

## UTATSU ENVIRONS

As one rounds the bend into Utatsu and the former commercial district of Isatomae, they are lead along a river's edge. The Isatomae River originates near the town of Haraikawa, 4.8 miles [7.8 km] northwest of Isatomae at the base of Tatsugane mountain, the tallest peak in Minamisanriku. The medieval home of Shugendo mountain ascetics [yamabushi], Mt. Tatsugane once was a station on a 78 mountain pilgrimage and has worked its way into local folk song.

Near the end of its course, after collecting contributions from several valleys of stepped paddy fields [tanada], Isatomae River sweeps past Saiko Temple and the area's main burial mount, ultimately delivering its freshwater to the modest bay of Isatomae. The bay entrance is appropriately framed by two unpretentious hilltop shrines. Approximately 2000 feet [600 m] from the Isatomae bay, the river bend at Saiko Temple is also marked by the former crossing of the JR Kesennuma rail line. In modern times, urban fill steadily narrowed the river mouth and a tidal gate was installed in order to regulate flows.

Originally an important commercial and spiritual corridor, the river steadily became obscured and relegated to the status of a community backwater as Isatomae grew. However, with the tidal gate now destroyed and fill greatly eroded through destructive tsunami forces, Isatomae River's indigenous estuarial nature is creeping back into existence. Initial site study revealed a landscape with little trace of original ecology, yet great potential for reformation.

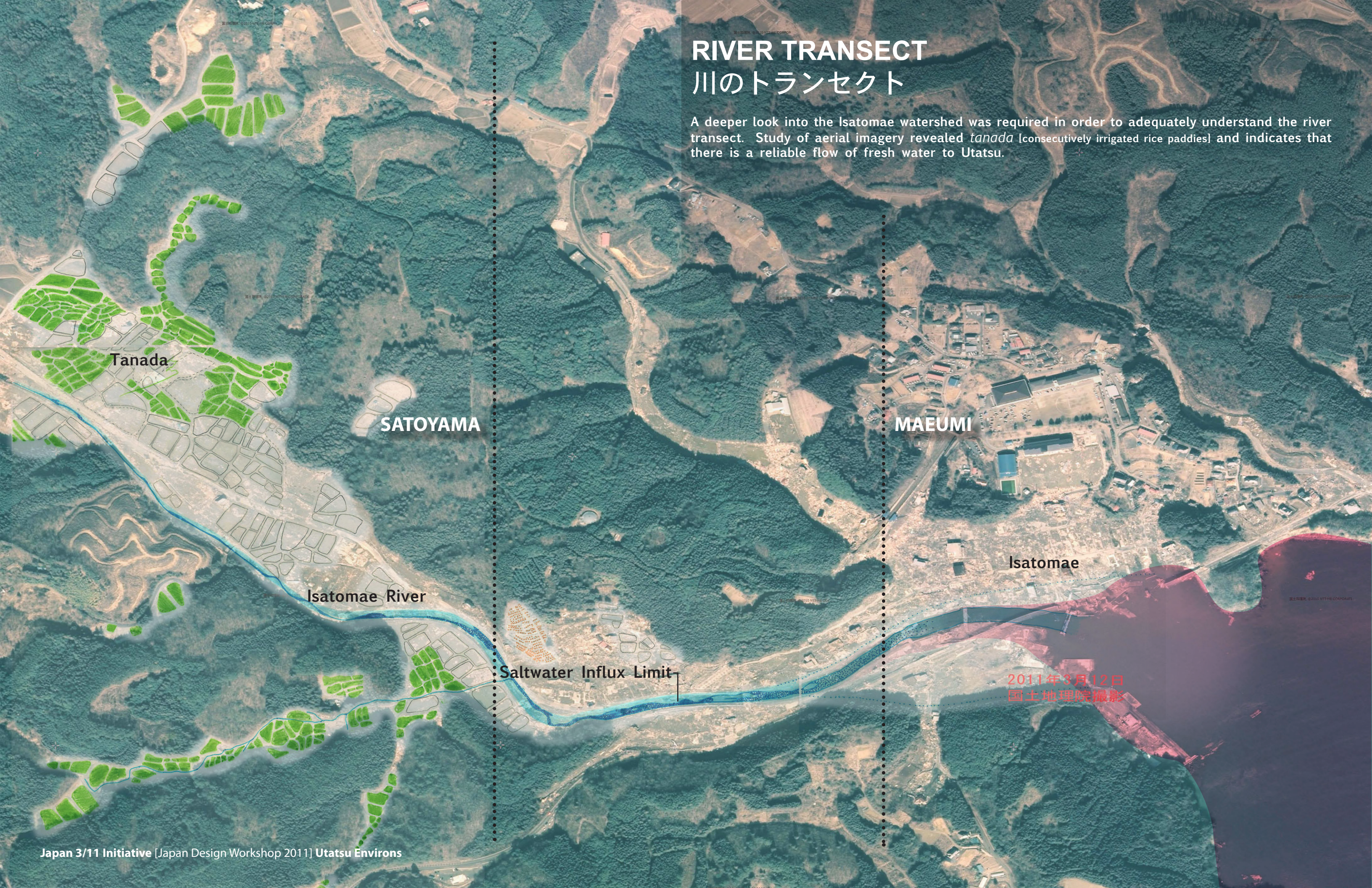
We believe in a plan for community reinvention which has at its heart a vibrant estuary, where Mountain and Sea may once again meet for a dynamic exchange. Serving as a community clock, tidal changes--and the ocean's inherent capriciousness--will no longer be hidden from view. Reed beds and mud flats will once again yield fry and molluscs for beleaguered fisherman, while also serving as a didactic landscape for citizens. The newly fluctuating shoreline will host the weekly exchange of produce from up-river farmers and down-river fisherman alike. The combination of a stabilized ecology and a practice of planning in accordance with environmental processes, will reduce expense and build up a more disaster-resilient base. Simply stated: through re-connection to natural ecology, this aquatic-informed community will be better equipped to endure and transcend future, inevitable natural events.

Adele Phillips  
Charles Lemonnier



# RIVER TRANSECT 川のトランセクト

A deeper look into the Isatomae watershed was required in order to adequately understand the river transect. Study of aerial imagery revealed *tanada* [consecutively irrigated rice paddies] and indicates that there is a reliable flow of fresh water to Utatsu.



