

Darwin Initiative Annual Report

Darwin Project Information

Project Ref Number	15-032
Project Title	Conserving a flagship steppe species: The critically endangered Sociable Lapwing
Country(ies)	Kazakhstan, Russia, India & Turkey
UK Contract Holder Institution	The Royal Society for the Protection of Birds
UK Partner Institution(s)	Birdlife International
Host country Partner Institution(s)	Association for Biodiversity Conservation in Kazakhstan (ACBK)
Darwin Grant Value	£185,863
Start/End dates of Project	April 2006 – March 2009
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 April 2006 to 31 March 2007; Annual Report 1.
Project Leader Name	Dr RD Sheldon
Project website	Under development
Author(s), date	Dr RD Sheldon & M Koshkin, 27 th April 2007

1. Project Background

The project aims to develop effective mechanisms and capacity to improve the conservation status of the critically endangered Sociable Lapwing *Vanellus gregarius* across its range, but particularly in its stronghold in Kazakhstan. The population has fallen by as much as 90% during the past two decades and may now number fewer than 1000 pairs; the reasons for this decline are poorly understood. The project is initially concentrating on research and monitoring to understand the causes of the observed population decline.

The wintering range and migration routes are poorly known and the project aims to work with range states to identify key sites and implement conservation measures as appropriate. By the end of the project the International Species Action Plan will be revised and the conservation status of the species clarified.

Figure 1. The location of the Korgalzhyn area within Kazakhstan. The shaded area represents the projects core study area.

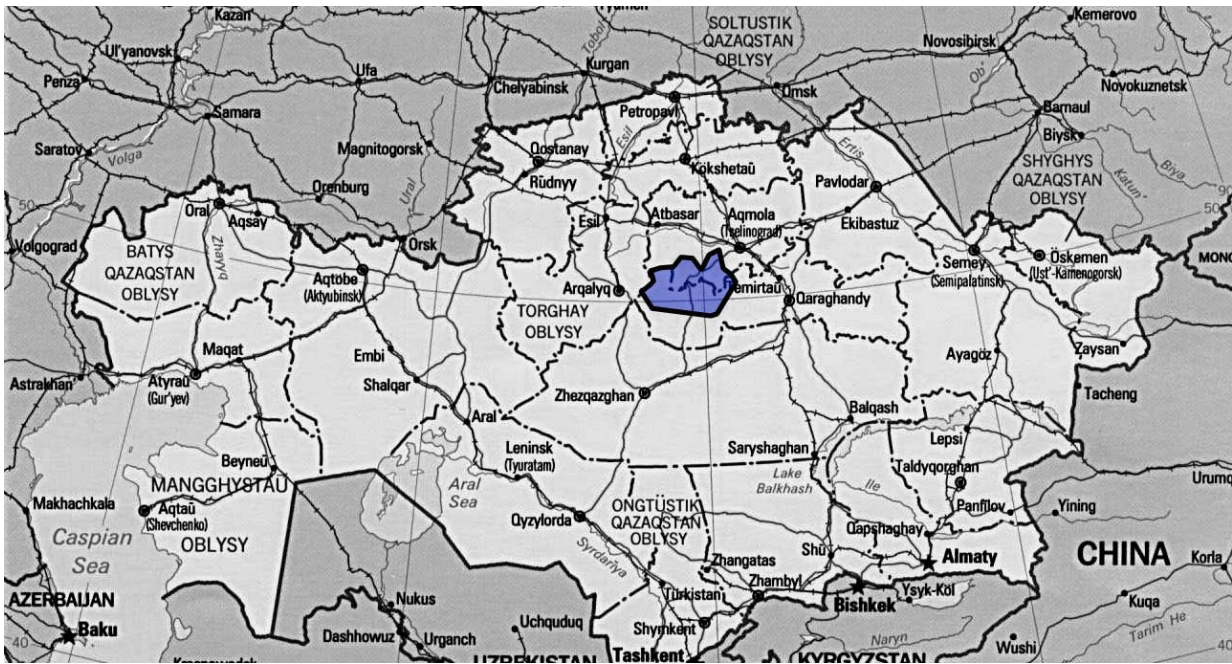
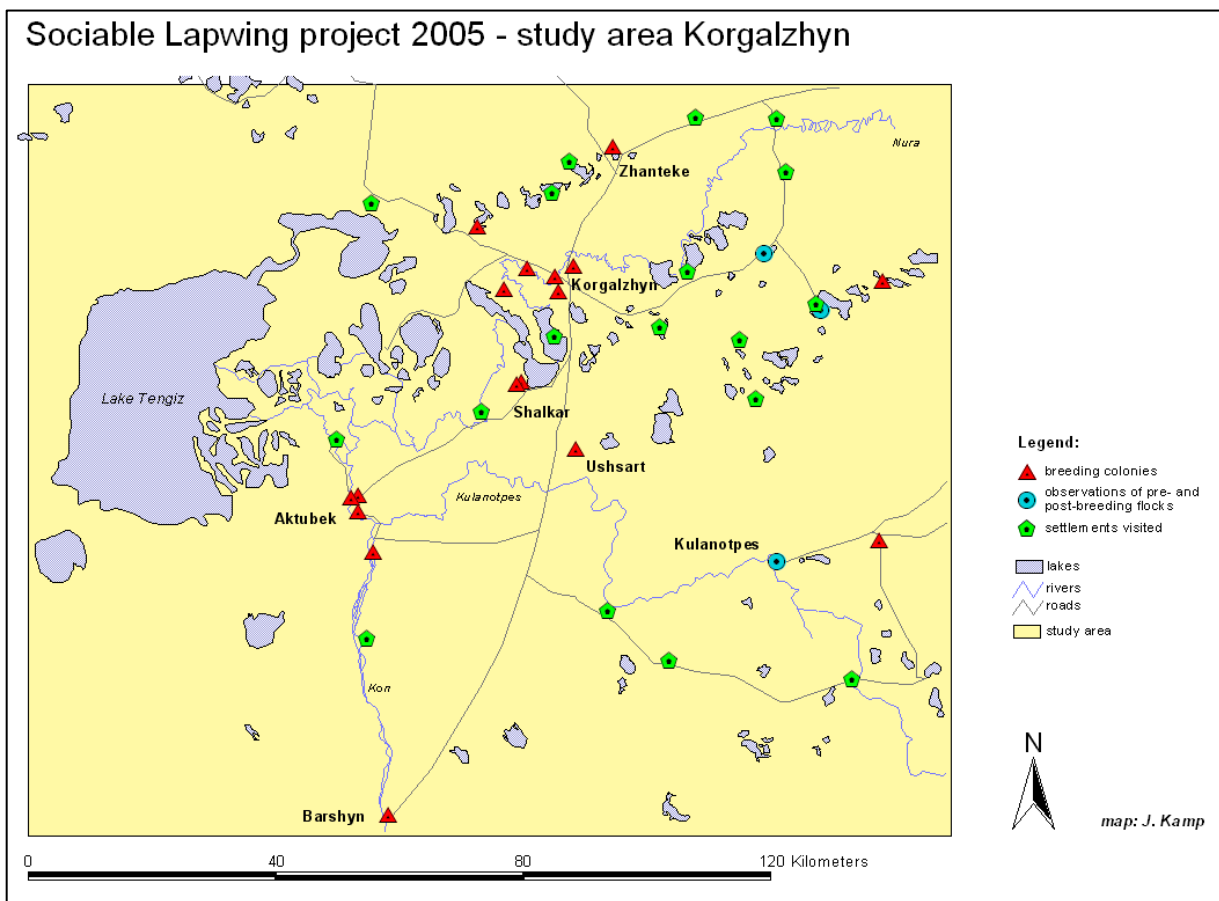


Figure 2. The core study area for fieldwork in 2006.



2. Project Partnerships

The partnership between RSPB and ACBK has developed beyond expectations during the first 12 months of the project. The project leader (Dr Rob Sheldon) undertook fieldwork in the host country from April through to July 2006 primarily working with, and supporting, Mr Maxim Koshkin the Sociable Lapwing project officer with the local project partner. Extensive training was given on monitoring and survey methods, bird handling, taking biometrics and general ornithological research techniques (see Annex 3). Additionally, two local students were also trained along similar lines to further increase the capacity for the local partner to undertake scientific research independently. Local project awareness was furthered by a series of joint presentations (R Sheldon & M Koshkin) to key Kazak government departments and agencies (including CBD focal points). ACBK are already seen as the leading organisation in Kazakhstan on Sociable Lapwing research and other potential steppe related projects are starting to be considered for the near future.

Under the auspices of the Darwin project, ACBK have been developing links and working closely with other partner organisations across the species' range particularly in Russia, and indirectly through the AEWA secretariat representative who is now based in the ACBK head office. These rapidly developing links will further improve ACBKs capacity to deliver high quality conservation measures to enhance the conservation status of Sociable Lapwing across the species' range.

Close links are being fostered between key researchers in Russia and Kazakhstan, the only two countries where Sociable Lapwing breed. During the first 12 months, survey work in Russia (through RBCU, an official project partner) has been supported, both financially and technically, and support has been given to secure additional funding for future survey work. Joint survey work is planned for the coming 12 months. A review of historical data across the species' range has allowed further relationships to be established in as many as 15 countries. These relationships will be furthered by collaborating with the AEWA secretariat through the Threatened Steppe Waders project officer.

