BLUE GOLD

LUDO CAMPBELL-REID
Manager Environmental Strategy & Policy
Auckland Council

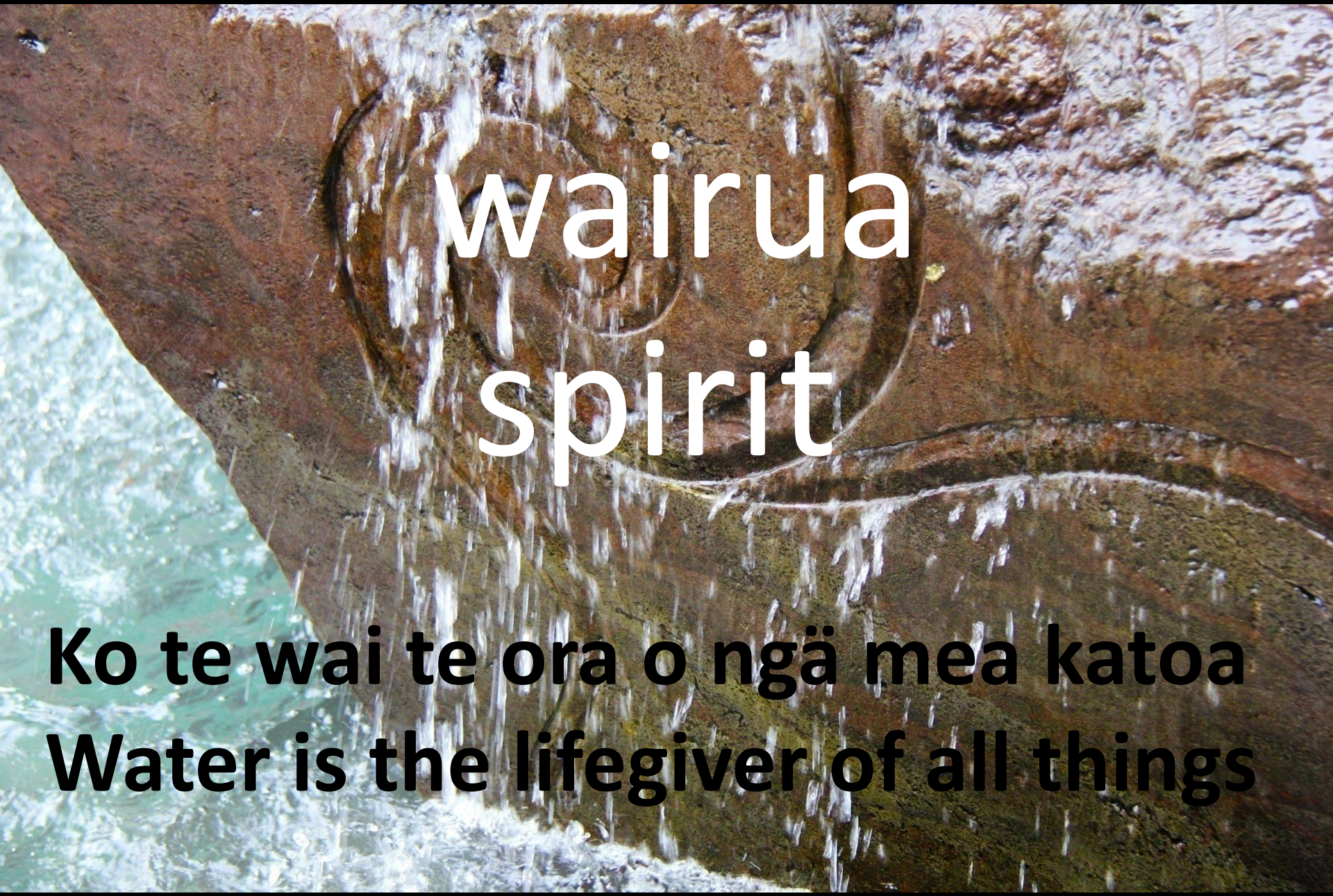

tranquility
serenity
peace
therapy

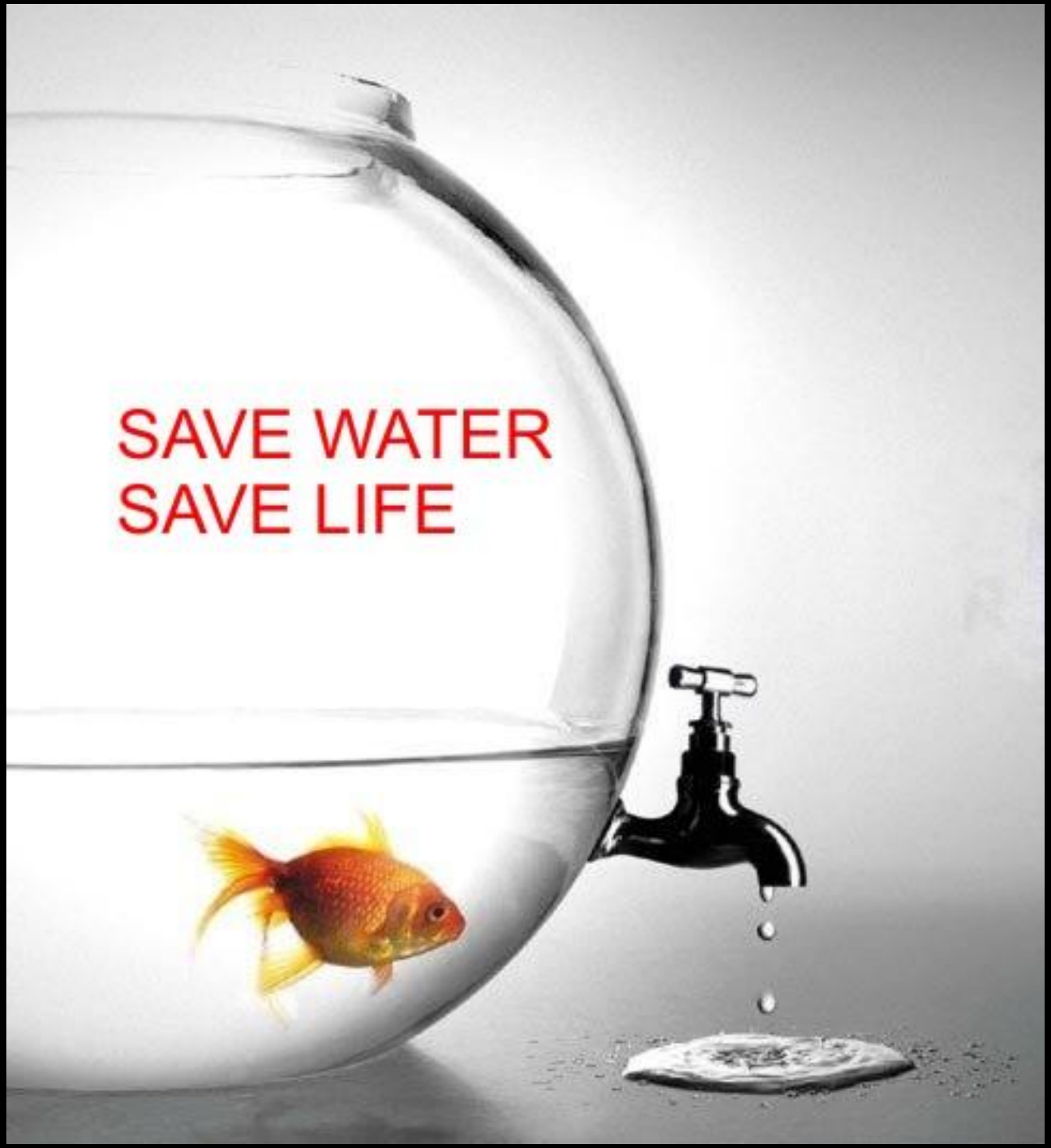

JOY


elation


fascination


play


wairua
spirit
Ko te wai te ora o ngä mea katoa
Water is the lifegiver of all things

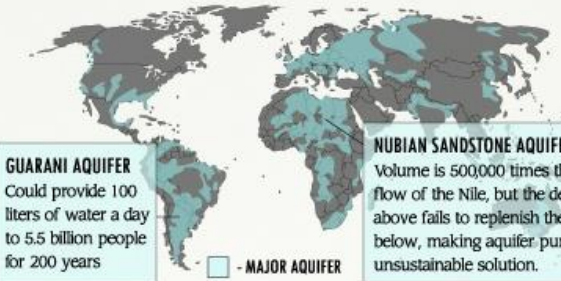

SAVE WATER
SAVE LIFE

Glass HALF EMPTY

THE COMING WATER WARS

DOES THE SOLUTION LIE BENEATH US?

As lakes and rivers run dry and Earth's surface water disappears, the solution might lie beneath us, in the vast (and largely untapped) network of underground aquifers. The United Nations cites over 23,400,000 km^3 of water in aquifers, 547 times more than all of Earth's rivers combined. 