



The Construction of Amur Tiger/Leopard Monitoring Platform in China

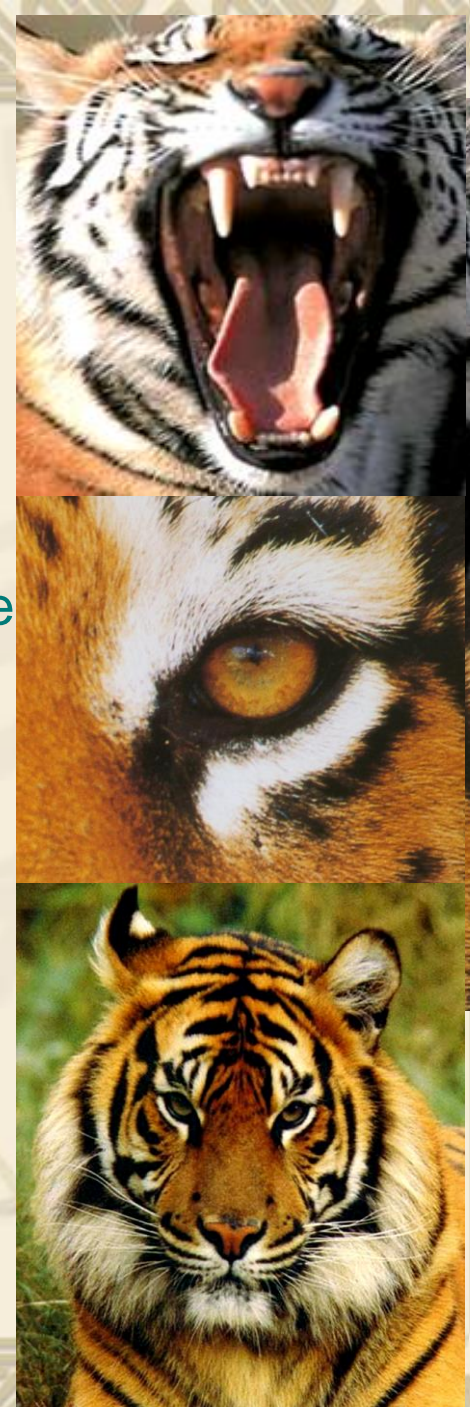
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Outline:

- 1 The necessity of constructing Transnational Amur Tiger/Leopard Monitoring Platform
- 2 The Advance of constructing Amur Tiger/Leopard Monitoring in China
- 3 The main result of monitoring experience and data analyze
- 4 The management system design, internationalization and standardization of monitoring technique
- 5 The website construction of international tiger/leopard protection and promotion
- 6 The work teams, objectives, research domains and transnational cooperation of Amur Tiger/Leopard Monitoring Platform
- 7 Urgent problems





1 The necessity of constructing Transnational Amur Tiger/Leopard

Monitoring Platform

It is hard to use conventional animal survey technology on tiger/leopard, and need transnational or trans-regional cooperation from many experts.

Improving monitoring technology and ensuring scientific and unified monitoring data, so that the same specie distribution area can share the data;

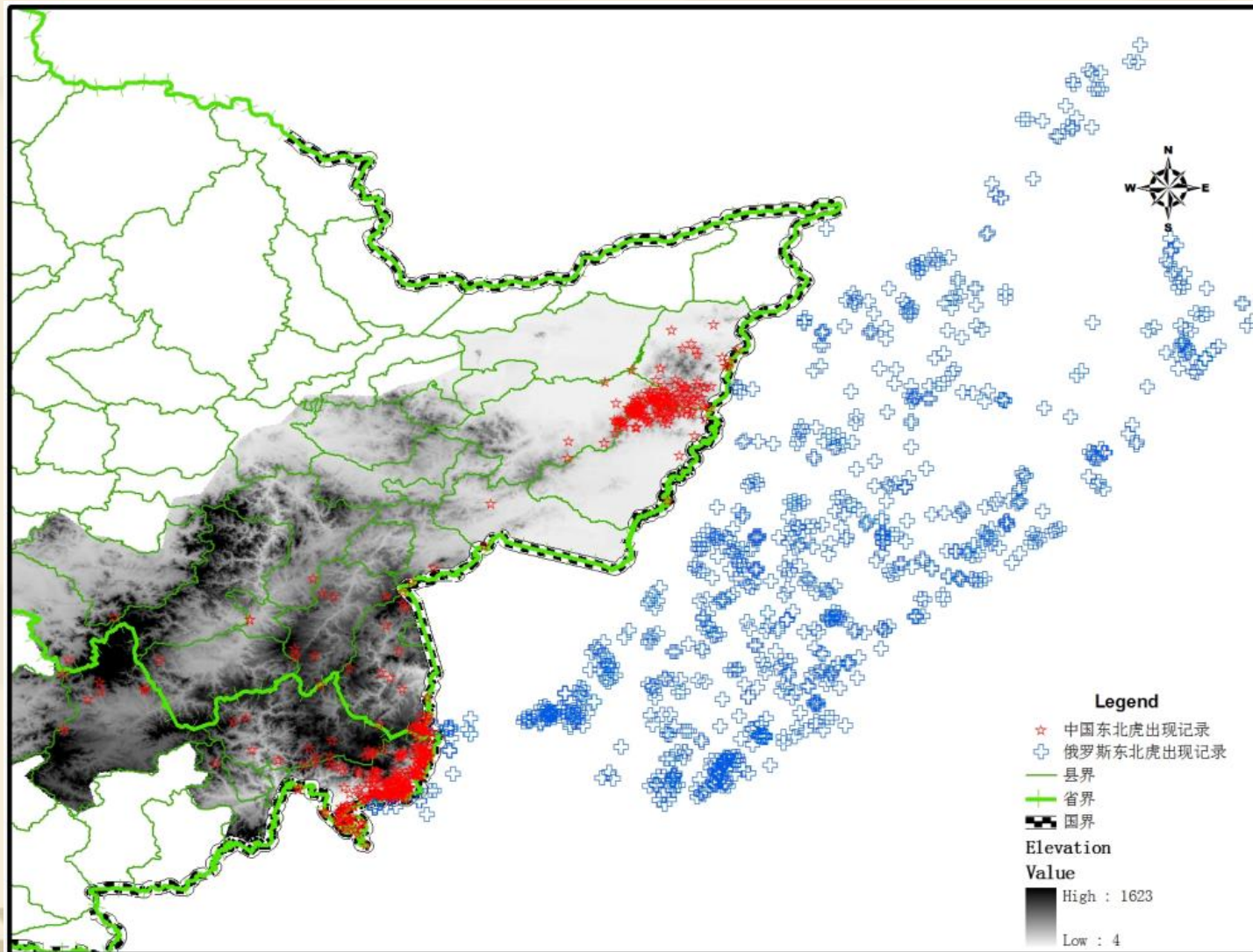
Use their population number and dynamic information database of distribution area to explore the risk factors for population restoration

To build a technology and information exchange platform for effective development of international cooperation, form expert groups, and the introduction of international advanced technologies and experiences

