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Desolated Water Landscapes' History and Future

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Abstract: There is always intense discussion around the attitude on the landscape. In a nutshell, nowadays, designers and experts have different views to organize it, namely preservation, conservation, restoration, and invention. From my perspective, I think preservation type as the conservative, conservation and invention type as the radical, and the restoration is centrist. I will tend to the restoration, which stance is in the middle of preservation and conservation or invention. According to the context in the book "Park Ideals as Expressed through Preservation" preserved landscapes are over-focused on saving or recreating a certain landscape in that period but ignoring the process landscape evolution, as formalism. From the "Frederick Turner (Beyond Preservation: Restoring and Inventing Landscapes", inventionist ecology is trying to create a new ecosystem containing new landscape and even species, meanwhile, people protect the raw resource. The difference between conservation and invention in the landscape is that conservation is not stimulating natural form when building something but constructing new stuff based on the original circumstance. In this thesis, I would analyze this topic on waterways' restoration: wetland and river. The water resource is the origin of everything, even contains humans' civilization. But it is gradually degrading caused by nature itself and humanity. So this issue inspired me to an idea: what is the perfect status of each restoration, and when should people stop exploring and constructing in the reinstate natural process to return the liberty to nature.

1. Introduction

Wetland is one of the common landscapes in the world under the intention of human beings. Wetland is a place covered by water, either salt, fresh or somewhere in between. It is the world's water filter through trapping pollutants such as phosphorus and heavy metals in the soil, transforming dissolved nitrogen into nitrogen gas, and breaking down suspended solids to neutralize harmful bacteria [1] [2]. With the increasingly more attention paid to mental health, they found increasingly more close to the wetland. It can help them control anxiety and depression efficiently. Experts proposed that this conclusion is that wetland Leeds them to escape from the everyday environment and provide enough space and time to find calm [3].

However, it is more restive about the destruction of wetland that relates to many concentrations of animals whose habitats are just in the wetland. This is a big group of wildlife living in the wetland: mammals, birds, fish and invertebrates [4]. From the local official departments' perspective, if without wetlands, they have to raise the financial expense of treating water for their residents and solving the flood control and storm protection in the nearby communities [5] [6].

2. Woodberry Wetlands

Woodberry Wetland is a local nature reserve in London located in Stoke Newington East Reservoir, closed to the Lee Valley [7]. Surrounded by Woodberry Down's dense mix of social housing estates, new development and Victorian terraces, the London Wildlife Trust has heralded the site as a "new bar" for 21st-century nature conservation. This green space provides a "showcase for the value of nature to people living in the heart of high-rise London". This public area is also acceptable for local Jewish people [8]. In addition, it is a resting place for migratory birds that move to and from the Lee Valley Special Protection Area, with waterfowl. The whole Woodberry Wetland covers 11 acres in total. It was established in 2014, then two years later, and opened to citizens in spring. The London Animal Trust organised an enormous enlargement of the reed beds to boost wildlife habitat and encourage more reed bunting and reed warbler to nest at the site and provide extra habitat for overwintering bittern [7].

The New River Path goes along the reservoir's northern shore. This is part of the 'Wetlands to Wetlands Greenway,' a cycling path linking Walthamstow Wetlands [9]. Presently, before being processed at Walthamstow Reservoirs, water is briefly kept at the East Reservoir. A water sports centre has been built on the west reservoir [10].

2.1 History

1421 - 1500

The topography around Woodberry Wetlands has altered considerably during the last 600 years. Prior to the construction of the new river and reservoirs, Woodberry Wetland was truly filled with grass meadows, grazing, and little forests until 1500. The site's original name was down land, but it was altered to Woodberry Down since it was also positioned on the summit of a hill [11]. Obviously, agriculture had a role in that location.

1604 - 1613

Then, in 1604, King James I authorised the building of the New River, which would transport pure water from Hertfordshire chalk springs to central London. The New River Company created an artificial canal known as the New River in 1613, which carried water into London via Stoke Newington [12].

