



# 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 2011**

## 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	The Royal Society for the Protection of Birds (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> <li>- Frankfurt Zoological Society</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)	Apr 2010 – Mar 2011
Project Leader name	Michael Brombacher
Project website	www.acbk.kz
Report authors, main contributors and date	Paul Donald, Michael Brombacher, Sergey Sklyarenko, Ruslan Urazaliev, Albert Salemgareev, Johannes Kamp, Steffen Zuther

## 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.

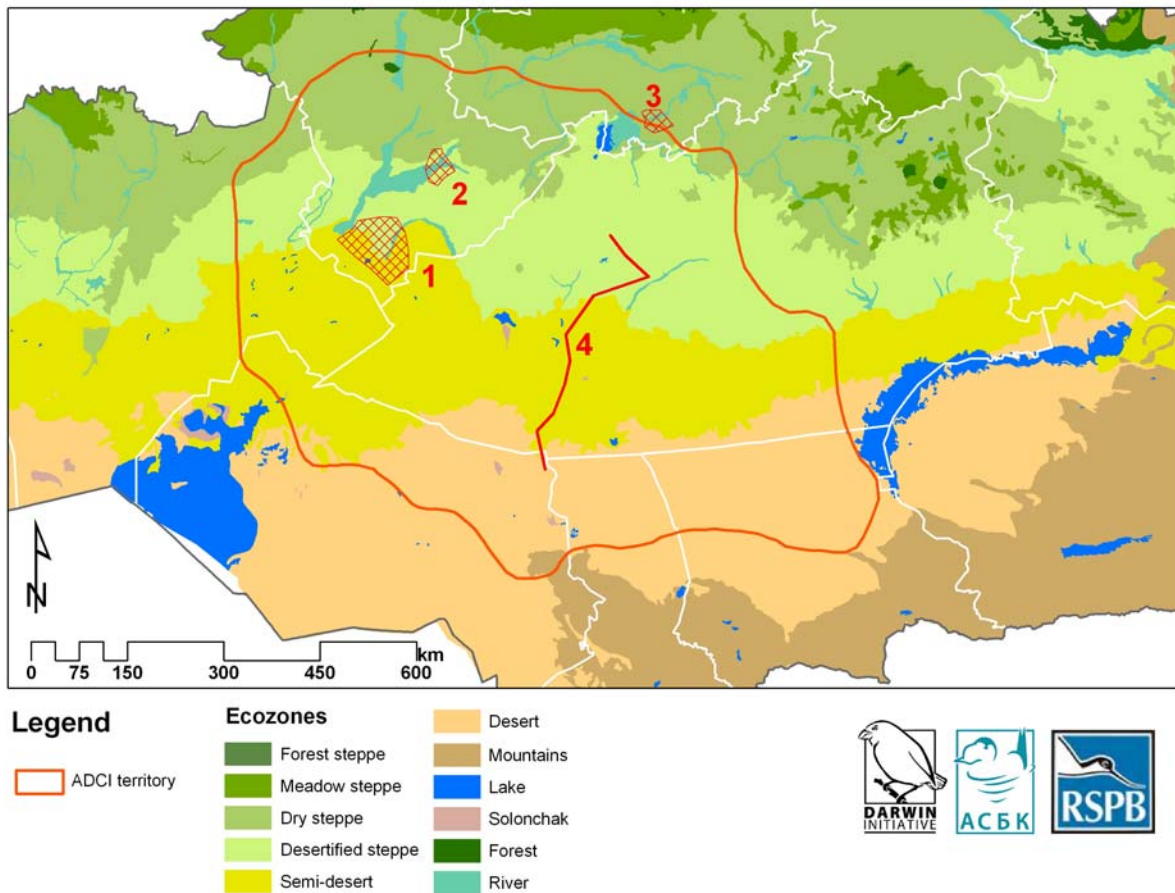
At present, however, there is little capacity to support this initiative with much-needed research. This Darwin funded project aims to address urgent scientific questions regarding the conservation of the threatened steppe and semi-desert ecosystems, a poorly studied and little known environment. These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



**Figure 1:** Study areas within the ADCI territory (crosshatch) covered in May 2010: 1 - southern Torghay lowlands, 2 - northeastern Torghay river valley, 3 - Tengiz-Korgalzhyn region. The area surveyed along a long-distance transect across the Betpak-Dala semi-desert and the Kazakh upland in June is marked by a red line (4).

