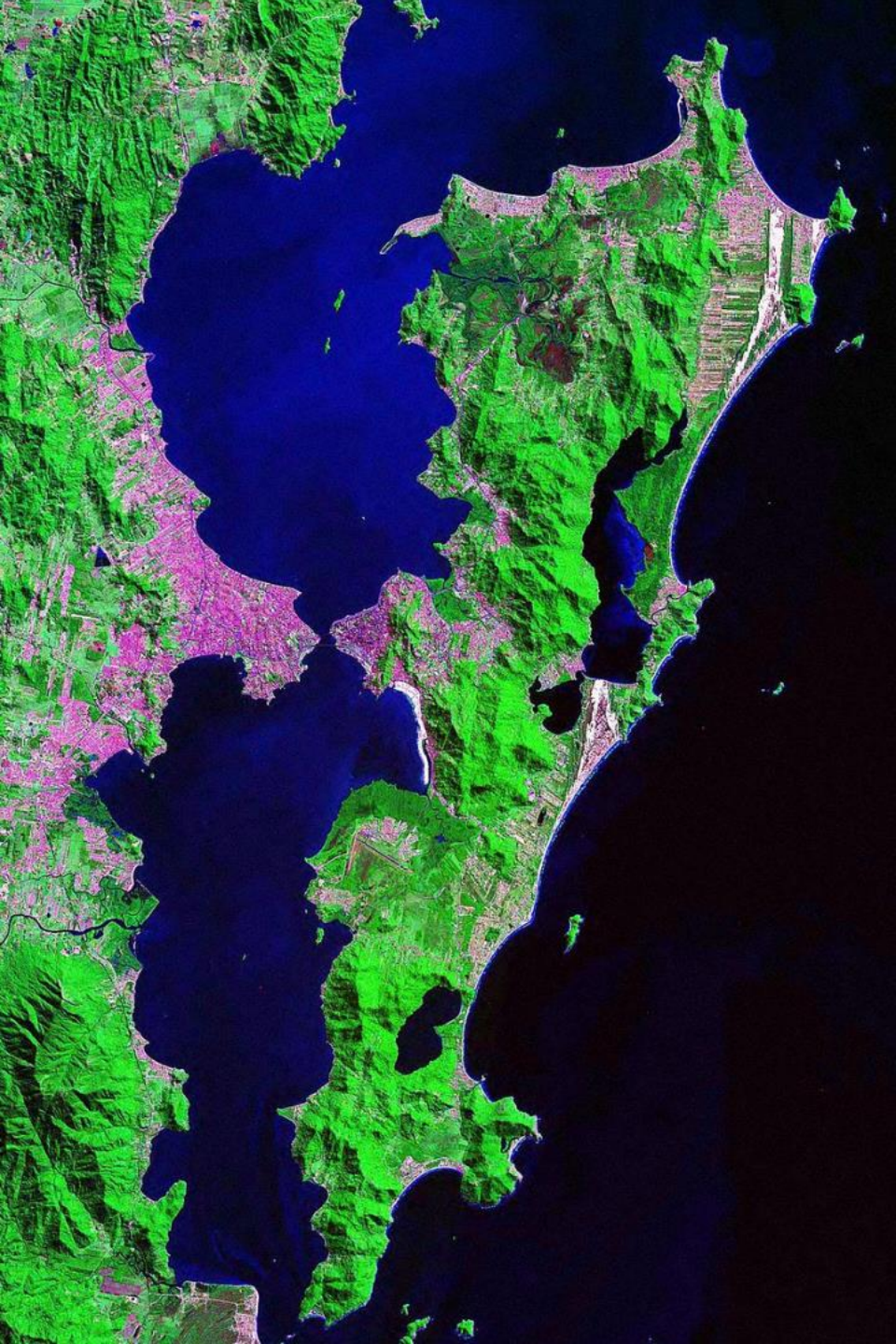




Florianópolis



Which city is this?

42 beaches

600.000 inhab

4 regions

1.000.000 inhab on summer

aprox. 80.000 argentines

Canas
vieiras??

and now
Leo?



Which city is this?

during COVID pandemic
restrictions many people
moved to coastal cities.





6 WWTP

2 tertiary | 4 secondary

2 short outfalls

2 small rivers discharge
(no dilution design |
mangroove sites)