98% of Earth's accessible water is thought to reside in aquifers, much of it "fossil" water more than a million years old. Until recently deep aquifer pumping was out of the question (a cubic yard of water weighs one ton), but core-drilling technologies developed by the oil industry are changing the picture. Many of these aquifers span national borders, making access rights a huge matter of contention, and possibly a cause for future conflict.



GUARANI AQUIFER
Could provide 100 liters of water a day to 5.5 billion people for 200 years

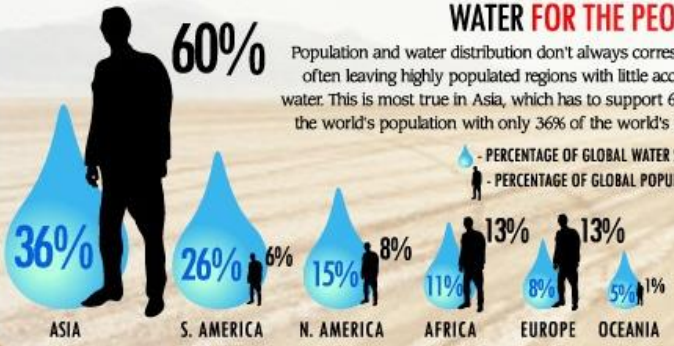
- MAJOR AQUIFER

NUBIAN SANDSTONE AQUIFER
Volume is 500,000 times the annual flow of the Nile, but the desert climate above fails to replenish the aquifer below, making aquifer pumping an unsustainable solution.