2011年3月12日  
国土地理院撮影

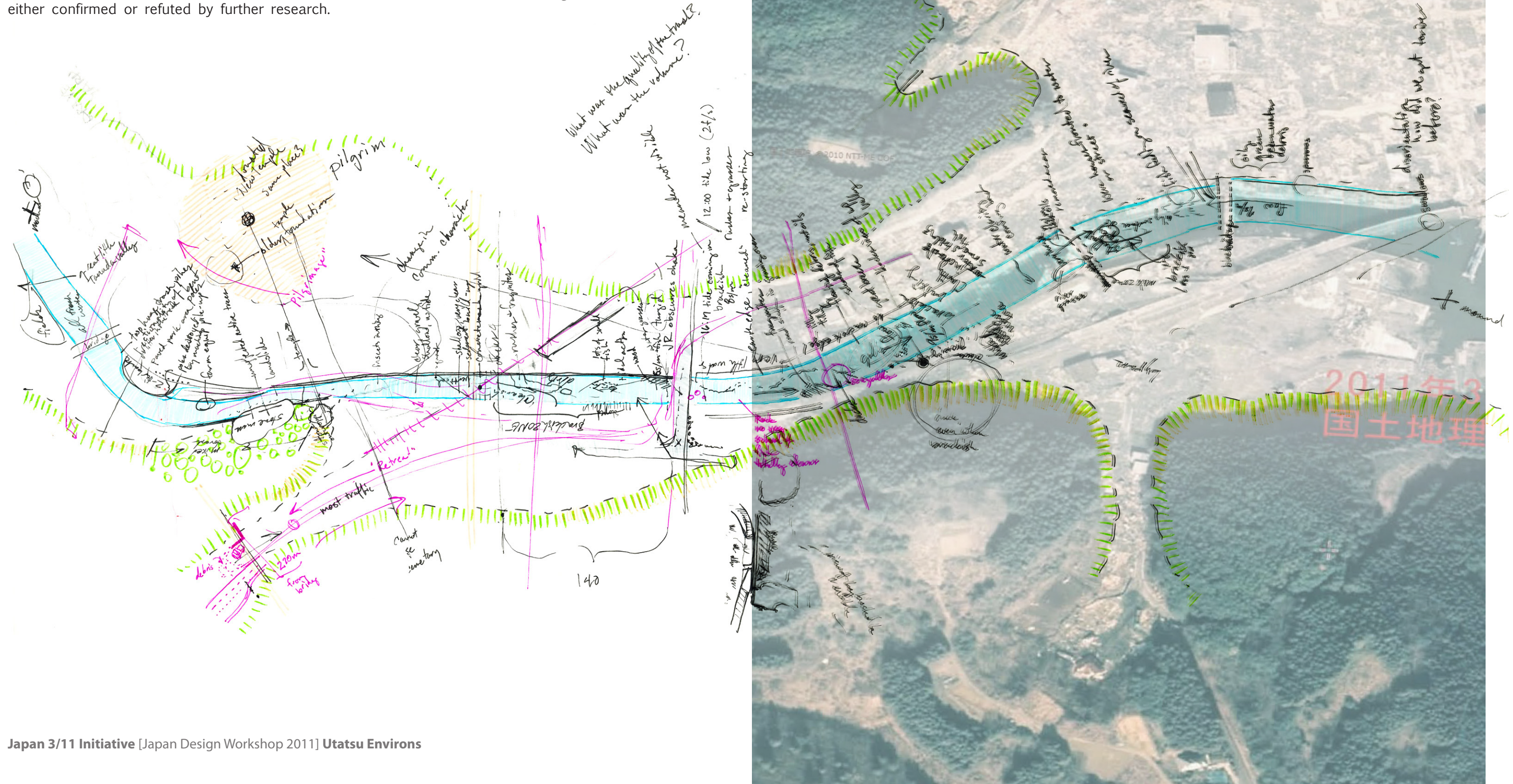


# RIVER TRANSECT

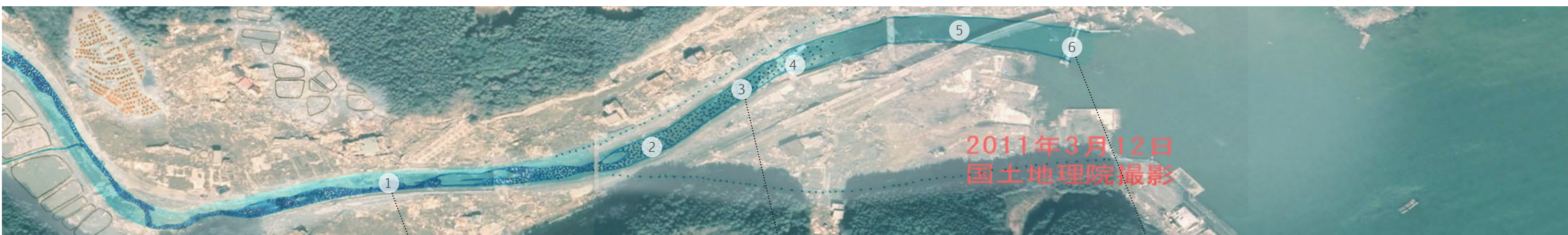
## 川のトランセクト

As the river was traversed, observations of water quality and speed, plant communities, edge conditions, animal habitat, visual qualities and human usage were noted.

Alone, each observation has little apparent significance, but collectively they create a dialogue about the place of study. This practice of recording unchecked narrative brought about a greater level of attentiveness and awareness in the researcher. Guesses or discoveries made along the walk were later either confirmed or refuted by further research.







1 Furthest reach of tidal flows.  
Concrete reinforcement still firmly intact.  
Steady flow of clean water.

3 Successful breaching of retaining walls.  
Plant and animal colony re-emergence.  
Park-like quality already beginning to emerge

6 Broken tidal gate.  
Absent seed bed due to fill landscape.  
Visibly polluted water.

## RIVER TRANSECT 川のトランセクト

Despite the clearly destructive forces of the 3.11 tsunami, the fact that the river had been channelized and banked with concrete reinforcement walls was plainly evident.

These scenes along the river reveal already emerging plant colonies, and locations where destroyed channel barriers can serve as the launch-points for estuary rehabilitation. Near central Isatomae where developments were situated on fill, the somewhat problematic absence of a native seed bed was also plainly evident.