3. Project progress

3.1 Progress in carrying out project activities

Progress during the first 12 months has exceeded all expectations. Fieldwork on the breeding grounds in Kazakhstan was hugely successful with 167 nests located and more than 375 birds fitted with colour rings. New breeding colonies were located and monitored. Additional areas away from the core study site were surveyed in Kazakhstan and further colonies located. The project worked closely with colleagues in Russia (RBCU) and funded survey work in the south west of the country, which located very few birds. In addition, an international team undertook a preliminary survey of a potential stop-over site in south west Russia which located colour-ringed birds from the central Kazakhstan breeding population (see annex 3). Survey work on migration routes (Syria, Turkey and Azerbaijan) were supported by the project.

Methods for investigating the grazing patterns of domestic livestock were successfully trialed. We used GPS units fitted with dataloggers to record the location of individual cattle every 15minutes (see Annex 3) – the technology worked well and we will be undertaking intensive tracking of livestock in 2007.

A comprehensive review of historical sightings of Sociable Lapwing was initiated and is about 75% complete. Maxim Koshkin and Johannes Kamp (German field researcher) have compiled a database of almost 800 records. A few data gaps remain which will be completed in the next 12 months, but a draft paper has been prepared for publication by M Koshkin. This review has identified a number of high priority areas that will need to be surveyed in the next 2 winter periods of the project.

Training has been particularly successful. Following a training workshop for a number of students in March, two local students were recruited to the project and received high quality formal and experiential training in a variety of field techniques. One of the students was subsequently recruited to take part in an international expedition to south-west Russia to survey

staging areas of Sociable Lapwing. One of the students will be returning to work on the project in April 2007, and the second student may return in the future after completion of her university studies. Maxim Koshkin and Johannes Kamp (post graduate student) received regular training from the Project Leader and are now fully competent in all the necessary field techniques required for a project of this nature. Maxim will now be responsible for transferring this knowledge to others involved in the project and will be directly responsible for training local student researchers. Johannes Kamp will lead a team of local students undertaking fieldwork in the north of Kazakhstan in April- June 2007.

Three members of The Sociable Lapwing research team, Maxim Koshkin (ACBK), Rob Sheldon (RSPB) and Johannes Kamp (University of Oldenburg) attended the International Wader Study Group Conference in Sweden and presented one talk and three posters of our work (see Annex 3):-

- Talk presented by Maxim Koshkin – “Breeding biology of the Sociable Lapwing *Vanellus gregarius* in central Kazakhstan and implications for conservation management.”
- Two posters presented by Rob Sheldon – “Revising the breeding population estimate and distribution of the Critically Endangered Sociable Lapwing *Vanellus gregarius*” & “Preliminary surveys of Chagraiskoje Reservoir, south-west Russia, for Sociable Lapwing *Vanellus gregarius*.”
- A third poster presented by Johannes Kamp – “Population numbers and habitat use of the Black-winged Pratincole *Glareola nordmanni* in Central Kazakhstan.”

Additionally, Maxim Koshkin, Johannes Kamp and Valery Khrokov (Director of ACBK) attended the VII International Conference of the Russian Wader Study Group in Michurinsk, Russia, in February 2007. Two talks were given by M Koshkin (Sociable Lapwing) and J Kamp (Black-winged Pratincole), and the abstracts will be published in the conference proceedings (in Russian).

Finally, Maxim Koshkin attended the Student Conservation Conference at Cambridge University and presented a talk on the breeding biology of the Sociable Lapwing.

The Sociable Lapwing project was officially launched as part of the Queen’s birthday celebrations at an event organised by the British Embassy in Astana, Kazakhstan. The event was attended by Maxim Koshkin and Dr Rob Sheldon. At the event the British Ambassador, Paul Brummell, supported the project by taking part in an official press release. The Ambassador also visited project staff in June to see how the project was progressing.

3.2 Progress towards Project Outputs

Training of local staff exceeded expectations, with two students selected from a group of twenty that attended a training workshop in March 2006. Both students were successfully integrated into the project and received intensive high quality experiential training. Two other local ornithologists were trained by the project team in a variety of ornithological techniques. The majority of this experiential training was overseen by R Sheldon during a three month visit to the central Kazakhstan study area.

One short scientific paper has been submitted to the Wader Study Group Bulletin and is due for publication in the April 2007 issue (see Annex 3). Additionally, we are on course to submit a paper on historical distribution by the end of 2007. The production of the paper has been slightly delayed due an increased level of collaboration with partner organisations in researching the historical data. We’ve worked particularly closely with our Russian colleagues at RBCU to track down a wide variety of Russian literature.

3.3 Standard Output Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
4A	Undergraduate students receiving training (Kazakh)	2				
4B	Number of training weeks	24				
4C	Number of postgraduate students receiving training (German)	1				
4D	Number of training weeks to be provided	14				
6A	Number of people to receive other training (Kazakh)	1				
6B	Number of training weeks to be provided	5				
8	Number of weeks to be spent by UK project staff on work in the host country	25				
11B	Number of papers to be submitted to peer reviewed journals	1				
12A	Number of computer databases to be established and handed over to the host country	1				
14B	Conferences/workshops/seminars attended & findings presented	3				
15A	Number of national press releases in host country	2				
18A	Number of national TV features in host country	2				
19A	Number of national radio interviews/features in host country	3				
23	Value of resources raised from other sources	£2.7k				

Table 2 Publications

Type *	Detail	Publishers	Available from	Cost £
(eg journals, manual, CDs)	(title, author, year)	(name, city)	(eg contact address, website)	(if applicable)
Wader Study Group Bulletin	Field, R.H., Gordon, J.J., Koshkin, M., Field, K.M., Gordon, O., Kucheryavaya, N., Fedosov, V. & Malovichko, L. 2007. The Chagraiskoje Reservoir area of Stavropol Region, SW Russia, harbours significant numbers of migrating Sociable Lapwing <i>Vanellus gregarius</i> . 2007	International Wader Study Group	www.waderstudygroup.org	

3.4 Progress towards the project purpose and outcomes

Substantial progress has been made towards identifying the causes of the population decline in the critically endangered Sociable Lapwing. Prior to the start of the project it was widely expected that the principal cause of the decline would be associated with factors on the breeding grounds. However, two years of high breeding success suggests that the main causes may be associated with factors on the wintering grounds and/or migration routes. This has opened up a new avenue of potential research that will prove challenging over the next two years of the project. Planning with a number of the partner organisations is already underway to meet these challenges.

The capacity of the key partners, particularly ACBK in Kazakhstan has been substantially improved even at this stage of the project. Maxim Koshkin has developed beyond all expectations and is developing into an outstanding advocate of the Sociable Lapwing project and wider conservation within Kazakhstan.

We are confident that the conservation status of Sociable Lapwing will be clarified by the end of this project and that a revised Species Action Plan will be implemented for the benefit of the species.

3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

This project is furthering knowledge of steppe ecosystems, a relatively poorly studied habitat, and we are developing links with other organisations to liaise over future conservation research and management. In particular, we are liaising with a project that is aiming to develop a large protected area that will benefit the endangered Saiga Antelope and other steppe species, including Sociable Lapwing. The research results from our project and the skills that are being acquired by ACBK staff will be important in developing future conservation initiatives in Kazakhstan.

4. Monitoring, evaluation and lessons

Our work to date has emphasised the research component of the project. Very little is known about Sociable Lapwing ecology and a clear understanding of this is required prior to the

development of mechanisms to improve the status of the species. We have made substantial progress with understanding the requirements of Sociable Lapwings and will be in a strong position by the end of year two of the project to develop effective conservation measures. This will be ably demonstrated by the preparation of a series of peer-reviewed publications in the next 12-18 months.

Within country capacity has been enhanced in the first year of the project. M Koshkin has been awarded the Marsh Award for Conservation (March 2007), as well as receiving a fully funded internship to attend the Student Conservation Conference at Cambridge University.

5. Actions taken in response to previous reviews (if applicable)

Not applicable

6. Other comments on progress not covered elsewhere

The results from the first year of this project (and combined with the pilot work from 2005) suggest that the possible causes of the population decline may be associated with the migration routes and/or wintering grounds. Thus we may have to refocus some of our planned research work away from the breeding grounds and undertake more survey work in other range states. This is not an insurmountable problem and we are already planning to undertake a new direction for some of our work. We will be trialing the use of satellite technology and the use of dataloggers to learn more about the movements of Sociable Lapwing outside of the breeding areas. We are already co-operating with existing project partners, and possible new ones, to enhance the quantity and quality of the work undertaken in other range states.

Maxim Koshkin was awarded the Marsh Award for advances made in the understanding of Sociable Lapwing *Vanellus gregarius* distribution, breeding ecology and conservation. Mr Koshkin received the prestigious award at a special ceremony at the BirdLife Secretariat office (UK) in late March 2007.

