



-----Taking Shenzhen as examples

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Outline

- **The Understanding of Cities and Biodiversity**
- **Urbanization Development**
- **Effect on Biodiversity by Urbanizing**
- **How to Protect Biodiveristy in Urban**



The Understanding of Cities and Biodiversity



The Understanding of Cities and Biodiversity

需要 What we need:

1. 良好正常的生态系统功能

well-functioning ecosystems

2. 多样的生物、本土的物种

diverse organisms & indigenous species

3. 健康的环境、怡人的景观

health environment & pleasant landscape



公园
花圃
城市湿地
城市绿地
野生动物救助点
繁育中心
动物园
植物园
海洋馆
水族馆
标本馆
种子库
基因库
种质资源库
.....



The Understanding of Cities and Biodiversity

城市决策对生物多样性的影响
Urban decision-making & Biodiversity

决策者的理念
Mayor's Idea (driving

force) ↓

决策者对生物多样性的影响
Mayor & Biodiversity

这一点在中国尤其明显



中华人民共和国环境保护法

中国法制出版社



深化改革

法律
法规

方针
政策

规划
设计

监督
执法

管理
实施

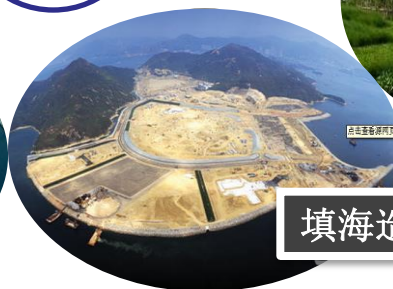
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产业布局