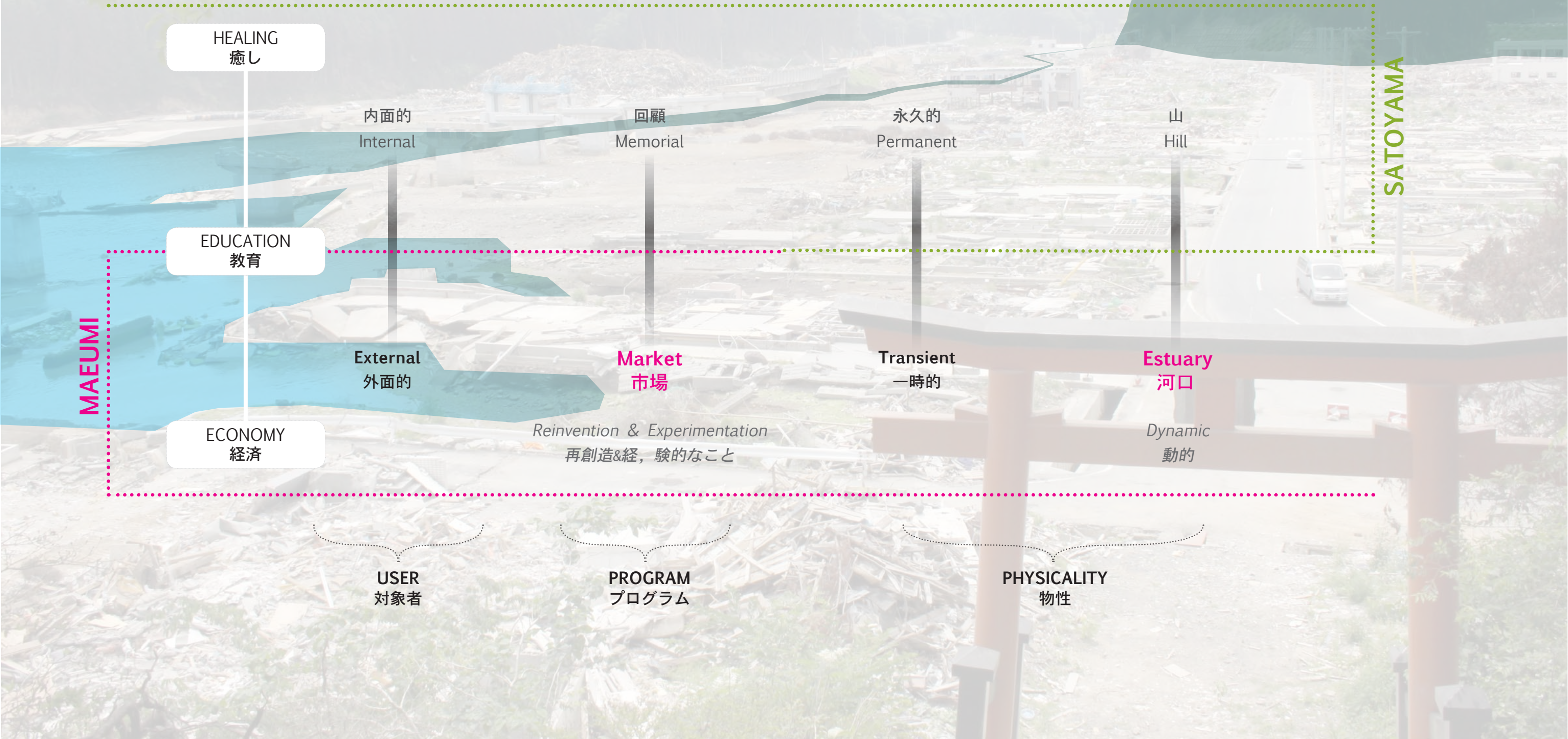




# POST ASSESSMENT RATIONALE & DESIGN FRAMEWORK

After having observed the post-disaster conditions of the riverbed and adjacent areas, it was clear that Isatomae’s legacy is almost all concrete and reinforcement steel, the detritus of a highly engineered landscape. Because of this history of human effort to dominate natural aspects of the location, there is little trace native habitat for wildlife. The rebound of local ecology has been slow to occur, and foreign or invasive species may begin to dominate. This proposal for the reintroduction of the Isatomae Estuary focuses on the last 600m of the river, the area of tidal influx. The primary design goal is to create a new, synergetic relationship between humans and nature. A renewed site ecology will serve as the didactic link between grieving the tragic events of 3.11 and moving forward. The natural fluctuations of the estuary will not only be the basis for a new parkscape, but also be a boon to the local fishing industry as it harbours new colonies of shellfish and the fry of many ocean-maturing species of fish.

The diagram below summarizes the conceptual pairings found in the Satoyama / Maeumi design scheme, and their programmatic and physical manifestations.