Whilst undertaking Sociable Lapwing fieldwork we (primarily J Kamp) have collected a large amount of data on the breeding biology of the near threatened Black-winged pratincole. This additional work has been presented at two international conferences (see Annex 3) and a peer-reviewed paper is in preparation. These findings will contribute to the work of the Threatened Steppe Waders Working Group and will be vital in the implementation of the International Species Action Plan. This work has enhanced the reputation of ACBK as the leading conservation organisation in Kazakhstan and further contributes to the capacity building underpinning the Sociable Lapwing Darwin funded project.

Members of the Sociable Lapwing project have liaised with Birdlife International to ensure the latest research findings on both Sociable Lapwing and Black-winged Pratincole are incorporated into discussions relating to updates and revisions of the species' conservation status.

7. Sustainability

The profile of the project within the local area where fieldwork is undertaken is very high. Local people benefit from providing fieldworkers with full board accommodation and we ensure that where possible local services are used. Within our study area we ensure that we liaise as much as possible with local villagers and many are showing a keen interest in the work.

More widely in Kazakhstan we have put in a lot of effort to ensure that the key government agencies and departments are updated on our work (see section 8). We will continue and enhance this level of project promotion in the second year through the employment of an advocacy officer.

8. Dissemination

Rob Sheldon and Maxim Koshkin gave a series of joint presentations to key Kazak government departments and agencies in August 2006. In the future these presentations will be undertaken annually by Maxim Koshkin.

The Sociable Lapwing project was officially launched as part of the Queen's birthday celebrations at an event organised by the British Embassy in Astana, Kazakhstan. The event was attended by Maxim Koshkin and Dr Rob Sheldon. At the event the British Ambassador, Paul Brummell, supported the project by taking part in an official press release. The Ambassador also visited project staff in June to see how the project was progressing.

Information about the Sociable Lapwing Darwin project was distributed through the following mass media in Kazakhstan:

Articles in the most popular Kazakhstani newspapers:

1. "Liter" – 21.06.2006
2. "Express K" – 22.06.2006
3. "Kazpravda" – 22.06.2006
4. "1+1" -23.06.2006
5. "Argumenty I fakty" - 28.06.2006
6. "Express K"-14.02.2007
7. "Info-tses" – 23.03.2007

Articles posted on web sites:

1. www.caresd.net (13.04.2007)
2. www.inform.kz (20.06.2006)
3. www.ecoport.ru (13.03.2007)

Interviews given by members of the project team to radio stations:

1. Kazakhskoje radio
2. Kazakh service of Radio Free Europe/Radio Liberty
3. Radio Free Europe/Radio Liberty

News articles mentioned on the following Kazakhstani TV Channels:

1. Astana TV

2. Era TV

9. .

10. 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 ECTF and the Darwin Secretariat to publish the content of this section](#)

Significant advances have been made in the first year of this project in relation to understanding the breeding biology of this species and thus on the future development of conservation measures that will lead to the reversal of the population decline. Survey work has identified populations that have previously not been surveyed and quantified. This will contribute to a clearer understanding of breeding population size and distribution within Kazakhstan. In addition, collaboration with Russian colleagues has led to improved knowledge of the status and distribution within the only other country in which the species is known to breed. The collation of historical sightings throughout the species' range has led to increased collaboration between key partners, and will enhance the ability to the project team to develop effective targeted surveys on the wintering grounds and migration routes.

Capacity building within Kazakhstan is progressing well, with key personnel from ACBK (Kazakhstan partner) responding well to the experiential and direct training that the project has offered to date. A key indicator of this success is Maxim Koshkin being awarded the Marsh Award for conservation in March 2007. A greater proportion of the fieldwork and preparation is now being undertaken by Kazakh researchers which again highlights the success in one of the key aspects of the Darwin project – capacity building.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<p>Goal: <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><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>			(do not fill not applicable)
<p>Purpose</p> <p>To develop effective mechanisms and capacity to improve the conservation status of the critically endangered Sociable Lapwing</p>	<p>Species' conservation status clarified by end of year 3.</p> <p>Targets to reverse decline agreed by key decision makers through adoption of revised Species Action Plan by end of year 3.</p>		
<p>Output 1.</p> <p>Causes of decline of Sociable Lapwing identified</p>	<p>Demographic mechanisms and causal processes demonstrated</p>		
<p>Activity 1.1</p> <p>Undertake field-based research in Kazakhstan to estimate productivity and survival and their correlates</p>			<p>167 nests located and monitored to determine survival rates and causes of nest loss. 375 individuals colour ringed to determine chick and adult survival. A variety of correlates quantified to enable future analysis to determine correlates of nest survival. Currently the return rate of colour-ringed birds appears to be low suggesting that the explanations behind</p>

		<p>the population decline may be linked to the wintering grounds and/or migration routes.</p> <p>Work will continue in 2007 to further quantify nest and chick survival. Sightings of colour ringed birds will enable a quantification of first year and adult survival. By the end of this field season we should have a clearer understanding of the demographic parameters underlying the population decline in Sociable Lapwing</p>
<p>Activity 1.2 Research on grazing systems</p>		<p>Developed and tested the use of GPS collars to determine grazing patterns of livestock which proved successful.</p> <p>In 2007 intensive monitoring of livestock grazing patterns will be undertaken and the impacts on Sociable Lapwing habitat and nest survival will be clarified.</p>
<p>Output 2. Breeding and wintering populations and distribution estimated and migratory routes clarified</p>	<p>Population estimates and range maps based on accepted scientific methods available by end of project</p>	
<p>Activity 2.1 Surveys of wintering populations</p>		<p>Surveys were supported financially in Syria and south-west Russia, and the project collaborated with other survey teams in Azerbaijan and Turkey. Sightings of large numbers of birds, suggests there are other significant breeding colonies to be located.</p> <p>For 2007/08 we plan to test the use of dataloggers and satellite tags to determine migration routes, key stop-over sites and also site fidelity.</p>
<p>Activity 2.2 Collation of historical records</p>		<p>Excellent progress has been made in collating historical records. For most countries we are satisfied that we have the majority of records. A draft paper has been prepared but will need some alteration when we collate the final records.</p> <p>In 2007 we plan to complete the gaps in our knowledge and expect to</p>

		submit a paper within the next 6 months.
Output 3. Conservation solutions identified and tested	Conditions for Sociable Lapwing improve demonstrably where recommended measures are implemented	
Activity 3.1. Identify, test and advocate research-based solutions		Initially it was suspected that problems on the breeding grounds, probably linked to grazing, were the main causes of the population decline. However, our results to date suggest that this may not be the case as both nest and chick survival is high. Thus we are currently not advocating or testing any conservation solutions for the breeding grounds. However, continued research into grazing patterns may aid us in the future. In 2007/08 we will increase the amount of work away from the breeding grounds to determine likely causes explaining the population decline, eg changes in habitat quality, impacts of hunting etc. We envisage that the use of satellite tracking will give us a clear understanding of the migration routes to allow conservation measures to be devised with project partners.
Output 4. Capacity of key partners for research and conservation management increased	Proportion of research undertaken by partners increases through the life of the project, and strategies for future research developed by partners	
Activity 4.1 Run training workshops		Fifteen students attended a training workshop led by Dr Paul Donald (RSPB) in spring 2006. From this workshop two students were recruited to work on the Sociable Lapwing project. A follow-up workshop is planned before the end of the project
Activity 4.2		The project leader (Dr Rob Sheldon) provided intensive experiential training and advice for a 3-month period (April – July) to M Koshkin and two Kazakh students. M Koshkin spent 5 weeks based at the RSPBs UK

Provide expert training and advice throughout		headquarters developing a variety of skills including report writing and presentational skills. A number of the project team attended conferences in Sweden and Russia and presented preliminary results. This continued training will be a fundamental part of the project for the next two years.
Output 5. Capacity of key partners for conservation advocacy established	Partners working with key decision makers to implement species action plans. Advocacy strategy prepared.	
Activity 5.1 Appoint and train staff		It is planned to appoint an advocacy officer in the latter part of 2007.
Output 6. System for monitoring impact of conservation actions developed	Appropriate monitoring protocol developed and tested	
Activity 6.1. Identify, test and advocate research-based solutions		See output 3 above.
Output 7. International Species Action Plan (SAP) revised and national plans published in key states	SAP meetings held and plans published and accepted	
Activity 7.1. Update International Species Action Plan, and develop national action plans		The project has been liaising with the Threatened Steppe Waders Project Officer (appointed by AEWA Secretariat). Based on the results of the research work in 2007 we will look at how best to revise and develop Species Action Plans

<p>Output 8. Resources for key partners to continue activities listed in the revised SAP are being sought before end of project</p>	<p>Project proposals submitted to potential funding bodies</p>	<p>Not applicable in first year of the project.</p>
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Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> • the conservation of biological diversity, • the sustainable use of its components, and • the fair and equitable sharing of benefits arising out of the utilisation of genetic resources 			
<p>Purpose</p> <p>To develop effective mechanisms and capacity to improve the conservation status of the critically endangered Sociable Lapwing</p>	<p>Species' conservation status clarified by end of year 3</p> <p>Targets to reverse decline agreed by key decision makers through adoption of a revised Species Action Plan by end of year 3</p>	<p>BirdLife/IUCN reports</p> <p>Species Action Plan agreed by key range states and approved by the AEWA Meeting of the Parties</p>	<p>Species does not become extinct before conservation measures can be implemented</p>