2 rapid infiltration
basins



8 WWTP

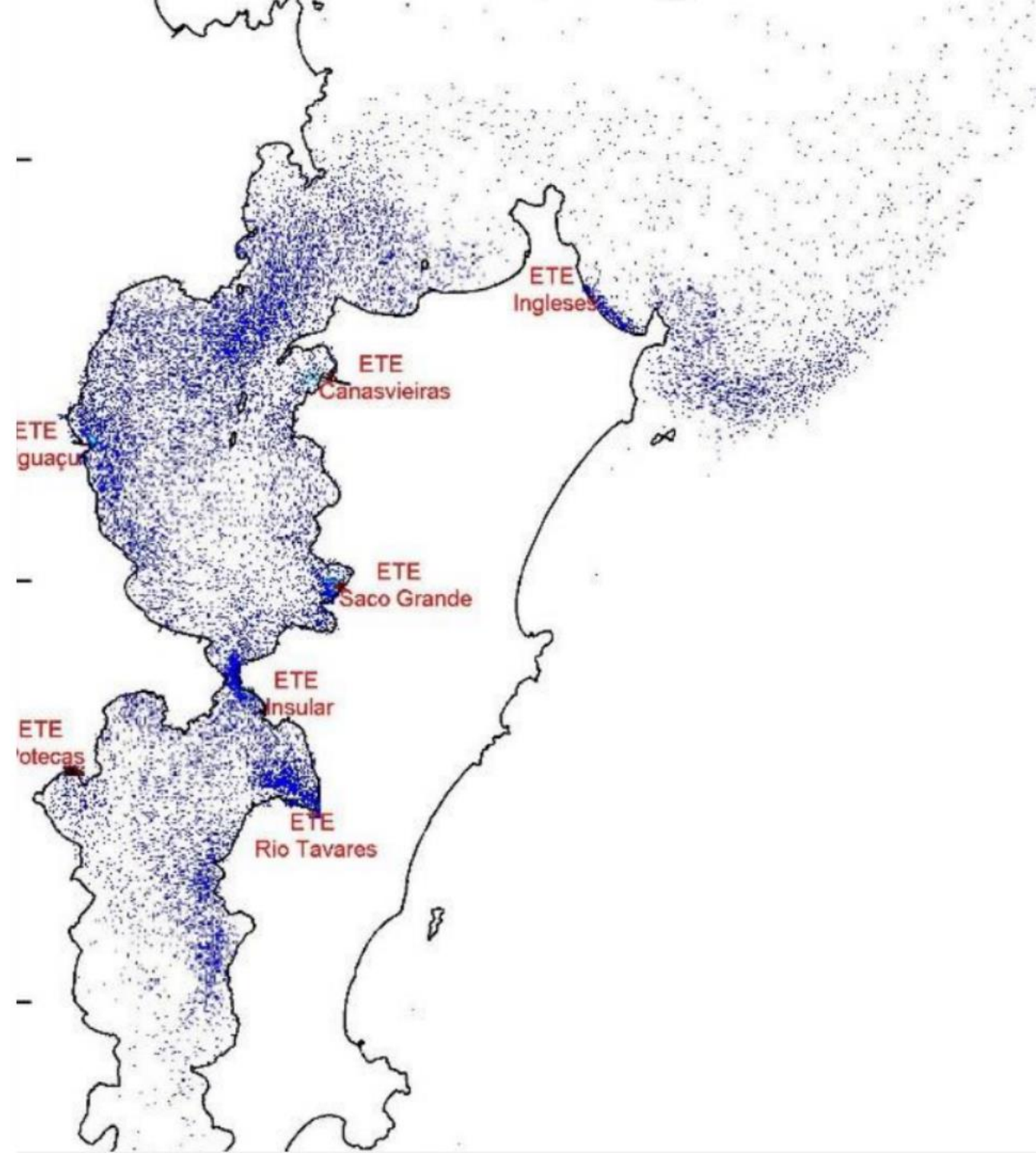
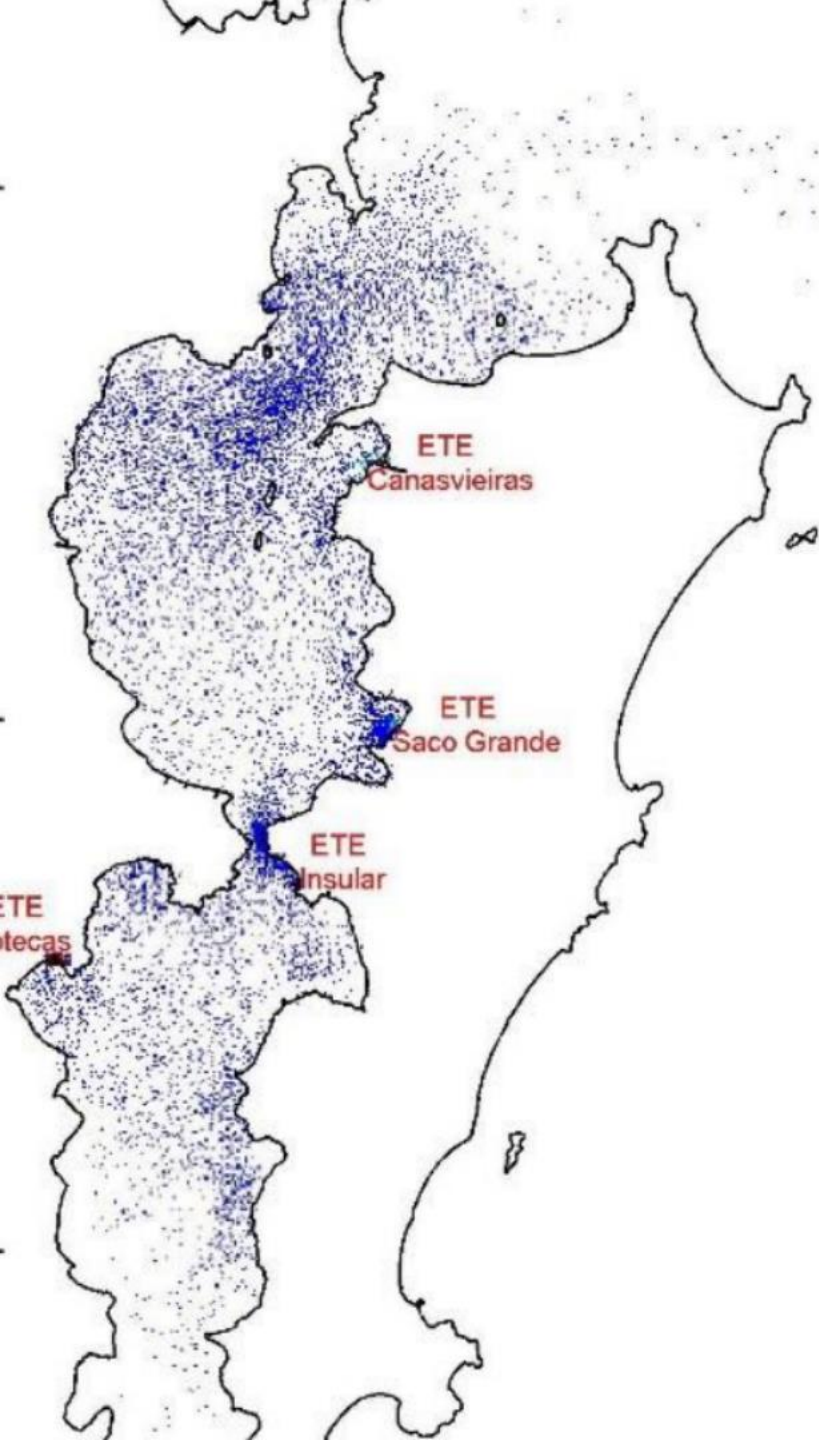
5 works in progress
[2 new + 3 upgrade]

7 tertiary | 1 secondary

2 short outfalls

4 small rivers discharge
(no dilution design)

2 rapid infiltration
basins







**semi
closed
bays**

atlantic

**semi
closed
bays**





**mang
rove**

**granite
hill**

**mari
culture**

**mang
rove**

An aerial photograph of a vast mangrove forest. A wide, winding river with reddish-brown water flows through the center of the forest. The trees are a dense, vibrant green. In the background, there are several rounded hills or mountains under a blue sky with scattered white clouds. The overall scene is a natural, undisturbed landscape.