### **3. Project Partnerships**

The relationship between the RSPB and ACBK already is a long-lasting and very stable and reliable one. 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 been supporting 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)

As mentioned above in 2006 ACBK and RSPB formed a partnership with the government of Kazakhstan and other international organisations (WWF International and Frankfurt Zoological Society) for support conservation activities for the dramatically declining population of saiga antelopes which by now turned into a large-scale steppe and semi-desert ecosystem conservation project – the Altyn Dala Conservation Initiative (ADCI) – “altyn dala” means golden steppe in Kazakh language.

Within Kazakhstan, ACBK is well linked with the primary conservation authority, the Committee for Forestry and Hunting (CFH). Formally through an MoU but also through day-to-day communication, advise and collaboration. In addition ACBK (supported by the RSPB and FZS) assists 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 this Darwin project.

Beyond the scope of this project but generally also important is the enlargement of saiga conservation activities to other parts of Kazakhstan: The Ustyurt and Ural regions with smaller saiga populations in much smaller numbers and less attention. 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 these populations. In addition, ACBK jointly with the SCA has been designated to coordinate the MoU on Saiga Conservation of the Convention on Migratory Species (CMS).

As mentioned above the project and ACBK are closely linked with the CFH as the primary conservation authority in Kazakhstan. For political reasons the CBD Focal point is the Minister of Environment, his Ministry though is only partly involved into the implementation of the CBD obligations. ACBK contact to the Minister hence is less intense.

### **4. Project Progress**

The project generally made very good progress and the implementation of all project activities was started despite a short planning period from the project start to the departure of the first fieldteams. 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**

##### **0. Project management and reporting**

At the start of the project a steering group was set up consisting of

- Michael Brombacher, RSPB – project coordinator
- Dr. Sergey Sklyarenko, ACBK – national project coordinator and research leader
- Johannes Kamp, RSPB – international research assistant
- Albert Salemgareev – national research assistant
- Ruslan Urazaliev – junior national project assistant (university post graduate)
- Steffen Zuther, CIM/ACBK – Saiga conservation expert
- Dr. Paul F. Donald, RSPB – project advisor

A first steering group meeting was held on 27<sup>th</sup> and 28<sup>th</sup> April 2010 in ACBK's main office in Astana to discuss the implementation of the ornithological, botanical and Saiga antelope components of the project and plan the first fieldwork season.

The standard half-year report was submitted to Darwin on time in 2010.

## **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**

### **1.1 Collect socio-economic and land use data**

Data on historical and current trends in livestock numbers and the area of different arable crops were collected for the whole of Kazakhstan, all Kazakh oblasts' (administrative districts) and a study area in the NE of the Altyn Dala Conservation Initiative area by J. Kamp and R. Urazaliev (study area 3 on figure 1). Data requests were launched in September 2010 to regional and national statistical agencies and replies received before the end of 2010. Furthermore, detailed data was downloaded from internet sources, such as [www.stat.kz](http://www.stat.kz) and [www.akmola.stat.kz](http://www.akmola.stat.kz). Similar data remain to be collected for other areas of the ADCI, notable the southern regions. This is planned to be finalized by end 2011.

A socioeconomic survey on future perspectives of land use in the north of the ADCI territory was conducted in August and September 2010 by J. Kamp and R. Urazaliev comprising i) a quantitative questionnaire survey with the heads of farming enterprises, ii) a quantitative telephone survey with private livestock owners and iii) a qualitative survey of key decision makers, administrative staff and local stakeholders involved in commercial livestock breeding. We concentrated on Korgalzhyn region at the NE corner of the ADCI area Urazaliev (study area 3 on map figure 1). Similar surveys are planned for other key parts of the ADCI for the second half of 2011.

A general literature survey on the availability of socioeconomic data for the region has been initiated. Most available data is summarized in

Lenk, M. (2001): [Socio-economic transformation processes in rural Central Kazakhstan after the country's independence in 1991]. Unpublished Diploma thesis, University of Greifswald, Greifswald, Germany. (In German).

Lenk, M. (2008): [Demographic and socioeconomic situation within the ADCI territory]. Unpublished report, University of Greifswald, Greifswald, Germany. (In German).

Gaps are currently being identified and action needed to close these gaps is planned for the second half of 2011.