<p>Outputs</p> <p>0. Project management and steering structures developed</p> <p>1. Causes of decline of Sociable Lapwing identified</p> <p>2. Breeding and wintering populations and distribution estimated and migratory routes clarified</p> <p>3. Conservation solutions identified and tested</p>	<p>0. Project steering group established and monitored</p> <p>1. Demographic mechanisms and causal processes demonstrated</p> <p>2. Population estimates and range maps based on accepted scientific methods available by end of project</p> <p>3. Conditions for SL improve demonstrably where recommended measures are implemented</p>	<p>0. Steering group minutes, web site</p> <p>1. Three scientific papers, articles, reports</p> <p>2. Three scientific papers, reports, web site</p> <p>3. One scientific paper, reports, national and international species action plans</p>	<p>Political stability and security in range states does not preclude research there</p> <p>Cause of decline is reversible</p>
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<p>4.Capacity of key partners for research and conservation management increased</p>	<p>4.Proportion of research undertaken by partners increases through life of project; strategies for future research developed by partners</p>	<p>4.Progress reports, work plans, research strategy documents, two workshop reports</p>	
<p>5.Capacity of key partners for conservation advocacy established</p>	<p>5.Partners working with key decision makers to implement species action plans; advocacy strategy prepared</p>	<p>5.Minutes of meetings, Government documents; advocacy strategy documents, one workshop report</p>	
<p>6.System for monitoring impact of conservation actions developed</p> <p>7.International Species Action Plan (SAP) revised and national plans published in key states</p>	<p>6.Appropriate monitoring protocol developed and tested</p> <p>7. SAP meetings held and plans published and adopted</p>	<p>6.One scientific paper, progress reports</p> <p>7.Workshop reports, SAP documents</p>	
<p><u>8. Resources for key partners to continue activities listed in the revised SAP are being sought before end of project</u></p>	<p>8. Project proposals submitted to potential funding bodies</p>	<p>8. Project proposal documents</p>	<p>N.B this is a new output</p>

Annex 3 onwards – supplementary material.

Articles published in Kazakhstani and Russian ornithological bulletins:-

Koshkin, M. A. (2006). 'Sociable Lapwing' project. ACBK news: 4. (Kazakhstan)

Koshkin, M. A., et al (2006). "Short review of the field work 2004-2005 in the frames of the Sociable Lapwing Project." Information materials of Wader Working Group (19): 29-30.(Russia)

Khrokov, V. V., et all (2006). "Sightings of Sociable Lapwing in Eastern Kazakhstan." Kazakhstan Ornithological Bulletin,2005: 175. (Kazakhstan)

Khrokov, V. V., et all (2006). "8 eggs in Sociable Lapwing nest." Kazakhstan Ornithological Bulletin,2005: 175-176. (Kazakhstan)

Khrokov, V. V., et all (2006). "Expeditions on survey of the Sociable Lapwing historical breeding sites." Kazakhstan Ornithological Bulletin,2005: 173-174. (Kazakhstan)

Khrokov, V. V., et all (2006). Sociable Lapwing – the bird of 2006. Ecopravda -Kazakhstan.

Photograph 1. (From left to right) Sergei Skylarenko, Paul Brummell (British Ambassador to Kazakhstan) and Maxim Koshkin (Sociable Lapwing project officer) at the launch of the two Kazakhstan Darwin projects (June 2006).



Photograph 2. More than twenty representatives of the national and local press were present at the launch of the Darwin projects (June 2006).



Figure 1. Map of the historical sightings of Sociable Lapwings collated by the Sociable Lapwing team in collaboration with project partners (refer to project output 2).

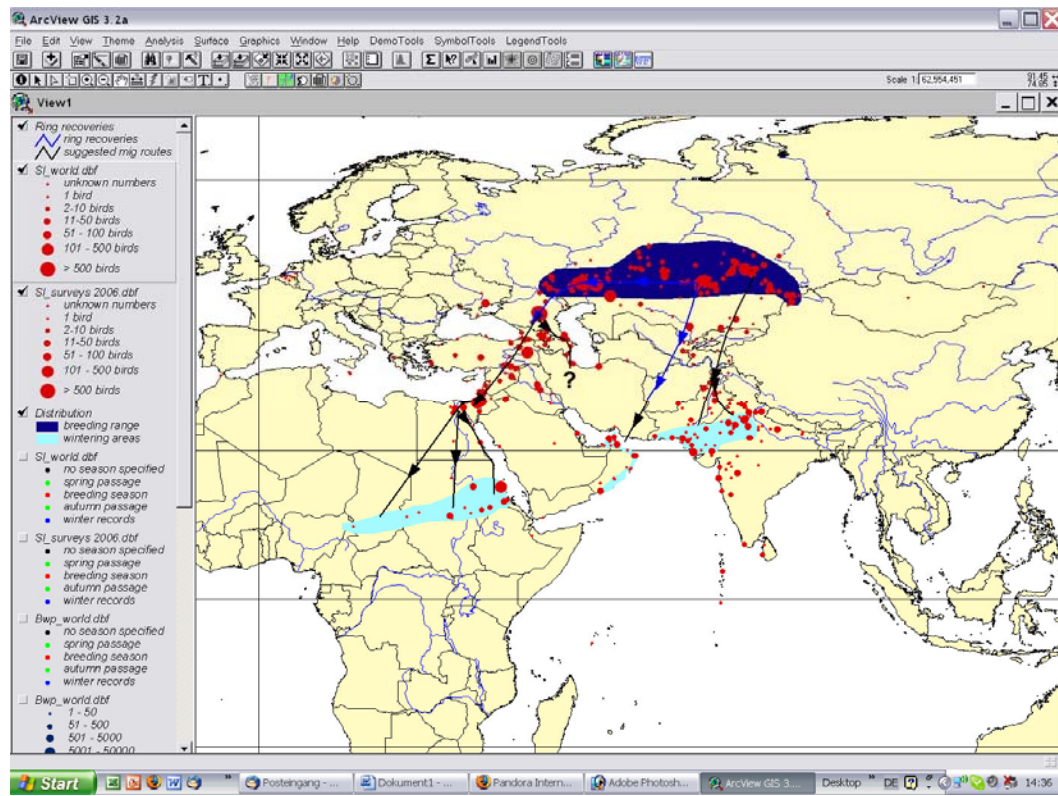
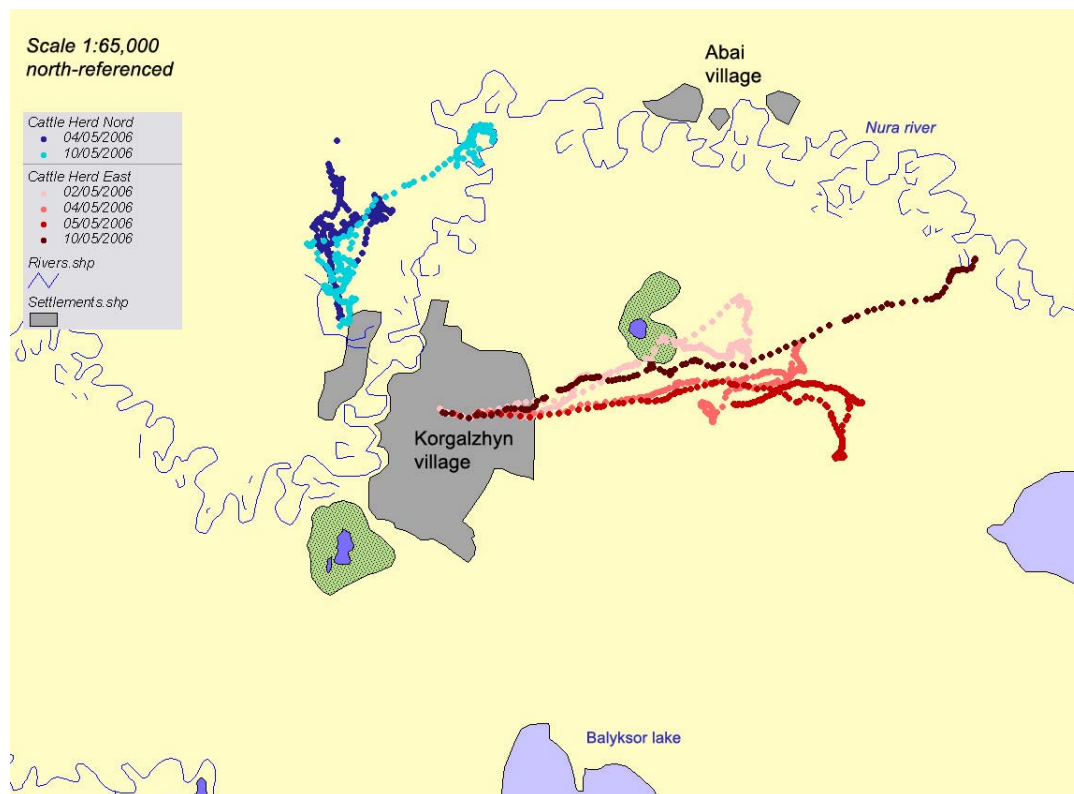


Figure 2. Daily grazing patterns of individual cattle using GPS units fitted with data loggers. Trials were undertaken in 2006 and will be expanded in 2007 to investigate the seasonal patterns of grazing and how this may impact on Sociable Lapwing habitat and nesting success (refer to project output 1).