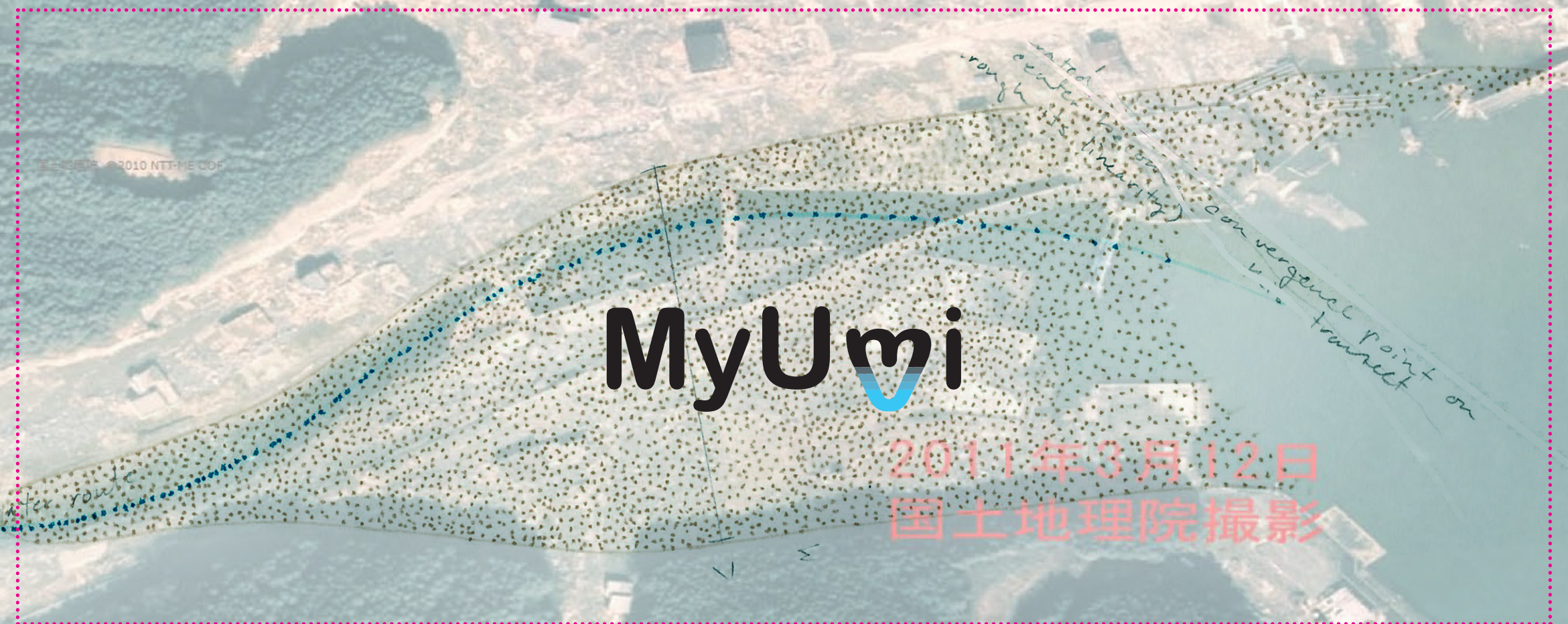




# MAEUMI 前海

The estuary plan is the embodiment of a new attitude towards human habitat and environment. It represents a unique opportunity to reunite agriculture and mariculture, as well as create a didactic exchange between locals and visitors. Rather than seeking to dominate the inevitabilities and capriciousness of the sea, we would like to see community development which embraces and accentuates the very nature of the sea upon which the local economy is built.

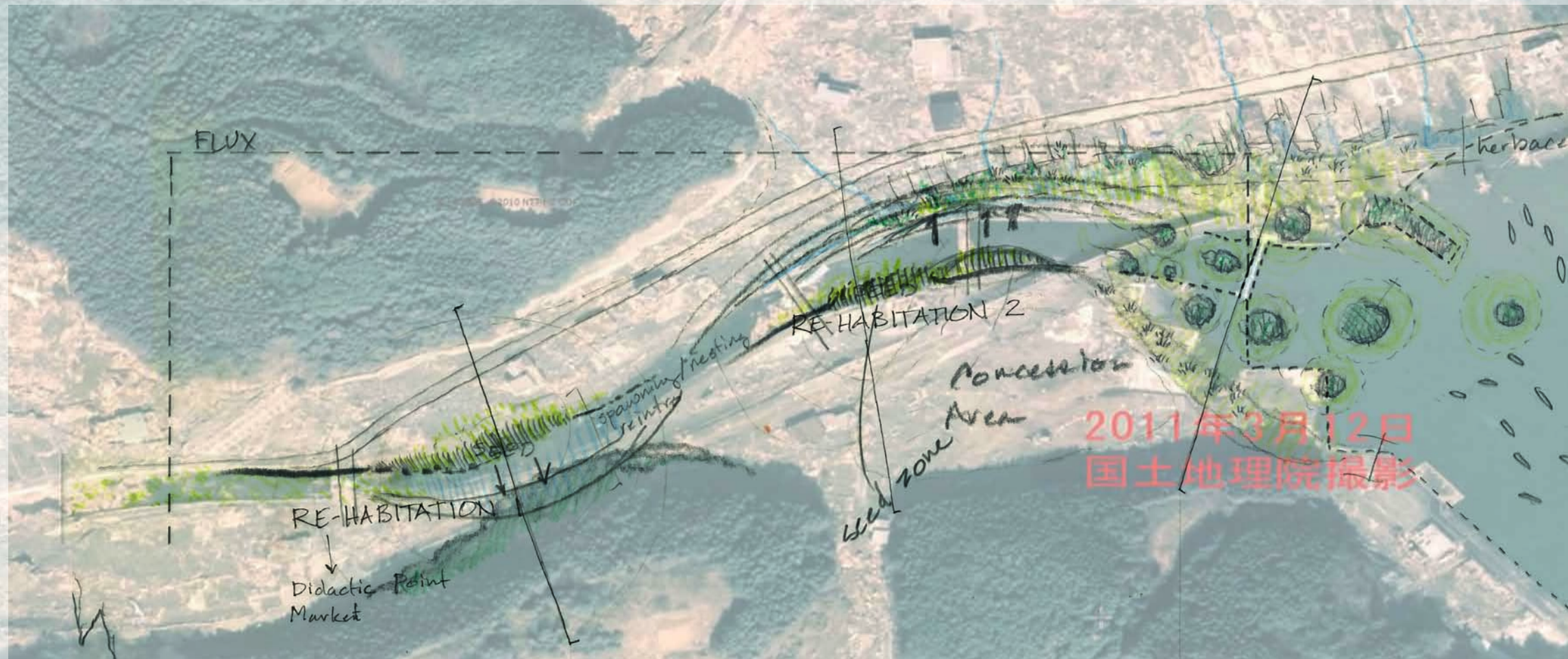
The Japanese word for 'oceanfront' is comprised of the characters 'mae' (fore~) and 'umi' (ocean). Our proposal "MyUmi" means that we want people of Utatsu to love their estuary, care for it, and through doing so feel a sense of ownership.





# WHY AN ESTUARY IS DESIRABLE

## なぜ河口が望ましい



Design sketch imagining a new estuarial park.

### Ecological and Economic Benefits

#### 環境、経済へのメリット

The fluctuating nature of an estuary makes for tremendously diverse environments and therefore allows for a greater diversity of plant and animal species to inhabit it. This diversification means that even when one species encounters difficulty, others may not. As a breeding ground and safe harbor for ocean-maturing species, the estuary can serve as a nursery for local fisherman. Estuary environments are nutrient rich spaces which also serve as filters; reed beds remove toxins from the water and soils deposited by freshwater currents.

### Didactic Environment

#### 教訓的な環境

With gradually sloping banks, transient tidal flats and boardwalks, the estuary becomes a ground for students of marine ecology and environmental rehabilitation. Families may explore an aquatic environment that previously was closed off to them, and while at play may teach their children about the dangers and merits of the sea. Researchers, too, may come to study the process of environmental rehabilitation and add to the dialogue of disaster-resilient design.

