



# Dining wetland for humans and birds

– an adaptive solution for bird conservation in paddy fields



小天鵝 *Cygnus columbianus*

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PART



牛背鹭围着水牛 | Photoed by YAN Hao

01

## Introduction

Team Introduction  
Overview of the project

# ➤ Team Introduction



## ■ Shuyu Hou

■ Ph.D. Candidate in Landscape Architecture

### ■ Interested areas:

Protected areas and OECMs;

Biodiversity conservation in human-dominated environment;

Compatible conservation management aiming at human living in harmony with nature.

### ■ Role in the project:

Conceptualization; Science basis; Data curation; Formal analysis; Investigation; Interview; Onsite activities organization; Communication with local partners.

# ➤ Team Introduction



## ■ Luyao Chen

■ A graduate student in Landscape Architecture

### ■ Practical project

Baiyangdian Lake water ecological restoration;

Recreation and utilization of Giant Panda National Park and Hainan Tropical Rainforest National Park;

Landscape planning of Hengshui Lake Natural Reserve

### ■ Role in the project:

Conceptualization; Formal analysis; Investigation; Interview; Communication with local partners; Site status analysis; Site planning and design; Video editing



# ➤ Team Introduction



## ■ Yuhan Li

■ Rhodes Scholar, Mphil in Biodiversity, Conservation and Management

### ■ Interested areas:

Citizen Science; Urban biodiversity

National parks; Ecotourism; Human-wildlife conflict

### Role in the project:

Project design; Field survey; Communication with local partners.



# ➤ Team Introduction

## ■ Xinchun Bu

■ Graduate student in Department of History of Science

### ■ Interested areas:

Birdwatching and other natural observation

Biodiversity conservation

History of natural history

### ■ Role in the project:

Science basis; Onsite investigation; Webinar Speaker



# ➤ Team Introduction



## ■ Yin Zhang

- Lecturer and Postdoc in the Department of Landscape Architecture, Chongqing University

- **Interested Field:**

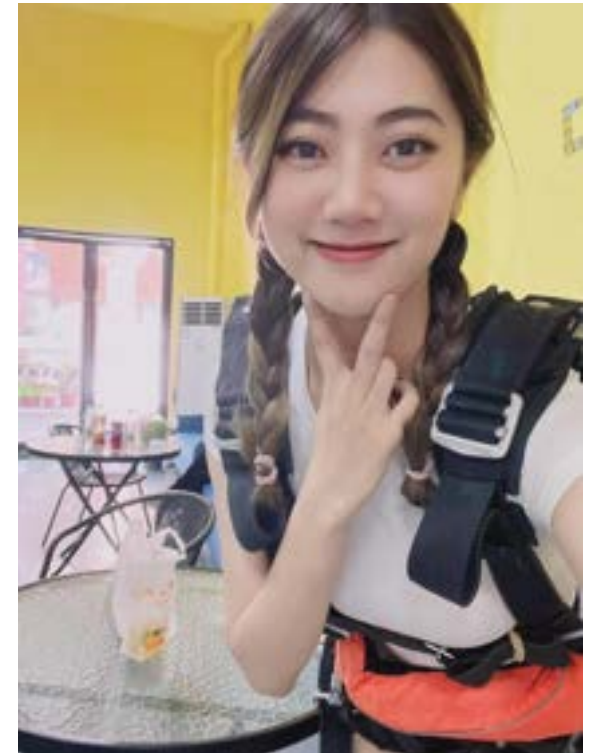
  - Community-based Conservation;

  - Co-management of natural resources;

  - Conservation equity.

- **Role in the Project:**

  - Assistance with project design and review; Theoretical guidance with the fieldwork investigation in the community section.