### **1.2 Analyse and ground-truth remote sensing data**

Tobias Koz, a MSc student based at Ecosyste Research Group, Münster University (Germany) and supervised by Prof. N. Hölzel and T. Prinz (cf. <http://www.uni-muenster.de/Oekosystemforschung/mitarbeiter/hoelzel.html>) has developed a supervised, automated classification method based on Landsat 5 and 7 as well as ASTER scenes (ground resolution 15m) in order to quantify current trends in land cover across larger parts of the northern ADCI area. Comparing a sequence of scenes (years 2000, 2005, 2007 and 2010), a strong trend towards reclamation of abandoned land became evident, mirroring the results of the land use statistics collected locally. A field trip to ground-truth the results of this work has been arranged and is scheduled for the period 20 May to 1 July 2011.

No reliable method could be developed yet to automatically classify pasture degradation (as locally observed in the field due to livestock concentration effects) and grazing loads over larger areas, although degraded areas are visually detectable on the satellite images.

### **1.3 Analyse socio-economic and land use data, write and submit scientific papers**

The data collected under activity 1.1 has largely been analysed and some are included in a scientific paper (cf. Figure 2 in Kamp et al, submitted).

A report for local decision makers on the outcome of the questionnaire results has been finalized in English by J. Kamp and awaits currently translation into Russian and dissemination.

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

### **2.1 Fieldwork on the influence of grazing on vegetation pressure**

A team consisting of Tatyana Siderova, a senior botanist from Kazakhstan, and two undergraduates conducted fieldwork on the influence of grazing of Saiga antelope and domestic livestock on vegetation communities in four study areas, namely i) Tosynkum sands, Torghay (25–31 May 2010, Saiga mass calving area), study area 1 on figure 1, ii) vicinities of the villages and livestock farms Karasu, Akkol, Syzai and Ursak in the semi-desert zone of the ADCI area (06 May until 19 May 2010), study area 1 on figure 1, iii) vicinity of the villages Urpek, Amangeldy and Kemer in the steppe zone of the ADCI (19 May until 25 May 2010), study area 2 on figure 1, and iv) surroundings of the town Korgalzhyn, steppe zone of the ADCI (01-06 June 2010), study area 3 on map figure 1,.

In total, 195 vegetation sampling plots along eighteen 10km-transects were covered. Transects ran along a gradient of decreasing grazing intensity, always starting at the edge of the village or livestock station and radiating out into less intensively grazed steppe. Sample plots of 10x10m were installed at regular intervals of 1km along these transects. Topographical and geomorphologic variables were recorded, as well as soil characteristics and vegetation structure and a quantitative estimate of dung abundance. A complete plant species list was compiled for every 100 km<sup>2</sup> plot including cover (in %) and height estimates for every species. Additionally, a qualitative species list was compiled for the surroundings of every plot (covering 100x100m). In the Saiga calving area, we followed pretty much the sampling design, but transects radiated out not from a human settlement, but the area of maximum Saiga density.

In June 2010, a 400km long distance transect dissecting the ADCI territory across all vegetation zones (desert, semi-desert and steppe) was covered (study area 4 on map figure 1), in order to roughly characterize vegetation patterns along a gradient of aridity. We stopped every 40km, resulting in a total of 10 sub-areas. In every sub-area, vegetation was sampled at six to ten plots, using the same methodology as described above.

All vegetation data have been entered into electronic data bases. Data analysis will be conducted in year 2, as well as further fieldwork on abandoned farmland will be conducted in the current field season.

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

#### **3.1–3.4 Collate data on steppe birds and small mammals (incl. literature review) and identify conservation status of key steppe bird species**

Data on the abundance of steppe bird species in relation to land use has been collected by J. Kamp and R. Urazaliev, albeit already in 2009, in study area 3 (map figure 1). Due to the failed submission of this Darwin project's application at that time (successful resubmission in 2010), data collection started in 2009 relying on own funds. However, we will include the analysis and publication of these data into the general framework of the Darwin project, as fieldwork is complementary to the project's activities and staff involved identical. A detailed account on sampling design, data collection and analysis methods is given in Kamp et al. (submitted).