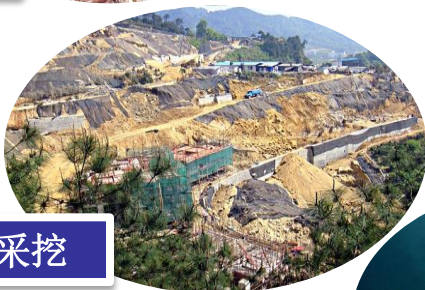
生态修复



填海造地



兴修水利



开垦采挖



打击盗猎

The Understanding of Cities and Biodiversity

维持城市运转对生物多样性的影响

The normal operation of Cities & Biodiversity

生产
production



生活
living



The Understanding of Cities and Biodiversity

城市思维对生物多样性的影响 City mentality & Biodiversity

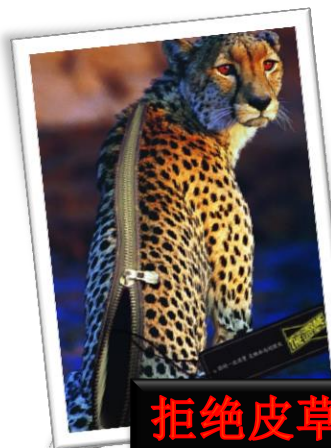
幸福是什么?
index of happiness

发展是为了什么?
objective of development

追求什么样的生活?
what we are after

人类干预的程度?
level of human's intervention

应该做些什么?
action required



拒绝皮草



教育从娃娃抓起



救助野生动物



增殖放流



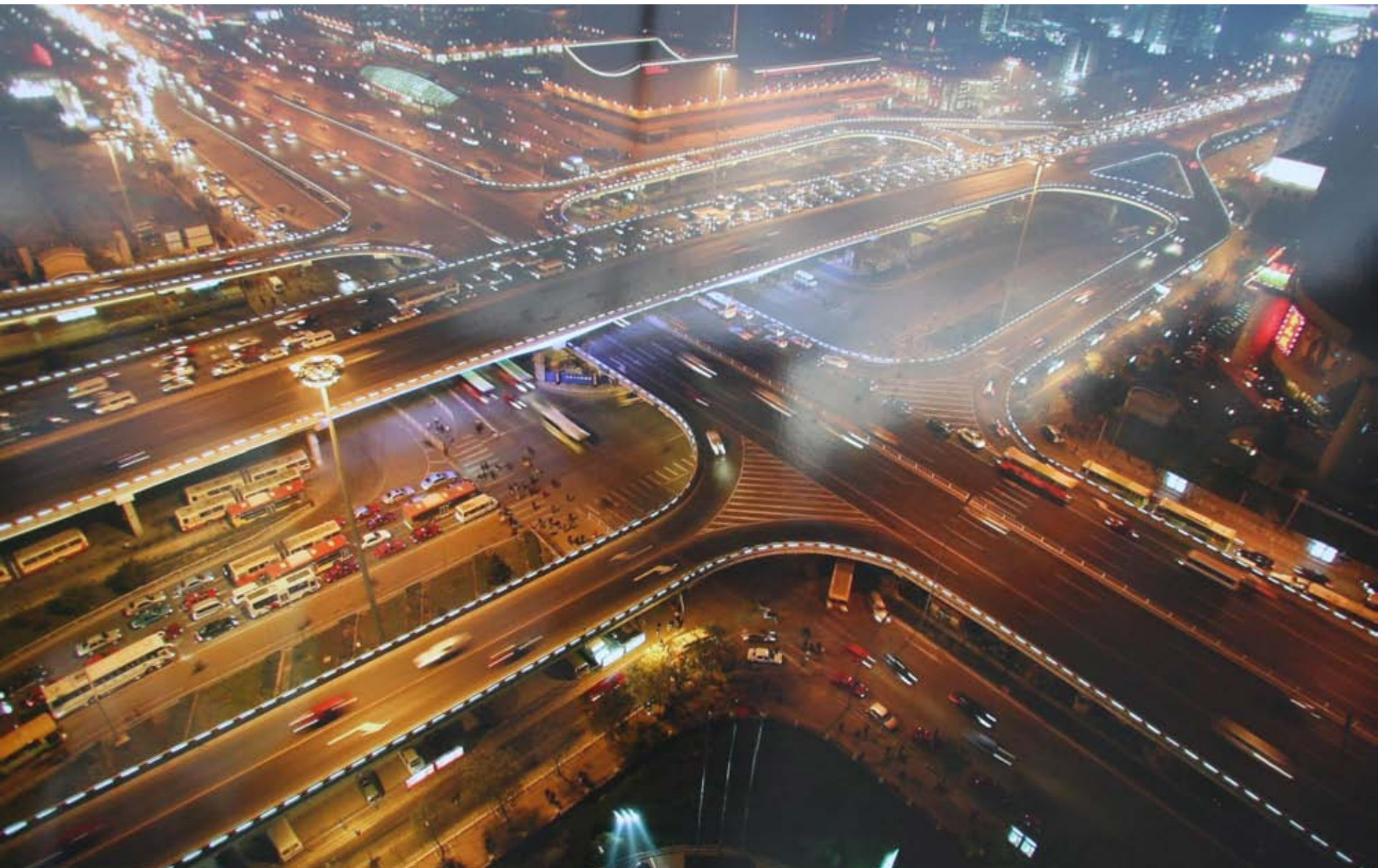
循环创造美好生活
Create a better life cycle

资源循环利用



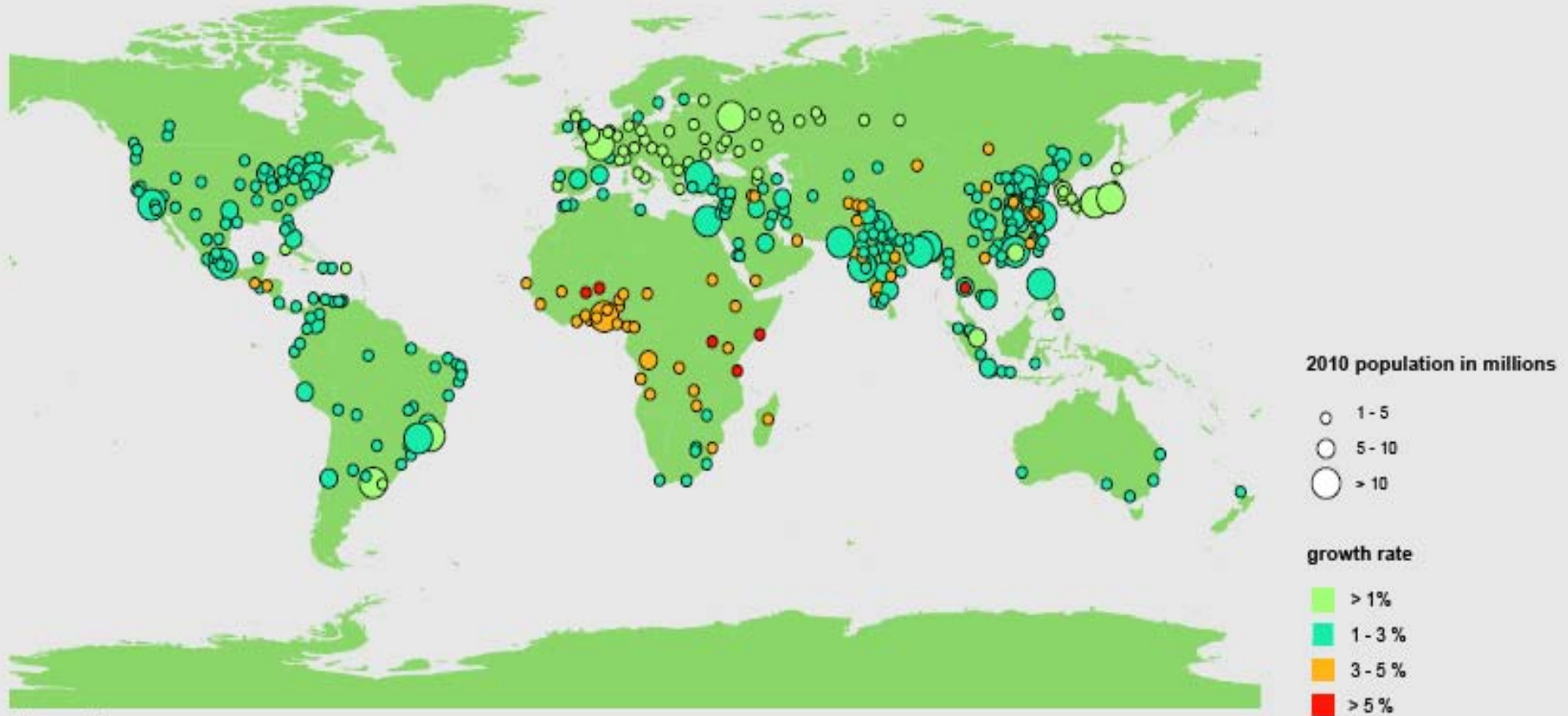
文明 游园

Urbanization Development



Urbanization Development

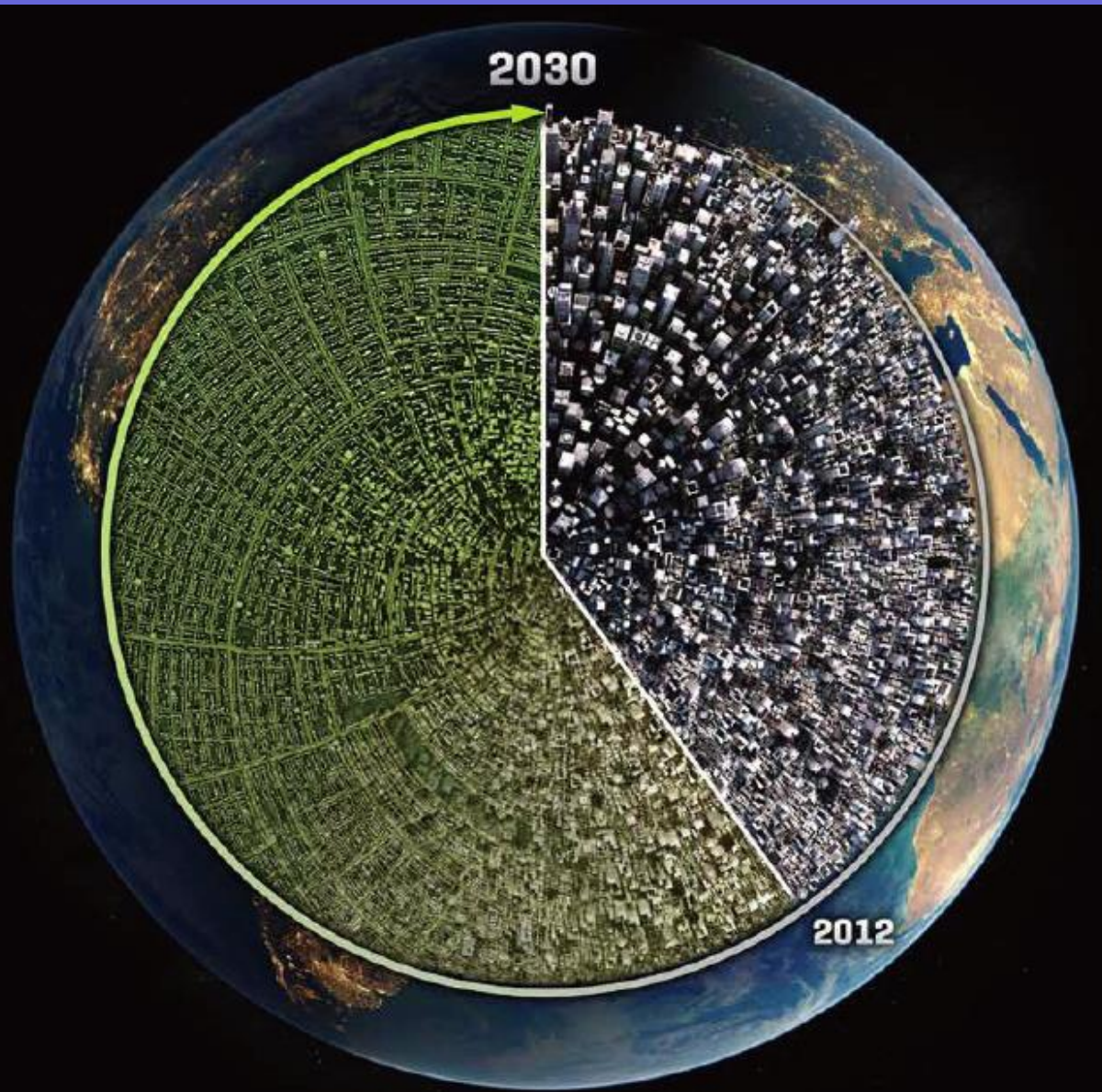
Predicted urban growth from 2010 to 2025 for cities that have a population of greater than 1 million in 2010



Data source: UN, Conservation International

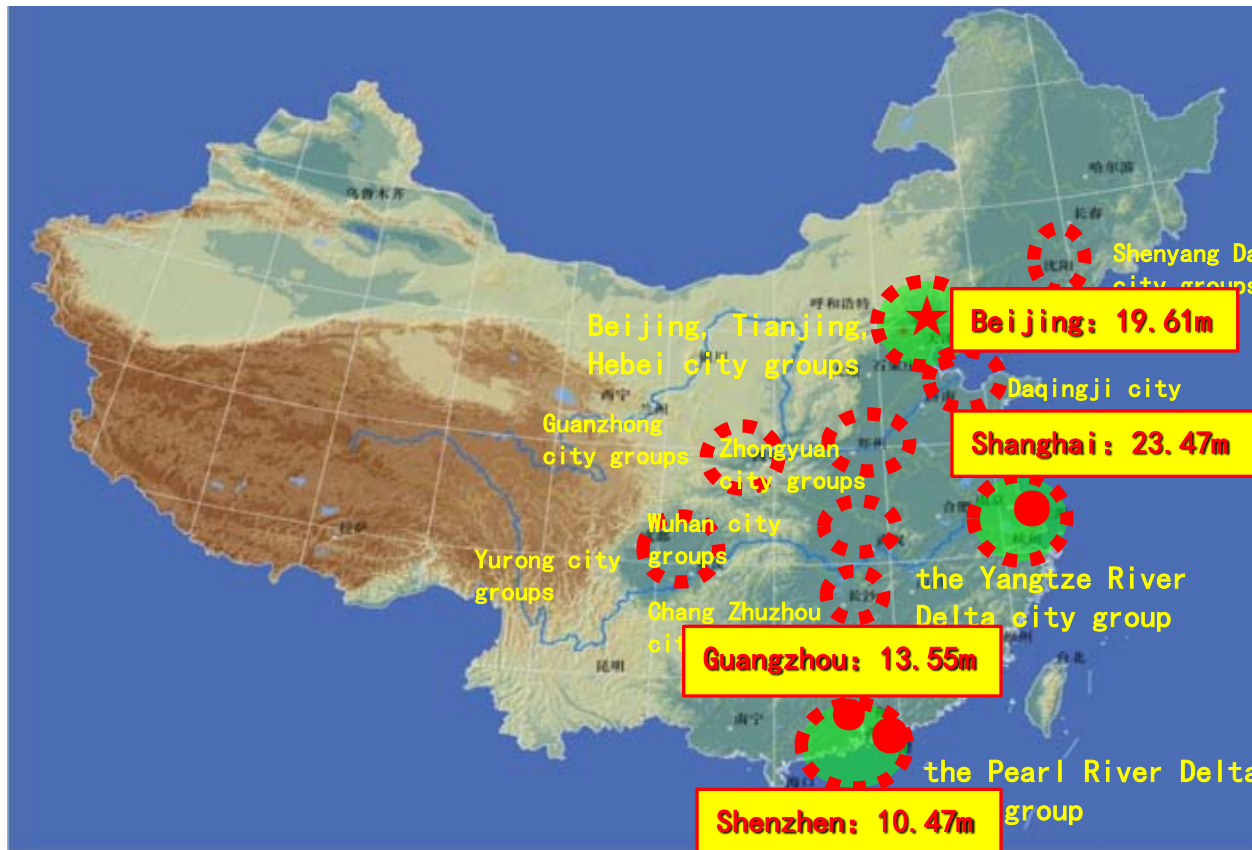
- The global proportion of urban population was a mere 13 % in 1900. It rose gradually to 29 % in 1950.
- If current trends continue, by 2050 the global urban population is estimated to be 70 % or 6.3 billion, nearly doubling the 3.5 billion urban dwellers worldwide in 2010.

