

# Full Project Report



Conservation Grant No. P. 892

**Population Monitoring and Conservation Awareness for Cranes in Pakistan**

*Report Submitted to:*



**Oriental Birds Club (OBC)**

---

**April 2011**

Cover photograph: Demoiselle Crane at District Zhob, Balochistan

All photographs used in this report are taken during the study by Bazmir Khan unless other specified. The report is produced for the Oriental Birds Club and can be used as a reference giving credits to the OBC and the author

Prepared By: Bazmir Khan, Chairman, Society for Economic and Environmental Development

Edited By: Mazhar Iqbal, Sub-Divisional Forest Officer, KPK Forest Department.

**LIST OF ABBREVIATION**

C°	Centigrade
KPK	Kyber Pakhtunkhwa
M	Meter
Mm	Millimeter
OBC	Oriental Birds Club
PWP	Pakistan Wetland Programme
SEED	Society for Economic and Environmental Development
WWF	World Wide Fund For Nature

**LIST OF ANNEXURES**

- Annexure-1: Details of Crane Monitoring Survey conducted during spring 2011
- Annexure-2: Details of Crane Monitoring Survey conducted during autumn 2010
- Annexure-3: Poster developed under the project
- Annexure-4: Notification/Order of Deputy Commissioner Zhob regarding ban on hunting of cranes

**TABLE OF CONTENTS**

List of Abbreviation.....	3
List of Annexures.....	4
Summary.....	6
Introduction.....	7
Project Objectives.....	8
Methods.....	8
Project Evaluation Results.....	9
Proposals.....	11
References.....	12

## SUMMARY

Cranes are migratory birds. There are 15 species of crane in the world. Four species are recorded in Pakistan. District Zhob hosts two species, Demoiselle and Eurasian cranes. District Zhob falls on the migratory route of cranes and is part of the Indus flyway. Although cranes are one of the prominent and key bird species that migrate through the Zhob, but there was little prior studies in this area. Cranes were exposed to several problems and threats including shooting, live trapping, habitat fragmentation and disturbance.

Although cranes are one of the prominent and key bird species that migrate through the Zhob, yet key information on the population of cranes visiting the study area is scanty and in most cases missing. There had been efforts on crane conservation in the past, but no consistent initiative took place. Secondly, the low level of awareness among the custodian community and hunters is the major bottleneck in the conservation of cranes. This project was designed to assess the current status of cranes migration and to build the capacity of community and establish effective liaison with law enforcing agencies to protect this precious natural resource. The Oriental Birds Club (OBC) provided the much needed grant for crane conservation initiative in this part of the world.

Mr. Ahmad Khan, Programme Director, Pakistan Wetlands Programme imparted training to the field teams in crane monitoring techniques. Crane survey form was developed with the technical assistance of Pakistan Wetland Programme. Three different sites, Abdul Wahab Dam, Wasta Lake and River Zhob were selected for the crane survey. Point survey method was employed and observers were placed with binoculars during the evening and morning in spring and autumn migratory seasons.

The study resulted in 4,710 number of Demoiselle and 1,250 numbers of Eurasian Cranes in autumn, 2010 and 35,688 Demoiselle and 2,652 Eurasian Cranes in spring, 2011. For conservation of crane, meetings were held with Forest and Wildlife Department, local development organizations and law enforcement agencies. The Deputy Commissioner Zhob issued a directive and imposed section 144 of the code of Criminal procedure 1898 (Law) for complete ban on trapping and hunting of crane. This order was publicized in official Gazette and was also published in the daily newspapers. To mould the attitude of community towards crane conservation, a poster bearing crane conservation message was published and disseminated among the stakeholders and community members of the project area. A series of awareness raising sessions were held with the communities of River Zhob, Abdul Wahabe Dam and Wasta Lake. The importance of cranes was inculcated in their minds and they were motivated to discourage the hunting practices especially by the large number of outsiders (who comes from southern districts during the crane migration seasons). Two community protected cranes rest areas established through proper social mobilization of the community.

