



# Characteristics of Riparian Vegetation and the Associated Human Influence in urban area

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natrual riparian in  
wetland area



River riparian in urban  
area



steam riparian in urban  
area

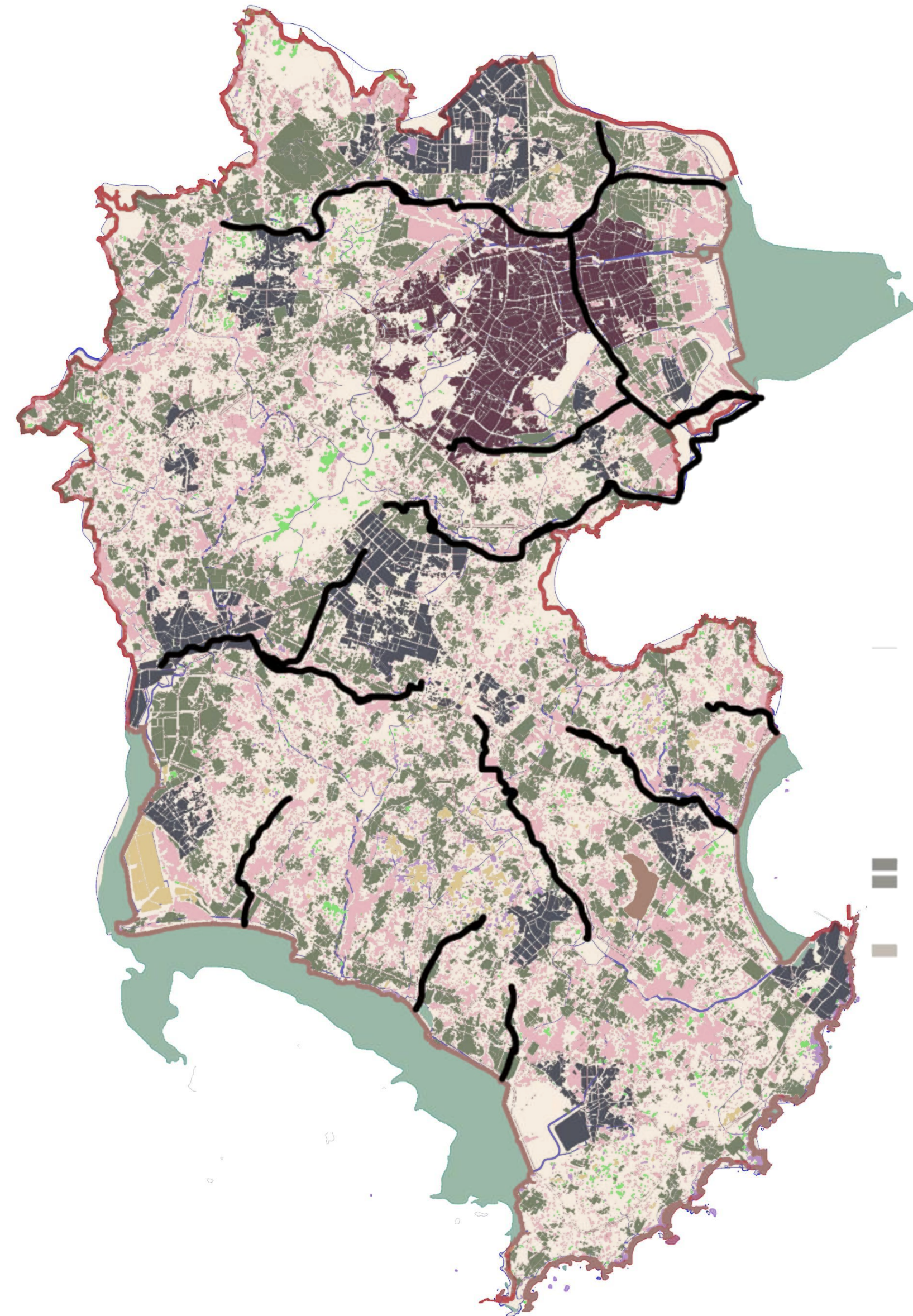




# 1、 Purpose



a city represents overall urbanization in China



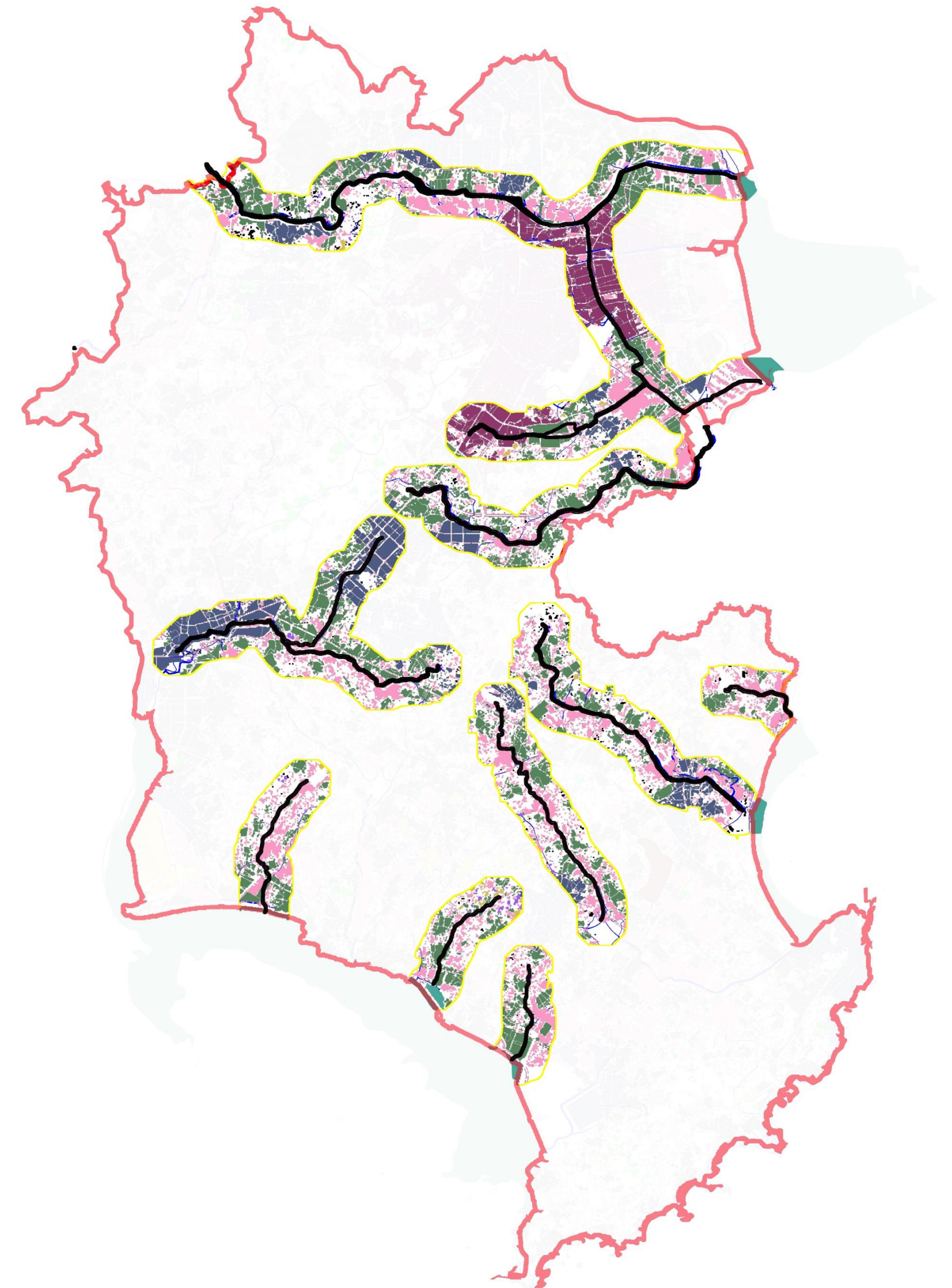
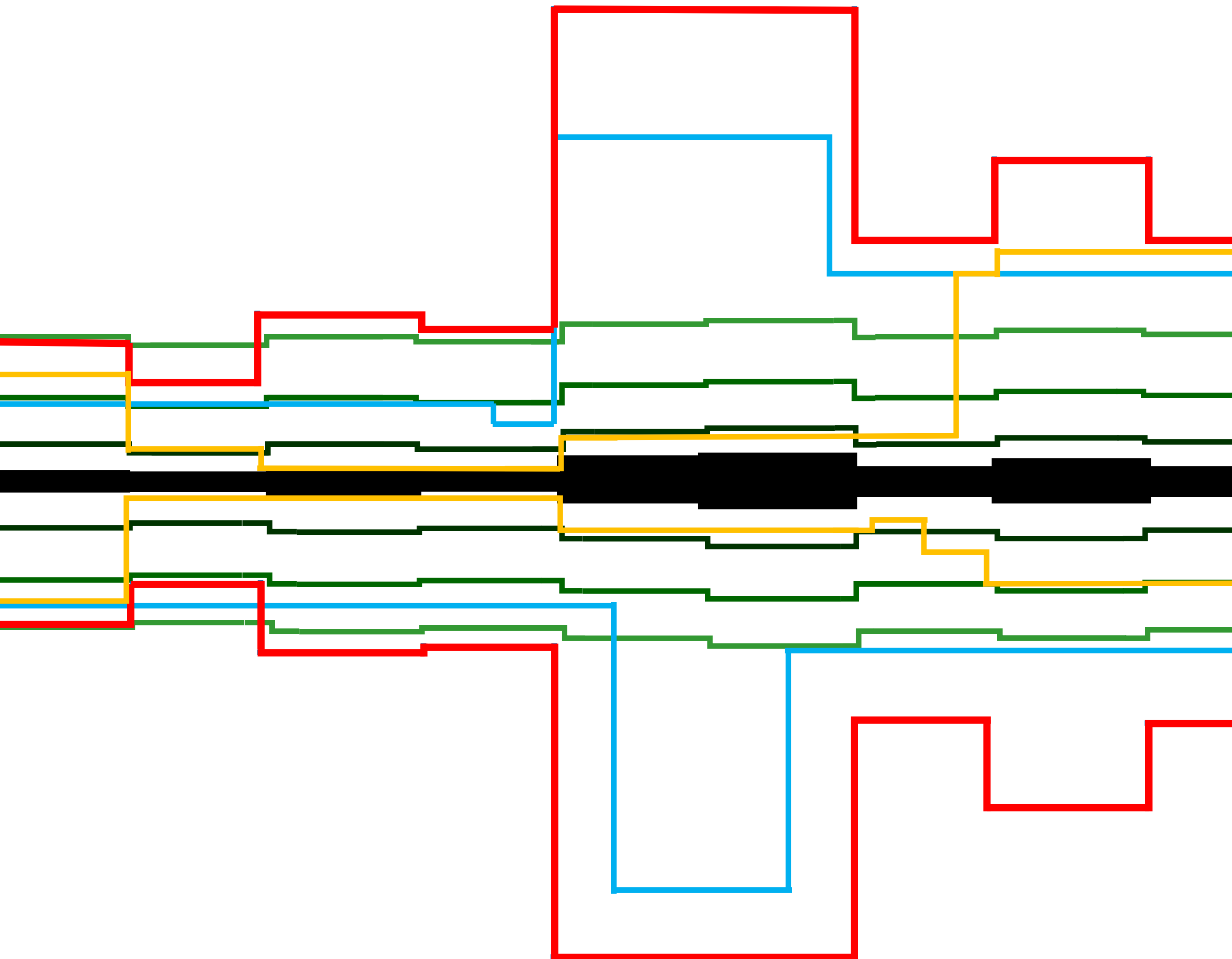
Vegetation species and distribution of stream riparian zone in urban area.