1833 - 1992

To address the need for drinking water in the developing suburbs of Stoke Newington and Stamford Hill, the New River Company created the Stoke Newington East and West Reservoirs close to the New River in 1833. The reservoir sides were lined at higher levels with stones salvaged from the historic London Bridge, which was being demolished at the time [7]. The reservoirs were eventually encircled by housing complexes during the next century. To "clean" the water, chlorine and sodium phosphate were added to the reservoirs and the New River. They were, predictably, devoid of any substantial animals. The reservoirs' development was largely unaffected, albeit not without controversy, and both the East and West Reservoirs, as well as their related filter-beds, functioned as operational units until 1992. The reservoirs were placed up for sale in 1992 by the newly privatised Thames Water, with the intention of filling them in and building over them. The reservoirs were spared following a protracted struggle by local residents, the usage of chlorine and sodium phosphate was phased out, and animals began to return. Several Grade II listed structures from the early nineteenth century may be found in the area. Because of their historical value, government departments later decided to preserve these structures, and they are now well conserved on the site. The west reservoir was subsequently transformed into a water sports centre, whereas the east reservoir was used as a temporary water storage facility before being processed at Walthamstow Reservoirs [8].

2014 - 2021

The London Animal Trust took over management of the east reservoir in 2014 and began working to improve its wildlife appeal. Sir David Attenborough formally launched the new wildlife reserve on April 30, 2016. Now, Woodberry Wetland has become a public area for citizens [7].

2.2 The Concept of Restoration

Woodberry Wetland (Figure 1) was full of their ambition to implement the dream: a great size of a wildlife garden, which proposed to set an urban protection space for rare birds surviving. This is wholly considered from the perspectives of protecting the urban wildlife and local ecosystem [13]. Nevertheless, in the beginning, Woodberry Wetland was vehemently criticized by citizens and professionals. They concerned about how to keep the balance between man-made landscape and natural sightseeing, which is precisely the changeable human geography of London [9].

In the 21 century, the concept of Woodberry Wetland's following restoration and management has kept some parts of the regular one (that is still the urban natural protection area), but the focus has become on how to let people can join in this wildlife gardening, but still keep the original plan running. They are trying to build a refuge where would provide a public area letting pedestrians and dwellers stay close to nature. "Sealing off nature and looking at it through a gate – what's going to happen when those little nippers who have never interacted with it find a green space? Unfortunately, people who have never come into contact with nature before are scared of it or want to kill it." [11]. As David Mooney's words (the member of London Wildlife Trust, and the one are responsible for the project: transforming the Woodberry Down and local waterways, and restoring the east reservoir into a new wetland) (Figure 2), and the core is that it is a terrible idea to cut people out of nature. He believes that people only will protect nature after they have appreciated and experienced the beauty of nature. Besides, the related departments also enjoy observing the progress of nature itself development. From one heron living in the Woodberry Wetland, then it became two or maybe more in a few months later. The fish fry is started breeding in the ponds. This is a good start to create a whole new habitat [14].

Figure 1 Masterplan of Woodberry Wetland

Figure 2 Diagram of Woodberry Wetland

2.3 The Perspective of Restoration

2.3.1 People's participation

Following the words about leading people to participate in nature gently, understanding the meaning of ecosystem, and staying with wildlife from David Mooney, Woodberry wetland has set different former and informal recreation activities to welcome citizens [11]. For example, they will provide certain areas for school visits, nature tots, forest schools, family activities, and even evening events.

One of the most popular options is school visits that become an educational occasion to inspire children about the beauty of nature and teach them how the importance of wetland restoration's meaning for each people and wildlife, respectively [3]. Outdoor Learning projects are currently being created in collaboration with schools to ensure that activities are aligned with the national curriculum [4]. With the live speech, hands- on practice, and group activities, children can experience relevant restorations' work and have fun with others at the same time [15]. They also place some big signs to promote Woodberry Wetland's culture to visitors and residents [16]. Most of them would like to explore the site by following these, which play indispensable roles in education learning more about the history or related information conveniently and directly [17]. These kinds of publicity efficiently tell the truth about how this wetland developed before, and for now, what people should realize and what the next measure does to keep the balance among people, nature, and other species [18].

When I made the field trip, many different ages and different groups of people came. Especially, some aged people sit in the cafe (Coal House Cafe), where is in front of the wetland, enjoying themselves alone to appreciate the view [19]. And some of the others were debating heatedly with their friends. The whole area is peaceful and quiet except for birds' sounds.

As I walked deeper into the Woodberry Wetland, I also found out some Jewish having their family time with their members walking along the wetland, looking are the centre reeds and birds from time to time, when they communicate. It is so inclusive that everyone loves this after restoration [11].