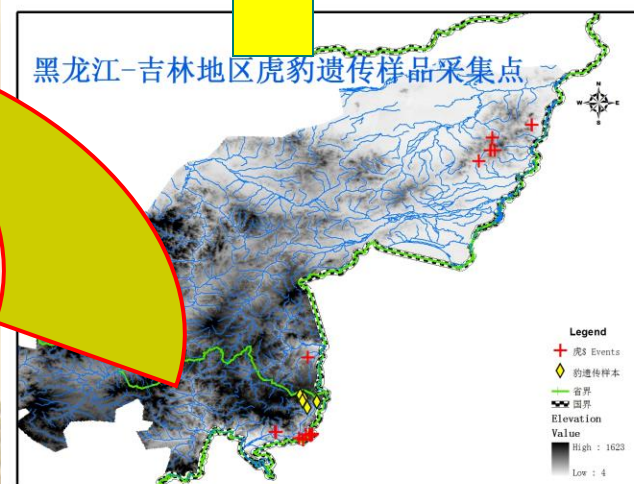
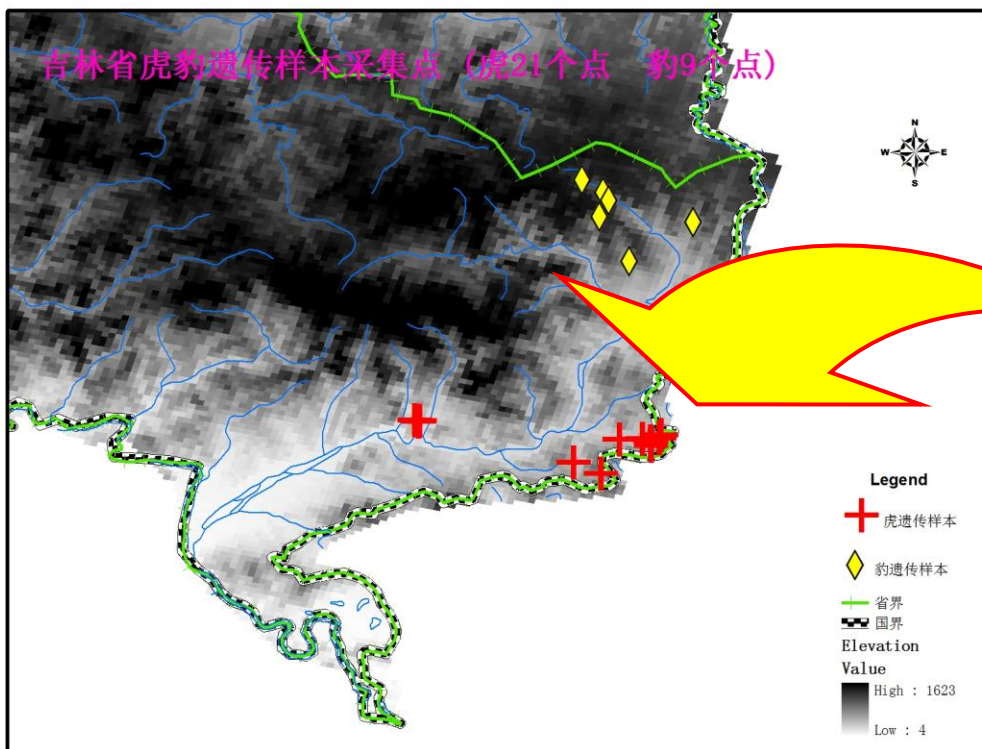
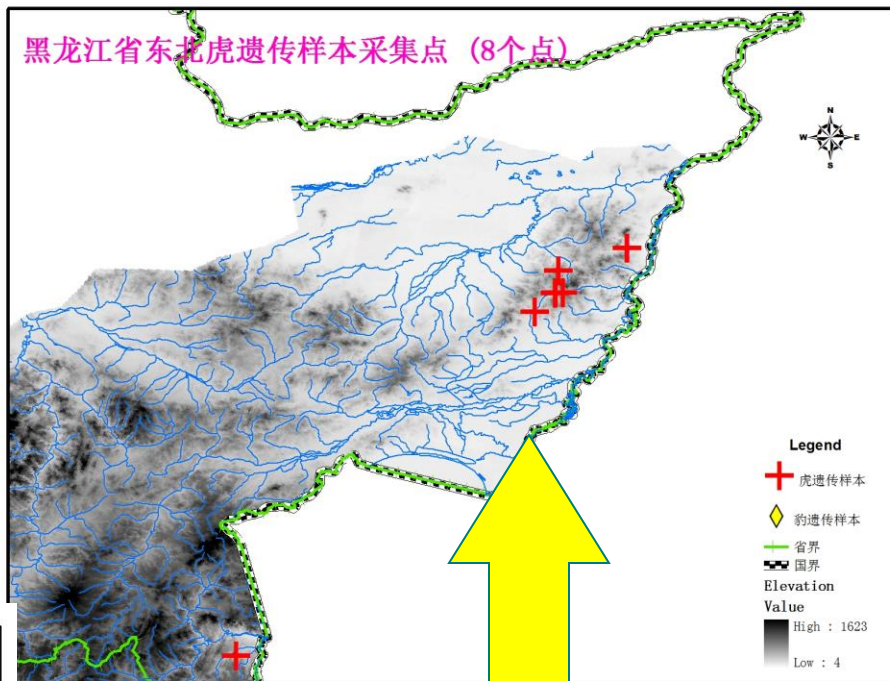


2 The Advance of constructing Amur Tiger/Leopard Monitoring in China

dynamic information database of distribution area –information network (600 pieces of information, 2000-2013)

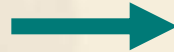


genetic information database

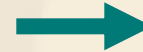


footprint image database

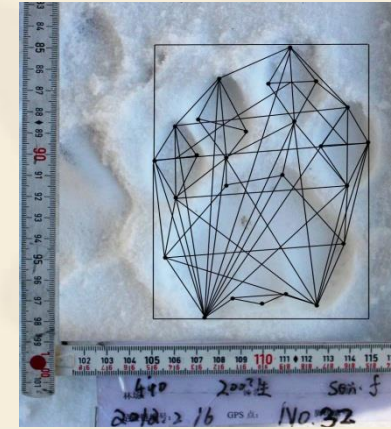
Left hind footprint



Digital image of footprint



Geometric profile in



DATA ANALYSIS IN

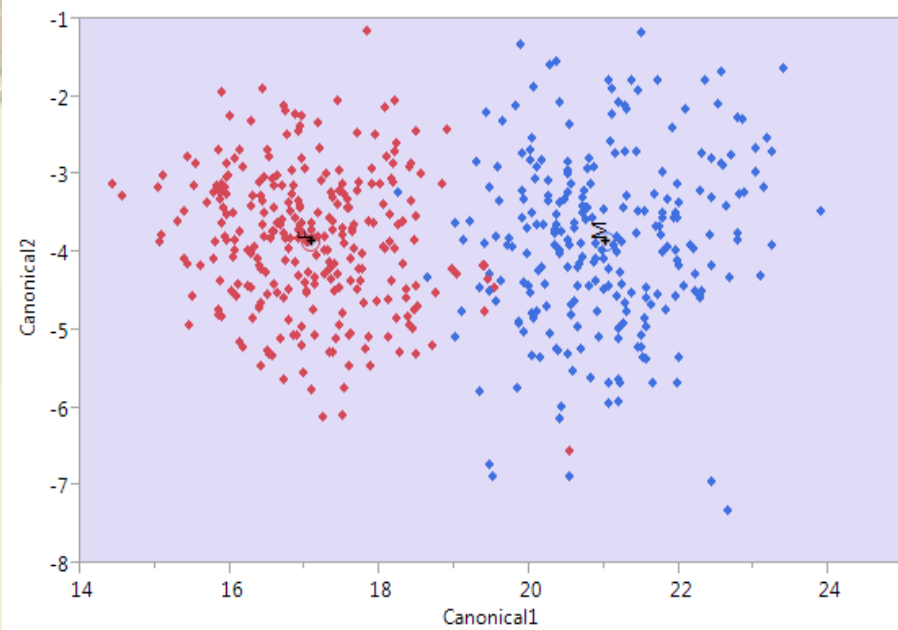


Automatically measures 128 distances, angles and areas on the footprint image



Building individual and sex footprint identification model

The individual and sex identification are very high (97.9% and 96.87% respectively).



