

# Reduction of crop depredation by cranes and geese (Daurian steppe, Russia)



Даурский заповедник.      Daursky Nature Reserve.

*Олег Горошко.      Oleg Goroshko.*



*оз. Байкал*  
*Baikal Lake*

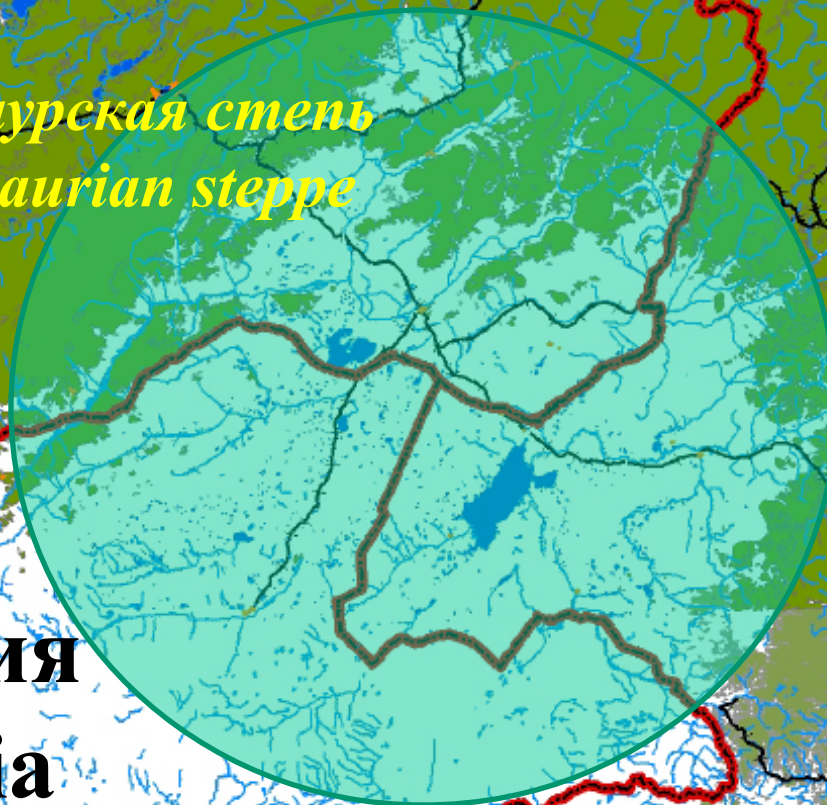
Период работ:  
1990-2018 гг.