2.3.2 Other Species

In Woodberry Wetland, wildlife's species such as reed bunting, song thrush, kingfisher and Cetti's warbler are known to breed at the reserve so may well be seen or heard. In addition to the birds, the site is home to invertebrates such as damselflies and dragonflies, as well as amphibians and plant life. In the Woodberry Wetland, this regular wildlife seems like the base to other species in an ecology. After that, further river restoration should be considering introducing some more typical and character wildlife that their habitats are more fitting with local.

2.3.3 Vegetation

The most outstanding vegetation in restoration planted around the wetland is Imperata cylindrical and Phragmites australis in this green area. Because of these two cultivated and extended, which supported more wildlife reproducing to create more opportunities on diversity, especially reed warblers.

When I made the field trip, I saw more vegetation, namely Salix babylonica, Acorus calamus, Axonopus compressus (Sw.) Beauva, Cnidium monnieri (L.) Cuss., Picea pungens Engelm., and Cinnamomum camphora. These all mostly can be found around the wetland and might grow naturally or save from history to witness more change in the future.

2.3.4 Today's Situation

Woodberry Wetlands is managed by a volunteering team who help maintain reedbeds, grassland and hedgerows through regular conservation volunteering workdays. A programme of wildlife monitoring and surveys is also undertaken. Facilities at Woodberry Wetlands A boardwalk from the west entrance leads visitors to the Coal House Café, where a roof terrace provides excellent views over the nature reserve. At the northern entrance, the New River Studio provides classroom facilities. There are accessible toilets at both locations. It's a very comprehensive consideration of the various needs that people might have in the park. Before Covid-19 happening, a significant number of dwellers' routine was jogging or running on the site. With the related provisions of follow-up management, considering the safety and the different extent of disruptive wildlife, they announce that

these activities are no longer allowed. Dan Massie, pre-development director at Berkeley Homes, said: “The Woodberry Wetlands is a haven for local people, and as members of the Woodberry Down community ourselves, we shared our neighbour’s views that it had to be saved.” [16]

The vegetation and wildlife now have not so many restrictions under human beings’ control. Therefore, although relevant managers heatedly expect the subsequent progress of wildlife in Woodberry Wetland, they decide not to intervene in the growth of reed and ponds too much. In this way, the connection between wetland and wildlife will be increasingly further, and their balance can get to a new level without imagination.

3. Sanya Mangrove National Park

This project about wetland restoration in China took three years to transform the area experienced during three decades over urban development into a famous and successful Mangrove National Park in Sanya. This project is in the middle of Hainan Province, Sanya City. The whole national park has occupied 1843.24 acres, of which wetlands' proportion is 35.64%. They have total planed five functional areas: wetland conservation area, restoration and reconstruction area, science popularization and education area, rational utilization area and management service area to take advantage of surroundings from Sanya River. The local parent river combines the rarest ecosystem resources with forest, wetland, and sea to support various species, from wildlife to ferns and angiosperms, to their inhabitants in the park [12].

3.1 History

In history, the waterways of Sanya Mangrove Wetland National Park was often overflowed by the flood. Because of the city development in 30 years from 1990, local government was paying too much attention to the local economy. However, they ignored the consequence of damaging degree on the ecosystem in this process. When they realized that, there were almost not existed a waterway without pollution from factories and industrials. Furthermore, the left concrete flood walls have wiped out the mangrove and floodplain ecosystem, blocking seawater from rainwater in cities upstream. It was causing severe urban flooding and reducing the city's ability to withstand climate change [11] [12].

This situation should be considered comprehensively and connected with the modern history of China. As is known to all, China was once in a horrible time with wars, with revolutions again and again. In 1912, the Republic of China officially announced the establishment of the Hainan Special Administrative Region called this area "Ya county". Forty-eight years later (1950), the Chinese People's Liberation Army liberated the site and established the local county’s government to carry out the following urban recovery efforts. Meanwhile, they found local coastal areas water conservancy is not up to standard, long-term drought, flood.

This site status gradually became noticed by officials and people, and it started to be better in 2014. In that year, the State Council approved the adjustment of administrative divisions in Sanya City. In addition, urbanization has resulted in an increase in the number of people in recent years. At the same time, the expected population growth, particularly the inflow of migrants and summer tourists who wish to enjoy a continuous belt of parks along the river, has yet to materialize. The local administration wanted to improve the city in 2015, and they hired a landscape architect to construct the Sanya Mangrove Ecological Park as a demonstration project. The property is 10 hectares in size and is located in the heart of Sanya, on the east bank of the Sanya River. The ecological state of the inland-sea water exchange has been discovered to be extremely unstable. The water here is contaminated by urban runoff, as is the situation throughout Sanya's water system. The 10-hectare property is surrounded by tall concrete barriers and filled with garbage from government-stopped building projects. A busy road runs across the side, and the public is prohibited from accessing the

water due to a 9m sheer drop between the road and the lake [13].