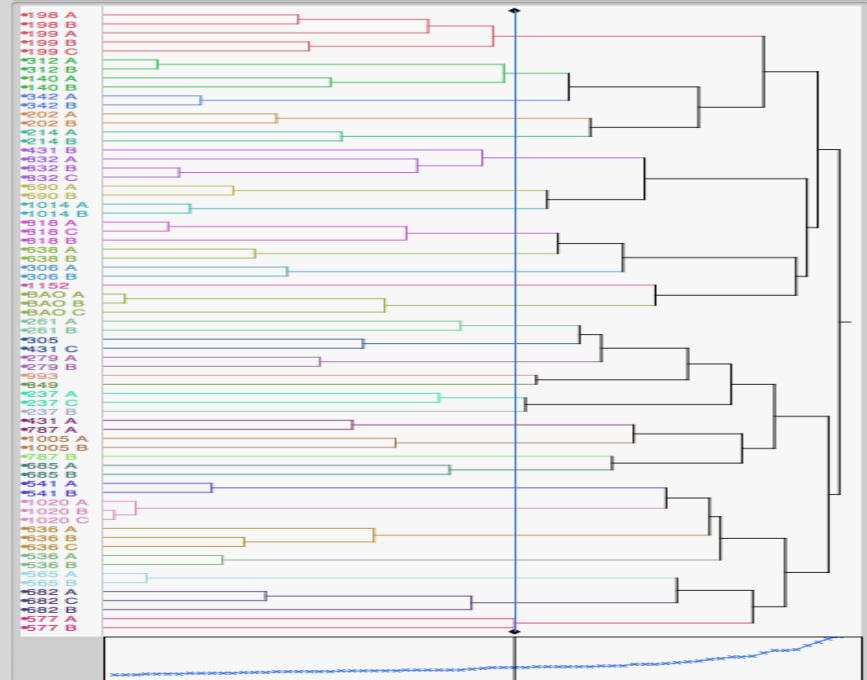
Hierarchical Clustering

Method = Ward

31 clusters

Ward distance: 1.941

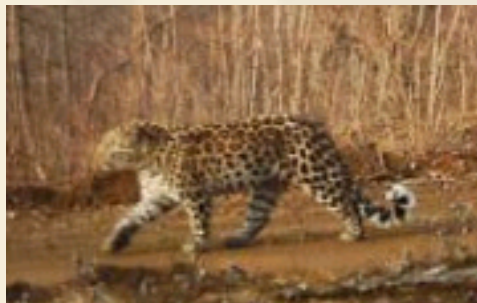
Dendrogram



body side pattern image database



Mar 2012 Hunchun



Mar 2012 Hunchun



Dec 2012 Dongfanghong



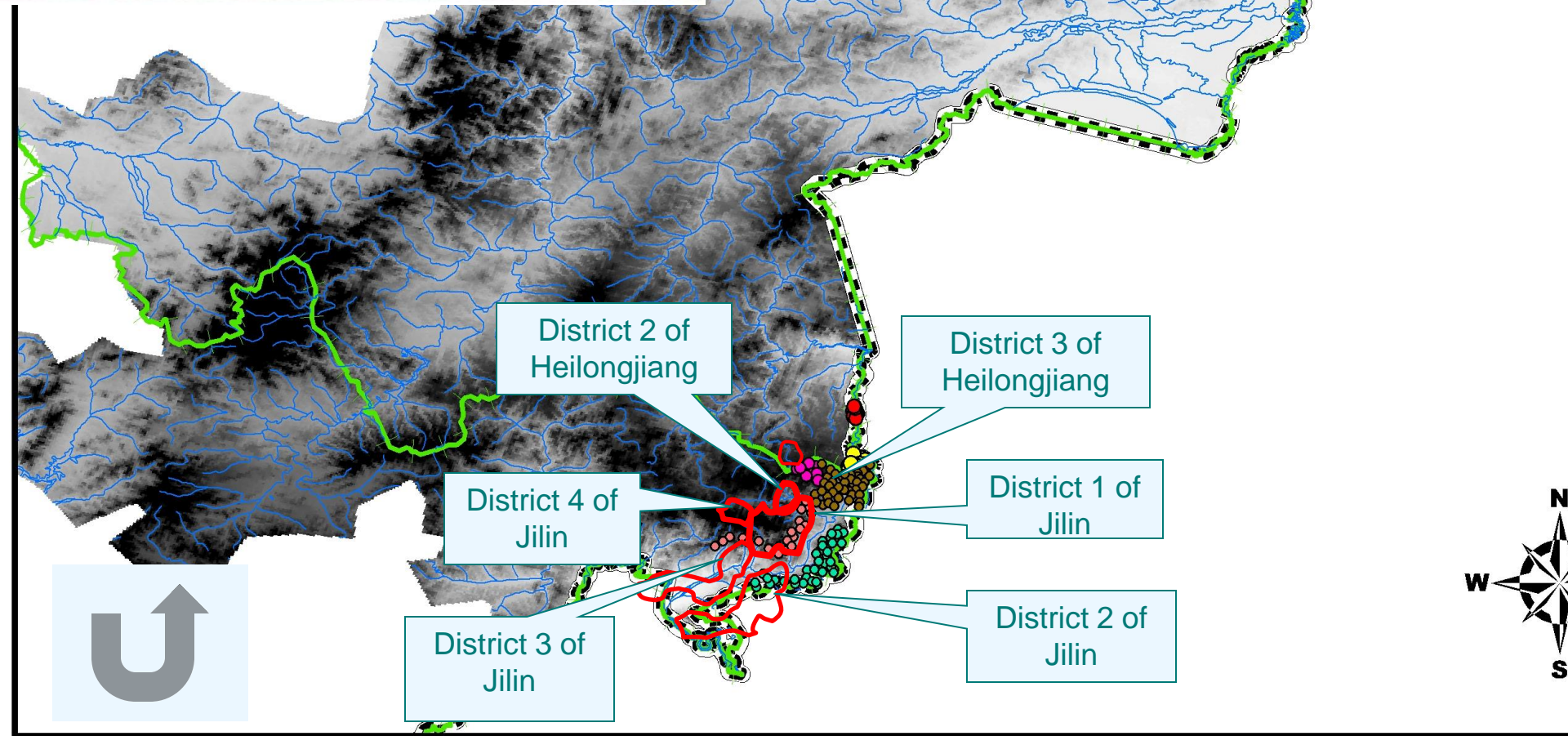
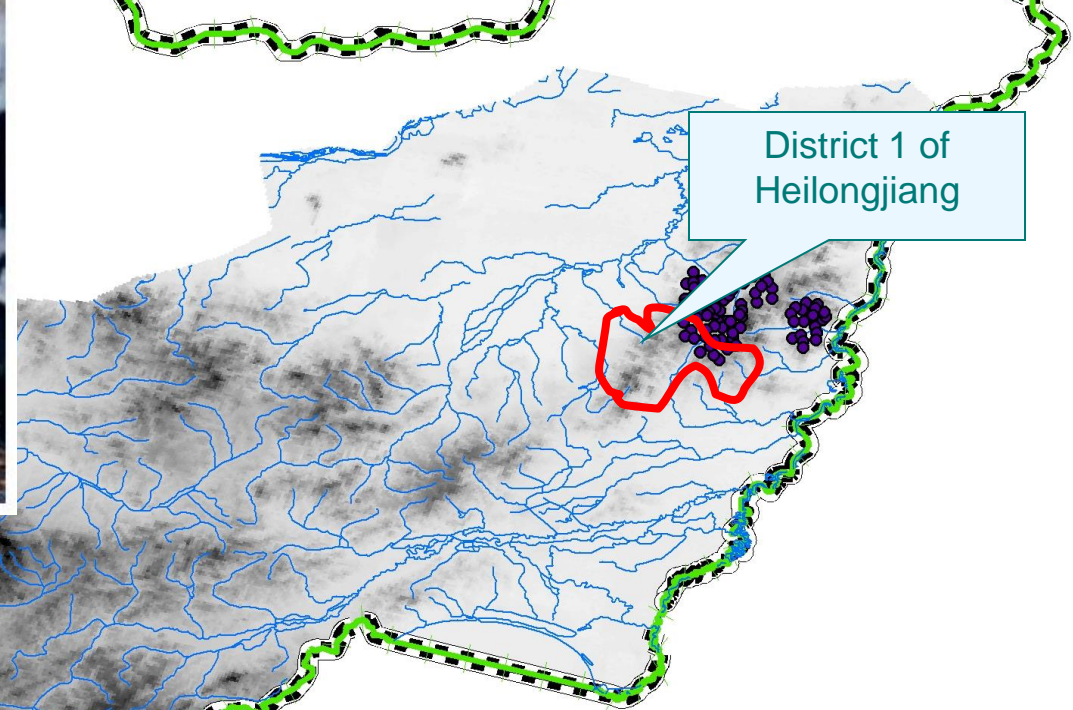
Apr 2012 Wangqing

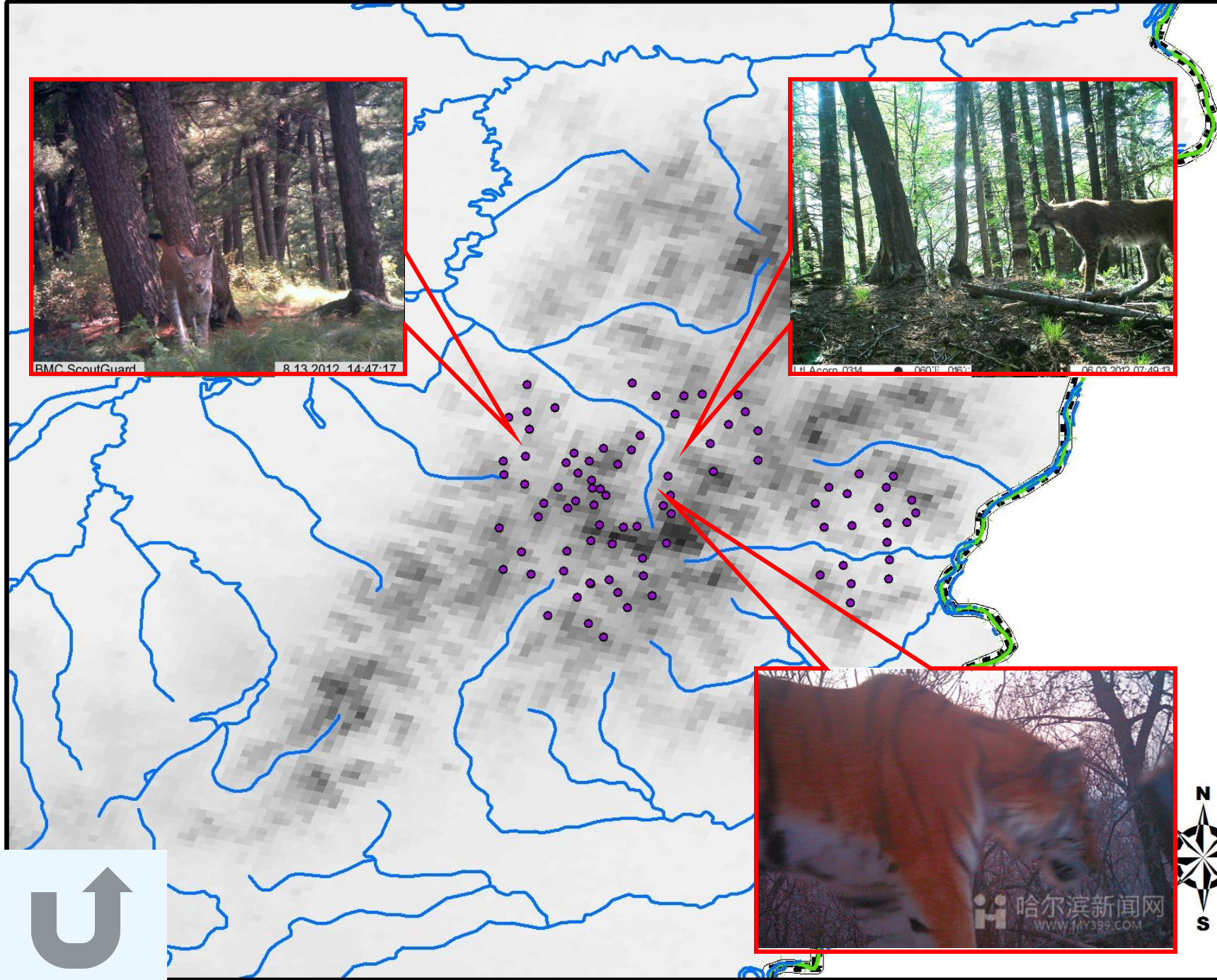
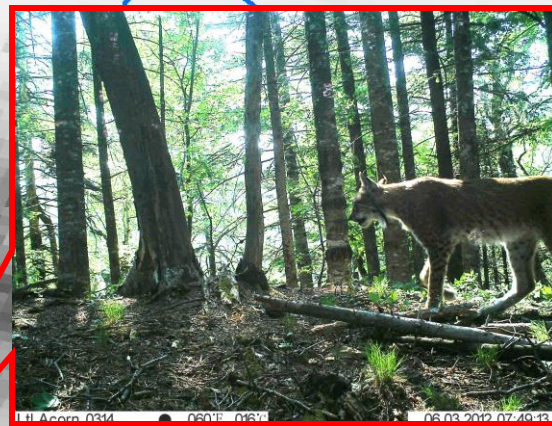
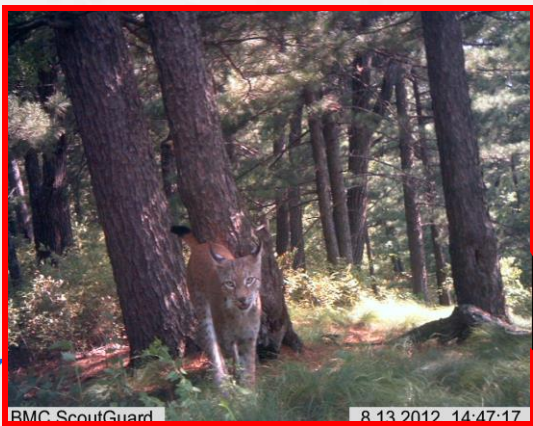