Data collected on bird abundance in areas of different land use in study area 3 were analysed until end 2010 and have been included in Kamp et al. (submitted). Data on habitat variables have been collected at every sampling unit covered by Kamp et al. (submitted) in 2009, and abundance, species richness and diversity were related to land use. Habitat models are currently being developed for key steppe species and are likely to be finalized until the end of the year.

In May and June 2010, bird populations were sampled across the ADCI area by J. Kamp, A. Salemgareev und two undergraduate students. We counted all birds present along two 500m-transects starting at the vegetation plots described above and proceeding always east and west, using Distance Sampling. In the study areas 1–3, our aim was to describe variation in bird communities along a small-scale gradient of grazing pressure, in study area 4, we aimed at detecting broad patterns in species composition and abundance along a gradient of aridity.

All data collected on birds in 2010 was entered into "Worldbirds", Birdlife International's online recording and mapping system ([www.worldbirds.org](http://www.worldbirds.org)), as well as into customized data sheets used for analysis in the Darwin project by J. Kamp. The data has been screened and some preliminary analyses have been finalized. Analysis is likely to be completed by the end of 2011.

In study area 1, all transects covered in 2009 were repeated in autumn 2010 by R. Urazaliev and T. Iskakov in order to assess the importance of different agricultural land use types for steppe birds (using Distance Sampling). The data has been partly analysed and is likely to be included into a smaller manuscript in changing habitat use of steppe birds through the season.

No work on small mammals has been conducted yet. The literature review on steppe birds has been started by J. Kamp but has not been completed yet.

#### **3.5 Write and submit scientific papers and PhD thesis**

Three peer-reviewed papers in international journals are required for the PhD at Münster university, Germany, to be completed by J. Kamp until the end of the project. One of these has been submitted and came back requiring minor revisions. Two further manuscripts are currently being written up and likely to be submitted until April 2012:

- 1) Kamp, J., Urazaliev, R., Donald, P.F., Hölzel, N. (submitted): Post-Soviet agricultural change predicts future declines after recent recovery of Eurasian steppe bird populations. *Biological Conservation* under review

- 2) Kamp, J., Siderova, T., Salemgareev, A., Urazaliev, R., Chapurin, V., Pulikova, H., Donald, P., Hölzel, N. (in prep.): Current levels of domestic livestock but not Saiga antelope *Saiga tatarica* grazing shape steppe plant and bird communities of the Eurasian steppes.
- 3) Kamp, J., Urazaliev, R., Donald, P.F., Hölzel, N. (in prep.): Is the Black Lark *Melanocorpha yeltoniensis* a threatened steppe endemic? Sex ratios and reproductive success in relation to agricultural land use in Kazakhstan.

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

##### ***Summary of activities 4.1. and 4.2. (Run training workshop on field survey methods for project staff in Kazakhstan/ Experiential training of host country researchers and students during fieldwork)***

Prior to the field work season a training workshop on the topic "Estimating numbers of wild animals - introduction to survey and census methods" was run by Maxim Koshkin, Johannes Kamp, Ruslan Urazaliyev, Zhanna Aksartova (ACBK and RSPB) in the Korgalzhyn State Nature Reserve from 26.4.-1.5.2010 with 21 participants from 8 universities throughout Kazakhstan (Theory sessions: Survey and monitoring, sampling strategies, transects and point counts, Statistics, GPS/Practical sessions: Testing various counts in the field). Students which were involved in y1 fieldwork attended this training – the selection of suitable candidates was finalized during the training.

Four undergraduates of kazakhstani universities (in Oral, Kharaghandy and Petropavlovsk) were trained during fieldwork in vegetation and bird sampling techniques such as quadrat plant mapping, Distance Sampling, transect counts, timed species counts), plant and species identification and scientific principles behind sound a sampling design. All students accompanied the survey teams during the entire fieldwork season (6 May until 30 June).

Ruslan Urazaliev, Vladimir Chapurin and Albert Salemgareev were trained to use the software DISTANCE 6.0, a program developed to analyse data from line or point transects correcting for detectability. Also, all undergraduates and staff were introduced to sound principles of data entry and storage to facilitate statistical analyses later on.

##### ***4.3 Produce training manuals***

No training manuals have been produced yet. This is foreseen for project year 2.

##### ***4.4 Partners in Kazakhstan develop research strategy***

It is foreseen to review the overall work programme of ADCI end of 2011 which then will lead into a adapted and fine tuned research and monitoring strategy for the project – being informed by the findings of this project.