Urbanization Development



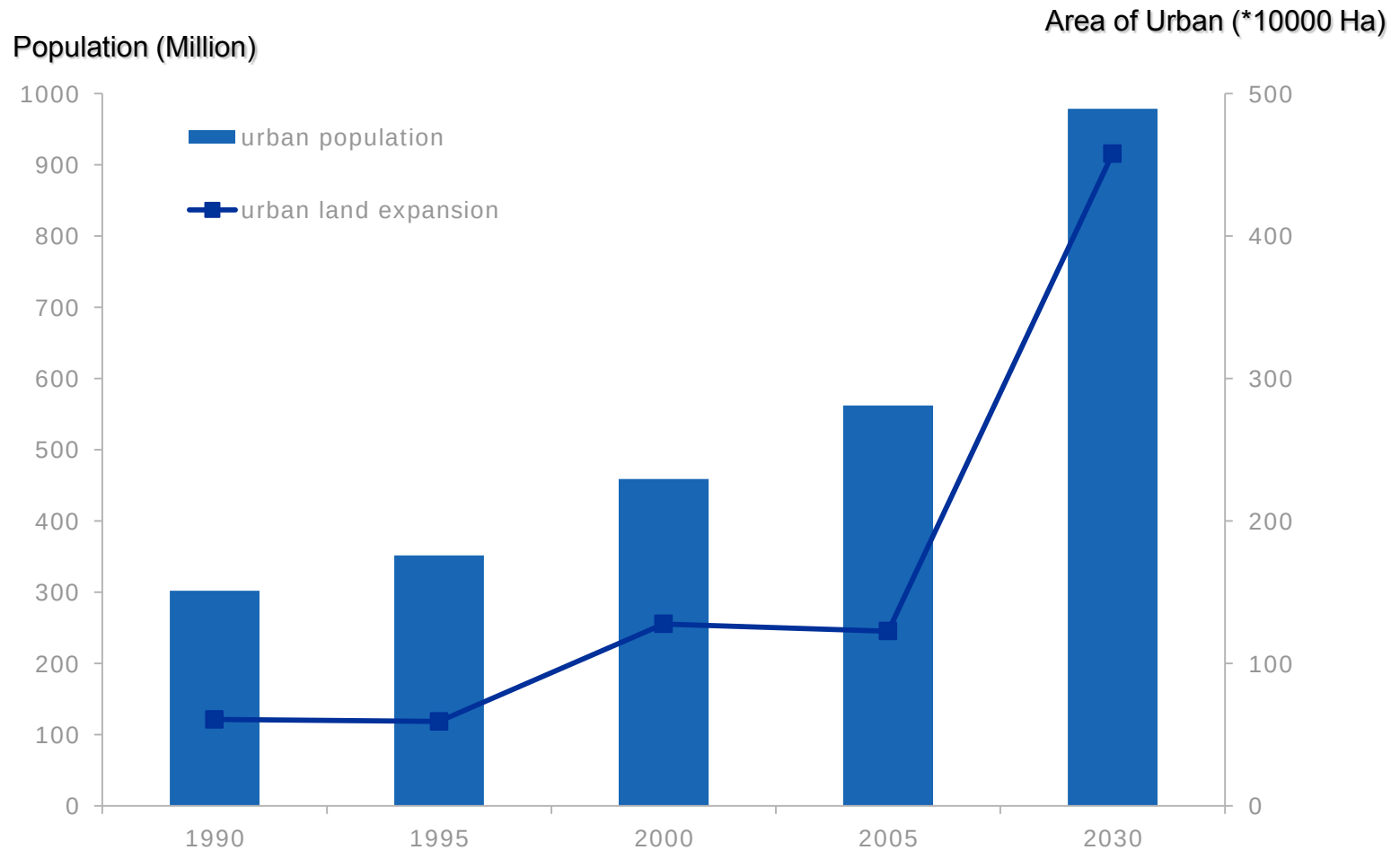
**urban areas are
expanding faster
than urban
populations.....**

Urbanization Development



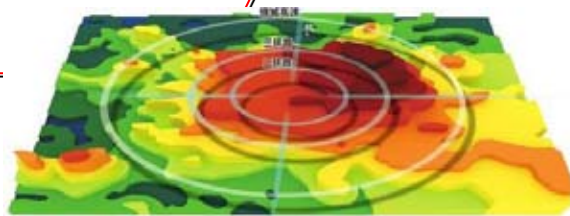
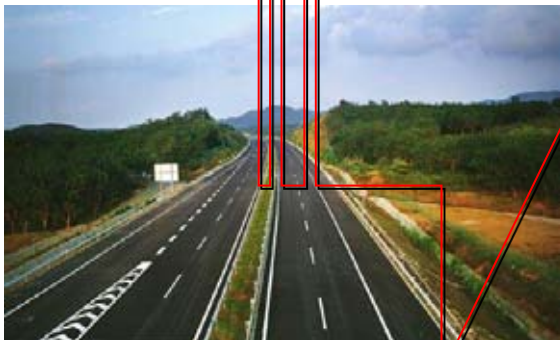
- The city has increased from 193 in 1978 to 669 in 2010.
- The number of mega city increased from 13 to 49, the number of big city 24 to 78.
- The Pearl River Delta, Yangtze River Delta, the Beijing Tianjin Hebei region three to less than 3% of land area, but with a population of 14%, 42% GDP.

Urbanization Development

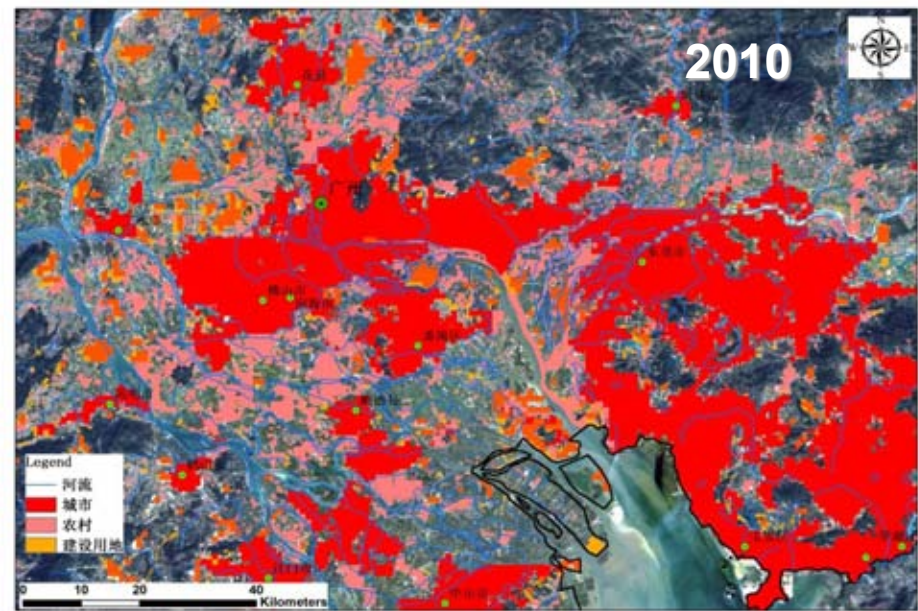
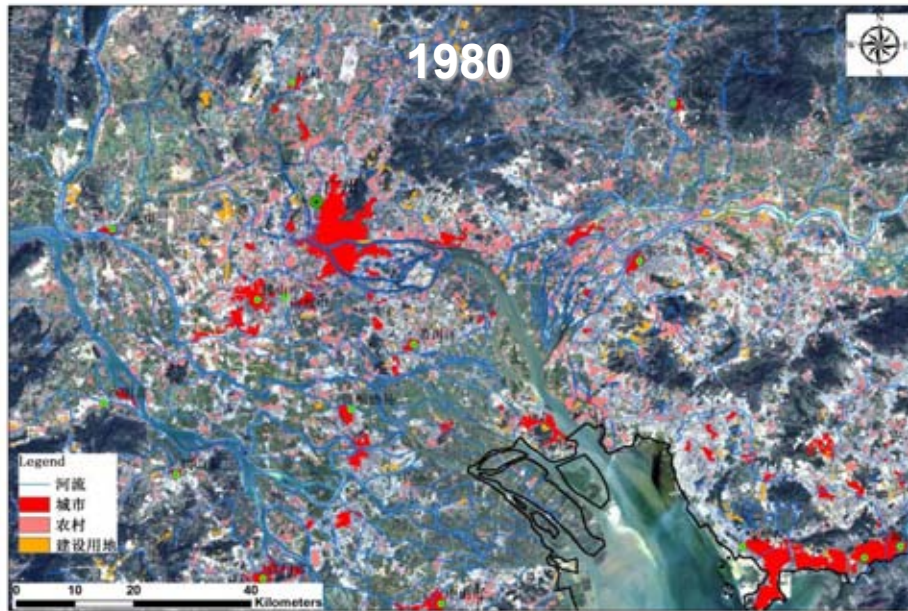


The Adding Trend of the Population and Area of Urbanization Development in Future in China

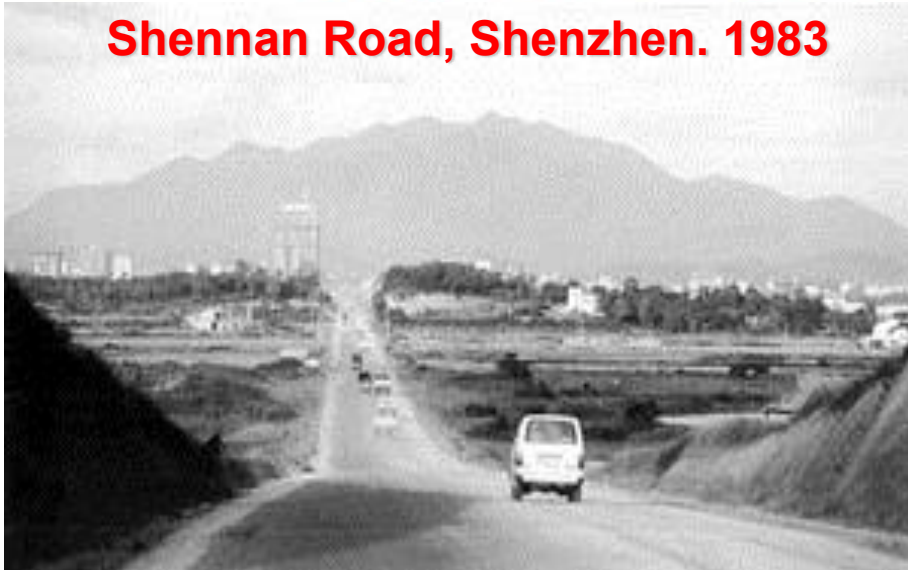
Effect on Biodiversity by Urbanizing



Effect on Biodiversity by Urbanizing



Shennan Road, Shenzhen. 1983



Shennan Road, Shenzhen. 2010



Effect on Biodiversity by Urbanizing



How to Protect Biodiversity in Urban

Cities and Biodiversity Outlook

Action and Policy A Global Assessment of the Links between Urbanization, Biodiversity, and Ecosystem Services



The 20 ambitious Aichi Biodiversity Targets set by the CBD for 2020.....