### Aesthetic Landscape

#### 教訓的な環境

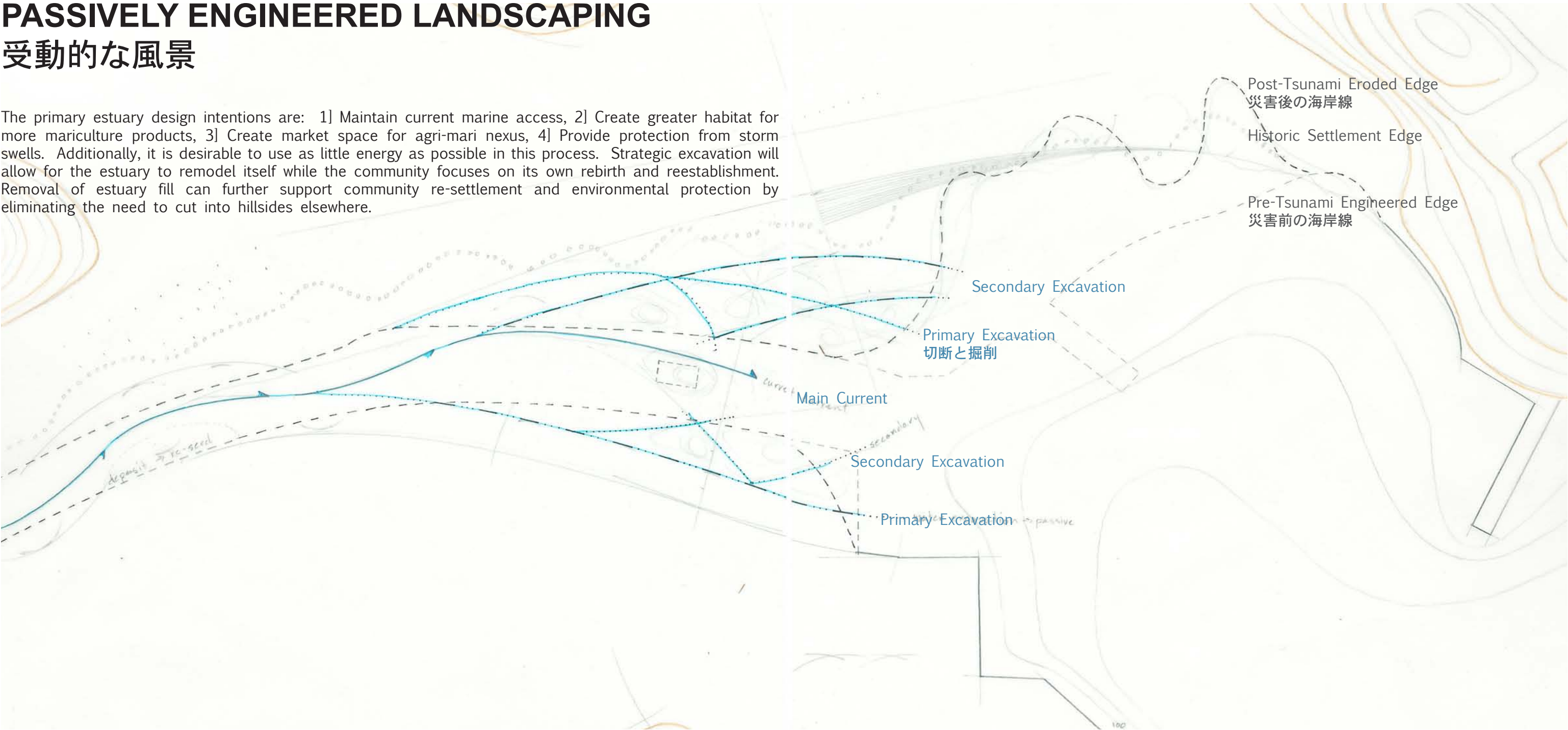
The most obvious merit of a re-established estuary is the aesthetic qualities it would bring to the city as a natural element. From summer swimming and clamming season to winter bird migration, throughout the year's changing seasons, the estuary can enrich the community through all senses.



# PASSIVELY ENGINEERED LANDSCAPING

## 受動的な風景

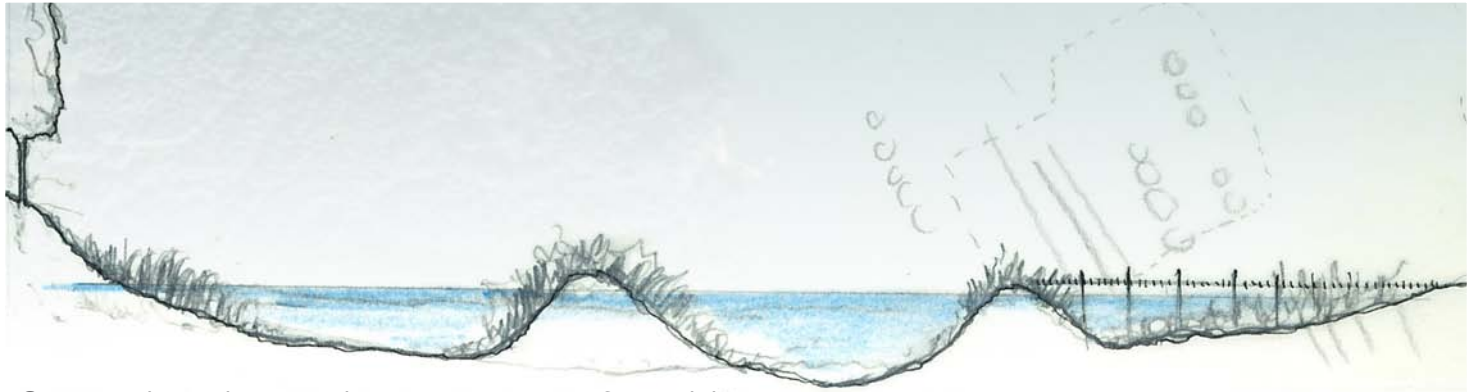
The primary estuary design intentions are: 1] Maintain current marine access, 2] Create greater habitat for more mariculture products, 3] Create market space for agri-mari nexus, 4] Provide protection from storm swells. Additionally, it is desirable to use as little energy as possible in this process. Strategic excavation will allow for the estuary to remodel itself while the community focuses on its own rebirth and reestablishment. Removal of estuary fill can further support community re-settlement and environmental protection by eliminating the need to cut into hillsides elsewhere.



Typical non-engineered river section: wetland and exposed rock edges.



Section illustrating eroding edge and an engineered edge in front of which sediment has deposited.