3.2 The Concept of Restoration

The main idea of Sanya Mangrove Wetland National Park was to solve the potential ecosystem problems after the rapid rise of the city at the cost of an environmental overdraft. So, at first, this project is trying to restore the mangrove's ecosystem and would be the module for other later similar restoration projects in other cities to fix their existing problems. Mangroves are known as "coastguards" because they immerse themselves in the brackish waters year-round and work to sink deep to purify the water and withstand waves or tsunamis. In the 2004 Indian Ocean tsunami, people's villages protected by mangroves were significantly less affected by the tsunami. Also known as "vitamins in the air," mangroves release large amounts of negative oxygen ions, and their branches provide excellent habitat for a large number of birds, as well as for fish and crabs in the water to eat the fallen leaves. So mangroves are actually a vast ecosystem. They want to cultivate mangrove by human interspersed with they grow naturally, the growth of local mangrove forest will be stable and in a usual way to rebuild the wetland system. By dividing each growth area, unified management can protect them efficiently, and a precise spatial definition is formed between the mangrove reserve and the developable area. This structure will guide visitors' to participating in this growing, understanding how long they have to pay for a group of mangrove seedlings extending to a mangrove forest in the wetland. Then following this logic way, designers started to consider constructing a leisure system of wandering to meet further people's needs in nature, which could let this national park turn to be focused on protecting the mangrove from other external threats and risk. It will contain ecological conservation, science education, leisure education, leisure and recreation, and make it a comprehensive mangrove ecological science park in Sanya [13].

To get the ideal outcome of Sanya Mangrove Wetland National Park's restoration. In this process, it should deal with four trouble; the first one was about wind. Every year, because of the site's geographical location, it inevitably underwent the implication from intense tropical monsoon on the whole plan, especially mangrove seedlings. Secondly, the problem was the influence of flood that has the ability to disperse the newly formed mangrove community; and the third part of potential threat was pollution, that from the polluted urban runoff, bring about decrease the diversity of local biology. The last one was how to combine the public's recreation in this national park with nature restoration [9].

Based on these listed issues, they have their answer to exclusive them all in design. The detailed concept in this restoration follows the situation and prepares to change each part of the regular plan whenever it was different from before the prediction. There is a proverb in China that people must adapt to change, and the plan will never catch up the reality [10].

For below potential problems, they have organized each plan, respectively. (Figure 3)

1) By counting the amount of soil that needs to be utilized flexibly to balance cut and fill.

2) The transformation of the terrain into an interlocked fingers pattern brings the sea tide into the park while avoiding the upstream monsoon floods and runoff pollution from the mountains and cities. (The water depth changes can increase biodiversity, and high and low tides can maintain dynamic water environmental systems that are important to aquatic life.)

3) Through using the 9 m height difference between the road and the water to build a series of the mesa and ecological corridor systems.

4) The design of the walkway network follows the changes of the terrain, and with aerial walkways floating above the natural landscape leading into the forest and better appreciate the mangroves. Meanwhile, they provide five modular concrete boxes in five different landscape areas; these shades and shelters are necessary to set under a changeable climate. They will resist severe tropical storms

and provide the best views for birding enthusiasts from different angles [14].