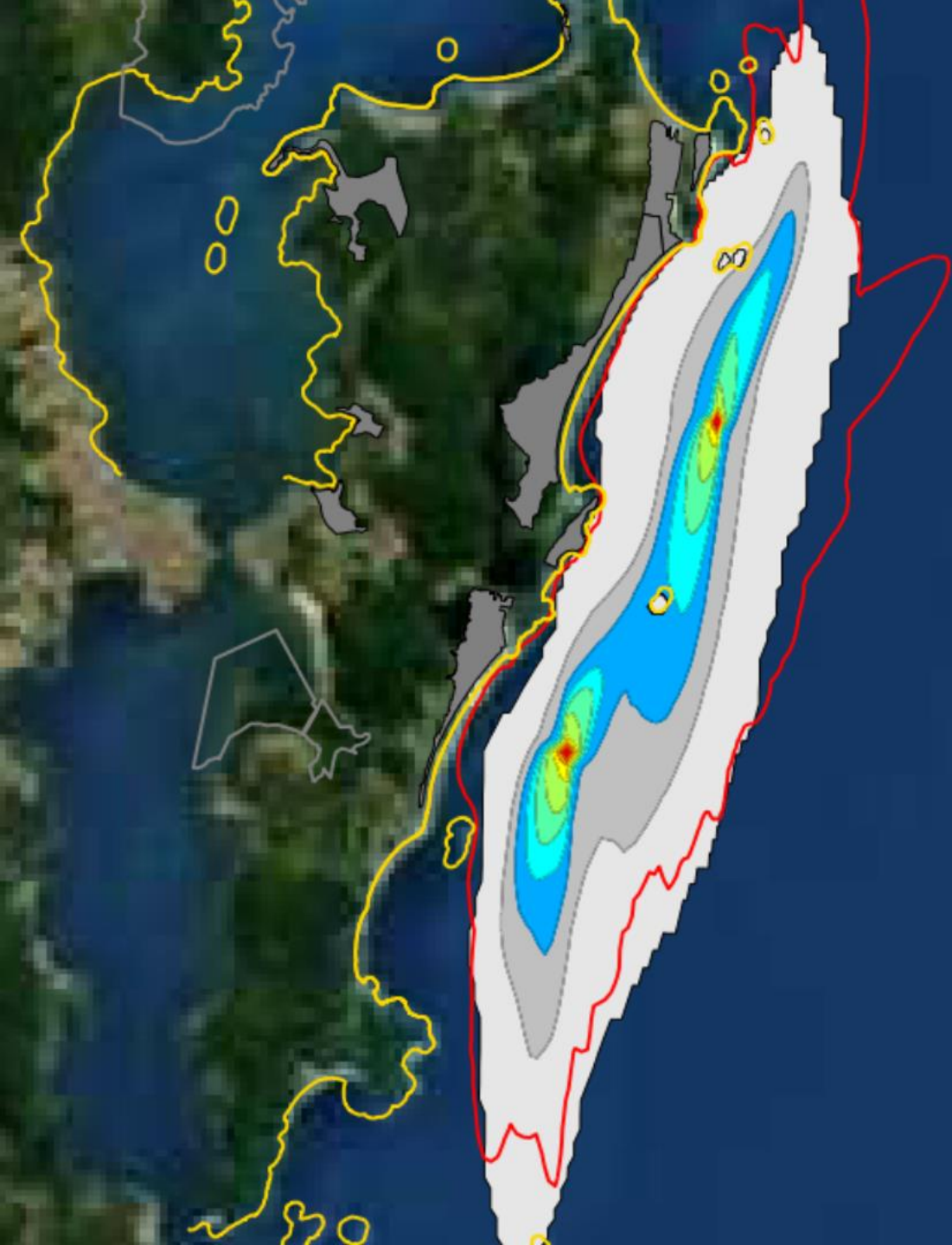
Mangroves

An aerial photograph of a mariculture farm. The water is a deep blue, and numerous dark, dome-shaped floats are arranged in long, parallel rows across the surface. In the background, a coastline with buildings and mountains is visible under a clear sky. The word "Mariculture" is overlaid in the center in a large, white, bold font with a grey drop shadow.