##### ***4.5 Support at least 5 students in Kazakhstan to Diploma/masters qualification***

Due to high workload in year 1 there is currently little capacity in the project team to supervise students. Vladimir Chapurins Diploma "Habitat use of larks and wheatears in arid regions of Kazakhstan" is currently supervised by J. Kamp.

In the current field season 4 students are being supervised by Sergey Sklyarenko to achieve diploma/masters qualifications.

#### **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**

##### ***Activities 5.1 to 5.3 (Train local staff in catching, handling, and collaring saigas/ Catch saiga antelopes and fit satellite tags/ Process submitted location data and permanently inform ADCI rangers and governmental institutions about saiga accumulations)***

For the realization of this output, in summer 2010 another 20 collar with satellite transmitters have been ordered from Vectronic Aerospace GmbH in Germany. The collar model "GPS Plus Collar" has been successfully used before for saiga antelopes. These collars use GPS for the determination of coordinates of the animal and the Globalstar satellite system for data transmission from the location in the field to the recipient via email. This technique has the following advantages: a comparably low demand of energy (1), very precise coordinates due to the use of GPS (2), daily data transmission allows the immediate use

of the information (3), and high reliability of data transmission (4). The weight of the collar is less than 600 g, which does not cause any problems for the animal. This has been proven by earlier observations.

Due to the high costs, the collars have only partly been financed by the Darwin project, the main funding comes from other sources inside the Altyn Dala Conservation Initiative.

In October 2010, the fieldwork was started with an initial, repetitive training for the field staff including catching the animal and its handling after catching (*activity 5.1*). This is a very important component of this activity to practice the whole procedure in order to avoid any harm for the animal and minimize stress. Too much stress might lead to an overheating of the saiga and to its death. For this reason, a professional veterinarian from Frankfurt Zoo has been invited to check the correct handling of the animal.

During three weeks in October 2010, 25 collars (including 5 ones from a previous collaring in 2009) have been deployed to female saigas in the Betpak-Dala range (*activity 5.2*). For the catching, the method so called "method of mobile nets" was used. For this method cross motorcycles and catchers in two cars with two nets (length about 25-35 m, height about 2,5-3 m) are used to chase an animal into the net. The time limit for chasing is 4-5,5 minutes depending on air temperature, the condition of the soil, and condition of the specific animal. The time for animal handling is limited to 4 minutes as a maximum. From all animals, body measures are taken, samples of blood for DNA-analysis, as well as of fur, excrements, and – if discovered – ectoparasites. All animals get an intramuscularly injection of 3 ml vitamin solution for a quick recovery after release of the animal.

The collars have started to submit positions in the planned way immediately after collaring. From every transmitter, once a day two positions of the animal are received. Once a week, these data are used to produce maps of the general regions of saiga occurrence (*activity 5.3*). These maps are used to coordinate the work of the ADCI rangers for monitoring and of the game keepers of the ACBK wildlife management area for protection of saiga from poaching. Furthermore, they are handed over to state institution, allowing them to plan the work of state rangers more effectively.

In a short report on the results, a preliminary, descriptive analysis of the data has been conducted, identifying rough migration patterns and important areas for saigas throughout the year (*activity 5.4*). But more data is needed to perform such an analysis thoroughly and get a basis for further activities 5.5 and 5.6.

#### ***5.4 Analyse the data, produce maps, and draw conclusions about saiga ecology and migration***

Activity to be intensified in year 2

#### ***5.5 Use the data to develop and validate a saiga habitat model***

Activity to be started in year 2

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

Activity to be started in year 3

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

#### ***6.1 Set up data bases and GIS containing all data gathered***

Compatible, customized databases (using mostly MS Excel and Access) have been set up by J. Kamp to store all information collected during fieldwork, and have been made available to all project staff and affiliates. A GIS system (in ArcGIS 9.3) has been set up by J. Kamp in order to analyse spatial data and produce maps.

Sophisticated data analysis tools and a GIS has been set up by S. Zuther to collate, store and analyse information collected on Saiga antelope movements and habitat use.

