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Balsas, C. (2024). Coastal Waterfront Transformations, Fishing Structures, and Sustainable Tourism. *Sustainability (Switzerland)*, 16(15), 1-13. Article 6313. <https://doi.org/10.3390/su16156313>

[Link to publication record in Ulster University Research Portal](#)

**Published in:**  
Sustainability (Switzerland)

**Publication Status:**  
Published (in print/issue): 24/07/2024

**DOI:**  
[10.3390/su16156313](https://doi.org/10.3390/su16156313)

**Document Version**  
Publisher's PDF, also known as Version of record

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Article

# Coastal Waterfront Transformations, Fishing Structures, and Sustainable Tourism

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**Abstract:** Fishing is a socioeconomic activity with highly visible impacts on the water–land interface of cities. Tourism, the number and type of visitors, and attractions depend on the image and experience of coastal places. How has fishing evolved over time? How has planning attempted to influence and adapt the land use and built-up structures, leading to the activity’s development and commercialization? It utilizes three pairwise cases to analyze the land use transformations associated with fishing activities in cities and some of their most important structures, with impacts on tourism activities such as fish markets, waterfront and pier restaurants, festival marketplaces, and recreational facilities. The three pairwise cases are in three different regions of the world (i.e., North America, Southern Europe, and the Pacific Rim). New Bedford, Massachusetts (USA) and Figueira da Foz (Portugal) are utilized to analyze the land use transformations associated with fishing activities in cities. Fish markets in Tokyo (Japan) and Sydney (Australia) are analyzed to study built-up structures where fish are commercialized. Finally, the last pairwise waterfronts consisting of San Francisco (California, USA) and Fremantle (Western Australia) are examined to understand their fish consumption. The research design and methods comprised in loco visits to the six case studies; discussions with stakeholders; visual documentation and analysis; and a distillation of implications for public policy. The findings demonstrate that more attention needs to be paid to land use changes, the co-existence of working harbor operations with recreational uses, the accessibility to those areas, the “publicness” of the areas in terms of public spaces and other coastal amenities, and the impacts of mixed-use developments on adjacent residential areas. Many waterfronts have suffered radical changes and ought to be made more accessible, authentic, and livable not through the effects of nature or markets alone but with planning and urban design interventions.



**Citation:** Balsas, C.J.L. Coastal Waterfront Transformations, Fishing Structures, and Sustainable Tourism. *Sustainability* **2024**, *16*, 6313. <https://doi.org/10.3390/su16156313>

Academic Editor: Harry Coccossis

Received: 5 June 2024

Revised: 16 July 2024

Accepted: 18 July 2024

Published: 24 July 2024



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**Keywords:** seascape; working harbor; fish market; festival marketplace; genius loci

## 1. Introduction

Fishing is a significant but understudied socioeconomic activity in various parts of the world. Often, fishing and other maritime activities have highly visible impacts on the water–land interface of coastal cities [1–3]. Although the potential value of and interest in fishing ports on a waterfront are different among larger cities or smaller ones, many of these impacts tend to reduce traditional working landscapes and stimulate the appearance of associated touristic consumption practices [4]. This article’s objective is thus to analyze the extent to which fish-oriented urbanism has helped strengthen waterfront areas or, on the contrary, whether it has performed an auxiliary role due to the preeminence of other competing water-related activities [5].

These are the research question motivating this study: (1) How has the relationship between fishing activity and the urban realm evolved over time? (2) How has planning (i.e., architecture and urban design) attempted to influence and adapt this land use (i.e., working harbors, recreational marinas, and open spaces) and associated built-up structures (i.e., landing docks, anchorage marinas, warehouses, freezing facilities, and

fish markets)? (3) Finally, to what extent do these socioeconomic practices lead to waterfront developments and commercialization (i.e., waterfront restaurants, aquaria, and maritime museums)? The existing literature tends to be single case studies driven without establishing international comparisons or discussions. This paper fills a gap in the current knowledge on the complementarity of these themes: the working harbor and its relationships with adjacent natural and built environments, the site design of fish markets and their architectonic relationship between form and function, and the genius loci (place identity) and utilization of architecture within the logic of the marketplace.

This study utilizes three pairwise cases in three different regions of the world (i.e., North America, Southern Europe, and the Pacific Rim) to analyze (1) the land use transformations associated with fishing activities in cities (i.e., New Bedford, Massachusetts, USA and Figueira da Foz, Portugal), (2) some of their most important structures, such as fish markets (i.e., the Tsukiji Market in Tokyo, Japan and the Sydney Fish Market in Sydney, Australia), and (3) their consumption practices, including waterfront and pier restaurants, specialty shops known as festival marketplaces, and recreational facilities (i.e., San Francisco, California, USA and Fremantle, Western Australia).

This research makes these main contributions to the scientific literature: (1) a world-wide, up-to-date, state-of-the-art discussion of fish urbanism and the socioeconomic and professional implications of placemaking; (2) a contribution to the study of urban waterfronts; and (3) a distillation of findings useful to planning and design scholars, professionals, and elected officials with responsibilities for the planning and management of waterfront locations and their ancillary uses. This article is in five parts. Following this introduction, Section 2 shows the analytical mechanism. Section 3 is the Materials and Methods part. Section 4 has an overview of the six case studies. Section 5 shows the comparative research framework and a discussion of the main themes. Finally, Section 6 contains the conclusions and implications of this study.

## 2. Analytical Mechanism

According to Bromiley and Johnson, a mechanism is “a plausible account of the process that causes a systematic relationship between variables” [6] (p. 15). The article’s analytical mechanism comprises these main themes: land use transformations associated with fishing activities; the importance of built-up structures associated with fishing and maritime activities such as fish markets, warehouses, and cruise and boat terminals; and associated patterns and practices of touristic consumption, such as the shopping occurring at waterfront locations as well as at pier restaurants and specialty shops, known as festival marketplaces, and other recreational facilities [7].