## INTRODUCTION

Pakistan is located at the confluence of Palearctic and Oriental realms that endows it with a rich biodiversity of species and habitat. The diversity is further enriched by variation in topography of the country and its location on the migratory route of birds. Pakistan has diversity of ecosystems that host around 650-700 resident and migratory bird species. The country provides ideal routes and staging grounds for migratory birds as well. Cranes are the most important among them. At the same time the species are faced with threats of unsustainable harvesting and illegal shooting practices throughout their flyways and staging points in the region. *River Zhob* is one of the key staging ground for cranes in Balochistan province of Pakistan. River Zhob lies in District Zhob. The word Zhob literary means "Oozing Water". District Zhob is at a distance of about 350 KM from the capital city of Quetta of Balochistan. It is bordered in the south-west by Quetta, in the east by FR D.I.Khan, in the north by South Waziristan and in the south-east by Musa Khel.

There are 15 species of cranes in the world, 8 found in Asia, while Pakistan hosts 4 species on seasonal basis. Demoiselle and Eurasian cranes still migrate through Pakistan, while the Siberian and the Sarus cranes are almost extinct now. Demoiselle and Eurasian cranes though still visiting Pakistan in good numbers, yet exposed to several threats. These include shooting, live trapping, habitat fragmentation and disturbance.

The climate of Zhob is arid to semi-arid and particularly dry in winter months. Bracing dust-storms occur in summer from July to September, accompanied by thunderstorms. On the other hand, highlands in the district have mild and pleasant climatic conditions. The temperature varies with altitude in the western end of upper Zhob, it is cool in summer and cold in winter. The rainfall is scanty and variable. Based on the 30-year average data [1961-1990], the annual average precipitation at Zhob is about 285 mm. Summer rainfall is received in July and August (38% of the total precipitation). In winter, March is the rainiest month. At this time of the year, some snowfall occurs over greater part of the district. The mean yearly temperature is 19C°, the mean maximum is 26C°, and the mean minimum is 12.1C°. The district falls on the migratory route of birds and is part of the Indus flyway.

The custodian communities residing in Zhob are Pathans, belonging to various tribes including Babar, Mandookhel, Kakar, Harifal and Sherani. The socio-economic conditions of the rural communities are characterized by an increasing population, low level of human development, persistent poverty and a tribal culture that is both distinctive and traditional. Lack of awareness regarding natural resources conservation among the community is one of the conservation dilemmas to visiting birds in Zhob. The hunters from southern part of NWFP province visit Zhob during the migratory season which is a major concern for the conservation of cranes.

Although cranes are one of the prominent and key bird species that migrate through the Zhob, yet key information on the population of cranes visiting the study area is scanty and in most cases missing. There had been efforts on crane conservation in the past, but no consistent initiative took place. To assess the status of cranes, seasonal migration surveys were conducted and obtained requisite information. Secondly, the low level of

awareness among the custodian community and hunters was the major bottleneck in the conservation of cranes. This project focused on the capacity building of local community and other stakeholders which helped motivate them to protect cranes from hunting. Through this project, an effort was made to develop liaison with government line agencies and community to ensure effective crane conservation measures.

## PROJECT OBJECTIVES

With the overall aim to provide protection to the cranes in Pakistan, the project activities focused on the following main objectives:

1. Conduct a population census of cranes migrating through the Zhob district;
2. Enhance awareness of custodian communities for the protection of cranes; and
3. Develop liaison with stakeholders for effective conservation measures

## METHODS

*To carry out population monitoring of cranes* first of all the project team was trained in survey techniques in collaboration with Pakistan Wetlands Programme. Mr. Ahmad Khan, Regional Programme Manager, Pakistan Wetlands Programme who is a trained field biologist and vastly experienced professional in crane conservation was the resource person. The training contents were as under:

- Introduction to crane conservation in Pakistan
- Importance and need of crane conservation
- Data Collection techniques for crane monitoring
- Field equipment for crane survey
- Designing of survey form for crane monitoring

One of the key outputs of the training was the development of a survey form for data recording regarding the crane monitoring. This survey form was then pre-tested in the field and was refined accordingly.

Three survey points were selected for crane monitoring. These include River Zhob, Wasta Lake and Abdul Wahab Dam. These are the well-known staging grounds for large number of cranes and other migratory birds visiting this part of the country. Point survey method was employed and all the observers were placed with binoculars during the evenings and morning through the migration season to record the over flying cranes. The data was recorded on all the three sites on specially designed survey form.