## ➤ Team Introduction

### ■ Terry Townshend

- Wildlife Conservationist and Fellow of the Paulson Institute

- **Interested areas:**

  - Public engagement on biodiversity and nature

  - Community-based conservation

  - The economics of biodiversity including biodiversity finance policy and valuing nature

- **Role in the project:**



**Mentor**

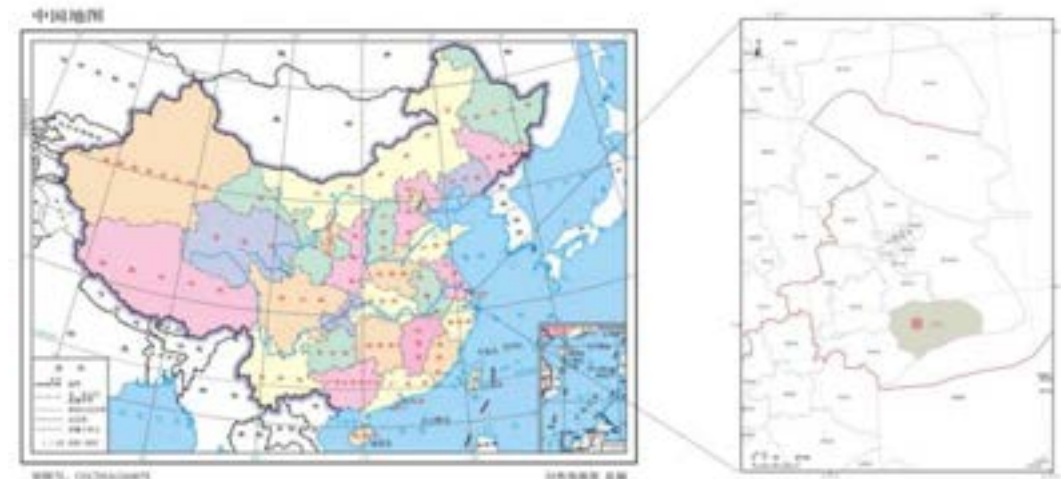


# ➔ Overview of the project

## ■ Background

- Birds, our flying neighbors, are liked and inspire curiosity among citizens.
- However, they can also cause problems, especially in farmland communities.
- This project focused on a modern farming site in Nanqiao county, located in the suburbs of the mega-city, Shanghai, where the study site is typical of urban agricultural communities - **affection** for their flying neighbors but also **worry** about the damage they cause to crops.

### Crop Depredation by Birds



# ➤ Overview of the project



## ■ Aims & Objectives

- Collect baseline data about biodiversity and community perspectives
- Build capacity for the Nanqiao community and the broader public about knowledge of birds and their importance
- Increase awareness and motivate action for bird conservation

*Many original designed projects of the project were severely interrupted by the lockdown in Shanghai from March to June and the continued travel restrictions; but eventually the team managed to transform the offline activities to online, and received sounding outcomes.*

# ➔ Overview of the project



## ■ Timeline & Deliverables

- **Jan, Feb, Mar and Oct 2022:** Four baseline **ecological surveys**, using a mixture of camera traps and transects. Recorded **61** bird species and **3** mammal species.
- **Feb 2022:** **Two** in-person meetings with **19** local stakeholders.
- **Sep 2022:** Conducted **conservation willingness survey** and received **102** completed questionnaires from the citizens.
- **Sep 2022:** Hosted a "birds in cropland" theme **photo contest**, attracting more than **300** votes and reaching a readership of over **1,000** by two articles.
- **Sep 2022:** Hosted one **online webinar**, featuring two keynote speakers from this team and local partners, reaching **800** people. Our **post-event survey** showed that the webinar significantly increased the audience's knowledge of birds.
- **Sep and Oct 2022:** Published six **popular science articles** promote bird knowledge, reaching **2,200** readers. **Designed and produced** stickers, postcards and shopping bags of bird species in Shanghai.



# PART



南汇农田中展翅的东方白鹳 | www.cmy.com

# 02

## Work Review

The work we have done

# Playback Video





# PART



夏日水稻田里悠闲觅食的水雉 | Photoed by Daiju

# 03

## Innovative contributions

Outcomes  
Innovative contributions  
Profound effects

# ➔ Outcomes

## ■ Activities outcomes

- **4 baseline ecological surveys** has recorded **61 bird species** and **3 mammals species**.

- They filled the data gap and laid the foundation for subsequent conservation actions.





# ➤ Outcomes

## ■ Activities outcomes

- **Two in-person meetings** with **19** stakeholders helped us understand the local situation and **build a consensus to collaborate**.
- 40% of the 102 received conservation willingness **questionnaires** come from the local community, which arouse public concern.



# ➤ Outcomes

## ■ Activities outcomes

- Self-designed and produced **stickers, postcards and figures** decorated with native bird species of Shanghai has increased public awareness and knowledge of bird conservation.