EVERY MINUTE, 7 PEOPLE DIE FROM BAD WATER OR NO WATER

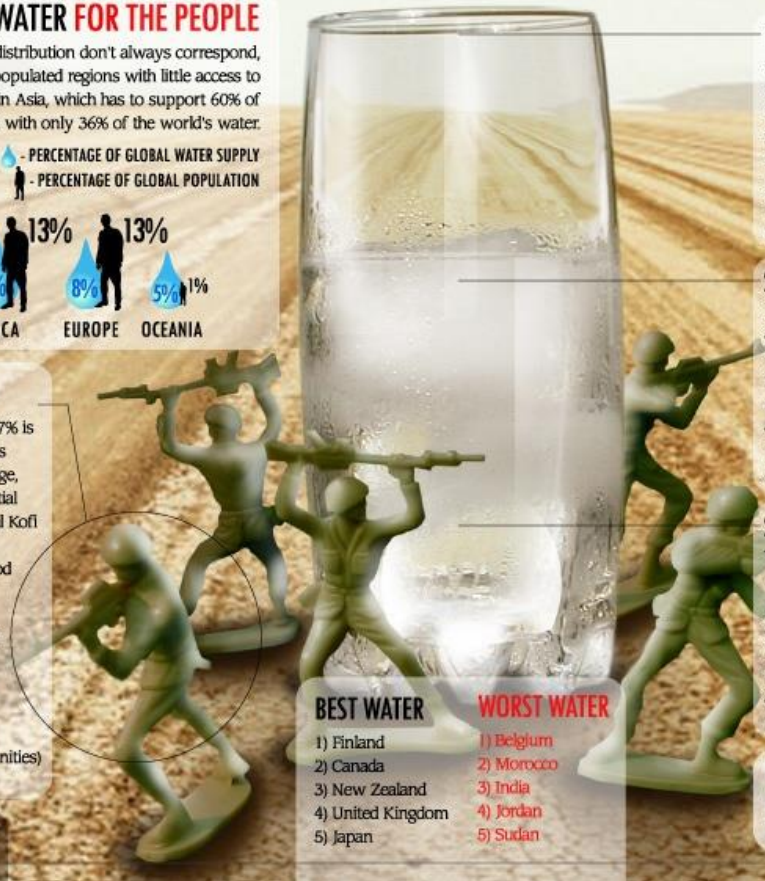
WATER FOR THE PEOPLE

Population and water distribution don't always correspond, often leaving highly populated regions with little access to water. This is most true in Asia, which has to support 60% of the world's population with only 36% of the world's water.



WILL THERE BE WAR?

Of all the water on Earth, only 2.5% is fresh, and less than 0.007% is readily available to people through rivers, lakes, and streams. As worldwide populations surge, temperatures rise, climates change, and diseases spread, clean water will become ever more essential (and ever more rare). In 2000, United Nations Secretary-General Kofi Annan warned that national rivalries over water could harbor "the seeds of violent conflict." Opinions are split on the likelihood of "Water Wars". In the past 50 years, there have been 1,831 water-related interactions between countries. Of these, the vast majority (1,228) ended peacefully. Only 21 involved actual military violence (18 between Israel and its neighbors). Furthermore, there are few places in the world where a water-poor country is in a military position to attack a water-rich neighbor. Still, many experts believe that as water shortages become increasingly urgent, countries (or at least local communities) will resort to violence to quench their thirsts.



BEST WATER	WORST WATER
1) Finland	1) Belgium
2) Canada	2) Morocco
3) New Zealand	3) India
4) United Kingdom	4) Jordan
5) Japan	5) Sudan

1970 WARNING SIGNS

In 1970, water consumption worldwide was half what is is today. With 80% of all sickness in the developing world linked to polluted water, and with populations sharply on the rise, the urgency of water management became apparent.

2003 DRY AND DIRTY

Over 1.3 billion people have no access to clean water. At least 2.2 million people die annually from diseases related to poor sanitation and contaminated drinking water - that's about 10,000 deaths from bad water (or no water) each day.

2025 PARCHED POPULACE

The United Nations estimates that the world's per capita water supply will drop by 1/3 in the next 20 years. The worst strain will be in Africa and the Middle East, where populations are growing fast and rivers are running dry.

WHO WILL HAVE THE WATER?