The data collection on population of cranes visiting study area commenced at the advent of migration season and remained operative till the completion of migration season. The survey was conducted both for autumn 2010 and spring 2011. Consequent upon data collection, the data was analyzed and a comprehensive report was drafted and shared

with key shareholders for comment/suggestions. The data collected during the surveys are attached as *Annexure-1* to *Annexure-2*.

*To enhance awareness of custodian communities for the protection of cranes:* A series of meetings were held with the communities residing around the three staging grounds/localities of cranes with the aim to sensitize them regarding the importance of crane conservation and to discourage the hunting and trapping of cranes. These meetings were fruitful and community agreed to establish community protected crane areas in the three localities i.e River Zhob, Wasta Lake and Abdul Wahab Dam.

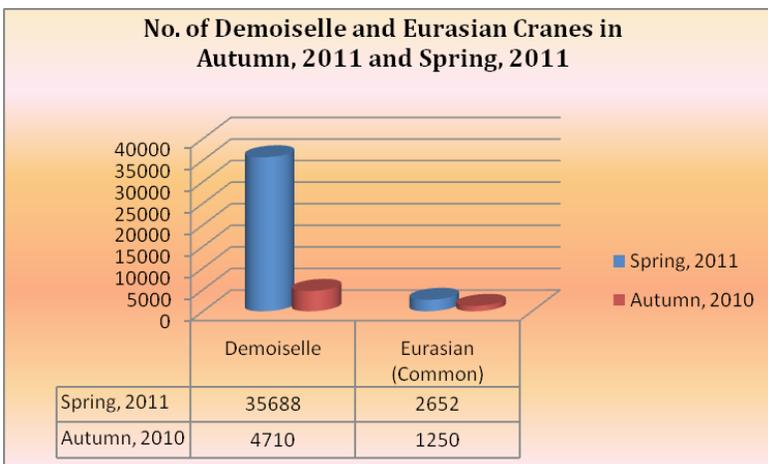
To mould the attitude of communities towards crane conservation, a poster was developed bearing the conservation message regarding crane in all the three languages i.e English, Urdu and Pashto. The printed copies were then distributed among the key stakeholders and community members. A soft copy of the poster developed under the project is attached as *Annexure-3*.

*To develop liaison with stakeholders for effective conservation measures:* For conservation of crane, meetings were held with Forest and Wildlife Department, local development organizations and law enforcement agencies. The Deputy Commissioner Zhob issued a directive and imposed section 144 of the code of Criminal procedure 1898 (Law) for complete ban on trapping and hunting of crane. This order was publicized in official Gazette and was also published in the daily newspapers. As a result of this ban, check posts were established at Danna Sar and Sambazay to monitor and check the illicit/illegal trafficking of cranes. This resulted in preventing a huge loss to cranes visiting Zhob. The Notification/Order of Deputy Commissioner Zhob regarding the ban on hunting of cranes is attached as *Annexure-4*.

