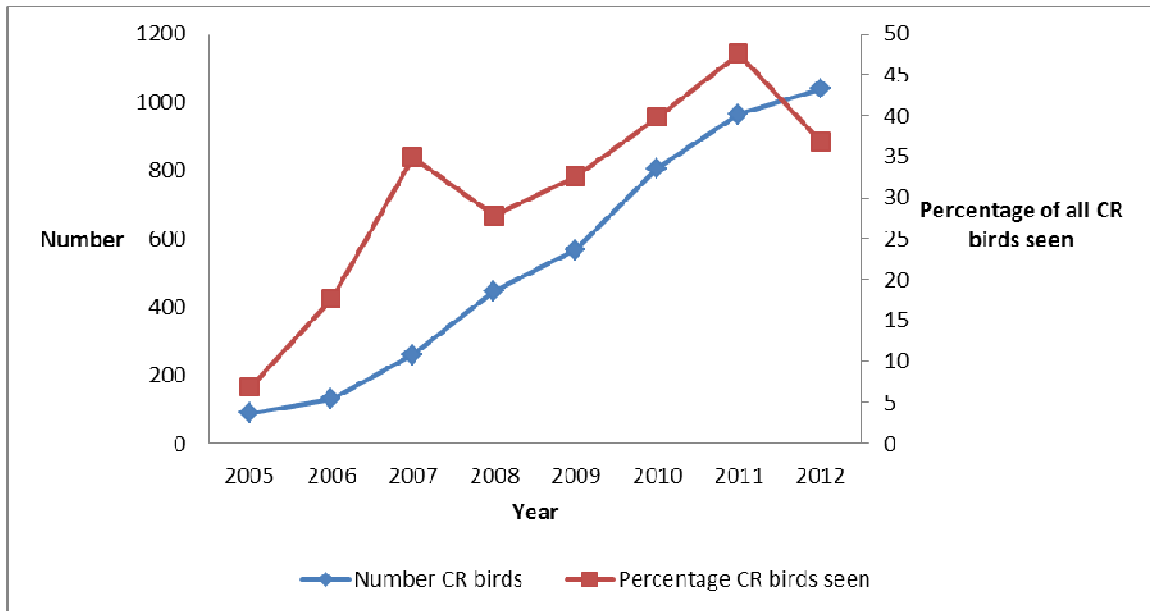
In Doñana NP the number of individuals was slightly less than in 2011.



Number of observed individuals in Extremadura, Doñana, Sado and Tejo Estuary in January-February of each year.

Our efforts in the past 6 years to read as many colour rings as possible in late winter in South Iberia have generated an enormous dataset on staging Black-tailed Godwits. These data will be of great value to the thesis of Roos Kentie that will be finished this year. She will use this information to calculate annual and seasonal survival and dispersion of adult and juvenile birds in our study site in SW Friesland. In the figure below it becomes clear how massive this dataset is. We have managed in the past 5 years to see annually no less

than on average 37% of our colour ringed population during its stop-over on the South Iberian staging sites!



Estimated number of colour ringed birds that are still alive and the observed percentage in Extremadura, Doñana, Sado and Tejo Estuary in January-February of each year.

We also saw hundreds of birds from other godwit colour ring projects, which have been sent to the scheme coordinators.

Acknowledgements

These colour ring reading trips would not be possible without the financial support of the Loulou and Paul Cooke Foundation through Global Flyway Network. We are indebted to your involvement in wader research! But even with this funding, we would never be able to spend so much time in the area if we would have to rent accommodation. Thanks to the University of Badajoz and the EBD we had a perfect operating base to sleep and cook our (very simple) meals. But without the enthusiasm of volunteers to do all these resightings we would still be nowhere. Thanks to all co-authors for taking days off from work to spend hours looking through your telescopes and driving around desperately to find godwits; and Bob Loos, thanks for dealing with the financial part making all this possible.

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Day to day report

Team 1

Niko Groen and Gerrit Gerritsen

31 January 2012

Meet at Schiphol airport with Gerrit and Ysbrand and Gjerryt who are on the same flight to Seville. No hustles with overloads of baggage and a smooth flight via Madrid. In Seville Rocio was waiting for us and we had a warm welcome. Rocio guided us to the auto rental company in the outskirts of Seville and did the negotiations in Spanish and translated for us in English. After we refueled the tank we split up with Rocio, Ysbrand and Gjerryt heading for the biological station in Doñana NP and Gerrit and me going to the Ibis hotel in Seville.

1 February 2012

At 8.30 we left the hotel for Badajoz to pick up the key of the Biological Station at Zujar. A nice ride through de dehesas with cork oaks and remarkably many young trees recently planted; also many old trees that probably had died because of the drought or struck down by a disease. We were impressed by the scenery of Jerez de los Caballeros. South of Badajoz there is now a huge solar park that replaced an orchard with olive trees or cork oaks. At 13.00 in Badajoz at the university were we met prof. Jose Masero, head of the department. He told us that they counted 30000 Black-tailed Godwits in the rice fields around Hernan Cortes in February 2011. Lunch in the cantina of the university and left for the station at 14.45.

At 16.45 we arrived at the rice fields in Hernan Cortes and stayed here till dark. We counted BTG that passed us on their way to the night roost. Between 18.35 and 19.15 we counted 969 BTG. After 1,5 hour driving we came at the station in Zujar.

2 February 2012 70 % cloudy, wind N 2-3 B, 5° C.

Searching for BTG around Hernan Cortes and Santa Amalia. Today we travelled 50 km through the rice fields. We counted 3500 BTG and checked 2141 of them for colour rings. A total of 24 birds had colour-rings of which 17 were from the RuG scheme, some French, Icelandic and two from a German scheme.

The rice fields are very dry and there are only a few of the fields ploughed. Today we saw some burning of the stubble. White Storks take advantage of that and gather on the burned field to look for burned prey.

3 February 2012 Clear, wind N 3-4 B after 12.00 , -3° C, a cold day with a cold wind.

The wet rice fields that are already ploughed are frozen and the Godwits are more or less sliding over the rice fields. We have been searching for the BTG all day and finally we did find them close to the roost where we saw them last Wednesday. We stood very close to the roost and counted 3318 BTG. We checked 2732 BTG today and found 17 colour-rings; 8 from the RuG scheme, 1 from France, 4 from Badajoz and 4 from the University of East Anglia.



Red Kite

4 February 2012 Another wintry day with frost in the morning, wind NNW 3-4 B, -3° C. We find nice groups of BTG just east of Hernan Cortes where the farmer ploughed a rice field yesterday. We could easily observe the godwits from the car and they approached us within 20 meters. After 1.5 hours of observation the farmer came back again to plough another field and we had to move. At that time we had 600 BTG around the car that we could check with binoculars. From here we went to Yelbes where opposite the tomato factory there was a group of 750 BTG. On our way back to the biological station we checked the rice fields at Ruecas. None of the fields were ploughed so no godwits. In total we found 34 colour-rings today of which 22 of the RuG, 4 from Badajoz, 2 from Germany, 2 from the Netherlands (WUR scheme), 2 from France and 2 from the East Anglia scheme.

5 February 2012

Today we have our day off and we pass the rice fields on our way to Monfrague. We passed Orellana, Navalvillar de Vela, Madrigalejo, Zorita and Trujillo and finally the rock of Monfrague. In Orellana we visited the sophisticated solar power plant. This plant under construction works with arched mirrors that concentrate and reflect the sun light.

6 February 2012 Sunny and mild day with max. 18° C, wind NNW 3 B.

We saw a farmer harrow a dry rice field after it was burned. This is probably a good alternative in years with less rain. We were searching for godwits in the morning on all places where we did observations before, but no BTG there. Made a visit to Yelbes and Conquista Del Guadiana but no birds there either. At noon we met a modern shepherd guiding his sheep in a 4x4 that asked us what we were looking for. We managed to tell him, with the help of our bird guide, that we are looking for BTG. He had seen them and was able to show us where they were. We end up in a rice field complex that was hardly ploughed. In a sudden we saw a couple of thousand BTG in the air and we tried to come close where we had last seen them. We have been driving around for almost an hour and finally saw them foraging in the rice stubble that was burned lately. They were foraging in a dense flock of app. 3500 birds. We spent 4 hours on this group and got 25 birds of our scheme. In the background 1500 cranes were loudly foraging on a maize field.



