



# Darwin Initiative Annual Report

## Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes



**Submission Deadline: 30 April 2012**

## 1. Darwin Project Information

Project Reference	18-004
Project Title	Altyn Dala: supporting ecosystem-scale conservation in Kazakhstan
Host Country/ies	Kazakhstan
UK contract holder institution	RSPB
Host country partner institutions	<ul style="list-style-type: none"> <li>- The Association for the Conservation of Biodiversity of Kazakhstan (ACBK) – BirdLife Affiliate Partner to Kazakhstan</li> <li>- The Committee for Forestry and Hunting of the Ministry for Agriculture of the Republic of Kazakhstan (main conservation authority in Kazakhstan)</li> <li>- Karaganda State University</li> <li>- North Kazakhstan State University of Petropavlosk</li> </ul>
Other partner institutions	<ul style="list-style-type: none"> <li>- Frankfurt Zoological Society, Germany</li> <li>- Muenster University, Germany</li> </ul>
Darwin Grant Value	£298,883
Start/end dates of project	1 <sup>st</sup> April 2010 to 31 <sup>st</sup> March 2013
Reporting period (eg Apr 2010 – Mar 2011) and number (eg Annual Report 1, 2, 3)	April 2011 – March 2012 (Annual Report No. 2)
Project Leader name	Dr Paul F Donald, RSPB
Project website	<a href="http://www.acbk.kz">www.acbk.kz</a>
Report authors, main contributors and date	Paul Donald, Sergey Sklyarenko, Ruslan Urazaliev, Albert Salemgareev, Johannes Kamp, Steffen Zuther 11 <sup>th</sup> May 2012

## 2. Project Background

In 2006, the Government of Kazakhstan launched the Altyn Dala Conservation Initiative (ADCI) in partnership with a group of national and international organisations (ACBK, RSPB and FZS). Altyn Dala (“Golden Steppe”) aims to conserve globally important biodiversity, flagship species and habitats in an integrated and representative ecosystem-scale network of protected areas covering between 3 and 4 million hectares, spread over an area totalling 56 million hectares (the size of France) across the Kazakhstani part of the Central Asian steppe and semi-desert belt.

At present, however, there is little capacity to support this initiative with much-needed research. This Darwin funded project aims to address urgent scientific questions regarding the conservation of threatened steppe and semi-desert ecosystems, a little studied and poorly protected environment. These questions include the following.

- Which areas hold the most important populations, and so should be priorities for protection?
- How do threatened species use the steppe and semi-desert zones of Central Asia?
- Do key areas for mammals, plants and birds coincide?
- What major land use changes are likely to take place in the ADCI and how will steppe and semi-desert species respond to them?

Answering these questions will maximise the impact of ADCI resources and so present a major opportunity for the Government of Kazakhstan to meet its obligations under the CBD and CMS, protecting a unique ecosystem and the species it supports and for which Kazakhstan has a global responsibility. It will also greatly improve the present paucity of information on these important ecosystems. At the moment, such knowledge gaps cannot be filled by experienced researchers from Kazakhstan, since large numbers of them left the country during times of economic hardship in the 1990s, including many of the university staff needed to train future generations of conservationists.

This project aims to build the technical support and capacity necessary to turn the Altyn Dala vision into a reality. The project partners build on the expertise developed during previous Darwin projects (Sociable Lapwing project, Central Asian IBA project). The project adds an ecosystem-scale component to previous species- or site-based research by providing the technical input required to achieve a landscape-scale network of protected areas.

The final crucial step in this process will be to combine the results of the research into a conservation strategy that is integrated into the core workings of ADCI. Technical development of local researchers and students will take place both formally and experientially, and will build upon the model developed very successfully during Darwin-funded work on Sociable Lapwings. The project plans to generate capacity in advocacy skills amongst project partners, enabling them to work even more effectively with government and other agencies to develop and enhance the ADCI and steppe/semi-desert conservation in general. The project will thereby allow the ADCI consortium to proceed towards the vision of implementing an ecosystem-scale conservation mechanism of immense international importance.

Maps of fieldwork locations are given in Annex 3.

### **3. Project Partnerships**

The relationship between the RSPB and ACBK is already long-established and stable. First contacts were established in 2004 when ACBK was selected to be supported by the RSPB to become a Partner to BirdLife International. Since then RSPB has supported ACBK financially and technically as part of the Partner Supporting Programme of BirdLife International. From a small embryonic organisation ACBK since then has developed into the leading conservation organisation in Kazakhstan and in 2010 became a BirdLife Affiliate Partner. ACBK and RSPB already formed project partnerships in two previous Darwin projects: Central Asian IBA conservation and capacity building (14-061) and the project "Conserving a flagship steppe species: The critically endangered Sociable Lapwing" (15-032), both of which were also awarded Darwin post-project funding. Within the last year, RSPB successfully applied for two Darwin Fellowships to support ACBK staff through Masters courses in Conservation Biology at the University of East Anglia (Maxim Koshkin 2011, was awarded a Distinction, Albert Salemgareev will take up his place in autumn 2012). RSPB researchers supported Maxim through his dissertation fieldwork, which contributed directly to the Altyn Dala programme.

ACBK continues to be in regular contact with the Committee of Forestry and Hunting of the Government of Kazakhstan, and regularly supplies them with data on Saiga movements to inform their anti-poaching patrols. The MoU between the two organisations continues to work well. ACBK (supported by RSPB) collaborates with the Saiga Conservation Alliance ([www.saiga-conservation](http://www.saiga-conservation)) as well as with Fauna Flora International (FFI) to conduct monitoring, research and awareness raising activities for Saiga populations outside the Altyn Dala area. In addition, ACBK jointly with the SCA has been designated to coordinate the MoU on Saiga Conservation of the Convention on Migratory Species (CMS). ACBK (supported by the RSPB and FZS) continues to assist UNDP Kazakhstan in a GEF funded steppe ecosystem conservation project as a sub-contractor. This project focuses on migration corridor planning and management and complements the Darwin project.

In 2011, students from the University of Münster, Germany, joined the project to assist ACBK staff and students from Kazakhstan in collection of vegetation data. See: <http://www.uni-muenster.de/Oekosystemforschung/en/forschung/kasachstan.html>

Contact with the Kazakhstan CBD Focal Point is relatively limited since they sit within a different Government Department to that most closely involved in the project.

## 4. Project Progress

The project continues to progress well, and in some areas exceeds expectations. The work on small mammals is less advanced than hoped since the RSPB specialist overseeing this had to drop out at short notice for health reasons, delaying the start of work. However, ACBK staff stepped in and useful data were collected. Some of the data on bird populations and land use change have already been published, a year ahead of schedule. A full progress report against each output and related activities can be found below in section 4.1. and in Annex 1.

### 4.1 Progress in carrying out project activities

Activities for which no action was planned for Year 2 in the project implementation timetable are not reported, except in cases where unplanned activities took place. These are marked with an asterisk. The 2011 field season was intensive: two botanists, four ornithologists, a team working on small mammals and a team working on Saiga, all supported by students, conducted fieldwork in various habitats of the Altyn Dala project area.

#### Output 0. Project management and reporting

At the start of the year, Paul Donald took over from Michael Brombacher as Darwin Project Leader, with valuable logistic support to cover the transition from Edith Koshkin, who has worked for both RSPB and ACBK. In August 2011, staff from RSPB's International Division visited a number of Altyn Dala project sites and discussed progress of the Darwin project with ACBK staff. In April 2012, Olga Klimanova, Director of ACBK, visited RSPB HQ in the UK to discuss this and other collaborations. Project staff were successfully appointed (key staff were successfully retained from Year 1) and nine students were recruited through a special admission procedure and trained during fieldwork.

The standard half-year report was submitted to Darwin in October 2011.

#### Output 1. Status and trends of land use in all vegetation zones of the Altyn Dala established and socio-economic drivers of land use changes established

This Output has been successfully completed ahead of schedule, although further data will be collected routinely during 2012 fieldwork.

*Activity 1.2: Analyse and ground-truth remote sensing data and develop maps showing the current distribution of different land-use types in Altyn Dala*

This activity was largely completed in Year 1. The vegetation 2012 survey was used to ground-truth the results of an analysis of SPOT and Landsat satellite images. Large-scale satellite image analysis suggests that ungrazed abandoned fields were subject to more frequent wildfires, caused by accumulation of dead plant biomass. In turn, more frequent wildfires are likely to support the dominance of dense grass swards that hamper the return of flower-rich steppe plant communities. Satellite image analysis has also confirmed the trends of agricultural abandonment and reclamation in the region suggested by governmental statistics.

*Activity 1.5: Write and submit scientific papers*

Detailed analyses of the data collected by this project Output have already been published in Kamp *et al.* 2011 (*Biological Conservation* **144**: 2607-2614) and Kamp 2012 (PhD thesis, Institute of Landscape Ecology, University of Münster and Royal Society for the Protection of Birds). Copies of these are available on request. Furthermore, data collected by this Output will be used in other forthcoming project publications.