human influence on plant species and distribution of stream riparian zone in urban area.



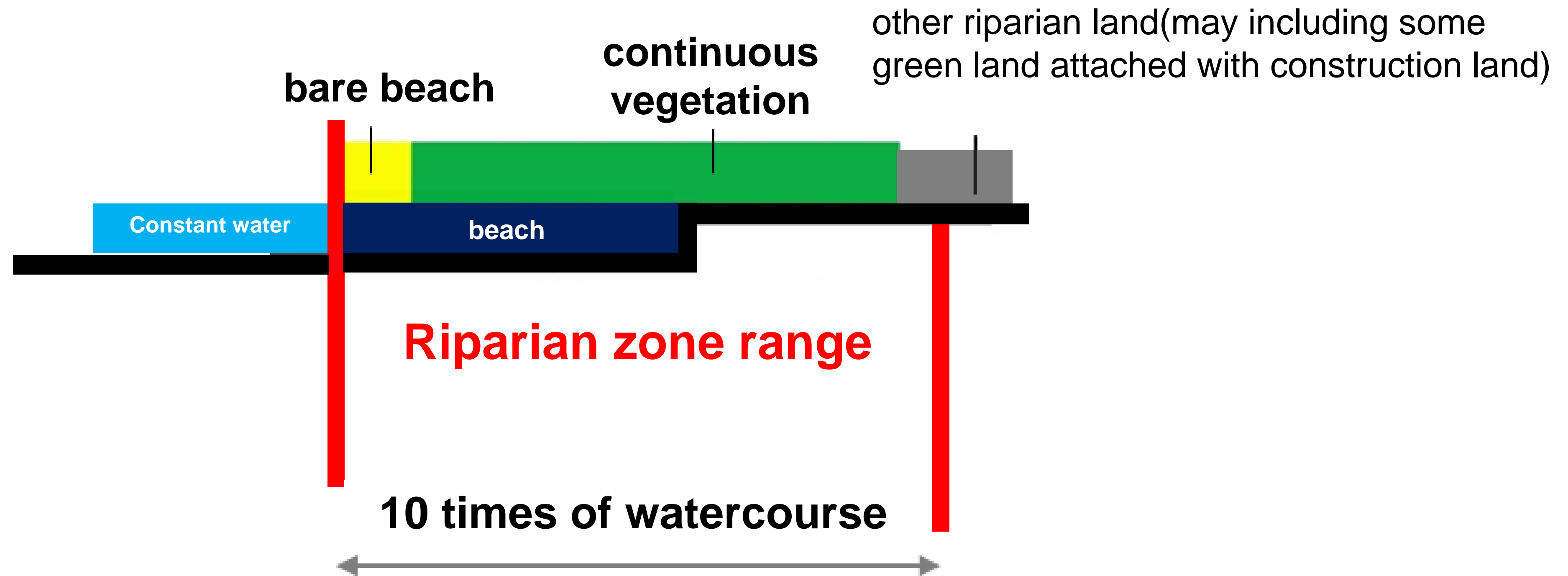


## 2、 Methods





### 2.2 distributions of continuous vegetation in riparian Zones ←



riparian range(10 times of watercourse) = **bare beach + continuous vegetation + other riparian lands.**



### 2.3 human influence category ←

Human Influence Category	Existence or Formation reason of plants
<b>appreciation</b>	Plant for aesthetic use
<b>supply</b>	Plant for edible or medicinal use
<b>Protection</b>	Plant for greening and ecological protection
<b>Emotion</b>	Pants for sustenance feelings or Fengshui needs

- Single human influence plant: only by one influence type
- Composite human influence plant: by two or more typies
- Proportion of influence type
- Location of influence type