PERCENTAGE OF WORLD WATER SUPPLY BY NATURAL ECONOMIC REGION

>20 | 10-20 | 5-10 | 2-5 | 1-2 | <1

SOURCE - UNESCO

SOURCES - UNITED NATIONS - MONTREAL GAZETTE - UNESCO - NEW YORK TIMES - INTER PRESS SERVICE

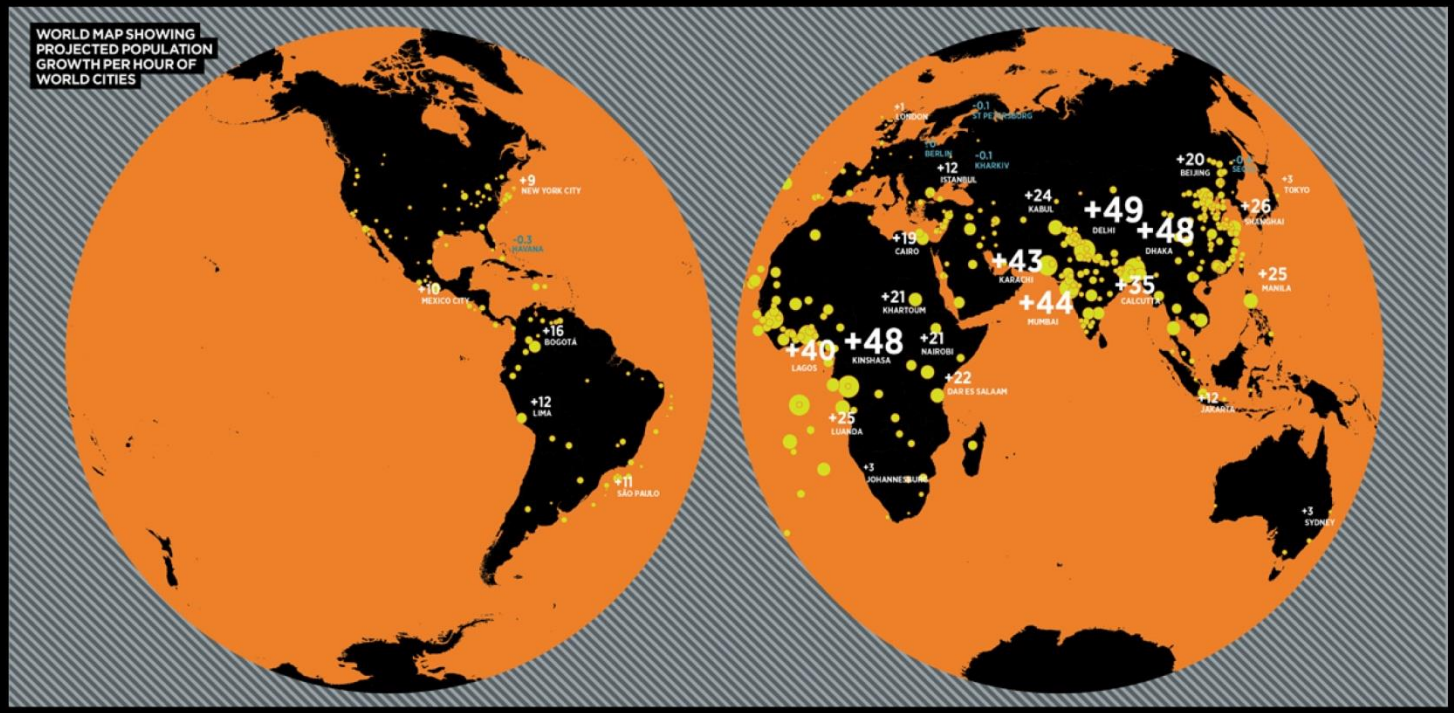
INA INTERNATIONAL NETWORKS ARCHIVE

MAP BY JONATHAN HARRIS OF FLAMING TOAST PRODUCTIONS


Deal with
the consequences.
ONDAZUL
www.ondazul.org.br


7BILLION
ON 31 OCTO 2011, WORLD POPULATION WILL REACH 7 BILLION. JOIN A GLOBA T FOR ALL HUMANITY.
7 BILLION ACTIO
www.7BillionActions.org
UNFPA United Nations Population Fund

HOW RAPIDLY CITIES ARE GROWING

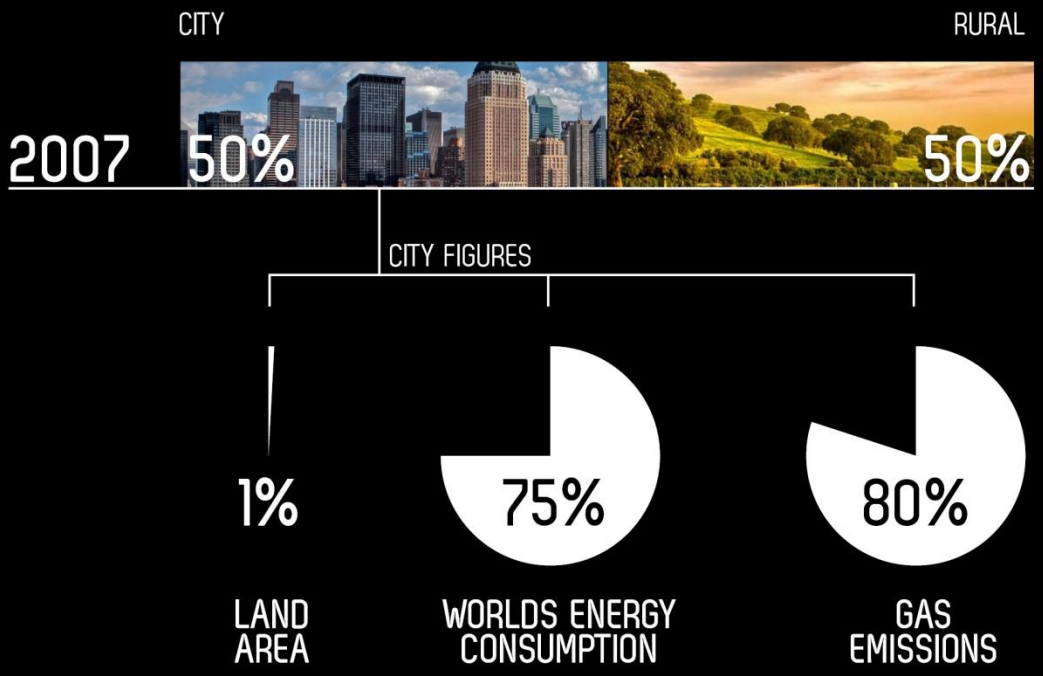


HOW WE LIVE

MIGRATION TO THE CITIES

SINCE 2008 MORE PEOPLE ARE LIVING IN CITIES

HOW WE LIVE
MIGRATION TO THE CITIES



London “ **The London Plan**”

“Develop London as an exemplary, sustainable world city, based on the three balanced and interwoven themes of strong, long-term and diverse economic growth, social inclusivity and fundamental improvements in the environment and use of resources”

New York City “ PlaNYC”

“This Plan seeks to secure for our children a city that is even greater than the one we love today.”

“Together, we can create a greener, greater New York.”