#### ***6.2 Analyse available data for interrelations between different components of the geoecosystems of Altyn Dala as well as with anthropogenic impacts***

Activity to be started in year 2

#### ***6.3 Identify threats for key species and required conservation measures***

Activity to be started in year 3

#### ***6.4 Identify potential sites for protected areas and map them***

Activity to be started in year 3

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

Activity to be started in year 3

**6.6 Include all project findings into the ADCI species and site conservation strategy**

Activity to be started in year 3

**6.7 Launch the conservation strategy in Astana and seek formal governmental endorsement**

Activity to be started in year 3

**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**

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

ACBK is in regular 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 "Okhotzooptom" (governmental arm for saiga conservation)

**7.2 Prepare and organise international conference on steppe ecology and conservation**

Activity to be started in year 3

**7.3 Run international steppe conference and publish proceedings**

Activity to be started in year 3

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

Ruslan Urazaliyev attended the 12th Student Conference on Conservation Science at University of Cambridge (20-22 March 2011) and gave a presentation on the topic "Implications of post-Soviet and current changes in agriculture for grassland birds in Kazakhstan"

**4.2 Progress towards project outputs**

As it can be seen in section 4.1. the project is well on track and is like to achieve its set outputs.

Please find a brief assessment of Measurable Indicators of the Sub-Goal, Purpose and Outputs of the project:

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 received by the project (especially the saiga telemetry data) have already been used for the (formally required) expansion of an existing Protected Area (Irgiz Tugai State Nature Reserve) to cover areas relevant for saiga antelopes.</li> <li>Is it too early to say anything on population levels of target species. Generally it already can be stated that the Betpak dala population of saiga is on the upwind. Detailed figures of the 2011 census will only be published in June 2011 though.</li> </ul>



<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>• Currently the project is on track and the achievement of all these indicators seems still realistic.</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<sub>2</sub></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>• With ground truthing of analysis from year 1 this indicator will be achieved in y<sub>2</sub></li> <li>• about to be achieved</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>• major part done in y<sub>1</sub> and continuous surveys being done in y<sub>2</sub> for data analysis in y<sub>3</sub></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<sub>3</sub></li> <li>• Predictive habitat models developed and performance evaluated by t<sub>3</sub></li> </ul>	<ul style="list-style-type: none"> <li>• major part of research and analysis for birds being conducted in y<sub>1</sub> and abundance being understood (for birds)</li> <li>• Mammal survey only started in y<sub>2</sub></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>• Indicators linked to activities which are mostly conducted in y<sub>2</sub> and y<sub>3</sub></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>• preparations made through tagging of 20 saigas (co-funded through this project in y1)</li> <li>• Analysis and modelling being done in y2 and y3</li> </ul>
<p>6. Species and site conservation strategy developed incorporating findings and recommendations from Output 1,2,3 and 5 and incorporated into ADCI strategy</p>	<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 reporting against them can only be made in y3.</li> </ul>
<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</p>	<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>	<ul style="list-style-type: none"> <li>• Indicators achievable but reporting against them can only be made in y3.</li> </ul>

### 4.3 Standard Measures

**Table 1 Project Standard Output 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 the project
1A	Number of people to submit thesis for PhD qualification (in host country)							
2	Number of people to attain Masters qualification (MSc, MPhil etc)							
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						
4B	Number of training weeks to be provided	8						
4C	Number of postgraduate students to receive training	1						
4D	Number of training weeks to be provided	32						
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)							
6B	Number of training weeks to be provided	8						
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country							
8	Number of weeks to be spent by UK project staff on project work in the host country	16						
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country							
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording							

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 the project
11A	Number of papers to be published in peer reviewed journals							
11B	Number of papers to be submitted to peer reviewed journals	1						
12A	Number of computer based databases to be established and handed over to host country	1						
12B	Number of computer based databases to be enhanced and handed over to host country							
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings							
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	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							

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 the project
	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						
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						

Currently no publications have yet been produced by the project.

**Table 2 Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £

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

- A brief assessment against indicators made in section 4.2 as well as an assessment of project activity progress made in section 4.1. has shown that the project is well on progress and that the indicators are likely to be achieved. The first indicator on Sub-goal level (“Protected area network established to protect widest possible range of species and ecosystems”) is dependent on the assumption that the government of Kazakhstan will provide sufficient funds to establish and run new Protected Areas. Currently the budget situation within the Kazakhstani government seems to have recovered after the financial crisis and the establishment of new Protected Areas becomes likely.