# ➔ Outcomes

## ■ Activities outcomes

- Photo contest *Birds in Cropland* has attracted **over 1,000 views and 300 votes** via two articles.
- **Six popular science articles** published on social media promoting bird knowledge has reached **2,200 readers**.
- **Online webinar reaching 800 people across the country** has significantly increased the audience's knowledge of birds, according to our post-event survey.



# ➤ Outcomes

- **Proposal 1: Increase supply of suburban rural ecotourism**
- The demand and supply analysis of the market provides the possibility of a rich variety of functions for the project
  - In Nanqiao, there are...
    - Country parks
      - Outdoor sports: walking, bike-riding, frisbee etc.
      - Camping
    - Eco-agriculture parks
      - Based on villages
      - Agricultural activities
      - Animal feeding
      - Fruit picking
      - Fishing etc.
  - Concerns for birds?
    - market potential analysts:
      - Eco-friendly (green) agricultural products
        - Demand: consumers nation-wide
        - Supply: Local agriculture
      - Rural ecotourism
        - Demand: nearby urban tourists
        - Supply: Local residents



# ➤ Outcomes

## ■ Proposal 2: **Policy Recommendations**

- Building a bridge of communication between ngos, residents and governments, so that different groups can play their part in protecting waterbirds

- 1. Enforcing rural landscape planning to enhance visual attraction to tourists;
- 2. Designing community-based eco-tourism routes aimed at bird watching;
- 3. Selecting agricultural varieties that are immune from the harm caused by birds;
- 4. Arranging trainings and workshops to improve the awareness and abilities of local communities

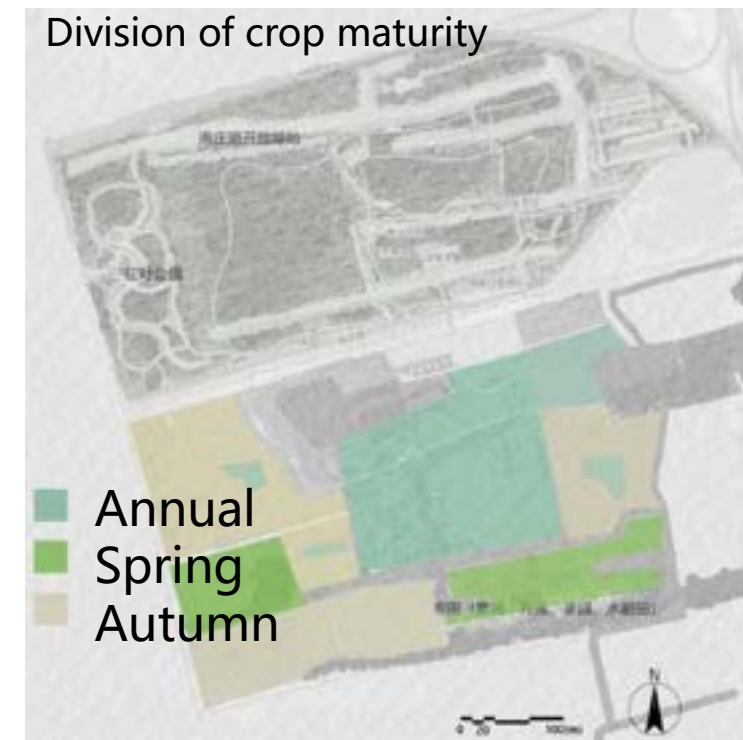
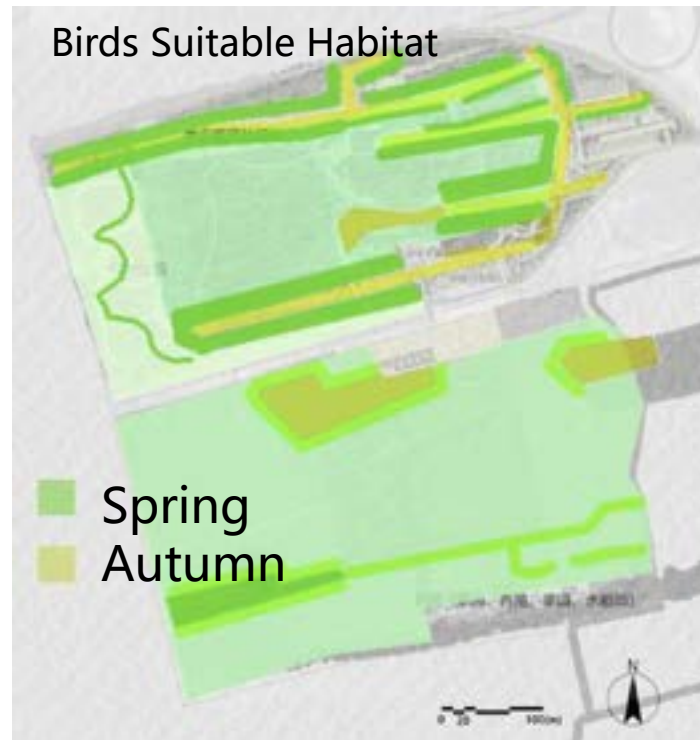