Cities can reconcile human society and biodiversity by creating environments that are ecologically sustainable, economically productive, socially just, politically participatory and culturally vibrant.



Today they are also increasingly recognized for their role in conserving biodiversity and are providing exciting opportunities for making the transition to an inclusive green economy in both the developing and developed world

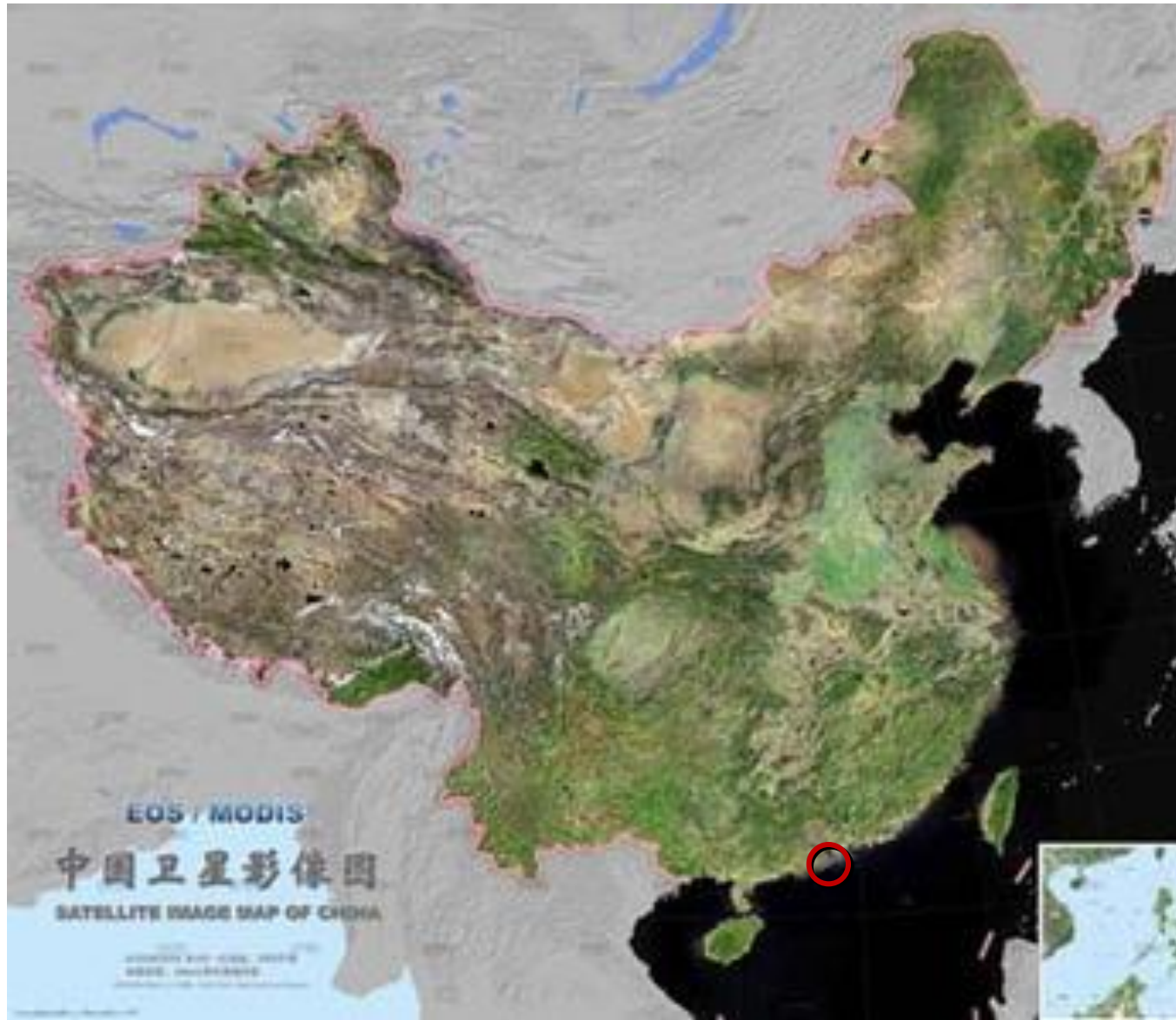


make abundantly clear, sustainable urbanization is essential for maintaining human well-being. Cities—their inhabitants and governments—can, and must, take the lead in fostering a more sustainable stewardship of our planet's living resources