Mariculture







**4 outfall environmental
assessment studies**

2 desing studies

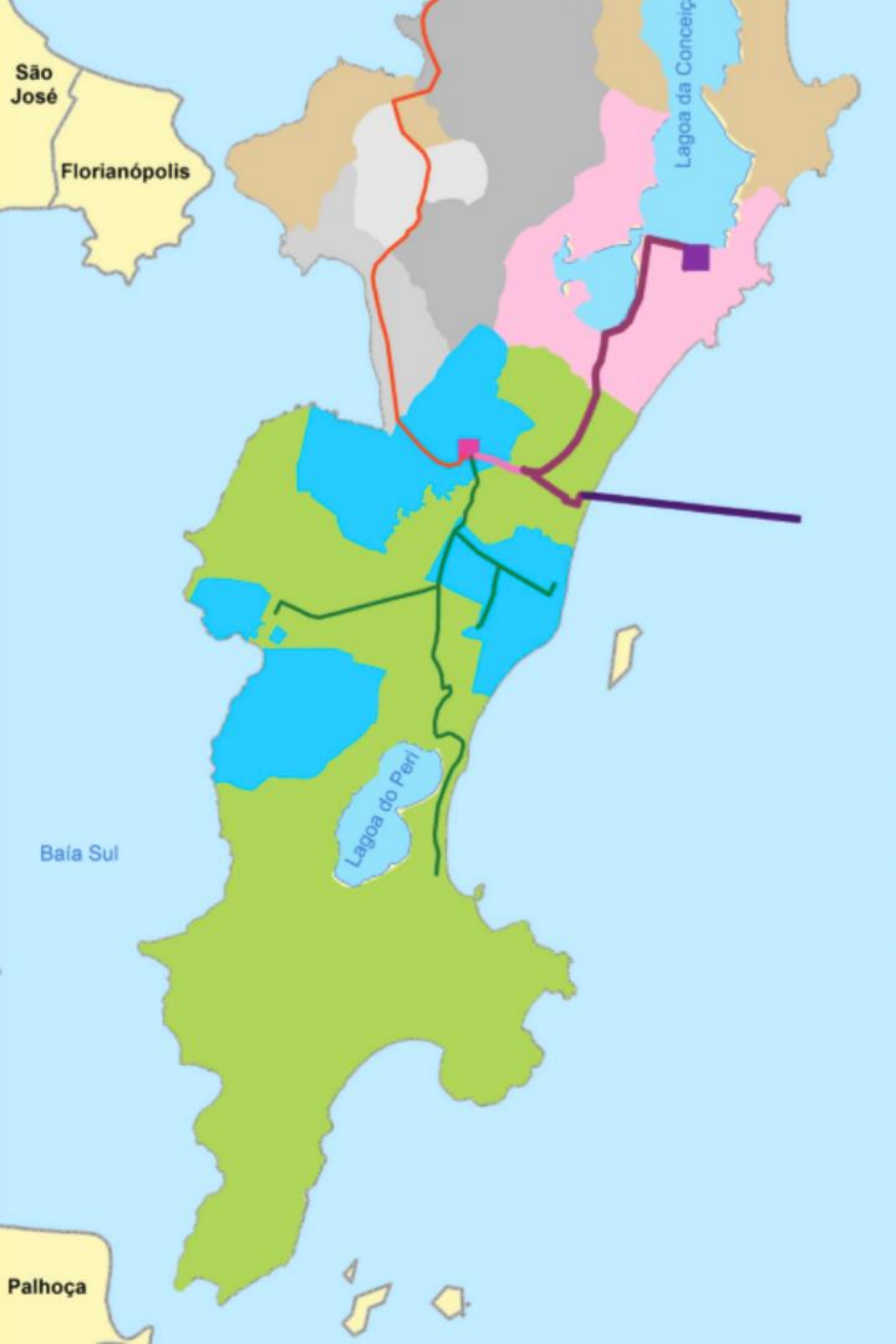
extensive modelling

huge data collection

- **currents**
- **density**
- **water quality**
- **biological indicators**

we
flopped





The southern outfall

Environmental assessment report magazine

separated sewers

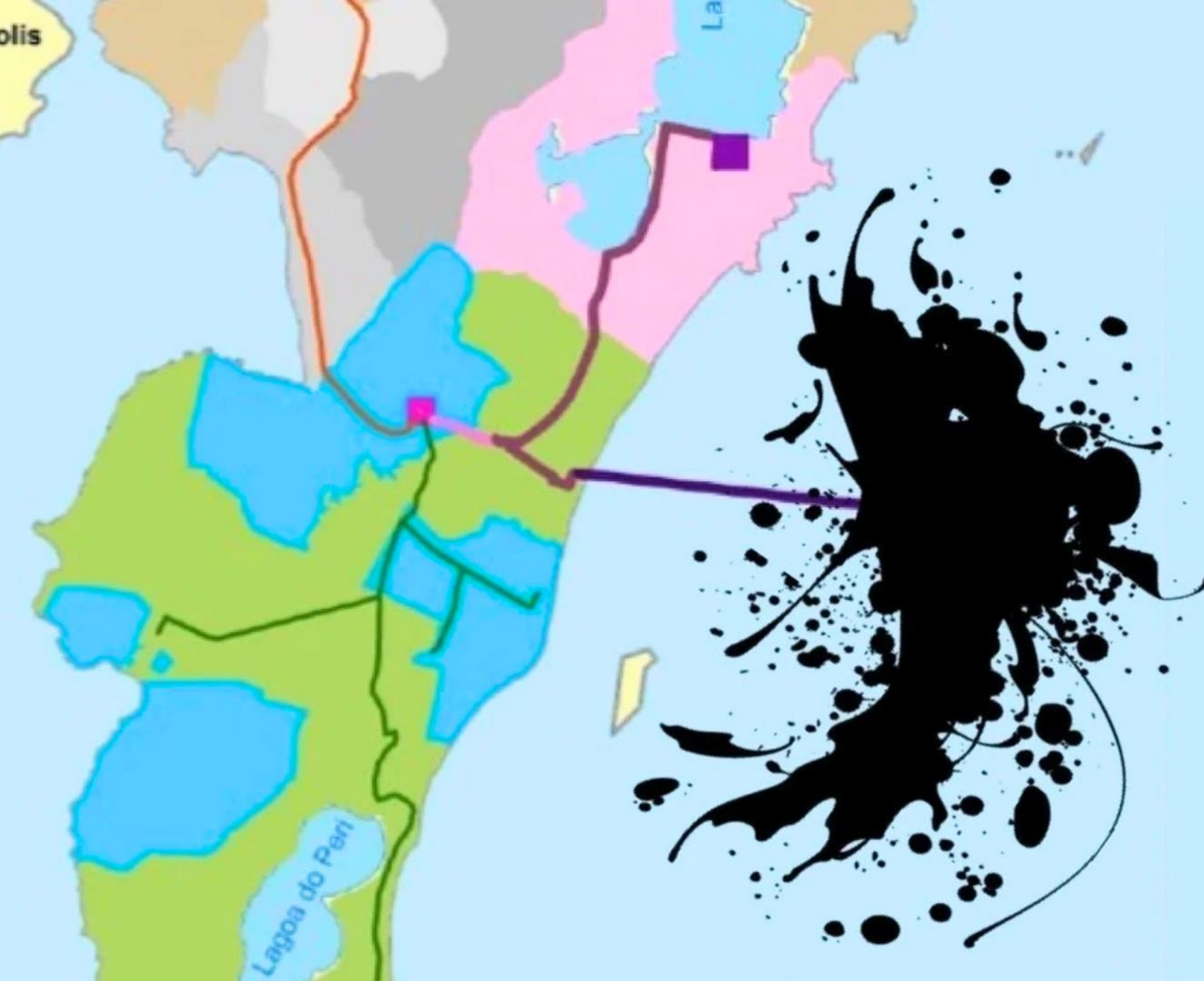
1 m³/s = 23 MGD

5.5 km from the coast

3 implementation steps

high suspended solids removal

desinfection as risk control



Say **NO** to
Outfall!!

An aerial, black and white photograph of a coastal city. In the foreground, a body of water curves along a road and a small island. The middle ground is filled with dense urban buildings. In the background, a hill is topped with several tall, thin structures, possibly antennas or towers. The sky is filled with dramatic, dark clouds.