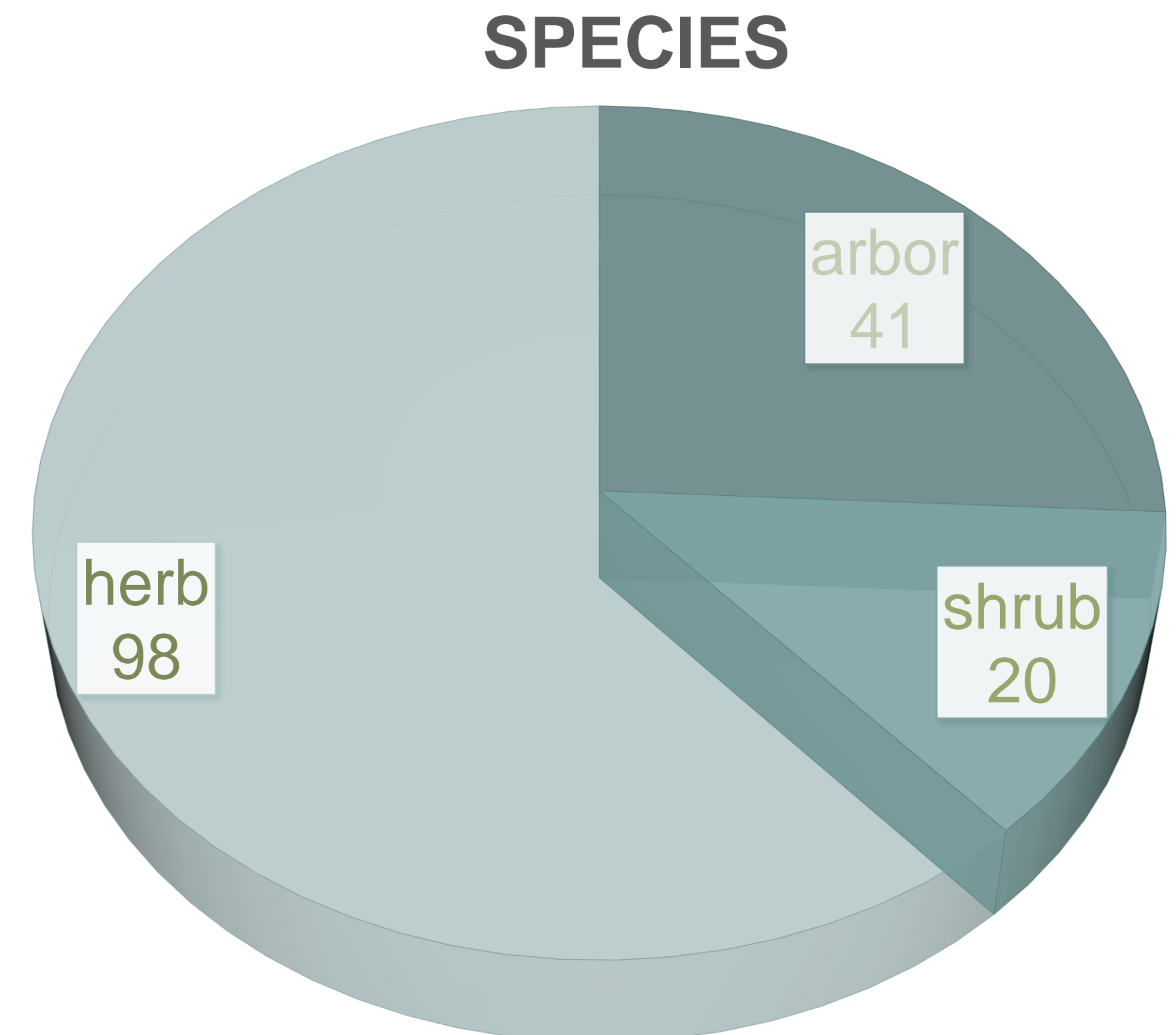
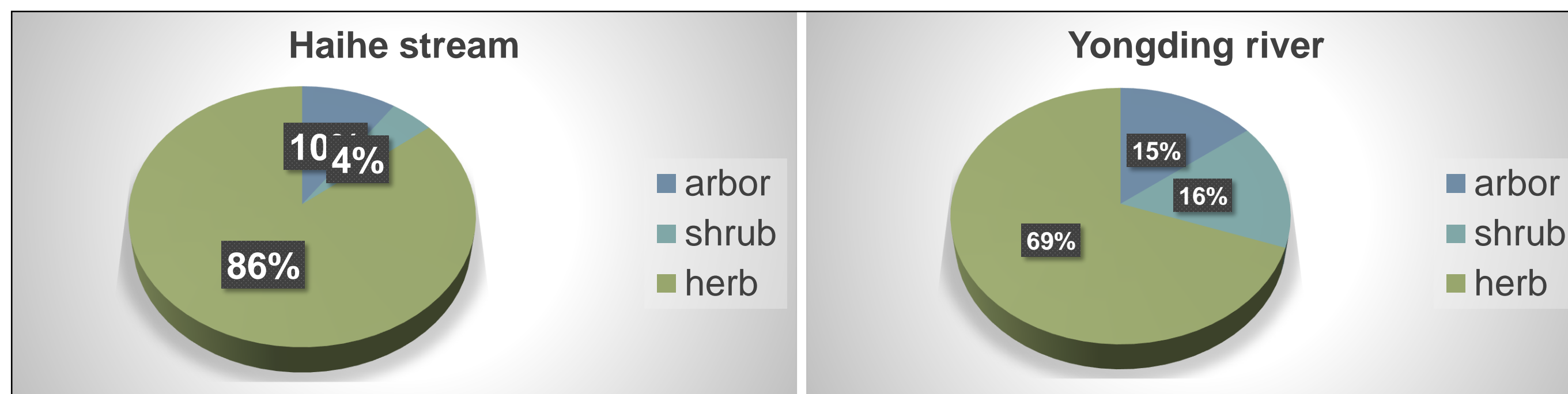


## 3、 Results

### 3.1 species ←

Riparian zone plants were classified into **70 families, 143 genera and 159 species**

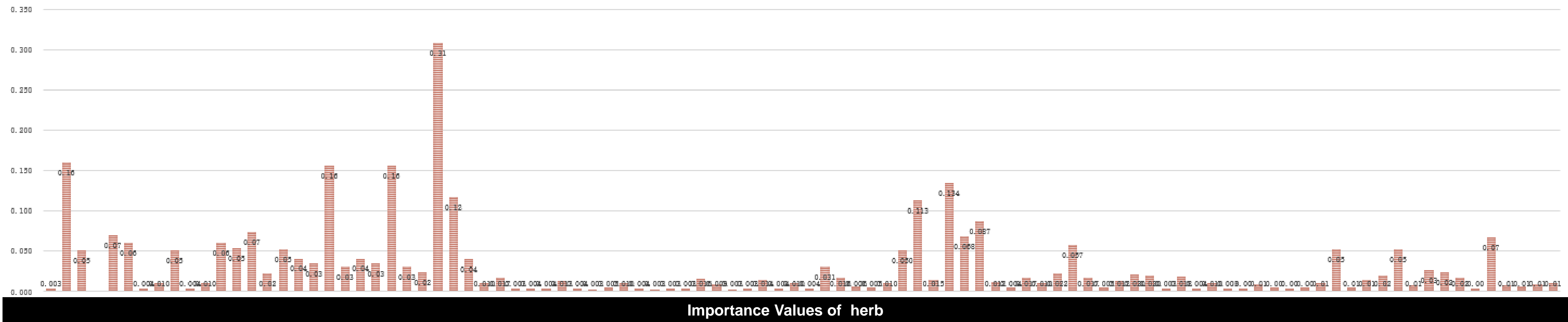
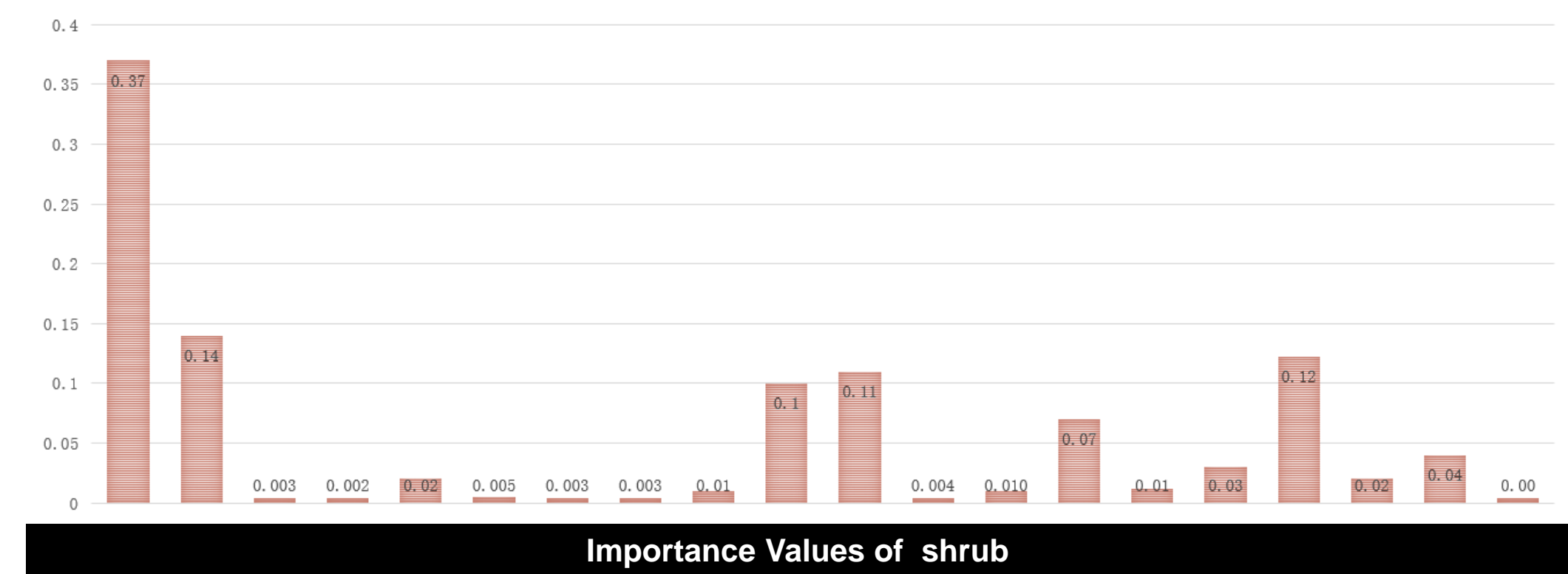
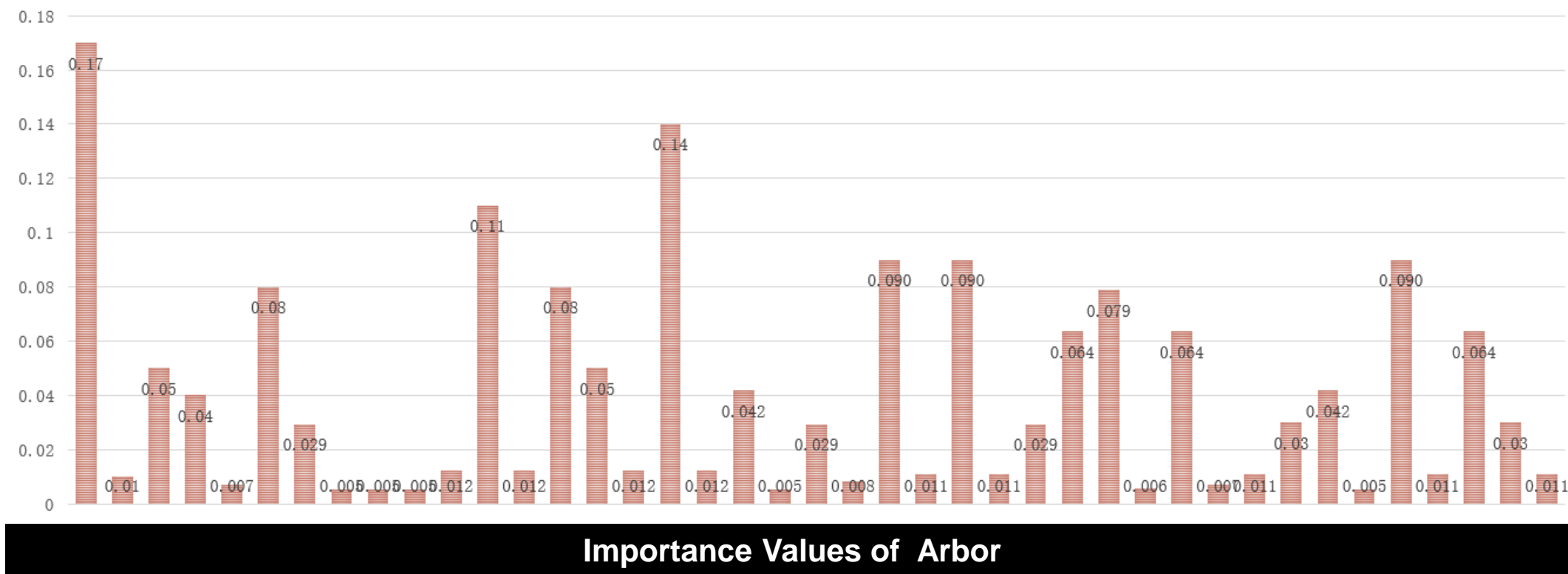
arbor	20 families, 30 genera and 41 species
shrub	15 families, 15 genera and 20 species
herb	35 families, 98 genera and 98 species