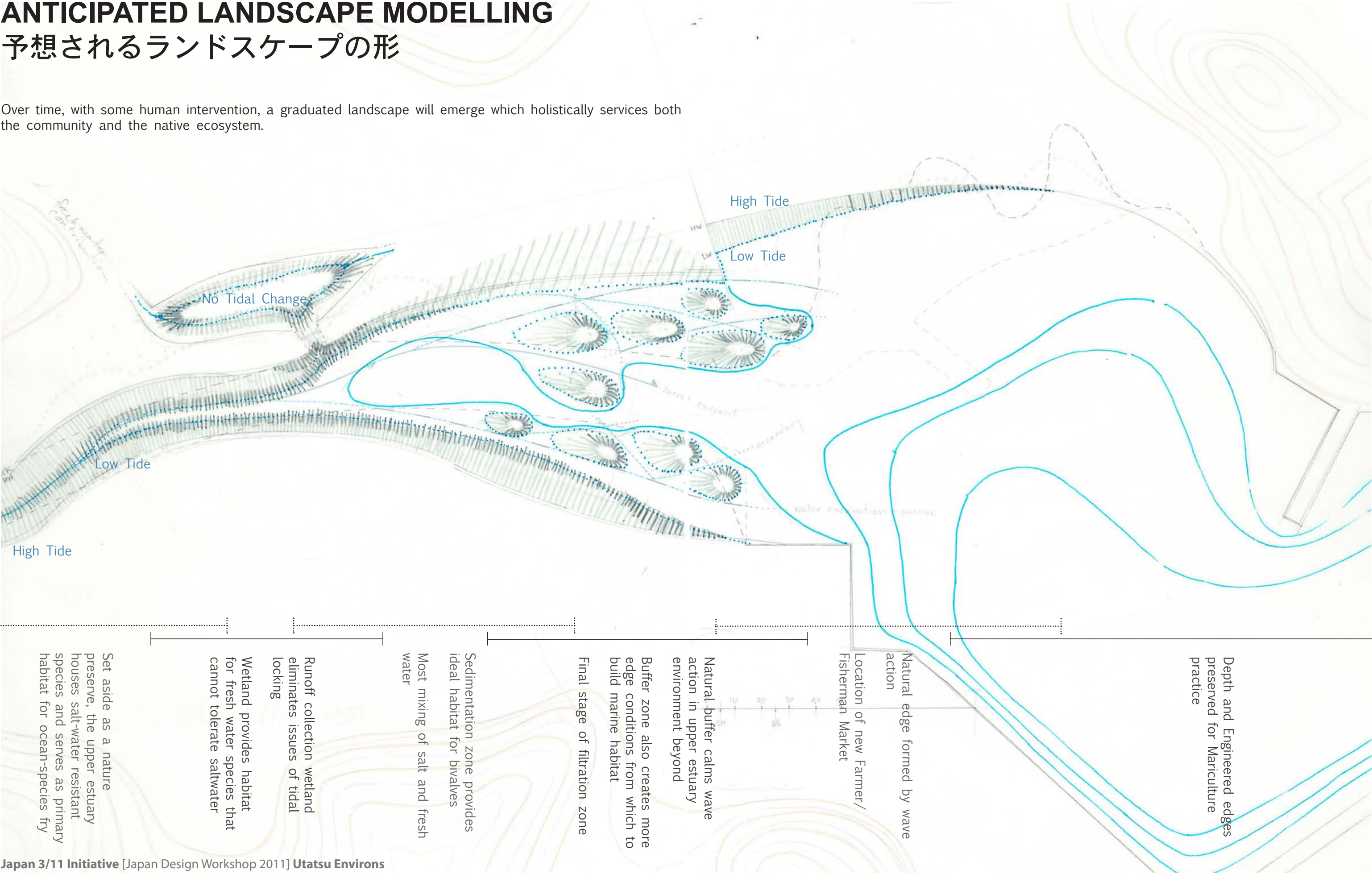
Section through natural wave protection formed by strategic fill excavations.



# ANTICIPATED LANDSCAPE MODELLING

## 予想されるランドスケープの形

Over time, with some human intervention, a graduated landscape will emerge which holistically services both the community and the native ecosystem.

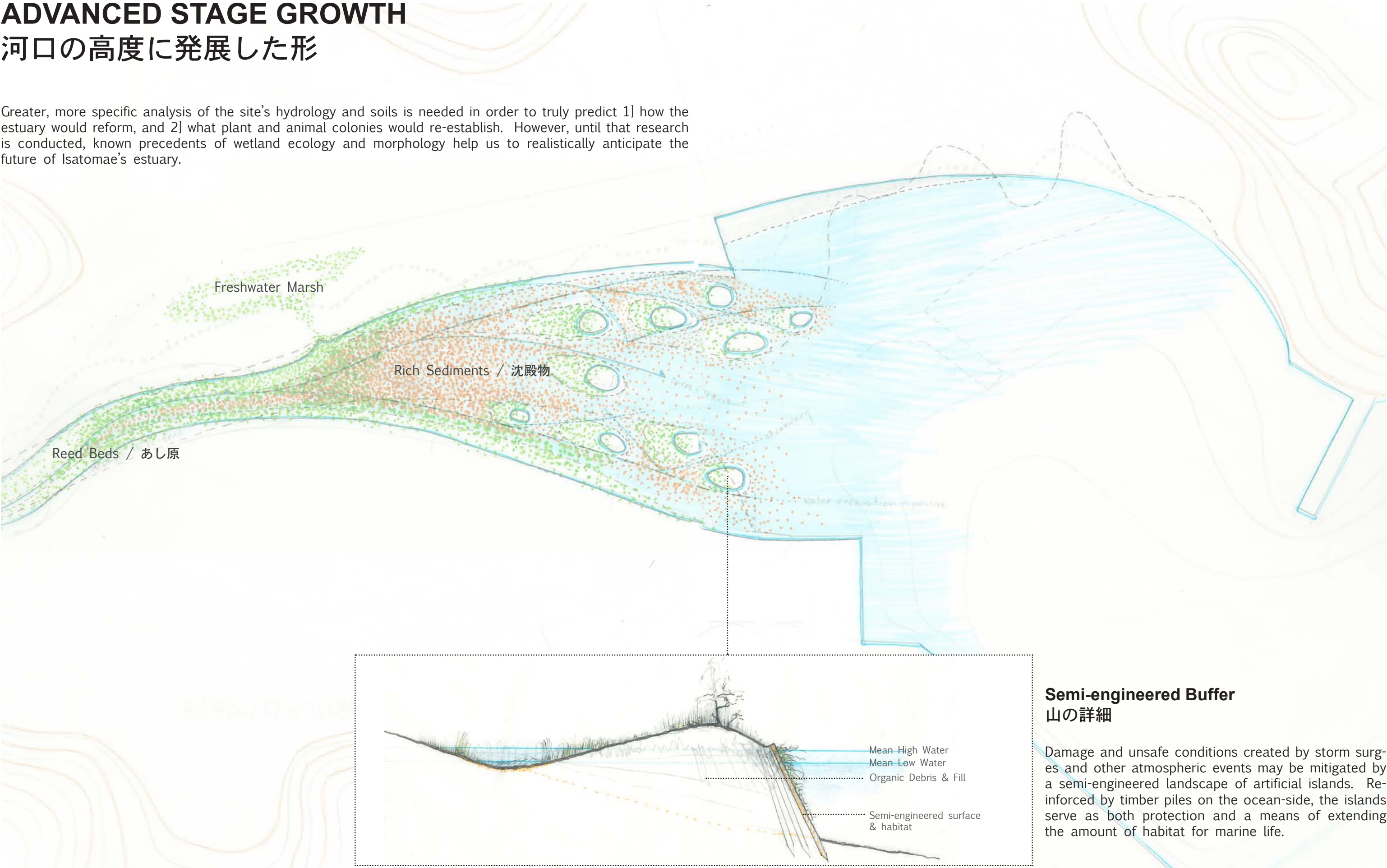




# ADVANCED STAGE GROWTH

## 河口の高度に発展した形

Greater, more specific analysis of the site’s hydrology and soils is needed in order to truly predict 1] how the estuary would reform, and 2] what plant and animal colonies would re-establish. However, until that research is conducted, known precedents of wetland ecology and morphology help us to realistically anticipate the future of Isatomae’s estuary.