Waterfront locations tend to experience a high number of land use transformations [8–11]. Most working harbors have an industrial character due to their intrinsic activities. Often, fishing harbors are also located near active or former shipyards [12]. Land use conflicts between harbor and non-harbor operations may also ensue. In certain cases, municipalities may seek to force major land use changes from industrial to recreational [13,14]. In other situations, high-end housing may replace commercial uses on the water’s edge [15]. Another tendency is that commercial fishing is being complemented with cultural heritage preservation and recreational boat tours [16], which attract visitors and tourists and preserve jobs in the maritime and service sectors [17,18]. For marinas to function effectively, in addition to their basic services of anchorage, they ought to provide maintenance services to boaters. The growing emphasis on containerization tends to steal space away from waterfront public uses [19,20]. Finally, sea levels rising may potentially destabilize waterfront areas, since they are likely to be the first areas to be impacted by this anthropogenic phenomenon.

Important fish-related structures run the gamut in terms of uses, such as auction houses; fish markets; processing, refrigeration, and freezing facilities; and aquaria. Turn-of-the-19th-century public markets, many with their iconic ironwork architecture and being landmarks truly representative of an industrial era, are quite emblematic among

built-up structures associated with fishing architecture [21,22]. In other locations, those same markets are cement structures, typical of a brutalist international style [23–25].

The commercialization and preparation of fish in the marketplace requires the use of water and the elimination of effluents resulting from the regular cleansing of viscera material [26]. Therefore, high levels of hygiene in the markets and their fish stalls are of critical importance to the proper operation of fishing facilities. An important detail of the internal organization of public markets is whether those buildings have ample areas or whether their interior spaces are compartmentalized.

Ferry terminals tend to also occupy central locations on the waterfront and to be combined with other shopping opportunities [27]. Service parking and parking for patrons and visitors are critical to the proper functioning of these structures. Among the most important recreational structures are aquaria, museums, boat and cruise ship terminals, and quays or wharfs [28]. These structures require strong articulations with landside uses to facilitate boarding, deboarding, queueing, multimodal transfers, and the proper handling of crowds. Finally, waterfront structures are more vulnerable to storms, natural catastrophes, and the climate change phenomenon [29–31].

Fishing-oriented urbanism varies depending on the relationship between fish trading and consumption [32]. The retail trade of fresh fish has tended to encourage consumption at a later stage and away from the location of the market transaction. This relationship became even more relevant with modern food conservation practices, such as refrigeration and freezing techniques. When studying consumption of fish, it is important to distinguish between consumption of fish as a food staple to be eaten on a regular basis and the consumption of certain types of fish as delicacies (e.g., oysters at wine bars) within the context of exceptional tourism-related activities [33]. More and more fish culinary tourism takes place on the waterfront to benefit from land–water interface settings [34,35]. Examples include the consumption of crab and clam chowder in sourdough bread bowls and Dungeness crab on Boston’s and San Francisco’s waterfronts, the famous fish and chips dishes in Fremantle, or a variety of fish dishes at one of Matosinhos’s many waterfront restaurants [36].

Overall, consumption can be of two types: goods and experiences. Goods are mostly edible products such as fish, seashell mollusks, and seafood. Consumption experiences include, for instance, consuming the seaside atmosphere (i.e., the act of being there) [37,38]. The consumption of fish creates opportunities to establish direct protocols with customers, local restaurants, establishments, and large entities (e.g., community supported fisheries (CSFs) [39]).

The consumption of fish on the waterfront has the potential to generate interest in the historic preservation of some of the most symbolic structures in those respective areas [40]. On the one hand, one less positive consequence of these historic preservation efforts is the gentrification and consequential displacement of low-income residents in some warehouse districts [41]. On the other hand, public art is known to augment a community’s identity [42,43], which can also potentially increase touristic consumptionscapes at waterfront locations [44].

Successful commercial waterfront locations function as “big feast theme parks”, where one is unlikely to find practically any alert whatsoever to the issues of overfishing and overconsumption of fish [45]. Finally, the last dilemma concerning the consumption of fish is the fact that nutritious diets which include fish contribute to healthy individuals, given that fish are rich in protein and minerals. Therefore, enabling access to the consumption of fish is also a community food security issue in need of appropriate public policy attention [46,47].

### 3. Materials and Methods

The case studies were chosen based on our own in-depth fieldwork and extended visits to multiple cities’ waterfronts over the last two decades. The selection criteria were the chosen cities’ most peculiar and endemic features (e.g., geography, urban morphology,

socioeconomic livelihoods, and public benefit) as well as their most recent transformations (e.g., maintenance with upgrades or relocation of waterfront uses to more recondite locations) [48].

It is important to note that the analysis and discussion of the chosen case studies are limited to only those most peculiar features and transformations and not to the myriads of similar transformations occurring in each one of the cities under scrutiny. For instance, Figueira da Foz also has some great balneary and coastal cultural heritage (e.g., *Forte de Santa Catarina* and waterfront patrimonial heritage, such as the boardwalk *Esplanada Silva Guimarães* [49]), which are deliberately not discussed in this article as Figueira da Foz is mostly utilized to illustrate land use transformations. Furthermore, large urbanistic solutions emblematic of vernacular architecture, such as whole fishing villages (e.g., *bairros piscatórios*), located on the periphery of some of the case studies (e.g., Cova and Gala), are only mentioned in passing.

Following Farr's suggestion that there is power in pairing choices [50], the research design and methods comprised the use of pairwise case studies; literature reviews; in loco visits; discussions with stakeholders, regular patrons, and visitors at all sites during residency periods or extended periods of field work; visual documentation through pictures and short videos of the coastal landscape environments [51,52]; and a distillation of the implications for public policy [53,54]. The case study methodology is particularly helpful in this research, given the need to uncover conjectural patterns and establish inferences among variables in ways that can help augment knowledge about urban waterfronts [55,56]. The comparative analysis and rankings of the case studies and the research framework's main themes contemplated such variables as the centrality of the location, extensiveness of relationship(s), choreography of the design, drawing power of the architectonic relationship, symbolism of the built-up structures, and commercial function of the complex.

In synthesis, this is a mostly qualitative and evaluative ethnographic study of waterfront transformations in six communities on three continents. This study used inductive reasoning to construct a theory and evaluate reality from the researcher's experience. Since the case study locations were visited at various times and realities, they may have changed since the first field visits. Above all, this study aimed to balance the "breadth and depth" of the analysis and its respective inferences of findings based on acquired commutative knowledge and notions of "just disruptions", entailing right-based and capability-based approaches to distributive and procedural justice in contexts of coastal transformation [57].