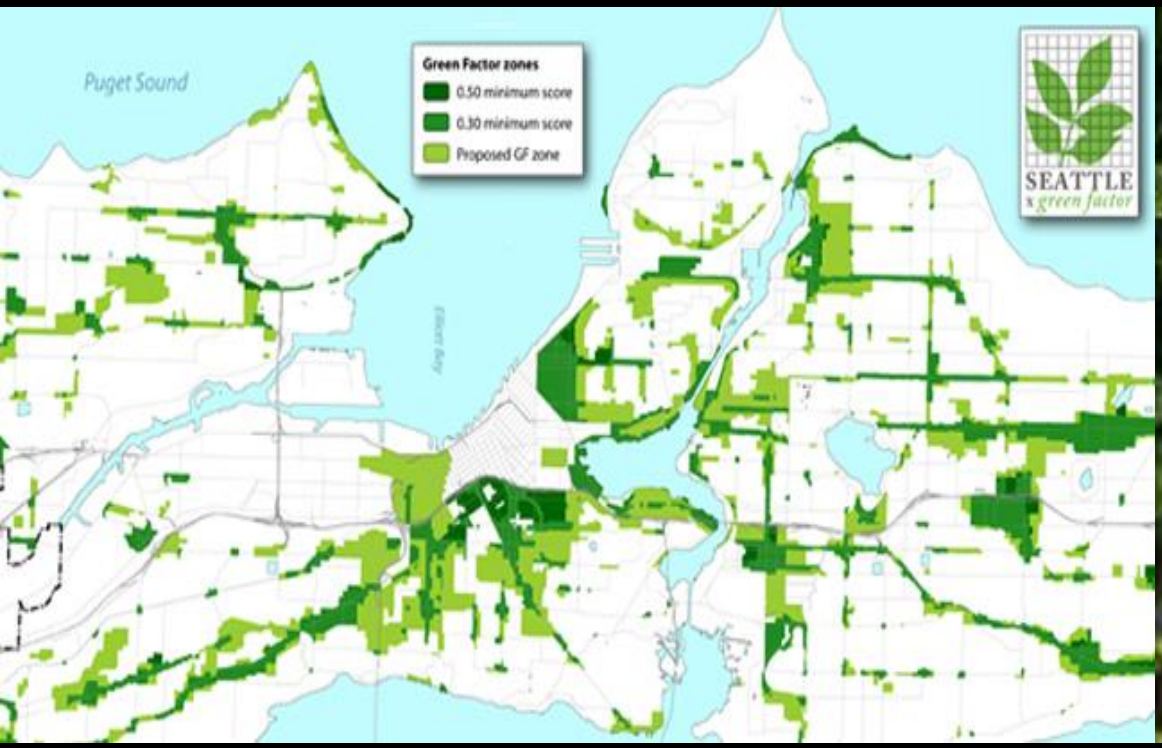

milliontrees NYC
A PLANYC INITIATIVE WITH NYC PARKS AND NEW YORK RESTORATION PROJECT


I'M
ONE IN A MILLION.
TREE PLANTED BY:
TREE CARED FOR BY:


One in a Million

9th Avenue Before

9th Avenue After


Puget Sound
Green Factor zones
0.50 minimum score
0.30 minimum score
Proposed GF zone
SEATTLE
x green factor

An 8.4 kilometre long, modern public recreation space in downtown Seoul, South Korea - the massive urban renewal project is on the site of a stream that flowed before the rapid post-war economic development required it to be covered by transportation infrastructure - the $900 million project initially attracted much public criticism but, after opening in 2005, has become popular among city residents and tourists. Driven by Former South Korea Mayor Lee Myung –Bak…. Now President

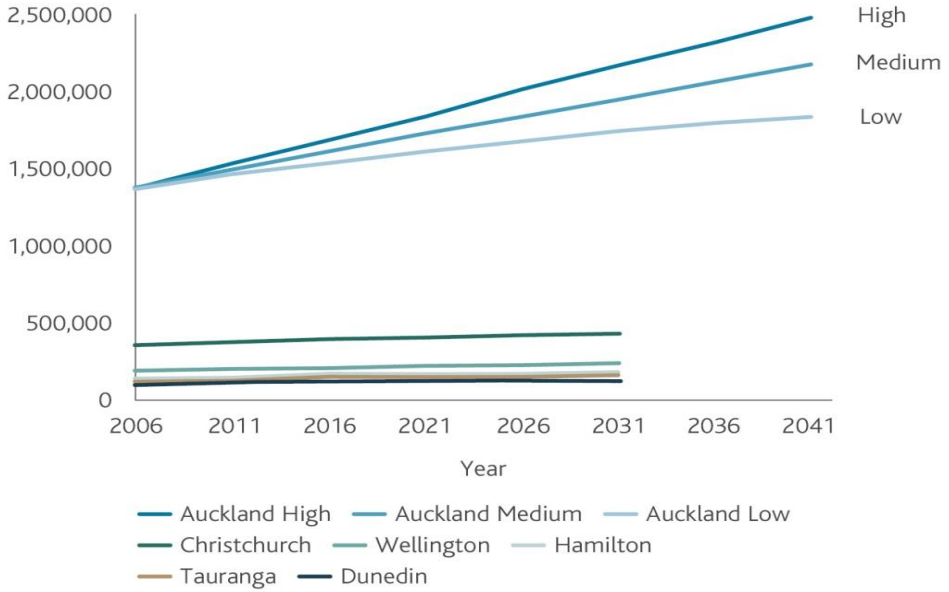

WATER CITY

AUCKLAND'S LOCATION GIVES THE CITY CENTRE SOME WONDERFUL OPPORTUNITIES, MANY OF WHICH ARE RIPE FOR REALISATION.


Auckland’s freshwater resources include around 28,000 kilometres of streams, 72 lakes and ponds and extensive groundwaters

POPULATION PROJECTION
AUCKLAND 2006-2041

1.5 MILLION PEOPLE LIVE IN AUCKLAND



Source: Statistics NZ and Auckland Council

N
Mangawhai
Wellsford
Omaha
Warkworth
Kawau Island
South Head
Orewa
Whangaparaoa
Helensville
Albany
Kumeu
Takapuna
Muriwai
CBD
Waiheke Island
Henderson
Mount Eden
Saint Johns
Howick
Maraetai
Onehunga
Titirangi
Waitakere Ranges
Manukau
Kawakawa Bay
Clevedon
Papakura
Awhitu
Hunua Ranges
Pukekohe
Waiuku
Great Barrier Island
HISTORICAL WETLANDS AND FLOODING
Metropolitan Limits
Flooding HotSpots
Historic Wetland Coverage
0 5 10 Kilometers


Loss of 10km permanent streams pa– more intermittent stream length in addition to this un-accounted for

Water quantity and quality is monitored at more than 100 river, 29 lake and 79 groundwater sites.

Most of these rivers, lakes and groundwater are degraded to some extent.

Paddlers complain of infected wounds after being cut on hidden debris in the murky, silty water. Bouts of conjunctivitis are common after being splashed in the eyes. Some paddlers are careful to wash exposed skin with clean water and disinfectant immediately after sports training, to minimise the health risks caused by contact with the polluted water.

State of the Hauraki Gulf Report 2011

It is inevitable that further loss of the Gulf's natural assets will occur unless **bold, sustained and innovative steps are taken to** reduce the utilisation of its resources and **halt progressive environmental degradation.**


0800SAFESWIM
0800 723 379

Safeswim recommend: not to swim **48** hours after heavy rain; or in high risk areas such as **stormwater outfalls and stream mouths**

Auckland Regional Public Health Service, advises against eating shellfish gathered near urban areas because of the risk of contamination.

