

Tiger Habitat Corridors in Far East Russia, Northeast China, and Northern North Korea: Need for a Conservation Strategy

Bruce G. Marcot, Ph.D.
Wildlife Ecologist
USDA Forest Service
Pacific Northwest Research Station
Portland, Oregon USA

2 September 1995 (prepared for Web presentation on 18 April 1996)

Report for: Ecologically Sustainable Development, Inc.
and USDA Forest Service, Pacific Northwest Research Station

The following is a brief summary of a potential conservation strategy for Siberian tiger habitat corridors in the Far East. This report results from field outings to many of these locations and from discussions with tiger experts I had in the Far East during 31 July to 16 August 1995 (also see Marcot 1994 trip report, located elsewhere on this site).

Need for tiger habitat conservation.- Over recent decades, Siberian tigers (also called Amur tiger, Far East tiger, and Ussuri tiger; *Panthera tigris altaica*) have drastically declined in number and distribution in the general Far East region of Russia, China, and Korea. The remaining tigers occur in increasingly fragmented and isolated habitats of old and closed-canopy conifer and hardwood forests of Korean pine, Mongolian oak, and many other species.

Continued logging of these forests and development throughout the remaining tiger range for human occupation will likely sever some of the remaining tiger populations. As tiger populations dwindle and become isolated into small pockets, each population pocket will be subject to far greater risks of local extinction, than if populations were linked by high quality habitat.

One solution entails identifying and conserving forest habitat for tigers along corridors so that population centers and breeding individuals can interact geographically. Where necessary to ensure population viability of tigers, habitat corridors could span administrative and even international boundaries to ensure the largest effective breeding populations.

Tiger habitat corridors in the Sikhote-Alin Mountains.- One of the major habitat corridors in the Far East for tigers runs north and south along the Sikhote-Alin Mountains in Primorski Krai (province), Russia (FIGURE 1).



Figure 1.

There are some 12 key portions to this corridor (FIGURE 2). From north to south they are: Samarga, Django Planning Project area, Khor Planning Project (Katen-Kafen River Basins), middle and upper Bikin River Basin, upper Kima River Basin, the proposed Kema-Amgu National Park, Sikhote-Alin Zapovednik (nature reserve), the Sikhote-Alin Zapovednik add-on (in preparation), west slope Sikhote-Alin linkage, eastern Chuguyevski (this is a USAID-EPT planning project area), the proposed Upper Ussuri National Park, and Lozovski Rion (county).



Figure 2.

It is my opinion that maintaining this forest habitat corridor is essential for ensuring an interbreeding population of tigers in the Far East. However, by itself, this corridor is far too narrow and constrained to provide enough total habitat to maintain a viable population; additional habitat and prey populations need to be protected or restored as well, particularly in two major adjacent areas: Terneisky Rion and Krasnoarmeisky Rion (see FIGURE 2 for how these pieces interlink with the Sikhote-Alin corridor).

Other tiger corridors in the Far East.- Additionally, two other tiger habitat corridors in the Far East would also help maintain interbreeding tiger populations: one further north in Khabarovski Krai of Russia and Heilongjiang Province in China (FIGURE 3) and one further south in southern Primorski Krai linking into Jilin Province of China and into North Korea (FIGURE 4).

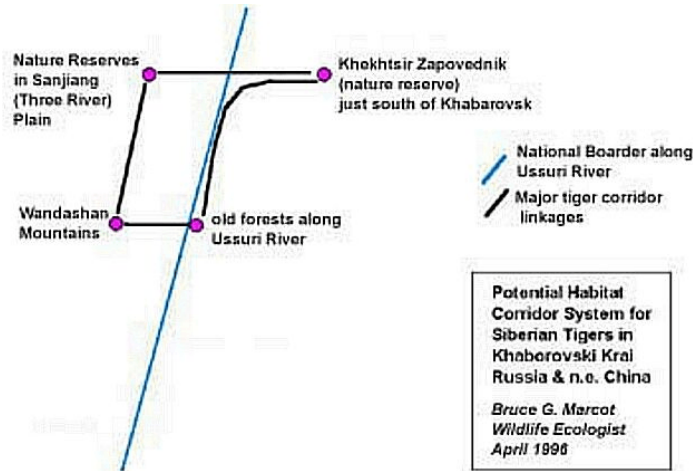


Figure 3.