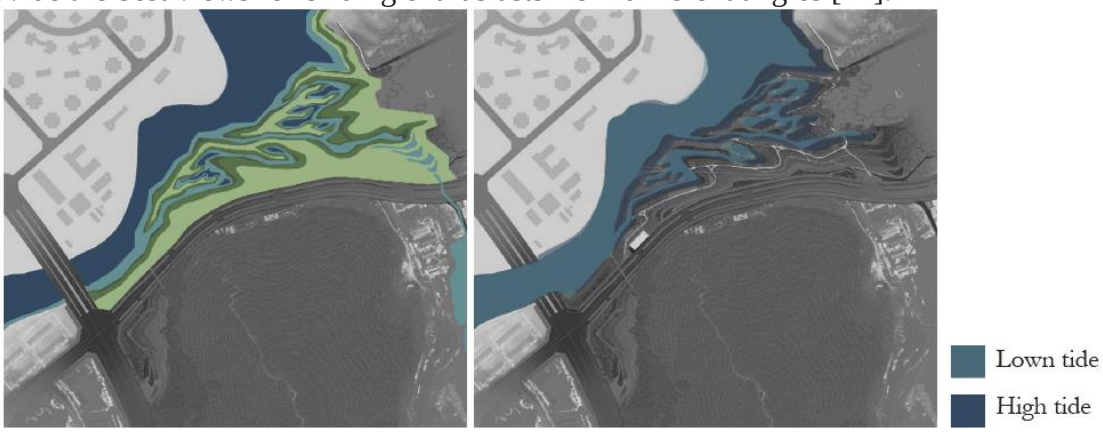

Figure 3 Ecotones with Diverse Aquatic Settings

3.3 The Perspective of Restoration

3.3.1 People's participation

From the local citizens' perspective, they enjoy this project's work. They were changing Sanya city, which only focused on construction profit (building houses and selling houses), to a lovelier city paying more attention to ecology [3]. In addition, considering other surrounding new parks constructed, which formed an urban green line on the upper reaches of Sanya River. After combining with before existing parks, nine green public areas connected the Sanya River, parks, and fifteen communities to create an enriching recreation space for around 80,000 dwellers. People can live close to nature, which helped the ambition come true. This area is a combination related to the balance of people, wildlife, and nature. Each of them can be harvested from the other two parts. People would live in a green environment, observe vegetation growth, and appreciate the relationship between wildlife with nature. Like the other two, wildlife and nature, nature is wildlife's habitat. They can also be familiar with human beings' activities; therefore, the barrier will break down among people, wildlife, and nature [2].

3.3.2 Other Species & Vegetation

Other Species

Because of the Sanya Mangrove Wetland National Park's site, it is beside the coast. Then some reporters learned that through the new sewage network, pollution, and other measures, the water quality of the Sanya River had been upgraded from five to three categories, mangroves along with the river flourish, egrets and other waterbirds significantly increased. Due to the high matching degree between the natural ecological environment of Wetland Park and the original living environment of flamingos, coupled with scientific breeding, the health status of flamingos has been very good. Since August 2016, six flamingo eggs have hatched naturally [13].

Mangrove Tree

Mangrove forest has played an essential role in this national park. They have to pay their most attention to cultivate them because of its unique feature (viviparity phenomenon), which means the seeds of many plants in mangroves forest will germinate in the fruit and grow into rod shape before they leave the parent plant. When the hypocotyl grows to a certain extent, it breaks away from the parent tree and falls into the mud on the beach. Within a few hours, the hypocotyl can take root in the ground and grow into a new plant. If the hypocotyl fails to take root in the soil in time, it can drift on

the sea for months and take root on the coast thousands of miles away. Related departments will also often introduce some other wildlife species into this Mangrove forest to enrich the local ecosystem. In the Mangrove forest, the original conditions are extraordinary.

It grows in the intertidal zone of land and ocean, a particular ecological system of transition from land to sea. The survey shows that mangrove is one of the most diverse ecological systems globally, with abundant biological resources. There are more than 100 species of macrobenthic animals, birds and insects in the mangrove area [9] [13].

3.4 Management

Related departments prevent mangrove loss and degradation through sustainable management and restoration [13]. Another key to the successful conservation and management of mangroves is the involvement of local communities.

Therefore, it is crucial to ensure that local people participate in mangrove restoration and conservation activities and benefit from the sustainable use of mangrove resources [3]. Officials also support to help organize local communities, strengthen their capacity to implement, monitor and report on mangrove management activities, and establish and maintain an organizational structure for natural resource management.

The other management aspect is only to maintain the facilities for humans, letting them appreciate the beauty of other species and nature more conveniently and closer without damaging the habitats for wildlife and ecosystem so much in Sanya Mangrove Wetland National Park [14].

3.5 River Restoration

Actually, the projects about river restoration are not uncommon in recent years.

I think this phenomenon can be expected before this happens. In fact, humans have to admit that they cannot live without water to develop anything and starting to restore rivers is an efficient method to support related other waterways' restoration further [12]. In addition, reinstating river resources would improve it from a more standard local ecosystem status to support their biology diversity, disaster preparedness, and landscape development [13].

One of the special points to different from wetland restoration is that there are not only certain areas but contain several river branches. Consequently, because of uncontrollable river flow and long-term river pollution, the restoration cannot always be as rapid as wetland restoration [9].

