1. Distribution, space use and population structure of polar bears. Shipboard and stationary observations, questionnaire design of native and worker people in the Arctic, traditional ecological knowledge are used to estimate distribution of polar bears. Satellite biotelemetry and observations data indicates polar bears’ space use for sea ice and terrestrial habitats.

2. Population welfare. Starvation, proximity to people and domestic animals could result in high susceptibility of polar bears to the broad range of pathogens. Change in nutrition is an obvious indicator of population and individuals’ health. Non-invasive methods are used for samples collection in the collaboration with conservation organizations and inter-disciplinary specialists.

3. Habitat vulnerability. Sea ice characteristics and seasonality change under environmental forcing. The understanding such mechanisms contributes development forecast and hindcast models for polar bear habitat. Satellite imagery, observed and derived spatiotemporal data are used to estimate habitat characteristics.

6203 Monitoring of Social Structure and Space Use by Amur Tigers (Panthera tigris Temminck, 1884) in Russian Far East Based on GPS Telemetry and Phototraps Data

Jose Antonio Hernandez-Blanco¹, Sergey Naidenko¹, Maria Chistopolova¹, Viktor Lukarevskiy², Pavel Sorokin¹, Mikhail Litvinov³, Andrey Kotlyar³, Dale G. Miquelle⁴, Vyacheslav Rozhnov¹, ¹A.N.Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow, Russian Federation; ²Sayano-Shushenskiy Zapovednik, Shushenskoye, Krasnoyaskiy krai, Russian Federation; ³Ussuriyskiy zapovednik, FEB Russian Academy of Sciences, Ussuriysk, Russian Federation; ⁴Wildlife Conservation Society, Vladivostok, Russian Federation. Contact: j.a.hernandez.blanco@gmail.com

To better understand spatial structure of Amur tigers at the southern edge of their range we fitted 14 tigers (6♂♂ and 8♀♀) with 15 GPS-Argos collars between 2008 and 2011 in Ussuriskii Reserve and Land of the Leopard National Park, Russia. Also we used 54 camera traps in Ussuriskii reserve. 24447 trap–days were worked out. We recorded 14 tigers in the studied area. Population density (SPACECAP) fluctuate from 0.11 tigers/100 km² to 0.58 tigers/100 km². Fixed kernel estimates of male home-ranges were larger than those of females (Mean 95%-FK♂=401±205 km²; Mean 95%-FK♀=778±267 km²). Home-range size of females was similar to estimates derived from earlier work further north. Low overlap of adjacent home-ranges suggested that females retained exclusive territories. Real core-areas of females overlapped only slightly. Home ranges of males were smaller than those of males to the north, and in contrast to previous studies, high overlap amongst males indicated the absence of territoriality. Nonetheless, real core-areas of males did not overlap, suggesting some spatial separation. In comparison to other tiger populations, the sex ratio in our two study areas was highly skewed towards males. We believe this skewed sex ratio resulted in the dissolution of territoriality of males due to an inability to defend individual females, with males resorting to scramble competition for mates. Continued monitoring of these sites to determine whether shifts in the sex ratio might result in a return to male territoriality would provide confirmation of our tentative hypothesis.