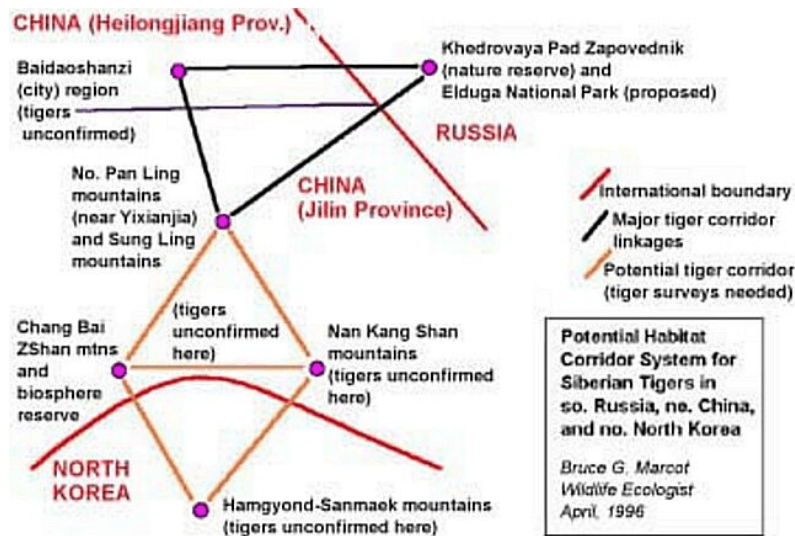


Figure 4.

The Khaborvski Krai/Heilongjiang Province habitats have been conserved, in part, in existing nature reserves in Russia and in de facto, high-elevation forests conserved in the Wandashan Mountains of China (although only a very few -- perhaps less than 5 -- tigers remain wild in the Wandashans). However, these Chinese forests are not protected from further high-grade logging. Along the Russia-China border in this region exist some remnants of older, closed-canopy forests left unharvested because of military exclusion of entry to the border region (one of the ironic advantages of decades of cold war).

Much of the forest habitat in the Jilin Province region of China vital to the second of these corridors likely has been logged. However, as part of China's captive propagation program for tigers, local and national governments there might consider conservation of remaining forest habitats and restoration of essential corridor habitats.

At present, administrative land management planning in Russia and China are just beginning to recognize the need for tiger habitat corridors. Hopefully, both countries will soon institute planning guidelines to ensure near-contiguous forest conditions to link the scant remaining Siberian tigers of their countries.

Conditions in North Korea remain unknown to most tiger biologists in the U.S., Russia, and China (personal communication with tiger experts; also see my 1994 trip report). It is unknown if tigers, tiger habitat, or prey populations or habitats exist and are being conserved in northern North Korea. However, North Korea shares a major forest biosphere reserve with China (the Chang Bai Shan reserve); it is hoped that tigers still roam these mountains.

Corridors are only one part of the solution.- In the Far East, conservation of forest habitat and travel corridors across administrative and national boundaries would be but one facet of a comprehensive, international tiger conservation strategy. Other aspects deserve equal attention, including: illegal hunting within Russia, China, and Korea; enforcement of CITES regulations for stopping illegal international trafficking of tigers and tiger parts; captive propagation with an integrated plan for reintroduction in the wild; continued research and monitoring of tiger populations; environmental education of public and governments; and other activities.

Acknowledgments.- Experts consulted for this work included Dimitry Pikunov, field tiger research biologist, Pacific Geographical Institute, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Primorski Krai, Russia; Dale Miquelle of EPT (Environment and Policy Technology) USAID Russian Far East Project; and numerous other field biologists and ecologists of the Russian Academy of Sciences. Support for this work was provided by Pacific Geographical Institute, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok; Ecologically Sustainable Development, Inc., New York; and USDA Forest Service.