**inappropriate technology...
overcome solution...
not used anymore...
not a sustainable solution...**

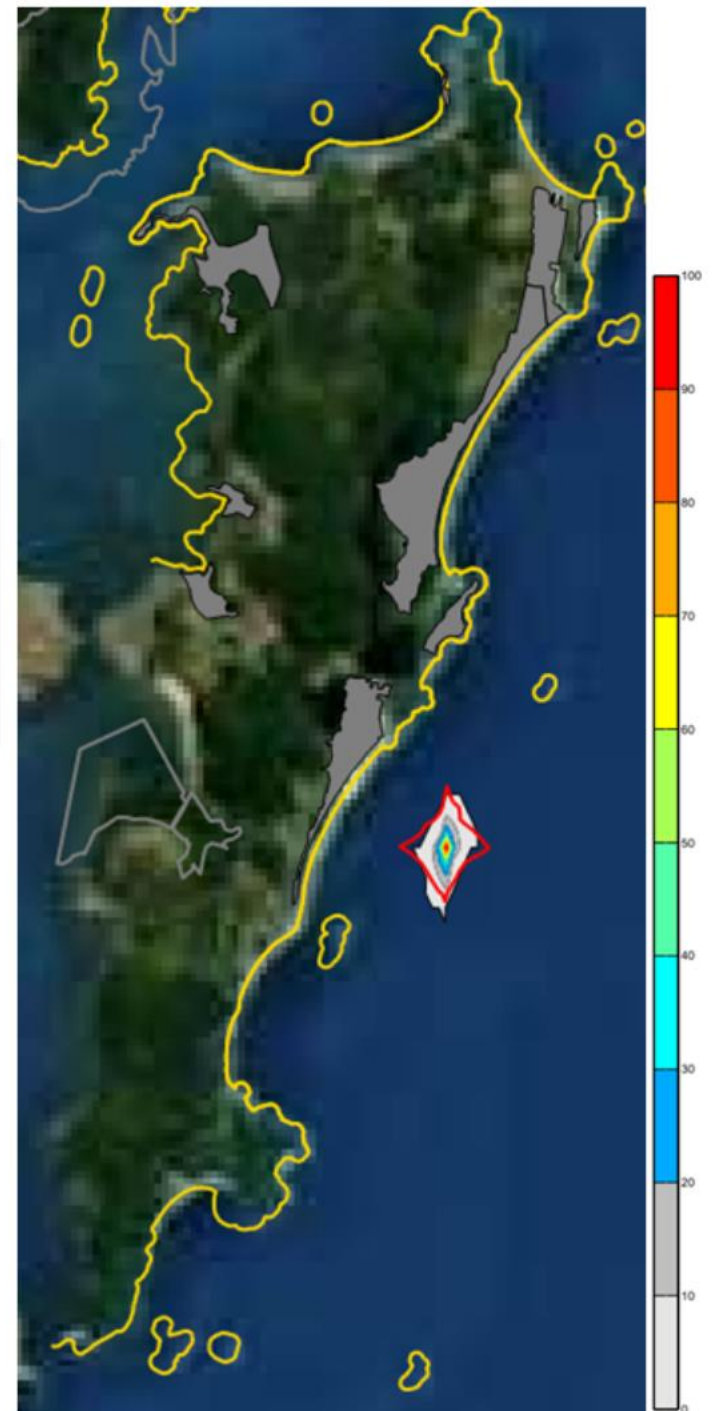
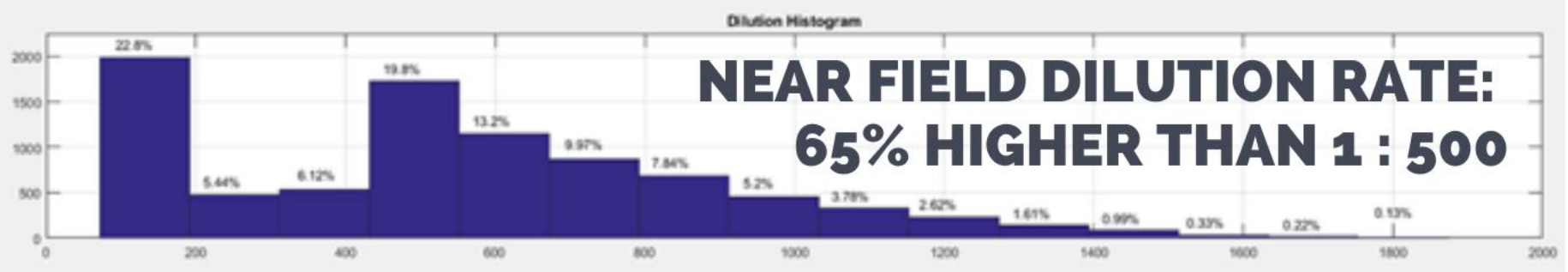
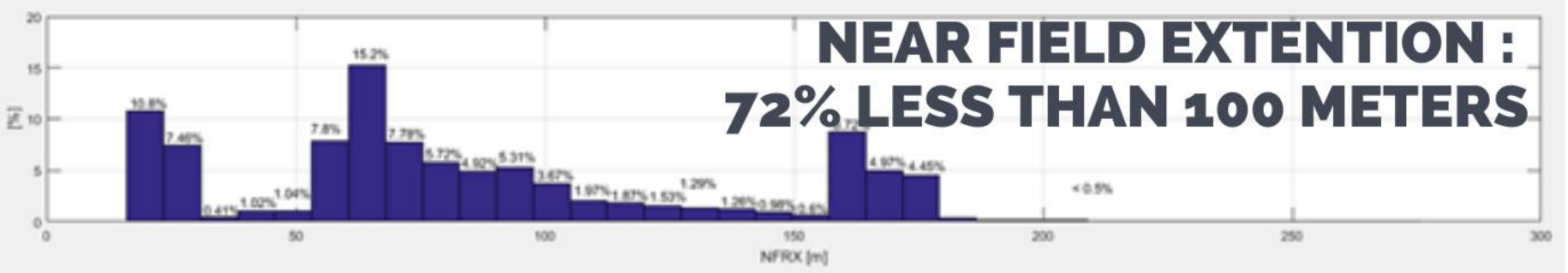
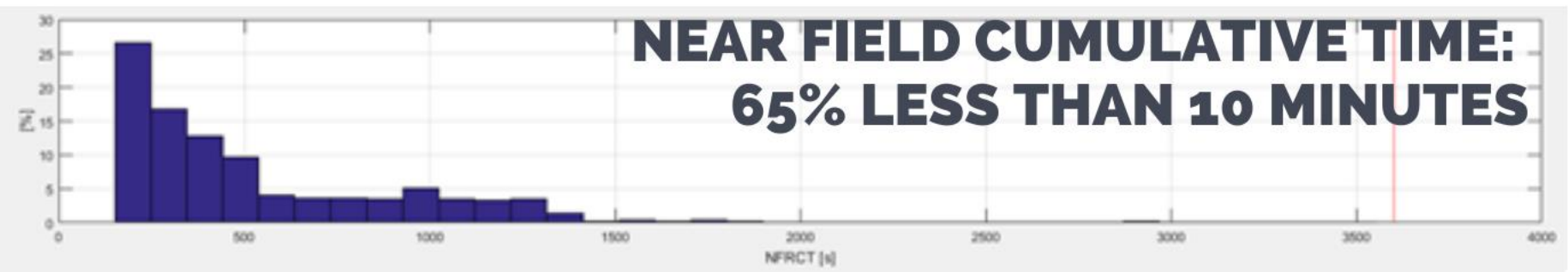
HUNTINGTON



BONDI



is this a bad outfall?