Photograph 3. Maxim Koshkin and Natasha Kucheryavaya receiving training on colour-ringing and taking biometrics of adult Sociable Lapwings (May 2006) (refer to project output 4).



Photograph 4. Re-sighting colour-ringed birds is vital to assess adult survival rates (refer to project output 1)



Posters presented at the International Wader Study Group conference in Sweden (refer to project outputs 1,2 & 4).



Preliminary surveys of Chagraiskoje Reservoir, south-west Russian Federation, for Sociable Lapwing *Vanellus gregarius*

R Field¹, J Gordon², M Koshkin³, K Field¹, O Gordon², N Kucheryavaya³, V Fedosov¹, L Malovichko⁴

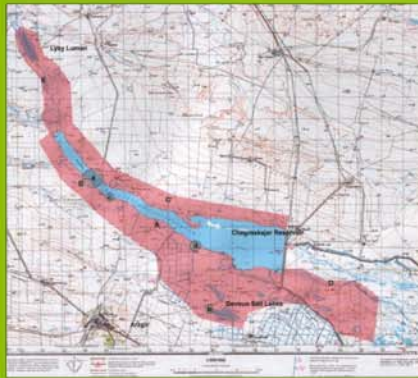
1. Introduction

The known recent breeding range of the Sociable Lapwing (*Vanellus gregarius*) is confined to Kazakhstan and parts of south-central Russia. Its population has undergone a significant and rapid decline in the 20th Century. The most recent population estimate has suggested that the breeding population is as low as 200-600 breeding pairs (AEWA 2004). Consequently, the species is categorised as Critically Endangered according to the IUCN Red List. The reasons for this decline are largely unknown, although low breeding success has been observed in central Kazakhstan (Watson *et al.* 2006). However, continued research in the same area suggests that breeding success is high and the population decline may be due to factors away from the breeding grounds (R. Sheldon, pers. comm.).

Sociable Lapwings are migratory, and winter, or migrate through, northern India, north-east Africa and The Middle East. However, there is little knowledge of current migration stop-over areas of this species, nor of its recent wintering areas. In September 2005 approximately 600 Sociable Lapwing were observed near Dovsun salt lakes in the north-eastern Stavropol region of Russia. This count is the largest single count of Sociable Lapwing in recent years and could represent a significant proportion of the world population of the species.



Figure 1. Survey areas around Chagraiskoje Reservoir, Stavropol Region, Russian Federation, September 2006



2. Survey area and methods

From 1st to 16th September 2006, areas around Chagraiskoje Reservoir and Dovsun salt lakes in Stavropol region, north and east of the village of Arzgir (45° 22' N, 44° 15' E), Russian Federation, were surveyed for the presence of Sociable Lapwing. Initial surveys (1-9 September) were concentrated in the region of Dovsun salt lakes and the south-eastern shore of Chagraiskoje Reservoir (Fig 1 area A), since this was the area of the most recent sightings. Thereafter, the search area was broadened to include the north-western end (Fig 1 area B) and northern shore (Fig 1 area C) of Chagraiskoje, and areas to the south-east of the reservoir (Fig 1 area D), and to the north-west, around Lysy Laman (Fig 1 area E). Searching concentrated on littoral areas of the reservoir and wetlands, and areas of *Artemisia* steppe grassland surrounding these water bodies. Research work on the breeding grounds in central Kazakhstan has resulted in the colour-ringing of more than 600 adult and nestling Sociable Lapwing and systematic observations were made of all Sociable Lapwing found in the Chagraiskoje area to determine the ratio of ringed to un-ringed birds.

3. Results

The highest daily count recorded 236 individuals, with a total of 1013 Sociable Lapwing recorded over 16 days of the survey. As birds seen on different days could be re-sightings of the same individuals, the minimum number of birds seen is taken as 236 and the maximum as 1013 individuals. The majority of sightings (Table 1) were concentrated in two areas, the north-western end of Chagraiskoje Reservoir (fresh water) (Fig 1 a), and the western end of the southern, larger Dovsun Lake (saline) (Fig 1 b). These birds were found to be roosting with mixed flocks of several other species, mainly Northern Lapwing (*V. vanellus*), Ruff (*Philomachus pugnax*) and Black-winged Pratincoles (*Glareola nordmanni*). The largest groups (maximum single flock size of 228 on 9th September) were found at the north-western end of the reservoir, on extensive mudflats, close to the water's edge. Prolonged observations (mainly at the Dovsun site) suggest that these sites are used mainly for roosting, as Sociable Lapwing (along with most other birds) were absent from these sites in the morning and evening. Few Sociable Lapwing or Northern Lapwing were observed feeding at these roost sites, and it seems likely that both these species are feeding at sites away from wetland roost areas, possibly at night on sheep-grazed *Artemisia* steppe and agricultural fields being prepared for autumn cereal planting. Indeed, the only observations of Sociable Lapwing feeding made during this survey were of three birds with two Northern Lapwing, feeding on sheep-grazed sparse *Artemisia* steppe (Fig 1 d), and three Sociable Lapwing with Northern Lapwings, feeding on a recently ploughed field (10km west of Lysy Laman). A small number of Sociable Lapwings were sighted at other littoral sites on the southern shore of Chagraiskoje Reservoir (Fig 1 c & e). These birds were also roosting in association with flocks of Northern Lapwing. All roost sites found were typified by extensive mudflats adjacent to water (either freshwater bodies, or where on salt lakes, near to a source of fresh water), backed by *Artemisia* steppe. Areas where water bodies were fringed by *Phragmites* reed-bed were avoided, unless they were buffered by large areas of mud (>200m).

Areas C, E and D were found to comprise of largely unsuitable littoral habitat, being either: relatively deepwater, closely fringed by *Phragmites* reed-bed; or tall, dense, *Artemisia* stands.

We were able to check a high proportion of Sociable Lapwings seen for colour-rings (Table 1), and two of the 849 checked were found to be ringed. These two individuals were both first year birds, ringed in central Kazakhstan in June 2006 (R. Sheldon, pers. comm.).

Table 1. Numbers of Sociable Lapwing found during surveys of Chagraiskoje Reservoir and Dovsun Salt Lakes, Russia, in September 2006. As birds seen on different days could be re-sightings of the same individuals, the minimum number of birds seen is taken as 236 and the maximum as 1013 individuals.

Date	No. of Sociable Lapwing seen	No. checked for colour rings	No. colour ringed
1 st Sept	13	13	0
2 nd Sept	22	22	0
3 rd Sept	10	10	0
5 th Sept	5	5	0
6 th Sept	15	0	0
7 th Sept	3	3	0
8 th Sept	2	2	0
9 th Sept	236	236	2
10 th Sept	8	8	0
11 th Sept	105	105	0
12 th Sept	222	209	0
13 th Sept	178	150	0
14 th Sept	44	44	0
15 th Sept	150	42	0
16 th Sept	0	0	0
TOTAL	1013	849	2

4. Discussion and conclusions

> The temporal and spatial distribution of Sociable Lapwings in the survey area, and in the wider area between the Black and Caspian Seas during autumn migration remains relatively unknown, but it is clear that the Chagraiskoje Reservoir area is an important staging area for this species.

> Sociable Lapwing passing through the survey area appear to be associated with open, muddy littoral areas, with access to fresh water when at daytime roosts. They appear to feed away from these roosts, at night, possibly on arable fields or *Artemisia* steppe. In both situations, they are associated with Northern Lapwings.

> It is possible to estimate the number of individuals using the area as between a minimum of 236 (largest single day count) and a maximum of 1013 (total of all daily sightings, assuming that each bird remained at the site for one day). Even with this degree of uncertainty this area seems to hold a significant proportion of the world population of Sociable Lapwing during the migration period, based on the latest population estimates available.

> Sociable Lapwing breeding in central Kazakhstan migrate through this area, based on the presence of the two colour-ringed individuals seen. The large number of un-ringed birds suggests that there are additional breeding colonies away from the current research area in central Kazakhstan (R. Sheldon, pers. comm.).

5. Further work

> Broaden the temporal and spatial scale of survey, to ascertain the numbers of Sociable Lapwing passing through, the time-scale of passage, and the length of stay of individuals.

> Quantify for the first time the relative importance of different feeding habitats during migration, and their vulnerability to human influence (particularly agricultural usage and hunting)

> Assess the relative abundance and proportion of colour-ringed birds.

Acknowledgements

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References

AEWA 2004. International Single Species Action Plan for the Conservation of the Sociable Lapwing, AEWA, Technical Series No. 2.

BirdLife International 2001. *Threatened Birds of Asia: the BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.

Watson, M., Wilson, J.M., Koshkin, M., Sberbakov, R., Karpov, F., Gavrilov, A., Schietzsch, H., Brombacher, M., Collar, N.J. & Creswell, W. 2006. Nest survival and productivity of the critically endangered Sociable Lapwing *Vanellus gregarius*. *Ibis*, 148 (2), 489-502.