#### Output 2. Baseline data on natural vegetation communities mapped and community dynamics/changes in the Altyn Dala documented

*Activity 2.1: Undertake fieldwork to assess vegetation structure in relation to grazing pressure in 2 study areas representing different climatic conditions*

An intensive study of vegetation development and the influence of grazing on this on long abandoned fields has been conducted in summer 2011 at the Korgalzhyn project site. Supervised by a botanist from ACBK (Tatyana Siderova) and Prof. Norbert Hölzel (Münster University, Germany), a student from Karaganda university (Evgeniya Senyak) and three students from Münster University compared floristic composition, structure, biomass and soil characteristics on 150 vegetation sample plots, distributed equally on fields abandoned more than 10 years and adjacent pristine steppe sites.

*Activity 2.2: Develop maps of vegetation structure for study areas*

Largely completed. Data added to project database.

*Activity 2.3: Assess recovery of steppe vegetation in fallow fields of different ages*

Preliminary results of 2011 fieldwork have identified a set of indicator species for both pristine and abandoned fields, identified factors influencing floristic composition and elucidated the influence of grazing on restoration of abandoned fields.

*Activity 2.4: Analyse data received from field work for correlations between vegetation and grazing pressure as well as ages of fallow fields and develop recommendations for optimal land-use intensity*

The preliminary results of this work (to be continued in 2012) strongly suggest that grazing positively influences species richness of steppe plant species (as defined by an indicator analysis) both on abandoned fields and in pristine steppe and also the cover of true steppe species on abandoned fields. This is the first quantitative evidence from the Eurasian steppes to suggest that grazing accelerates the restoration of abandoned fields to steppe-like vegetation communities, a finding of clear conservation importance. Carbon stocks in soils of old abandoned fields were comparable to those of pristine steppe soils suggesting a high value of abandoned fields compared to cultivated fields in terms of atmospheric carbon sequestration, another important finding.

*Activity 2.5: Write and submit scientific papers and student theses*

Ongoing, student theses submitted and papers in production.

**Output 3: Distribution and habitat associations of key bird and mammal species of the Altyn Dala understood**

*Activity 3.1: Collate data on steppe birds and small mammals (incl. literature review) and identify conservation and threat status of key steppe bird species*

Completed – the results of this activity are included in project publications (Kamp et al., 2011, 2012, Kamp 2012, Koshkin 2011) and will be used in forthcoming publications. Project staff have advised BirdLife International on proposed revisions to the IUCN status of key steppe species.

*Activity 3.2: Conduct field bird and small mammal surveys of all major habitat types of the Altyn Dala region*

*Activity 3.3: Collect data on distribution of birds and mammals and habitat model covariates in steppe zone*

Birds: Four programmes of ornithological research were carried out: (a) long-range transects of large steppe species through Altyn Dala project area (Koshkin 2011), (b) long-range bird and reptile count transects in the south-west area of Altyn Dala, (c) detailed ecological study of key steppe species, the Black Lark, including work on winter behaviour and (d) continuation of detailed ecological research on critically endangered Sociable Lapwing.

Mammals: Four study areas were surveyed – steppe grazed by Saiga, pristine steppe with no or little presence of Saiga and domestic animals, steppe area moderately to intensively grazed by domestic animals and burnt steppe. At each study area several methods were applied for observation of different kind of rodents. Live traps were used for small and medium-sized rodents and insectivores. Line transects were used for counting and observation of boreholes, droppings and other signs. Point observations were made of big rodents (susliks, marmots). Night line transects (by car) were used to count and capture jerboas using headlight beams. Mammal data were also collected by the ornithology team in SW Altyn Dala. A few camera traps were also deployed, and one of these produced remarkable photographs of the first Steppe Wolf recorded in the Altyn Dala region.

*Activity 3.4: Model bird and small mammal abundance, species richness etc. in relation to land use and other habitat covariates*

See list of project publications, all available on request. Some of the data collected in 2011 will not be analysed until further data are collected in 2012.

*Activity 3.5: Write and submit scientific papers and PhD thesis*

See list of project publications. Further papers will follow on ecology of Sociable Lapwing and Black Lark, on habitat use of birds in the semi-desert zone and on mammals.

#### **Outcome 4: Research and conservation capacities among conservationists in Kazakhstan enhanced and secured in the long term**

##### *Activity 4.1: Run training workshop on field survey methods for project staff in Kazakhstan\**

No activity was planned for this year, but the project opportunistically co-financed and contributed to a training course led by the Conservation Leadership Programme in collaboration with the Wildlife Conservation Society and the Association for the Conservation of Biodiversity of Kazakhstan on "Statistics and Experimental Design for Biological Monitoring and Conservation" in September 2011, in which all students attached to the project and several ACBK staff participated and developed skills in data analysis for their diploma and masters theses. ACBK played a key role in organising this highly successful event.

##### *Activity 4.2: Experiential training of host country researchers and students during fieldwork*

Nine students at Kazakhstan universities were recruited through a special admission procedure and trained during fieldwork. As well as experiential training, the students were offered formal training in a workshop on statistics and experimental design (see above).

##### *Activity 4.4: Partners in Kazakhstan develop future research strategy to support ADCI*

Ongoing

##### *Activity 4.5: Support at least 5 students in Kazakhstan to Diploma qualification*

In 2011, two Diplomas were completed by students at Kazakhstan universities based on their work with the project, and one dissertation (funded by a Darwin Fellowship) was successfully defended at the University of East Anglia, UK, for the degree of Masters of Science in Applied Ecology and Conservation by Maxim Koshkin (awarded a Distinction and subsequently offered a PhD position). In addition, three German students from the University of Münster completed their Diplomas while attached to the project. In 2012, a further Darwin Fellowship was successfully applied for, to enable another Altyn Dala staff member to undertake a Masters at UEA.

#### **Output 5. Movements and habitat use of Saiga antelope in the Altyn Dala clarified using satellite telemetry and significance of the species in the steppe/semi-desert ecosystem understood**

##### *Activity 5.2: Catch Saiga antelopes and fit satellite tags\**

No activity was planned, but 7 working satellite tags were retrieved from animals tagged in 2010, so these were re-deployed on new animals, 4 in the region of Lake Tengiz in order to reach a more reasonable number of tracked animals in this area, and 3 in the northern part of the Torgai subpopulation.

##### *Activity 5.3: Process submitted location data and permanently inform ADCI rangers and governmental institutions about Saiga accumulations*

The data received are used to prepare weekly maps of the Saiga distribution, which are submitted to the responsible state agencies in order to inform anti-poaching measures: to the Committee of Forestry and Hunting, and to the wildlife protection service of Okhotzooptom. This helps to make ranger patrols more efficient and improve the protection of this endangered species. For instance, calving areas are already known in advance so that protection measures can be planned accordingly.

##### *Activity 5.4: Analyse the data, produce maps, and draw conclusions about Saiga ecology and migration*

Ongoing, but there are already some very positive early results. In particular, it is now clear that the data received from satellite tagged animals provide such an accurate picture of the species' distribution generally that expensive aerial reconnaissance flights are no longer considered necessary. This resulted in a significant under-spend of over 12% on the project budget and £8500 was surrendered to Darwin in 2011-12. The all-important calving areas are now well known, allowing animals to be effectively protected at this critical time.

##### *Activity 5.5: Use the data to develop and validate a Saiga habitat model*

Ongoing – most work on this activity is planned for Year 3.

##### *Activity 5.6: Prepare and submit scientific papers*

Ongoing – most work on this activity is planned for Year 3. A conference paper (Zuther *et al.* 2012) was given by project staff on the benefits of satellite telemetry in tracking Saiga at a conference in March 2012.

**Output 6: Species and site conservation strategy developed incorporating findings, and recommendations from Output 1,2,3 and 5 and incorporated into ADCI strategy**

*Activity 6.1: Set up data bases and GIS containing all data gathered*

Largely completed. All incoming Saiga data are added to the central database of satellite locations, which is interpreted and analysed in a GIS environment. Separate databases contain all the bird and mammal data, again analysed in a GIS environment. All future data will be collated in similar databases and made available to relevant stakeholders.

*Activity 6.2: Analyse available data for interrelations between different components of the ecosystems of Altyn Dala as well as with anthropogenic impacts*

Ongoing. The relationships between birds and habitat, and between habitat and grazing pressure, are already being understood.

*Activity 6.3: Identify threats for key species and required conservation measures*

Ongoing. Threats for key bird species and for Saiga and appropriate conservation reactions are already becoming clear (see project publications). The likely changes in land use in the region and their consequences for steppe biodiversity, can now be predicted with confidence.