**Россия**  
**Russia**

*Даурская степь*  
*Daurian steppe*

**Китай**  
**China**

**Монголия**  
**Mongolia**





**The  
Baikal  
Lake**

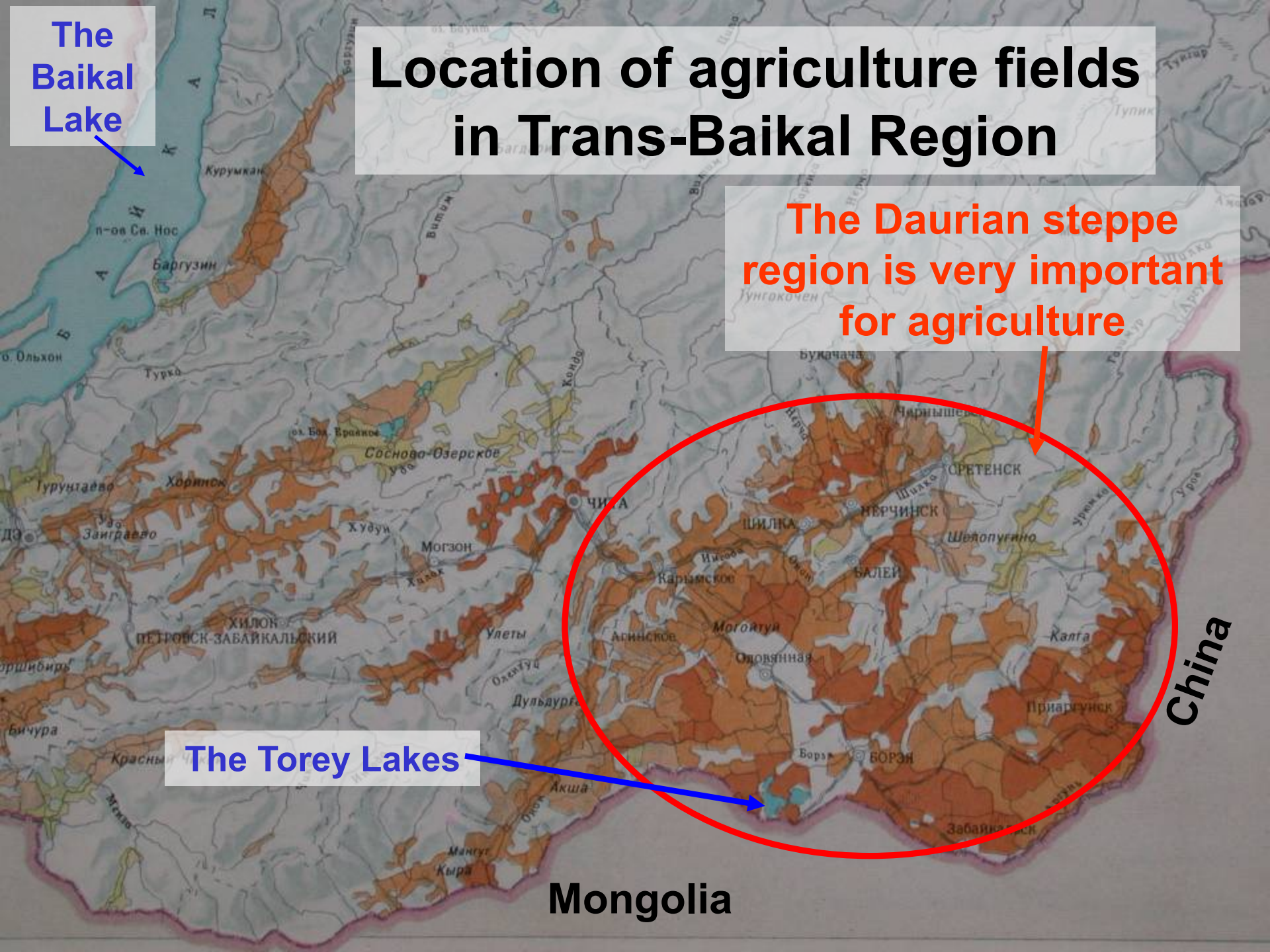
# Location of agriculture fields in Trans-Baikal Region

**The Daurian steppe  
region is very important  
for agriculture**

**The Torey Lakes**

**China**

**Mongolia**



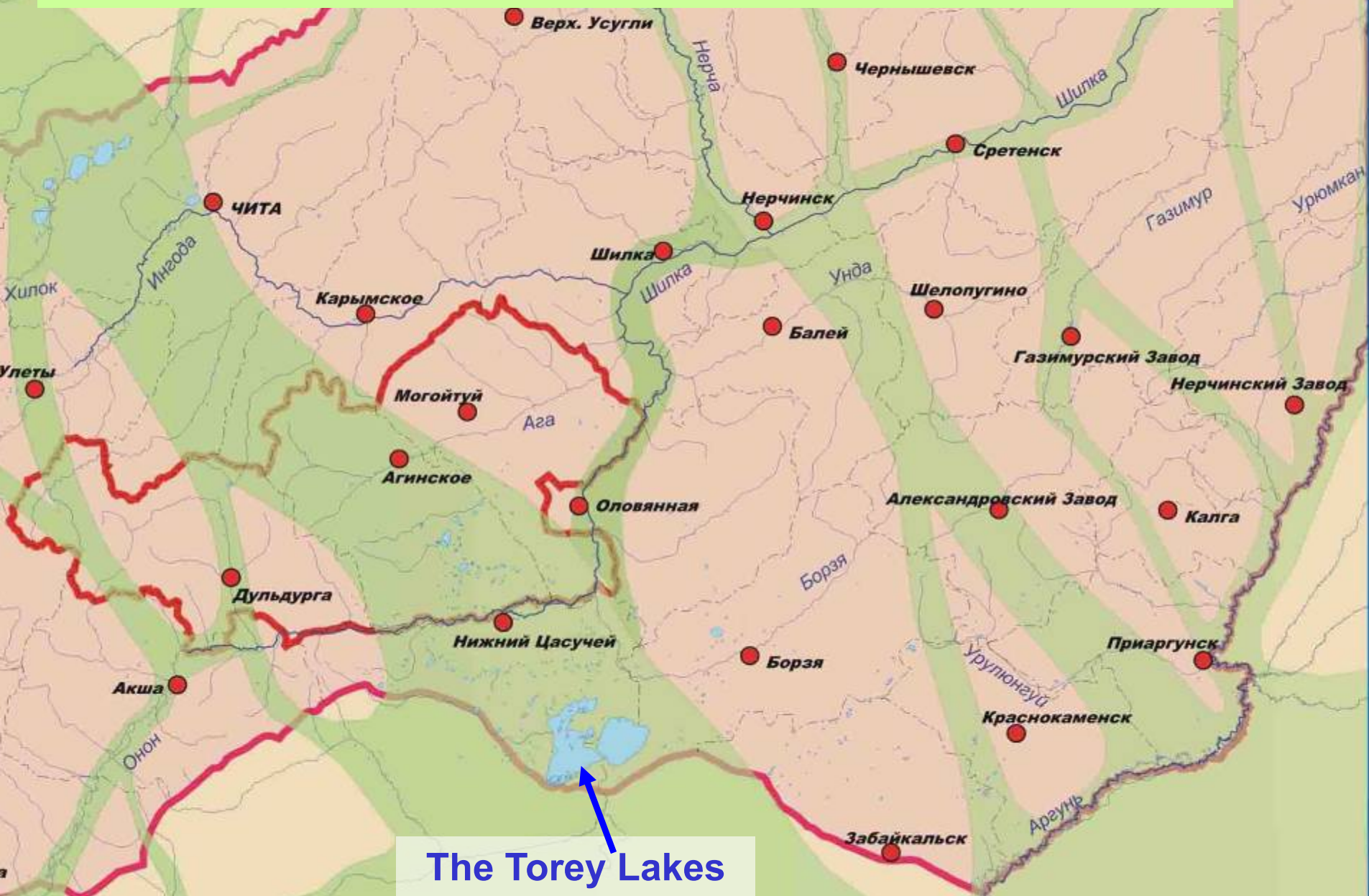


**Main human activities near the Torey Lakes are: agriculture (mainly oats and wheat, more rarely – barley, very rarely – millet and rape) and cattle-raising (sheep, cows, horses and camels).**





# The flyways of waterbirds in Dauria







**Crop fields located around the Torey Lakes attract during autumn about 50,000-70,000 staging waterbirds of 10 species (cranes, geese, ducks).**



**25,000–32,000 (up to 42,000) Demoiselle Cranes gather at crop fields.**





**Cranes make significant  
damage to crop (up to 70%  
at some wheat fields)**





# Suggested methods of reducing damages:

Moving of main crop fields farther from the wetlands (especially from roosting sites).

It is recommended to cultivate lure fields located at most convenient for birds places (near wetlands used as roosting sites).





**The lure fields should be located between roosting site and crop fields.**

**Lure fields as long and narrow bands are preferable.**

**Lure fields can be small (about 5-10 ha).**



# Millet is recommended as best lure crop because:

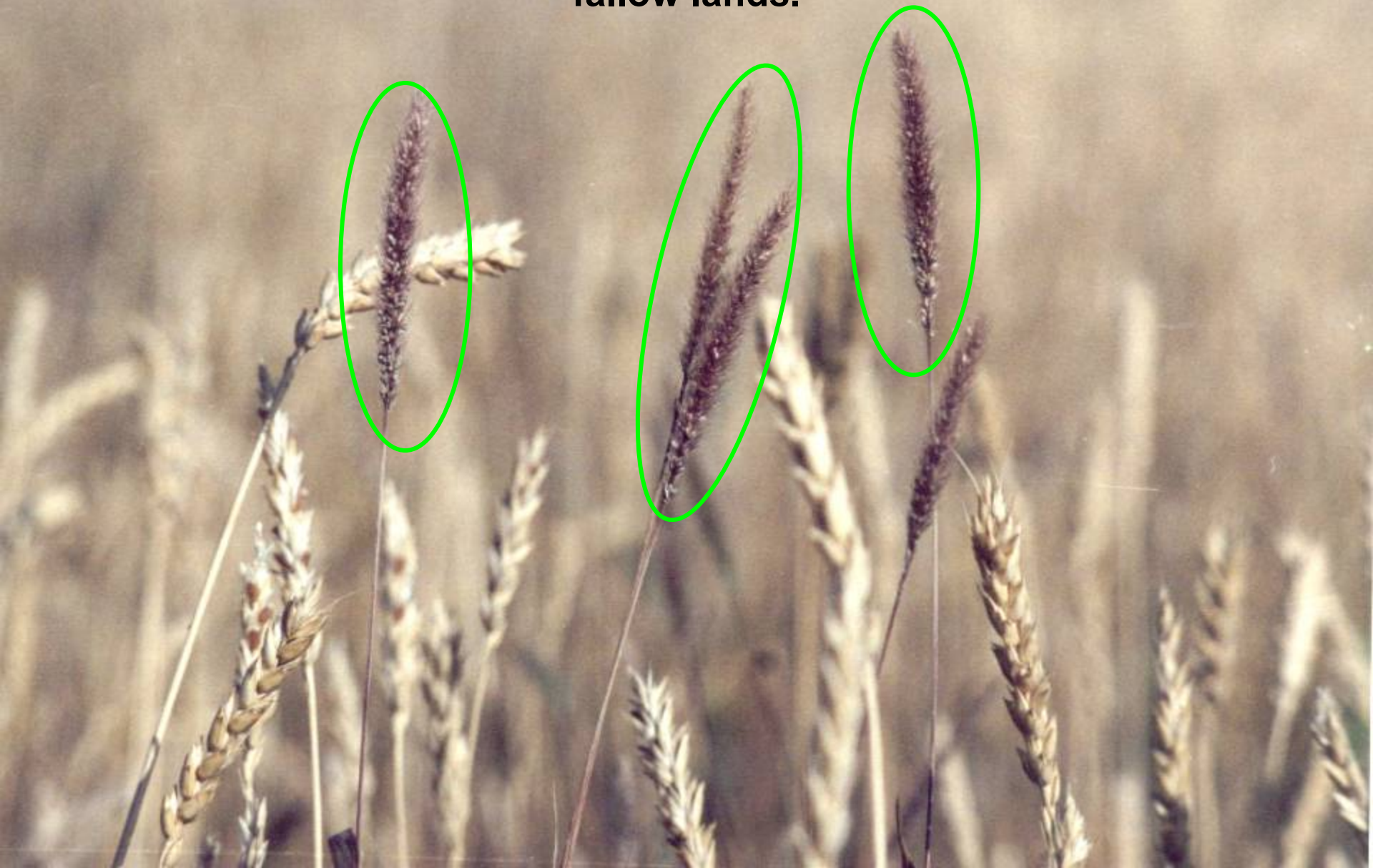


- 1) It is the most favorite food of cranes (and geese, shelducks);
- 2) Self-seeding millet can grow at fallow (not ploughed) land during many year after planting of crop millet if the crop was not collected. Birds like to feed at such millet fallow lands.



# **Сорняк щетинник зеленый (*Setaria viridis*).**

**Foxtail Grass is weed on crop fields. It is also often abundant in yang fallow lands.**





Cranes prefer the Foxtail Grass more than good crop of wheat. Seeds of the grass represent about 50% of the food in un-harvested fields (up to 90% in fields where this weed is common). Cranes visit also not worked fallow lands to feed on the grass.



Cranes prefer the weed probably because it has soft ears - therefore collection of seeds of the grass is much more easy for birds than collection of not completely ripe seeds of wheat from hard ears).



# Suggested methods of reducing damages:

It is recommended to provide alternative food by growing of Foxtail Grass on fallow lands near wheat fields - not cultivate some fallow lands located near wheat fields. Such lands draw away part of cranes from crop fields before harvest.



# Suggested methods of reducing damages :

- It is recommended to cut and thresh the crop simultaneously (not remain crop in swathes).
- It is recommended to harvest first the crop fields located most closely near wetlands, after this – fields located farther from wetlands. If remote fields harvested first, part of cranes fly there but part of birds continue to feed in unharvested fields located near wetlands.



**We published and explained our recommendations in brochure and distributed among many farmers in Transbaikalia. In 2003, Daursky Nature Reserve bought seeds of millet and provided financial and consultation support to farmers near Torey Lakes for cultivation of millet lure fields.**





**Owing to our recommendations, some farmers have moved fields farther from the roosting sites (up to 15 km far from the Torey Lakes). It produced good result: cranes use of these fields was 3–7% of that in fields located near Torey Lakes.**





**Some farmers develop lure millet field. They attracted cranes - birds stayed out of adjacent wheat fields until harvest of wheat.**

**Diet of cranes before harvest of wheat was about 90% millet and 10% wheat.**





**During 2003-2018, because of prolonged strong droughts, the crop was very poor. In 2006-2015 - no crop at all. Consequently the cranes did not gather near the Torey Lakes.**

**Photo.: wheat crop  
field at harvest time  
(September 2003)**





**Thank you for your attention!**