4. Queen Elizabeth Olympic Park

Queen Elizabeth Olympic Park is a classic example of river restoration. It is located in the east of London, which closed to the Stratford area, and because of them (6km canals and rivers) re- connected to England and Wales successfully, besides, which run through the whole park to give the Victorian industries of Stratford and Hackney different extents of service [12].

This park involves two waterways: the Bow Back River and the Lee River. The Bow Back River is the confluence of River Lee and City Mill River. Besides, they have their own particular roles to thrive in the Olympic Park. However, after studying its history, I found it has already been abandoned after the second half of the 20th century. Still, then with the London 2012 Olympic and Paralympic Games opening, the government decided to re-utilize for restoring the local water system's network and enriching that area's social welfares [9].

The other river is more modern after renewal based on the society's development. When I compare its present situation with the past, this river seems to change from supporting London diverse material and resources to strengthen these parks' connection with other new five parks. This combines park-

related with the Lee River, and its name is 'Lee River Park'. Londoners talked about it as a new landscape in London [10].

4.1 History

Ignored (Previous)

The Bow Back River was the part being ignored so a long time in the past. It is the confluence of City Mill River, Pudding Mill River, and River Lee flow. The start of its recording about this river formed is a marshland. But it cannot be used by local people, so they decided to drain it out to extend the land utilization rate for farming and reintroduce the water into artificial river channels or certain waterways to improve the land properties for later better agriculture development [11]. Then, with the new needs producing in each historical timing, some manufactured changes appearing in succession on the Bow Back River [12].

Improvement and Management (1424-1577)

Improvements to the river began in 1424, with tolls imposed to pay landowners, and riots erupted in 1571 after a private bill promoting the river's expansion was presented to the House of Commons [13]. The first lock was built at Waltham Abbey in 1577, and the river was actively regulated for navigation [9].

Pollution (1613-1767)

In 1613, the New River was built to transport clean water from the Lee and its catchment areas in Hertfordshire to London, bypassing the polluting industries that had grown in the Lee's downstream reaches [13]. The artificial channel lowered the natural river's flow even more, and by 1767, locks had been erected below Hertford Castle Weir on the canalised portion of the Lee, which is now the Lee Navigation, with further locks and canalisation taking place in the years that followed.' and on with further locks and canalisation taking place during the succeeding centuries [9].

The Industrial Revolution (1900-1990)

After that tumultuous time, the Bow Back River became the primary water resource for local industry (particularly in powering mills at Three Mills and City Mills) [13]. With the rapid industrial development, the amount of water used generally increased more over these 90 years, but the extent of pollution was rising as well [9].

Be Abandoned (1930s-20th century)

The Bow Back Rivers received significant investment in the early 1930s to increase their ability to support both flooding and navigation. However, by the mid-1930s, the waterways mainly had fallen out of favour due to the reduction in canal freight transport and waterside industry. As a result, the Bow Back Rivers were badly silted and mostly impassable in the 1990s, with abandoned and unsuitable constructions until the decision made in 2005 to award London the 2012 Olympic and Paralympic Games that the area's fortunes began to turn around. [3]

4.2 The concept of Later Restoration

In 2012, 2014, 2030

According to the latest two whole design updating in 2012, 2014, and one plan expected in 2030. From these reformations, there are three different perspectives to improve respective focusing aspects.

2012

This site was noticed and became famous due to related constructions (a sporting complex and public park) for Summer Olympics and the Paralympics in 2012. In 2008 and 2011, the project served as the first step in the Lee Valley' s regeneration, driving London toward becoming a polycentric and resilient metropolis as part of a 20-year plan. At that time, there was still existed argument by Furrer P. (2002), "Sustainable Olympic Games: dream or a reality?" (Bollettino della Societ à

Geografica Italiana, serie XII, 7, Rome.) It followed five priority areas of activation for the planning and design: climate change, waste, biodiversity and ecology, health living and inclusion. These translated to the strategy of the Lee River' s restoration) remediation and cleanup of the soil, polluted with heavy metals and chemicals, the restoration of the ecological status of blue and accessible infrastructures around, and the main point was connecting with River Lee and the channels network to improve the public transport system. They proposed to ensure a reduction in water and energy demand. Consequently, the park was the build-up to extend the existing park system to the River Thames. One of the most prominent wishes from the group of managers responsible for this Game was that people would no more only remember the Thames being the' lifeblood of London', but also Lee River can leave some impression in their minds [3].