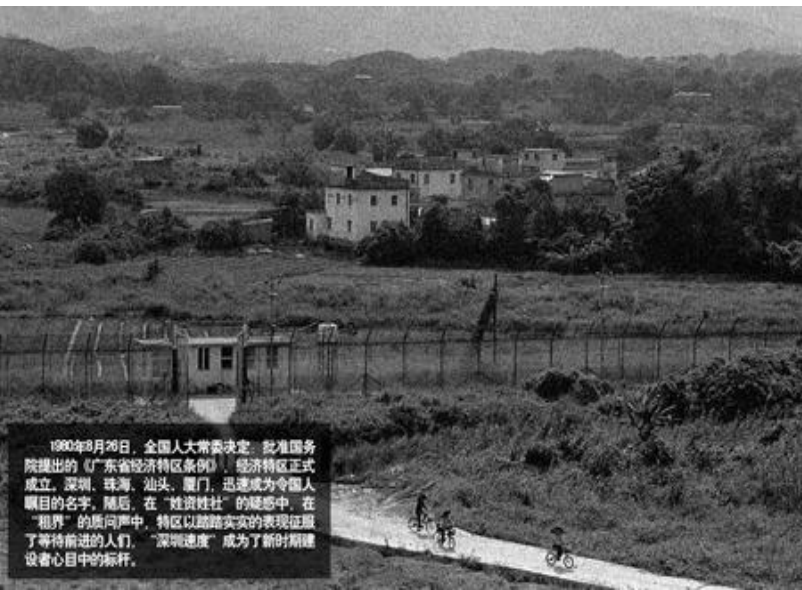
How to Protect Biodiversity in Urban



How to Protect Biodiversity in Urban



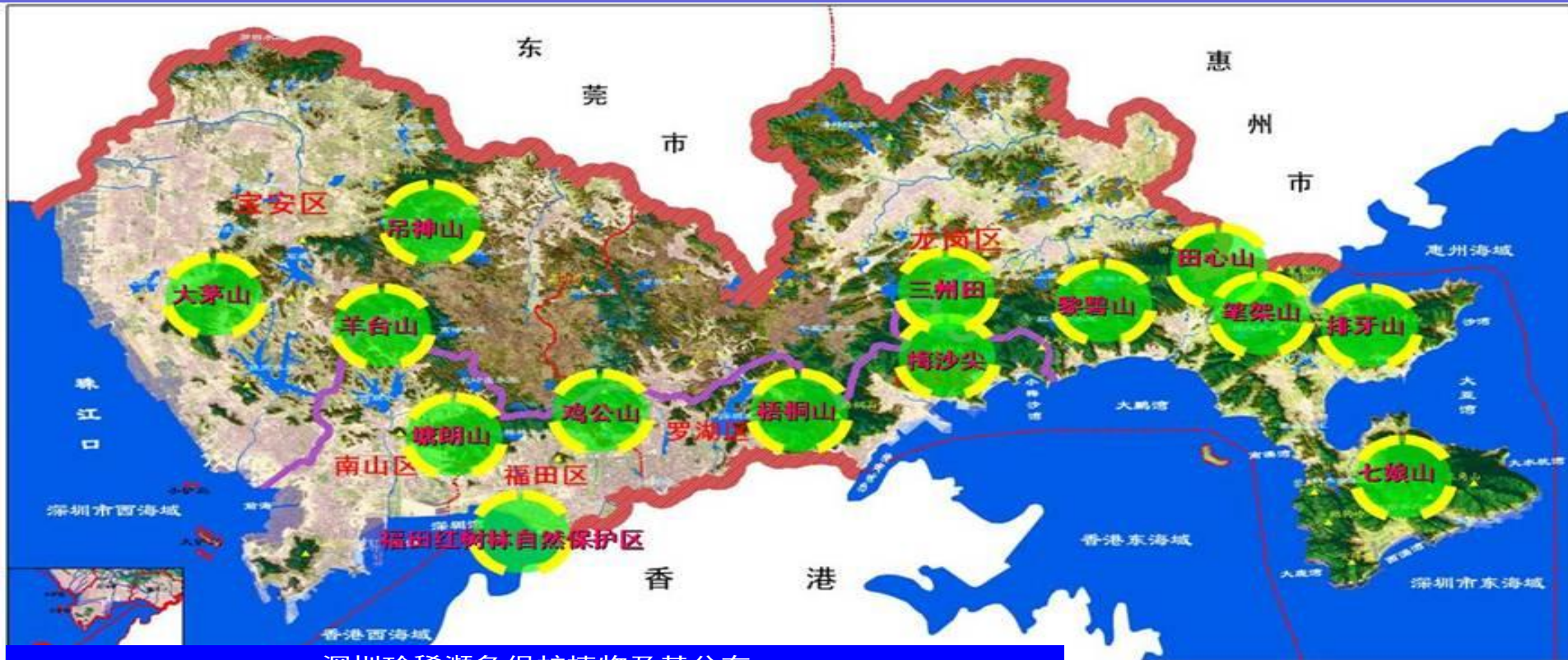
How to Protect Biodiversity in Urban



How to Protect Biodiversity in Urban



How to Protect Biodiversity in Urban



深圳珍稀濒危保护植物及其分布

种名	濒危程度	保护级别	在深圳的分布	海拔 (m)
抄罗 <i>Alsophila spinulosa</i>	渐危 V	一级	塘朗山、梧桐山、田头山	100—300
穗花杉 <i>Amentotaxus argotoenia</i>	渐危 V	三级	七娘山	500—850
毛柞 <i>Antirhoa chiaensis</i>	渐危 V	二级	梧桐山、七娘山	10—850
土沉香 <i>Aquilaria sinensis</i>	渐危 V	三级	深圳各地次生林	20—700
古柱麻 <i>Archiboehmeria atrata</i>	稀有 R	三级	七娘山	300—500
白桂木 <i>Artocarpus hypargyrrus</i>	渐危 V	三级	深圳各地次生林	10—400
苏铁蕨 <i>Brainia insignis</i>	渐危 V	三级	七娘山、塘朗山、梧桐山	100—600
大苞白山 <i>Camellia granthamiana</i>	濒危 E	二级	梧桐山、七娘山	700
普洱茶 <i>C. sinensis</i> var. <i>assamica</i>	渐危 V	二级	梧桐山、七娘山	200—700
吊皮锥 <i>Casianopsis kawakamii</i>	渐危 V	三级	七娘山	500—600
水蕨 <i>Ceratopteris thalictroides</i>	渐危 V	二级	龙岗南澳半天云	10—150
蚌壳蕨 <i>Cibotium baromeis</i>	渐危 V	二级	深圳各地	50—800
樟树 <i>Cinnamomum camphora</i>	渐危 V	二级	深圳各地风水林	5—200
仙湖苏铁 <i>Cycas fairylakea</i>	濒危 E	一级	塘朗山	30—400
野龙眼 <i>Dimocarpus longan</i>	渐危 V	二级	七娘山	50—500
珊瑚菜 <i>Glehnia littoralis</i>	渐危 V	三级	南澳沙岗一带海边	1—8
大黑抄 <i>Gymnasphaera iganthea</i>	渐危 V	二级	田头山	200—300
黑抄罗 <i>G. podophylla</i>	渐危 V	二级	七娘山、田头山	100—600
黏木 <i>Ixonanthes chinensis</i>	渐危 V	二级	七娘山、塘朗山、梧桐山	200—600



