<table>
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<th>Title</th>
<th>Wetland Habitat Change in the Shenzhen River Cross-boundary Catchment, China</th>
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<tr>
<td>Author(s)</td>
<td>Choi, YK; Ng, CN</td>
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Wetland habitat change in the Shenzhen River cross-boundary catchment, China

Yuk Kam CHOI
The University of Hong Kong, China
Background

China – rapidly urbanizing
Coastal development
Wetland loss

Shenzhen & Hong Kong
Study Area

- China’s first Special Economic Zone
- Rapid economic growth

-Shenzhen

Hong Kong

- Once a British Colony
- One Country, Two Systems
Important wetlands
Research Objectives

• To analyze the land use change in the Shenzhen River catchment with a focus on wetlands
• To investigate the potential impacts of land use change on the habitat of avifauna
Methodology

1. SPOT satellite images (1993 and 2008)
2. Ecological and environmental monitoring data
3. Literatures
Methodology

Mangrove

Gei Wai

Mudflat

Brackish wetland
Methodology

Cultivated land
Long Valley, Hong Kong

Urbanized area
High rises in Shenzhen
Futian District
Results - habitat change

Shenzhen

Hong Kong

1993

Shenzhen

Hong Kong

2008
<table>
<thead>
<tr>
<th>Habitat Class</th>
<th>1993 (Area in km²)</th>
<th>2008 (Area in km²)</th>
<th>Area change (in km²)</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivation</td>
<td>86.34</td>
<td>19.72</td>
<td>-66.63</td>
<td>-77.16</td>
</tr>
<tr>
<td>Fishpond/GeiWai</td>
<td>27.29</td>
<td>10.39</td>
<td>-16.90</td>
<td>-61.93</td>
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<tr>
<td>Freshwater/Brackish wetland</td>
<td>1.59</td>
<td>1.95</td>
<td>0.36</td>
<td>22.98</td>
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<tr>
<td>Intertidal mudflat</td>
<td>16.22</td>
<td>17.16</td>
<td>0.94</td>
<td>5.80</td>
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<tr>
<td>Mangrove</td>
<td>3.28</td>
<td>5.78</td>
<td>2.5</td>
<td>76.45</td>
</tr>
<tr>
<td>Urban or highly modified</td>
<td>134.72</td>
<td>226.30</td>
<td>91.59</td>
<td>67.99</td>
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</table>

Habitat change in the Shenzhen River Catchment between 1993 and 2008
Results

Potential environmental impacts:
1. Habitat loss, disturbance and fragmentation
2. Water quality degradation
3. Heavy metals contamination
Results - egretry counts

- Egretry counts

Photos:
- HKBWS
- CWChan
- Alibenn 2005
- Neil
- Steve Knipp
Nycticorax nycticorax

Black-crowned Night Heron
Egretta garzetta

Little Egret
Bubulcus ibis

Cattle Egret
Egretta alba

Great Egret
Ardeola bacchus

Chinese Pond Heron
Total number of nesting pairs
Conclusions

- Rapidly urbanizing catchment
- Degradation of wetland habitat
- Decreasing trend of the no. of nesting pair recorded
Conclusions

- Irreversible
- No Net Loss
- Catchment management
- Cross-border cooperation
Thank you!

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