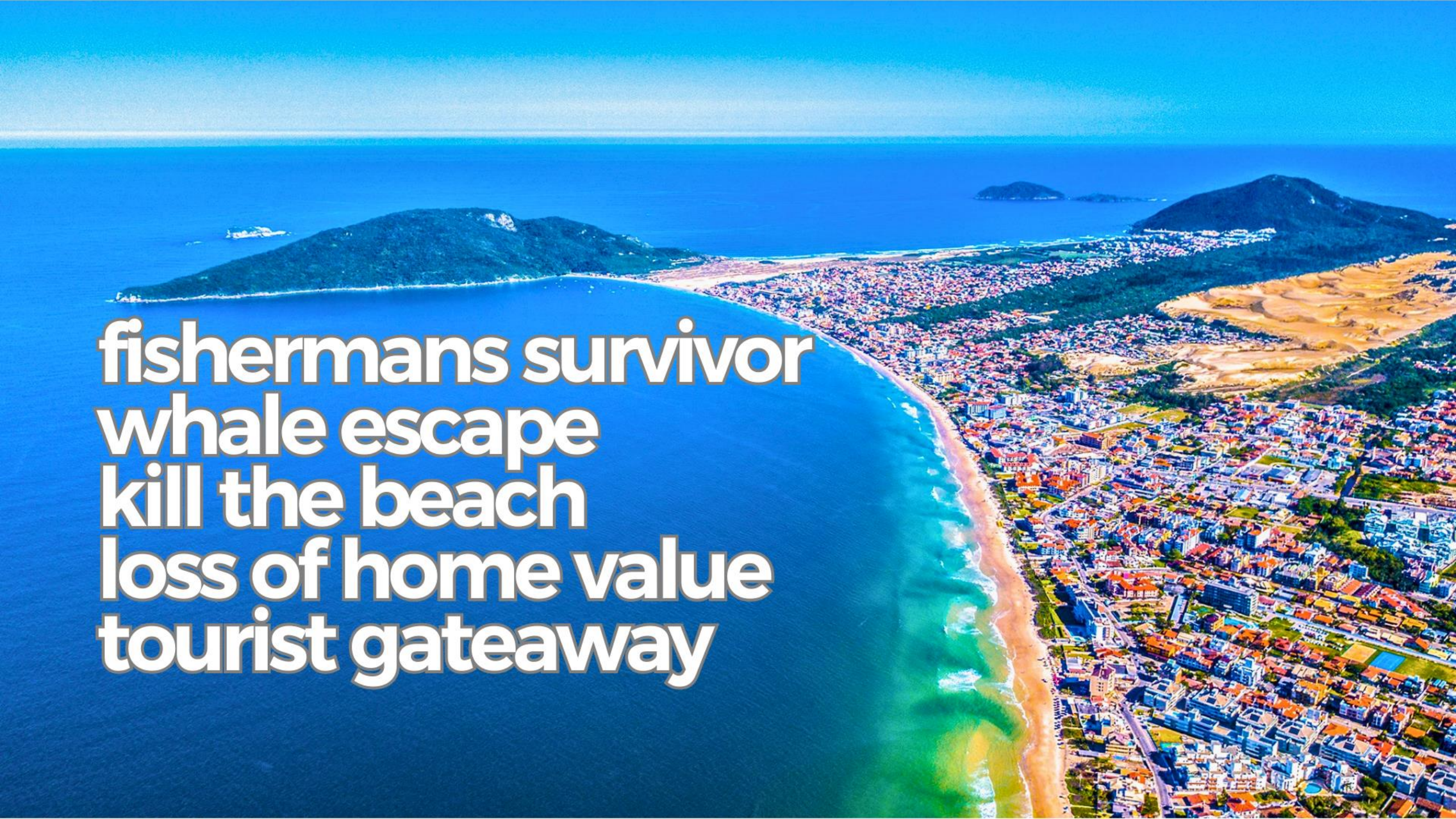


Public perception



SANEAMENTO
SIM
EMISSÁRIO
NÃO



An aerial photograph of a coastal town and beach. The town is densely packed with buildings, mostly with red-tiled roofs, and is situated on a hillside overlooking the ocean. A wide, sandy beach runs along the coast, with waves breaking onto the shore. In the background, there are several large, dark green hills or mountains. The sky is a clear, bright blue. The text is overlaid on the left side of the image, in a large, white, bold font with a black outline.

**fishermans survivor
whale escape
kill the beach
loss of home value
tourist gateway**



**What they are
really trying to
tell us?**



**public
perception
survey results.**



1,077
interviews

HOME CONDITIONS

SOCIOECONOMICAL PROFILES

PUBLIC ORGANIZATION

USES OF THE BEACH AND SEA

SANITATION INFRASTRUCTURE

SERVICE DELIVERY PERCEPTION

uses leisure
of the family
beach fun
joy





83% approve
home sanitation
infrastructure

2.5%
rejection



57% approve
street sanitation
infrastructure

15.4%
rejection



65% dont
know
city sanitation
service provision



3% approve
city sanitation
service provision

16.6%
rejection

narrative constuction.

100

75

50

25

0

HOME

NEIGHBORHOOD

CITY

approval

rejection



narrative constuction.

100

75

50

25

0

self
protection
for adverse
evaluation.