豹猫



大灵猫

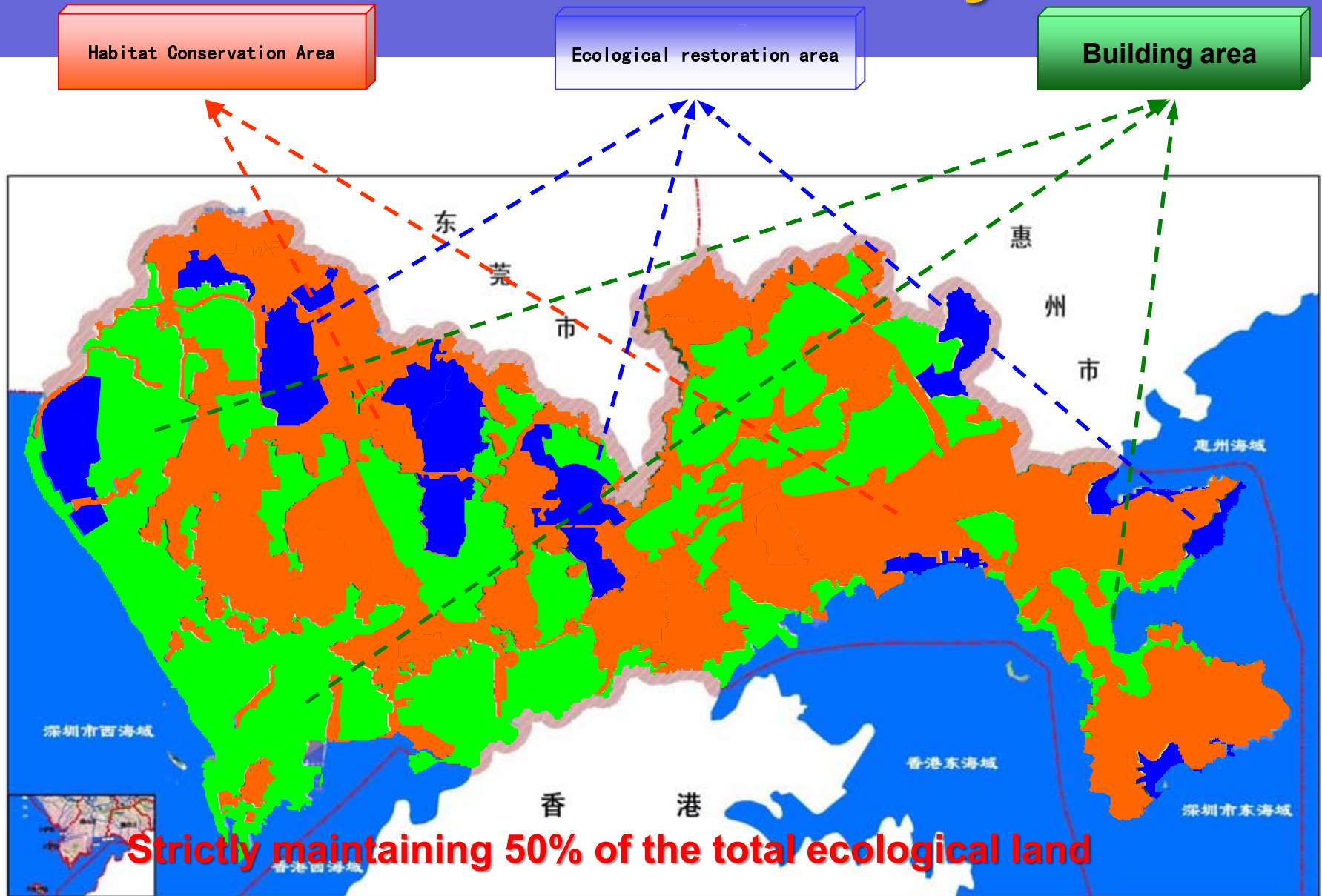


蟒蛇



穿山甲

How to Protect Biodiversity in Urban

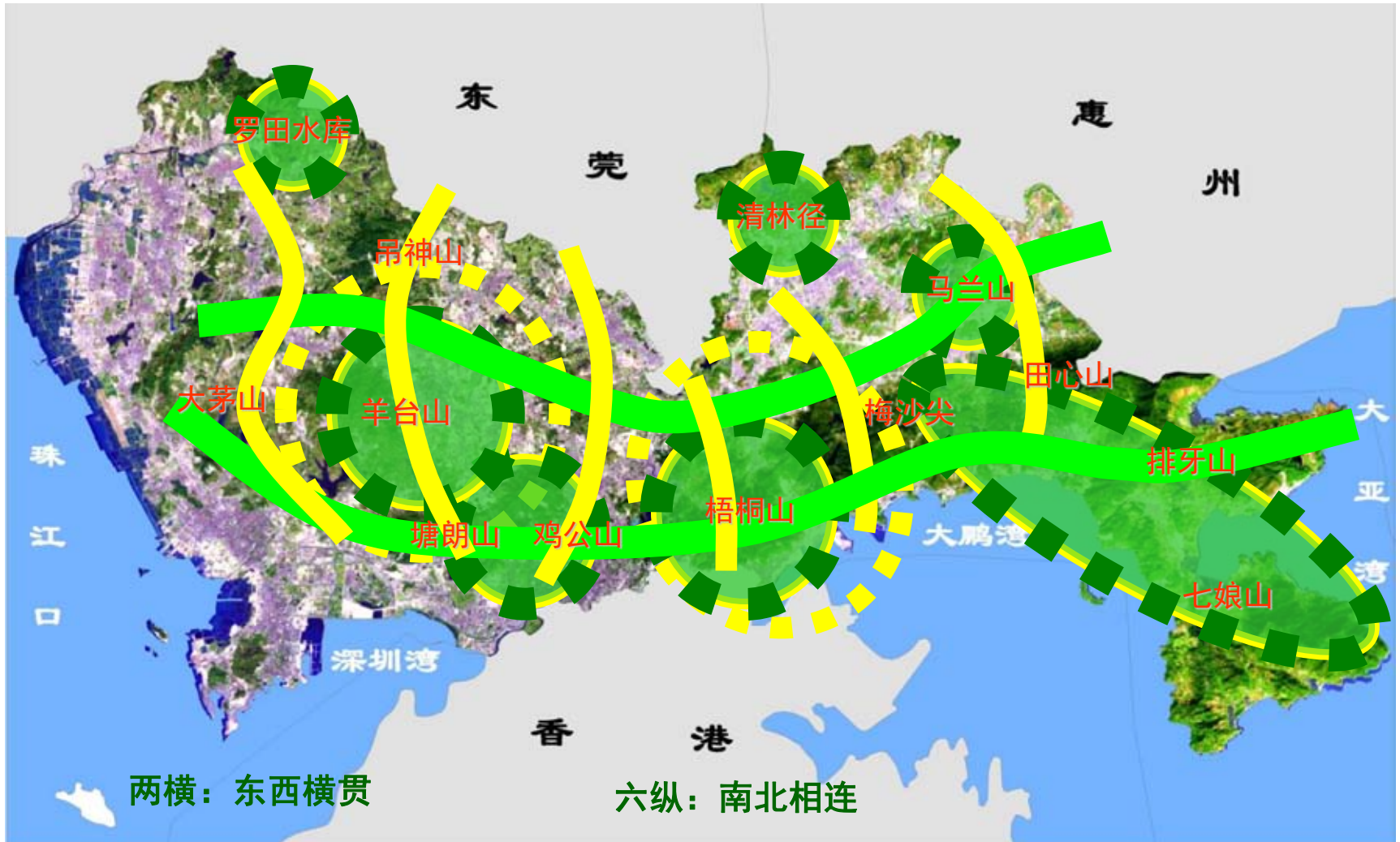


How to Protect Biodiversity in Urban

构建两山、七片的区域生态控制组分

两个山系

7个片区

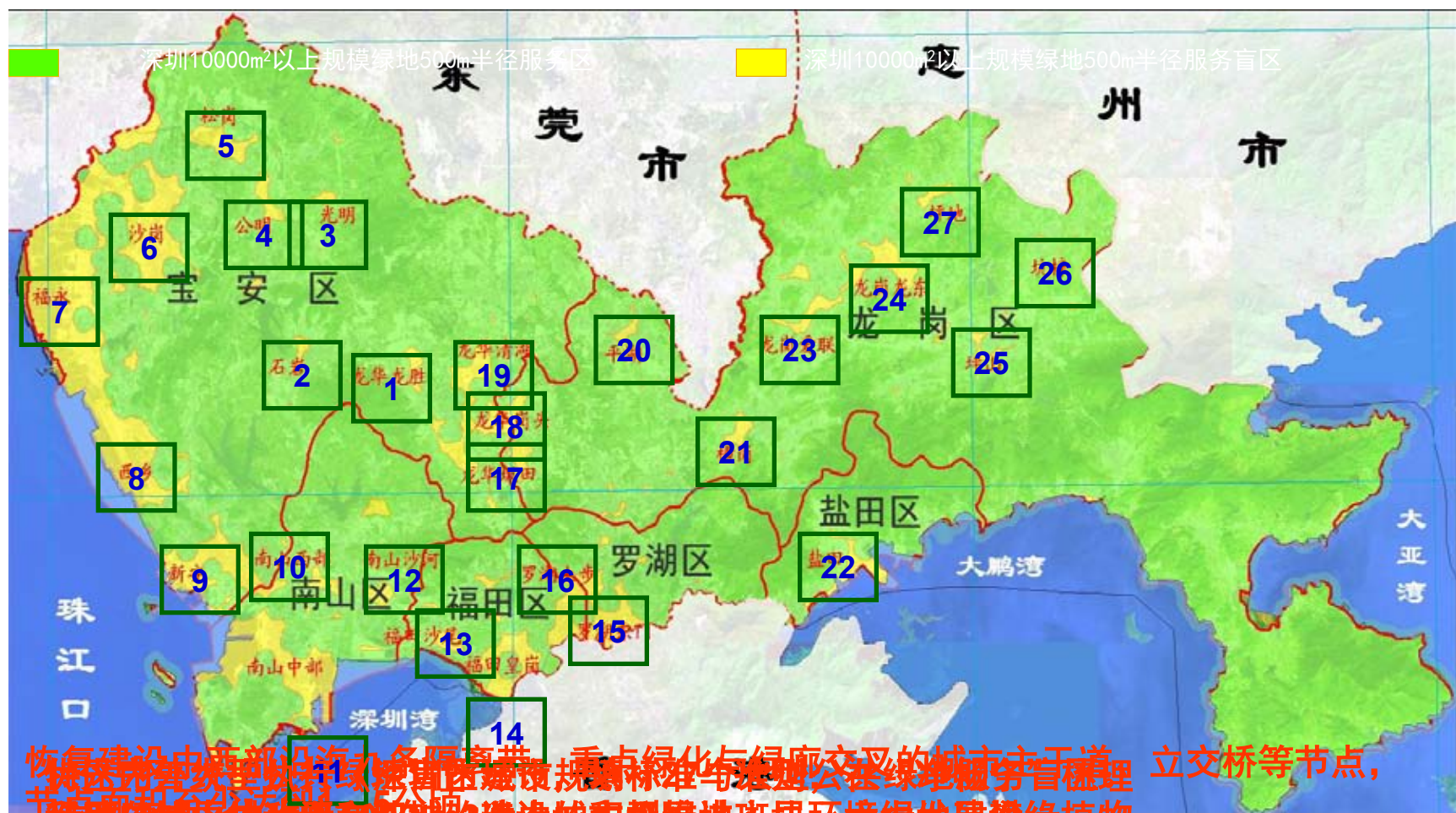


两横：东西横贯

六纵：南北相连

建设两横、六纵的生态廊道系统

增加乡土物种的比例，采用天然次生林优势物种和建群种造林，严格限制外来树种造林；树种的使用范围：强化乡土树种和素有授米研究，增加植物建群种的乡土物种和乔灌木特征适宜作为公园的天然湿地；

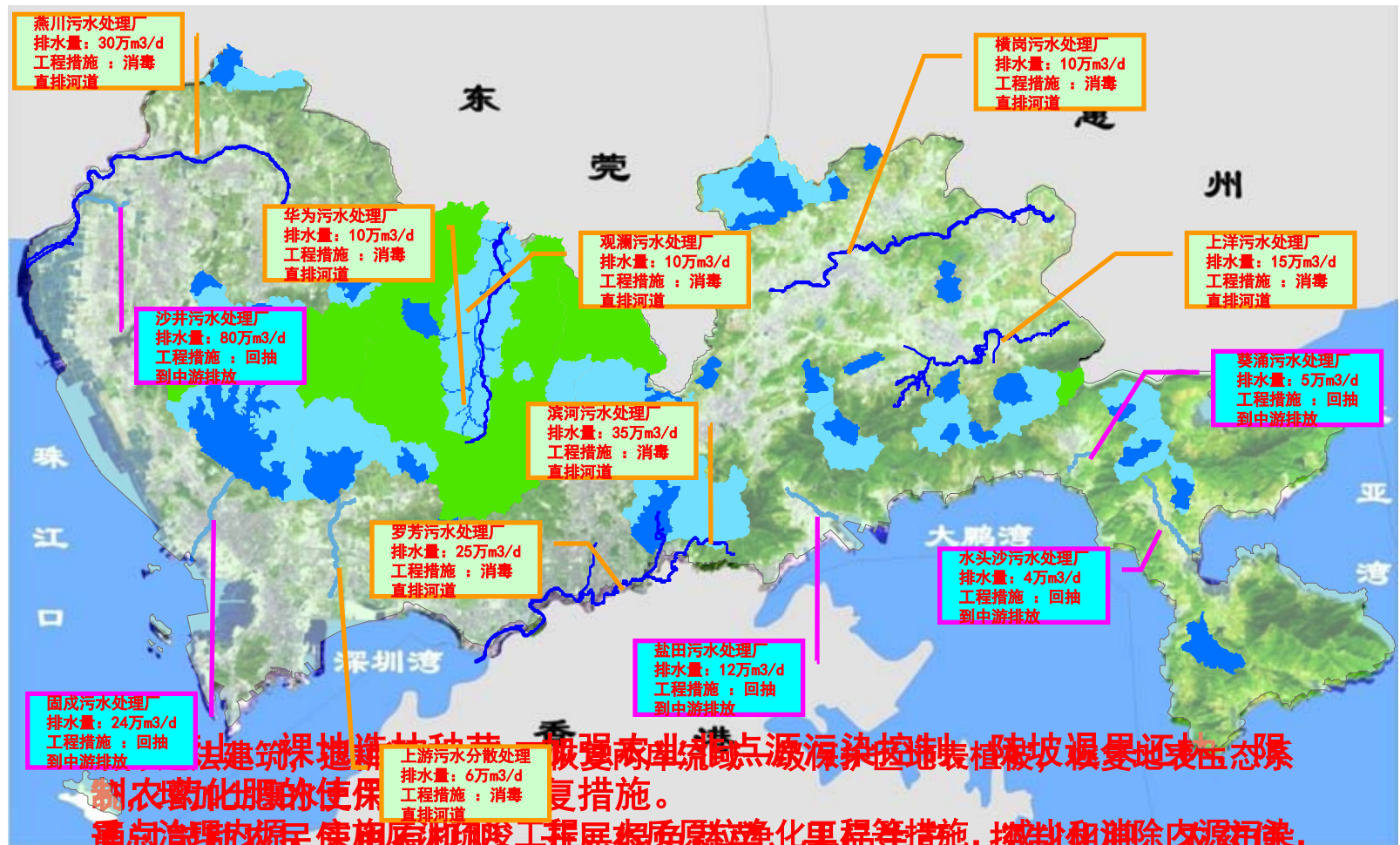
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恢复建设中部沿海各隔离带，重点绿化与绿廊交叉的城市主干道、立交桥等节点，城区内骨干型绿地。绿廊建设按规划标准与规范，在绿地上种植乔灌木，设置绿篱、花带、花坛、草坪、地被植物和小型水体，形成生态景观。绿廊建设应结合城市旧城改造和建设新城和旧城周边环境绿地建设缘植物，制定严格的绿化隔离地区建筑用地比例条例文件和法定图则，保护绿化隔离带用地。营造鸟类和其他小型生物栖息的郁闭环境。