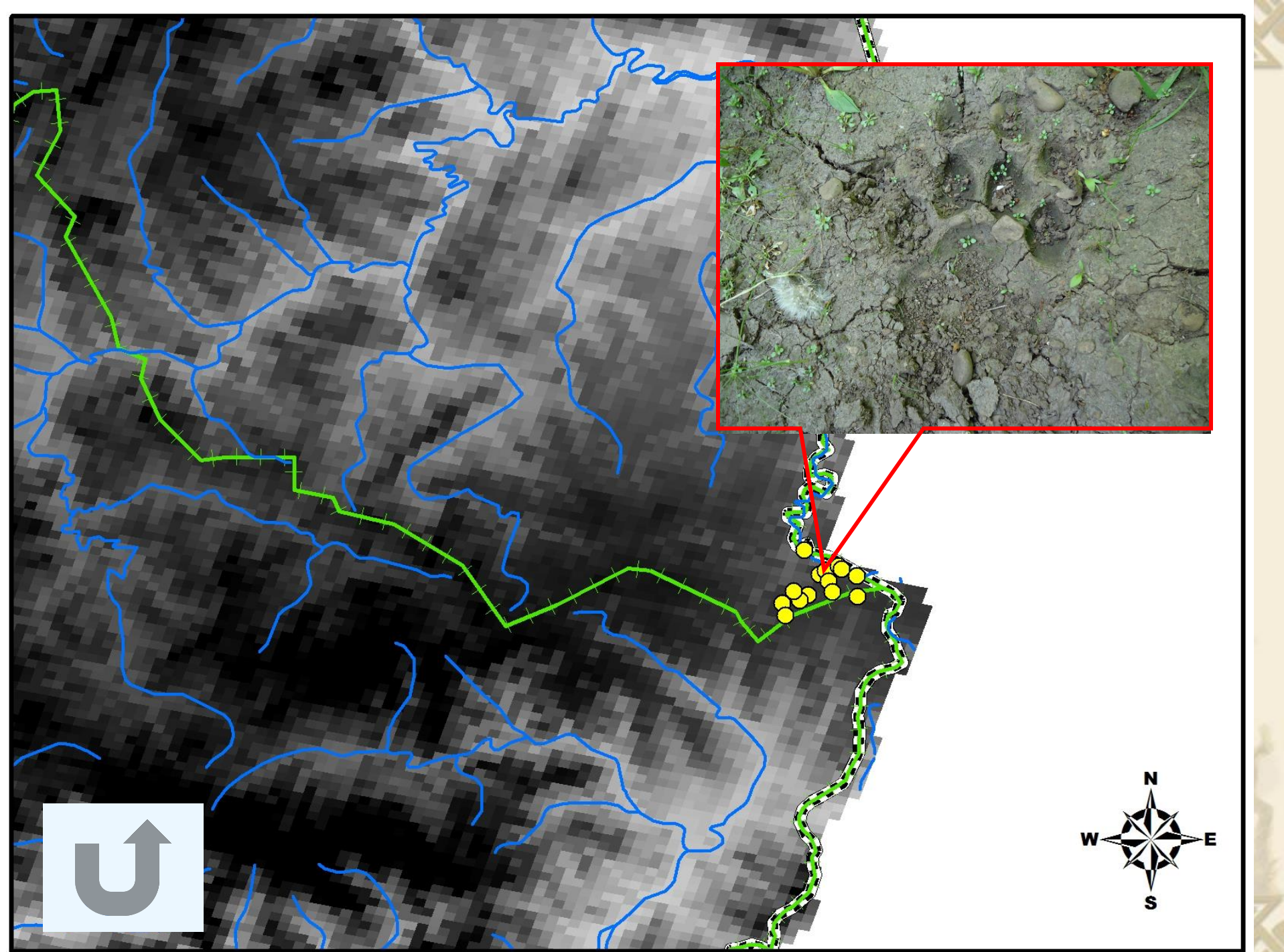
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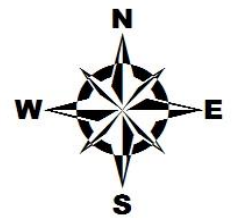
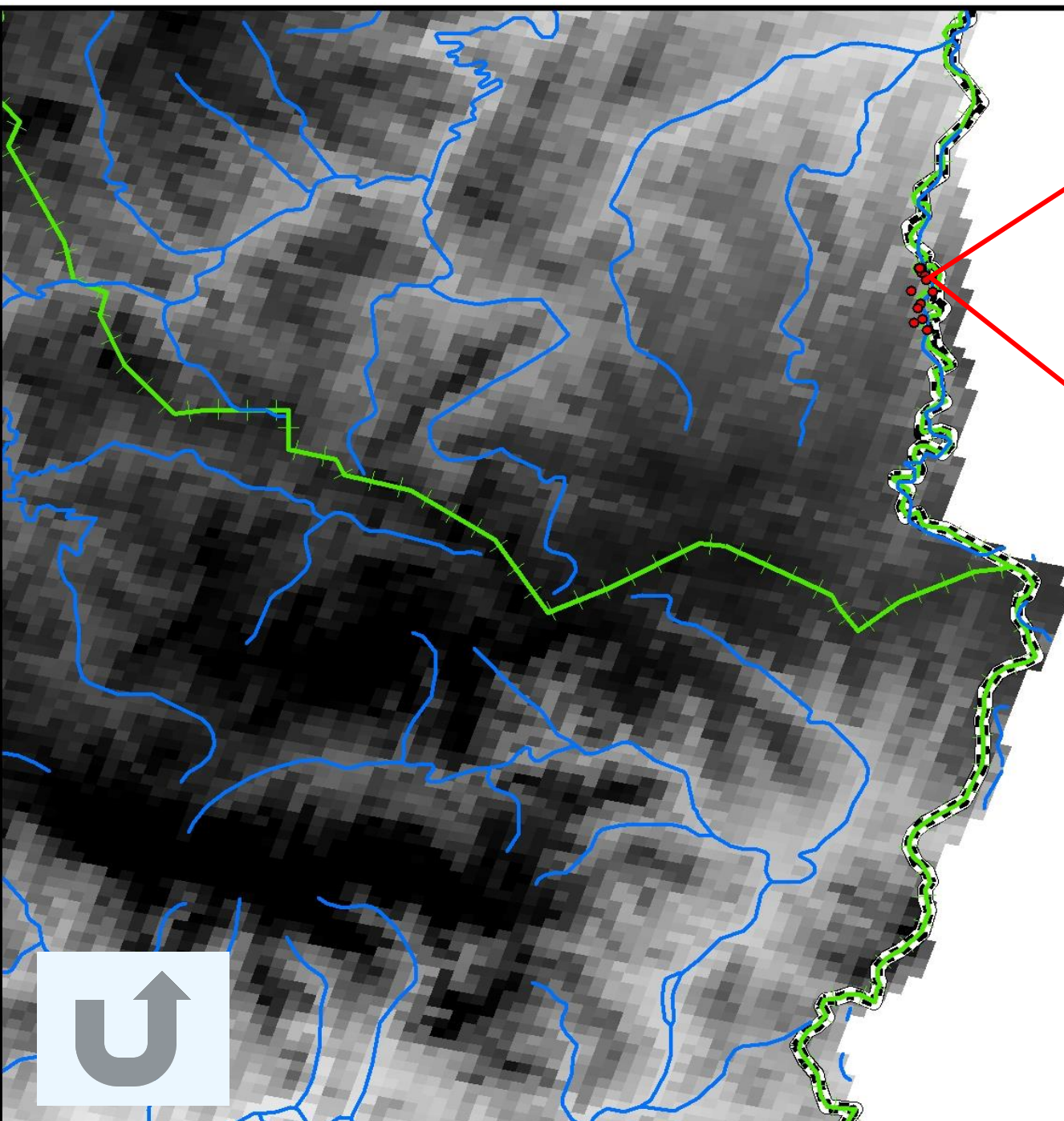