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Revising the breeding population estimate and distribution of the Critically Endangered Sociable Lapwing *Vanellus gregarius*

RD Sheldon¹, KV Grishina², J Kamp³, VV Khrokov⁴, A Knight¹, & MA Koshkin¹

1. Introduction

The breeding population of Sociable Lapwing, *Vanellus gregarius* is believed to be concentrated in Kazakhstan with small populations in south-central Russia. According to published data the population underwent a significant and rapid decline in the second half of the 20th Century. Population size was estimated at not more than 10,000 birds in the early 1990s (Collar *et al.* 1994; Tucker & Heath 1994). A few years later the population had declined to not more than 1000 breeding pairs (BirdLife International 2001), and recent estimates suggested that the total breeding population is as low as 200-600 breeding pairs (AEWA 2004). Consequently, the species is categorised as Critically Endangered according to the IUCN Red List. However, population estimates to date are largely based on expert opinion rather than field-based surveys.

As part of a large collaborative research project, we are planning an ambitious survey programme to quantify the breeding population in a large part of the species' breeding range.

2. Methods

> Intensive autecological research commenced on the breeding biology of the Sociable Lapwing in central Kazakhstan in 2004. The area east of Lake Tengiz near Korgalzhyn, Akmolinskaya oblast' (50°35'N, 70°01'E), has been intensively surveyed for breeding Sociable Lapwing and the number of nests determined. A core area has been surveyed for three consecutive years, and additionally in 2006, the survey area was increased. Nesting colonies were visited every 3-10 days. Sociable Lapwing re-nest after clutch failure and thus the number of nests may over-estimate the actual population size. We account for this by assuming 1.4 nesting attempts are made per female (Watson *et al.* 2006).

> In addition to the intensive survey work, we undertook a number of rapid surveys to identify the presence of breeding birds in the Pavlodar, Kostanai, Astana, Zheskhasgan and Kharagandy regions, for which there are previous historical breeding records. These surveys involved one visit to suitable habitat, usually in proximity to villages or livestock breeding stations. The presence, and number of, breeding Sociable Lapwing were recorded.



Figure 1. Areas surveyed during 2006 for evidence of breeding Sociable Lapwing. The coloured filled circles represent each village surveyed. The approximate breeding range (after Dolgushin 1962) is shown by the brown outline. Arrows indicate locations reported to the authors of colonies in 2005.

Left. Typical breeding habitat of Sociable Lapwing.



3. Results

> In 2006, in the core study area around Korgalzhyn, we located 123 nests (88 pairs) in 12 villages at an average number of 10.3 nests (7.3 pairs) per village. In the expanded study area we located a further 45 nests (32 pairs).

> During the rapid surveys of Pavlodar, Kostanai, Astana, Zheskhasgan and Kharagandy regions we recorded 221 individuals from 219 villages surveyed (Table 1, Figure 1). We try to correct for the difference in survey effort by adjusting the population estimate according to the mean colony size determined from the intensively studied area. Thus, the number of occupied villages in each survey is multiplied by 7.3 (mean number of pairs per village) (Table 1).

> Combining the number of pairs from both the intensive survey area and using corrected values from the rapid survey areas we suggest that the number of breeding pairs of Sociable Lapwing recorded by our survey teams in 2006 was 376 pairs.

4. Discussion

> The historical breeding range of Sociable Lapwing covers an area of approximately 2,168,000km² (Dolgushin 1962) of which we surveyed no more than 145,238km² (or 6.7%). If we assume an equal breeding density across the distribution area, we estimate a breeding population of 5612 pairs, suggesting the current estimate of 200-600 breeding pairs to be too low. However, further work is required in future years to test the assumptions we have made and to refine our population estimate.

> Habitat availability does not appear to be a limiting factor for Sociable Lapwing, at least in central Kazakhstan, and it is likely that in many areas the amount of habitat has actually increased since the 1990s (Kamp *et al.* *In prep.*)

> As part of the autecological work, we had colour-ringed over 600 individuals by July 2006. However, during a survey of post-breeding flocks in July and August 2006 in the core study area we observed several large flocks of up to 273 individuals with no colour-ringed birds. Additionally, surveys of a known staging post in south-west Russia located up to 1000 birds with only 2 colour-ringed individuals seen. Both these observations would suggest that many more breeding populations await discovery.

Table 1. Number of Sociable Lapwing recorded in 2006 during rapid surveys of previously known breeding areas in Kazakhstan. The number of pairs has been corrected using 7.3pairs per occupied village.

Survey areas	Total birds	Number of females	Number villages surveyed	Number of occupied villages	Number of pairs (corrected)
Pavlodar	116	39	142	19	138
Kostanai	50	21	31	7	51
Zheskhasgan and Kharagandy	45	22	39	6	44
Astana	10	10	7	3	22
TOTAL	221	92	219	35	256

Right. Colour-ringed Sociable Lapwing.



5. Future plans

• During the next 2 years we aim to undertake surveys in other parts of the species' known range, particularly in the east and far west of Kazakhstan

• Russia is the only other country that is known to hold breeding Sociable Lapwing and we intend to collaborate with Russian ornithologists to undertake surveys in previously occupied areas.

• We aim to develop and test predictive models of population and distribution based on detailed studies of habitat preferences of breeding Sociable Lapwing.

References

AEWA 2004. *International Single Species Action Plan for the Conservation of the Sociable Lapwing*. AEWA, Technical Series No. 2.

BirdLife International 2001. *Threatened Birds of Asia: the BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.

Collar, N.J., Crosby, M.J. & Stattersfield, A.J. 1994. *Birds in Crisis: the World List of Threatened Birds*. BirdLife International, Cambridge, UK (BirdLife Conservation Series 4).

Dolgushin, I.A. 1962. *The birds of Kazakhstan*. Academy of Sciences of the Kazakh SSR, Alma-Ata. (In Russian.)

Tucker, G.M. & Heath, M.F. 1994. *Birds in Europe: their Conservation Status*. BirdLife International, Cambridge, UK (BirdLife Conservation Series 3).

Watson, M., Wilson, J.M., Koshkin, M., Sherbakov, R., Karpov, F., Gavrilov, A., Schielzeth, H., Brennbacher, M., Collar, N.J. & Crosswell, W. 2006. Nest survival and productivity of the critically endangered Sociable Lapwing *Vanellus gregarius*. *Ibis*, 148 (3), 489-502.

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Population size and habitat use of the Black-winged Pratincole *Glareola nordmanni* in Central Kazakhstan

Johannes Kamp¹, Maxim A. Koshkin² & Robert D. Sheldon³

Introduction

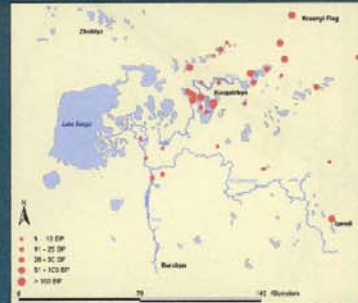
The breeding population of the Black-winged Pratincole (*Glareola nordmanni*) is endemic to the Eurasian steppe biome. The species has been up-listed to 'Near Threatened' in the world Red Data book (IUCN update 2006) due to a historical and recently accelerating population decline and local extinction in its European breeding areas – most of the world population is now concentrated in Asian Southern Russia and Kazakhstan. However, quantitative data on population numbers and breeding success are limited. The Species Action Plan (Belik & Lebedeva 2004) stresses an urgent need for sound research on the species' ecology and population dynamics. We collected quantitative data on Black-winged Pratincole abundance, breeding biology and habitat use. Our results might serve as a basis for broader, conservation-orientated research on this charismatic wader species.

Material & Methods

Our study area is situated in the Akmolinskaya oblast' in Central Kazakhstan east of Lake Tengiz between 49°40'-51°00'N and 68°35'-71°15' E. Study area size is 31,500 km². We surveyed approximately 80% of the area exhaustively between 24th April and 31st July 2006. A colony was identified, when alarming adults were observed. In most occasions, breeding was confirmed later, when nests were found and chicks were observed. To approximate the number of breeding pairs per colony, we simply divided the number of adults by two. Breeding success was estimated by dividing the number of fledged chicks by the number of breeding pairs within each colony. To roughly characterise habitat use, we classified terrestrial habitat types in our study area as feather grass-*Stipa*-steppe, short grass *Artemisia-Festuca* steppe, *Salicornia*-dominated solonchaks, muddy lakeshores, sedge and *Phragmites* reeds, fallow fields older than five years, fallow fields younger than five years, hay meadows and agriculturally used fields. Furthermore, we recorded vegetation height, presence of livestock, distance to the nearest settlement and distance to the next water body at each colony.



Above and right: Location of the study area in Central Kazakhstan and distribution of 65 Pratincole colonies across the study area.



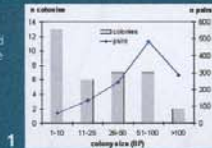
Below (from left to right): Typical Solonchak (salt pan) breeding habitat with *Salicornia* sward and cattle hoofprints, incubated nest, ca. two weeks old chick (photos J. Kamp), adult BW Pratincole (photo M. A. Koshkin). All pictures from the study area, June 2006.