How to Protect Biodiversity in Urban

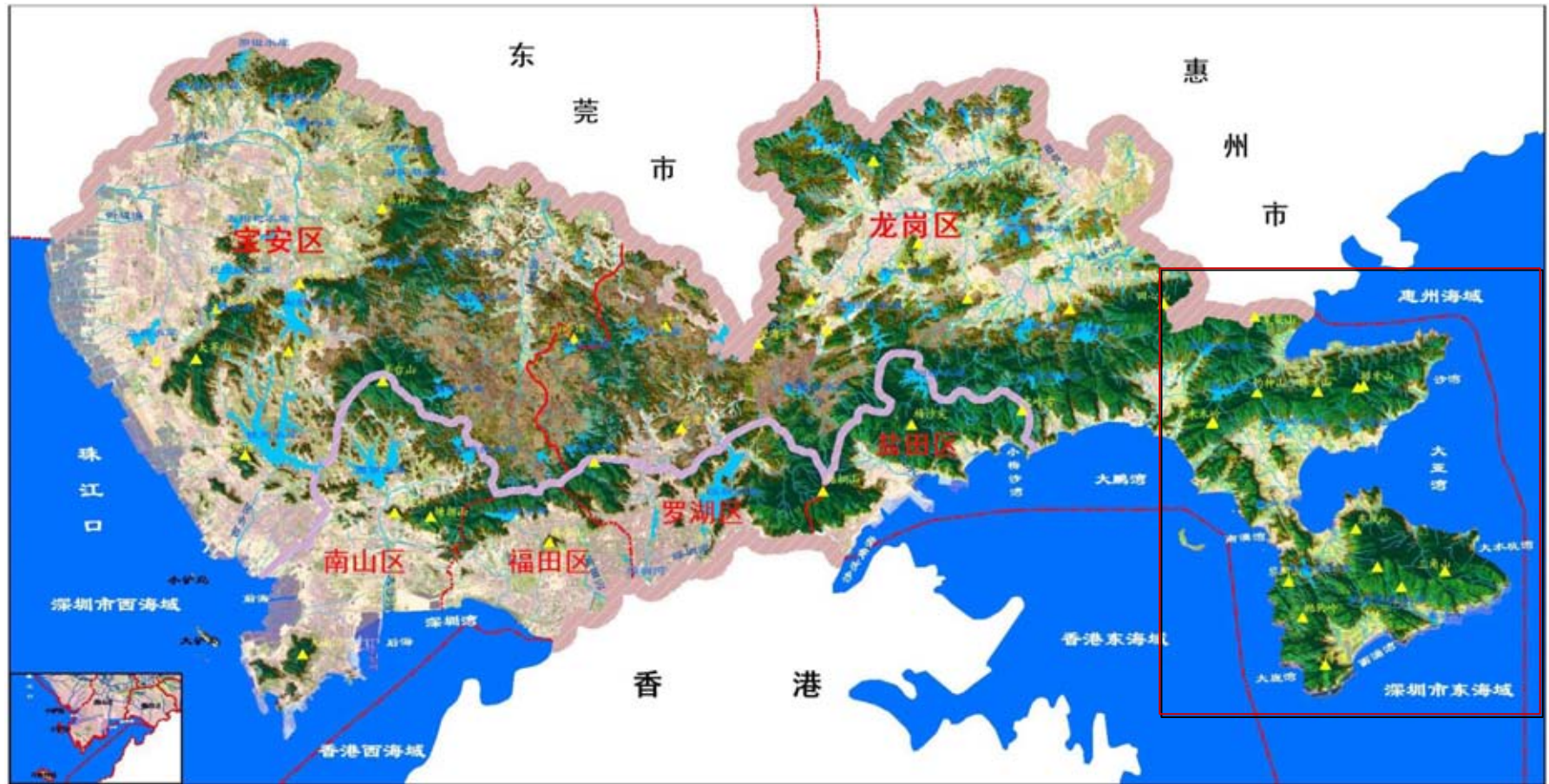
城源景观河流生态恢复工程

建设14个水源处理厂的中水回用工程，补充14条主要河流，总排水量256万m³/d。
 一级水源保护区 二级水源、准水源保护区

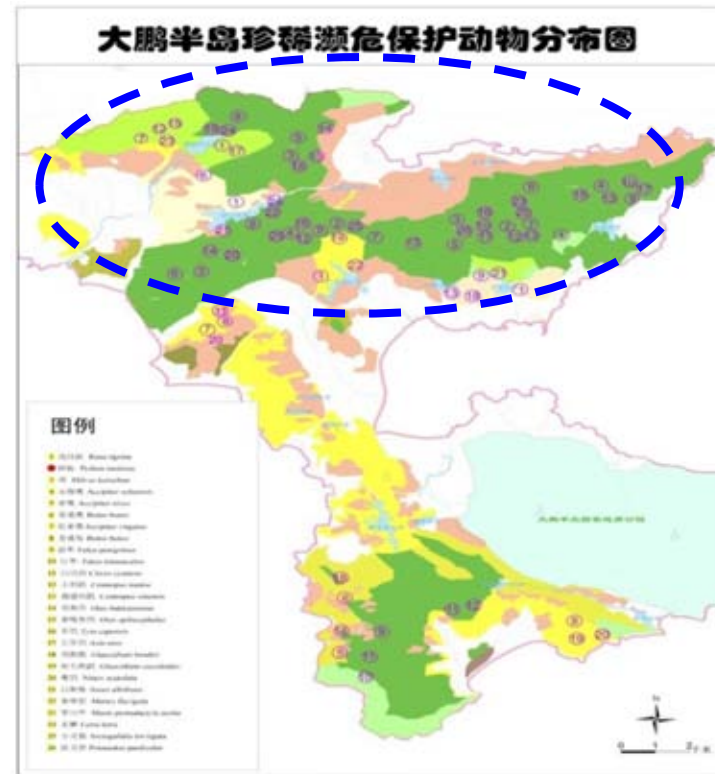
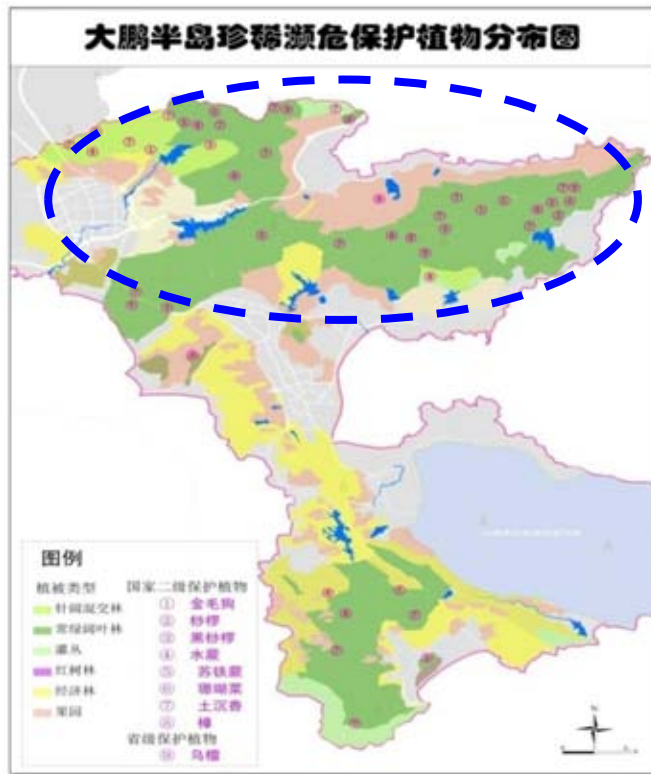


建设生态廊道，加强生态廊道建设，恢复生态廊道功能。通过鼓励农民使用有机肥，开展绿色蔬菜、水果等生产，控制化肥、农药、农膜使用，减少农业面源污染。通过控制农业面源污染，减少农业面源污染。