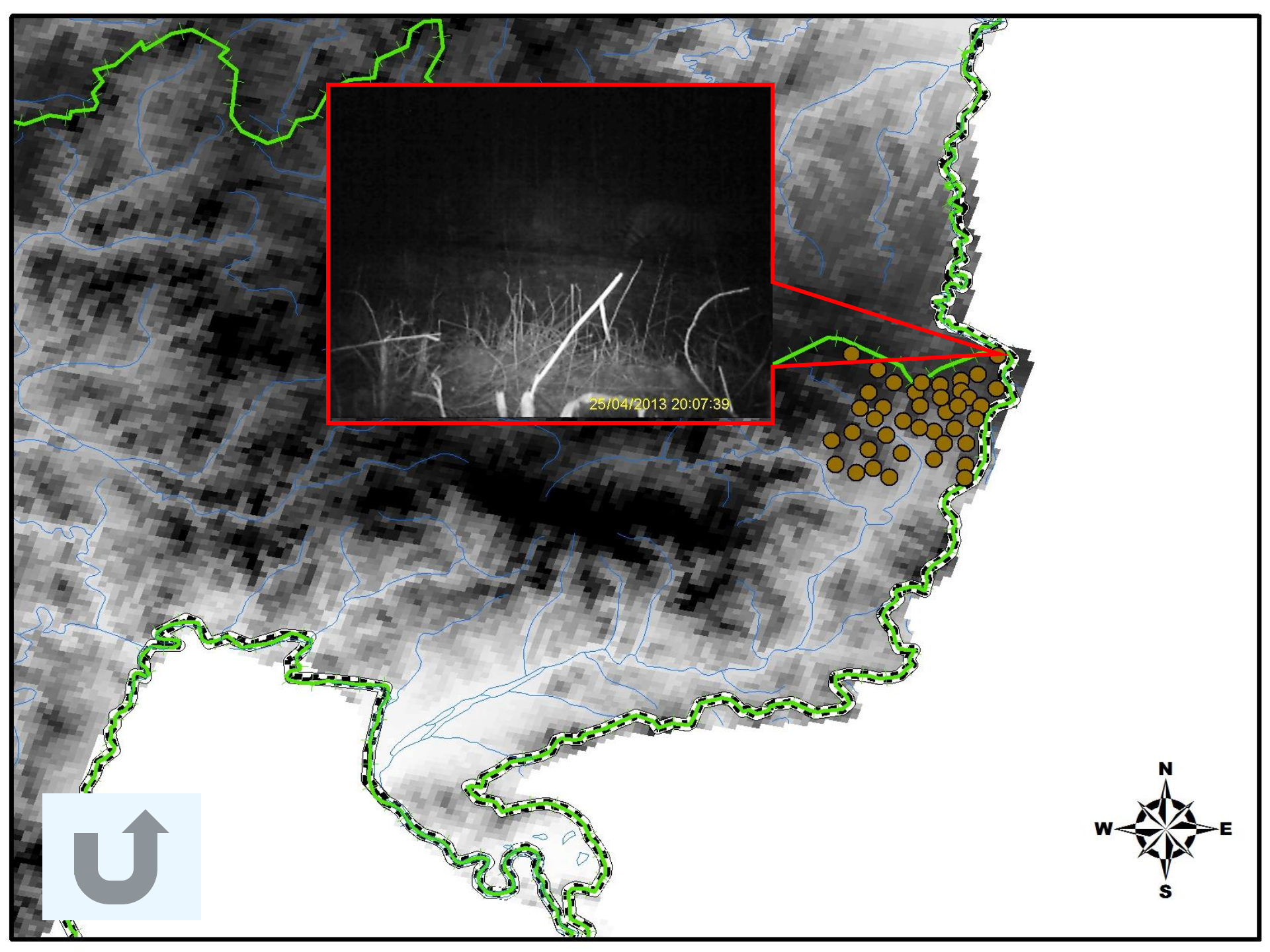
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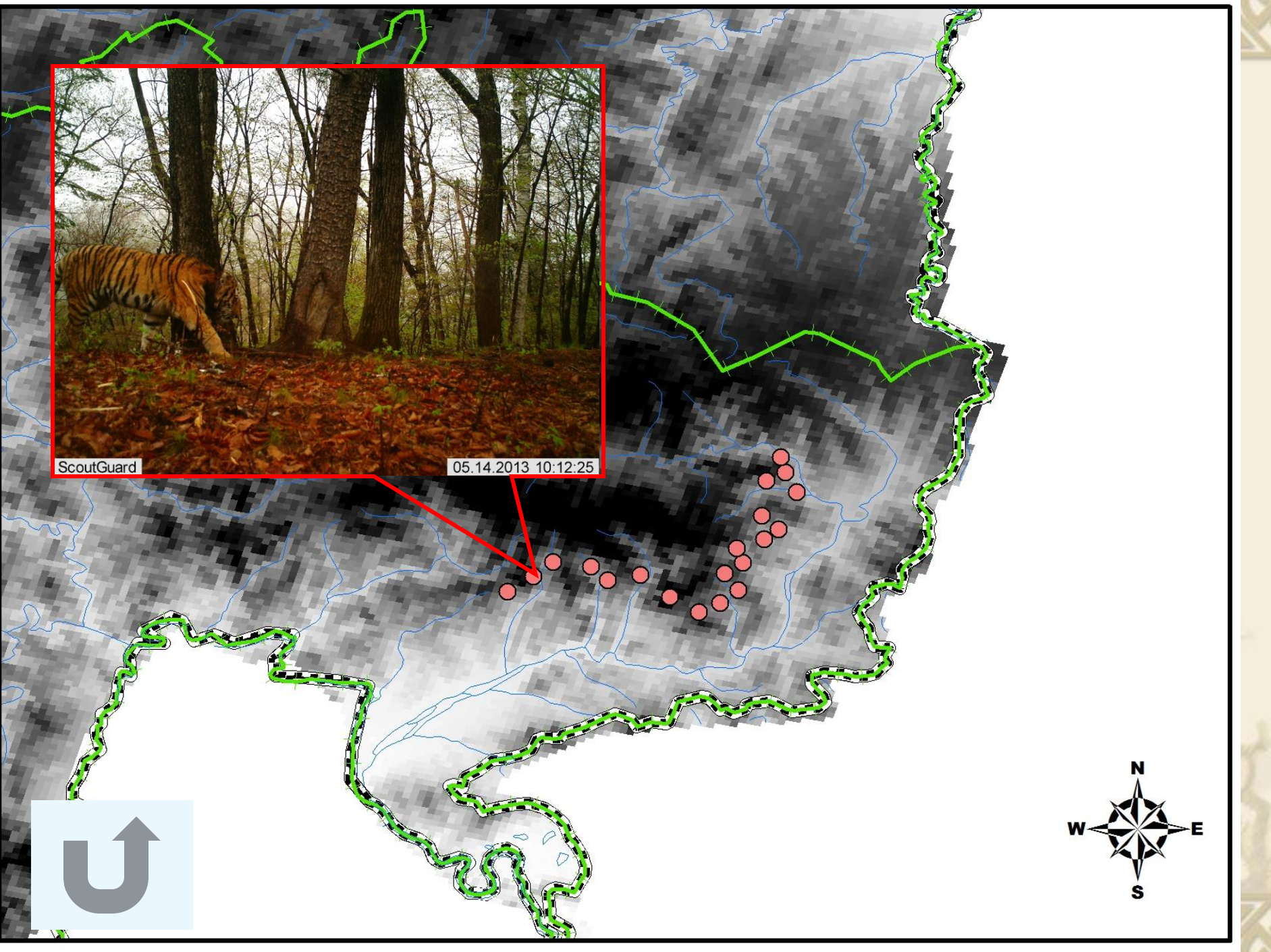