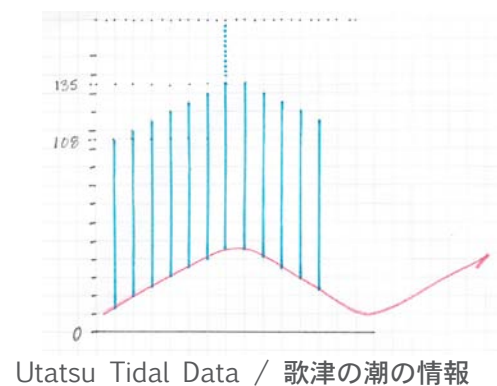
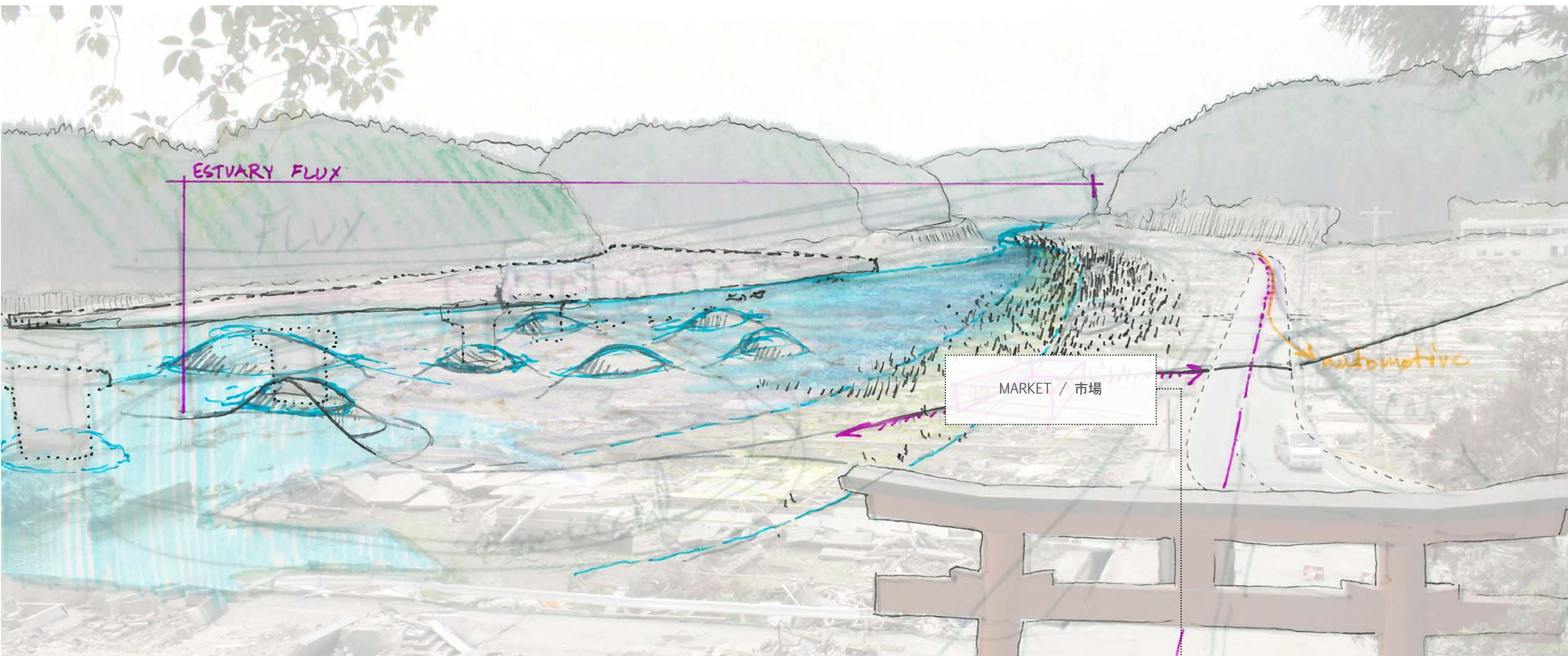


# USAGE & ENVIRONMENTAL ZONING

## ゾーニング

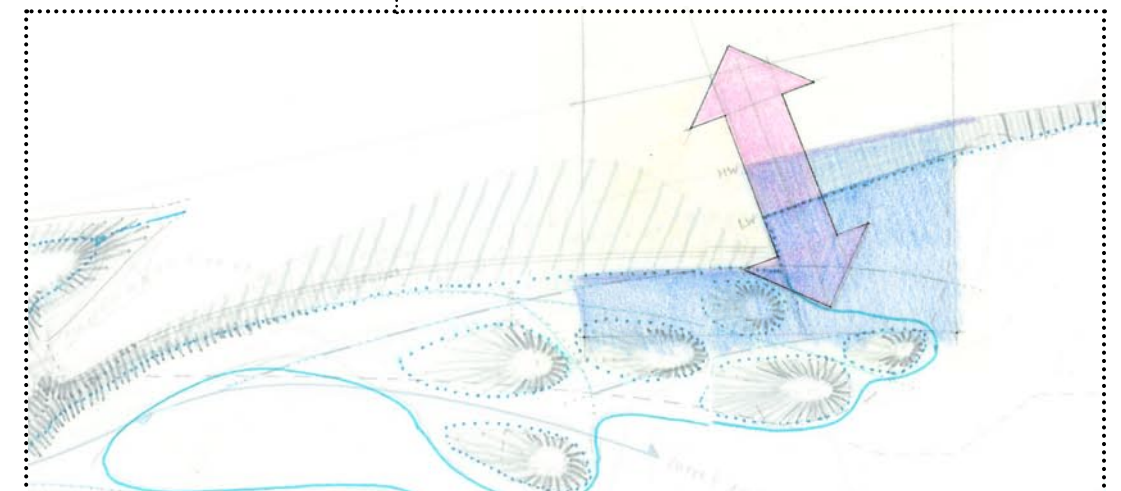






## Market: A Community Clock 集落にとっての時計としての市場

As a means of bringing awareness of the dynamic fluctuation of salt and fresh water back into the minds of residents, the estuary will host a weekly market. This will be a space of re-invention and experimentation. The market will bring both farmers and fishermen together, as well as friends and strangers. Most importantly, the market will respond to the tidal dynamics of the estuary. Through physically illustrating sea changes, the market will re-link the community to its environmental base and serve as a 'community clock'.