#### 4. Case Studies

This research analyzes three sets of pairwise case studies according to distinct types of waterfront transformations (Figure 1). Pairwise 1, comprising New Bedford, Massachusetts, USA and Figueira da Foz, Portugal, was utilized to analyze land use transformations of estuaries (i.e., short and narrow in the US case versus a long and wide estuary in the Portuguese one). Pairwise 2, comprising the Tsukiji Market in Tokyo, Japan and the Sydney Fish Market in Sydney, Australia, was utilized to examine built-up structures on the waterfront (i.e., a massive structure with high use in Tokyo versus a medium-sized and compact facility in Sydney). Finally, pairwise 3, comprising San Francisco, California, USA and Fremantle, Western Australia, was included in this article to explore associated touristic consumptionscapes (i.e., extensive utilization in San Francisco versus small and compact in Fremantle). An initial observation is that the size, offerings, and impact appear to be proportional to the host cities' size and the magnitudes of their bays [58].

New Bedford is a medium-sized city in southeastern Massachusetts. Its population is approximately 100,000 inhabitants. The city's strategic advantage is a result of its location on Buzzards Bay. The city developed mostly on the eastern bank of the Acushnet River. The city's history was influenced by its large fishing fleet in the industry's heyday and its transition to industrial uses during the 19th and 20th centuries [59,60]. These ranged from whale fishing in its prime to ground fish more recently. As such, it developed large processing facilities on the water's edge and inland. It now specializes in ground fish and



scallops. It also possesses freezing and processing facilities farther inland from the estuary's mouth. The estuary has had a history of upstream water contamination due to industrial and domestic effluent discharge.



**Figure 1.** Locations of the pairwise case studies.

The pairwise city of Figueira da Foz is a mid-sized city in central Portugal. Its population is approximately 62,000 inhabitants. The city is well known for its beach and summer tourism activity [49,61]. Decades ago, fish landing was on the city's main harbors on the north bank of the Mondego River. However, hygiene and high traffic requirements forced it to relocate its fish auction market to the south bank. The city experienced a decline in fishing in the 1990s and early 2000s. The large historic cod fish warehousing and open-air sun drying processing lots across the harbor on the south bank lay vacant or have given way to industrial uses, such as fish canning factories (i.e., *conservas*) [36]. The relocation of the fishing fleet to the new fishing complex on the south bank involved the construction of landing docks, boat repair capabilities, and an auction house built in the late 1980s near the relatively low-income fishing village localities of Cova and Gala. Many of the adjacent solar salinas have been either abandoned or converted to intensive aquaculture farming [62]. The fish market on the northern bank of the Mondego River occupies only a small area of the centrally located municipal market.

The Tsukiji market is located on Tokyo's waterfront [63]. Tokyo's central ward population is approximately nine million people. The Tsukiji Market is the largest fish market in the world. It is centrally located on the water's edge within a proximate distance to the Imperial Palace. It has a high-volume auction house of regional catches and imported fish from abroad. The market itself comprises fish stalls and many restaurants open to the public. Due to changes in the industry, the Tsukiji Market relocated to a more spacious artificial island in Tokyo Bay known as Toyosu in 2018 [64,65].

Sydney is a city of five million inhabitants located on the east coast of Australia. Sydney's fish market is located inland from the famous Darling Harbor redevelopment [66,67]. It has a tight urban location with indoor restaurants and sidewalk cafes on the water's

edge. It functions as a major tourist spot within a maritime suite of offerings. The facility is owned by the city and run by fishing businesses. Given its tight location in a highly dense urban setting, there have been talks about relocating and expanding it to a new location.

San Francisco in the Bay Area has a population of approximately 700,000 inhabitants. San Francisco has a long waterfront area. It extends from the Pacific Ocean to the west through parks and urban settings all the way to an industrial area farther south [68]. The area known as Fisherman's Wharf has many restaurant offerings. Pier 39 is a festival marketplace shopping center with specialty stores and restaurants facing the San Francisco Bay [69]. Fishermen's Wharf received renewed visibility after the demolition of the Embarcadero freeway in the early 1990s [70]. This mostly touristic attraction is complemented with adjacent commercial and recreational uses, on one hand in industrial facilities left behind due to relocations to more spacious places, such as the Ghirardelli chocolate factory [19], and on the other in diverse neighborhoods such as the Italian and Chinese districts located only a few blocks away. Public parks and boat and ferry rides to Sausalito and Alcatraz Island are also near Pier 39.

Fremantle is in Western Australia about 20 km from the city of Perth. It has a population of approximately 33,000 inhabitants. It is a small suburban town built with profits from inland mining activity within Perth's rangelands in the hinterland [71]. It has a beach and a maritime museum near downtown and the train station [72]. It possesses a fishing harbor, a yacht club, and a marina, with popular waterfront restaurants and promenading spaces with public art dedicated to fishing.

## 5. Results and Discussion

The research framework was derived from the analytical mechanism (i.e., land use, public markets, and festival marketplace), and its purpose was to aid in the comparative analysis and discussion of the case studies. It comprised these central themes: (1) the working harbor and the relationships with adjacent natural and built environments; (2) the site design of the public markets and the architectonic relationship between form and function; and (3) the genius loci and the utilization of architecture at the service of the marketplace.

In terms of results, regarding the working harbor and the relationships with adjacent natural and built environments [73], it is important to recognize that as a city grows, the area allocated to artisanal fishing activities tends to decrease. Furthermore, recreational maritime and sports uses tend to replace fishing activities [74]. For the site design of public markets and the architectonic relationship between form and function, one tends to find either autonomous fish markets or a shared area or floor dedicated to fish stalls. Wholesale and mercantile warehouses tend to occupy extensive areas. Many auction houses and storage structures exhibit a low-cost industrial architectonic appeal.

The genius loci of many waterfront sites comprises the utilization of architecture at the service of the marketplace via the following characteristics: the architectonic style of wood framing and paneling; low-cost ephemeral architecture of pier structures; the commercial nature of most constructions; and the fact that some of the most touristic sites or neighborhoods in cities (e.g., fisherman's wharfs in San Francisco and Macau) are located on waterfronts. Table 1 shows the case studies' assessments, the ratings of each theme of the comparative research framework, and the final rankings. The highest pairwise ratings in each category are highlighted for easier verification.