100% PURE

?

“THE BEST WAY TO PREDICT THE FUTURE IS TO CREATE IT”

PETER F DRUCKER


AUCKLAND, THE WORLD'S
MOST LIVEABLE CITY
"TE PAI ME TE WHAI
RAWA O TAMAKI"

MAYOR'S VISION

Creating the world's most liveable city

AUCKLAND PLAN

30-year vision and strategy for Auckland

UNITARY PLAN

Policies and rules to implement the Auckland Plan

PLACE-BASED PLANS

Spatial Plans for geographic areas e.g. Local Board area plans, City Centre Masterplan, and Waterfront Plan

STRATEGIES

Examples: Economic Development Strategy, Waste Management & Minimisation Strategy

LONG-TERM PLAN

Council's 10-year plan and budget

LOCAL BOARD PLAN

3-Year plans of 21 Local Boards

LOCAL BOARD AGREEMENT

Annual budgets of 21 Local Boards

IMPLEMENTATION

MAYOR'S VISION

Creating the world's most liveable city

AUCKLAND PLAN

7 OUTCOMES

6 TRANSFORMATIONAL SHIFTS

7 PRINCIPLES

15 STRATEGIC DIRECTIONS

MAYOR'S VISION

Creating the world's most liveable city

AUCKLAND PLAN

7 OUTCOMES

1. A FAIR SAFE AND HEALTHY AUCKLAND
2. A GREEN AUCKLAND
3. AN AUCKLAND OF PROSPERITY
4. A WELL CONNECTED AND ACCESSIBLE AUCKLAND
5. A BEAUTIFUL AUCKLAND THAT IS LOVED BY ITS PEOPLE
6. A CULTURALLY RICH AND CREATIVE AUCKLAND
7. A MAORI IDENTITY THAT IS AUCKLAND'S POINT OF DIFFERENCE IN THE WORLD

6 TRANSFORMATIONAL SHIFTS

7 PRINCIPLES

15 STRATEGIC DIRECTIONS

MAYOR'S VISION

Creating the world's most liveable city

AUCKLAND PLAN

7 OUTCOMES

6 TRANSFORMATIONAL SHIFTS

1. DRAMATICALLY ACCELERATE THE PROSPECTS OF AUCKLAND'S CHILDREN AND YOUNG PEOPLE
2. STRONGLY COMMIT TO ENVIRONMENTAL ACTION AND GREEN GROWTH
3. MOVE TO OUTSTANDING PUBLIC TRANSPORT WITHIN ONE NETWORK
4. RADICALLY IMPROVE THE QUALITY OF URBAN LIVING
5. SUBSTANTIALLY RAISE LIVING STANDARDS FOR ALL AUCKLANDER'S AND FOCUS ON THOSE MOST IN NEED
6. SIGNIFICANTLY LIFT MAORI SOCIAL AND ECONOMIC WELL-BEING

7 PRINCIPLES

15 STRATEGIC DIRECTIONS

MAYOR'S VISION

Creating the world's most liveable city

AUCKLAND PLAN

7 OUTCOMES

6 TRANSFORMATIONAL SHIFTS

7 PRINCIPLES

1. WORK TOGETHER
2. VALUE TE AO MAORI
3. BE SUSTAINABLE
4. ACT FAIRLY
5. MAKE THE BEST USE OF EVERY DOLLAR SPENT
6. BE AFFORDABLE
7. CHECK PROGRESS AND ADAPT TO IMPROVE

15 STRATEGIC DIRECTIONS

MAYOR'S VISION

Creating the world's most liveable city

AUCKLAND PLAN

7 OUTCOMES

6 TRANSFORMATIONAL SHIFTS

7 PRINCIPLES

15 STRATEGIC DIRECTIONS

1. CREATE A STRONG, INCLUSIVE AND EQUITABLE SOCIETY THAT ENSURES OPPORTUNITY FOR ALL AUCKLANDER'S
2. ENABLE MAORI ASPIRATIONS THROUGH RECOGNITION OF THE TE TIRITI O WAITANGI AND CUSTOMARY RIGHTS
3. INTEGRATE ARTS AND CULTURE INTO OUR EVERYDAY LIVES
4. PROTECT AND CONSERVE AUCKLANDS HISTORIC HERITAGE FOR THE BENEFIT AND ENJOYMENT OF PRESENT AND FUTURE GENERATIONS
5. PROMOTE INDIVIDUAL AND COMMUNITY WELLBEING THROUGH PARTICIPATION AND EXCELLENCE IN RECREATION AND SPORT
6. DEVELOP AN ECONOMY THAT DELIVERS OPPORTUNITY AND PROSPERITY FOR ALL AUCKLANDER'S AND NEW ZEALAND
7. ACKNOWLEDGE THAT NATURE AND PEOPLE ARE INSEPARABLE
8. CONTRIBUTE TO TACKLING CLIMATE CHANGE AND INCREASING ENERGY RESILIENCE
9. KEEP RURAL AUCKLAND PRODUCTIVE, PROTECTED AND ENVIRONMENTALLY SOUND
10. CREATE A STUNNING CITY CENTRE, WITH WELL-CONNECTED QUALITY TOWNS, VILLAGES AND NEIGHBOURHOODS
11. HOUSE ALL AUCKLANDER'S IN SECURE, HEALTHY HOMES THEY CAN AFFORD
12. PLAN, DELIVER AND MAINTAIN QUALITY INFRASTRUCTURE TO MAKE AUCKLAND LIVEABLE AND RESILIENT
13. CREATE BETTER CONNECTIONS AND ACCESSIBILITY WITHIN AUCKLAND, ACROSS NEW ZEALAND AND TO THE WORLD
14. AUCKLAND STAKEHOLDERS AND AUCKLANDER'S WORK TOGETHER TO DELIVER THE PLAN
15. REGULARLY REVIEW PROGRESS AGAINST TARGETS AND ADAPT ACTIONS TO DELI EVER THE PLAN