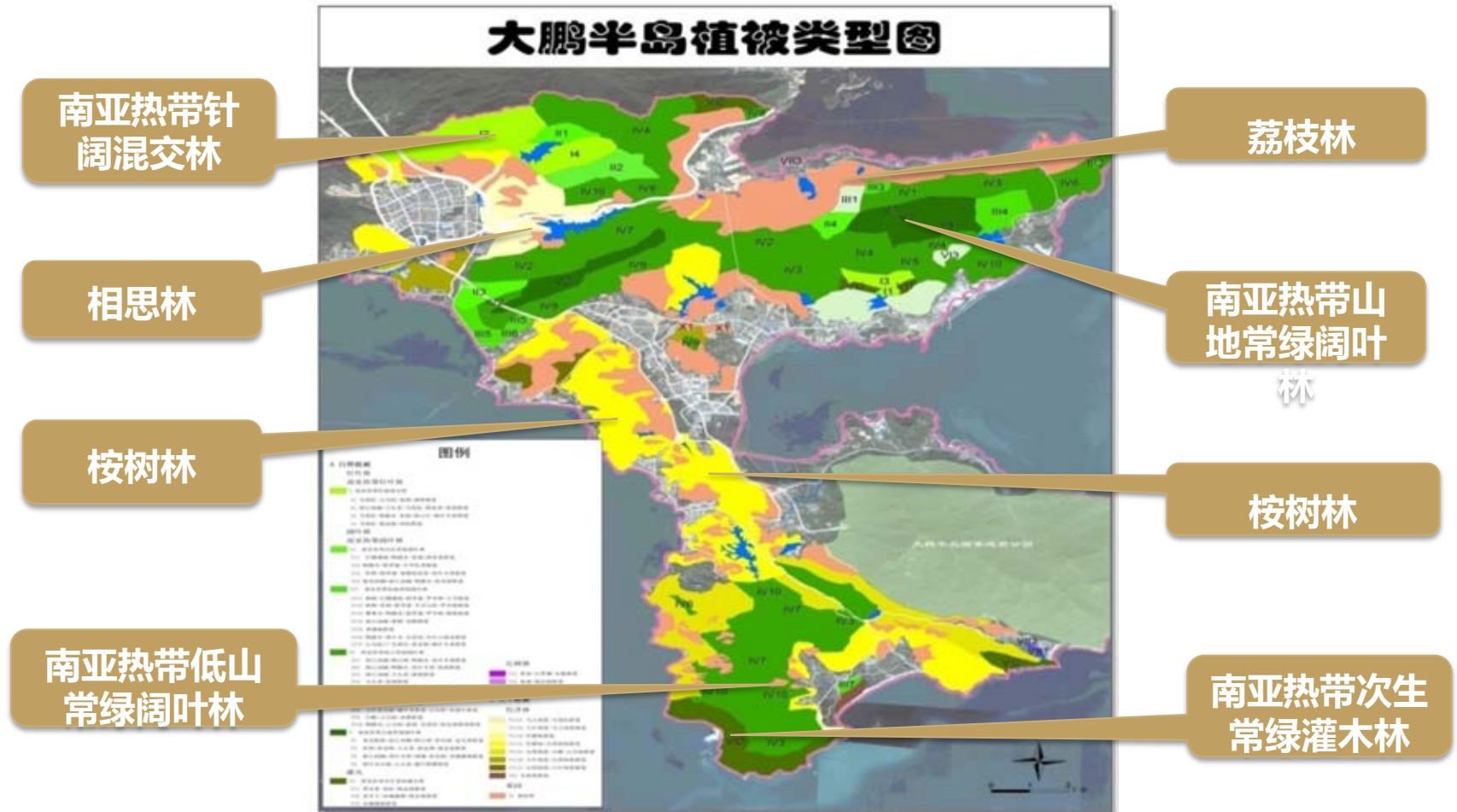
How to Protect Biodiversity in Urban



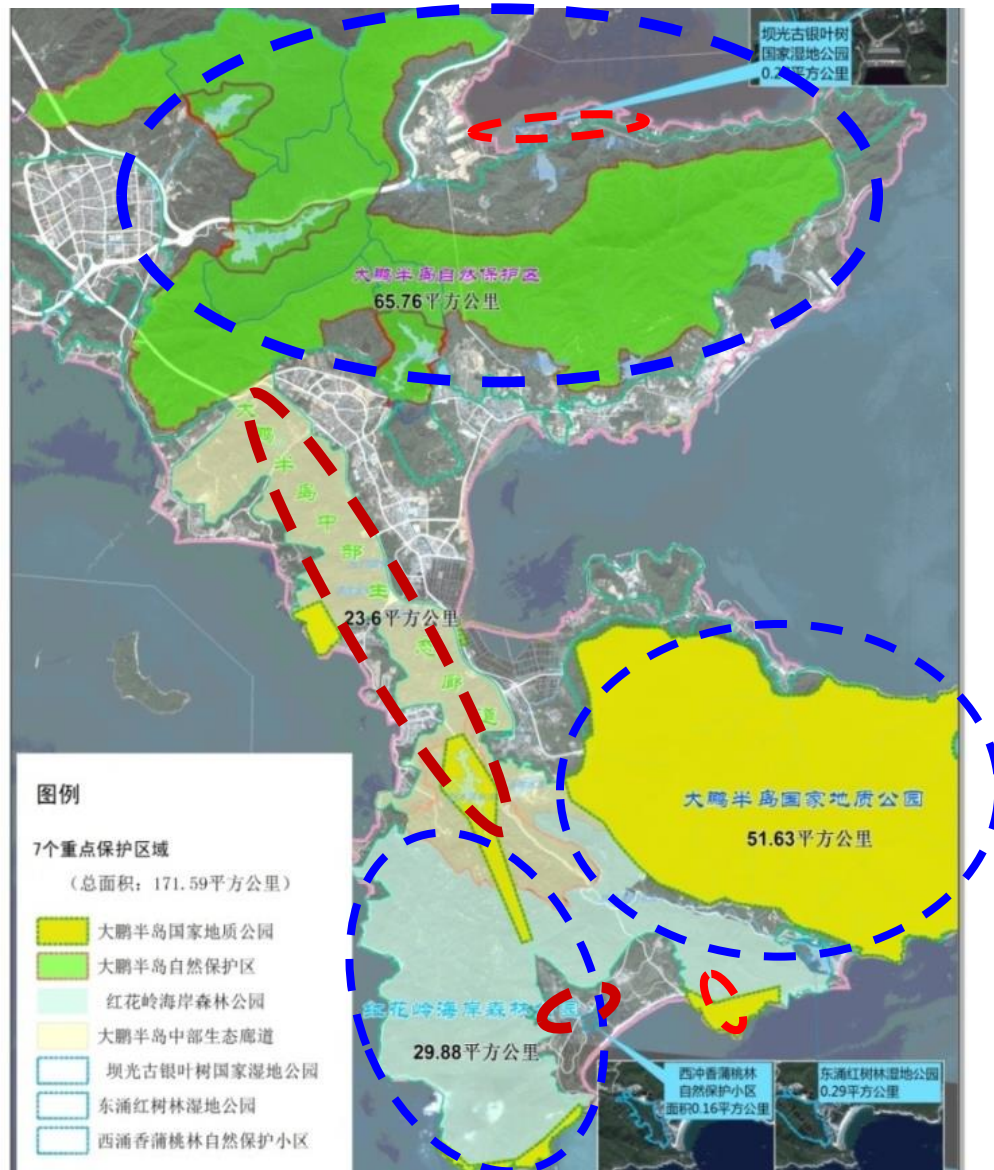
How to Protect Biodiversity in Urban



How to Protect Biodiversity in Urban



How to Protect Biodiversity in Urban

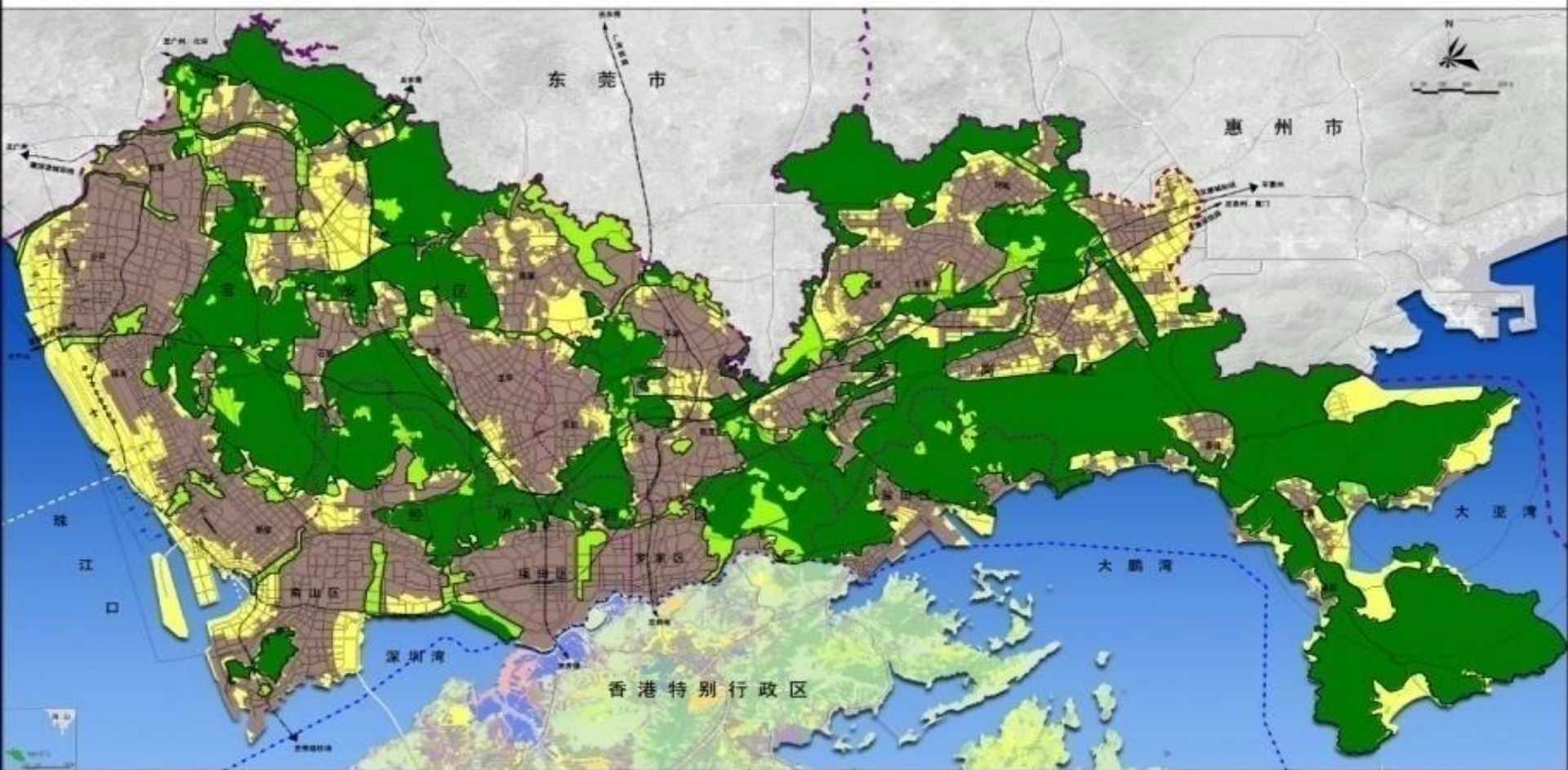


How to Protect Biodiversity in Urban

深圳市城市总体规划（2007-2020）

THE COMPREHENSIVE PLAN OF SHENZHEN (2007-2020)

空间管制规划图



图例

■ 生态区
■ 生态区
■ 生态区

■ 生态区
■ 生态区
■ 生态区

■ 生态区
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深圳市人民政府 2007年

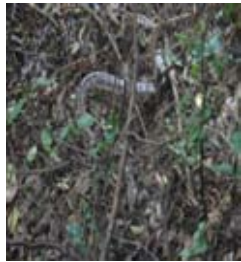
II-04

How to Protect Biodiversity in Urban

2 national natural reserves had been established in Shenzhen, which are Nei Lingding Island Natural Reserve & Futian Mangrove Natural Reserve.



Futian Mangrove Natural Reserve



How to Protect Biodiversity in Urban

About 20 parks in Shenzhen, including foresting national parks, wetland national parks.

深圳市已立项森林公园分布图



Wetland National Park



Fenghuangshan Foresting park



An aerial photograph showing a dense urban skyline in the background, featuring numerous high-rise buildings and skyscrapers. In the foreground, there is a large, lush green park with winding paths, several small ponds, and a variety of trees. The sky is blue with scattered white clouds. The text "Thank you for your attention" is overlaid in the center of the image.

Thank you for your attention