# 3、 Results

## 3.1 species ←







## 3、 Results

### 3.1 species ←

No.	ARBOR		SHRUB		HERB	
	Species	IV	Species	IV	Species	IV
1	<i>Leucaena leucocephala</i>	0.17	<i>Ricinus communis</i>	0.37	<i>Bidens bipinnata</i>	0.16
2	<i>Ficus benjamina</i>	0.14	<i>Lantana camara</i>	0.14	<i>Rumex japonicus</i>	0.07
3	<i>Acacia confusa</i>	0.11	<i>Murraya exotica</i>	0.11	<i>Conyza canadensis</i>	0.06
4	<i>Eucalyptus robusta</i>	0.08	<i>Lycium chinense</i>	0.10	<i>Alternanthera hioxeroides</i>	0.06
5	<i>Casuarina equisetifolia</i>	0.08	<i>Rhododendron pulchrum</i>	0.07	<i>Tithonia diversifolia</i>	0.06
6	<i>Ficus microcarpa</i>	0.05	<i>Buxus sinica</i>	0.04	<i>Humulus scandens</i>	0.05
7	<i>Dimocarpus longan</i>	0.05	<i>Pyracantha fortuneana</i>	0.03	<i>Phragmites australis</i>	0.05
8	<i>Celtis sinensis</i>	0.04	<i>Duranta repens</i>	0.03	<i>Cynodon dactylon</i>	0.04
9	<i>Terminalia mantaly</i>	0.03	<i>Ligustrum sinense</i>	0.02	<i>Solanum nigrum</i>	0.03
10	<i>Averrhoa carambola</i>	0.03	<i>Parthenocissus semicordata</i>	0.02	<i>Parthenium hysterophorus</i>	0.03



# 3、 Results

## 3.2 distribution ←

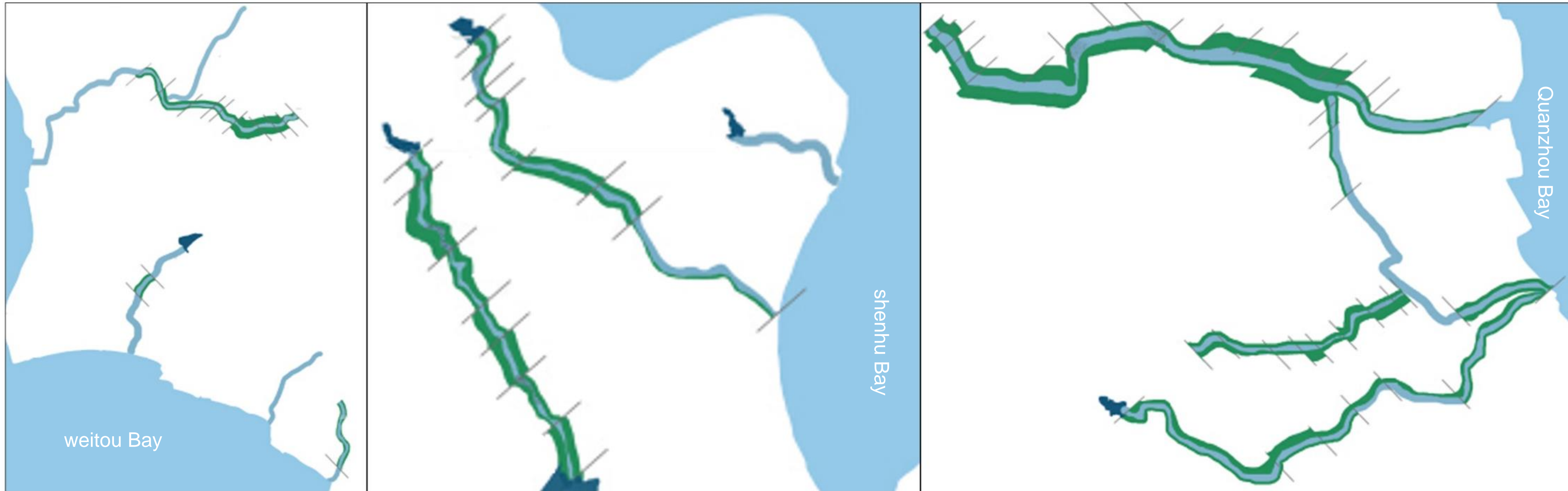
stream	Riparian zone Width (m)	Watercourse Width (m)	Bare beach Width (m)		Continuous Vegetation Width (m)			Other Riparian zone Land Width (m)		Average Continuous Vegetation Width / Riparian zone Width
			Left Bank	Right Bank	Left Bank	Right Bank	Average	Left Bank	Left Bank	
1	361.5	36.15	4.79	3.76	10.38	9.15	9.765	346.33	348.59	<b>0.027</b>
2	83.3	8.33	0	0	0	0	0	83.3	83.3	<b>0.000</b>
3	82.4	8.24	3.64	3.24	6.7	7.15	6.925	72.06	72.01	<b>0.084</b>
4	88	8.8	1.32	1.35	4.47	4.3	4.385	82.21	82.35	<b>0.050</b>
6	18.6	1.86	0.43	0.07	1.86	1.5	1.68	16.31	17.03	<b>0.090</b>
7	187.5	18.75	0.41	0.81	1.25	1.25	1.25	185.84	185.44	<b>0.007</b>
8	62.3	6.23	0.17	0.09	5.97	0.55	3.26	56.16	61.66	<b>0.052</b>
9	100.3	10.03	0.24	1.21	3.35	4.62	3.985	96.71	94.47	<b>0.040</b>
10	122.3	12.23	0	0.79	1.03	2.39	1.71	121.27	119.12	<b>0.014</b>
11	35.73	3.57	0	0.09	0.86	0.7	0.78	34.87	34.94	<b>0.022</b>
12	88	8.8	3.82	2.59	5	2.1	3.55	79.18	83.31	<b>0.040</b>
13	60	6	0.77	1.06	2.84	3.21	3.025	56.39	55.73	<b>0.050</b>
Mean Values	107.5	10.75	1.30	1.26	3.64	3.08	3.36	102.55	103.16	<b>0.031</b>