# ➤ Outcomes

## ■ Proposal 3: **Planning and Design strategies**

### ■ Summed up **can be extended to the surrounding agricultural area** planning and design strategy - zoning management

- From April to June, control water level to create good habitats.
- From June to September, strengthened supervision that prevent using bird nets, which will be included in the village rules and regulations.
- After November, keep some rice in the fields



# ➤ Outcomes

## ■ Proposal 3: **Planning and Design strategies**

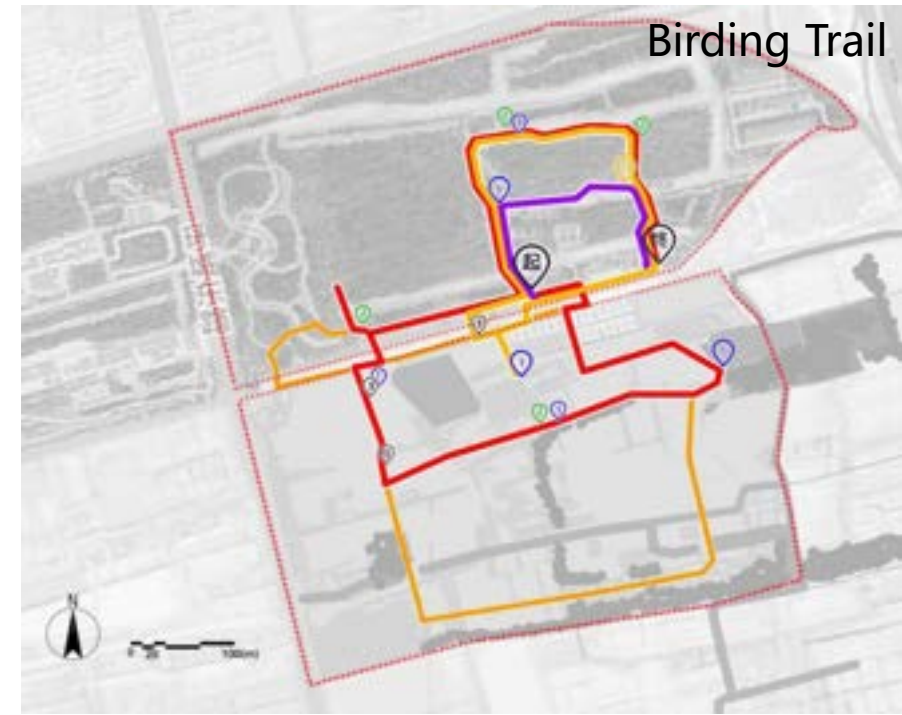
- Increase ecological space in paddy fields
- Establish a local environmental education trail

Advise the local government to hold a design competition and suggest design points including and not limited to the following:  
Increase water volume; Reduce revetment slope; Planting shrubs;  
Build a bird watching tower;



The Design Strategy

Our bird-watching transect line is used as the selection basis for developing bird-watching activity routes;



Birding Trail

# ➤ Innovation



## ■ Innovative contributions

1. Human-wildlife conflicts have been frequently looked at by researchers and practitioners, but mostly focusing on mammals and large carnivores. However, very few have looked deep into the relationships between migratory birds and rural residents, especially in the contexts of rural wetland. Herein one innovative point of our project is to enter into the very frontiers of bird-people conflicts and try to provide an approach through both educational and economical means.