2014

With the end of the 2012 Olympic Games in London, the original Legacy Communities Scheme masterplan needs to be updated as well. It drove this park transformed into a new park bridging the River Lee defined by five new communities nestled into the existing urban fabric. It was considered that this is the most prominent new public park in Europe for 150 years. In this time, they add some new functions areas with water resources, such as interactive water fountains and an adventure playground. The orientation of North and South separated the park. The South area of the park would provide the most space for visitors. It was imaged to be more natural than before in 2012, with rolling green landscape and sightseeing, newly created wetlands, and planting similar vegetation which vegetation already cultivated in the River Valley's riverine ecology.

Based on related reports of River Lee's restoration, it started to be successful by thinning the trees supporting more instream and riparian vegetation growth for habitat diversity. Pollarding coppicing and felling took place to thin the trees, and a cattle drinking area was installed in the updated plan. This measure supported instream vegetation, and the channel created its path. In addition, pool and riffle features have also been build-up at this site to develop more functional areas when others enjoyed the Lee River. The channel started to narrow through silt deposition straight after the weir was taken out, but after this consequence, the environment of Lee River has turned to be more developed. It began to show more on the geomorphological benefits of the restoration. The site's status has been improved with the wildlife participating (the shell of a large egg and families of geese). Besides, this project has redeveloped a children's play park being an entertainment park.

Because of communication problems between follow-up maintenance teams and local water company, there was a lot of grey, smelly sewage fungus depositing on the gravels, possibly from nearby road runoff or upstream misconnections, which might be the subsequent time restoration's focused point [3].

2030

The following restoration proposed designing the new river channel further and creating a buffer area. Trying to reduce the amount of silt entering the river and the programme is expected to help the river have abundant fish, insects, and plants in the local ecosystem.

Affinity Water Environmental Enhancement Programme Manager, David Watts said: "The River Lee is now more resilient to low-flows. The old river channel now provides a wetland habitat and a buffer from road run-off pollution. The river channel's design is considered to be resilient in times of low-flow and has increased the flood capacity in this area by 700m." [3] (Figure 4)

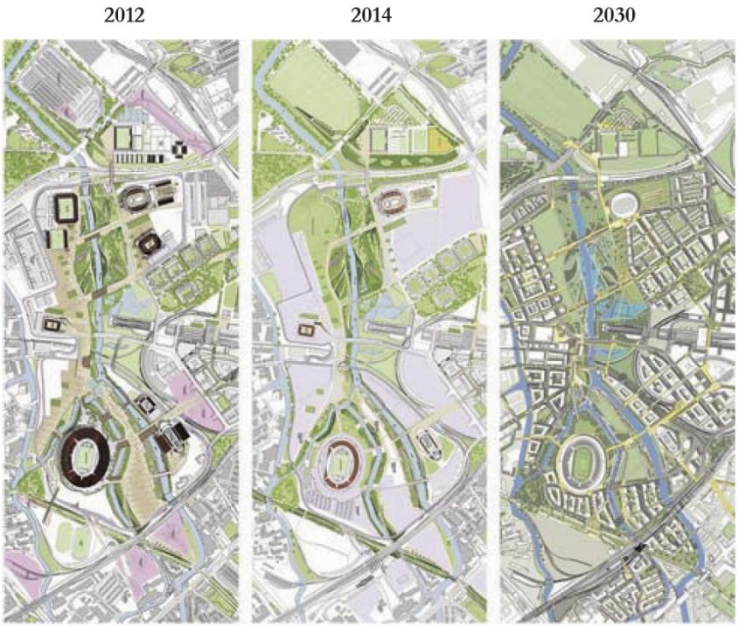

Figure 4 Each Masterplan of Queen Elizabeth Olympic Park in 2012, 2014, and in 2030

4.3 The Perspective of Restoration

4.3.1 People's participation

In the lasted completed design of Queen Elizabeth Olympic Park, the water utilization part being the most popular in visitors and residents is the chance to experience running community boat tours on the waterways to witness the waterways' process and thrive well into the future. In this park, I saw a lot of various houseboats parked beside the riverside. It is fascinating that certain people choose to live in the houseboat being a lifestyle, which was thought one of the most common in London to save money because of house prices and rents constantly rising in recent years. This also supports these people meet more beauty of London, much less to each landscape in the Olympic Park when they arrive there. Expect that there are still other activities: paddle boarding, kayaking, which can be counted to be memorable sightseeing on the waterways, which citizens can appreciate in the Queen Elizabeth Olympic Park.