## 3、 Results

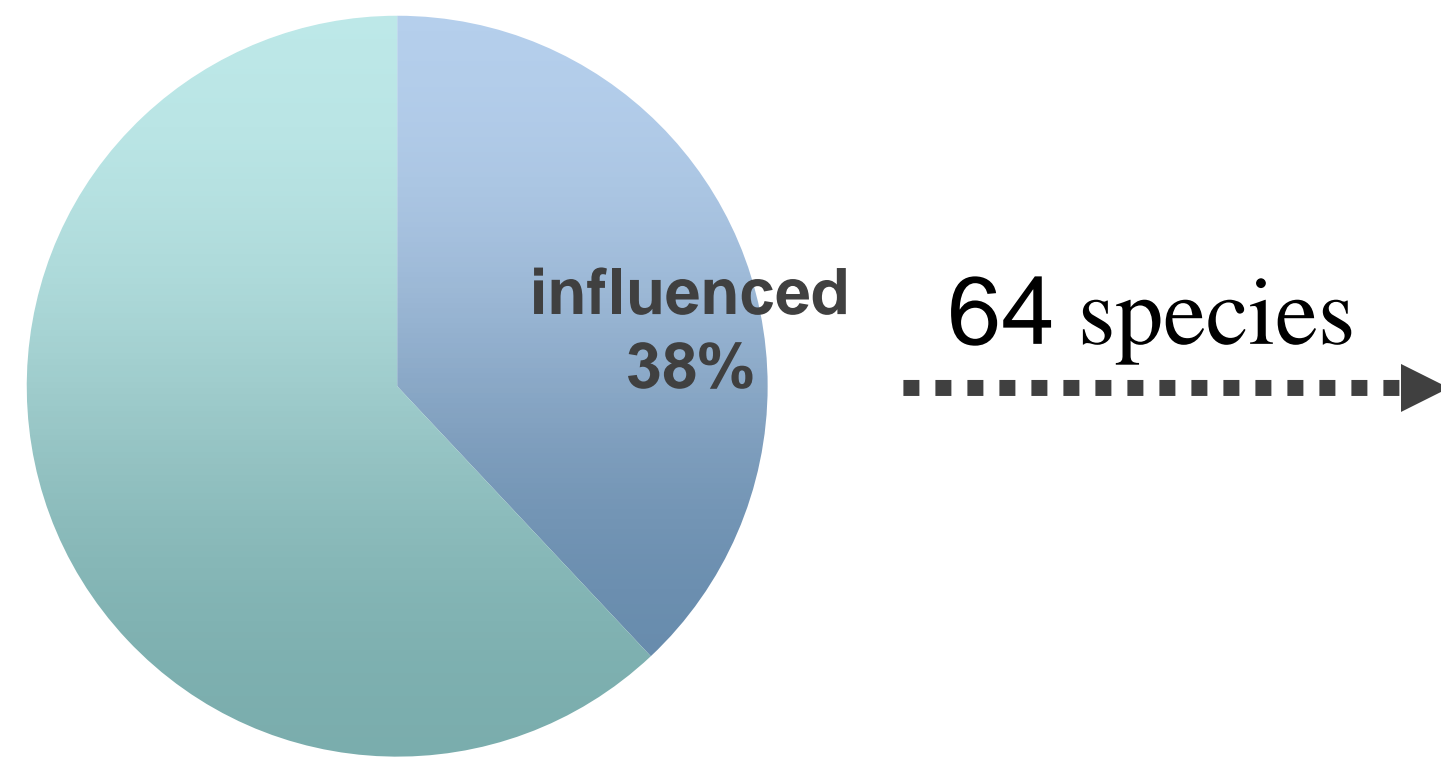
### 3.2 distribution ←



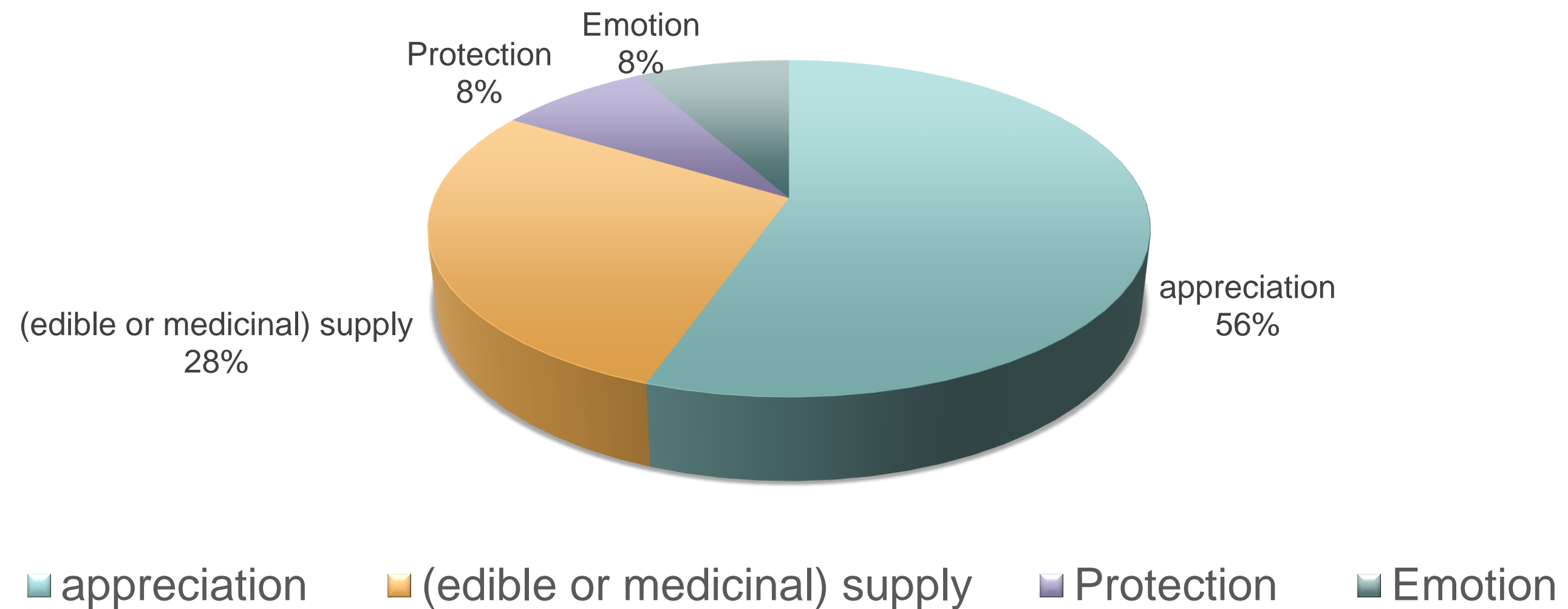
Distribution of continuous vegetation



## 3.3 human influence ←



Human Influence Category		Amount
Single 56 species	appreciation	41
	(edible or medicinal) supply	21
	Protection	6
	Emotion	6
Composite 8 species	appreciation—Emotion	1
	appreciation—Protection	1
	supply—Emotion	1