*Activity 6.5: Develop recommendations for sustainable land-use*

Assistance was provided by RSPB between April and October 2011 in developing the draft management plan for the new Altyn Dala State Reservat due to be officially declared in 2012 and provisional work was started on planning management for the proposed ecological corridors that will link the three units of the State Reservat. This work will be progressed in August 2012. In November 2011, a workshop was held in Almaty for Hunting Area managers to discuss revising the format of hunting area management plans to make them easier to prepare and more effective in terms of delivering wider biodiversity conservation benefits. This workshop was also attended by four officials from the Kyrgyzstan Ministry of Environment who are also undertaking a review of hunting area management planning. The management plan for the ACBK hunting area was then reformatted to ascertain whether the revised format was practical, It is hoped that the revised format will be adopted by the Committee for Forestry and Hunting as the 'new' national standard.

**Output 7: Importance of the Altyn Dala and Central Asian steppe/semi-desert and threats to it more widely known, especially amongst key decision makers**

*Activity 7.1: Permanently inform Kazakhstani decision makers about the project progress and results and get them involved in the project process*

ACBK is in constant contact with the primary conservation authority of Kazakhstan, the Committee for Forestry and Hunting (CFH), as well as with a number of other stakeholders important to this project: UNDP Kazakhstan, Institute of Zoology of the Ministry of Education, State Enterprise "Okhotzooprom" (the Governmental arm responsible for Saiga conservation).

*Activity 7.4: Communicate information about the project and its results to the general public*

Information about the main project activities and achievements is presented on the ACBK web-site and presented in quarterly prepared electronic mailing "ACBK News". UK Press releases have accompanied the publication of certain project papers. The main dissemination activities are scheduled for Year 3 of the project.

**4.2 Progress towards project outputs**

Project summary	Measurable Indicators	Assessment/Comments
<p><b>Sub-Goal:</b></p> <p>The Altyn Dala in Kazakhstan is restored and preserved as a unique ecological system</p>	<ul style="list-style-type: none"> <li>• Protected area network established to protect widest possible range of species and ecosystems</li> <li>• Extent of range and population levels of threatened or biome-endemic species at t<sup>0</sup> maintained or increased by t<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Data collected by the project have already been used for the expansion of an existing Protected Area (Irgiz Tugai State Nature Reserve) to cover areas important for Saiga</li> <li>• The project has collected clear evidence of a recovery in the Betpak Dala Saiga population (still to be published)</li> <li>• Draft Altyn Dala State Reserve Management Plan started in 2011</li> </ul>

Project summary	Measurable Indicators	Assessment/Comments
<p><b>Purpose</b></p> <p>To protect threatened species and ecosystems in Central Asia by supporting the ground-breaking Altyn Dala Conservation Initiative (ADCI) through state-of-the-art research and strengthening of local capacity in landscape-scale conservation.</p>	<ul style="list-style-type: none"> <li>Impact of land use changes on steppe birds and mammals understood to inform ADCI conservation strategy</li> <li>Current and future threats to steppe biodiversity identified to inform ADCI conservation strategy</li> <li>Preliminary boundaries for Altyn Dala protected areas defined by habitat data, land use mapping and saiga movements</li> <li>ADCI strategy strengthened by the inclusion of scientific outputs by t<sup>3</sup> and promoted to key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>This indicator is now largely met for birds (see scientific publications), further work needed on mammals</li> <li>Likely impacts of future land use change, and the direction of such change, now well understood (scientific papers)</li> <li>Management plans being developed</li> <li>Scientific outputs already being included in development of protected area management plans</li> </ul>
<p><b>Outputs</b></p> <p>1. Status and trends of land use in all vegetation zones of the Altyn Dala established and socio-economic drivers of land use changes established</p>	<ul style="list-style-type: none"> <li>Area of different habitat and land use types quantified and mapped by t<sup>2</sup></li> <li>Changes in livestock numbers and agriculture within the ADCI area quantified and their drivers identified</li> </ul>	<ul style="list-style-type: none"> <li>Completed and published in the scientific literature</li> <li>Completed and published in the scientific literature</li> </ul>
<p>2. Baseline data on natural vegetation communities mapped and community dynamics/changes in the Altyn Dala documented</p>	<ul style="list-style-type: none"> <li>Distribution of natural vegetation communities in selected study areas mapped</li> <li>Correlates of vegetation dynamics identified (e.g. fire, grazing, climate)</li> </ul>	<ul style="list-style-type: none"> <li>Largely completed, on track for completion by end of project (papers in preparation)</li> </ul>
<p>3. Distribution and habitat associations of key bird and mammal species of the Altyn Dala understood</p>	<ul style="list-style-type: none"> <li>Past and current distribution and abundance for key species understood by t<sup>3</sup></li> <li>Predictive habitat models developed &amp; performance evaluated by t<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Largely completed for birds, some of the results already published. Further work required on mammals</li> </ul>
<p>4. Research and conservation capacities among conservationists in Kazakhstan enhanced and secured in the long term</p>	<ul style="list-style-type: none"> <li>Proportion of research undertaken by partners increases through life of project</li> <li>Strategies for future research developed by partners by t<sup>3</sup></li> <li>International conference on steppe/semi-desert research planned and key papers given by partners</li> </ul>	<ul style="list-style-type: none"> <li>On track for completion by end of project. Increasing proportion of work being undertaken by recently trained staff</li> </ul>
<p>5. Movements and habitat use of saiga antelope in the Altyn Dala clarified using satellite telemetry and significance of the species in the steppe/semi-desert ecosystem understood</p>	<ul style="list-style-type: none"> <li>Boundaries of important calving areas and winter distribution outlined</li> <li>Spatial and temporal patterns of migration and habitat use mapped</li> <li>Impacts of saiga grazing on vegetation and animal communities documented</li> </ul>	<ul style="list-style-type: none"> <li>Largely complete, but satellite data still being received from tagged animals</li> <li>Distribution maps produced</li> <li>Impacts of grazing on vegetation better understood</li> </ul>

Project summary	Measurable Indicators	Assessment/Comments
6. Species and site conservation strategy developed incorporating findings and recommendations from Output 1,2,3 and 5 and incorporated into ADCI strategy	<ul style="list-style-type: none"> <li>• ADCI project/conservation strategy revised based on outcomes of this DI project</li> <li>• Boundaries of optimal protected areas determined and proposed to Government</li> <li>• Vulnerability of key species to different threats assessed and suggestions for conservation measures outlined by t<sup>3</sup></li> <li>• Sustainable land-use practices identified, summarised in a document and approved by the government</li> <li>• Key papers for international conference on steppe/semi-desert research given by partners</li> </ul>	<ul style="list-style-type: none"> <li>• Indicators achievable but full reporting against them can only be made in y3.</li> </ul>
7. Importance of the Altyn Dala and Central Asian steppe/semi-desert and threats to it more widely known, especially amongst key decision makers	<ul style="list-style-type: none"> <li>• Key decision makers have greater involvement in ADCI by t3 than in t0</li> <li>• Decision makers outside Kazakhstan contribute to international conference</li> <li>• Increased media attention (nationally and internationally) to ADCI through the DI project</li> </ul>	<ul style="list-style-type: none"> <li>• Indicators achievable but full reporting against them can only be made in y3.</li> </ul>

### 4.3 Standard Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during project
1A	Number of people to submit thesis for PhD qualification (in host country)		1					
2	Number of people to attain Masters qualification (MSc, MPhil etc)		1					
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	1						
4A	Number of undergraduate students to receive training	4	12					
4B	Number of training weeks to be provided	8	8					
4C	Number of postgraduate students to receive training	1	2					
4D	Number of training weeks to be provided	32	4					
6A	Number of people to receive other forms of education/ training (which does not fall into categories 1-5)							
6B	Number of training weeks to be provided	8						
7	No of training materials to be produced for use by host country							

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during project
8	Number of weeks spent by UK project staff on project work in the host country	16	4					
9	Number of species/habitat management plans (or action plans) produced							
10	Number of individual field guides/manuals produced to assist work related to species identification, classification and recording							
11A	Number of papers to be published in peer reviewed journals		3					
11B	Number of papers to be submitted to peer reviewed journals	1						
12A	Number of computer based databases established and handed over to host country	1	1					
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings		1					
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	1	1					
15A	Number of national press releases in host country(ies)							
15B	Number of local press releases in host country(ies)							
15C	Number of national press releases in UK							
15D	Number of local press releases in UK							
17A	Number of dissemination networks to be established							
18A	Number of national TV programmes/features in host country(ies)							
18B	Number of national TV programmes/features in UK							
18C	Number of local TV programmes/features in host country(ies)							
18D	Number of local TV programmes/features in UK							
19A	Number of national radio interviews/features in host county(ies)							
19B	Number of national radio interviews/features in UK							
19C	Number of local radio interviews/features in host country(ies)							
19D	Number of local radio interviews/features in UK							
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	£28,457.00						

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during project
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased							
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased							
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	Approx £120,000	£47,000					

All the following publications are available on request.