## PROJECT EVALUATION RESULTS

### *Population Monitoring of Cranes*

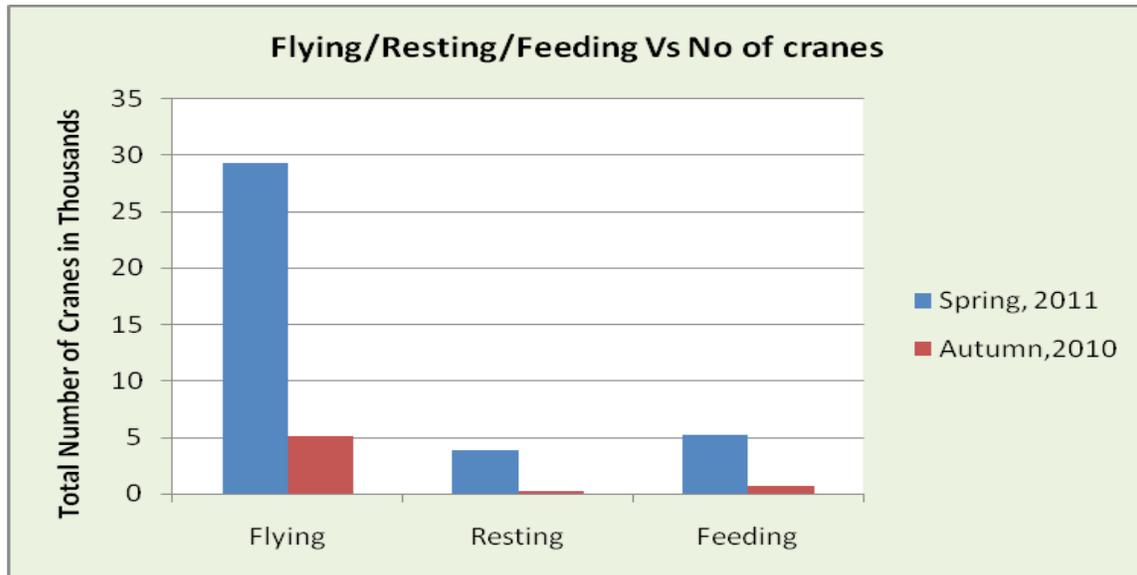
The data regarding the population monitoring of cranes was collected both for autumn 2010 and spring 2011. The data analysis resulted in 4,710 number of Demoiselle and 1,250 numbers of Eurasian Cranes in autumn, 2010 and 35,688 Demoiselle and 2,652 Eurasian Cranes in spring, 2011. The total number of



cranes counted during autumn 2010 and spring 2011 are 5960 and 38340. It means that the cranes migrating to Zhob during spring 2011 is much higher than the autumn 2010.

### *Flying/Resting/Feeding Vs Number of Cranes*

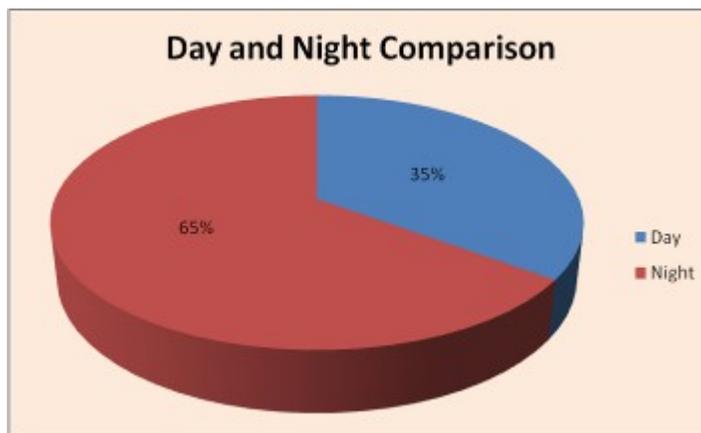
The data analysis depicts that 77% of the cranes counted during the autumn 2010 and spring 2011 survey were in flying position. Thirteen (13%) of the cranes were sighted while feeding whereas 10% of the cranes were found to be in the state of Resting. The following fig will clarify the flying/resting/feeding position of the cranes Vs the number of cranes counted/sighted.



### **Day and Night Comparison**

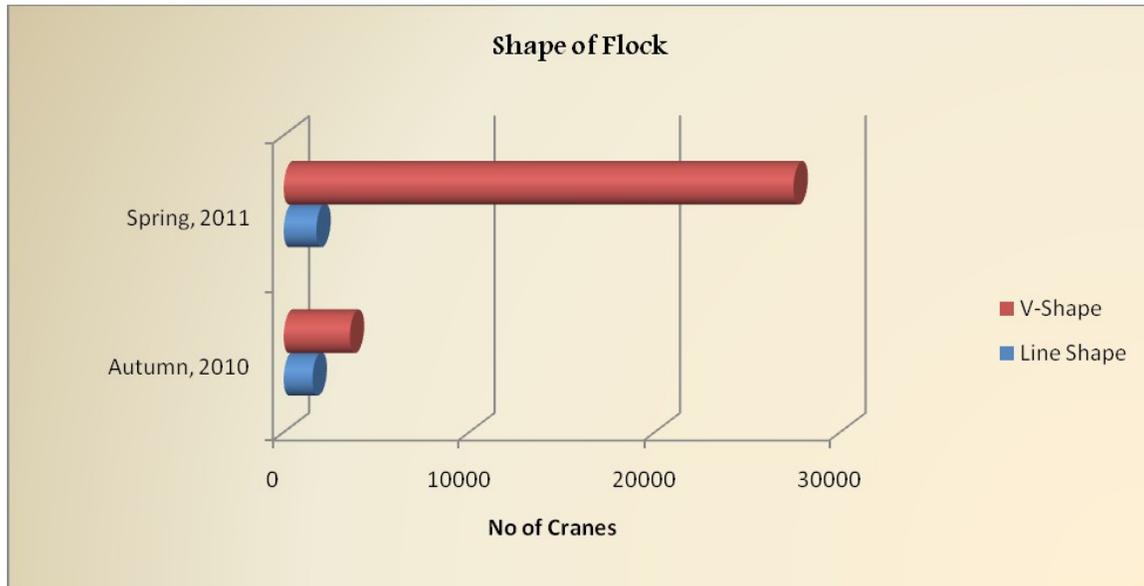
During the survey a total of 35% of cranes were observed during day time of the total, where as 65% of the total cranes were observed at night.