## 3.3 influence ←

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appreciation

supply

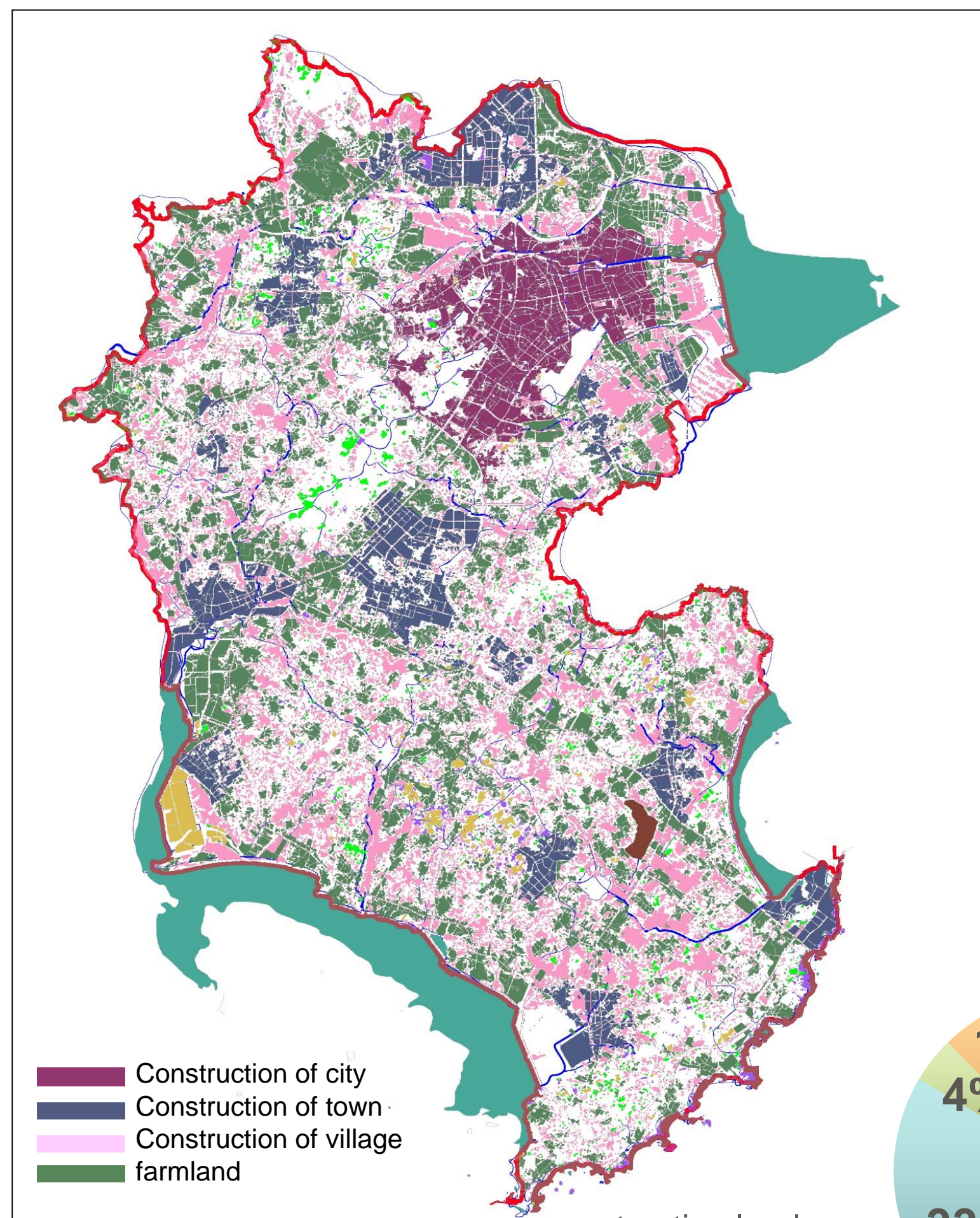
Protection

Emotion



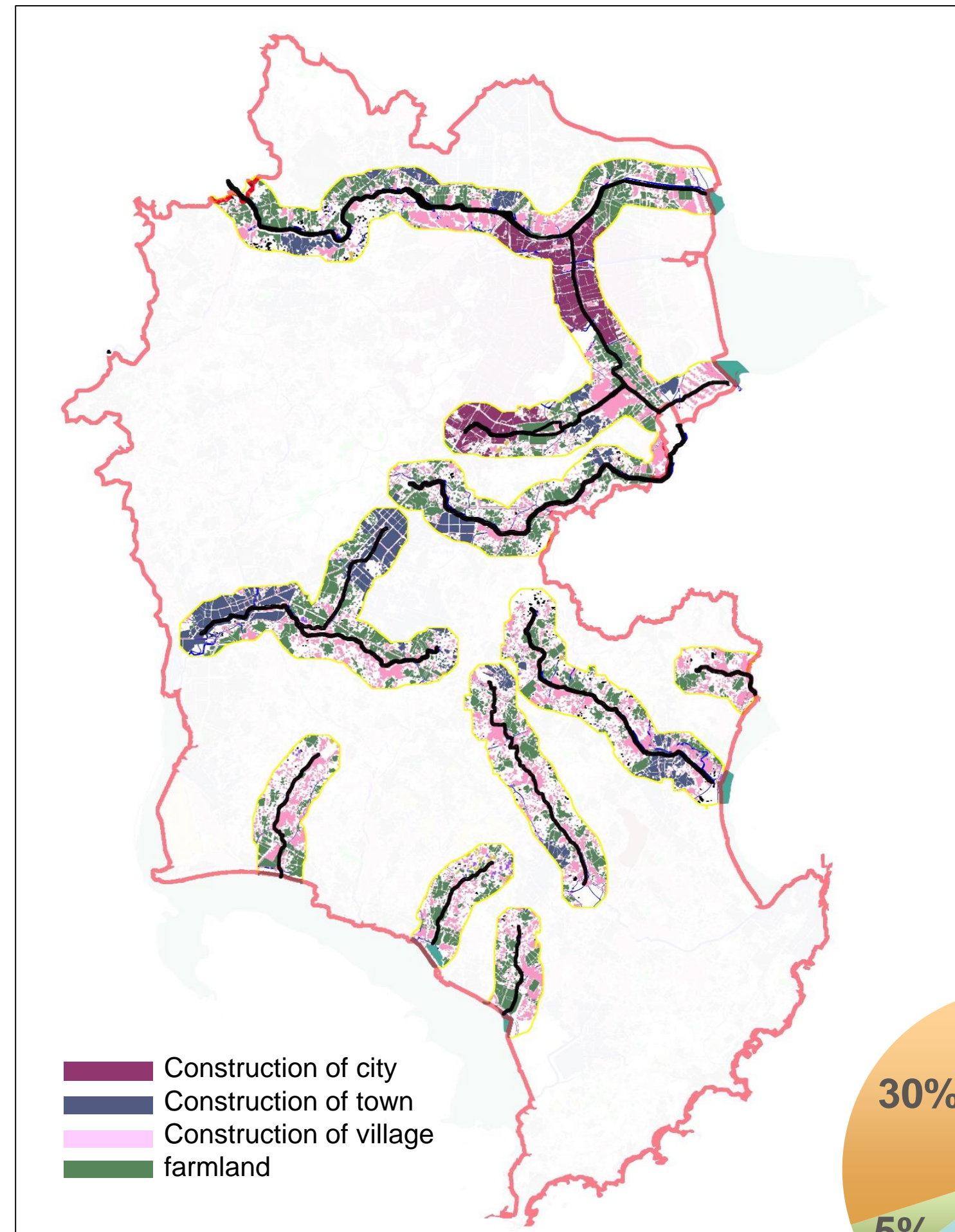
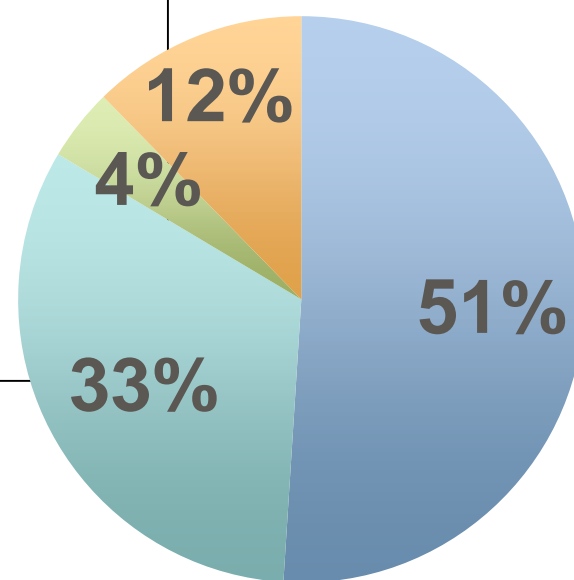