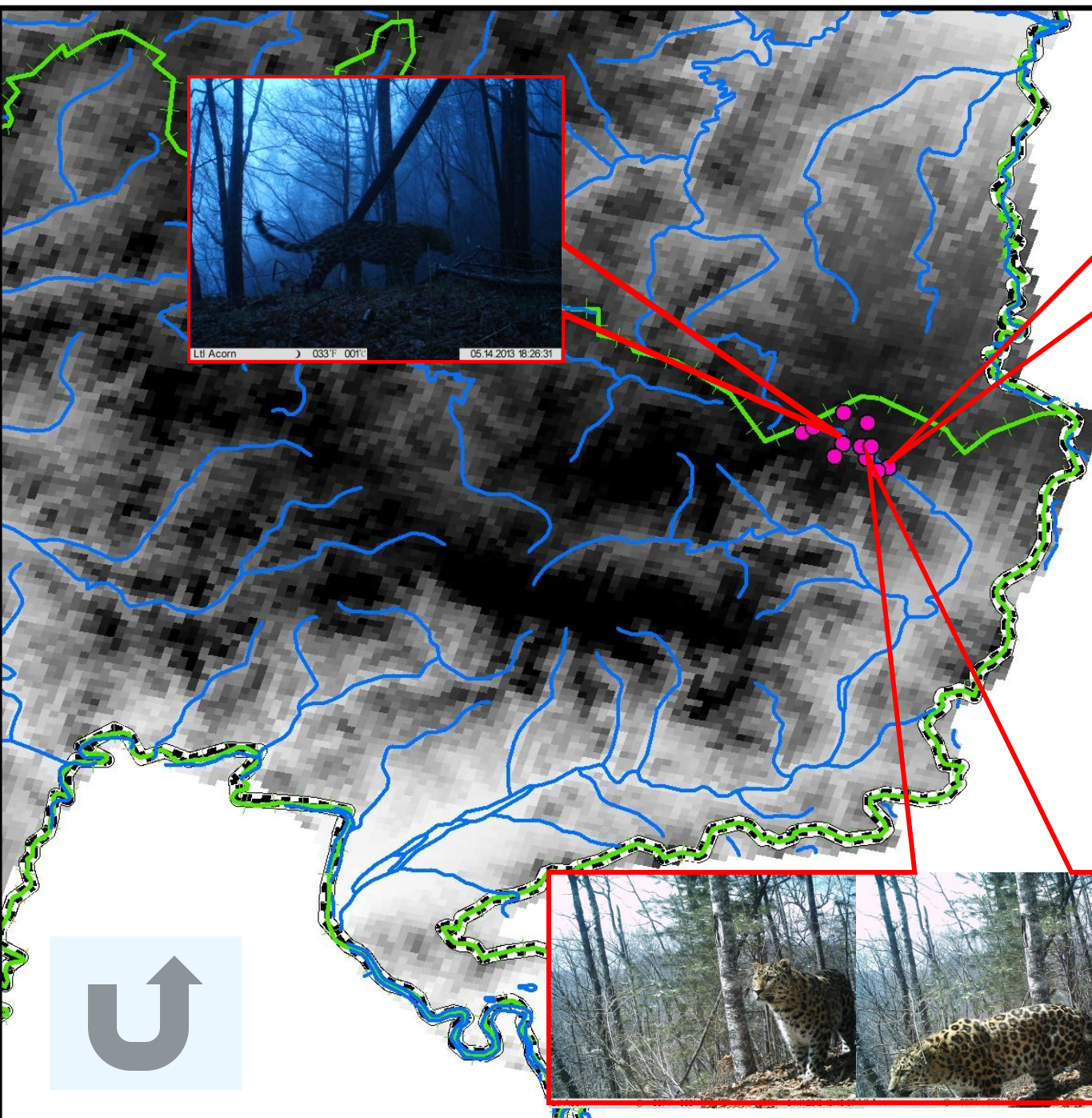
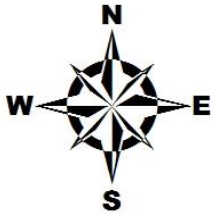




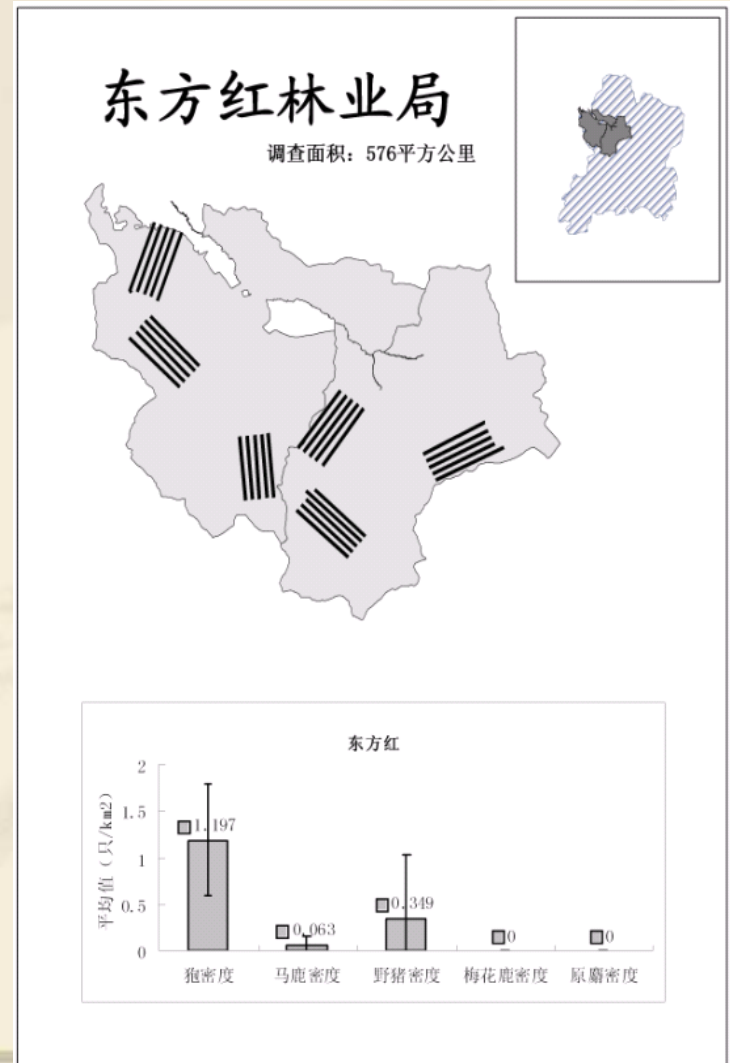
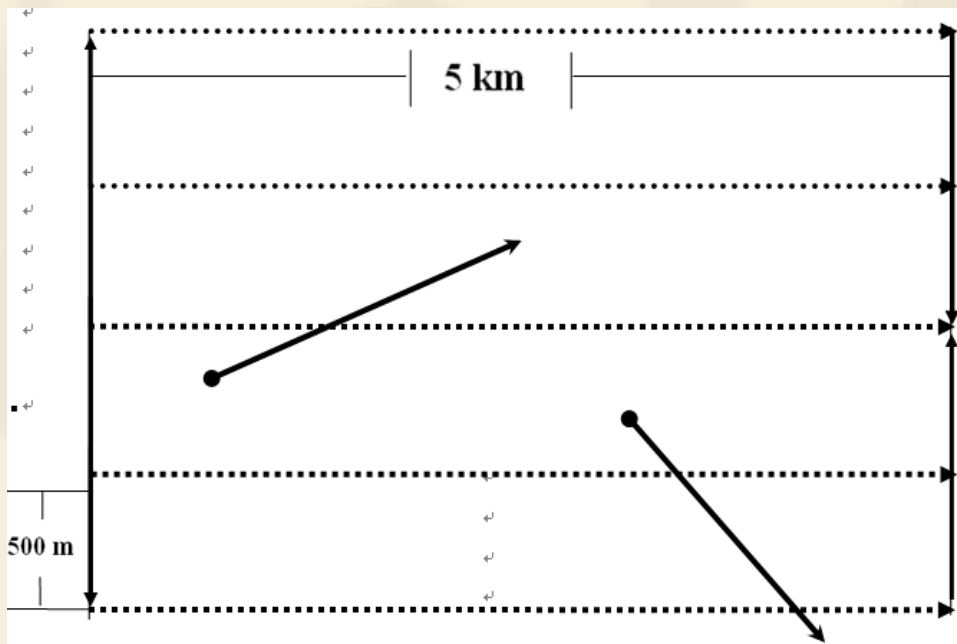
ScoutGuard

