



Reducing Depredation of Crops by Cranes and Geese

Prepared by
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Type of Case Study

- Conflict between farmers and migratory waterbirds using crop fields
- Management of crop fields used by waterbirds to reduce the depredation of crops by migratory waterbirds

Introduction to the Case Study

The Daurisky State Nature Biosphere Reserve includes wetlands supporting autumn gatherings of migratory cranes and waterfowl. Croplands (mainly wheat) located around the reserve attract up to 70,000 staging cranes, geese, and ducks, causing the loss of up to 70% of grain in some wheat fields. Crop depredation is the cause of conflict between farmers and waterbirds and between the local community and Daurisky Reserve. Farmers began illegally shooting cranes (including globally threatened species) to protect their crops.

What was done and when and where did you do it?

From 1992-2004 we studied the problem of crop depredation in the vicinity of the Daurisky Nature Reserve in the steppes of southern Siberia, Russia including crop production techniques, crane and geese diet, behaviour of the birds, and the use of habitats by waterbirds.

We developed and tested methods of reducing crop depredation by waterbirds at the Daurisky Biosphere Reserve. The solutions included:

- (1) moving crop fields farther from wetlands with waterbird roosting sites;
- (2) planting lure crops (millet and wheat) at locations close to roosting sites;
- (3) providing alternative food, Foxtail Grass (*Setaria viridis*) by growing it on fallow lands near wheat fields;
- (4) adjusting dates and technology of harvesting.

If relevant, identify your main target group

Farmers, hunters and the local community



Educating Farmers

Photo: Oleg Goroshko



Gathering of migratory cranes

Photo: Oleg Goroshko

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| What was the result of the action? | <p>Experimental trials of the recommendations showed significant reduction of crop depredation. Waterbirds visited crop fields shifted by 10-15 km away from roosting sites (wetlands) 15-30 times less often than the fields located in 1–2 km from wetlands.</p> <p>Small (5-10 ha) lure millet fields attracted cranes the most, and the birds stayed out of adjacent wheat fields until after the harvest. Before the harvest, cranes ate mainly lure millet (~90% of diet, with crop wheat comprising 10%).</p> <p>Cooperative farms began planting lure fields without governmental subsidies as soon as they realized that it costs them about one tenth of the damage caused by cranes.</p> <p>Local people stopped shooting rare species of cranes and geese and their relationship with the Daurisky Nature Reserve and local community became significantly better.</p> <p>Local people helped in conservation of cranes and their habitats (wetlands).</p> |
| What was the key to success? | Working closely with local communities and finding a practical and acceptable solution to reduce the loss and damage to crops by the cranes. |
| What was your biggest challenge in achieving success? | Persuading farmers to test the suggested methods of reduction of crop depredation. |
| If the result was not completely successful, what went wrong? How did you resolve the problem? | <p>Some farmers did not want to test the suggested methods (they waited for governmental subsidies). We showed them successful results of farmers using the methods and prevailed upon them to test the methods.</p> <p>We made feeding sites in Daurisky Reserve for attracting waterbirds from crop fields; we put corns of wheat near waterbird roosting sites.</p> |
| If relevant, identify your key sponsors/partners for your activity | <p>Staff of the Daurisky Nature Reserve (partner)</p> <p>International Crane Foundation (partner and sponsor)</p> <p>Local Government (partner and sponsor)</p> <p>Ministry of Nature Resources of Russian Federation (sponsor)</p> |
| How is the Case Study useful for other Partners? | Our methods of reduction of depredation of crops are already used in other regions of Russia and they can be used in other countries for solving conflicts between community and migratory waterbirds. |
| <p>Useful links</p> <p>www.daurzapoved.com</p> <p>Goroshko O. 2004. Crop depredation by waterbirds near Daurisky Nature Reserve (Transbaikalia, Russia) // 2004 International Symposium on Migratory Birds. Proceedings. Gunsan, Korea. P. 113-121.</p> <p>Bouffard, S. H., Cornely, J.E., Goroshko, O.A. 2005. Crop Depredations by Cranes at Daurisky State Biosphere Reserve, Siberia. In F. Chavez-Ramirez, Editor. Proceedings of the Ninth North American Crane Workshop. North American Crane Working Group, Seattle, WA. P. 145-149.</p> <p>Goroshko, O. A., J. E. Cornely, and S. H. Bouffard. 2008. Reduction of crop depredations by cranes at Duarsky State Biosphere Reserve, Siberia. Proceedings of the North American Crane Workshop 10: 65-70.</p> <p>Goroshko O., 2012. Methods for reduction of crop depredation by cranes tested in Dauria in (Trans-Baikal Region). In J. Harris [ed.] Cranes, agriculture, and climate change. Proceedings of the International Workshop "Cranes, agriculture, and climate change". P. 120-130.</p> | |
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