## 4.1 urbanization and the distribution of vegetation ←

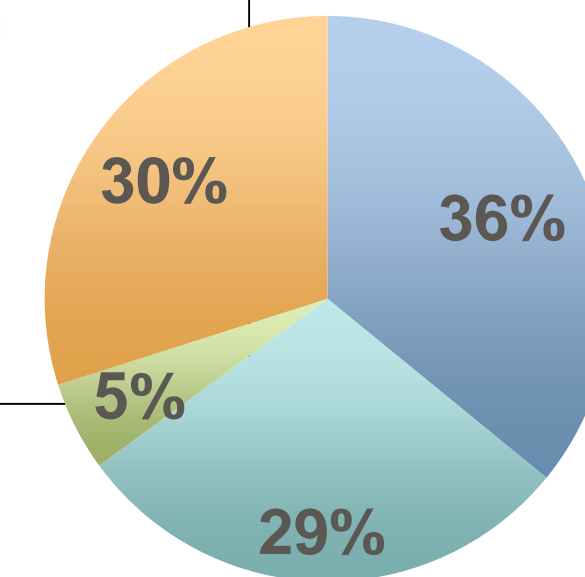


Construction of city  
Construction of town  
Construction of village  
farmland

construction land  
farmland  
forest and green land  
others



Construction of city  
Construction of town  
Construction of village  
farmland



construction land  
farmland  
forest and green land  
others

- Urbanization construction s mainly along the steam

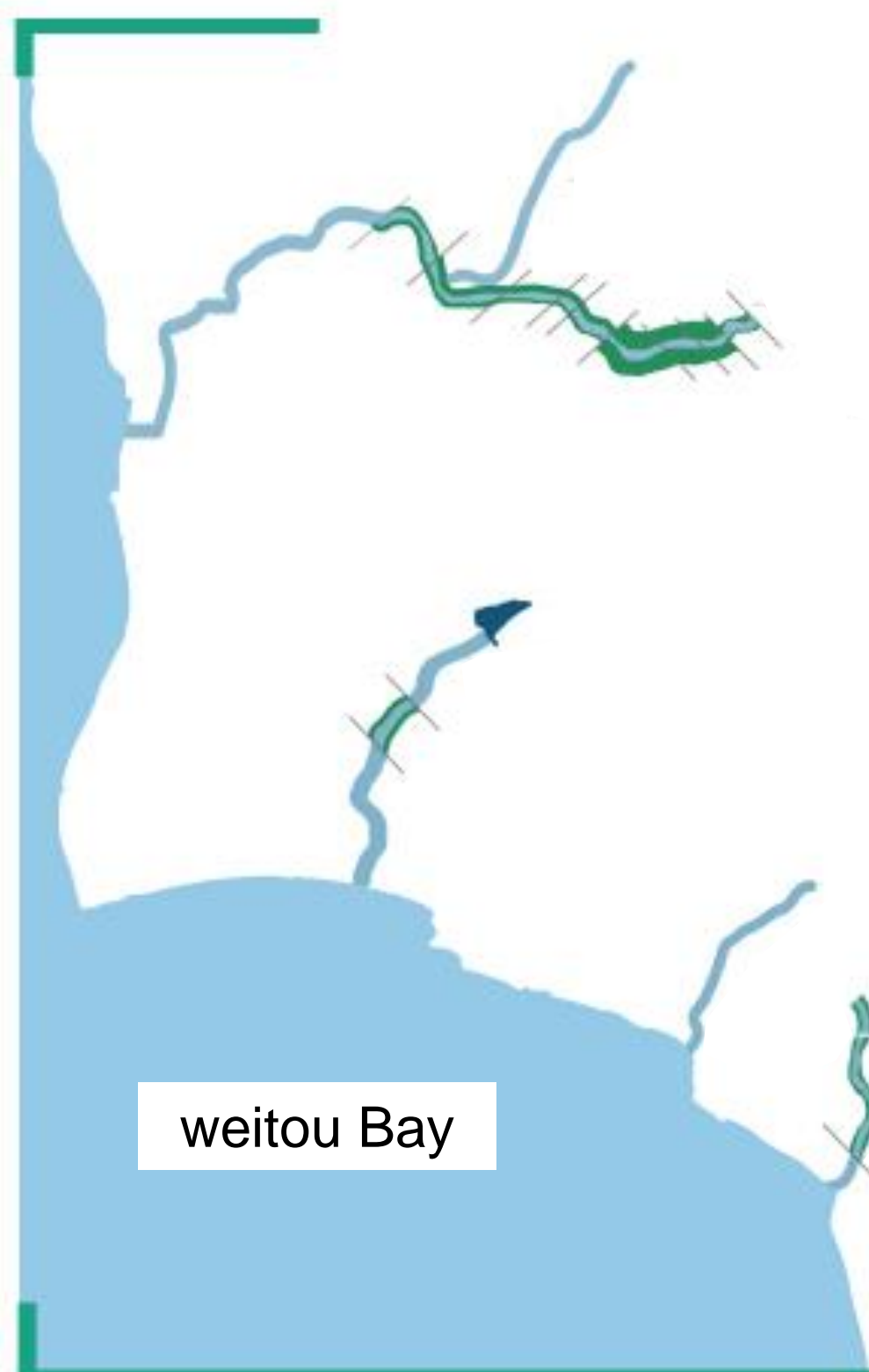
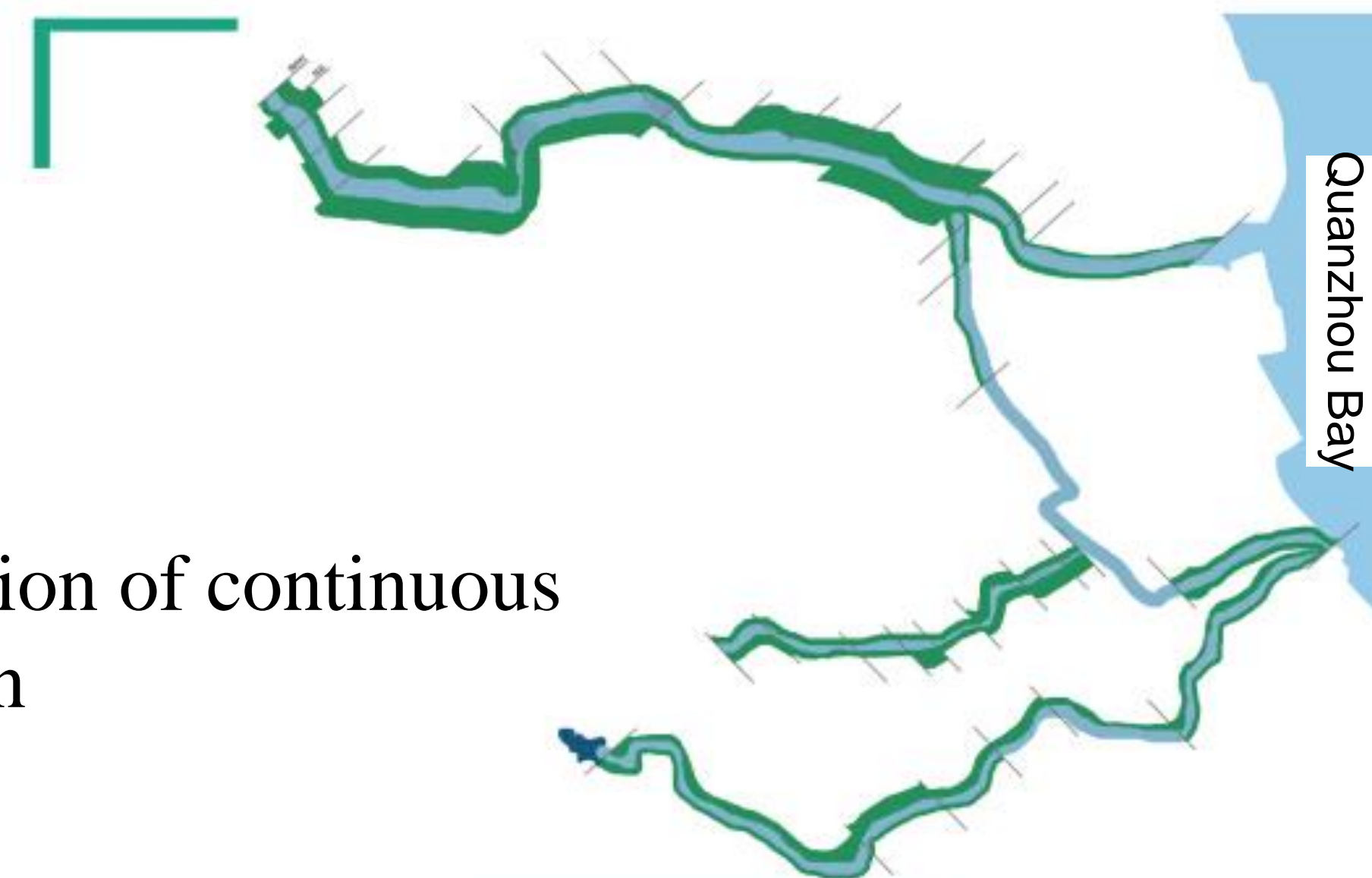




## 4.1 urbanization and the distruibtion of vegetation ←

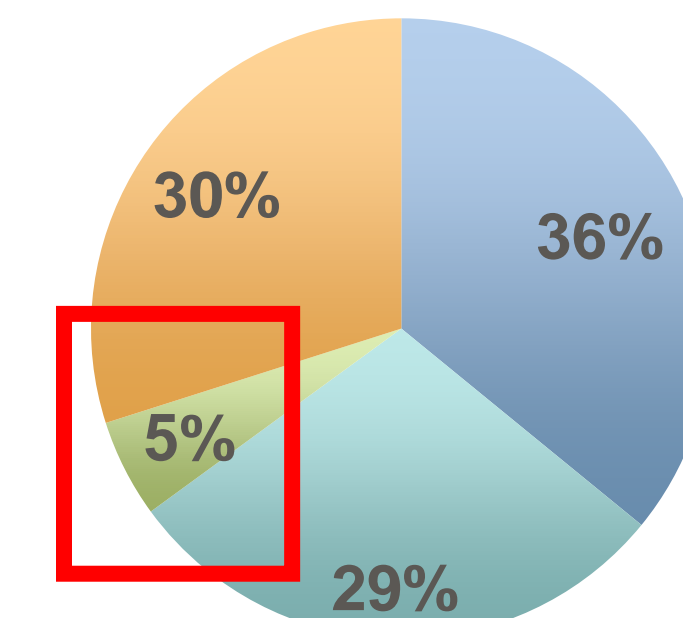
- Average continuous Vegetation Width / Riparian Width \* 100%  
= **3.1%**

Distrubution of continuous vegetation



- Urbanization construction s mainly along the steam
- Urbanization reduce continuous vegetation