**Table 2 Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Scientific paper	Kamp, J., Urazaliev, R., Donald, P.F., Hölzel, N., 2011. <b>Post-Soviet agricultural change predicts future declines after recent recovery in Eurasian steppe bird populations.</b> Biological Conservation 144: 2607–2614, doi:10.1016/j.biocon.2011.07.010.			
Scientific paper	Kamp, J., Siderova, T.V., Salemgareev, A.R., Urazaliev, R.S., Donald, P.F., Hölzel, N. 2012. <b>Niche separation of larks (Alaudidae) and agricultural change on the drylands of the former Soviet Union.</b> Agriculture, Ecosystems and Environment 155:41-49. doi: 10.1016/j.agee.2012.03.023			
Journal article	Urazaliev, R., Iskakov T., Kamp, J. 2012: <b>Aggressive intraspecific behaviour in Black Larks <i>Melanocorypha yeltoniensis</i> in winter.</b> British Birds 105: 40-42			
PhD Thesis	Kamp, J. 2012: <b>Post-Soviet land-use change and conservation of avian biodiversity across the Eurasian steppe belt.</b> PhD thesis, Institute of Landscape Ecology, University of Münster and Royal Society for the Protection of Birds (RSPB). 141pp.			
MSc Thesis	Koshkin, M. 2011: <b>Habitat preferences of steppe breeding birds in Central Kazakhstan, in relation to different forms of land use.</b> MSc thesis, University of East Anglia, Norwich (UK), 33pp.			
Conference paper	Zuther S., Salemgareyev A.R. and Shaimukhanbetov O.K. <b>Application of satellite telemetry for research and protection of saiga antelopes of the Betpak-Dala population in Kazakhstan.</b> In: Zoological and game management researches in Kazakhstan and adjacent countries: Materials of International theoretical and practical conference (Almaty, 1-2 March 2012) - Almaty, 2012.			

#### **4.4 Progress towards the project purpose and outcomes**

The project is well on course to meet its purpose and all four purpose-level indicators should be met or exceeded. Already the research outputs of the project are being used in steppe conservation, through the identification of protected area boundaries and through the provision of information to anti-poaching patrols.

#### **4.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits**

There are already encouraging signs that the Saiga population, after decades of decline, is now slowly recovering, largely because of the increased effectiveness of anti-poaching patrols. This has been achieved through satellite tracking and reconnaissance flights (primarily the former). There are also signs that the Sociable Lapwing population is now stable after a period of sharp decline. The biodiversity impacts of the protected areas currently being designated will take longer to assess.

### **5. Monitoring, evaluation and lessons**

Changes in project personnel, particularly the Project Leader, have been made with little impact on the project, since RSPB employed a temporary staff member who has worked at both RSPB and ACBK to oversee the transition and to provide close project and financial monitoring. There continue to be regular visits by RSPB staff to Kazakhstan and in April 2012, the CEO of ACBK visited the RSPB HQ in Sandy to discuss this and other projects. Contact between the Project Leader and project staff in Kazakhstan will increase in Y3 to ensure the successful completion of all elements of the project. The progress of the project continues to be monitored and evaluated using the indicators and means of verification set out in the original logframe, and no changes to this are anticipated. Detailed financial monitoring of the project is undertaken by specialist staff in the RSPB's international financial management unit.

### **6. Actions taken in response to previous reviews (if applicable)**

N/a

### **7. Other comments on progress not covered elsewhere**

No unexpected problems have arisen and the project remains on track for successful completion

### **8. Sustainability**

This has changed little since last year. The project forms a component of the Altyn Dala Conservation Initiative (ADCI) which is hosted by ACBK and supported on a long-term basis by an international partnership. Since the start of the ADCI project in 2006 each year more and more implementation capacity is established within ACBK and less dependant on international partners. Each fieldwork component in 2011 involved experts from UK and Germany working alongside team members and students in Kazakhstan. The 2012 field season will be largely undertaken by Kazakhstani partners with reduced external supervision, reflecting the greater capacity available to ACBK. This project contains a strong training and capacity building component. There was an opportunity to expand scientific training in 2011 by ACBK involvement in a CLP training workshop on statistical methods, which provided advanced training for ACBK field staff and students. Already agreements are being signed to designate protected areas. ADCI is a long-term initiative and there are currently no plans for ACBK to exit from it, but there is a clearly reducing need for RSPB and other expert external support

### **9. Dissemination**

The emphasis of the project in Y1 and Y2 has been very firmly on research, the results of which have been disseminated through scientific papers, conferences and on websites (see illustration 14 in Annex 3). The main non-scientific dissemination work is planned for Y3, including an international conference.

## 10. Project Expenditure

**Table 3 project expenditure during the reporting period (1 April 2010 – 31 March 2011)**

Item	Budget (please indicate which document you refer to if other than your project application or annual grant offer letter)	Expenditure	Variance/ Comments
Staff costs specified by individual			
Overhead costs			
Travel and subsistence			
Operating costs			
Capital items/equipment (specify)			
Others: Consultancy			
Others (please specify)			
TOTAL			

**Please note: These figures are based upon the receipts we have had so far – the final figures will differ slightly as a few receipts are still awaited at time of writing**

## 11. **OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes**

I agree for LTS and the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

Although it is too soon to be sure, there are encouraging signs that after a long period of steep decline, the Betpak Dala Saiga population is slowly recovering, largely thanks to better protection brought about through more efficient anti-poaching patrols. This improved efficiency is the result of better understanding of the movements of Saiga brought about through this project.