Snapshot of tools

ESP – POLICY FRAMEWORK

- <u>Environmental Strategic Action Plan</u>
  - Water Strategic Action Plan
  - National Policy Statement Freshwater Management
  - Sediment Management Action Plan
  - Livestock Exclusion initiatives etc
  - Marine Spatial Plan (Hauraki Gulf; Kaipara Harbour; Manukau Harbour & the West Coast)

Snapshot of tools (cont'd)

CCMP - City Centre Capital Projects

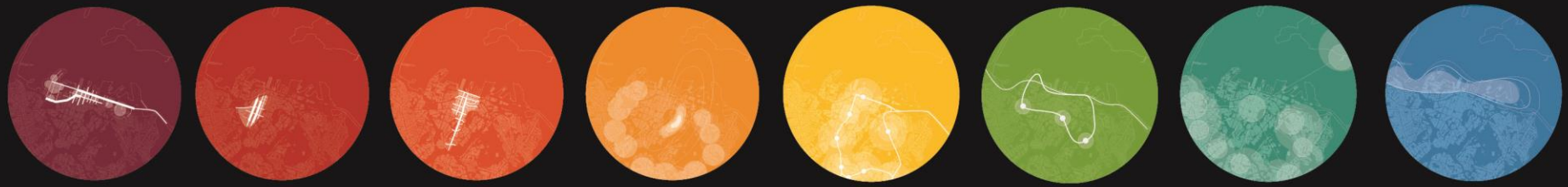
REGULATORY /Non Reg PLANNING RESPONSE

- Unitary Plan – on-site/at source control of stormwater flows, improved treatment and removal of stormwater contaminants, flooding, streamside riparian margin management, built controls
- Green Star, Green roofs etc

ADM – Auckland Design Manual (includes LIUD guidelines)

Non ESP - OPERATIONAL RESPONSES
Stormwater & Watercare - Central Interceptor and other major Capital Programme etc..

THE STRATEGY:
EIGHT TRANSFORMATIONAL MOVES



01 HARBOUR EDGE STITCH
- uniting the waterfront with the city centre

02 THE EAST-WEST STITCH
- connecting the western edge of the city to the centre

03 THE ENGINE ROOM
- Queen Street valley, the CBD and retail district

04 INNOVATION CRADLE
- nurturing the innovation and learning cradle

05 CITY RAIL LINK
- new public transport stations and development opportunities at Karangahape Road, Newton

06 THE GREEN LINK
- connecting Victoria Park, Albert Park and Auckland Domain with the waterfront as part of a blue-green network

07 CITY TO THE VILLAGES
- connecting the city and the fringe

08 WATER CITY
- revitalising the waterfront

Auckland Transport
An Auckland Council Organisation

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Auckland Transport
An Auckland Council Organisation

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Auckland Design Manual

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Design for Auckland

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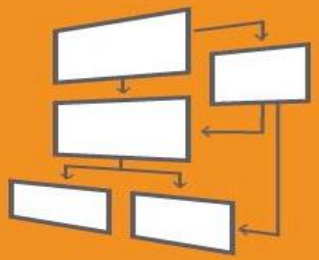
Design for Places

Good design enables the delivery of spaces, places and buildings that are sustainable and it helps to create environmental, social, cultural and economic value for Auckland and its communities. 'Design for Places' contains guidance, case studies and worked examples demonstrating how this can be achieved within the different scales of neighbourhood, street, park and site.

Design Process

Sed quis lorem pellentesque velit mattis pulvinar eu quis odio. Curabitur quis velit gravida justo ultricies imperdiet. Donec libero tortor, rhoncus id faucibus sit amet, imperdiet sed ipsum. Nulla odio diam, bibendum sed tristique quis, elementum sit amet lacus. Curabitur pretium euismod velit, quis tempor purus semper at. Duis viverra.



Design Thinking

Nulla risus eros, tempus viverra auctor ullamcorper, vestibulum eget quam. Nullam aliquam velit vitae neque imperdiet quis vehicula ligula egestas. Quisque massa turpis, condimentum sed vehicula sit amet, cursus at lorem. Pellentesque quis felis nec augue varius auctor. Duis a viverra urna. Nam quam lacus, laoreet nec venenatis quis, ornare.

Auckland Council

All layouts are at wireframe stage only and do not reflect final design concepts.

Design for Places

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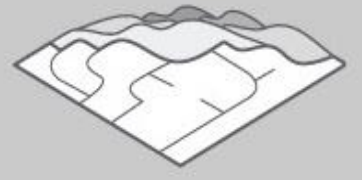
Sites

The type of development you choose can impact on how you lay out your site and how it affects its wider context. 'Sites' showcases how do this well, through best practice built examples from around Auckland and beyond, illustrations demonstrating how you could meet Auckland's planning controls and design guidance highlighting helpful rules of thumb.

Housing

Streets



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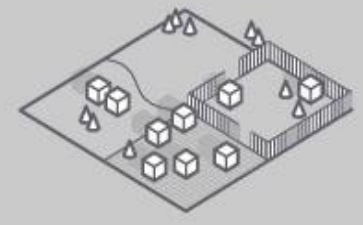
Local Streets