# ➤ Innovation



## ■ Innovative contributions

2. The majority of projects concerning migratory bird conservation were employed either from the perspective of species, to look at their foraging and migrating behaviours, or from the perspective of local communities, to investigate into their perceptions and attitudes. Our project innovatively combines both the ecological and social aspects of migratory birds and consequently forms a full-scale picture of bird-people relationship, echoed with the classic theory of social-ecological system (SES) introduced by Ostroms.

# ➤ Profound effects



## ■ Creativity and replicability

- Human bird conflict is a common issue in urban farmlands and our project showcased **a full chain of solutions**, from baseline survey, local interview and collaboration, public engagement and future land use plans. These activities can be adopted by areas with similar situations and adjust to local conditions accordingly.
- We explored **the power of social media** in increasing public knowledge of bird conservation, especially when physical travels were not possible. These online materials can be further shared to a broader audience and inspire more caring hearts for birds.
- We also creatively carried out **a photo contest** and designed **bird-themed souvenirs**, to attract public interest and convey bird conservation knowledge.

# ➔ Financial Summary



	Items	Unit	Amount (USD)
1. <b>Transportation</b>	For round trips to Shanghai, for 3 persons outside Shanghai	150 per trip per person × 6 persons · trips	1183.36
	Local transportation cost	Trip 1: 74.68; Trip 2: 185.64 ; Trip 3: 173.13	433.45
2. Equipment	Shanshui Conservation Center sponsored during the project		0
3 Activity materials	Activity materials printing	A4 size × 400 × 0.16; A3 size × 50 × 0.32	78.49
	Activity related books about birds	14.13 × 7; 10.99 × 8; 5.49 × 4; 6.44 × 6	247.36
4. Venue booking	Local community provided		0
5. <b>Deliverable production</b>	Postcards and certificates	0.63 × 7 0.16 × 500	89.17
	Key chains and decorations	100 × 1.21 (average price for different sizes)	120.88
	Canvas bags and cushions	100 × 3.65 (average price for different materials)	365.46
	Bird stickers	0.14 × 500	70.64
Others – specify	Accommodation	35.3 (average price) per room per night × 10 room-night	353.04
	Mailing	Packages and postcards	55.57
		<b>Total (USD)</b>	2997.43



# PART



冬日的白琵鷺、黑臉琵鷺、大白鷺、蒼鷺等

Photoed by Daiju

# 04

## Prospects

Limitation  
Further plans  
Profound effects for future works

## ➤ Limitation



- One limitation of our project is the limited field work and in-person meetings by our team members, mostly hindered by the restrictions imposed due to the pandemic of covid-19.
- Another deficiency is that we neglect the seasonal variation in bird-people relationships in the conservation willingness survey. **Will local people develop more positive attitudes towards migratory birds when they are absent?** It is an interesting question we would like to dig more.
- Adaptive management refer to the change in conservation measures according to time, space, species and local residents. **There' s still a lot to do in the future by working with local communities to implement our proposals.**

# ➤ Prospects



## ■ Further plans

- We plan to:
- Continue the partnership with Shanshui Conservation Center and local birding groups, to carry out scientific and long-term monitoring of local birds, and promote the adaptive implementation of cropland planning strategies in local communities.
- Share our fieldwork sample line with the local birders, continue to improve the database and integrate more people's efforts into the monitoring. Design a stable communication channel with the local government, so they can collect more bird-friendly planning and design suggestions.
- **If there were further funding, we hope to :**
- Hold our planned popular science activities in the local communities, and encourage the local people to **understand the value of ecosystem services** brought by waterbird conservation.
- Try to **design a natural education route** which is complete and systematic to **ecological tourism**.
- **Rent an experimental field in the community and work with the community to explore ways for bird-friendly farming and environmental education along with that.**
- We also aim to expand the activities **to other parts of Shanghai, and more broadly, more provinces in China, providing the experiment works well.**

# ➔ Influence on our work in the future

Getting to know more about local communities and practical problems in human-bird relationship. Provide wider perspectives for research and practice.

Think besides human-centrism and care for all beings

Attaching more importance to bird conservation outside the boundary of protected areas

Be creative when encountering challenges

To consider how to use design to convey the concept of ecological protection. Design is not only to change the environment, but also to change people's ideas