Results

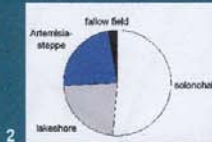
Population density and breeding success

We recorded a total of 1,207 breeding pairs in 35 colonies throughout our study area. Given the fact that only about 80% of the area was covered exhaustively and we therefore certainly overlooked colonies, we estimate a minimum population size of 1,500 pairs in the study area. This suggests a large scale population density of 3.8 (survey count) to 4.7 (estimate) breeding pairs per 10 km². Mean colony size was 34.5 (SE±6.37) pairs (n=35 colonies), ranging from two to 180 (Fig. 1). Breeding success was high with a mean of 1.27 (SE±0.15) fledged juv./pair, ranging from 0.32 to 1.78 (n=5 colonies).



Habitat use

18 colonies (51%) were situated at 'solonchaks', dry saltpans with sparse to dense vegetation cover consisting mainly of *Salicornia europaea*, *Atriplex verruciferae* and *cana*. Eight colonies (23%) were found at shores of slightly saline and freshwater lakes, all situated in *Salicornia europaea* swards. Strongly grazed, herb-rich steppe dominated by *Artemisia* ssp. and *Festuca sulcata* provided suitable breeding habitat for further eight colonies (23%). Exceptionally, one colony of 90 pairs was located in a fallow field grazed by horses (Fig. 2). At 32 colonies (91%), frequent livestock presence could be detected by direct observations or the presence of fresh hoof prints and dung piles. In all cases, cow and sheep herds were involved, at a minimum of 18 colonies (50%) larger horse herds were present. Mean colony distance to nearest human settlement was 3,191 m (SE±492.36) ranging from 512 to 11,600 m (Fig. 3). Mean colony distance to water was 351 m (SE±55.75) ranging from 21 to 1,252 m (Fig. 4). Mean vegetation height at colony was 37 (SE±2.69) mm ranging from 7 to 72 mm.



Discussion

We estimate that 1,500 breeding pairs were present in our study area, representing approximately 1% of the species' known breeding range. There are no hints that habitat availability and population density differ much in other areas across the distribution range in Kazakhstan (E.A. Bragin, K. Grishina and A. Knight pers. comm. 2006). Thus, we suggest the current world population estimates for the Black-winged Pratincole of 10 – 15,000 pairs (Belik & Lebedeva 2004) are an underestimate. Breeding success appears to be high although this needs to be confirmed by data from more than one breeding season. This high productivity contrasts with information from the Species Action Plan (Belik & Lebedeva 2004) where nest failure was estimated as 60–100% in many populations. The number of chicks produced per pair suggests that in this population, and in this year, breeding success may not be the driving factor behind Black-winged Pratincole population declines. The results of our habitat parameter recordings quantify general statements concerning habitat use (e.g. Dolgushin 1962) for the first time. The preference for short vegetation and saline solonchaks has been described before. Our distance values strongly suggest that the availability of permanent water features is an important factor for colony location. The large proportion of colonies in distances within 4 km of settlements suggest that livestock presence may be an important factor driving nest-site selection. However, in solonchaks, *Salicornia* sward height is more linked with hydrological conditions than with grazing pressure. Further surveys across the breeding area and in the wintering grounds are necessary to get realistic population estimates. To address the reasons of possible declines, further research on breeding ecology is urgently required.

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References:

Belik W., Lebedeva E.A. (eds., 2004). International single species action plan for the conservation of the Black-winged Pratincole *Glareola nordmanni*. AZVIA - Technical series, report No. 4.
Dolgushin I.A. (1962). [The birds of Kazakhstan]. Academy of Sciences of the Kazakh SSR, Alma-Ata. (In Russian.)

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The Chagraiskoje Reservoir area of Stavropol Region, SW Russia, harbours significant numbers of migrating Sociable Lapwing *Vanellus gregarius*

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Keywords: Sociable Lapwing, *Vanellus gregarius*, population size, migration, Stavropol Region Russia.

We report the findings of a preliminary survey of Chagraiskoje Reservoir in Stavropol Region, SW Russian Federation, for the critically endangered Sociable Lapwing. This area has historically harboured large numbers of this species on autumn passage, and our findings suggest that it is still important as a staging habitat for the species. We found significant numbers of Sociable Lapwing in the context of the most recent population estimates, including colour-ringed birds from the breeding grounds in central Kazakhstan. However, the majority of birds seen were not colour-marked, and we speculate on their origins. We discuss threats to this species, the habitat provided by the reservoir, and other species using the area (some present in internationally important numbers) and suggest further studies necessary to elucidate further the role of this currently unprotected area in sustaining Sociable Lapwings on passage.

INTRODUCTION

The known recent breeding range of the Sociable Lapwing *Vanellus gregarius* is confined to Kazakhstan and parts of south-central Russia. Its population has undergone at least two periods of significant and rapid decline in the 20th Century. The second, in the last two decades, has been particularly precipitous. The most recent population estimate has suggested that the remaining breeding population numbers as few as 200-600 pairs (AEWA 2004). Consequently, the species is categorised as critically endangered according to the IUCN Red List (Birdlife International 2004). The reasons for this decline are largely unknown, although several hypotheses have been proposed. Land use change and abandonment, changing weather patterns, and increased predation may all have contributed to changes in habitat suitability and breeding success. Sociable Lapwings are migratory and winter in N India, NE Africa and the Middle East. Changes on these migratory routes and/or wintering grounds could be reducing annual survival rates. There is no evidence to suggest that the species is widely hunted (AEWA 2004), though this cannot be discounted in parts of the passage and wintering range for which little recent information is available.

To understand the reasons behind the sharp population decline a conservation project including partner organisations from across the species' range was instigated in 2005 (Sheldon *et al.* 2005).

On 10 and 11 Sep 2005, two of us (LM and VF) observed a flock of about 600 Sociable Lapwings near Dovsun salt lakes, in NE Stavropol region, Russia. There are other records of large autumn flocks of Sociable Lapwings from this area in recent years; for example, there was a flock of over 130 in the

vicinity of Lysy Luman, (on the border of Stavropol and Kalmykia regions) (see Fig. 1 below) in Sep 1999 (Shubin *et al.* 2000). Moreover the area around and to the west of Chagraiskoje has historically held passage birds in high numbers (V. Fedosov, unpublished information, Kazakov *et al.* 1981, Khokhlov 1987, R. Sheldon, unpublished data).

Since these recent observations represent a large proportion of the species' estimated current population, further investigation was instigated, leading to the survey reported here. Knowledge of the origins and numbers of Sociable Lapwings using the area on migration, whether from the known breeding grounds in Kazakhstan (and therefore colour-ringed, Sheldon *et al.* 2005) or from previously unknown areas, potentially in S Russia, is important both for better assessing the current status of the species and in protecting its habitat.

METHODS

From 1 to 16 Sep 2006, areas around Chagraiskoje Reservoir and Dovsun salt lakes in Stavropol region, north and east of the village of Arzgir (45°22'N, 44°15'E), Russia were surveyed for the presence of Sociable Lapwings. Initial surveys (1-9 Sep) were concentrated in the region of Dovsun salt lakes and the south eastern shore of Chagraiskoje Reservoir (Fig 1, area A), since this was the area of the most recent sightings. Thereafter, the search area was broadened to include the north-western end (Fig. 1, area B) and northern shore (Fig. 1, area C) of Chagraiskoje, and areas to the south east of the reservoir (Fig. 1, area D), and to the northwest, around Lysy Luman (Fig. 1, area E). Searching concentrated on littoral areas of the reservoir and wetlands, and areas of *Artemesia* steppe grassland surrounding these water bodies. Work on the breeding grounds in Kazakhstan has resulted in the colour-ringing of more than 600 Sociable Lapwing adults and chicks (R. Sheldon, pers. comm.) and systematic observations were made of all individuals found in the Chagraiskoje area to determine the ratio of ringed to un-ringed birds.

RESULTS

An aggregate total of 1,013 Sociable Lapwing were counted over the 16 days of the survey. The majority of sightings (Table1) were concentrated in two areas, the north-western end of Chagraiskoje Reservoir (fresh water) (Fig. 1, site A), and the western end of the southern, larger Dovsun Lake (saline) (Fig. 1, site B; Fig 2). These birds were found to be roosting with mixed flocks of several other species, mainly Northern Lapwings *V. vanellus*, Ruffs *Philomachus pugnax* and Black-winged Pratincoles *Glareola nordmanni*. The largest groups (maximum daily count 228 on 9th September, Fig. 3) were found at the north-western end of the reservoir, on extensive mudflats, close to the water's edge (Fig. 2). The only observations made of Sociable Lapwings feeding during this survey were of three birds with two Northern Lapwings feeding on sheep-grazed sparse *Artemesia* steppe (Fig. 1, site D), and three Sociable Lapwings with Northern Lapwings, feeding on a recently ploughed field (10km west of Lysy Luman). A small number of Sociable Lapwings were sighted at other littoral sites on the southern shore of Chagraiskoje Reservoir (Fig. 1, sites C & D). These birds were also roosting in association with flocks of Northern Lapwings. All roost sites found were typified by extensive mudflats adjacent to water (either freshwater bodies, or where on salt lakes, near to a source of fresh water), backed by *Artemesia* steppe. Areas where water bodies were fringed by *Phragmites* reed-beds were avoided, unless they were buffered by large areas of mud (>200m). Areas C, E and D were found to comprise largely unsuitable littoral habitat, being either relatively deepwater closely fringed by *Phragmites* reed-beds, or tall, dense, *Artemesia* stands.