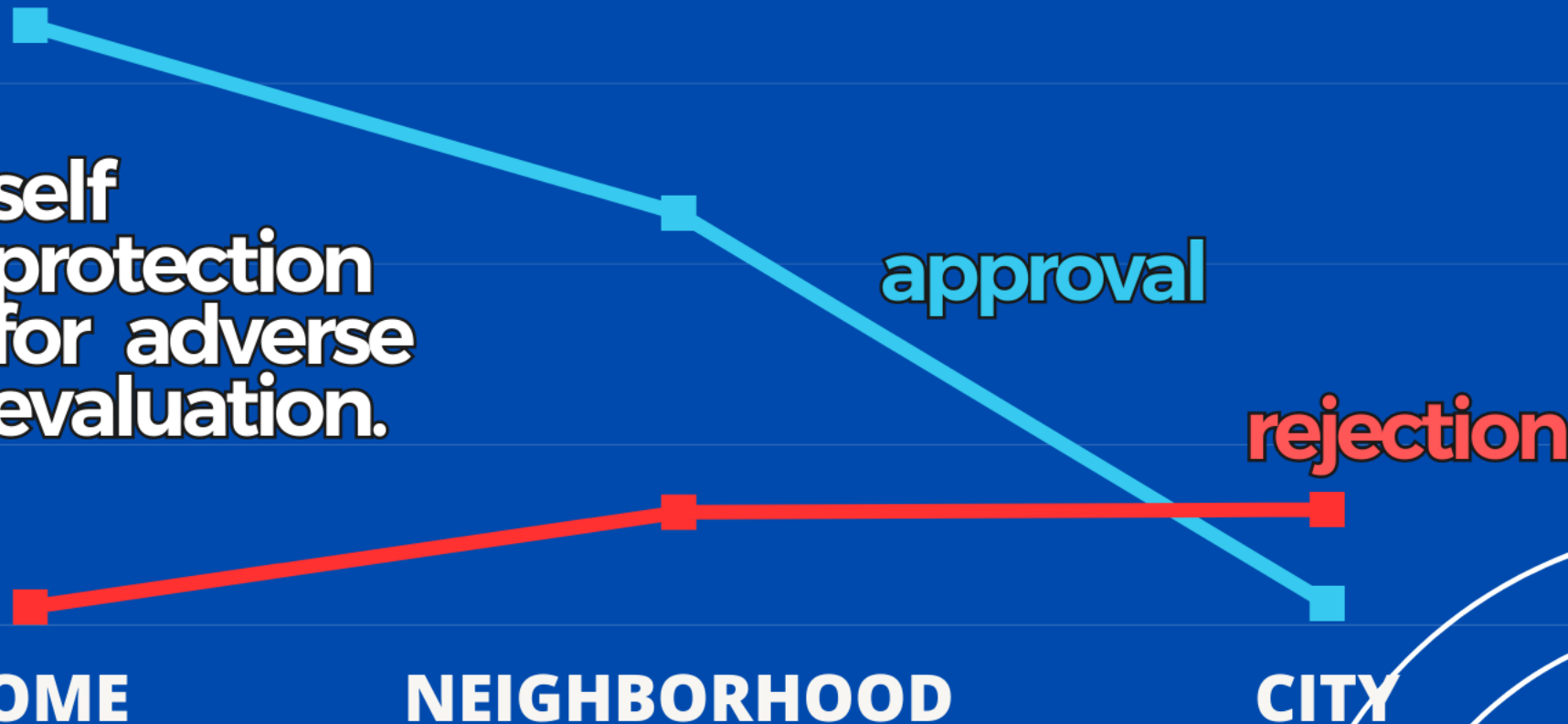
approval

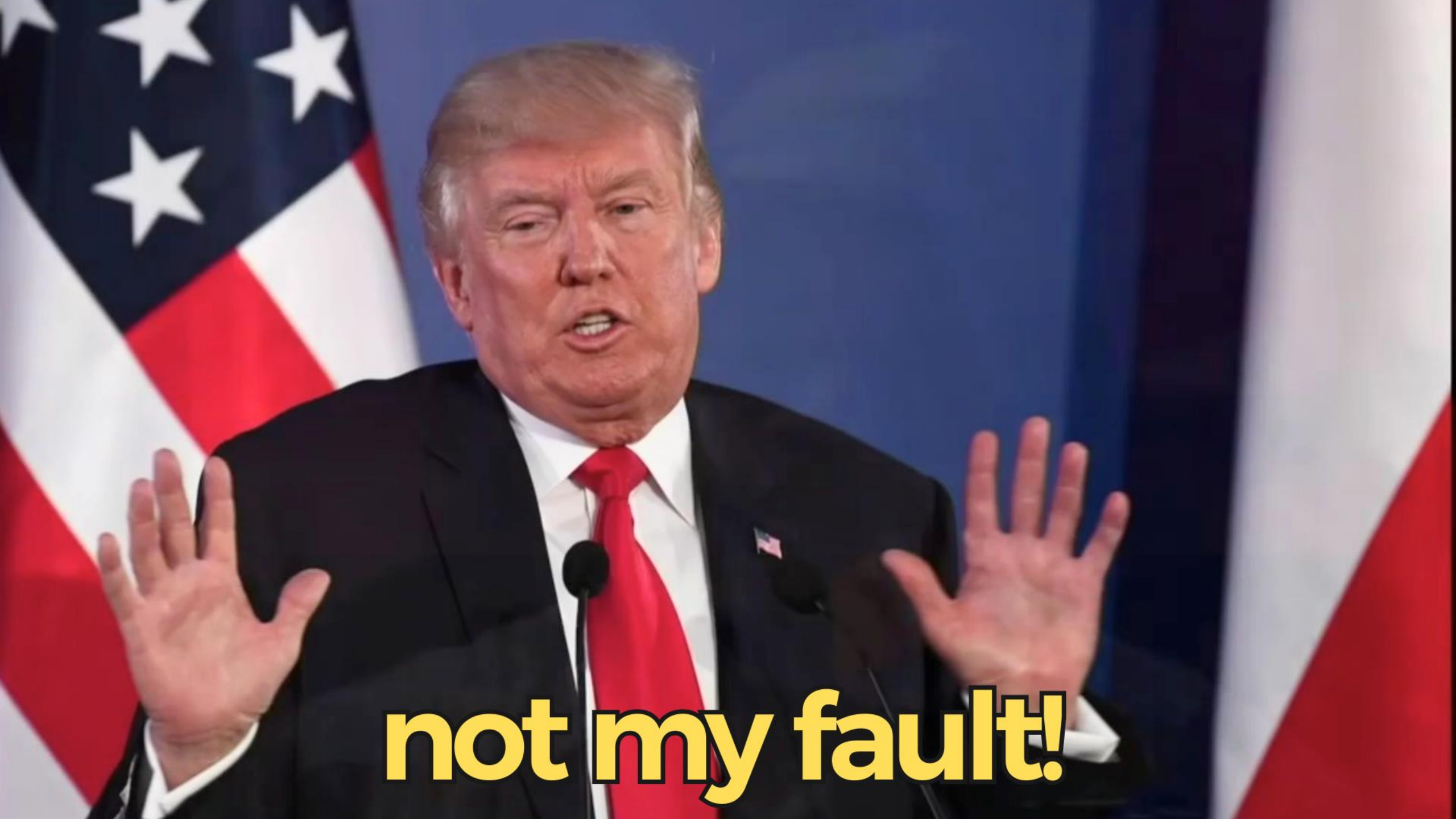
rejection

HOME

NEIGHBORHOOD

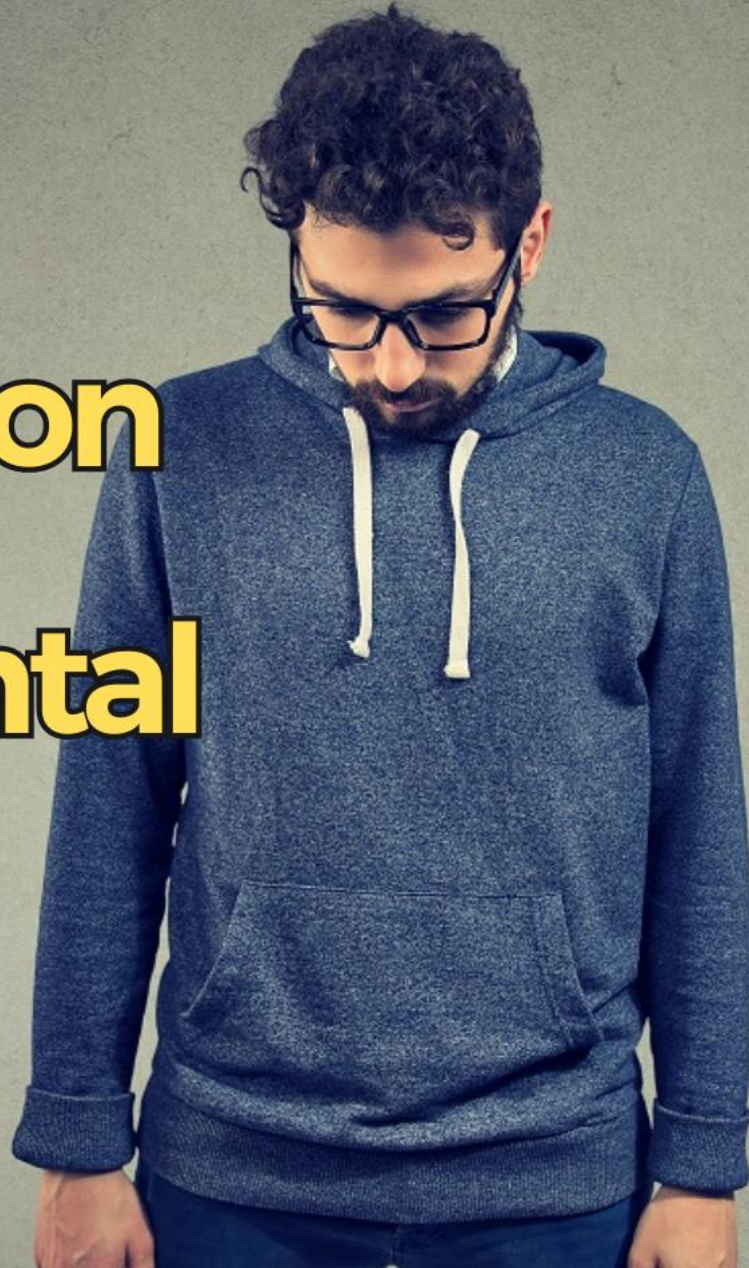
CITY





not my fault!

**personal
disconnection
about
enviromental
problems.**





public meetings
deputy commissions
city hall discussions
technical symposiums
touristic trade audiences
personalized presentations
neighbourhood appointments

The image features three chimpanzees against a solid blue background. The chimpanzee on the left has its hand to its forehead in a thoughtful or distressed pose. The middle chimpanzee looks directly at the viewer with a neutral expression. The chimpanzee on the right has its hand near its mouth. Overlaid on the image are two lines of white text with black outlines. The top line reads: "no need for more information and no willingness to dialogue." The bottom line reads: "we know there is a problem, and someone need to fix it!"

**"no need for more information
and no willingness to dialogue."**

**"we know there is a problem,
and someone need to fix it!"**




"there is not time to face technical influences and their logically correct but socially incomprehensible arguments."