Flamingo's in Doñana NP

7 February 2012

Today we travelled from Zujar to the station in Doñana.

8 February 2012 Cold in the morning with temperatures below 0, strong North-easterly wind 4 B.

At 9.00 we met Rocio in a bar at Isla Major. After a short briefing and some coffee we got in the car on our way to the fish farm of Veta La Palma. A strong (4-5 B) cold wind was blowing from the Northeast. Godwits were all hiding from the wind and were poorly visible. We observed them eating small prey from the bottom of the ponds (Chironomids?) and large worms. It seems that individual BTG go either for the small prey (60 times swallow in 5 minutes) or for the large worms (8 prey in 5 minutes of which two large worms). Only 2 colour-ringed BTG in Veta La Palma from our scheme. From 16.00 we left Veta La Palma for the rice fields around Isla Major. Here we found a group of 2000 BTG, in 3 hours we observed 10 colour-rings of which 8 from our scheme.

9 February 2012 Cold in the morning with temperatures - 3° C, strong North-easterly wind 3-4 B, max. temperatures 16° C .

We started in the rice fields of Isla Major. Because of low temperatures the fields were all covered with ice and therefore no godwits were present. Search in the Cantaria rice fields where we found a group of app. 1500 BTG . We made observations for 3 hours and found 15 colour-rings. In the afternoon we were going to El Rocio for scanning the wetland there. Here 1300 BTG with 2 rings from our scheme. Back to the station in Doñana in the dark. We hoped to see many mammals in the lights of the car. But only rabbits and a red fox crossed the road. No lynx this time.

10 February 2012 Cold in the morning with temperatures - 5° C, later on nice weather with temperatures reaching 16° C.

Met Rocio at Dehesa de Abajo. A nice pond with 1200 resting BTG packed together and standing on one leg. Slowly approaching did not help to let them move. Sometimes they flew up because 2 Booted eagles approached but did not scare them or forced them to move. Only 2 colour ringed birds completely visible and another 4 birds with rings on 1 leg. Say good bye to Rocio, got back to the station to clean the house and say good bye to the warden. Left for Seville. Arrived at 19.00 in Seville. A successful expedition under dry conditions.

Team 2

Jos Hooijmeijer and Tom Jager

11 February 2012

Today we travelled from Eindhoven to Seville, a nice change from -14 to +14C! We had planned to arrive at Zujar fieldstation in Extremadura during daylight but due to a delay of our flight of 3,5 hours we only arrived at 21.15.



Godwits on ice

12 February 2012 Sunny but cold, 3N, 9 C.

After a very cold night we set out for the rice fields and already found our first group of 300 birds near Gargaligas where we never saw them before. Birds were standing on the ice at 10 am on a sunny day! Only at 13.00 temperatures rose to a more comfortable 9 C. The rice fields are very dry this year and only a few have been ploughed and contain

water. The traditional places near Hernan Cortes were in good condition but no birds. We found a flock of 500 birds between HC and Medellin and read our first rings. The rest of the Medellin area was without birds (except for a nice flock of 9 Little bustards). Only at 15.00 we were lucky again near Yelbes where we found 800 birds on nice wet paddies and scored 4 more rings. In the late afternoon we checked the Conquista del Guadiana area. It looks promising but found only 30 birds.



Dusty ricefields

13 February 2012 Sunny, 3NE, 12 C.

Today we headed for the Palazuelo-Torviscal area that was very productive in 2010. On the way there we ran into a small group of 106 birds near Zurbaran but found no other birds near this village. The Palazuelo fields are also very dry this year but some locations are still suitable. Nevertheless we found no more than 30 birds! The locations near Vivares and Rucas were also without birds. We hoped to find more birds in the Hernan

Cortes area but discovered only small numbers. Working our way west towards Santa Amalia we found several small group but just east of SA some 350 birds were present in well flooded rice fields amongst many other waders and waterfowl, including 4 Glossy ibises that are not very common in Extremadura. Our last hope was the good location near Yelbes where we found 600 birds yesterday; today we found only 85 birds but scored 4 RUG colour rings.

After 2 days in the field and having covered all the major sites of the past 5 years, we have only found about 2500 birds and 15 colour rings which is an all-time low. This might have something to do with the drought; I think that less than 5 % of the fields is suitable for the birds right now but I guess it does not help either that the good fields are frozen till noon. Farmers are ploughing rice fields with normal tractors which is normally impossible. About 25% of the rice fields has been ploughed and a lot of fields are being burnt down. Tomorrow we will meet Jose Masero; let's hope he has some suggestions where to look for birds under these extreme conditions.



Foraging on burned ricefields

14 February 2012 Sunny, 2 N, 14 C.

In the morning we checked well known places near Santa Amalia and Hernan Cortes but found nothing spectacular. We met Jose Masero and Pipe Abad in HC to discuss alternative locations and strategies to find the birds. In the afternoon we went to the rice fields between Medellin and Don Benito. These were extremely dry and seem to be exploited more rationally than the small scale fields in the other areas. We did not see a single bird. After that we visited the rice fields between Valdetorres and Yelbes. We passed the Rio Guadiana and to our surprise watched Fish Otter hunting in the water from less than 40 m! We only saw birds close to the houses of Yelbes. We decided to follow up the suggestion from our Spanish colleagues to locate where the birds come from during a roost count. We started at the road between Valdehornillos and Vivares and saw birds falling in halfway between the road and Hernan Cortes. We arrived at the roost 1 hour before sunset and counted till dark about 4800 birds. The majority came from the Yelbes direction and we will definitely try to find them tomorrow!

15 February 2012 Sunny, 2 N, 12 C.

Since many birds arrived yesterday evening at the roost out of the direction of Yelbes, we decided to scan this area thoroughly today. At first glance it did not look promising as almost all fields were dry, but we ran into a group of 1100 birds that was foraging on a dry, burned rice field. I have never seen anything like that before. After one hour most birds left and when we followed them we found out that they had landed on a wet rice field where they were drinking, bathing and resting. This pattern repeated itself several times during the day when they visited every time a different recently burned field. Sometimes it was impossible to see the birds between the stubble but we scored at least 15 different birds from our scheme which was at least much better than the days before. Apparently they have adapted in this way to the very dry conditions this year although it must be much harder for them to find the rice kernels in the dry ground. In the afternoon we went to the roost early and waited for the birds to arrive. There were only about 1500 birds today but we scored another 10 ring combinations which made this a very successful day.



Foraging in dry ricefields

16 February 2012 Sunny, 3 N, 16 C.

Near Yelbes the birds were not easy to find today. It seems that they do not use the same burned rice fields frequently since we did not find any birds in the burned fields where we saw them yesterday. We found a nice group of almost 500 birds again close to the village. Today we visited the Hernan Cortes area both during the day as at dusk. During daytime we could not find any birds but at the roost at least 2000 – 3000 birds were present. We had hoped to read a lot of rings there but the birds preferred to forage till dusk on a burned rice field nearby perhaps because a farmer was ploughing next to the roost. More and more fields are being burned and ploughed now and the skies are filled with smoke. After they have been ploughed the godwits don't use them anymore.

17 February 2012 Sunny, 2 NE, 16 C.

On our last day in Extremadura we hoped to score a lot of ring combinations but at 18.00 after driving around and eating dust for 9 hours we still had 0! The Palazuelo/ Torviscal/ Zurbaran-area was almost without godwits and the Hernan Cortes/ Medellin-area brought a flock of about 400 birds of which you could only see the backs because they were feeding on rice stubble. Therefore we tried our luck again near Yelbes but we found no birds in the rice fields and only a few 100 without rings on a midday-roost. Our last hope was the roost near Hernan Cortes and here we found 9 colour rings in a group of 2500 birds. After a week in Extremadura we have seen 42 different individuals of our own scheme and about 15-20 of other schemes. It is striking that we have seen only 8 individuals of our scheme more than once. This suggests that the turn-over rate in the area must be high. The maximum number of birds present dropped from 5000 to 2500 this week. Our general impression was that Extremadura was not very suitable for godwits this year; numbers were low and birds did not stay long.



Southern grey shrike and Cranes

18 February 2012 Sunny, 2 NE, 18 C.

In the morning we packed and cleaned the field station and left for Huerta Tejada in Doñana NP. In the afternoon we arrived at El Rocio where a flock of 270 birds was present and found one colour ringed bird.



El Rocio

19 February 2012 Sunny, 2 N, 20 C.

After again a very cold night (-2 C) we met Rocio Marquez Ferrando in Isla Mayor. She works for the Estacion Biologica de Donana on Black-tailed godwits and has counted the birds and read rings over the entire winter. She can tell with 100% certainty now that some birds stay in Europe all winter as she has seen some birds every month since July. This is real proof of what we already expected when we visited the area in November 2010 when we saw 15.000 birds of which at least 90% was of the *limosa* subspecies. She told us that last week still several 1000's were present in their main wintering site Veta la Palma fish farm and on the surrounding rice fields. So our expectations were high but

after a day of scanning the entire area including the Cantarita rice fields we had to conclude that probably no more than 1000 godwits were present, scattered all over the place in small groups. Although most birds were sleeping or foraging in deep water, we still managed to read one colour ring of a bird that turned out to be there already since July 2011. We saw 2 more birds of our scheme but did not manage to get the full combination. In the late afternoon we visited Dehesa de Abajo but found only 30 birds although only one week ago more than 1000 birds were still there. This contributes to our idea that godwits have left this area, heading north towards their breeding areas. The fact that the Portugal team reported the arrival of 9000 birds this week near Samorra Correia is probably good evidence for that as well.



White-headed duck

20 February 2012 Sunny, 2 N, 21 C

On our last day in the field we visited the marshlands near the Valverde visitor centre and found a bird with Spanish colour rings in a group of 35 birds foraging in a ditch next to the road. The natural ponds (“lucio’s”) contained no water and no birds. We moved on to El Rocio through the restricted area and found a Dutch bird in the lagoon that according to Rocio has been there for weeks in a row. Intake rate is high and every search under water seems to be successful but the size and identity of the preys could not be identified. We had a look at the watchtower near El Palacio del Rey on the western edge of the marshlands of the NP. From there we saw a few godwits without rings. We headed back to Isla Mayor, to clean and bring back the car to Seville. After a short night in Seville we were back in Eindhoven in the early morning of the 21st.



Veta la Palma

Team 3

Gjerryt Hoekstra, Ysbrand Galama and Haije Valkema

31 January 2012

Ysbrand and I left home at approximately 8:00. My father brought us to the airport. The flight was scheduled at 12:15 to Madrid. After landing in Madrid we had to catch a plane to Sevilla. The flight was good, and we were taken from the airfield by Rocio. Then we went to Northgate rental to rent a 4x4 car. (Mitsubishi Montero) After signing the papers we drove to Huerta Tejada Fieldstation. We were going to look in the Doñana National park the next morning.

1 February 2012

We left at 9:00 It was bright and sunny weather with no wind . At first it was cold about 2 degrees centigrade but when the day progressed it started to warm up to nice temperatures approx. 18 degrees centigrade. We left in glowing sunlight and first noticing the beauty of the park since we arrived by night. We drove on a dusty road following Rocio and Lucie. On the way we saw lots of different species of birds. We were about to check the fish breeding ponds in the area. At the first pond in Veta Palma we found a flock of black-tailed godwits with about 1700 to 2000 individuals. Most of the birds were up to their belly in water so it was difficult to read any colour bands. We were able to identify 3 birds. Most birds were sleeping or preening. After a little while we saw an osprey coming to the pond.

After a while we went to look for other flocks in the area. At another pond we found a flock of approximately 200 godwits. We heard there should be more godwits around so we continued searching for locations, pond after pond with in one hand the scope and in the other a bird guide to read about the strange bird species we saw everywhere. Soon we found other ponds, one with a flock of 2450 birds, and one with 1000, we checked them for rings, still not easy with the high water levels, with some loose birds around the total count of the day was about 5500-6000 birds, we read about 20 colorings of different schemes, and on the way back we read some flamingo bands also a nice species to look at while we come across them. Looking back on this first day I would say it was quite

successful in exploring the fields and trying different tactics of approaching the birds. For sure it was a day full of wonderful impressions.



Godwit flock in Veta la Palma

2 February 2012

We started the day to check for ruffs with Lucie at a place called Dehesa De Abajo. Since it is a fresh water lake we thought we had a good chance for seeing Ruffs. Instead of Ruffs however we found a new flock of approximately 350 godwits. We read 3 rings all from different color schemes. We decided to leave the area and come back at dawn to check if more waders were using it as a roost. On the way back we read some White Stork bands; they were sitting on the nest being territorial. After a coffee in typical Spanish bar we had a rendezvous with Rocio and a Bulgarian biologist Nevana. In this formation we went to fish ponds at Veta la Palma again to check for more godwit rings. We found several flocks of godwit but most of them were difficult to read because of

sunlight, distance or high water levels. We also noticed a lot of dunlins that were foraging and wading on a dry pond. The location of birds found was about the same as the day before. At the end of the day we had a result of about almost 20 different color bands of different schemes. Also we managed to read Avocet rings. And the girls managed to read quite a lot of flamingos. At dawn we returned to Dehesa De Abajo to check if our idea about the roost was right. We found the godwits still there now accompanied by avocets and stilts. However no birds came in for the night except Shoveler duck and about 300 Glossy Ibis and the same amount of White egrets.

3 February 2012

Today we started early at 7 o'clock. We drove the dusty road to Isla Mayor. It was a very cold morning. The ice was still in the puddles from the road. In Isla Mayor we met with 3 catchers who wanted to catch some godwits. We had to show them the different places where we saw the birds in the past two days. Doing that we saw a banded Avocet. On the road we also saw a Peregrine falcon with prey. We went to Veta la Palma. After a while we separated from the catchers because the situation was not suitable for placing traps, the water was too low. During the day we scanned the area for more godwits. We found a flock of approximately 900 birds and managed to read colorings from different schemes including quite some Icelandic birds and from our own scheme 5 individuals. We also saw a Kingfisher. Later that day we found another group of 3000 birds and we read from our own scheme about 13 birds. We also saw a code flag but they were too far to read the code. After a good reading we went with Rocio to see the rest of the Doñana Park before setting off to Portugal. It was very beautiful. With all the landscapes, we even found a flock of 500 godwits way too far to check. We saw big herds of deer passing by. We also saw some Red partridges when we passed through a pine forest with a lot of cork trees. The beautiful road was leading to an even more amazing town called El Rocio. It was like entering a western town, horse riders with streets of sand and typical Spanish houses. We ended the day there with an overwhelming sunset to a pond with flamingo's and waders. Total estimation of what we saw on godwits in the area was between 6500 to 7000 birds. There might have been even more in places which we didn't discover.

4 February 2012

A day of moving, installing and searching for birds because we moved to Portugal today. It started with a 5 hours long trip from Doñana to Foras da Salvaterra. We saw the landscape change from flat, to more hills and relief. On the road we noticed quite some Red and Grey kites hunting in the fields in between the cork trees. The temperature rose to 19 degrees when we arrived at our new location, a nice holiday house. We arrived around 2, and after a break to eat we studied the maps of the area. We started to search the rice fields around Samorra Correia and when we found them it was disappointing, the rice fields were dry and there wasn't a single godwit. We checked also another place, but also this didn't look good for the godwits this year, so then we went to search for a big nature park next to Porto Alto, we found it, but with closed gates so we couldn't enter to search for birds. However we didn't give up and went to the key holders, the rice company. The office was closed and we met only two guards a bit further, in our best Portuguese we explained our situation and made an appointment for Monday to get access to the nice nature area. Also they said that there were seen about 5000 birds there and they pointed it on a map for us. On the way back to our house in Foras da Salvaterra we visited some more ricefields, but also this looked way to dry. It seems we really need to search for wet places on the riverbanks, hopefully tomorrow we will track some bigger flocks.

5 February 2012

Today we started early after a good night sleep we planned to go to Zambujal because we heard that around thousand godwits were seen in the area. After driving to Setubal and a lot of searching in the surrounding of Zambujal, after a long road that barely could have the name road, we found a huge flock of godwits in the valley of Zambujal. We felt so relieved to have found them in this hidden valley. There were about 7500 to 8000 godwits, an awesome sight. Even more beautiful was the sight of an Otter scavenging on the banks of the rice field. When we walked into the area we already said to each other this was the perfect habitat for an Otter so this was a very rewarding sight. We also found about 100 Ruffs in the area in which we didn't find any colourings. The young ruffs with the green legs were also clearly visible. In the flock of godwits however there were many

rings from different schemes. Especially a lot of bands from the Jose Alves colour scheme, a researcher who works on Icelandic godwits. The birds looked skinny and many of the rings were discolored so there were probably a lot of birds that just arrived from Africa. We also saw some year chick (cohort) rings. We read about 30 birds from our own scheme, so we were quite happy. After quite some hours of reading we called it a day since the godwits were scared by a flight of white storks and settled all on the other side of the valley. Also the gunshots that we heard all through the Sunday here came closer, and the birds reacted on them. When we walked back, we came across some snipehunters, two older fieldsmen in camouflage and we talked with them in our freshly learned Portuguese. It was a nice meeting and we wished them a good hunt. On the way back in the last daylight we rechecked the most wet ricefield near Samorra Correia. We did find a lot of Azure winged magpie, but the fields were again empty and did not seem to be popular by any kind of bird. In the evening we were happy to write many combinations on our data forms.

6 February 2012

In the morning about 7 o'clock we drove to Zambujal again to check on the big flock of godwits we found the other day. Today the godwits were very difficult to approach; they were really on the backside of the pond. Probably because yesterday the snipe hunters passed the area and the birds couldn't figure out the difference between a telescope and a berretta. They were also very careful with silhouettes of birds of prey on the horizon. After we settled down and hid from sight the birds started to return to the rice field. Then we managed to read quite a few colour rings; quite a lot of the same as we saw yesterday but also a few new ones. A ruff with colorings crossed our sight but it was far away and we were not sure of the code because of probable discoloration. The Glossy Ibis also came in very close when we were sitting quietly and we managed to read some code rings from them. Since we started to read more and more the same birds and knowing there have to be more birds around we wanted to search for more locations. We went south by Alcacer do Sal to check the all the complete Sado estuary. Alberge was empty and the fields were much too dry. This was also the case with Palma and the Alcacer do Sal rice fields weren't any different. In fact in the whole south site of the estuary we didn't see a

single godwit. We did see storks and flamingo's and a field with ringed plovers and snipes. The villages we came across made a very poor impression here. At the end of the day we returned and compared the colour rings from today with those of yesterday.

7 February 2012

Today we wanted to find other godwits since we heard from two guards of the rice company that there where birds seen in a huge nature area near Samora Correia. We needed an entry pass to get to the area that we could take at 11 o'clock. That gave us first time to check around Benavente again on other places as we saw last times. When we picked up the entry pass we were happy to drive in the nature area, expectations were high for today. However we first needed to find the birds, it was a huge area and we searched on the location the guards said the birds would be. However al what we saw, no godwits. We asked quite some people with the 3 or 4 Portuguese key sentences we learned and in the end we met a guy that spoke English. He said he saw the birds yesterday but not today. So we were on the right spot. Desperate as we were we tried to find them, but the other places where dry, we went to the last place that we had on our maps as an possible godwit spot. This was near the town Alcochete on the other side of the river but the result was dry rice fields again. On the road we saw some dead barn owls, so we made a stop an walked safely to them, we found three there from which one was banded, so at least one ring that we reported today. We were unsatisfied this day and decided to start real soon the next day in Zambujal and check the so called godwit place in the nature area after that.

8 February 2012

Today we went to Zambujal again to check on the flock of godwits we found earlier. When we drove in the valley we saw some Pheasants walking and foraging on the dykes between the rice fields, a beautiful sight. The birds were all together in a small pond but there seemed to be less individuals then the day before. The birds were all crowded together so it was difficult to read the color combinations. Still we managed to read some color combinations. Also it seemed like there were a lot of Icelandic birds. After a while there was a Peregrine falcon chasing in the area and all the godwits went airborne, a

spectacular sight. Then the birds went to another pond all together after a count we thought there were approximately 4500 godwits all together, so this was less than the past days. There were also about 200 Ruffs in the valley from which we managed to read one color combination. Since the birds were far away, the sun was on the wrong side, we decided it was time to let them rest, since even observing them seems to make them continuously aware of you. We went back to the rice company fields near Porto Alto to check if today there were godwits present in the area. In a pond on the far edge of the reserve we found a small flock of 38 birds with no bands. But the rest of the fields seemed to be empty. So we decided to wait for nightfall to see if the area was used as a roosting place for godwits. We heard and saw a flock of approximately 160 godwits landing on a rice field, after that we saw a club of 60 birds going to the back of the area, not huge numbers but still we were happy we didn't wait for nothing at all. There were gulls roosting and other birds like lapwings and ibises flying. Then we saw some huge flocks on the horizon, say thousands of birds, they didn't come close and we could not find out if it were godwits, it could have been golden plovers also, we saw bigger flocks earlier today.

9 February 2012

This morning we started at 7, and went on the way to Zambujal to check our flock of birds, there were around 4500-5000 birds today, maybe a bit more as the day before. We took a good hide under a tree and the godwits came in real close, that resulted in quite some rings, a lot of Icelandic again. It helped us to discuss about discolored birds that we saw normally from a big distance, we also read some Ruff bands; that was a nice extra. We had to leave around twelve to pick up Haije, the guy who is going to take over from Ysbrand. When we drove over the Pont de Vasco da Gama, the big bridge to Lisbon, we saw also godwits in the many little ponds under the bridge, not huge numbers, but still it is a big area and maybe in total there are a lot of birds. On the way back we checked one on the roadside, with 50 birds, we read one ringed bird from an Icelandic scheme. We didn't know the salt company, so we went to the Tejo Natural Reserve Office and asked about information. The people were nice, and helped us with phone numbers of the salt company. When we called they said it was possible to enter, but then we first had to

contact them. For sure it's good to check this area one time. Another time, in the last daylight we checked some ricefields near our hometown, they didn't look to bad, but no birds again. Maybe they first have to turn over the field before they are attractive for the godwits.



Godwits near Zambujal

10 February 2012

Today we had to bring Ysbrand to the airport in Lisbon. We went there early in the morning, about 4:30. When we returned to the house me and Haije planned to check the whole north side again for flocks of godwits. We checked the ricefields from the rice company. But we only found 4 godwits in the ricefields that were unbanded. We also spoke with some photographers who knew the area well. They also said there were no godwits in the area because of the draught. What we did see were about 250 White storks flying in circles on the climbing air, a very beautiful sight. We also saw a Shorteared owl hunting in the fields. In the afternoon we went to our houseowner who called the

saltcompany for an access pass. Probably Monday we have access to the salt pans to check if there are any godwits present in this area near Samouco.

11 February 2012

Today we went to Zambujal again. There were more birds than the last few times about 7000 individuals. We managed to read quite some color ring combinations but not very much new ones. We also heard nightingales sing. The Ruffs were also present again, but no new color bands were seen. After Zambujal we checked the bridge near Zambujal but there were no godwits there. After that we drove to the Samouco salt pans to see if it was a roosting place for godwits. We found about 50 birds in one pond. But they were up to their bellies in water so we couldn't read any color combinations. We did manage to read some flamingo's with lime code rings.

12 February 2012

First we went to check Zambujal. There were a lot of godwits in the valley. About 9000 birds, more than the last day we checked. We managed to read some new color combinations. But after a short while we had to stop because there were hunters in the valley, and the birds were scared by the gunshots. So we planned to check the whole southern region of the Sado estuary again. We decided to check all the mapped areas. We checked the fields near Palma, Alberge, Monteville and Comporta but we didn't find any godwits. After returning we went to check the pool in the rice fields of the rice company near Porto Alto on the way back. We found four godwits with no color bands in the pool. They were probably Icelandic because the pool was very close near the mudflats of the Tejo estuary.

13 February 2012

Today we went to the salt company Fundeçao Salinas Samoucou where we met with Marcia Vaz Pinto. She was a biologist working in the salt panes area. First she gave us a map of the area. Then she drove with us through the fields and ponds to show us the way and give us information about the area. She also pointed out the good areas for godwits. Since this was a new area not used before by Groningen University this was a very good

experience. Marcia also knew Jose Alves and she said that he was going to catch birds in the area with a British study group. This was on the 15 February so probably we could go with them to find out about the methods they use in Portugal. The most common method to catch godwits was with canon nets, so we are eager to find out. We were hoping to join them on this date. In the afternoon after lunch we went in the area to explore it ourselves. Marcia explained that the salt pans were used by the godwits during high tide of the Tejo river. We were unlucky, at the time it was low tide, but still we managed to find approximately 200 godwits. One of them was banded with a red six color combination. This was a very welcome sight. We also read two Spoonbills with color combinations. One of which is probably from the Netherlands with a yellow flag. We also read a Stilt with code rings so this was a rewarding experience. After the day we received a table with the times the Tejo river has high tide. It looks like a very promising area and it was very nice to have contact with new people and biologists.

14 February 2012

We went to Zambujal to check out the birds and look at the condition of the fields in the valley. We assumed that they would be much dryer because the farmers were draining the water in the last few days. The fields were indeed much dryer than before. There were still quite some godwits in the area, about 9000 birds. We managed to read about thirty color combinations. We think there are probably about 80 banded birds in the valley from which 10-15 are unreadable due the discoloration. After a while we went to check out a place near the coast that the biologist pointed out to us near Montijo, but there were not many birds in the area except a few Icelandic individuals with no bands.

15 February 2012

Today first we went to check out the salt pans near Samouco. It was a breezy morning. On the way we found a flock of 90 godwits near Alcochete; they were unbanded and probably Icelandic. In the salt pans we didn't find much birds either. But we talked to a bunch of French men who were doing research on Avocets. They said they had seen a huge flock of godwits near Samora Correia the last day. We immediately went to Porto Alto to find out. On the way to Villa Franca just near the bridge of Porto Alto we found a

huge flock of godwits, about 9000 birds. Finally we had located them and we immediately saw color bands. We managed to read quite some combinations, about 15 of our own scheme. The farmers had started to plough the ricefields and there was a lot of bird activity . There were also a lot of discolored combinations on the rice fields. A quite special sighting of the day was an individual godwit ringed by Pete Potts from the UK. It was quite exciting to see the birds so near the town.

16 February 2012

Today we first went to check out the big flock of godwits near the town of Porto Alto. It was a bright sunny day with a slight breeze. The birds were present as usual. The farmers had progressed a lot in ploughing the rice fields. The godwits were swarming around the machines. We managed to read about 15 to 20 birds from our own scheme. But later in the morning the birds became very anxious because there were a lot of gunshots in the area that spooked them. We also managed to read a color combination of a satellite male Ruff. There seemed to be more birds in the area than in Zambujal , we estimated between 10000- 11000 individuals. We made some rings samples and came to an average of about 2 ringed birds on 130 checked birds.

Later in the afternoon we went to check out the saltpans again. There we managed to read two Icelandic birds from Jose Alves. We also read four color banded Spoonbills and one Stilt in the saltpans near the Vasco da Gama bridge.

17 February 2012

First we went to check the rice fields in Zambujal to find out if the birds were staying in the drying rice fields. The birds weren't in their usual place, but in a field on the other side of the valley. The number of birds had declined to approximately 2000-3000. Still we managed to read 6 color combinations of our own scheme. Later that day we went to check Porto Alto again. On the way back we also checked the salt pans of Samouco. We found about 200 godwits but no bands. In Porto Alto all the rice fields near the bridge were plowed. There were about 6000 godwits in the area, less than the day before. We think the reason for this was because farmers started ploughing in a lot of other fields.



Godwits near Porto Alto

Therefore the birds were flying a lot and maybe also attracted to other fields. The godwits were difficult to see on the plowed fields, because they blended in to the background. Also the light in the afternoon was bad so we weren't able to read many color combinations.

18 February 2012

Today we met up with Jose Alves and Pete Potts with a British research crew from the UK. We were going to look for opportunities for catching godwits in the area. It was very nice to meet all the new people and the well-known researcher Pete Potts. They were very interested in our work in Portugal and Spain. After a coffee we went out on the saltpans around Alcochete to look for flocks of birds. We found some on the saltpans near the roundabout of Alcochete. We read some color combinations there and Jose mentioned us that this would be a perfect spot for catching with canon nets the following day. It was

too bad we could not be around to see this event taking place. In the afternoon we checked the coast from Hortas to Montijo. We found flock of about 500 to 600 godwits most of them Icelandic. But still at Hortas beach we managed to read a yellow flag from our own scheme. It looks like in this place Limosa and Icelandica mix up with each other. The rest of the day we managed to read some green flags from Jose and some red ones from Gunnarson. In the evening we had to pick up Rene Faber and Dirk Tanger. After picking them up at the airport we had a nice dinner in Alcochete with Pete, Jose and the English team. After a short night sleep we went back to airport to depart.

Team 4

Dirk Tanger and Rene Faber

19 February 2012 Early dense fog, sunny, 18 C no wind

We get up at four, leaving the apartment at half past four to deliver Gjerryt en Haije at the airport. There's a very dense fog. On our way back from the airport we make a stop at Pancas to conduct a roost count at the banks of the Tejo Estuary. This is an excellent site for a BTG roostcount, but today -eventhough the fog slowly lifts over time-we don't get a clear view. We can hear two big flocks chattering nearby, but only are able to see two small groups (totaling 310 BTG) passing by, heading in a north/north eastern direction.



Fog at Pancas, foto: René Faber

After this foggy start we head for the location, just outside Porto Alto, where Gjerryt and Haije have been observing a group of 6000 birds the past few days. There is still a group of 6100 BTG here. We do a lot of colourreading until 15.30, with a break at noon during which we also check out the broader Ze do Pinho area (block C). Ze do Pinho is very dry, no birds here. Afterwards we decide to conclude our day near Santarem, trying to find a

group of BTG that was reported to us by Pedro Lourenco. Following the gps-coordinates we received, we wander on sandy roads and finally get lost in a landscape of small forests, a highway that is hardly being used and cultivated half open areas. We decide to head home, but had an exciting day.

20 February 2012 Sunny, 18 C in the morning wind 2B, in the afternoon no wind
We leave at eight for the location near Porto Alto. The number of birds there had dropped to 4500. The birds are very sensible/ easily disturbed. There appear to be many *Islandica* birds in this group, that are mainly sleeping. The birds are spread out over eight rice paddies, the main part of the group clustering in two of the paddies. In one of them the birds are resting (with many *Islandica* among them), in the other one they are foraging. A pedestrian disturbs the foraging birds and makes them shift to the paddy of the resting group. In this paddy the BTG are hard to observe, due to the position of the sun. We therefore decide to have a coffee break in Porto Alto. In the local cafe we are approached enthusiastically by a vigilante of the rice company, who remembers us from last year's visit. We ask him -in Spanish- whether he has seen BTG's and if so, where? He draws us a map (on a paper napkin) of where he has seen BTG's. We follow his leads and get to some paddies belonging to a farm called 'Toneca', which is situated next to road 621 between Vilafranca en Benavente. At Toneca we run into a small flock with one ringed bird. While observing the flock we see a much larger flock landing in the background. We drive there and find a flock of 1100 birds foraging. Looking further on there are more flocks, scattered over six paddies. In total we count 4500 BTG which are disturbed hourly by marsh harriers or a booted eagle. We meet an employer of the Toneca farm, who tells us that the fields were ploughed four days ago and that the BTG have been using the paddies ever since. We read colourringed birds until 16.00, then head back for the location just outside Porto Alto. Less birds here than in the morning, the birds are still sensible, some sleeping, others foraging. In total we observe 1000 birds, with 7 colourreadings. The foraging behavior intensifies after 17.00. The birds also are joined by small flocks of Ruffs. Considering the behavior of the birds on the paddies, it seems that most of the paddies are getting expired (of rice).

21 February 2012 Sunny, 20 C no wind

We leave at 7.15, to be able to simultaneously count the arriving BTG at the locations near Porto Alto and Toneca. Dirk counts 1600 birds at the location near Porto Alto, René 5000 at Toneca. After regrouping we observe the birds at Toneca. We read many colourrings here, under which two codeflagged birds. Round midday we check the Giganta/ Ponta d'Erva ricefields . Eventhough some of the fields are wet and have been ploughed, there are no birds here.



Toneca BTG landing in paddy nr. 6, foto: Dirk Tanger

After this we decide to have a new go at the location near Santarem. This time we take the IC3 (toll road), armed with our GPS to see where the birds are exactly. When crossing the viaduct over the Foros de Benfica, Paul da Casa do Cadaval, we spot the birds downstairs. At the next exit we head for Muge. Whilst evading the wrong turns we took here last Sunday, we find the flock of 900 BTG. They are foraging in a very wet ricepaddy. We read two colourrings, with one codeflagged bird. At 17.30 we call it a day....



Godwits foraging at Foros de Benfica, Paul da Casa do Cadaval, in the back the viaduct of the IC3 foto: Dirk Tanger

22 February 2012 Sunny, 20C no wind

Today we start at Toneca. On our way there, next to road 621 from Benavente to Vilafranca -near a farm called Ruivo, we see a tractor ploughing wet paddies. 560 birds are already present and we read 4 colourrings. Then we continue to Toneca. Still many birds here, we read many rings until 11.45. At that time the position of the sun starts to make it hard to read rings.

We then revisit the group at Foros de Benfica, Paul da Casa do Cadaval. On our way there we pass Ruivo. Here the group has grown to 1100 birds. Here also the position of the sun is not in our favor, so we decide not to stop here. Under the viaduct at Foros de Benfica, Paul da Casa do Cadaval of the number of BTG has dropped to 600. 400 birds are foraging in the wet ricepaddy, another 200 are foraging in a dry ricepaddy nearby. We read three colourrings, until a hawk attacks the group from the pillars of the viaduct.

We end the day with a visit to both Ruivo and Toneca. At Ruivo we read a lot of colourings, at Toneca some more. In the evening we have a nice dinner with Jose Alves, Pedro Lourenco, Guillaume Gélinaud, Pete Potts and many fellow companions of the international BTG-community.

23 February 2012 Sunny, 22C no wind

Today we'll visit the Sado Estuary. On our way there we make an early morning visit to Ruivo & Toneca. At Ruivo, unfortunately, the birds are at the back of the paddies, which makes it hard to observe them because of the sun that's facing us. This is why we continue to Toneca, here –on the paddy next to the roadside-we find a large group of 1200 birds, which contains many colouring birds. Suddenly the birds are chased by a marsh harrier, a daily routine at Toneca. The birds flee to the paddies behind the farm. There are 2000 birds in paddy nr.1 While observing this group all of a sudden a peregrine falcon strikes. All birds flee and head for paddy nr. 6, meanwhile being chased by the peregrine falcon. This also makes all birds in paddy nr. 6 lift their wings. In total we count over 8000 BTG being airborne. For about ten minutes, the group is in disarray and stays up in the air. Twisting and turning, shifting in clouds that constantly change in shape and colour. When things have turned quiet again, we slowly drive to paddy nr. 6. It's packed with BTG's, practically all birds have started sleeping though. We decide to drive back, leave them at peace and head for the Sado.

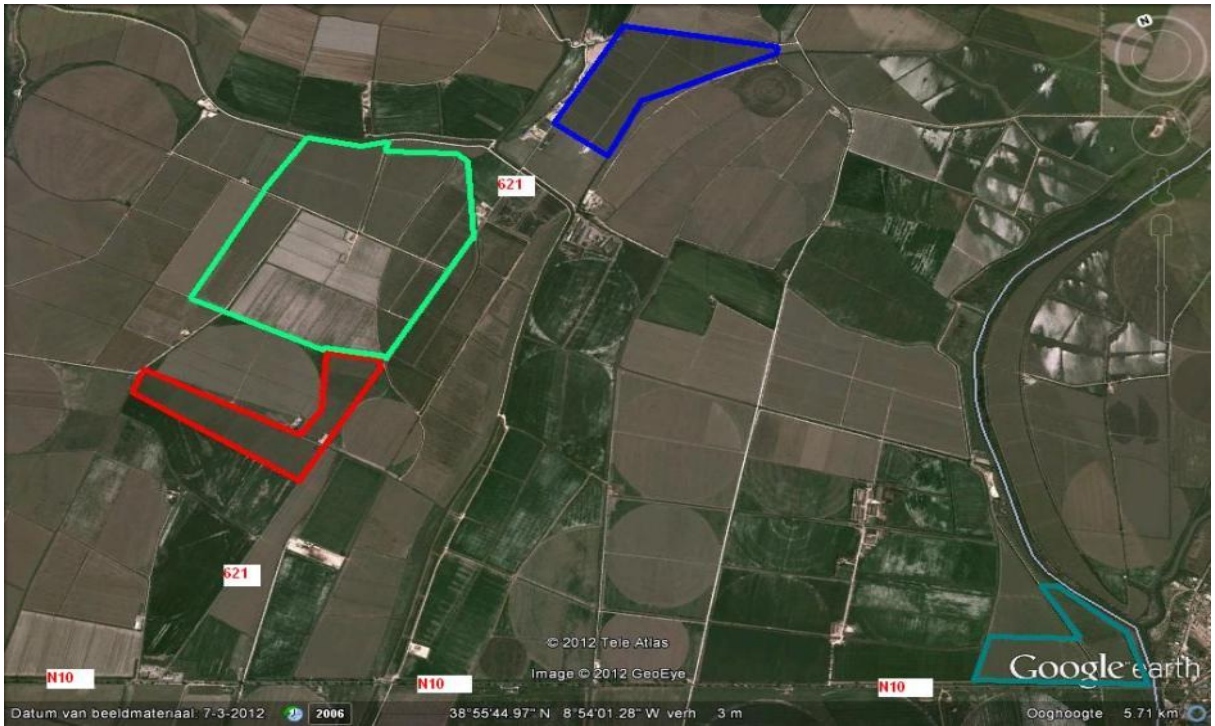
In the Sado we start at Zambujal (block K). Near the bridge to the village we see about 200 BTG, mainly *Islandica*. Some of them are ringed, but the bright light makes it impossible to read them. At Block L (Marateca) we see some godwits in the ploughed fields. They flee and cluster in a group of 1100 birds. We sneak up to them, but the flock is highly sensible. Finally we manage to check $\frac{3}{4}$ of the group but only read two rings, of the French scheme. We check the other part of Marateca (block L) from the N5-bridge over the rice paddy fields. We continue to Palma Bridge (block M), no godwits here. No godwits at Monte Novo da Palma (block N) either, it's dry here. Many fields have not been ploughed, or have been ploughed without irrigating the paddies. At Alberge (O) we leave the N5/ IC1 and enter – the slippery and wet – tracks. No birds here. At Alcacer do Sal (P+Q) many fields have not been ploughed yet, no godwits here.

We do see a few paddies that have been ploughed under the railway bridge and highway IC1. We visits these paddies, and see 80 birds, none of them being colourrined.

At the end of the day we return to the Tejo Estuary. While passing Toneca, we see a satellite tagged bird in the paddy next to the roadside. Near a farm called Cara Larga (between Toneca and Ruivo, see image below) we see water is being let into the paddies and a tractor is being stationed, meaning ploughing will start here soon. At Ruivo we have another good colourreading session.



Cara Larga 23-2-12, paddies have been irrigated before ploughing, attracting gulls and glossy ibis, and 24-2-12, ploughing has started, foto's: Dirk Tanger.



The area's in which we observed the BTG: Ze do Pinho, Toneca, Cara Larga and Ruivo. The agglomeration next to Ze do Pinho is Porto Alto, the agglomeration of Vilafranca de Xira is not visible on this map, but is situated to the Southwest of the N10. Road 621 leads to Benevante in the Northeast.



Toneca, Cara Larga and Ruivo from a 'BTG-perspective'. With reference to the text, the paddies of Toneca (nr. 1 to 6 and 'the paddy next to the road') are numbered.

24 February 2012 Sunny, 22C no wind

At half past eight we start at Ruivo, 2500 birds being present. In one of the paddies we find 440 birds, many are ringed, which is good for sampling. In another paddy there are 2000 birds which are being disturbed by a marsh harrier before we can have a proper look at them. They all fly away to a paddy which is quite inaccessible and has bad lighting conditions. We drive to Toneca, where there are 8000 birds up in the air, 3500 heading east. We check out the remaining birds but they are mainly sleeping in paddies nr. 2 and 6. Knowing this, we decide to look for the birds that have flown to the East.

We check out the ricefields of Giganta Ponta D'Erva and Samora Correia. Except for some paddies in Giganta, all are dry. In Samora Correia some farmers are ploughing the dry soil. After this we go to the Barroca d'Alva (block J). On our way there we see a group of BTG in a Saltpan near Alchochete. It's a flock of 40 birds, containing 7 ringed birds of the Jose Alves scheme. At Barroca d'Alva water has been let in to the paddies, the ploughing hasn't started yet. This area could become attractive to the godwits in the near future.

On our way back, at Toneca (no more birds at Porto Alto), we see a flock on the paddy next to the road. It's a group of at least 1600 BTG, which are attacked by a marsh harrier. Within a minute 800 BTG return. We read two codeflagged birds as well as the same birds we saw on this same paddy this morning. We then leave for Ruivo, where we find a large flock at the back of the ricecomplex. The position of the sun makes it impossible to observe them, but thanks to a marsh harrier the birds are chased to the paddies right in front of us. We read many ringed birds, but after a short while the pendulum bounces back because of a marsh harrier and a booted eagle. The sunlight is unfavorable here, so -for a last peep of the day- we return to Toneca. The gate to the paddies is closed so we can only check the paddy that's next to the road. We check it for the third time today, many similar ringing combinations. The group is chased away by a suddenly appearing peregrine falcon, which is a spectacular view. We end the day by having a renewed check of the Ze do Pinho area. No change here, everything is bonedry, also in the paddies in which we saw a group of 23000 BTG last year!



Comparing the same area (Ze do Pinho): 2011 (left) and 2012 (right,) foto's: Dirk Tanger

25 February 2012 Sunny, 22C no wind

We leave at eight, to start at Ruivo. Unfortunately the godwits are at the back of the paddies and the gate to the dirt road is closed. We decide to try our luck at Toneca, but alas. There are no godwits in the paddy next to the road, and the gate to paddies nr. 1 to 6 is closed. While returning to Ruivo, we see a dozen BTG land in the recently ploughed paddies of Cara Larga. When trying to approach them, they flee but we do manage to read the combinations of some colourranged Spoonbills. At Ruivo we see a flock spiraling in the air. They land in the paddies next to the roadside. Covered by the 4x4 we read many colourrings, under which one codeflagged bird.

At 10.30 a Marsh harrier stirs up the group and the birds head back to the far side of the paddies. We decide to look around for birds in some other areas in the Tejo. We pass through Porto Alto and have coffee. Here we meet the vigilante of the rice-company who tells us there has been ploughing near Benavente, Monte da Foz. We go there, but find nothing but ploughed paddies that are dry. Afterwards we drive through the Valley of Rio Sorraia, no birds here, only bare and dry paddies.

We return to Toneca. The gate is open now. There are 1500 BTG in paddy nr. 3. We read 6 colourranged birds until a buzzards makes the flock flee. The birds fly to paddy nr. 6, which we decide not to visit because experience has shown this paddy is used for sleeping and we don't want to disturb the flock. On our way back to Ruivo we pass the paddy next to the road. There is flock of 40 birds there, under which the same satellite

tagged bird we saw the day before yesterday and a bird from the scheme of Jose Alves which we have been seeing on the exact same paddy for the past few days!

At Ruivo the sun is in a favorable position and a flock of 3000 BTG are foraging near the roadside. We observe them for an hour and a half. Surprisingly there aren't many ringed birds even though many birds appear to be limosa.

26 February 2012 Early fog, sunny, 22C no wind

Today Dirk will be interviewed about our trip by 'Vroege Vogels' ('Early Birds') a well-known Dutch radio show. This means we have to be at Ruivo early. We have chosen Ruivo, because we hope we can let the listeners hear the chattering of the foraging BTG. When we are 'on air', at 7.30, the listeners sure can hear the BTG, but we ourselves can't see them. There's a dense fog which disables our visibility to 30 meters. The fog doesn't lift till 9 o'clock, we then face a flock of 3000 BTG. We read many colourringed birds. In the paddies on the far side of Ruivo there are also many godwits. We estimate that there must be some 5000 godwits at Ruivo right now.

When we no longer read any new ringing combinations, we drive to Toneca. We see 2500 godwits flying away from Toneca. There are no birds in the paddies nr. 1 to 5, but paddy nr. 6 is packed with BTG. When driving to paddy nr. 6 we see 2000 BTG returning. We count 12000 godwits in paddy 6. This means that –including the birds at Ruivo- there are more than 17000 BTG in the area right now. This seems to be a much higher number than when we first entered the area. Maybe the numbers have risen... A group of about 3000 godwits leaves paddy nr. 6 and spreads over paddy nr. 3 and nr. 4 and starts foraging. We approach them carefully and read quite some colourrings. At 2 o'clock three birds of prey chase them back to paddy nr. 6. This reconfirms the pattern which we have been seeing all week: paddy nr. 6 being the paddy of refuge in which the BTG withdraw themselves and use for sleeping. We also wonder whether this paddy contains many colourringed birds which we haven't been able to scan for colourrings? We do know that the birds are so tightly packed together in this paddy that it's impossible to sample them for colourrings.

We head for Cara Larga and are rewarded with a flock of 2600 BTG. We read many colourrings until a marsh harrier makes them flee. We conclude this year's visit at

Ruivo, where we read many colourings and stop at 17.50 with an ever growing flock of intensely foraging and bathing godwits (while the sun sets in the background). It's a beautiful finish of an intense week during which we were able to follow an increasing number of godwits (from about 10.000 to 18.000 BTG) spread over/ passing from Ze do Pinho to Toneca, Ruivo and Cara Larga.



Toneca, a flock of BTG landing in paddy nr. 6, foto: Dirk Tanger

27 February 2012 Sunny, 22C no wind

Today we'll leave Portugal and head for Spain, because here we have to return the 4x4 to the rental company. At seven we start driving to Doñana NP. We arrive around two o'clock and are welcomed by Rocio Marquez Ferrando. She shows us around the Veta La Palma fishing ponds, where we see a few hundred godwits and a boar family. We read some rings and leave the ponds at sunset. Through the pitch-black night we drive to the excellent equipped field station, where we spend the night.

28 February 2012 Early fog, sunny, 22 C no wind

In the morning Rocio guides us through the western part of the Doñana. Due to fog we don't see much birds though. At 11.00 we wash our 4x4, which we transform from a yellowish dustcar to a bright and shiny white 4x4. After this Rocio drives us to the airport of Seville, from which we fly back home.

Epilogue

This year was by far the driest of the past few years we studied the BTG in the Tejo Estuary. The birds clustered on the few wet paddies in the area, while in the surrounding areas many farmers have been ploughing the paddies' dry soil. We wonder what makes farmers decide to irrigate their paddies before ploughing or plough the dry soil. The answer to this question may prove to be of great importance for the foraging possibilities for the BTG and subsequent individual fitness.

We have seen (colourringed) birds shift from Ze do Pinho to Toneca and Ruivo, and from/ between Toneca en Ruivo. Birds at Cara Larga had been seen at Ze do Pinho and Toneca previously. Little traffic was seen between Toneca and Ruivo, which makes it look like the birds are very loyal to their foraging paddies and don't change their foraging location until it gets expired. It would be interesting to make an analysis of the number of (colourringed) godwits per location and their dispersal over the diverse locations.

Appendix 1: Fieldwork site details (see maps)

Below you will find information on the most important areas in Tejo, Sado and Extremadura but check other rice fields if you do not find them there. Please use these names for site description and in the database. Red arrows mean that the gate is normally locked. Green arrows indicate free access.