**Table 1.** Comparative analysis and rankings of the case studies and research framework’s main themes. Variables of analysis included centrality of the location, extensiveness of relationship(s), choreography of the design, drawing power of the architectonic relationship, symbolism of the built-up structure(s), and commercial function of the complex. Please also consult the Materials and Methods section. Note: An evaluative rating of \* to \*\*\*\*\* means low to high performance (own assessment). Grey background indicates the pairwise emphasis.

	Land Use		Public Market		Festival Marketplace		Case Study Ranking
	Working Harbor	Relationship Adjacent Natural and Built Environments	Site Design of the Public Market	Architectonic Relationship between Form and Function	Genius Loci (Place Identity)	Architecture at the Service of the Marketplace	
New Bedford, USA	*****	***		*	***	**	14/30 (5th place)
Figueira da Foz, Portugal	****	*****	***	***	****	***	22/30 (2nd place)
Tsukiji, Tokyo, Japan	**	****	*****	*****	****	****	24/30 (1st place)
Sydney, Australia	**	***	*****	*****	***	**	20/30 (3rd place)
San Francisco, USA	*	****		****	*****	*****	19/30 (4th place)
Fremantle, Australia	****	****	**	****	*****	*****	24/30 (1st place)
Thematic Ranking	18/30 (5th theme)	23/30 (2nd theme)	15/30 (6th theme)	22/30 (3rd theme)	24/30 (1st theme)	21/30 (4th theme)	

The first dimension of the comparative discussion comprises land use changes and associated relationships. As space on the waterfront is limited [75], there is competition to occupy said space. Traditional uses such as working harbors, comprising landing docks, warehouses, fish auction houses, and containers, tend to be at odds with less impactful and mostly recreational uses, such as yacht clubs, marinas, public spaces, multi-use trails, and stages for concerts [76,77]. This spatial competition occurred in the two case studies of pairwise 1. New Bedford’s working harbor is still quite present on the city’s waterfront [78]. However, Figueira da Foz’s working harbor has relocated to the southern bank of the river, and the northern bank now comprises a yacht marina and public space amenities with tourism kiosks and multiple visitor centers [79]. There is paid parking in the immediate vicinity of the municipal market in Figueira da Foz and an extensive parking area along New Bedford’s harbor. Therefore, there are extensive scenic promenading opportunities in Figueira da Foz, while New Bedford still possesses a waterfront industrial area which is noisy and disconnected from the city due to a barrier effect caused by a major arterial road severing the city and its whaling museum from the harbor front [47,80,81].

The second dimension of the comparative discussion comprised site design, architectonic form, and function. Pairwise 2’s case studies exhibit unspectacular (i.e., unnoticeable) brutalist architecture (i.e., the opposite of iconic architecture) as well as rustic and industrial era buildings (e.g., ironwork structures) [82]. In terms of functions, the observations identified two patterns, the first being private fish markets with only fish auctions open to specialized vendors and the second being public fish markets with not only fish auctions and fishmongers but also restaurants, bars, and souvenir shops open to visitors [83]. Both patterns exist in Tokyo and Sydney. Two sub-specialties are (1) when fish markets are only open to resale grossers and (2) an admission fee to enter the public market charged similarly to what is commonly practiced in certain bars and night clubs. Still, in terms of



offerings, the restaurants with fresh fish for immediate consumption tend to function as extremely powerful visitor magnets.

The third dimension of the comparative discussion comprised the genius loci and its relation to the fish architecture. Genius loci is defined here as a place identity where real fishing activities take place and the utilization of architecture at the service of the marketplace [84,85]. Examples of this include themed maritime environments with cluster or fili re stances extending beyond fishing to festival marketplaces, aquaria, maritime museums, military vessel anchorage, boat tours (e.g., whale watching), cruise ship terminals, boutique hotels, waterfront condominiums, specialty shops, etc. These are all elements present in the third set of pairwise case studies. In certain cases, fishing activities have evolved over generations, such as in San Francisco’s northern Californian fishing communities of Crescent City, Trinidad, and Eureka.

In San Francisco, the waterfront festival marketplace Pier 39 (Figure 2a) promotes consumption of local crab and species from elsewhere (e.g., the Bubba Gump Shrimp Co. restaurant inspired by the 1994 film *Forrest Gump* about fishing in Alabama is worth mentioning). The genius loci of the place are further accentuated by celebratory public art and the signage utilized to entice people into spending time in the recreational districts (i.e., the large blue crab at the Fisherman’s Wharf in San Francisco) and to create a fish-oriented visual landscape [42]. In other situations, the recreational districts capitalizing on fishing and maritime activities tend to utilize old cultural heritage and celebratory events such as the regular firing of an old cannon from a historic waterfront fort in Fremantle. But they can also memorialize fishing activities by installing public art near Fremantle’s pier (Figures 2b and 3).