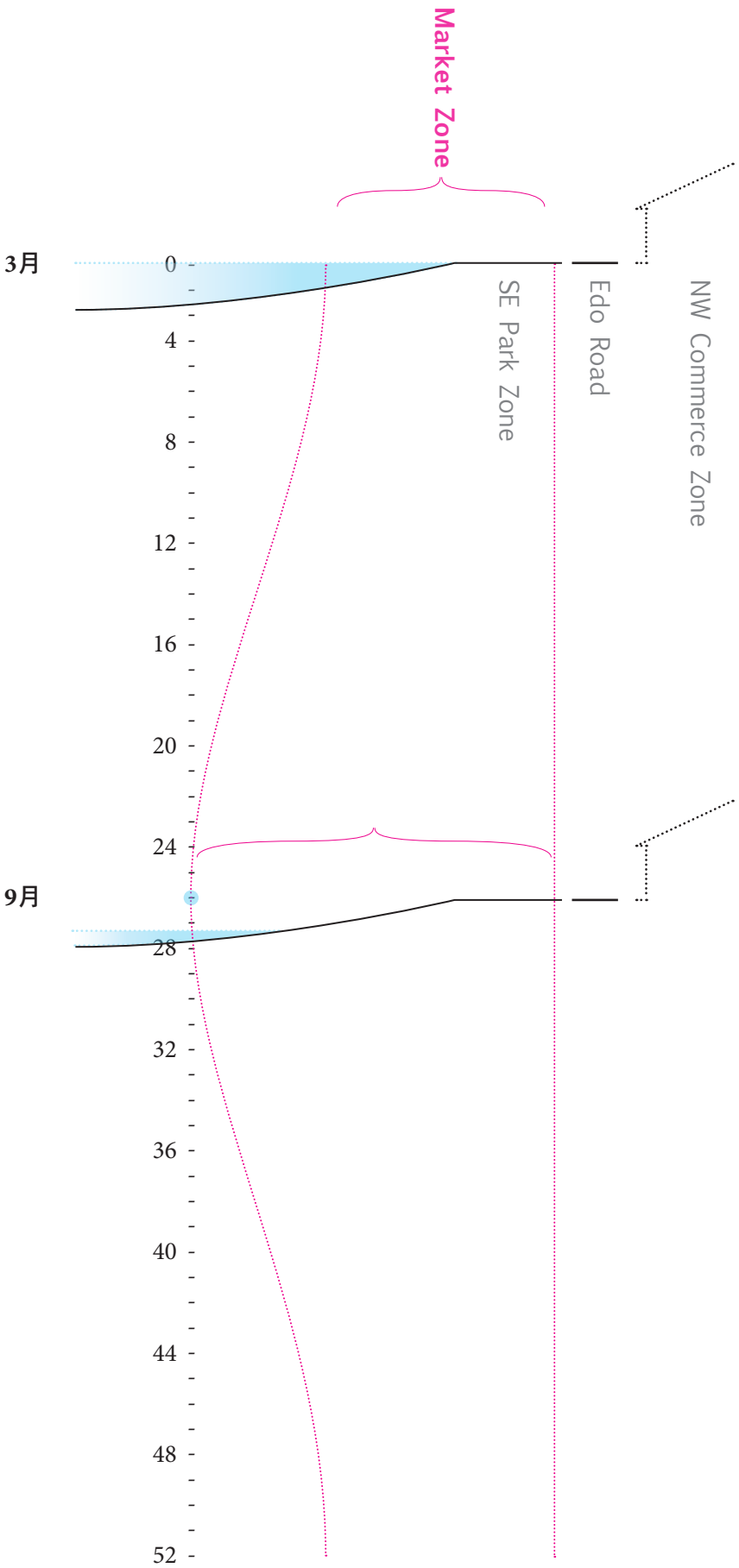




# Conceptual Movement: Market Timing

## 概念的な動き：市場の時期ごと

A mobile market serves as the cultural nexus between agriculture and mariculture, as well as an illustration of natural, inevitable, hydrologic forces. Further design research will help us to answer the question: What kind of architecture can best respond to the demands of such a site and program? The following factors must be of primary concern: 1] change can only be perceived through the relative relationship of a static point and an active one, 2] designing for impermanence and the long-term health of the estuary, and 3] the physical capabilities of the market customers and operators.



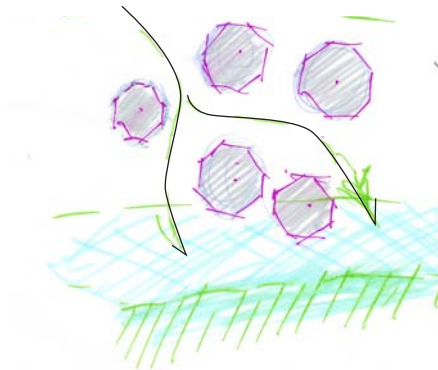
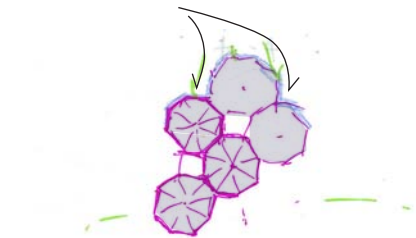
### Market-Architecture Concepts

#### 考えられる市場の建築の形

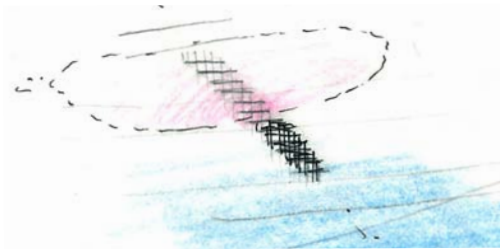
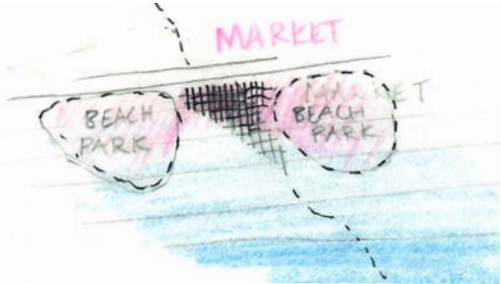
Assemblage of Uniform, Mobile Units:

High Tide

Low Tide



Fixed Grid with Transferable Parts & Universal Connections:



Hybrid of Fixed Grid & Mobile Units:

