



Steppe Eagle in the Bokeiorda Reserve and Aschyozek Sanctuary (West Kazakhstan Prov.) in 2022-2023



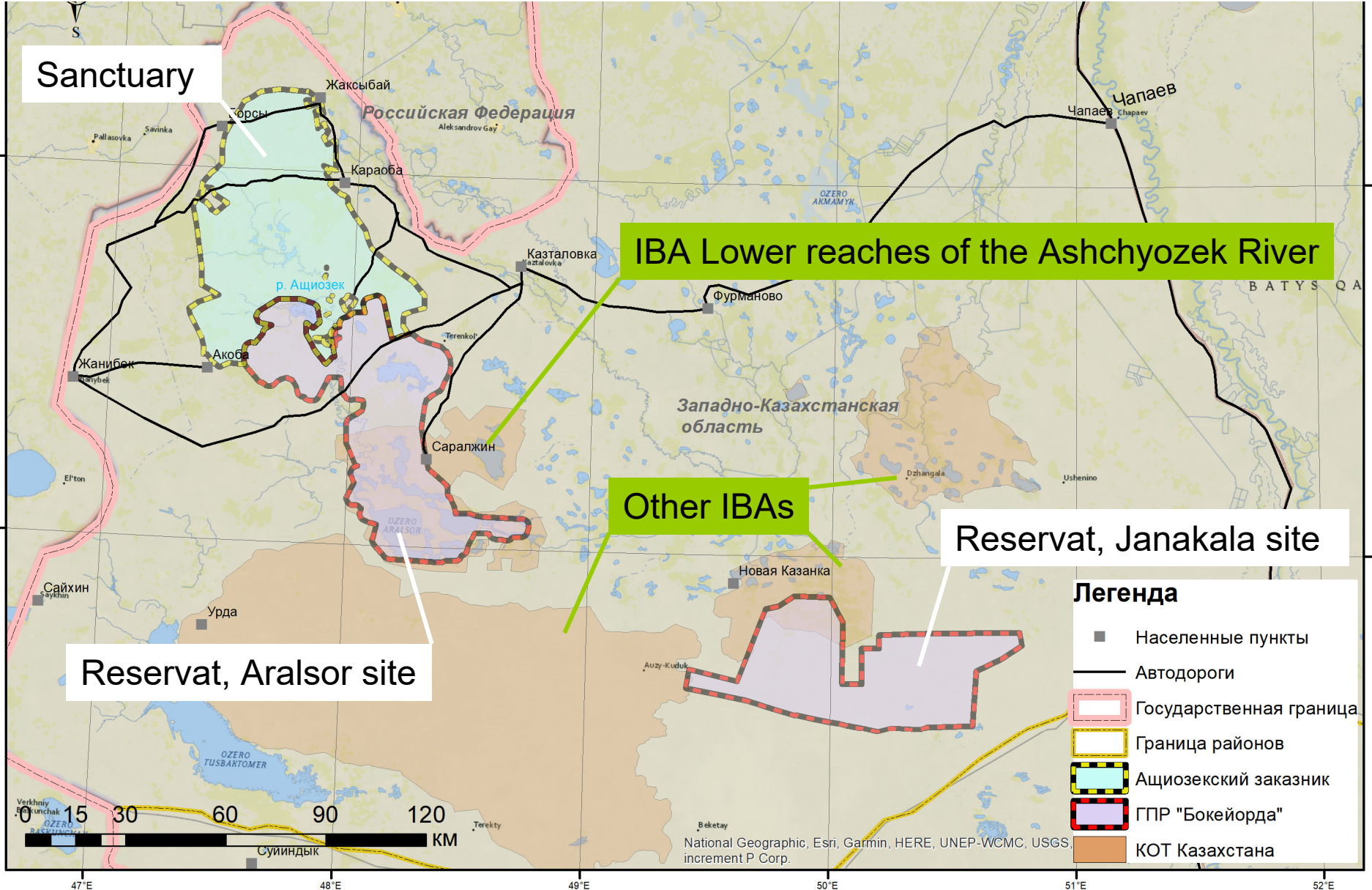
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- **Volga-Ural watershed**: Aschyozek R. endorheic basin with the end depression of Aralsor Salt Lake.
- Kaztalovka, Janibek, Bokeiorda, & Jangala (Janakala) Districts of West Kazakhstan Province



Bokeyorda State Nature Reserve (Reservat) & Aschyozek State Nature (Zoological) Sanctuary



Sanctuary

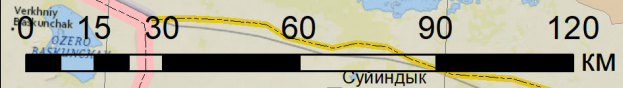
IBA Lower reaches of the Ashchyozek River

Other IBAs

Reservat, Janakala site

Reservat, Aralsor site

- Легенда**
- Населенные пункты
 - Автодороги
 - ▭ Государственная граница
 - ▭ Граница районов
 - ▭ Ащизозекский заказник
 - ▭ ГПР "Бокейорда"
 - ▭ КОТ Казахстана



National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, increment P Corp.

- Flat lowland with salt lakes and salt flats.
- Deserted (arid) and dry steppes and northern deserts dominated with xerophytic bunchgrass grasses and dwarf shrubs



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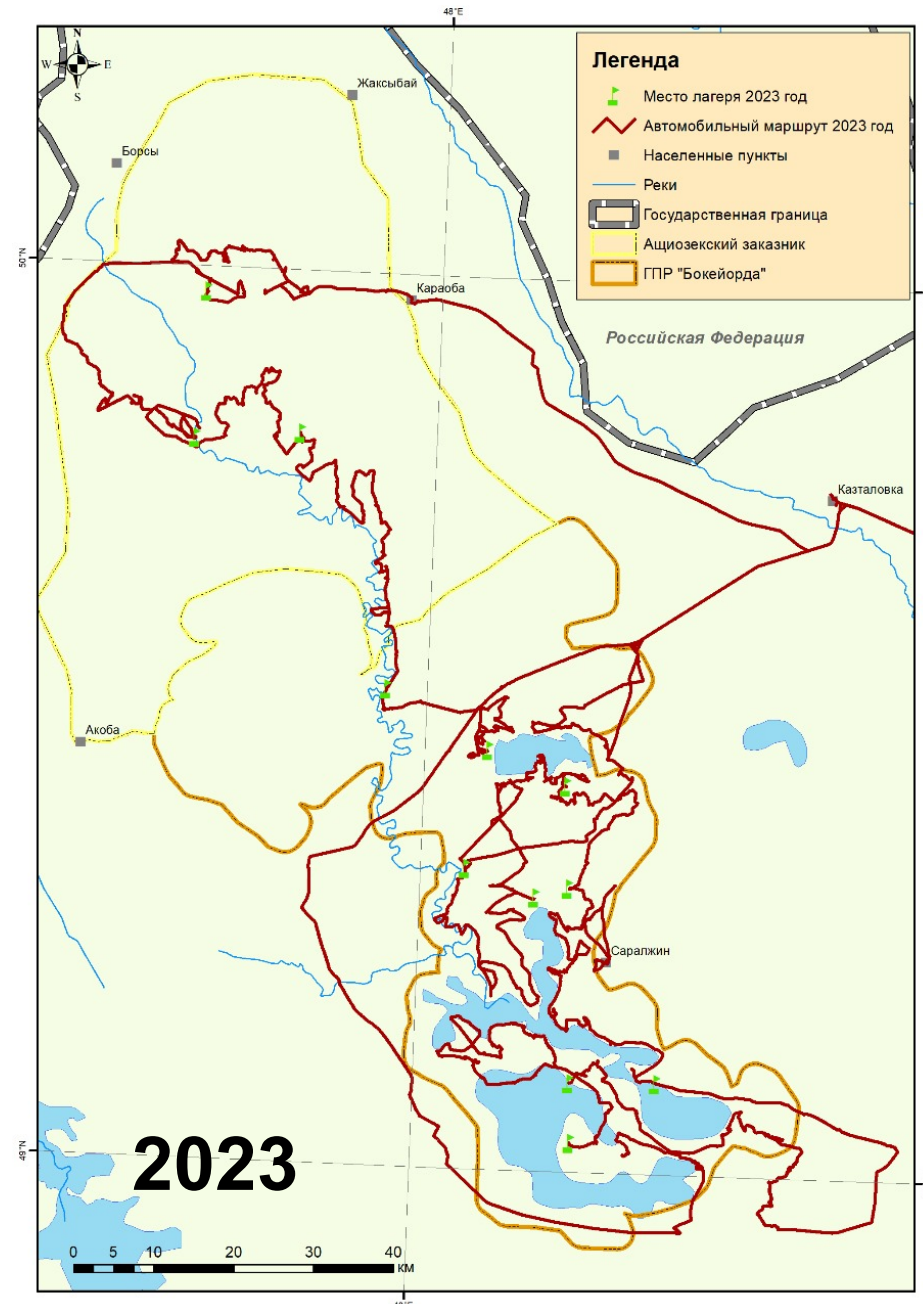
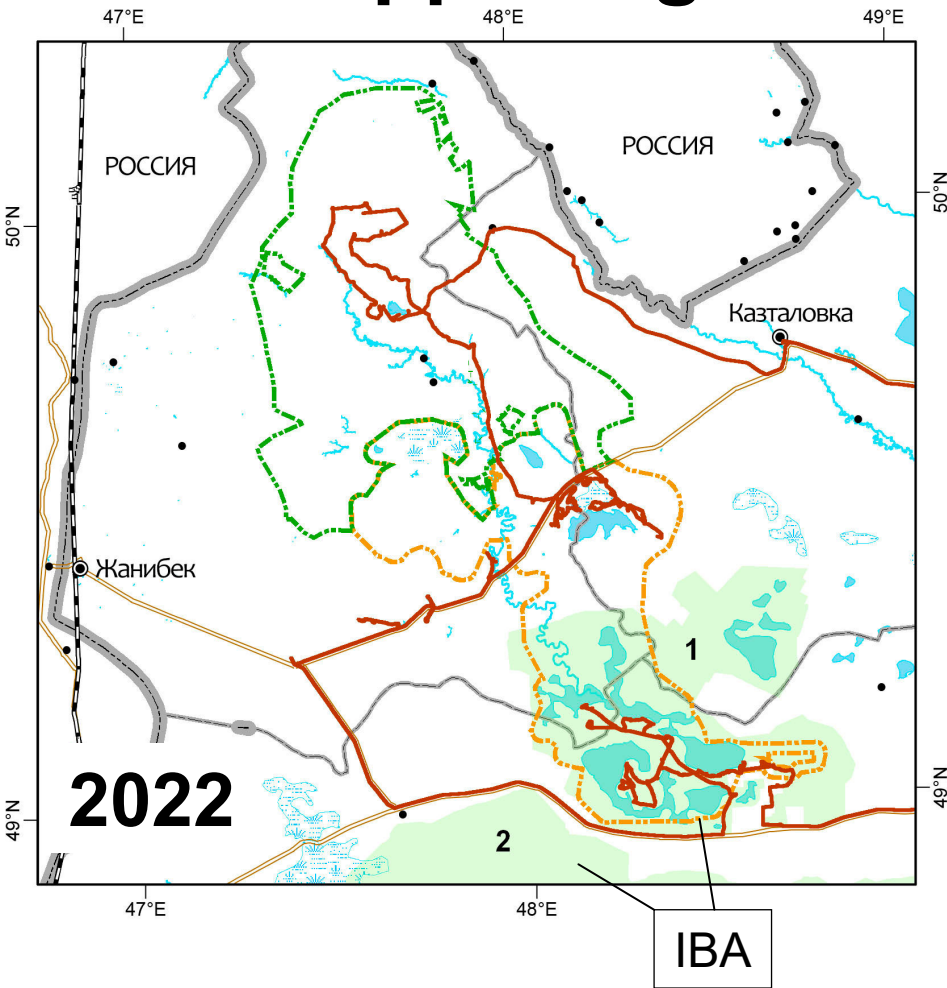


Saiga Antelope

- Ural (Volga-Ural) Population: 1,130,000 (2023 before calving)
- At least 500,000 inhabit the two protected areas year round.
- The number increased 10-fold in the last 5-6 years.

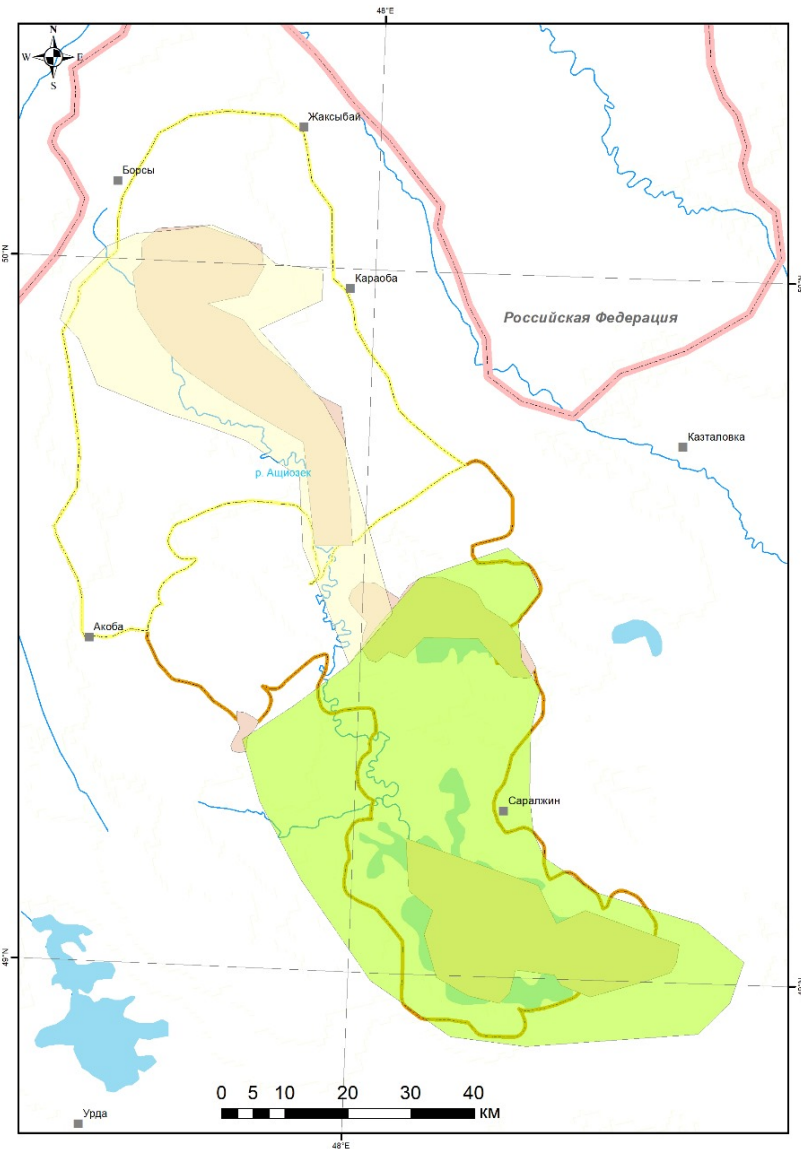


Steppe Eagle Survey: Vehicle routes



- 28.06-8.07.2022 – 700 km
- 26.06-11.07.2023 – 1000 km

Two surveying plots



- Aschyozek (1200 km²)
- Aralsor-Araltobe (2400 km²).
- Only some portion of each plot was surveyed in each year.

2022 Results

- Nests surveyed: 47
- Of which active nests: 19 (40,5%)
- Of which successful nests: 17 (36%).
- Breeding territories revealed: 38
- Including occupied ones: 34
- Including successful ones: 17
- Breeding density: 4.75 territories per 100 km²
(2.1 successful territories per 100 km²)
- Mean distance between neighboring active nests: Aralsor-Araltobe - 3.94±1,40 km (n=15), Aschyozek – 4.40±1,35 km (n=8)
- Mean brood size: Aralsor-Araltobe - 1.12±0.25 (n=8), but Aschyozek – 2.29±0.76 (n=7) nestlings per 1 successful nest (and last one actually should be higher as we had no possibility to count the fledglings fled out).

2022 Results

Spatial structure –
distribution of
occupied breeding
territories (including
both successful and
unsuccessful)

Гнездовые участки степного орла

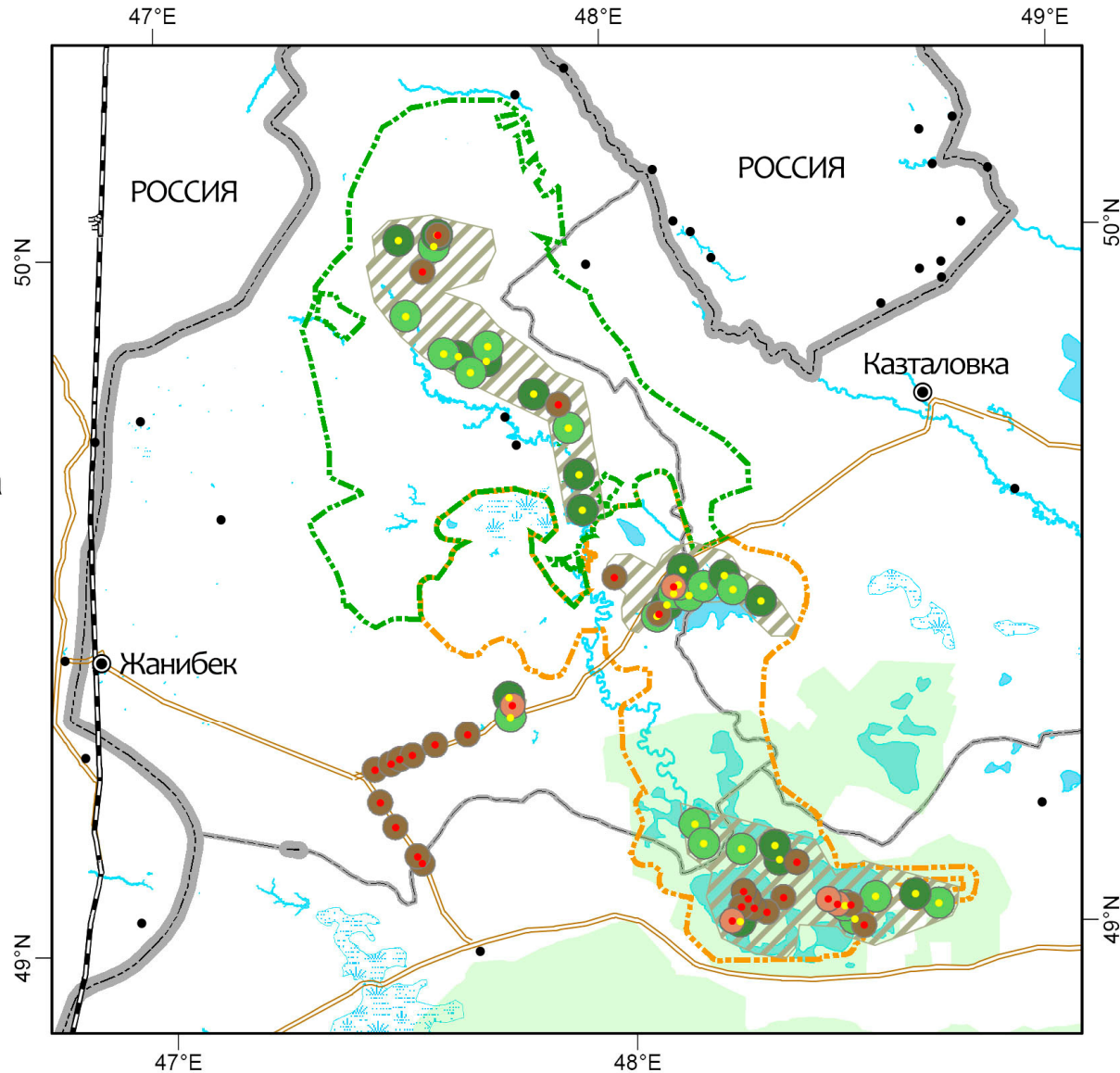
- жилой участок
- занятый участок

Гнездовые участки курганника

- жилой участок
- занятый участок

Центры гнездовых участков

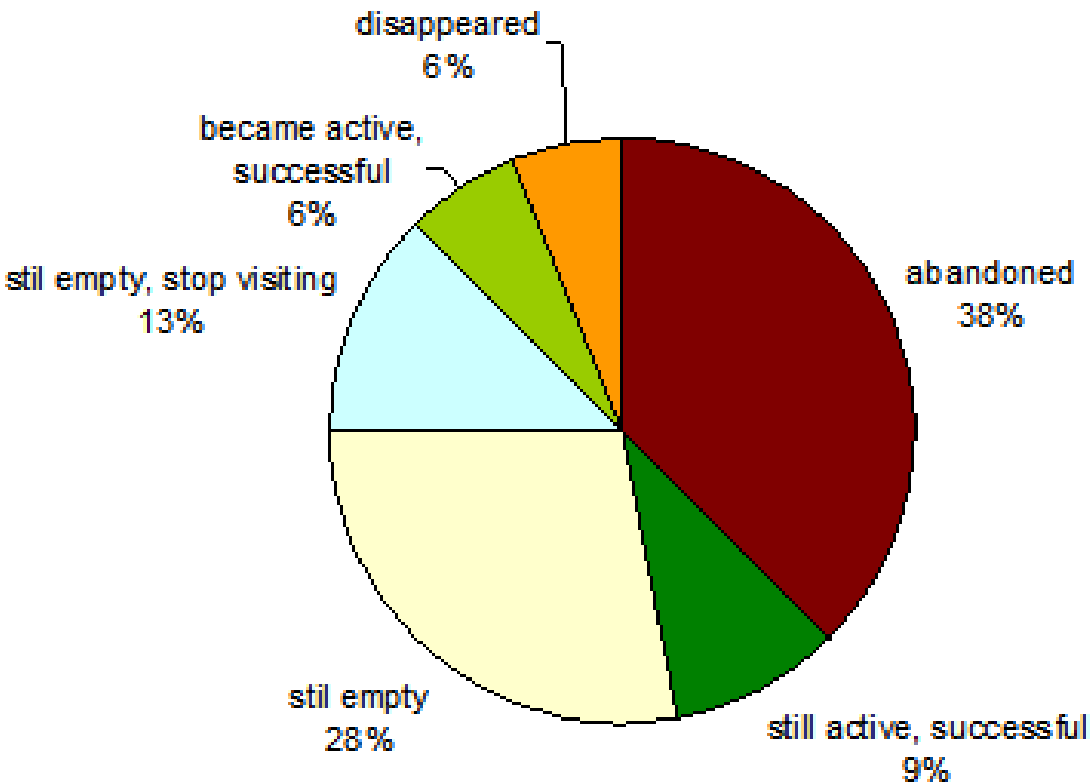
- степного орла
- курганника
- Учетные площадки



2023 Results

- Nests surveyed: 110
- Of which active nests: 30-34 (31%)
- Of which successful nests: 24 (22%)
- And apparently unsuccessful nests: 6-10.
- Occupied breeding territories revealed: 40 at least
- Including successful ones: 28
- Breeding density: 4.00 occupied territories per 100 km² (including 2.8 successful territories per 100 km²), by plots: Aralsor-Araltobe - 3.42 territories per 100 km², Aschyozek - 5.33 territories per 100 km²
- Mean distance between neighboring **successful** nests: Aralsor-Araltobe - 6.48±3,31 km (n=5), Aschyozek – 5.09±1,88 km (n=15)
- The brood size was 1-2 youngsters, only once 3 (n=23). Mean brood size: Aralsor-Araltobe – 1,36±0,63 (n=14), but Aschyozek – 2,45±1,91 (n=9) nestlings per 1 successful nest – the same pattern as in 2022 was found.

Nest status tracing



- **In general, the population shows negative trend: the statuses of the most of breeding territories under monitoring did not improve or became worse.**

- Visiting 32 nests which were found first in 2022 (68% of all known).
- Most of them are still empty.
- More than one third became abandoned (formerly were active) and for most of them (more than a half) it means abandoning the entire breeding area, not change of an active nest.
- 6% disappeared (one burnt).
- Only 6% improve their status became active (formerly empty)
- and 9% are still active and successful.

• 2022

Still successful

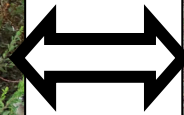
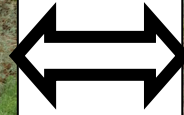
• 2023



• 2022

Became abandoned

• 2023



2023 Results

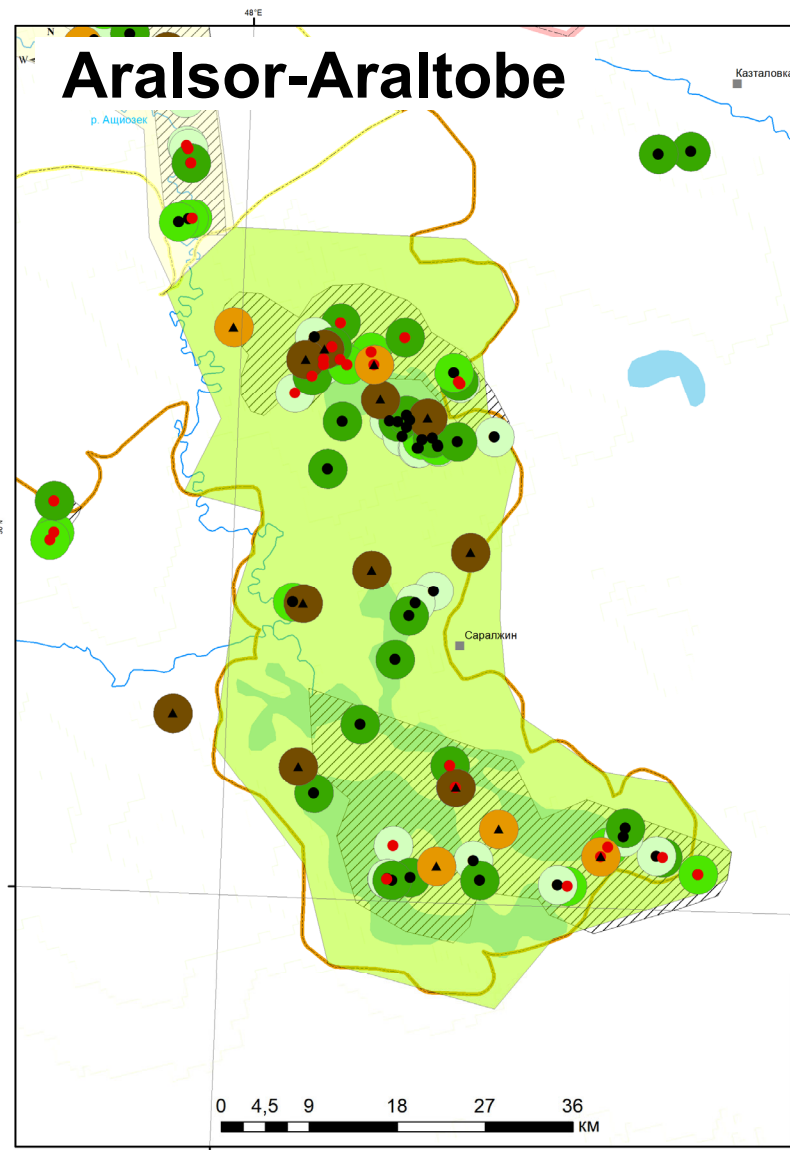
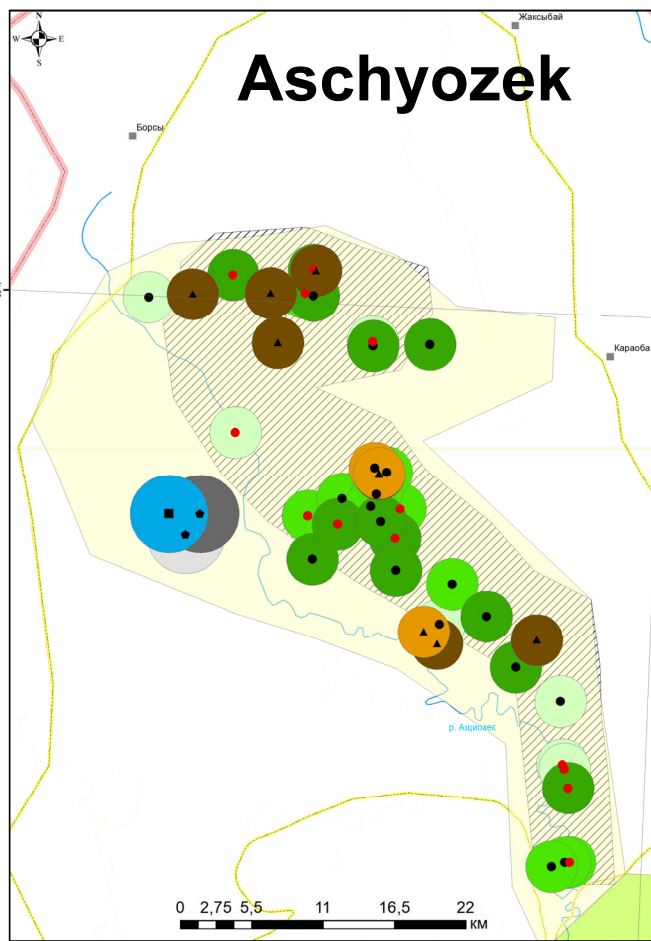
Bird records:

- 85 adults, mainly on their breeding territories.
- 32 youngsters (both nestlings and fledglings) on nests and near nests.
- 56 fledglings without evident relation to their natal nests, at least a half – near water (ponds, small reservoirs, river) – the same pattern as a year ago
- 3 dead eggs were found – all in successful nests (1 per a nest)

Distribution of occupied breeding territories

Легенда

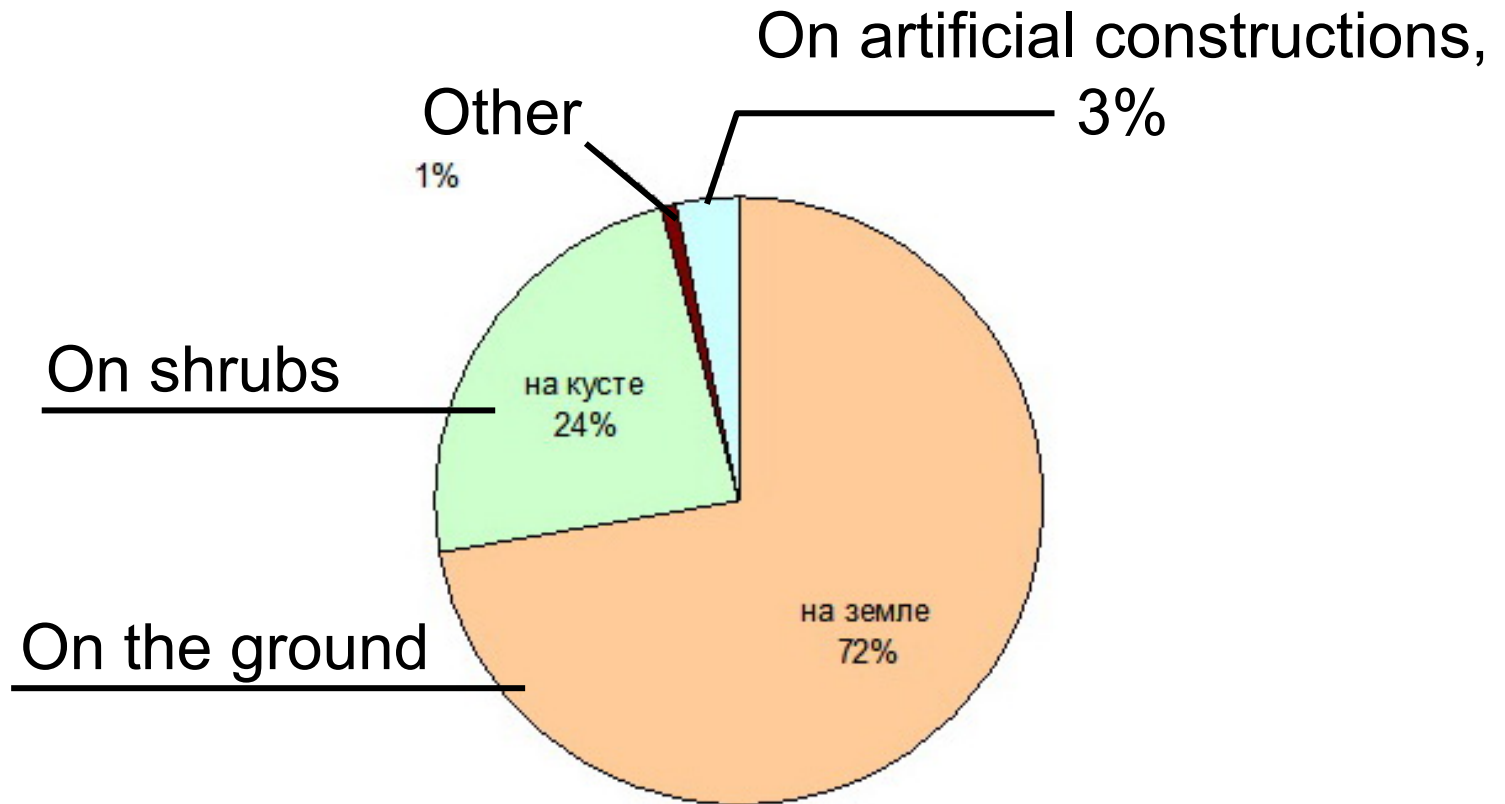
- ▲ Гнездо Курганника
- Гнездо Могильника
- Гнездо Орлана белохвоста
- Гнездо Степного орла 2022 года
- Гнездо Степного орла
- Жилой участок могильника
- Жилой участок орлана белохвоста
- Н/Ж участок орлана белохвоста
- Н/Ж участок курганника
- Жилой участок курганника
- Жилой участок Степного орла
- Н/Ж посещаемый участок Степного
- Н/Ж участок Степного орла
- Населенные пункты
- Учетная площ адка Ащюзек 2023 год
- Учетная площ адка Аралсор 2023 год
- Учетные площ адки 2022 год
- Государственная граница
- Ащюзекский заказник
- ГТР "Бокейорда"
- Сор
- Реки