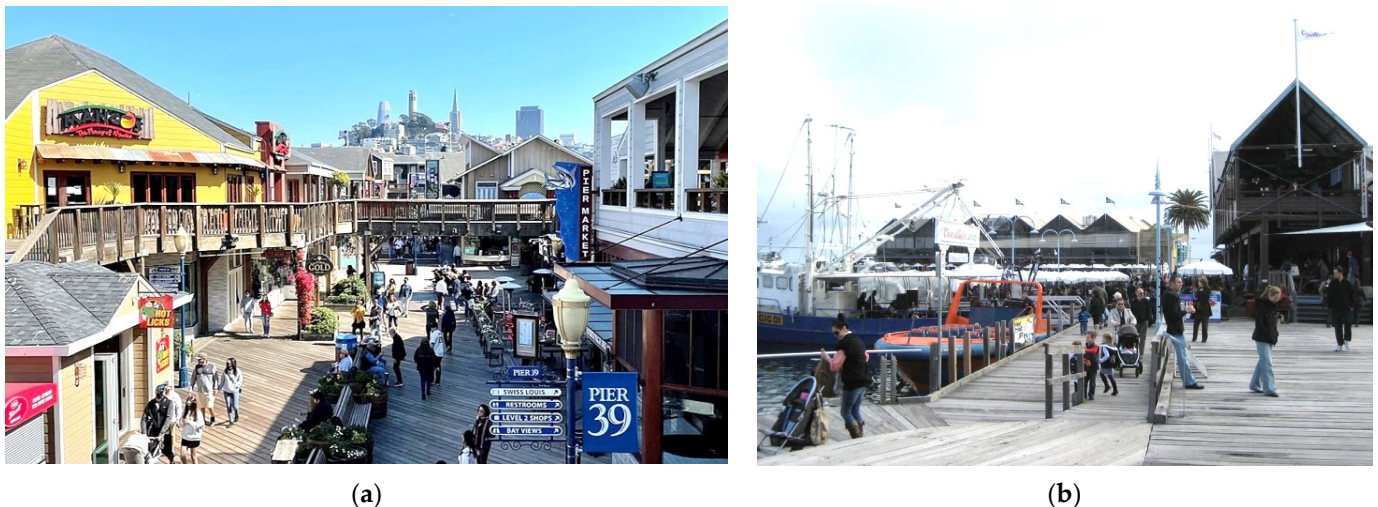


Figure 2. (a) Fisherman’s Wharf in San Francisco [86], (b) Fremantle waterfront in Australia [87].

## 6. Conclusions and Implications

Fishing and other maritime activities have always had a strong presence in specific coastal cities [88]. The objective of this article was to analyze the extent to which fish-oriented architecture has helped to strengthen waterfront areas or, on the contrary, whether it has performed a minor role due to the preeminence of other competing water-related activities. The first conclusion is that declining working harbors and reductions in fishing activity tend to relocate the labor-intensive aspects of these coastal cities to “out-of-sight” areas (e.g., in Figueira da Foz). In other cases, working harbors have been refurbished, and there is now greater openness to visitors and tourists (e.g., Fremantle).



**Figure 3.** Fremantle monument to the city's fishermen [87,88].

Yacht clubs are perceived as high-class, more sophisticated, and more profitable than traditional fishing architecture, such as processing, the selling of fish, and fleet maintenance (e.g., Figueira da Foz). Nonetheless, non-water-dependent uses still benefit from proximity to the water's edge (e.g., New Bedford and Tokyo). Active promenading along the water's edge [89] and planned (or spontaneous) animation opportunities tend to increase visitation and permanence in these littoral areas (e.g., Figueira da Foz and San Francisco). The implication pertaining to the preservation of historic architectonic structures tends to enrich the built environments of estuaries (e.g., Sydney). Where intense fishing activity still exists, high-capacity fish markets with high tonnage for their catches demand industrial scale operations and are parking-intensive (e.g., New Bedford). Public fish markets benefit from their water's edge locations, and restaurants, bars, and souvenir shops are highly successful with visitors and tourists (e.g., San Francisco and Fremantle). Fish gastronomy and culinary tourism are also important tourism magnets [90,91]. Maritime cluster or filière planning strategies have the potential to create vibrant waterfronts.

Even though this study attempted to analyze pairwise cases in three distinct world regions, two obvious limitations may be its relatively small number of cases and the fact that due to a lack of resources, the six cities were visited at various times during the last two decades. Future research on waterfronts ought to also consider at least two theoretical and practice-oriented dimensions of current waterfront transformations. First, when some waterfront communities capitalize on a mix of authentic architectural and modern reconfigurations of waterfronts, it is critical to analyze the competing and contested rights' and capabilities' dynamics, which ensue when fishing urbanism is being used communally but also impact nearby residential and commercial life. Second, in situations where

fishing communities and their livelihoods are struggling with lower stocks or depletion (i.e., distributive justice), and their underutilized fishing architecture is vulnerable to unfair and unreasonable abandonment and demolition, planners and fishers need to ensure that infrastructure still exists when fishing rebounds (i.e., procedural justice).

Other changes on the waterfront which also require attention in terms of public policy include land use transformations, the coexistence of labor-intensive operations with recreational uses, accessibility to those areas, publicness of the areas (in terms of public spaces and other amenities), and the impacts of mixed-use developments on adjacent residential areas [13,92]. For instance, the anticipated tendency for sea levels to rise requires that built-up structures now be receded from the shoreline to enable wide protection buffers [29]. In the case of open coastlines, the preference should be for lightweight structures (e.g., boardwalks, movable or portable structures, and even floodable buildings).

Scholarly and practice-oriented aspects to be considered by urban studies, urban planning and design, landscape architecture, and anthropology researchers pertain to the need to study coastal planning and hydro-based sustainable urbanism on the shoreline in order to strengthen disciplinary connections between architecture (e.g., building floodable and floatable structures), urban planning, urban design (e.g., public spaces and their integration with other functions, such as yacht clubs and marinas), and landscape architecture (e.g., biophilia blue urbanism) [2,93–95].

From an anthropological standpoint, in the case of consumption-related matters, two issues in need of attention are the notions of social trust and ethical fish consumption [96]. The dilemma is not only a question of foodscapes with local fish (e.g., artisanal, subsistence, and gourmet) being served at local restaurants instead of frozen fish from faraway places but fish raised in industrial aquaculture farms [45]. The final key takeaway is that waterfronts have suffered radical changes over the years, and they ought to be made more accessible, authentic, just, and livable not through the effects of nature or the markets alone but with planning and urban design interventions.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data are contained in the article.