05.14.2013 10:12:25



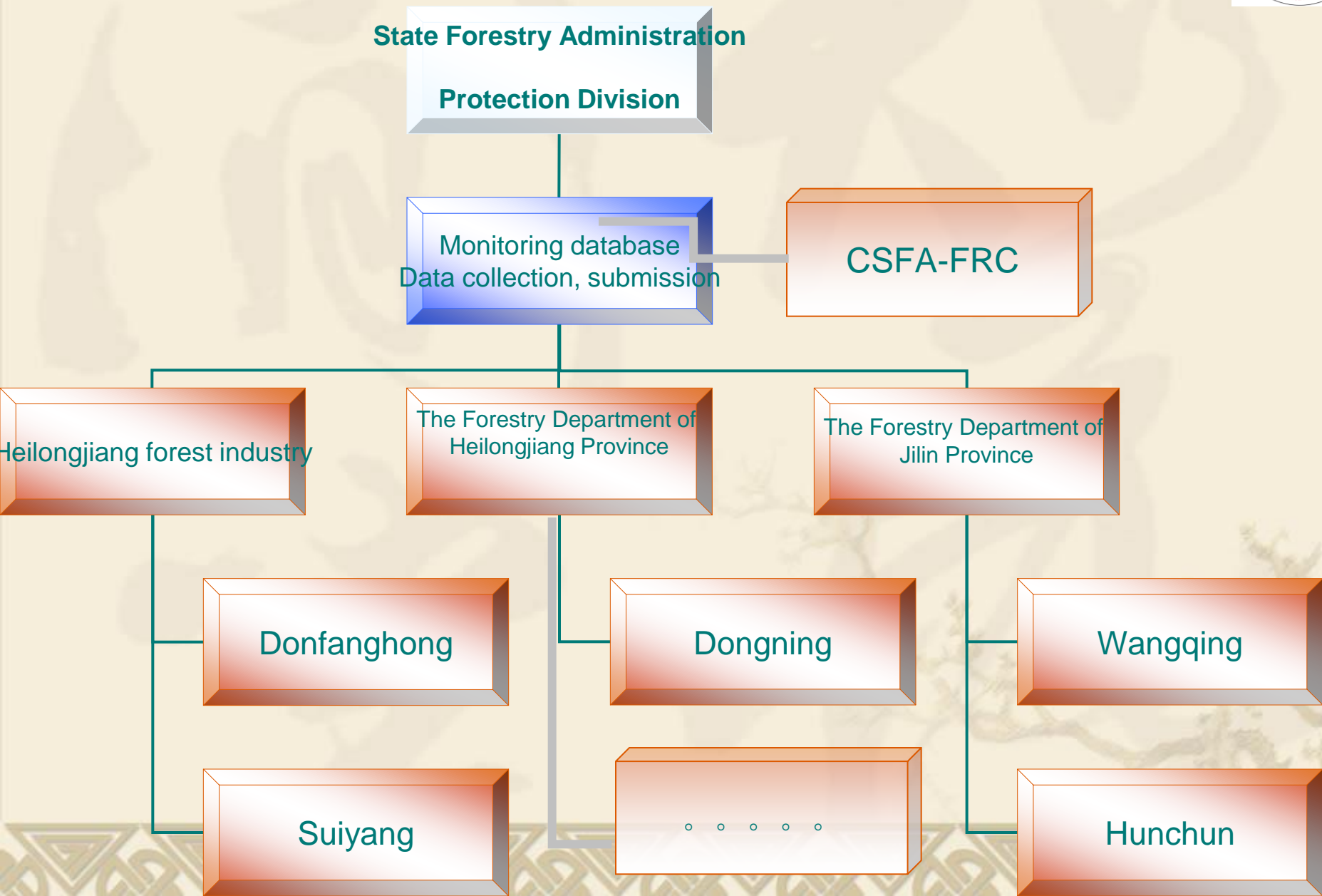


prey monitoring database- survey sample plot





Automatic camera monitoring data management



3 The main result of monitoring experience and data analyze



According to our experience, Russian traditional tiger/leopard route survey method is not the suitable method for Amur tiger/leopard monitoring in China at the present stage.

The Information network method combined with several individual identify technology can be used to get dynamic information of Amur tiger (including wandering individuals) distribution area comprehensively and timely.

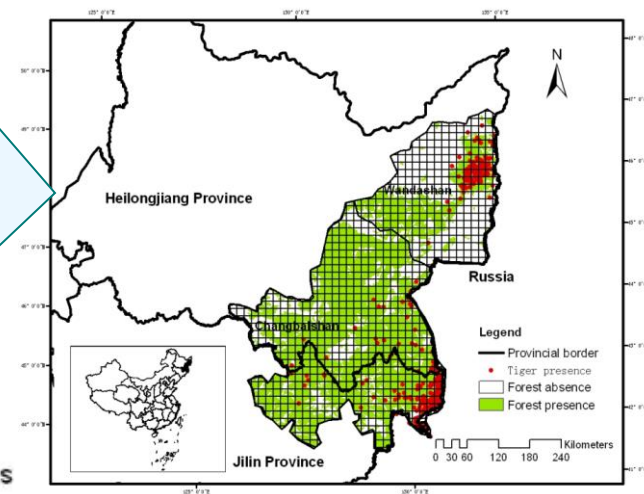
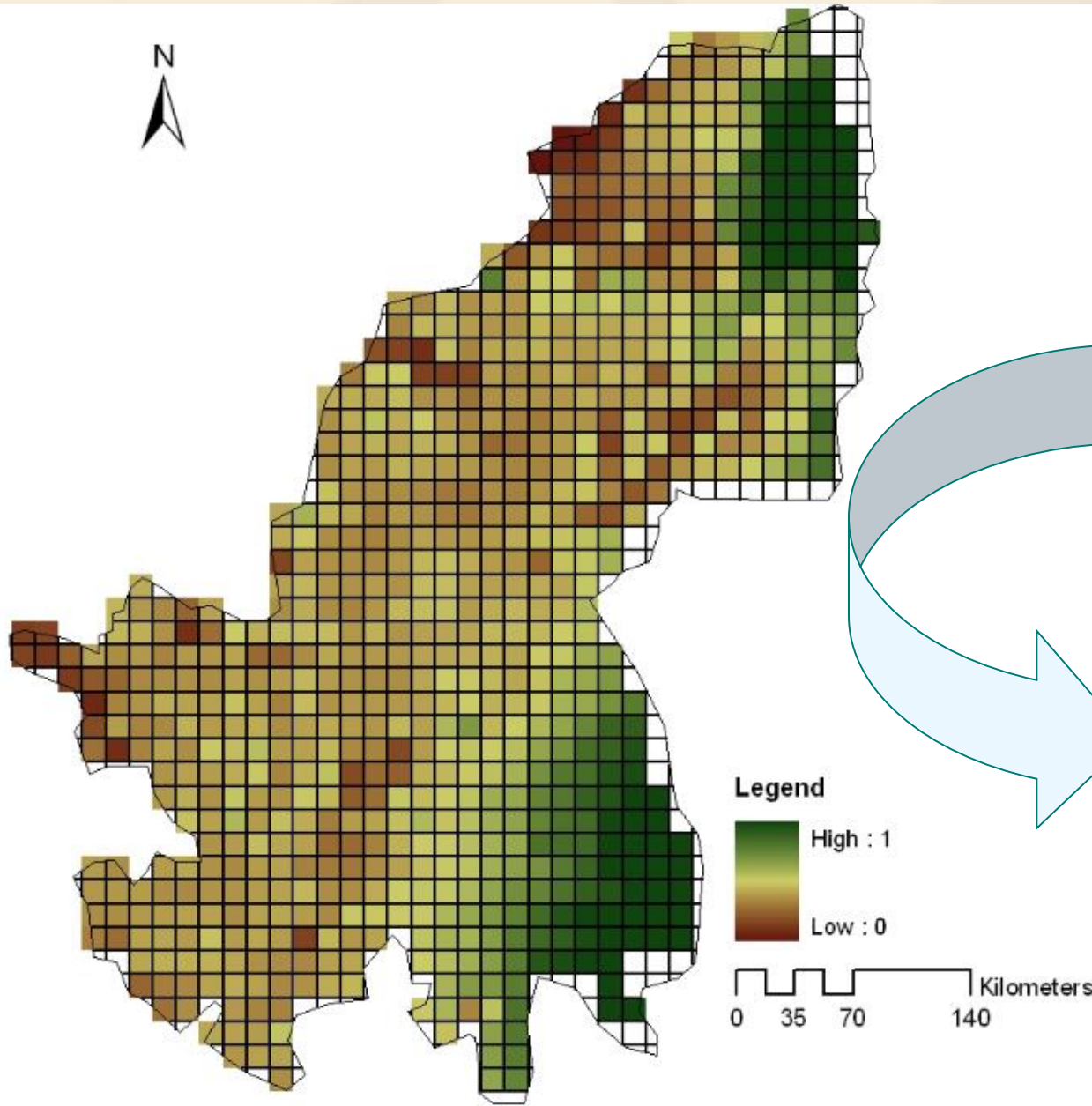
In China, it needs long time to collect DNA sample of Amur tiger/leopard for genetic database because of very low population density. It also can obtain the population genetic diversity, population diffusion, individual and gender identification, relationship identification and other important information.

Using camera trapping for body side pattern image database can be used to ascertain the relative abundance of settle tiger individual and their preys, behavior accurately information quantity, and study behavior and activity Rhythm of wild tigers.