Estimation of the PA entire population number

- Extrapolation to the entire area of the Reserve (Aralsor site, 1836 km²): approximately 41-42 breeding territories with 16 successful among them
- Extrapolation to the entire area of the Sanctuary (3145 km²): 62-63 breeding territories, 36-37 successful ones.
- **In total: ca. 100 breeding territories for the both PAs, including 50 successful in average** (considering a part of the area is unsuitable for the eagle habitation, i.e. salt lakes and salt flats).

Nest substrates

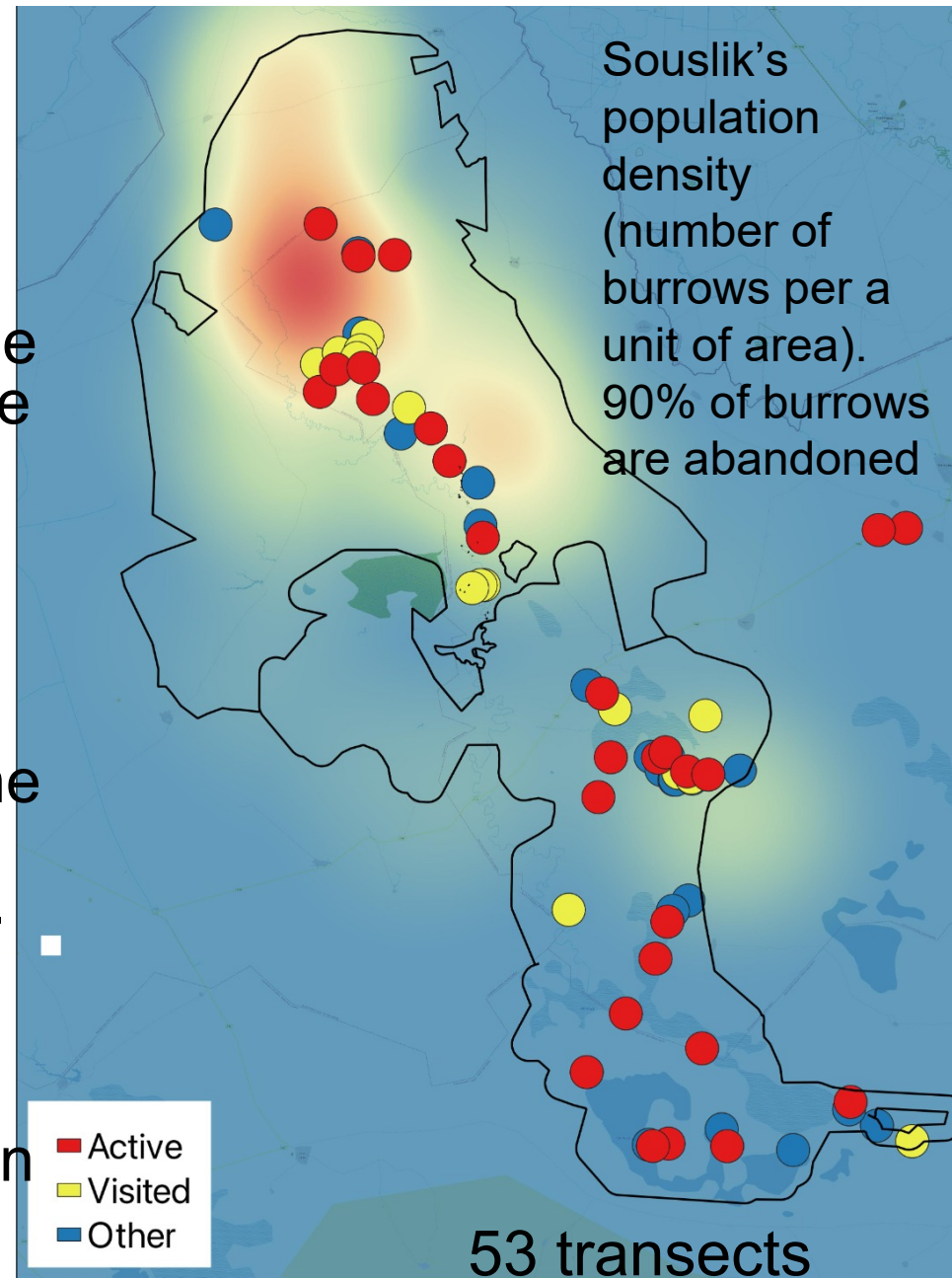


2022 & 2023 together, 127 nests



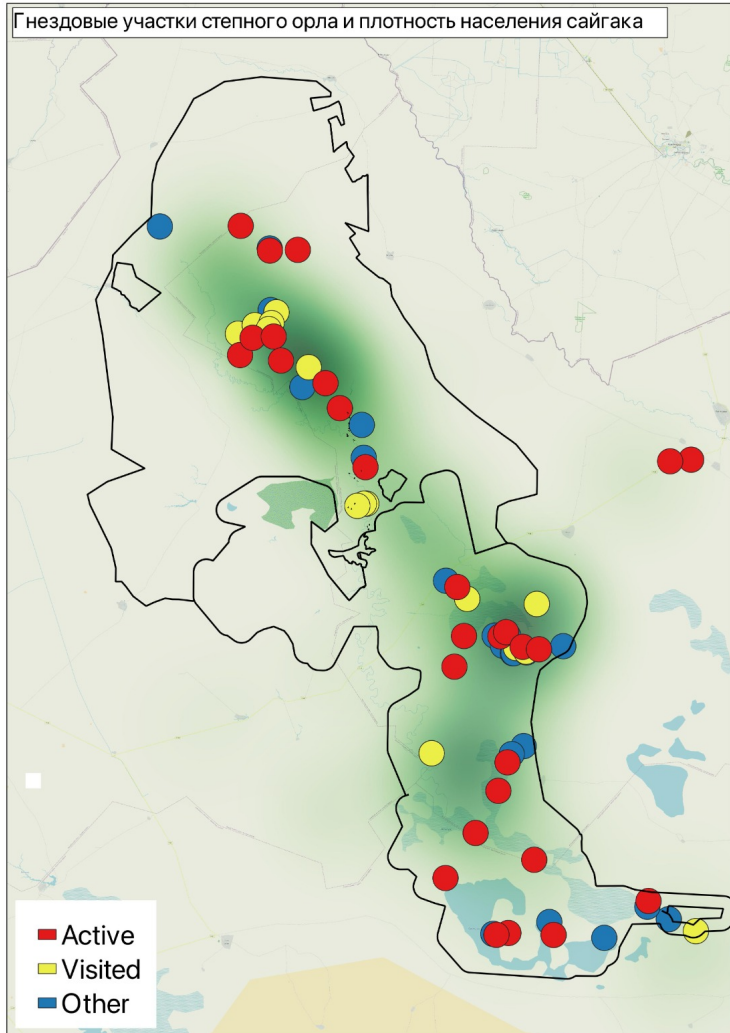
Feeding resources

- Formerly, the main prey for the Steppe Eagle here was a Little Sauslik, *Spermophilus pygmeus*.
- Currently the Sauslik population is depressed for a decade or so and can not serve as a feeding base for the eagle. Sauslik remains were found on the nests only twice.
- We assume the shortage in feeding resources is a main reason for the negative trend in the Steppe Eagle population of the area.



Feeding resources

- Actually the eagles feed on Saiga carcasses. Saiga remains (mainly legs) were recorded on the nests cases).



Threats

Actual

- Death on power lines (electrocution, 1+ dead eagle per 1 km of line).
- Steppe fires (nests burning)

Potential

- Disturbance of birds on their nests by human activities.
- Poisoning rodents
- Road kill



No data

- Poaching (shooting for different reasons)

Large raptors in the area

- Steppe Eagle, Imperial Eagle and White-tailed Sea-Eagle are the only three eagles (s.l.) breeding on the area.
- Steppe Eagle is the most numerous (50 times more than two others, 2 successful breeding territories each).
- Long-legged Buzzard is another breeding raptor abundant in the area, at least 24 successful nests surveyed each year.

Institutional prospects for the species

- Steppe Eagle is one of few priority species for the Reserve, actually it is a next after Saiga by significance.
- It is recognized as one of priority values in the Reserve Management Plan for the next 5 years. It means special attention to monitoring and protection for this period, special reporting and (ideally) financing.
- Also the Steppe Eagle is included in the Monitoring Program as a specific object of ecological monitoring.
- ACBK partnering with RSPB are working with the Reserve on the Steppe Eagle monitoring and conservation (counteracting collisions on power lines, tagging with transmitters), raising extra funds for that.

Thank you for attention