**Conflicts of Interest:** The author declares no conflicts of interest.

## References

1. Lindkvist, K.B.; Antelo, A.P. Restructuring a peripheral coastal community: The case of a Galician fishing town. *Int. J. Urban Reg. Res.* **2007**, *31*, 368–383. [[CrossRef](#)]
2. Beatley, T. *Blue Urbanism: Exploring Connections between Cities and Ocean*; Island Press: Washington, DC, USA, 2012.
3. Beatley, T. *Blue Biophilic Cities: Nature and Resilience along the Urban Coast*; Palgrave/Macmillan: Cham, Switzerland, 2018.
4. Porfyriou, H.; Sepe, M. (Eds.) *Waterfronts Revisited: European Ports in a Historic and Global Perspective*; Routledge: New York, NY, USA, 2017.
5. Pinter-Wollman, N.; Penn, A.; Theraulaz, G.; Fiore, S.M. Interdisciplinary approaches for uncovering the impacts of architecture on collective behaviour. *Philos. Trans. R. Soc. B* **2018**, *373*, 20170232. [[CrossRef](#)]
6. Bromiley, P.; Johnson, S. Mechanisms and empirical research. In *Research Methodology in Strategy and Management Vol. 2*; Ketchen, D.J., Jr., Bergh, D.D., Eds.; Emerald Group Publishing: Bingley, UK, 2005; pp. 15–29.
7. Strydom, W.; Puren, K.; Drewes, E. Exploring theoretical trends in placemaking: Towards new perspectives in spatial planning. *J. Place Manag. Dev.* **2018**, *11*, 165–180. [[CrossRef](#)]
8. Pinho, P.; Malafaya, F.; Mendes, L. Urban planning and port management: The changing nature of city-port interactions. In *Littoral 2002—VIth International Conference of the Coastal Union and Eurocoast Federation*; EUCC, Ed.; EUCC: Porto, Portugal, 2002; pp. 567–575.
9. Desfor, G.; Laidley, J.; Stevens, Q.; Schubert, D. (Eds.) *Transforming Urban Waterfronts: Fixity and Flow*; Routledge: New York, NY, USA, 2011.
10. Portman, M.E.; Jin, D.; Thunberg, E. Waterfront land use change and marine resource conditions: The case of New Bedford and Fairhaven, Massachusetts. *Ecol. Econ.* **2009**, *68*, 2354–2362. [[CrossRef](#)]



11. Portman, M.E.; Jin, D.; Thunberg, E. The connection between fisheries resources and spatial land use change: The case of two New England fish ports. *Land Use Policy* **2011**, *28*, 523–533. [[CrossRef](#)]
12. Kotval, Z.; Mullin, J. The changing port city: Sustainable waterfront revitalisation. *J. Town City Manag.* **2010**, *1*, 31–46.
13. Garcia, P.R. The role of the port authority and the municipality in port transformation: Barcelona, San Francisco and Lisbon. *Plan. Perspect.* **2008**, *23*, 49–79. [[CrossRef](#)]
14. Avni, N. ‘So long, and thanks for all the fish?’ Examining the built and cultural heritage of the Jaffa port redevelopment. *Int. J. Herit. Stud.* **2017**, *23*, 679–694. [[CrossRef](#)]
15. Jones, A.L. Regenerating urban waterfronts—Creating better futures—From commercial and leisure market places to cultural quarters and innovation districts. *Plan. Pract. Res.* **2017**, *32*, 333–344. [[CrossRef](#)]
16. Williams, K.A. *Waterfronts for Work and Play: Mythscapes of Heritage and Identity in Contemporary Rhode Island*. Ph.D. Dissertation, University of Maryland, College Park, MD, USA, 2010.
17. Khakzad, S.K. Promoting coastal communities through cultural tourism: The case of fishing communities in Brunswick County, North Carolina. *J. Herit. Tourism.* **2018**, *13*, 455–471. [[CrossRef](#)]
18. De Madariaga, C.J.; del Hoyo, J.J.G. Enhancing of the cultural fishing heritage and the development of tourism: A case study in Isla Cristina (Spain). *Ocean Coast. Manag.* **2019**, *168*, 1–11. [[CrossRef](#)]
19. Garvin, A. *The Heart of the City: Creating Vibrant Downtowns for a New Century*; Island Press: Washington, DC, USA, 2019.
20. Evans, C.; Harris, M.S.; Taufen, A.; Livesley, S.J.; Crommelin, L. What does it mean for a transitioning urban waterfront to “work” from a sustainability perspective? *J. Urban.* **2022**, 1–24. [[CrossRef](#)]
21. Graddy, K. Markets: The Fulton fish market. *J. Econ. Perspect.* **2006**, *20*, 207–220. [[CrossRef](#)]
22. Cai, Z. *Encountering the Enigma: A Transformation of the Fulton Fish Market*. Ph.D. Dissertation, Harvard University, Cambridge, MA, USA, 2021.
23. Hollingsworth, M. *Architecture of the 20th Century*; Crescent Books: Avenel, NJ, USA, 1995.
24. Kaika, M. Autistic architecture: The fall of the icon and the rise of the serial object of architecture. *Environ. Plan. D Soc. Space* **2011**, *29*, 968–992. [[CrossRef](#)]
25. Pedroza-Gutiérrez, C.; Hernández, J.M. Social networks, market transactions, and reputation as a central resource. The Mercado del Mar, a fish market in central Mexico. *PLoS ONE* **2017**, *12*, e0186063. [[CrossRef](#)]
26. Mele, C.; Ng, M.; Chim, M.B. Urban markets as a ‘corrective’ to advanced urbanism: The social space of wet markets in contemporary Singapore. *Urban Stud.* **2015**, *52*, 103–120. [[CrossRef](#)]
27. Weisbrod, R.E.; Lawson, C.T. Ferry systems: Planning for the revitalization of US cities. *J. Urban Technol.* **2003**, *10*, 47–68. [[CrossRef](#)]
28. Fageir, M.; Porter, N.; Borsi, K. Contested grounds; the regeneration of Liverpool waterfront. *Plan. Perspect.* **2021**, *36*, 535–557. [[CrossRef](#)]
29. Huber, J.E.; Van de Riet, K.; Sandell, J.; Scarpa, L. Salty Urbanism: Towards an adaptive coastal design framework to address sea level rise. *Plan J.* **2017**, *2*, 389–414. [[CrossRef](#)]
30. Al, S. *Adapting Cities to Sea Level Rise: Green and Gray Strategies*; Island Press: Washington, DC, USA, 2018.
31. Gössling, S.; Hall, C.M.; Scott, D. Coastal and ocean tourism. In *Handbook on Marine Environment Protection: Science, Impacts and Sustainable Management*; Salomon, M., Markus, T., Eds.; Springer: Cham, Switzerland, 2018; pp. 773–790.
32. Urry, J. *Consuming Places*; Routledge: New York, NY, USA, 1995.
33. Mouritsen, O.G. *Sushi: Food for the Eye, the Body and the Soul*; Springer: New York, NY, USA, 2009.
34. Steinberg, P.E. The maritime mystique: Sustainable development, capital mobility, and nostalgia in the world ocean. *Environ. Plan. D Soc. Space* **1999**, *17*, 403–426. [[CrossRef](#)]
35. Hall, C.M.; Page, S.J. *The Geography of Tourism and Recreation: Environment, Place and Space*, 4th ed.; Routledge: New York, NY, USA, 2014.
36. Tavares, A.; de Souza, D.I. Moving Seascapes: The architecture and biology of fishing and canning on the Portuguese coast. *Rev. Investig. Arquit. Contemp.* **2021**, *11*, 14–31. [[CrossRef](#)]
37. Goss, J. Disquiet on the waterfront: Reflections on nostalgia and utopia in the urban archetype of festival marketplaces. *Urban Geogr.* **1996**, *17*, 221–247. [[CrossRef](#)]
38. Johnston, J.; Baumann, S. *Foodies: Democracy and Distinction in the Gourmet Foodscape*; Routledge: New York, NY, USA, 2010.
39. Bolton, A.E.; Dubik, B.A.; Stoll, J.S.; Basurto, X. Describing the diversity of community supported fishery programs in North America. *Mar. Pol.* **2016**, *66*, 21–29. [[CrossRef](#)]
40. Alsayyad, N. (Ed.) *Consuming Tradition, Manufacturing Heritage: Global Norms and Urban Forms in the Age of Tourism*; Routledge: New York, NY, USA, 2001.
41. González, S.; Waley, P. Traditional retail markets: The new gentrification frontier? *Antipode* **2013**, *45*, 965–983. [[CrossRef](#)]
42. Miles, M. *Art, Space and the City: Public Art and Urban Futures*; Routledge: New York, NY, USA, 1997.
43. Main, K.; Sandoval, G.F. Placemaking in a translocal receiving community: The relevance of place to identity and agency. *Urban Stud.* **2015**, *52*, 71–86. [[CrossRef](#)]
44. Warnaby, G. Synchronising retail and space: Using urban squares for competitive place differentiation. *Consum. Mark. Cult.* **2012**, *16*, 25–44. [[CrossRef](#)]