**"beaches are
contemplative, edenic
and untouchable places
isolated from city reality."**

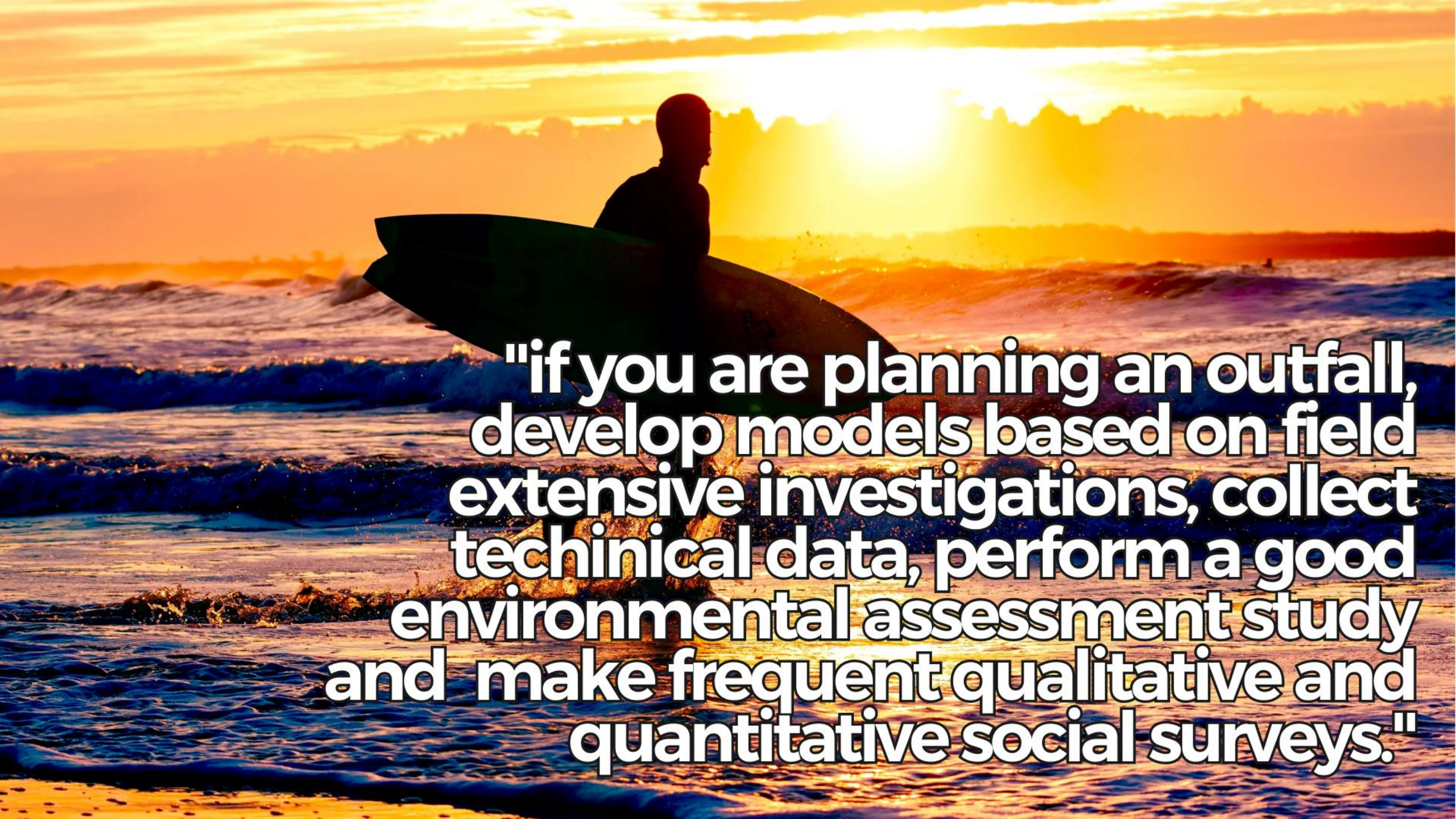


"transparent water with healthy fishes perform a dreamy lifestyle in a perfect environment."



Three brown paper shopping bags with handles are arranged against a green background. The bags are slightly overlapping, with the middle one being the largest and most prominent. Each bag has a small circular detail near the top where the handles are attached. The text 'TAKE HOME' is printed in a bold, dark font across the front of the bags.

TAKE HOME

A silhouette of a person holding a surfboard, standing on a beach looking out at the ocean during a vibrant sunset. The sky is filled with warm orange and yellow light, and the water shows gentle waves. The text is overlaid on the lower right portion of the image.

"if you are planning an outfall, develop models based on field extensive investigations, collect technical data, perform a good environmental assessment study and make frequent qualitative and quantitative social surveys."

**"and when you decide
to make it, do it fast."**





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