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2011-2012

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
<p><b>Goal:</b> <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p>⇒ The conservation of biological diversity,            ⇒ The sustainable use of its components, and            ⇒ The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</p>		<ul style="list-style-type: none"> <li>• There has been a demonstrable improvement in the capacity of researchers and conservationists in Kazakhstan to undertake steppe conservation</li> </ul>	
<p><b>Purpose</b>            To protect threatened species and ecosystems in Central Asia by supporting the ground-breaking Altyn Dala Conservation Initiative (ADCI) through state-of-the-art research and strengthening of local capacity in landscape-scale conservation.</p>	<ul style="list-style-type: none"> <li>• Impact of land use changes on steppe birds and mammals understood to inform ADCI conservation strategy</li> <li>• Current and future threats to steppe biodiversity identified to inform ADCI conservation strategy</li> <li>• Preliminary boundaries for Altyn Dala protected areas defined by habitat data, land use mapping and saiga movements</li> <li>• ADCI strategy strengthened by the inclusion of scientific outputs by t<sup>3</sup> and promoted to key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Complete and published</li> <li>• Complete and published</li> <li>• Underway, some boundaries already agreed</li> <li>• Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> <li>• None</li> <li>• Continue and complete</li> <li>• Continue and complete</li> </ul>
<p><b>Output 1 Status and trends of land use in all vegetation zones of the Altyn Dala established and socio-economic drivers of land use changes established</b></p>	<ul style="list-style-type: none"> <li>• Area of different habitat and land use types quantified and mapped by t<sup>2</sup></li> <li>• Changes in livestock numbers and agriculture within the ADCI area quantified and their drivers identified</li> </ul>	<ul style="list-style-type: none"> <li>• Both indicators have been met and this output can be considered complete, although fieldwork in Y3 might contribute further data to this output</li> </ul>	
<p>1.1 Collect available historical and current data on land-use in the ADCI area, especially from official statistical agencies, as well as socio-economical data</p>		Completed and published in scientific papers	
<p>1.2 Analyse and ground-truth remote sensing data and develop maps showing the current distribution of different land-use types in Altyn Dala</p>		Completed and published in scientific papers	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
1.3 Analyse data on land-use for trends in number of livestock and area ploughed		Completed and published in scientific papers	
1.4 Analyse data on socio-economy and governmental programs for correlations with land-use in order to understand drivers for changes in land-use		Completed and published in scientific papers	
1.5 Write and submit scientific papers		Done – papers published or in prep	
<b>Output 2. Baseline data on natural vegetation communities mapped and community dynamics/changes in the Altyn Dala documented</b>	<ul style="list-style-type: none"> <li>• Distribution of natural vegetation communities in selected study areas mapped</li> <li>• Correlates of vegetation dynamics identified (e.g. fire, grazing, climate)</li> </ul>	Both indicators still are appropriate and are well on the way to being met. Good progress with vegetation surveys in Y2. Data collected and currently being analysed for publication	
2.1 Undertake fieldwork to assess vegetation structure in relation to grazing pressure in 2 study areas representing different climatic conditions		Fieldwork undertaken in different parts of the Altyn Dala region. Early results indicate clear effect of grazing and fire on steppe plant community recovery	
2.2 Develop maps of vegetation structures for study areas		Data collected, maps in preparation	
2.3 Assess recovery of steppe vegetation in fallow fields of different ages		Largely complete, data being prepared for publication	
2.4 Analyse data received from field work for correlations between vegetation and grazing pressure as well as ages of fallow fields and develop recommendations for optimal land-use intensity		Largely complete, data being prepared for publication	
2.5 Write and submit scientific papers and student theses		Underway, will be completed in Y3	
<b>Output 3. Distribution and habitat associations of key bird and mammal species of the Altyn Dala understood</b>	<ul style="list-style-type: none"> <li>• Past and current distribution and abundance for key species understood by t3</li> <li>• Predictive habitat models developed and performance evaluated by t3</li> </ul>	Both indicators are still appropriate. Bird work almost complete. Mammal field surveys undertaken in Y2, further work to follow in Y3.	
3.1 Collate data on steppe birds and small mammals (incl. literature review) and identify conservation and threat status of key steppe bird species		Completed and published	
3.2 Conduct field bird and small mammal surveys of all major habitat types of the Altyn Dala region		Four ornithological surveys and one small mammals survey carried out in Y2	
3.3 Collect data on distribution of birds and mammals and habitat model covariates in steppe zone		Completed successfully	
3.4 Model bird and small mammal abundance, species richness etc. in relation to land use and other habitat covariates		Bird data largely modelled and published. Further work to follow on mammals	
3.5 Write and submit scientific papers and PhD thesis		3 published papers, a PhD thesis and a Masters thesis produced in Y2	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
4. Research and conservation capacities among conservationists in Kazakhstan enhanced and secured in the long term	<ul style="list-style-type: none"> <li>• Proportion of research undertaken by partners increases through life of project</li> <li>• Strategies for future research developed by partners by t<sup>3</sup></li> <li>• International conference on steppe/semi-desert research planned and key papers given by partners</li> </ul>	All three indicators still are appropriate. Good progress with activities. Adjusted and increased efforts in Y2 to ensure long-term involvement of students/post graduates.	
4.1 Run training workshop on field survey methods for project staff in Kazakhstan		No activities planned in Y2 but opportunity taken to support CLP workshop on statistical analysis, all project students attended.	
4.2 Experiential training of host country researchers and students during fieldwork		Nine students at Kazakhstan universities were recruited through a new admission procedure and trained during fieldwork.	
4.3 Produce bilingual (Russian, Kazakh) training materials		Nothing planned in Y2	
4.4 Partners in Kazakhstan develop future research strategy to support ADCI			
4.5 Support at least 5 students in Kazakhstan to Diploma qualification		2 Diplomas, 1 Masters	
5. Movements and habitat use of saiga antelope in the Altyn Dala clarified using satellite telemetry and significance of the species in the steppe/semi-desert ecosystem understood	<ul style="list-style-type: none"> <li>• Boundaries of important calving areas and winter distribution outlined</li> <li>• Spatial and temporal patterns of migration and habitat use mapped</li> <li>• Impacts of saiga grazing on vegetation and animal communities documented</li> </ul>	All three indicators still appropriate. Good progress with activities here. Analysis and modelling being conducted in Y3.	
5.1 Train local staff in catching, handling, and collaring saigas		Nothing planned in Y2	
5.2 Catch saiga antelopes and fit satellite tags		Nothing planned in Y2, but 7 recovered tags were re-deployed	
5.3 Process submitted location data and permanently inform ADCI rangers and governmental institutions about saiga accumulations		Successfully completed	
5.4 Analyse the data, produce maps, and draw conclusions about saiga ecology and migration		Ongoing	
5.5 Use the data to develop and validate a saiga habitat model		Ongoing	
5.6 Prepare and submit scientific papers		Ongoing	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
6. Species and site conservation strategy developed incorporating findings and recommendations from Output 1,2,3 and 5 and incorporated into ADCI strategy	<ul style="list-style-type: none"> <li>• ADCI project/conservation strategy revised based on outcomes of this DI project</li> <li>• Boundaries of optimal protected areas determined and proposed to Government</li> <li>• Vulnerability of key species to different threats assessed and suggestions for conservation measures outlined by t<sup>3</sup></li> <li>• Sustainable land-use practices identified, summarised in a document and approved by the government</li> <li>• Key papers for international conference on steppe/semi-desert research given by partners</li> </ul>	All three indicators still are appropriate. Most activities required for achievement of these indicators will be done in Y3	
6.1 Set up data bases and GIS containing all data gathered		Ongoing	
6.2 Analyse available data for interrelations between different components of the geoecosystems of Altyn Dala as well as with anthropogenic impacts		Ongoing/completed	
6.3 Identify threats for key species and required conservation measures		Largely completed	
6.4 Identify potential sites for protected areas and map them		Ongoing	
6.5 Develop recommendations for sustainable land-use		Ongoing – see further details in Section 4.1 above.	
6.6 Include all project findings into the ADCI species and site conservation strategy 6.7 Launch the conservation strategy in Astana and seek formal governmental endorsement		Ongoing	
7. Importance of the Altyn Dala and Central Asian steppe/semi-desert and threats to it more widely known, especially amongst key decision makers	<ul style="list-style-type: none"> <li>• Key decision makers have greater involvement in ADCI by t<sup>3</sup> than in t<sup>0</sup></li> <li>• Decision makers outside Kazakhstan contribute to international conference</li> <li>• Increased media attention (nationally and internationally) to ADCI through the DI project</li> </ul>	All three indicators still are appropriate. Most activities mostly to be conducted in Y3	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
7.1 Permanently inform Kazakhstani decision makers about the project progress and results and get them involved in the project process		Ongoing – regular contact with Kazakhstan authorities	
7.2 Prepare and organise international conference on steppe ecology and conservation		Ongoing	
7.3 Run international steppe conference and publish proceedings		Planned for Y3	
7.4 Communicate information about the project and its results to the general public		Ongoing	

## Annex 2 Project's full current logframe

This has not changed since the original submission

Project summary	Measurable Indicator	Means of verification	Important Assumptions
<p><b>Goal:</b> Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p><b>Sub-Goal:</b>  The Altyn Dala in Kazakhstan is restored and preserved as a unique ecological system</p>	<ul style="list-style-type: none"> <li>Protected area network established to protect widest possible range of species and ecosystems</li> <li>Extent of range and population levels of threatened or biome-endemic species at t<sup>0</sup> maintained or increased by t<sup>3</sup></li> </ul>	<p>Lists of protected areas</p> <p>Species monitoring reports</p>	
<p><b>Purpose</b>  To protect threatened species and ecosystems in Central Asia by supporting the ground-breaking Altyn Dala Conservation Initiative (ADCI) through state-of-the-art research and strengthening of local capacity in landscape-scale conservation.</p>	<ul style="list-style-type: none"> <li>Impact of land use changes on steppe birds and mammals understood to inform ADCI conservation strategy</li> <li>Current and future threats to steppe biodiversity identified to inform ADCI conservation strategy</li> <li>Preliminary boundaries for Altyn Dala protected areas defined by habitat data, land use mapping and saiga movements</li> <li>ADCI strategy strengthened by the inclusion of scientific outputs by t<sup>3</sup> and promoted to key stakeholders</li> </ul>	<p>Reports, scientific papers</p> <p>GIS-based map system</p> <p>ADCI strategy documents</p>	<p>Any future changes in the political situation of Kazakhstan do not prevent fieldwork for safety reasons</p>

Project summary	Measurable Indicator	Means of verification	Important Assumptions
<b>Outputs</b>  1. Status and trends of land use in all vegetation zones of the Altyn Dala established and socio-economic drivers of land use changes established	<ul style="list-style-type: none"> <li>• Area of different habitat and land use types quantified and mapped by t2</li> <li>• Changes in livestock numbers and agriculture within the ADCI area quantified and their drivers identified</li> </ul>	Land use map covering the ADCI area  Scientific papers, talk at international conference	
2. Baseline data on natural vegetation communities mapped and community dynamics/changes in the Altyn Dala documented	<ul style="list-style-type: none"> <li>• Distribution of natural vegetation communities in selected study areas mapped</li> <li>• Correlates of vegetation dynamics identified (e.g. fire, grazing, climate)</li> </ul>	Scientific papers, progress reports, conference papers and proceedings, maps, GIS database	
3. Distribution and habitat associations of key bird and mammal species of the Altyn Dala understood	<ul style="list-style-type: none"> <li>• Past and current distribution and abundance for key species understood by t3</li> <li>• Predictive habitat models developed and performance evaluated by t3</li> </ul>	Scientific papers, progress reports, web-site, talk at international conference, GIS database	
4. Research and conservation capacities among conservationists in Kazakhstan enhanced and secured in the long term	<ul style="list-style-type: none"> <li>• Proportion of research undertaken by partners increases through life of project</li> <li>• Strategies for future research developed by partners by t<sup>3</sup></li> <li>• International conference on steppe/semi-desert research planned and key papers given by partners</li> </ul>	Work plans, research strategy documents, training reports, databases  Strategy documents, funding proposals  Conference proceedings	Students of sufficient calibre are available [Please note: The absence of this assumption was cited as a reason for rejection of this proposal in Round 16. However, our extensive experience Kazakhstan indicates that student capability is most unlikely to be a problem.]
5. Movements and habitat use of saiga antelope in the Altyn Dala clarified using satellite telemetry and significance of the species in the steppe/semi-desert ecosystem understood	<ul style="list-style-type: none"> <li>• Boundaries of important calving areas and winter distribution outlined</li> <li>• Spatial and temporal patterns of migration and habitat use mapped</li> <li>• Impacts of saiga grazing on vegetation and animal communities documented</li> </ul>	Scientific papers, progress reports, live tracking facility on the internet	

Project summary	Measurable Indicator	Means of verification	Important Assumptions
6. Species and site conservation strategy developed incorporating findings and recommendations from Output 1,2,3 and 5 and incorporated into ADCI strategy	<ul style="list-style-type: none"> <li>• ADCI project/conservation strategy revised based on outcomes of this DI project</li> <li>• Boundaries of optimal protected areas determined and proposed to Government</li> <li>• Vulnerability of key species to different threats assessed and suggestions for conservation measures outlined by t<sup>3</sup></li> <li>• Sustainable land-use practices identified, summarised in a document and approved by the government</li> <li>• Key papers for international conference on steppe/semi-desert research given by partners</li> </ul>	<p>ADCI strategy document</p> <p>Maps, strategy documents</p> <p>Scientific papers, talk at international conference</p> <p>Guide for sustainable land-use</p> <p>Conference proceedings</p>	<p>The government makes appropriate use of the conservation strategy. [Please note: Again, the absence of this assumption was cited as a reason for rejection in Round 16. However, the fact that the Ministry of Agriculture is a project partner – together with previous experience – gives us confidence that this will not be an issue.]</p>
7. Importance of the Altyn Dala and Central Asian steppe/semi-desert and threats to it more widely known, especially amongst key decision makers	<ul style="list-style-type: none"> <li>• Key decision makers have greater involvement in ADCI by t<sup>3</sup> than in t<sup>0</sup></li> <li>• Decision makers outside Kazakhstan contribute to international conference</li> <li>• Increased media attention (nationally and internationally) to ADCI through the DI project</li> </ul>	<p>ADCI progress report</p> <p>Conference proceedings</p> <p>Press coverage</p>	
<p><b>Activities</b> (details in workplan)</p> <p>0.1 Set up project steering group</p> <p>0.2 Project steering group meetings</p> <p>0.3 Appoint project staff</p> <p>0.4 Annual reporting</p> <p>1.5 Collect available historical and current data on land-use in the ADCI area, especially from official statistical agencies, as well as socio-economical data</p>			

Project summary	Measurable Indicator	Means of verification	Important Assumptions
<p>1.6 Analyse and ground-truth remote sensing data and develop maps showing the current distribution of different land-use types in Altyn Dala</p> <p>1.7 Analyse data on land-use for trends in number of livestock and area ploughed</p> <p>1.8 Analyse data on socio-economy and governmental programs for correlations with land-use in order to understand drivers for changes in land-use</p> <p>1.9 Write and submit scientific papers</p> <p>2.1 Undertake fieldwork to assess vegetation structure in relation to grazing pressure in 2 study areas representing different climatic conditions</p> <p>2.2 Develop maps of vegetation structures for study areas</p> <p>2.3 Assess recovery of steppe vegetation in fallow fields of different ages</p> <p>2.4 Analyse data received from field work for correlations between vegetation and grazing pressure as well as ages of fallow fields and develop recommendations for optimal land-use intensity</p> <p>2.5 Write and submit scientific papers and student theses</p> <p>3.1 Collate data on steppe birds and small mammals (incl. literature review) and identify conservation and threat status of key steppe bird species</p> <p>3.2 Conduct field bird and small mammal surveys of all major habitat types of the Altyn Dala region</p> <p>3.3 Collect data on distribution of birds and mammals and habitat model covariates in steppe zone</p> <p>3.4 Model bird and small mammal abundance, species richness etc. in relation to land use and other habitat covariates</p> <p>3.5 Write and submit scientific papers and PhD thesis</p> <p>4.1 Run training workshop on field survey methods for project staff in Kazakhstan</p> <p>4.2 Experiential training of host country researchers and students during fieldwork</p> <p>4.3 Produce bilingual (Russian, Kazakh) training materials</p> <p>4.4 Partners in Kazakhstan develop future research strategy to support ADCI</p> <p>4.5 Support at least 5 students in Kazakhstan to Diploma qualification</p> <p>5.1 Train local staff in catching, handling, and collaring saigas</p> <p>5.2 Catch saiga antelopes and fit satellite tags</p> <p>5.3 Process submitted location data and permanently inform ADCI rangers and governmental institutions about saiga accumulations</p>			

Project summary	Measurable Indicator	Means of verification	Important Assumptions
<p>5.4 Analyse the data, produce maps, and draw conclusions about saiga ecology and migration</p> <p>5.5 Use the data to develop and validate a saiga habitat model</p> <p>5.6 Prepare and submit scientific papers</p> <p>6.1 Set up data bases and GIS containing all data gathered</p> <p>6.2 Analyse available data for interrelations between different components of the geoecosystems of Altyn Dala as well as with anthropogenic impacts</p> <p>6.3 Identify threats for key species and required conservation measures</p> <p>6.4 Identify potential sites for protected areas and map them</p> <p>6.5 Develop recommendations for sustainable land-use</p> <p>6.6 Include all project findings into the ADCI species and site conservation strategy</p> <p>6.7 Launch the conservation strategy in Astana and seek formal governmental endorsement</p> <p>7.1 Permanently inform Kazakhstani decision makers about the project progress and results and get them involved in the project process</p> <p>7.2 Prepare and organise international conference on steppe ecology and conservation</p> <p>7.3 Run international steppe conference and publish proceedings</p> <p>7.4 Communicate information about the project and its results to the general public</p>			
<p><b>Monitoring activities:</b></p> <p>Indicator 0 Produce and disseminate annual reports (t1, t2 and t3)</p> <p>Indicator 1 Produce land cover map (t2)</p> <p>Indicator 2 Prepare progress reports (t1, t2 and t3)</p> <p>Indicator 3 Develop and populate project website (t1)</p> <p>Indicator 4 Prepare personal development plans for all project staff (t1)</p> <p>Indicator 5 Develop live tracking facility on website (t2)</p> <p>Indicator 6 Disseminate GIS database to all stakeholders and train them in its use (t2)</p> <p>Indicator 7 Prepare and disseminate briefing and advocacy materials (t3)</p>			

## Annex 3 Supplementary material



1. Project staff meet with Land Management Department, Arkalky, to define boundaries of protected area



2. Land Management Department sign map to agree boundaries of new protected areas



3. Project staff undertaking surveys in heavily grazed steppe



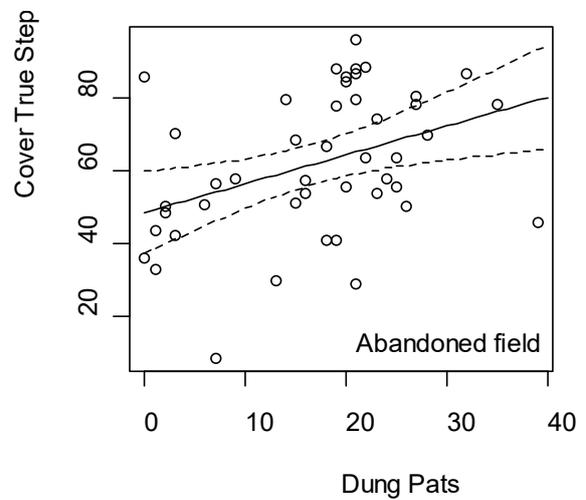
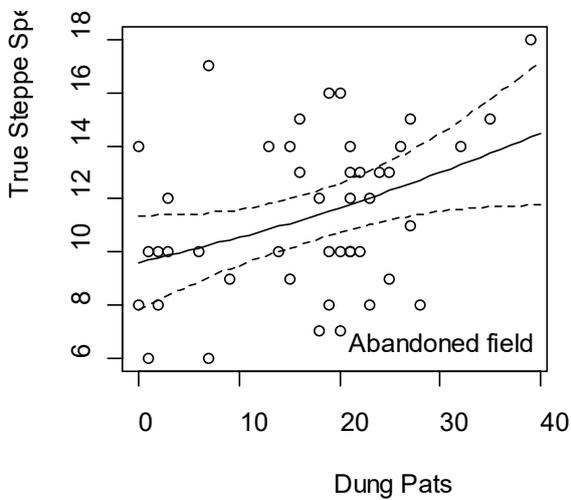
4. Field staff using a generator to allow them to input data at the end of a day in the steppe



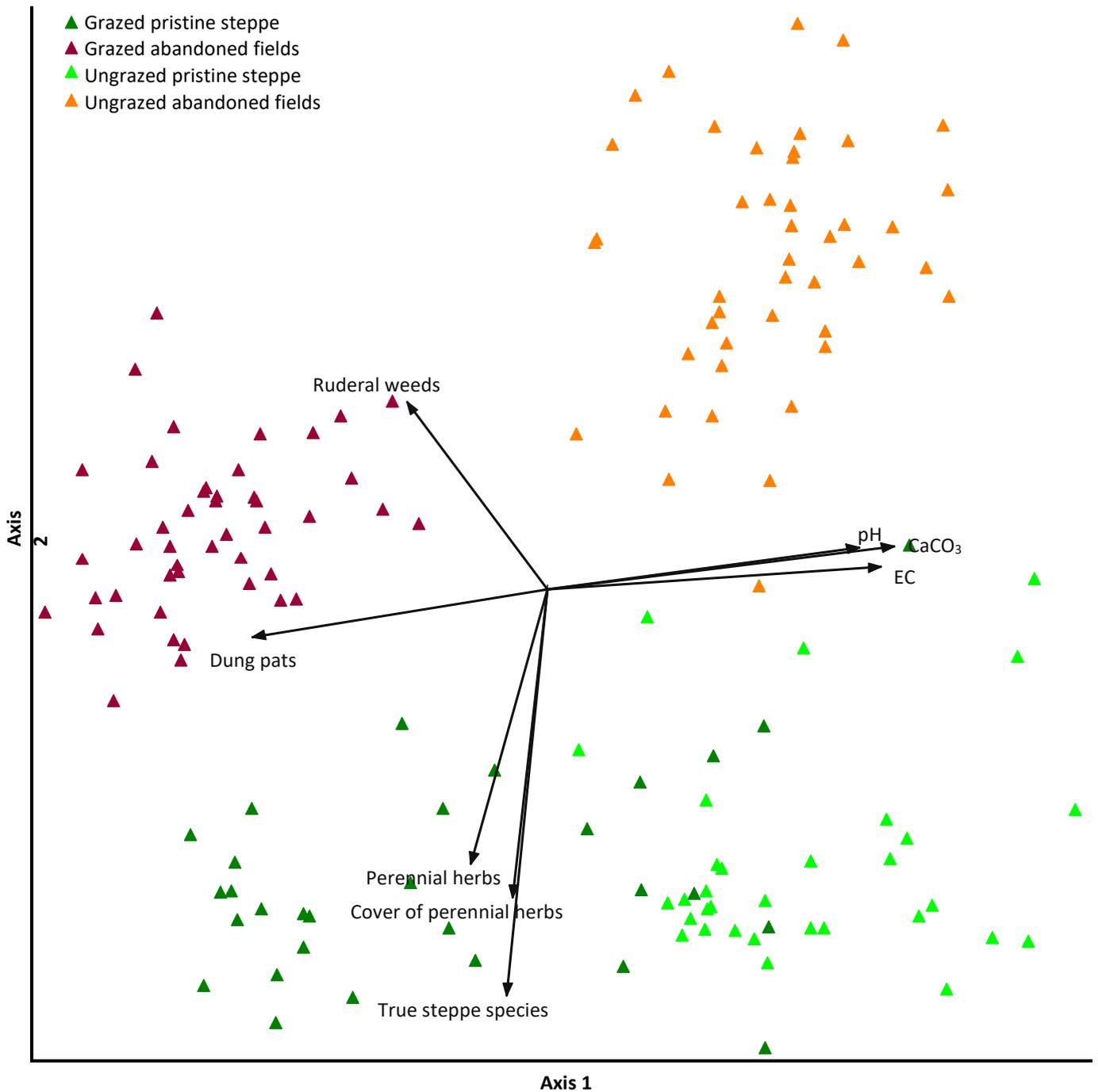
5. Analysing the contents of invertebrate pitfall traps



6. The first Steppe Wolf ever recorded in the Altyn Dala area, caught on a camera trap



7. (top) One of the remarkable “pavements” of livestock dung placed by Black Larks near their nests, for reasons as yet unknown. (middle) *Cricetulus migratorius* caught in a small mammal trap. (bottom) Important results showing that grazing of abandoned fields (estimated from dung density) promotes steppe plant recovery



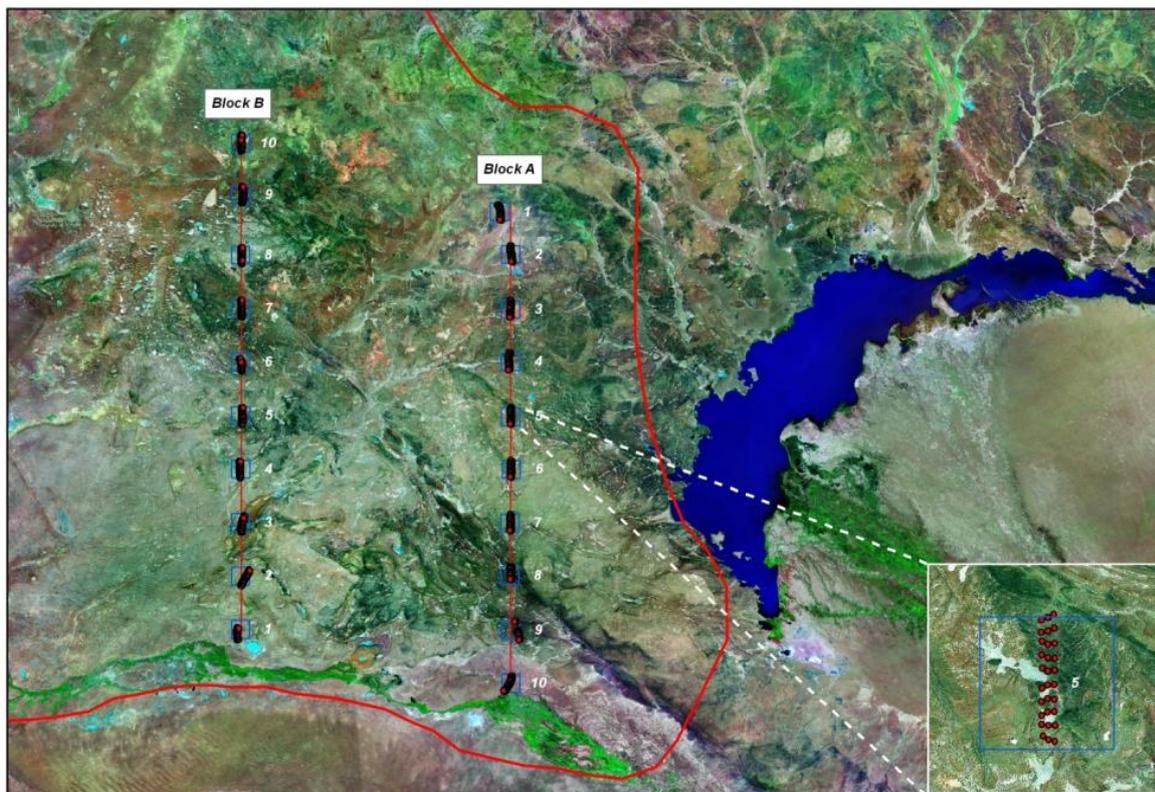
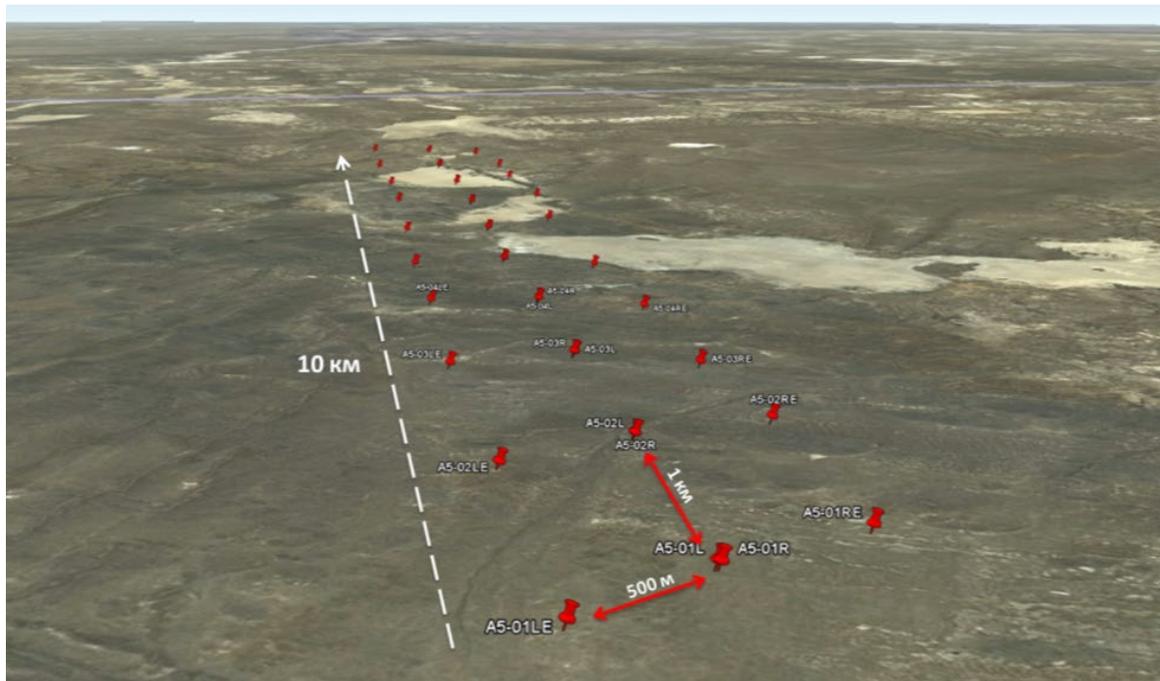
Jointplot of DCA ordination. Vectors indicate correlation of DCA axis with environmental variables (vector length indicates the strength of the correlation). (Length of gradient: Axis 1: 3.391; Axis 2: 3.032). Brinkert *et al*, (in prep).