45. Clover, C. *The End of the Line: How Overfishing Is Changing the World and What We Eat*; University of California Press: Berkeley, CA, USA, 2008.
46. Hamada, S.; Wilk, R. *Seafood: Ocean to the Plate*; Routledge: New York, NY, USA, 2018.
47. Balsas, C. Fishing, food, and harbor community development in Massachusetts. *J. Public Aff.* **2019**, *19*, e1865. [[CrossRef](#)]
48. Boland, P.; Bronte, J.; Muir, J. On the waterfront: Neoliberal urbanism and the politics of public benefit. *Cities* **2017**, *61*, 117–127. [[CrossRef](#)]
49. Balsas, C. Exciting walk-only precincts in Asia, Europe and North-America. *Cities* **2021**, *112*, 103129. [[CrossRef](#)]
50. Farr, D. *Sustainable Urbanism: Urban Design with Nature*; John Wiley & Sons: Hoboken, NJ, USA, 2008.
51. Tostões, A.; Braga, A.M. Preserving collective memory through photography. *Future Anterior* **2013**, *10*, 82–98. [[CrossRef](#)]
52. Lyon, D. Doing audio-visual montage to explore time and space: The everyday rhythms of Billingsgate Fish Market. *Sociol. Res. Online* **2016**, *21*, 57–68. [[CrossRef](#)]
53. Khan, A.Z.; Moulaert, F.; Schreurs, J. Epistemology of space: Exploring relational perspectives in planning, urbanism, and architecture. *Int. Plan. Stud.* **2013**, *18*, 287–303. [[CrossRef](#)]
54. Shi, J.; Dai, X.; Sun, Z.; Liu, M.; Tan, D. Exploring the determinants and consequences of public satisfaction with urban waterfronts: A case study of the Xuhui waterfront in Shanghai, China. *J. Urban Plan. Dev.* **2023**, *149*, 04023005. [[CrossRef](#)]
55. Birch, E.L. Cities, people, and processes as planning case studies. In *The Oxford Handbook of Urban Planning*; Weber, R., Crane, R., Eds.; Oxford University Press: Oxford, UK, 2012; pp. 259–284.
56. Mega, V.P. *Conscious Coastal Cities—Sustainability, Blue Green Growth, and the Politics of Imagination*; Springer: Cham, Switzerland, 2016.
57. Morrissey, J. Coastal communities, blue economy and the climate crisis: Framing just disruptions. *Geogr. J.* **2023**, *189*, 283–299. [[CrossRef](#)]
58. Barnett, J. *Designing the Megaregion: Meeting Urban Challenges at a New Scale*; Island Press: Washington, DC, USA, 2020.
59. Nugent, R. *Down at the Docks*; Anchor Books: New York, NY, USA, 2010.
60. Heath, K.W. Whalers to weavers: New Bedford's urban transformation and contested identities. *Ind. Archaeol.* **2014**, *40*, 7–32.
61. Balsas, C. Sustainable urbanism: Riverfront greenway planning from tradition to innovation. *Innov. Eur. J. Soc. Sci. Res.* **2021**. [[CrossRef](#)]
62. Balsas, C. Mediterranean saltscapes: The need to enhance fragile ecological and cultural resources in Portugal. *ZARCH J. Interdiscip. Stud. Archit. Urban.* **2016**, *7*, 106–119. [[CrossRef](#)]
63. Bestor, T.C. *Tsukiji: The Fish Market at the Center of the World*; University of California Press: Berkeley, CA, USA, 2004.
64. Ursic, M. Preservation or degradation of local cultural assets in central Tokyo: The case of the plans to relocate the Tsukiji fish market. *Innov. Issues Approaches Soc. Sci.* **2013**, *6*, 35–63.
65. Covatta, A. Tsukiji fish market in Tokyo. In *Integrating Food into Urban Planning*; Cabannes, Y., Marocchino, C., Eds.; UCL Press: London, UK; FAO: London, UK, 2018; pp. 171–185.
66. Punter, J. Urban design in central Sydney 1945–2002: Laissez-faire and discretionary traditions in the accidental city. *Prog. Plan.* **2005**, *63*, 11–160. [[CrossRef](#)]
67. Brownill, S. Just add water: Waterfront regeneration as a global phenomenon. In *The Routledge Companion to Urban Regeneration*; Leary, M.E., McCarthy, J., Eds.; Routledge: New York, NY, USA, 2013; pp. 45–55.
68. Rubin, J. *A Negotiated Landscape: The Transformation of San Francisco's Waterfront since 1950*, 2nd ed.; University of Pittsburgh Press: Pittsburgh, PA, USA, 2016.
69. Sawicki, D.S. The festival marketplace as public policy: Guidelines for future policy decisions. *J. Am. Plan. Assoc.* **1989**, *55*, 347–361. [[CrossRef](#)]
70. Balsas, C. City center and waterfront revitalization in the USA: Lessons from brownfield and festival marketplace redevelopment. In *Working Paper Book—35th ISOCARP Congress*; ISOCARP, Ed.; ISOCARP: Gelsenkirchen, Germany, 1999; pp. 81–86.
71. Porta, S.; Renne, J.L. Linking urban design to sustainability: Formal indicators of social urban sustainability field research in Perth, Western Australia. *Urban Des. Int.* **2005**, *10*, 51–64. [[CrossRef](#)]
72. Macbeth, J.; Selwood, J.; Veitch, S. Paradigm shift or a drop in the ocean? The America's Cup impact on Fremantle. *Tour. Geogr.* **2012**, *14*, 162–182. [[CrossRef](#)]
73. Chiarappa, M.J. Great Lakes Commercial Fishing Architecture: The endurance and transformation of a region's landscape/waterscape. In *Building Environments: Perspectives in Vernacular Architecture X*; Breisch, K.A., Hoagland, A.K., Eds.; The University of Tennessee Press: Knoxville, TN, USA, 2005; pp. 217–232.
74. Teschner, N. The battle over the commons in port cities. *Urban Geogr.* **2019**, *40*, 918–937. [[CrossRef](#)]
75. Chiarappa, M.J. Dockside landings and threshold spaces: Reckoning architecture's place in marine environmental history. *Environ. Hist.* **2013**, *18*, 12–28. [[CrossRef](#)]
76. Del Saz-Salazar, S.; Garcia-Menendez, L. The nonmarket benefits of redeveloping dockland areas for recreational purposes: The case of Castellón, Spain. *Environ. Plan. A* **2003**, *35*, 2115–2129. [[CrossRef](#)]
77. Brand, D. Bluespace: A typological matrix for port cities. *Urban Des. Int.* **2007**, *12*, 69–85. [[CrossRef](#)]
78. Hollander, J.B. *An Ordinary City: Planning for Growth and Decline in New Bedford, Massachusetts*; Palgrave Macmillan: Cham, Switzerland, 2018.