An assessment of the indicators on purpose level is too early at that stage of the project – from a first assessment of year one activity and outcome progress, these indicators seem still realistic.

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

It is too early for this project to state a positive impact in state of steppe or semi-desert biodiversity. Generally the project is well planned and implemented with two partners (ACBK and RSPB) who are well established in conservation in Kazakhstan but also who have a proven interest to achieve impact on the ground. That the partners are well established in Kazakhstan will also ensure the implementation of conservation measures as they will be recommended by this project.

A first example of positive impact is the positive development of the saiga antelope population in the last years starting from 4,000 counted individuals in 2002 to almost 53,400 in 2010. The project itself had no influence on this development since it only started in 2010 but it will support this positive development for the saiga antelope but also for birds, other mammals and plants since the research conducted as part of the project is groundbreaking for steppe and semi-desert habitats.

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

The project progress is regularly monitored and evaluated by the project steering group. The last evaluation has been made at a meeting at RSPB 30<sup>th</sup> March 2011 in the UK and gaps identified and the workplan (and field work preparations) for 2011 adjusted.

Also assessments made as part of writing this annual report will be reported back to the Steering Group to inform the next meeting.

A lesson learned during project year 1 is that finding, training and involving students over a continuous period of three years is rather difficult and collides with bureaucratic hurdles set by exam periods at universities. In year 2 efforts will be increased here in order (i) to keep students in the project over the remaining period and (ii) to achieve more flexibility during exam periods. In addition training efforts (external GIS training courses, statistical trainings etc.) will be increased in year 2 and run in suitable times for the participating students.

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

not applicable

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

-

### **8. Sustainability**

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. This project contains a strong training and capacity building component. Each field work component will be implemented in joint UK/Kazakhstani teams and ACBK researchers will undergo a special training programme to –after the completion of the project – form a part of ACBK's ADCI team as staff or external consultants.

The government of Kazakhstan is strongly interested in steppe and semi-desert ecosystem conservation and has listed three new Protected Areas within the ADCI project territory into their current Protected Area development plan. In addition the FHC has asked ACBK to advise on saiga census also on two populations which are located outside the ADCI territory: Ustyurt and Ural populations, west of the ADCI region.

### **9. Dissemination**

Due to the short preparation period of the project and intense fieldwork operations in year 1 only limited dissemination activities have been conducted in year. Activities will be increased after the field season of project year 2.

## 10. Project Expenditure

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

<b>Item</b>	<b>Budget</b> (please indicate which document you refer to if other than your project application or annual grant offer letter)	<b>Expenditure</b>	<b>Variance</b>
Rent, rates, heating, overheads etc			
Travel and subsistence			
Operating costs			
Capital items/equipment (specify)			
Others (specify)			
Salaries (specify by individual)			
<b>TOTAL</b>			

## 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)

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## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2010-2011

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
<p><b>Goal:</b> 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</p> <ul style="list-style-type: none"> <li>⇒ The conservation of biological diversity,</li> <li>⇒ The sustainable use of its components, and</li> <li>⇒ The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>		<ul style="list-style-type: none"> <li>• To project is a major contribution to the understanding of steppe and semi-desert ecosystems and towards their conservation. It will provide a currently inexistent understanding of interlinkages between steppe and semi-desert ecosystem components and it will further contribute to the increase of the population of the globally threatened saiga antelope.</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>• As shown in section 4.1. the project is well on track and will be able to deliver these indicators on purpose level. It has to be said though that mainly in y3 of the project since they require the research which is being conducted in y1 and y2</li> </ul>	<ul style="list-style-type: none"> <li>• Research as it is being conducted in y2 will further contribute to achieving these indicators</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 still appropriate</li> <li>• with completion of ground thruthing of sateltite image analysi in y2 as well as analysis of statistical data and farmer interviews from y1 both indicators are about to be achieved</li> </ul>	



Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
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		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
1.2 Analyse and ground-truth remote sensing data and develop maps showing the current distribution of different land-use types in Altyn Dala			
1.3 Analyse data on land-use for trends in number of livestock and area ploughed			
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			
1.5 Write and submit scientific papers			
<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 two indicators still are appropriate. Good progress with vegetation surveys in y1. Further surveys on abandoned fields and data analysis to be conducted in y2 and y3.	
2.1 Undertake fieldwork to assess vegetation structure in relation to grazing pressure in 2 study areas representing different climatic conditions		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
2.2 Develop maps of vegetation structures for study areas			
2.3 Assess recovery of steppe vegetation in fallow fields of different ages			
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			
2.5 Write and submit scientific papers and student theses			
<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 two indicators still are appropriate. Good progress with bird surveys here. Mammal field surveys had to be postponed from y1 to y2.	
3.1 Collate data on steppe birds and small mammals (incl. literature review) and identify conservation and threat status of key steppe bird species		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
3.2 Conduct field bird and small mammal surveys of all major habitat types of the Altyn Dala region			
3.3 Collect data on distribution of birds and mammals and habitat model covariates in steppe zone			

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
3.4 Model bird and small mammal abundance, species richness etc. in relation to land use and other habitat covariates			
3.5 Write and submit scientific papers and PhD thesis			
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 here. 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		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
4.2 Experiential training of host country researchers and students during fieldwork			
4.3 Produce bilingual (Russian, Kazakh) training materials			
4.4 Partners in Kazakhstan develop future research strategy to support ADCI			
4.5 Support at least 5 students in Kazakhstan to Diploma qualification			
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 are appropriate. Good progress with activities here. Analysis and modelling being conducted in y3.	
5.1 Train local staff in catching, handling, and collaring saigas		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
5.2 Catch saiga antelopes and fit satellite tags			
5.3 Process submitted location data and permanently inform ADCI rangers and governmental institutions about saiga accumulations			
5.4 Analyse the data, produce maps, and draw conclusions about saiga ecology and migration			

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
5.5 Use the data to develop and validate a saiga habitat model			
5.6 Prepare and submit scientific papers			
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 mostly to be conducted in year 2 and 3 and analysis and modelling which are required for achievement of these indicators will be done on y3	
6.1 Set up data bases and GIS containing all data gathered		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
6.2 Analyse available data for interrelations between different components of the geoecosystems of Altyn Dala as well as with anthropogenic impacts			
6.3 Identify threats for key species and required conservation measures			
6.4 Identify potential sites for protected areas and map them			
6.5 Develop recommendations for sustainable land-use			
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			

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
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>	All three indicators still are appropriate. Most activities mostly to be conducted in year 2 and 3	
7.1 Permanently inform Kazakhstani decision makers about the project progress and results and get them involved in the project process		For all activities: see detailed description and analysis (with description of plans for year 2) in section 4.1.	
7.2 Prepare and organise international conference on steppe ecology and conservation			
7.3 Run international steppe conference and publish proceedings			
7.4 Communicate information about the project and its results to the general public			

## Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<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.			
<b>Sub-Goal:</b>  The Altyn Dala in Kazakhstan is restored and preserved as a unique ecological system	<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>	Lists of protected areas  Species monitoring reports	
<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.	<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>	Reports, scientific papers  GIS-based map system  ADCI strategy documents	Any future changes in the political situation of Kazakhstan do not prevent fieldwork for safety reasons
<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 t<sup>2</sup></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	

Project summary	Measurable Indicators	Means of verification	Important Assumptions
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>	<p>Work plans, research strategy documents, training reports, databases</p> <p>Strategy documents, funding proposals</p> <p>Conference proceedings</p>	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	
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>	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.]

Project summary	Measurable Indicators	Means of verification	Important Assumptions
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>	ADCI progress report Conference proceedings Press coverage	
<p><b>Activities</b> (details in workplan)</p> <p>0.1 Set up project steering group            0.2 Project steering group meetings            0.3 Appoint project staff            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            1.6 Analyse and ground-truth remote sensing data and develop maps showing the current distribution of different land-use types in Altyn Dala            1.7 Analyse data on land-use for trends in number of livestock and area ploughed            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            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            2.2 Develop maps of vegetation structures for study areas            2.3 Assess recovery of steppe vegetation in fallow fields of different ages            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            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            3.2 Conduct field bird and small mammal surveys of all major habitat types of the Altyn Dala region            3.3 Collect data on distribution of birds and mammals and habitat model covariates in steppe zone            3.4 Model bird and small mammal abundance, species richness etc. in relation to land use and other habitat covariates            3.5 Write and submit scientific papers and PhD thesis</p>			

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<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> <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>			



Project summary	Measurable Indicators	Means of verification	Important Assumptions
<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>			

## 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.	X
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<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.	X
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