A: Samora Correia ricefields

Take a small road to the left at a crossroads just before you get to the highway. After 2 km you end up at a gate with two ferocious dogs which turn out to be quite nice. We should have a key of the gate. Farmer is called Paulo Caseiro (00351 964200953) but does not speak English.

B and I: Samora Correia ricefields

In Samora Correia take one of the last left turns on the road to Benavente. You will end up at a small bridge from where you have good views over the ricefields. If you turn right (for B) you will see a barn. If the farmer is there the gate is normally open and you can get in (but ask him if it is OK). If he is not there, come back another time or just walk if you see a flock. The fields on the left (I) are normally free to access.

C: Porto Alto, Ze do Pinho

Take the N10 from Porto Alto to the west; take the first big green gate on the right hand side. You need a key card to get access. You can get such a card at the office of the rice company next to the Repsol petrol station several kilometres down the N10. Deposit is €25 and they make a copy of your passport. You can get the card for the whole period. Contact is Andrea Silva. She speaks English and is a biologist.

D: Samorra Correia, Belmonte ricefields

Follow the road heading south from the last roundabout in Samora Correia all the way till you end up at a gate. This gate was left unlocked for us in 2010 after contacting the boss Orlando Silva who lives in SC. He has a storage building at the crossroads about 1 km

before you reach the gate. Contacts there are Nuno Machado and Alfredo Oliveira 00351 917066964.

E: Santo Estevão, Paul de Belmonte

Take the N10 from SC towards the southeast. About 2 km after the last building on the left hand side you will find a green gate. This gate is always locked but if you contact Rui Alves of the Companhia das Lezirias on his mobile 00351 966924333 one day before you plan to visit the area, he will unlock the gate. You can just send him an sms and remember also to send a sms when you go out again. He is very cooperative and speaks English.

F: Samora Correia ricefields

Enter from the N118 from SC to Benavente. You have to go on foot since we do not have a key. Huge numbers in 2010. Owner is Associacao de Regantes do Vale do Sorraia. Contact is Pedro Tadeia (00351 926730006) but let Luisa Mendes call him first to make an appointment.

G: Porto Alto, Giganta ricefields, Ponta da Erva

Take the N10 from Porto Alto to the west and you will find two big green gates on the left side of the road. You need a key card to get access. You can get such a card at the office of the rice company next to the Repsol petrol station several kilometres down the N10. Deposit is €25 and they make a copy of your passport. You can get the card for the whole period. Contact is Andrea Silva. She speaks English and is a biologist.

H: Benavente, Paul de Trejoito

Coming from SC, take a right turn after a small park in the centre of Benavente (R. Alvaro Rodrigues de Azevedo) in the direction of St Estevao. Take the 3rd road left after you leave the town (fields on left but still houses on the right side of the road). Keep to the right where the road splits and you will end up at the house of Carlos França 00351 914828207. You better speak with him first before entering this site. He can give you

details about the condition of the dikes (Pedro drove into a big hole once!) and might want to write down your licence plate number. He speaks English.

J: Alcochete, Barroca d'Alva

Leaving Alcochete, cross the big roundabout and take the road that goes over the IC3/ N118 to Porto Alto. At the first roundabout go left and follow this road till you end up at a farm. Birds might be present at either side of this road.

K: Zambujal

Take the A12/ E90/ IP1 all the way towards Setubal where you go left at the traffic lights, going east over the N10. Follow the N10 till you see a sign Zambujal to the right. This brings you to an old bridge. The road to the bridge gives you a good view over the ricefields. To enter the ricefields go right at the first farm on the right (blue gate). This is all private area and you have to ask permission first. Roads can be really bad here! Water level is sometimes too high to read rings. You can enter the western part of this area through an inconspicuous maze fence on the right with sticks to keep it standing up a few 100 meters after you pass a gigantic car company. At the end of the dirt track there is a very steep slope that can be slippery. Bad roads in this area; sometimes impossible to use.

L: Marateca

Access is as described at K (western part) but go left after the slope; drive as far as you can but you will have to walk to get close to the birds. The only part that is easy to scan, is in the western corner next to the road.

M: Palma, bridge over Rib. de Sao Martinho

Follow the N10, N5/ IC1 till you cross the bridge just behind Palma. Park the car after crossing the bridge and walk to the southwest into the ricefields. A small road on your left takes you to the part north of the bridge.

N: Monte Novo da Palma, Rib. De S. Martinho

Go right just before the bridge and turn left on a dirt road at the first possibility without a fence. You end up in the rice fields with good views to the north and south but driving there is usually impossible. Go back and continue along the tarmac road to the south until you end up in a small village. There are several options to enter the rice fields but the condition of the tracks is usually bad.

O: Alberge

Ricefields on both sides of the N5/ IC1. Hard to access by car but usually no birds.

P and Q: Alcacer do Sal

If you follow the N5/ IC1 you will end up in Alcacer do Sal. Take the turn off to the right at the Ecomarché and drive on till you see the rice fields. Although there are vast rice fields all around AdS, they are usually at site Q: turn left in the city centre and take the parallel road of the N253 till you end up at the bull fighting arena.

R: Montevil, Cachopos

Take the N253 in the city centre of AdS crossing the Sado river and turn right after the bridge in the direction of Troia and Comporta. After several km you will see a big rice factory on your right side. There are very good rice fields west of the village of Montevil which you can also enter if you go right on a dirt road after crossing some rice fields on both sides of the N253.

S: Monte Novo do Sul

Just turn right at the sign and drive through the village to the rice fields.

T: Carrasqueira

Just turn right at the sign and drive through the village to the rice fields and the small harbour.

U: Comporta

Follow the road in the direction of Troia and immediately after you pass Comporta take a dirt road north that leads to a huge rice fields complex. You can take a track that brings you to the far north of this complex. After checking the area you might as well take the ferry Troia-Setubal which saves you driving all the way back.

V: Santa Amalia

Rice fields on both sides of the N430. Lots of roads and tracks in this big area. Big flocks can be present just east of the village and can be spotted from the road behind the rice factory (you can ignore the No Entry sign).

W: Hernan Cortes

Rice fields on both sides of the N430. Lots of roads and tracks in this big area. Big flocks can be present just opposite the village on the southside of the road. You just have to drive around to find them. Roosts are usually found in wet rice fields between HC and Valdehornillos.

X: Valdehornillos

Usually only small numbers present and mainly along the road to Vivares.

Y: Vivares

Usually only small numbers present especially south of Vivares along the EX106.

Z: Yelbes

You can enter the area by going south from St Amalia and taking a right turn from the EX206 in the direction of Yelbes. The birds are normally between Yelbes and St Amalia but the locations vary from year to year.

AA: Palazuelo

On the N430 take in Valdivia the road to Zurbaran and Palazuelo. This is another big rice field complex. You just have to drive around to find them. Especially the terraces along

the slopes of the hills in the north of this area can be good but it might be difficult to get a good overview.

BB: Conquista del Guadiana

Take the EX206 road west from St Amalia to the highway A5/ E90. Use the fly-over to get on the parallel road of the highway heading north. Birds are occasionally present at the indicated location.

CC, DD, EE: Toneca, Cara Larga and Ruivo

From the N10 between Vila Franca de Xira and Porto Alto take a left turn on the 621 towards Benavente. Along this road you will find the farms with these names. Gates might be closed but are usually open during working hours.

FF: Granho, Foros de Benfica, Paul da Casa do Cadaval

Take the IC3 towards Almeirim and just after Granho you will cross a rice field complex. Take the next exit towards Muge and try to find the rice fields.

Appendix 2: Team schedule 2012

Planning Iberia
2012

Extremadura
Sado/ Tejo
Donana
Travel day



15
22
9
10

Niko/ Gerrit
12 days

Jos/ Tom
11 days

Ysbrand/ Gjerryt
11 days

Haije/ Gjerryt
11 days

Dirk/ Rene
11 days

29-1-2012
30-1-2012
31-1-2012
1-2-2012
2-2-2012
3-2-2012
4-2-2012
5-2-2012
6-2-2012
7-2-2012
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