79. Silveira, L.E.Á. *O Turismo de Iates: Estratégia de desenvolvimento para a Figueira da Foz* [Yacht Tourism: A Development Strategy for Figueira da Foz]. Ph.D. Dissertation, Universidade de Coimbra, Coimbra, Portugal, 2016.
80. McCabe, M.; Thomas, J.D. (Eds.) *Not Just Anywhere: The Story of WHALE and the Rescue of New Bedford's Waterfront Historic District*; Spinner Publications: New Bedford, MA, USA, 1996.
81. Balsas, C.; Kotval, Z.; Mullin, J. Historic preservation in waterfront communities in Portugal and the USA. *Port. Stud. Rev.* **2000**, *8*, 40–61.
82. Anders, S.; Große, S.; Krüger, T. Small and medium-sized cities are making an impact on urban research. In *Post-Pandemic Urbanism*; Kleilein, D., Meyer, F., Eds.; Jovis Verlag GmbH: Berlin, Germany, 2021; pp. 64–71.
83. Boyer, M.C. City for sale: Merchandising history at South Street Seaport. In *Variations on a Theme Park*; Sorkin, M., Ed.; Hill and Wang: New York, NY, USA, 1992; pp. 181–204.
84. Norberg-Schulz, C. *Genius Loci: Towards a Phenomenology of Architecture*; Rizzoli: New York, NY, USA, 1979.
85. Santos Nouri, A.; Costa, J.P. Placemaking and climate change adaptation: New qualitative and quantitative considerations for the "Place Diagram". *J. Urban.* **2017**, *10*, 356–382. [[CrossRef](#)]
86. Wikimedia. *Pier 39 in San Francisco, California*. Courtesy of Wikimedia. Available online: <https://www.wikimedia.org/> (accessed on 1 July 2021).
87. 2011 Photographic Evidence of Fremantle's Waterfront, Australia. Available online: <https://cbusa06.wixsite.com/website> (accessed on 2 July 2024).
88. Warsewa, G. The transformation of port cities: Local culture and the post-industrial maritime city. *WIT Trans. Built Environ.* **2017**, *170*, 149–159.
89. Duruz, J.; Giovanangeli, A.; Loda, A.; Manganas, N. Emotional scapes in Mediterranean port cities: Walking Barcelona, Marseille and Genova. *Eur. J. Cult. Stud.* **2023**, *26*, 572–597. [[CrossRef](#)]
90. Richards, G. Gastronomy: An essential ingredient in tourism production and consumption? In *Tourism and Gastronomy*; Hjalager, A.-M., Richards, G., Eds.; Routledge: New York, NY, USA, 2002; pp. 17–34.
91. Omholt, T. Developing a theoretical framework to analyze an urban culinary culture and explain restaurant cluster developments. *J. Place Manag. Dev.* **2015**, *8*, 233–253. [[CrossRef](#)]
92. Timur, U.P. Urban waterfront regenerations. In *Advances in Landscape Architecture*; Özyavuz, M., Ed.; Intechopen: New York, NY, USA, 2013.
93. Carmona, M.; Heath, T.; Oc, T.; Tiesdell, S. *Public Places Urban Spaces—The Dimensions of Urban Design*; Routledge: New York, NY, USA, 2010.
94. Clark, N.M. (Ed.) *Urban Waterways. Evolving Paradigms for Hydro-Based Urbanisms*; Edizioni Nuova Cultura: Roma, Italy, 2016.
95. Taufen, A.; Yocom, K. Transitions in urban waterfronts: Imagining, contesting, and sustaining the aquatic/terrestrial interface. *Sustainability* **2021**, *13*, 366. [[CrossRef](#)]
96. Fabinyi, M.; Liu, N. Social trust and luxury seafood banquets in contemporary Beijing. *Asian Anthropol.* **2014**, *13*, 92–105. [[CrossRef](#)]

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