Besides, they also open a special activity for local in Olympic Park that is "All aboard for London's Olympic Park Dog-Friendly Boat Tours." In this tour, dogs can join their owners on the Queen Elizabeth Olympic Boat Tours. From people's feedback of this touring, it would cost about 45 minutes round trip, and both people and their dogs will be satisfied to get more information about this park and River Lee. He said:" it's a paws up from us as a unique and dog-friendly way to get to know the Queen Elizabeth Olympic Park!" [15]

Without these direct water activities, some other citizens would also be keen to wandering, jogging, and cycling. These leisure ways have their advantages to observe the change of water level. The waterways now be filled with these that is more like a living culture of its own.

4.3.2 Other Species

When I made the field trip, I found out that the types of wildlife showing around the river in Queen Elizabeth Olympic Park are similar to the species found in the Woodberry Wetland.

I suppose that they are the most common species to survive in most natural conditions. Therefore, the river restoration can be introduced successfully to let wildlife participate for the first time.

4.3.3 Vegetation

Around the waterway's restoration area, I saw they had cultivated many different plants, including trees, scrub, weeds, and flowers. Actually, it is not easy to distinguish which plants were planted in the restoration plan and placed accidentally. From my perspective, the big size vegetation (trees and scrub) might be designed in the project, and most plants grew naturally due to their stubborn power of growth.

4.4 Today's Situation

The environment in Queen Elizabeth Olympic Park is getting better and better than before, and the river restoration gently takes the local waterways back to people' s life again. According to my field trip experience, I tried a restaurant on the boat that stopped along in the River Lee's waterside. In this period, many empty plastic cups are throwing into the river because of the blast of the wind. Unfortunately, people mostly cannot react to that immediately. These cups or other food pollutants were flowing on the river on the waterway's surface, but it is tough to find with floating aquatic plants. A couple of minutes later, when I wanted to look for that, they were already flowing away following the river.

In terms of river pollution, without these produced by the commercial activities, there are other reasons to aggravate this situation: the nearby ponds of the Channelsea River and the East Village Estate, respectively. It is normal that tens of times that sewage overflows into the Olympic Park each year.

5. Conclusion

In these cases, there are all following a principle that the restoration is a process, and they have different stages of plans. If something unexpected happens, they will be able to make adjustments in the next phase of the plan.

Although two of my study cases are in London, one of them is in China, and they took different measures to restore their green balance to worn-out landscapes in the end, the corn of idea is surprisingly similar, all roads Lead to the same destination. The western adopt to the "Alienation" View of Western Liberalism and Wuwei. From the book "Towards a Deeper Philosophy of Biomimicry" recorded by Freya Mathews, Wuwei is more like a philosophical topic. Everything has its direction and must take a form that is compatible with Tao. In this sense, a person devoted to Wu Wei seeks to solve a problem not by facing it directly but by allowing himself to be driven by his activities. This concept is similar to the Chinese philology "Dao". Its one of the famous thinking is "Dao begets one, life two, two begets three, three begets all things", which is the Daoist view of "proper nature", so that I believe what human beings should do is start the former three steps, then it will run well by itself.

As long as people start with restoration, everything can develop in a cycle of its own. Such a cycle is like a series of large and small circles, one after another. The more complete and diverse the subjects are, the more inclusive the revolution will be, and the more extensive the effects will be. This progressive relationship needs to be considered at the beginning of the process so that when changes occur due to external reasons in the later stage, we will have plenty of time to make up, improve and advance. In a word, in restoration, what people need to do is restart another cycle, actively adapt to itself, develop stably, and gradually become normal. Generally speaking, people can let go in the middle and later stages and give the cycle the power to develop freely.

To preserve nature, people need to consider compensating for nature. But to achieve that, human should firstly face the fact that people's exist and artificial activities will inevitably affect the context,

and what we should do is to guide the impact turning to a positive direction. Human beings should allow themselves to be one of the reasonable components of nature, environment and ecology system on the Earth. People need to try their best to return them and make nature back to thousands of years before because it can adapt to any situations (natural and man-made disasters); we need to create a new 'humans' habitat'. Enriching species diversity of plants and animals would be more perfect and completed on the ecological chain. In this way, nature and ecology must be better than before compared to the history of evolution.

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