Compared with Russian result of Amur tigers' prey monitoring, one of the main limited factors of China Amur tiger population number is unreasonable ungulate community structure—the red deer density is too low.

We have found habitat limited factors of Amur tiger, and assessed their habitat suitability by our research.

Habitat suitability evaluation of Wild Amur tiger:





4 The management system design, internationalization and standardization of monitoring technique



LY
中华人民共和国林业行业标准

LY/T ×××—××××

**中国大型猫科动物自动相机监测
 技术标准**

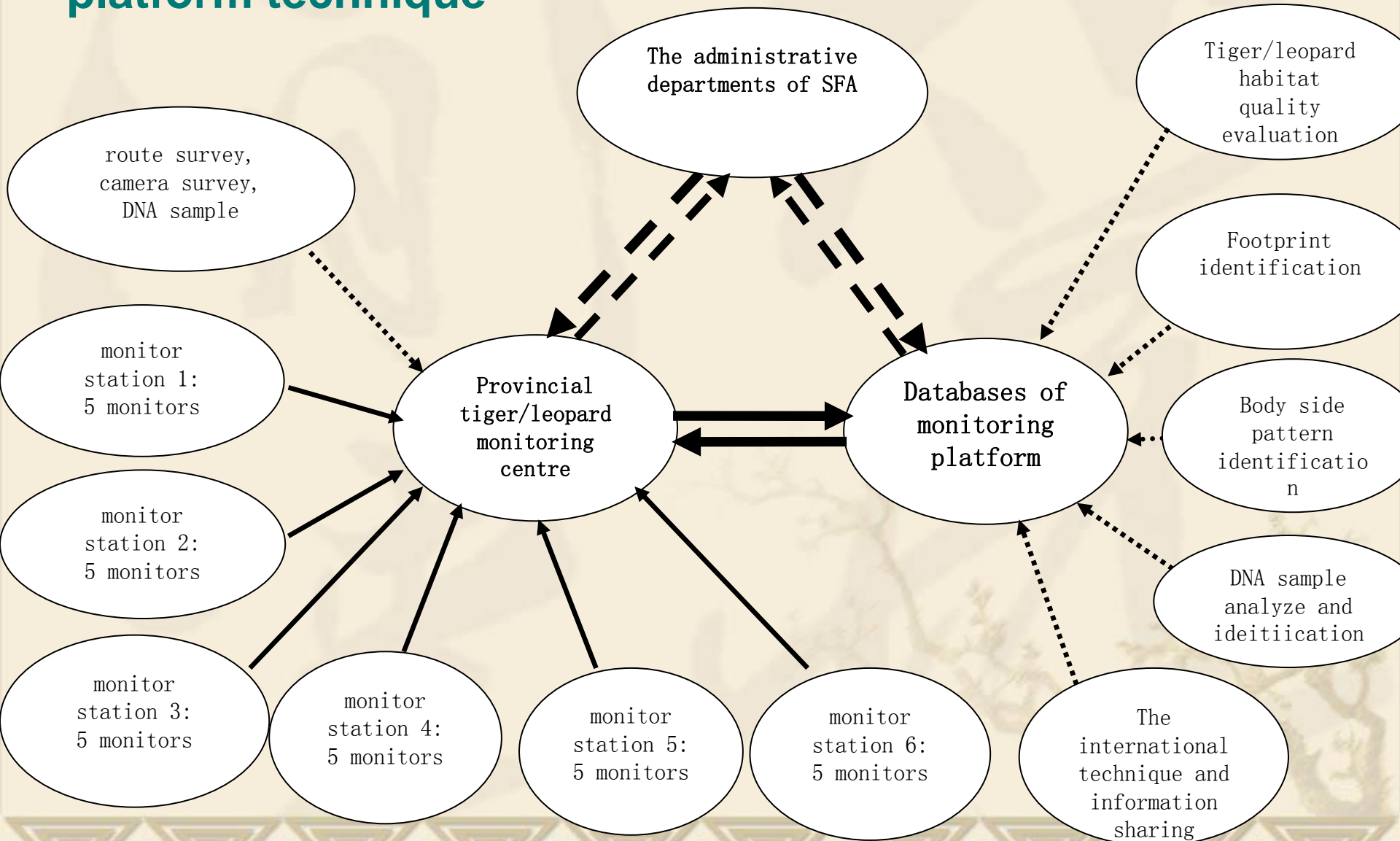
Technical Regulations for Automatic Camera Monitoring of
 Big Cats in China

(草案)

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The management system design of monitoring platform technique



5 The website construction of international tiger/leopard protection and promotion



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- ▶ 吉林省2013年红外相机定位监测虎豹等野生动物工作座谈
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2013年2月俄罗斯远东地区启动了东北豹冬季追踪调查, 以确定俄罗斯境内东北豹种群数量。调查结果出乎大家的意料, 共发现了48-50只东北豹个体, 是5年前调查得到数据的2.5倍。 这次调查……

视频展示

更多...





6 The work teams, objectives, research domains and transnational cooperation of Amur Tiger/ Leopard Monitoring Platform

China State Forestry Administration Feline Research Center (CSFA-FRC) was approved and supported by SFA in December, 2011. CSFA-FRC is affiliated to SFA, and run by NEFU.



The members of CSFA-FRC experts:

33 staff of experts

The academic committee:

25 senior experts



Research domains:

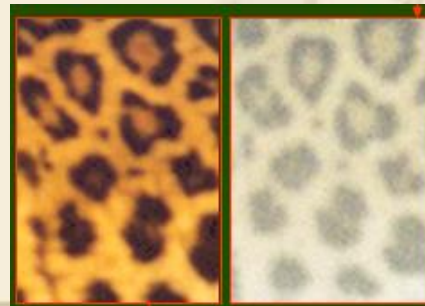
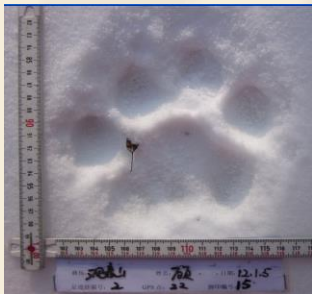
- ① Feline monitoring technology and their habitat (prey) restoration ecology
- ② Feline behavior and population ecology
- ③ Felid conservation genetics and molecular ecology
- ④ Felid field reintroduction technique

Objectives:

Integrate expert resources of felid conservation at home and abroad, establish a international platform of technique and information exchange for China felid conservation and research.

Introduce advanced idea of wildlife conservation in the world, cultivate, educate and exercise field teams for endangered felid conservation.

Explore conservation mechanism of ecosystem in which flagship species are large felid, demonstrate and popularize the successful cases of endangered field conservation in the world, achieve harmonious coexistence between wildlife conservation and society economy development.



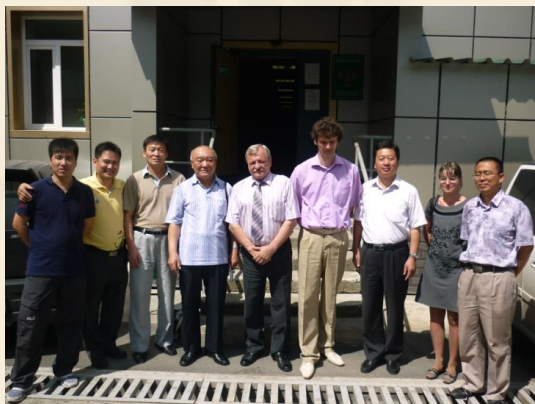


The Sino-Russian joint research and monitoring :

CSFA-FRC and the main executive departments of Amur tiger/leopard monitoring:

Far Eastern Branch of the Russian Academy of Sciences, Institute of Biology and Soil Sciences

Far Eastern Branch of the Russian Academy of Sciences, Pacific Institute of Geography





7 Urgent problems

Monitoring of endangered feline was just implemented in some local region of present distribution area in China. The establishment of efficient real-time dynamic monitoring network and data report and summary mechanism is very urgent.

The participated units have different levels of monitoring technology and can not carry out in accordance with the rules of monitoring operation which has effect on data submission, collection management and information dissemination.

The endangered feline monitoring has not in daily work of some local forestry institutions which do not have one person specializes in it, so that it is difficult to guarantee the long-term field monitoring work continuously and efficiently.

Local monitor stations have the lack of continue basic working funds guarantee and the regular technical training.

More organizations are needed with internationalization and standardization monitoring technique, so that China database can have the effective docking with the international monitoring database for the international data sharing mechanism.

The 8th International Deer Biology Congress and International Wildlife Management Symposium July 27th-31th, 2014 (Harbin, China)

It is our great pleasure to announce the "**The 8th International Deer Biology Congress and International Wildlife Management Symposium**" (8th IDBC & IWMS) to be held in Harbin, China, on **July 27-31, 2014**, which is sponsored by the Northeast Forestry University, the Scientific Steering Committee of the International Deer Biology Congress, China and the South Illinois University, USA. The main organizer is Northeast Forestry University in Harbin City, China.

<http://8th-idbc-iwms.yolasite.com/>

*Warmly welcome to
attend our meeting!*





Thanks for your attentions!

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