From the results of the survey, it could be concluded that most of the cranes travel at nighttime, especially in full moon nights. Since, full moon offers opportunities to travel freely due visibility at nighttime, that's why cranes feel comfortable while traveling at night due to absence of any disturbance in their migratory routes.



### Shape of Flock

31045 numbers of cranes were observed in V-shaped flight whereas only 3313 numbers of cranes were sighted having Line shaped flight pattern. These numbers exclude those cranes which were sighted either feeding or resting.



### PROPOSALS

1. Population assessment survey needs to be undertaken for three consecutive years to monitor trends in population
2. A comprehensive target specific awareness campaign should be launched to inculcate positive changes in attitudes towards crane conservation
3. District administration Zhob and Para military forces need to be involved in crane conservation activities to stop crane hunting in district Zhob
4. Community development schemes should be launched to engage community in conservation efforts

## REFERENCES

1. Ahmad, A., and N. Khurshid. 1991. Observation of Migration and Migratory Routes of Cranes through Balochistan. *Natura*. Vol. 13, Issue No. 4, Autumn 1991
2. Farooque, M. 1992. Crane Migration through Dera Ismail Khan (NWFP): Conservation Problems and Prospectus. M.Sc. Thesis, Pakistan Forest Institute, Peshawar, Pakistan.
3. Ahmad, A., M. Farooque M., and A. Ghalib. 1993. The Cranes of Pakistan. WWF-Pakistan.39
4. Ahmad, A., and A. Jan. 1995. Cranes in Pakistan. Crane Research and Protection in Europe:
5. Khan, A., Samiullah, and N. Shabana. 1999. Crane Conservation in Pakistan. WWF Pakistan.
6. Primack, R.B. 1998 *Essentials of Conservation Biology* (2<sup>nd</sup> ed.). Sunderland and Massachusetts Publications, USA.
7. Roberts T.J, Landfried S.E. 1987. Hunting pressure on cranes migrating through Pakistan. Pp. 139-145. In: G.W. Archibald and R.F. Pasquier (Eds.), *Proceedings of the 1983 International Crane Workshop*, Bharatpur, India, and International Crane Foundation, Baraboo, Wisconsin:
8. UNEP/CMS. 1995. Memorandum of Understanding Concerning Conservation Measures for the Siberian Crane: Report of the First Meeting of Range states. CMS Secretariat, Bonn, Germany.
9. Getting Involved with Cranes, <http://www.icf.org>
10. ([http://en.wikipedia.org/wiki/Captive\\_breeding](http://en.wikipedia.org/wiki/Captive_breeding)
11. <http://www.icf.org>

## LIST OF ANNEXURES

Annexure	Title	File Please double click to see the file
Annexure-1	Details of Crane Monitoring Survey conducted during spring 2011	 Crane Survey Spring 2011.xls
Annexure-2	Details of Crane Monitoring Survey conducted during autumn 2010	 Crane Survey Autumn 2010.xls
Annexure-3	Poster developed under the project	 Crane Poster.pdf
Annexure-4	Notification/Order of Deputy Commissioner Zhob regarding ban on hunting of cranes	 Order Notification.pdf