On the last day of the survey, no Sociable Lapwings were found at either of the main roost sites, or anywhere else in the surveyed area. It is possible that the birds present had continued migration before the onset of poor weather experienced the previous evening. Whether this represents the end of the period of Sociable Lapwing passage through this area is not certain, though this was the only day when none were seen at any site.

We were able to check most of the Sociable Lapwings seen for colour-rings (Table 1), and two of the 849 checked were found to be ringed. These two individuals were both first year birds, ringed in central Kazakhstan in June 2006 (R. Sheldon, pers. comm.).

Table 1. Numbers of Sociable Lapwing found during surveys of Chagraiskoje Reservoir and Dovsun Salt Lakes, Russia, in September 2006.

Date	Number of Sociable Lapwings seen	Number checked for colour-rings	Number colour-ringed
1 Sep 2006	13	13	0
2 Sep 2006	22	22	0
3 Sep 2006	10	10	0
5 Sep 2006	5	5	0
6 Sep 2006	15	0	0
7 Sep 2006	3	3	0
8 Sep 2006	2	2	0
9 Sep 2006	236	236	2
10 Sep 2006	8	8	0
11 Sep 2006	105	105	0
12 Sep 2006	222	209	0
13 Sep 2006	178	150	0
14 Sep 2006	44	44	0
15 Sep 2006	150	42	0
16 Sep 2006	0	0	0
Total	1,013	849	2

DISCUSSION

The temporal and spatial distribution of Sociable Lapwings in the survey area, and in the wider area between the Black and Caspian Seas during autumn migration remains relatively unknown, but it is clear that the Chagraiskoje Reservoir area is an important staging area for this species.

The number of individual Sociable Lapwings using the area must have been a minimum of 236 (the largest single day count) and a maximum of 1,013 (total of all daily sightings, assuming that each bird remained at the site for one day). Even with this degree of uncertainty, it seems that this area supports a significant proportion of the world population of the Sociable Lapwing during the migration period, based on the latest population estimates available (i.e. at least a fifth and possibly the whole population).

Sociable Lapwings passing through the survey area appear to be associated with open, muddy littoral areas, with access to fresh water when at daytime roosts. Prolonged observations (mainly at the Dovsun site) suggest that these sites are used principally for roosting, as Sociable Lapwings (along with most other birds) were absent from these sites in the morning and evening. Few Sociable Lapwings or Northern Lapwings were observed feeding at these roost sites, and it seems likely that both species do most of their feeding away from their wetland roosts, probably at night on nearby sheep-grazed *Artemesia* steppe and/or in agricultural fields being prepared for autumn cereal planting, as is known for Northern Lapwings in other regions (Gillings *et al.* 2005). Littoral areas of both freshwater and salt lakes appeared to be avoided by Sociable Lapwings when bounded by tall vegetation (especially stands of *Phragmites*), unless such vegetation is buffered by large areas of open mud. The littoral regions of the

lake at Lysy Luman, to the north of Chagraiskoje reservoir, were thought to be largely unsuitable for the species during our survey because of the presence of large reed-beds, although a large flock of Sociable Lapwings was observed at this site in 1999 (Shubin *et al.* 2000). There are also extensive reed-beds at the northern end of the main reservoir and in the area between Chagraiskoje and Lysy Luman, which are subject to regular management by burning.

Water levels in the lake at Lysy Luman and in Chagraiskoje Reservoir have been falling in recent years (in addition to large seasonal fluctuations) due to lower rainfall and increased irrigation demands for surrounding farmland (V. Fedosov pers. obs.). This may lead to changes in littoral vegetation that may affect the use of the area by Sociable Lapwings. At present, the quantity of available roosting and feeding habitat appears to be extremely large. However, wholesale changes in land management could well affect its continued use as an autumn staging area in future.

Chagraiskoje Reservoir, and the large areas of steppe surrounding it, lies outside the internationally and nationally important and protected Lake Manych-Gudilo 'Ramsar' site and the Chernyje Zemli 'UNESCO Biosphere Reserve', both of which make up the 50,000ha Manych-Gudilo IBA (UNESCO, 2006; Birdlife International 2006). These sites are so designated at least partly for the large migrant waterbird populations they support. However, it is unclear to what degree these more western sites are used by Sociable Lapwings. The more eastern, unprotected areas around Chagraiskoje have always been important for Sociable Lapwings and this is still the case, yet they enjoy no formal national or international protection. Moreover, during our survey we encountered significant numbers of several other waterbird species in this area: 20,000 Black-winged Pratincoles, 1,000 Demoiselle Cranes *Anthropoides virgo*, and 10,000 Ruddy Shelducks *Tadorna ferruginea* (maximum single counts). Since this region harbours not only large numbers of Sociable Lapwings, but potentially internationally important numbers of several other species, further detailed work to assess both usage of the area and threats to migrants and residents is necessary. At present, it appears that hunting in the region of Chagraiskoje, though widespread, is well regulated, and the period of Sociable Lapwing passage falls within the closed season (V. Fedosov, pers. obs.). However, we were unable to assess the potential impact of hunting on other migrants or residents, or the level and impact of illegal hunting, which may be an important influence on Sociable Lapwings at other autumn staging areas (Murdoch & Serra 2006). Indeed, Shubin *et al.* (2000) imply that hunting may have an impact on Sociable Lapwings in this region.

Sociable Lapwings from the breeding areas in central Kazakhstan do pass through this area, based on the presence of the two colour-ringed individuals seen. These birds are presumably migrating towards the more westerly wintering areas of the Middle East and NE Africa. However, the vast majority of birds seen were un-ringed, suggesting that there are significant undiscovered colonies in Kazakhstan, or within the historical breeding range in SW Russia. It is also possible that the bulk of the Kazakhstan population does not migrate through this area. Alternative migration routes could be to the east, along the western shore of the Caspian Sea; to the west through the main part of the Manych-Gudilo system; along the eastern edge of the Black Sea; or on a broad front through the whole north Caucasus region.

Further work in this area is planned for autumn 2007 to broaden the temporal and spatial scale of the survey and to further elucidate the numbers of Sociable Lapwings utilising the Chagraiskoje region on autumn passage, and the length of stay of individuals. It is also important to determine the relative importance of different feeding habitats and their vulnerability to human influence (particularly agricultural usage and hunting), and to assess the relative abundance of colour-ringed birds from the core Kazakh breeding areas through the whole migration period.

Finally, we suggest that further work is required on the habitat requirements of the Sociable Lapwing away from the breeding grounds, to enable the formulation of appropriate conservation prescriptions at key stop over sites and in the wintering areas.

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REFERENCES

- AEWA 2004. *International Single Species Action Plan for the Conservation of the Sociable Lapwing*. UNEP/AEWA, Technical Series No. 2.
- Birdlife International. 2001. *Threatened Birds of Asia: the Birdlife International Red Data Book*. Birdlife International, Cambridge, UK.
- Birdlife International. 2006. Birdlife IBA Factsheet RU165: Lake Manych-Gudilo. <http://www.birdlife.org>.
- Gillings, S. J., Fuller, R. J. & Sutherland, W. J. 2005. Diurnal studies do not predict nocturnal habitat choice and site selection of European Golden Plovers (*Pluvialis apricaria*) and Northern Lapwings (*Vanellus vanellus*). *The Auk* 122 (4): 1249-1260 .
- Kazakov, B.A. et al. 1981. Waders of Northern Caucasus. *Zoologicheski vestnik* 5: 41-46 (*In Russian*).
- Khokhlov, A.N. 1987. Short notes on Sociable Lapwing in Stavropol region. *Problems of conservation of rare animals*: 137 (*In Russian*).
- Murdoch, D. A. & Serra, G. 2006. The status of Sociable Lapwing *Vanellus gregarius* in Syria. *Sandgrouse* 28 (1): 57-61.
- Sheldon, R., Koshkin, M., Kamp, J., Khrokov, V. & Donald, P. 2005. Breeding biology of the Sociable Lapwing *Vanellus gregarius* in Kazakhstan – preliminary fieldwork report 2005. Unpublished report, RSPB, UK.
- Shubin, A. O., Ivanov, F. P & Kasatkina, U. N. 2000. Sociable Plover: Big flock recorded in Kalmykia. In: Tomkovich, P. S. (ed) *Information Materials for the Working Group on Waders* 13 (*In Russian*).
- UNESCO. 2006. UNESCO- MAB Biosphere Reserves Directory, Biosphere Reserve Information: Chernyje Zemli. <http://www2.unesco.org>.

Latest news: Rob Sheldon reports that soon after this paper was completed large flocks of Sociable Lapwings comprising in excess of 3,000 individuals were seen in Syria and Turkey during Feb and Mar 2007. This suggests that the current population estimate is too low and needs revising. The current Species Action Plan will be revised in 2009 and the breeding population estimate will be revised at the same time.

Figure Legends

Fig. 1. Survey areas around Chagraiskoje Reservoir, Stavropol Region, SW Russia, Sep 2006.

Fig. 2. Dovsun Salt lake Sociable Lapwing roost site.

Fig. 3. Part of Sociable Lapwing flock, Chagraiskoje Reservoir, Sep 2006.

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