8. Ordination analysis of plant communities in steppe and fields, showing the almost complete dissimilarity between plant communities in four land use classes.

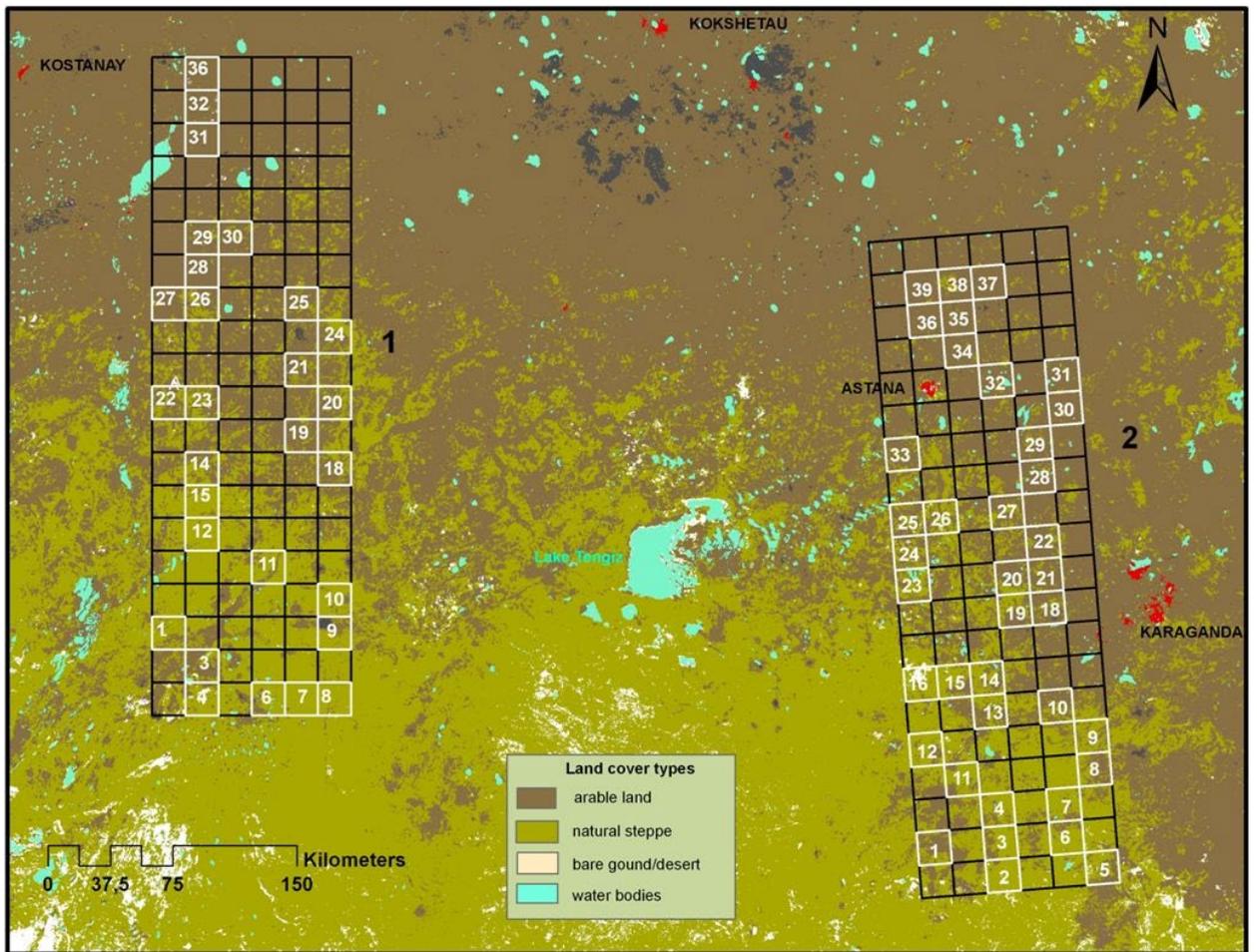
9. Abstract of Kamp *et al.* (2011)

10. Abstract of Kamp *et al.* (2012)

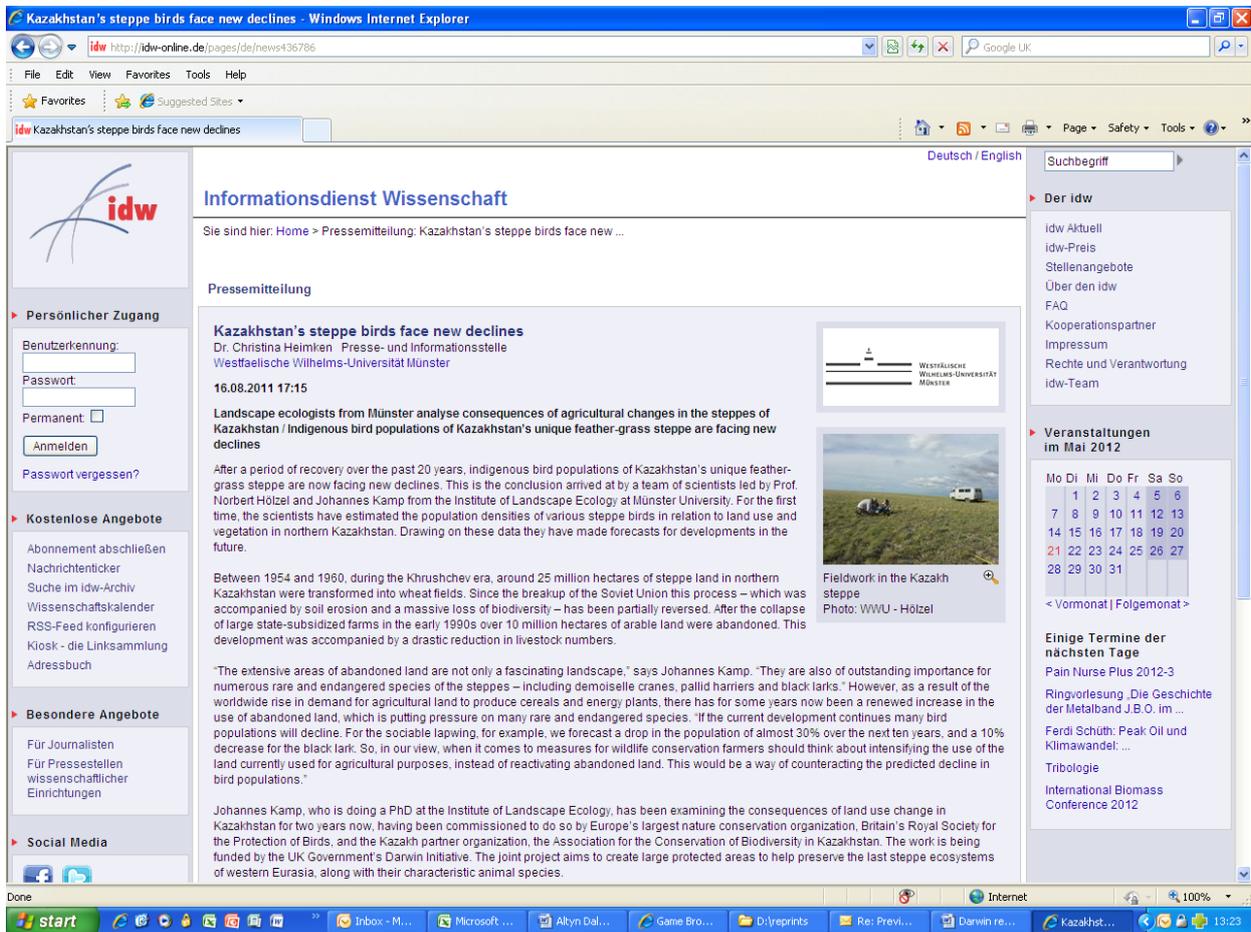
11. First page of Urazaliev *et al.* (2012)



12. Design of sampling strategy for bird transects in a remote part of Altyn Dala



13. Design of long-range transects for larger steppe bird species



14. Screenshot of information on the project on German web news pages

15. PhD thesis of Johannes Kamp, project staff member, 2012

## Checklist for submission

	Check
<b>Is the report less than 5MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	
<b>Is your report more than 5MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	Yes – confirmed
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	