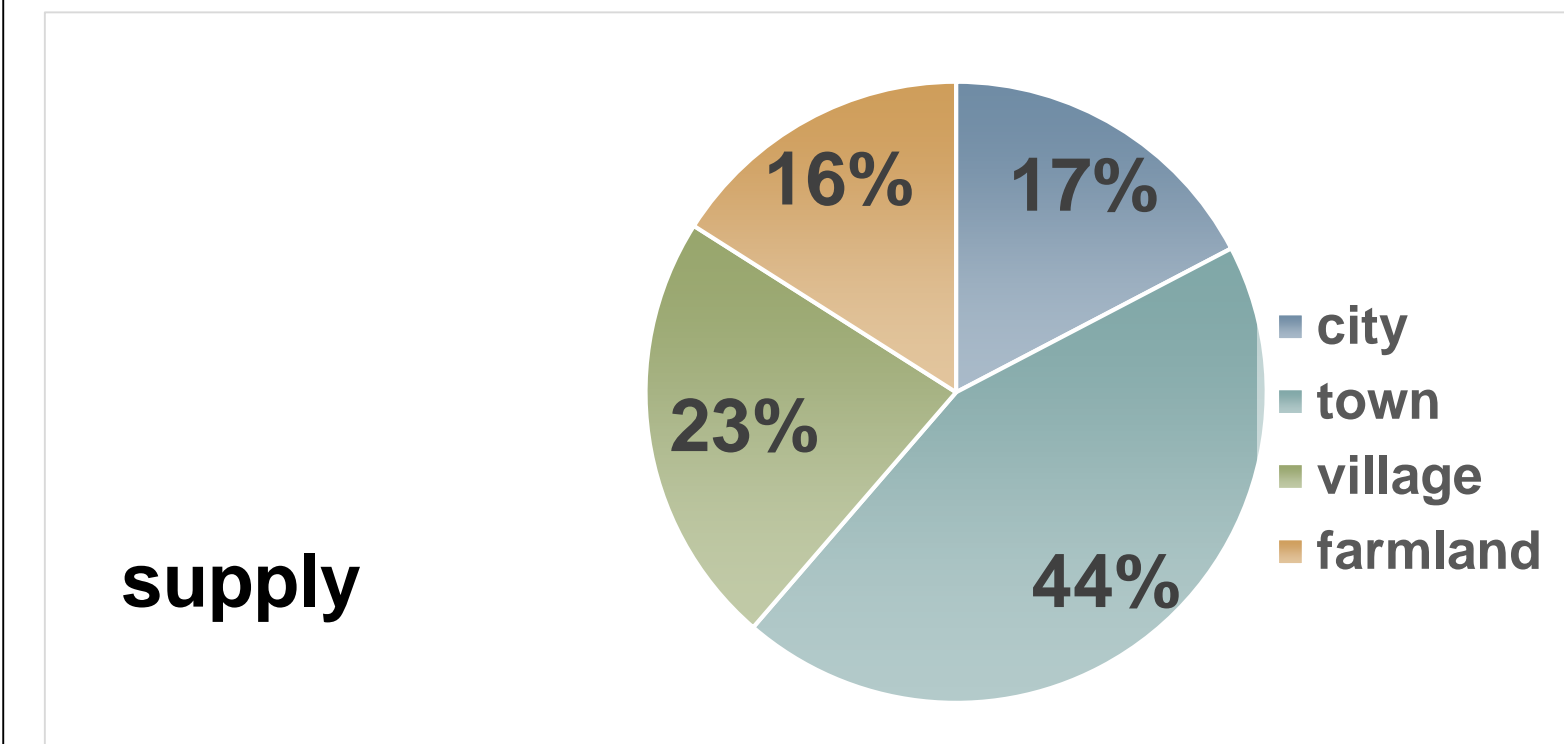
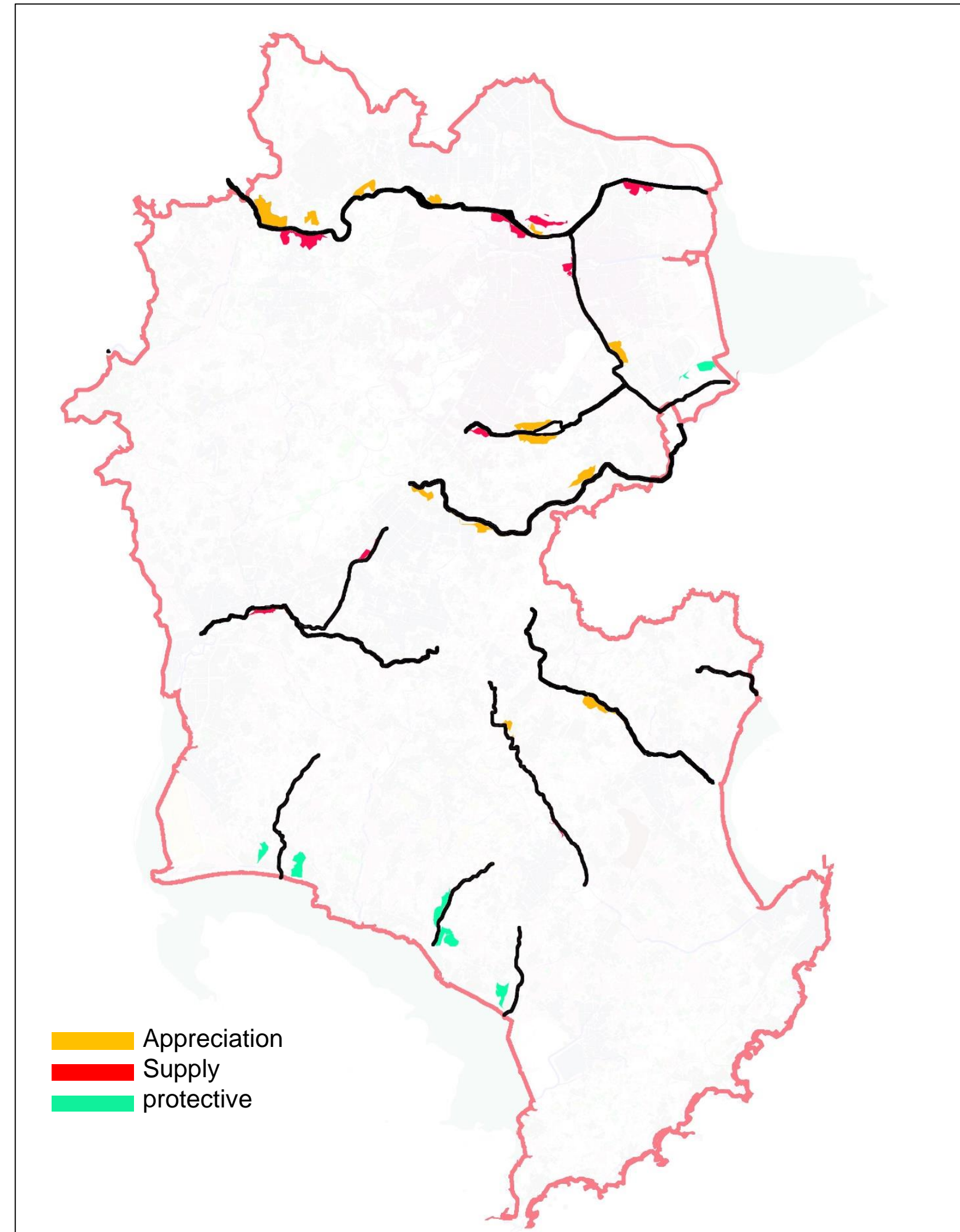
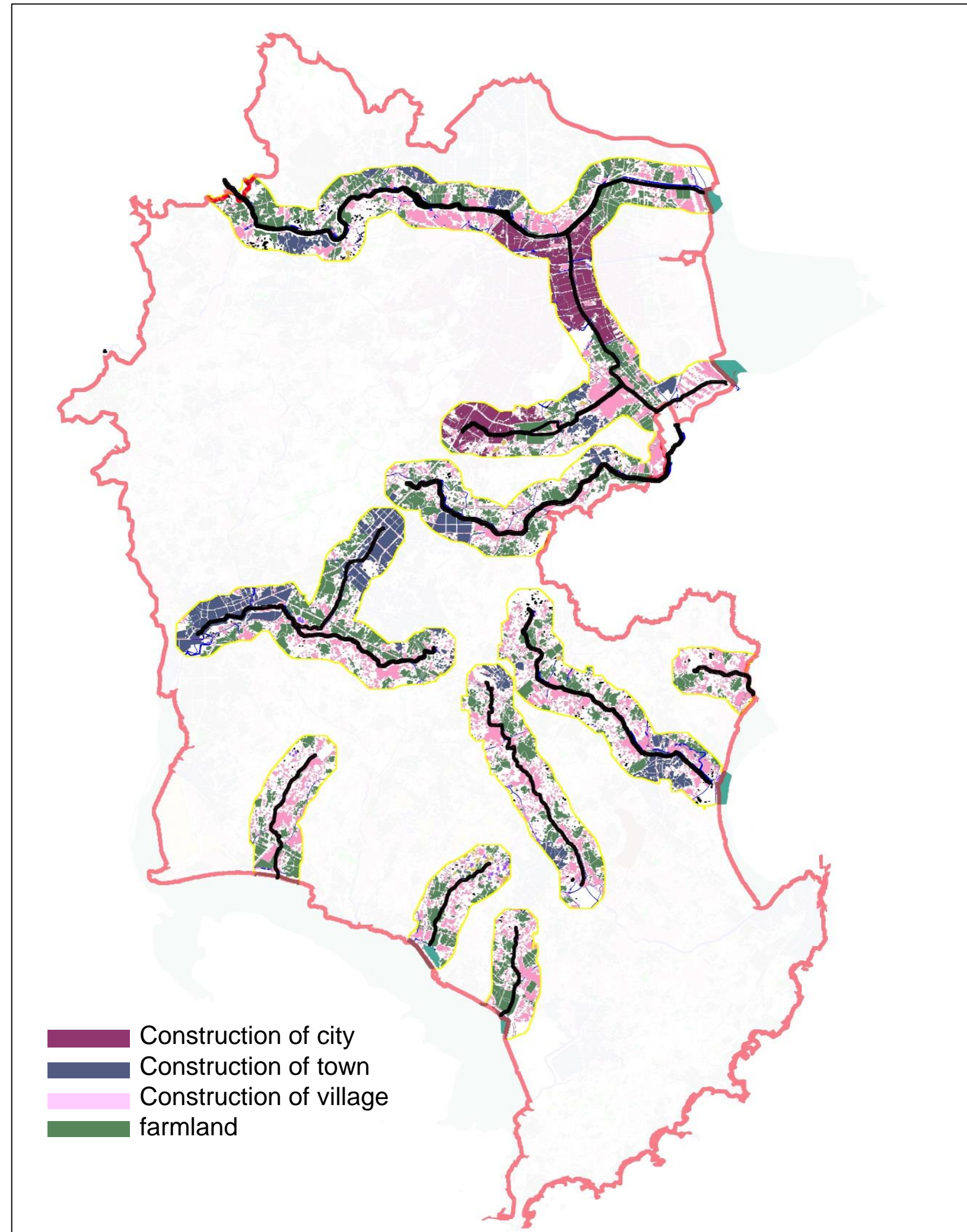
■ construction land  
■ farmland  
■ forest and green land  
■ others







## 4.2 urbanization and the human influence on plant species







## 4.2 urbanization and the human influence on plant species