Neighbourhoods



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Subdivision

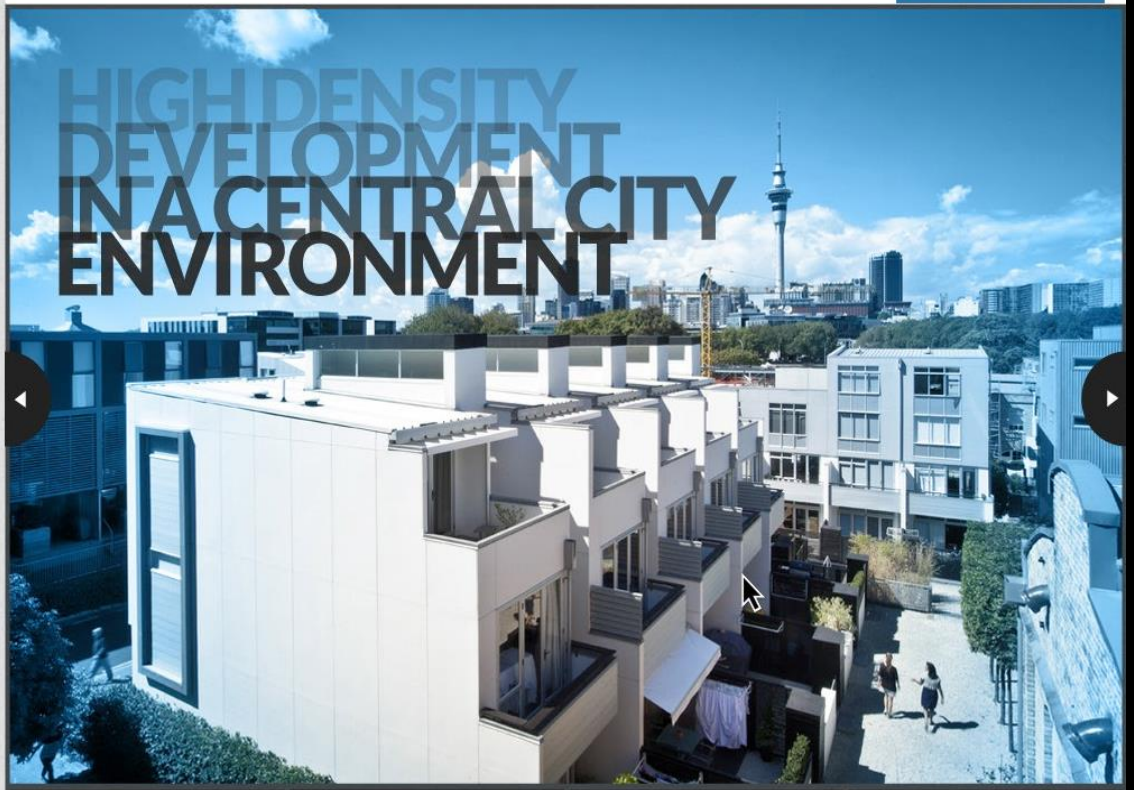
Parks

Cras bibendum arcu vel arcu euismod egestas. Cras consectetur condimentum blandit. Aenean dolor arcu, tristique eget hendrerit eu, pretium nec quam. Integer tempus justo magna, quis bibendum ante. Praesent pretium, dui nec feugiat gravida, diam mauris feugiat velit, eget vulputate justo magna eget odio. Curabitur viverra auctor varius. Donec sit.

Civic Space

Case study: Beaumont Quarter, St Mary's Bay

Close this Case study



ADDRESS

Fisher Point Drive, Brickfield Way, and Beaumont Quarter frontage, St Mary's Bay, Auckland

PARKING

Approximately 350 with 16 on street visitors car parks

COST

Information not released by developer

PROJECT TYPE

Master planned mixed use community on brownfield development site. Terraces (91%) and Apartments (9%)

238 units in total

Dwelling type(s) and size(s)

Townhouses ranged from 103m2 @ 2x levels (type A) to 151m2 @ 3 levels (type T)

Apartments ranged from 56m2 @ 2x levels to 121m2 @ 4 levels (including basement level parking)

SITE AREA

2.4 ha (Overall masterplan area: 2.4 ha including existing gasworks building which fronts onto Beaumont Street and future building site on the north-eastern corner)

RESIDENTIAL DENSITY

100 Dwellings per ha, (including parks, roads etc; net site density will be greater as will not include public roads)

274 beds per ha

CLIENT / DEVELOPER

Melview Developments Ltd.

ARCHITECT & DESIGN TEAM

Studio Pacific Architecture Ltd
Acknowledgments:

- S333 Architecture & Urbanism,
- Steven Tupu, NZ
- Thomas Balsley Associates,
- Boffa Miskell Ltd, NZ
- Jasmax Ltd, NZ
- Ian Moore Architects,

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ARCHITEC DESIGN T

Studio Pacific Arch

Acknowledgments

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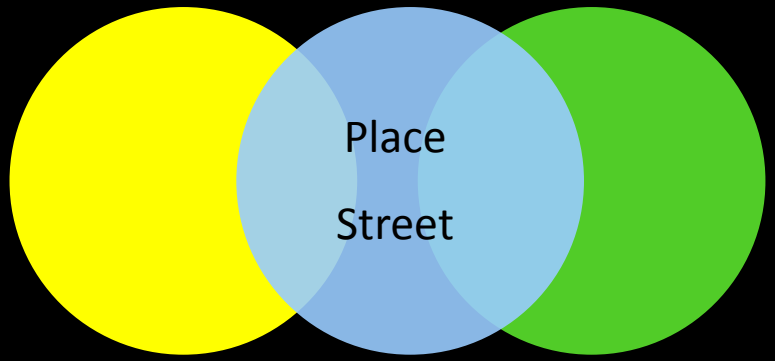
- Thomas Balsley
- Boffa Miskell Lt
- Jasmax Ltd, NZ
- Ian Moore Archi


I'M AN ARCHITECT. I'M GLAD I'M NOT A PLANNER.
I'M A PLANNER. I'M GLAD I'M NOT A HIGHWAY ENGINEER.
I'M A HIGHWAY ENGINEER. I'M GLAD MY MOTHER LOVES ME.
Cowan

By giving space a single, rationalized function,

we made the city less efficient – less fun, less exciting, less rich

Allowing competing spaces/uses overlap (shared space) makes for a more compact, efficient city, friendly, vibrant city



Could achieve this instead

Social housing development in Seattle (photo 2006 |name Highpoint

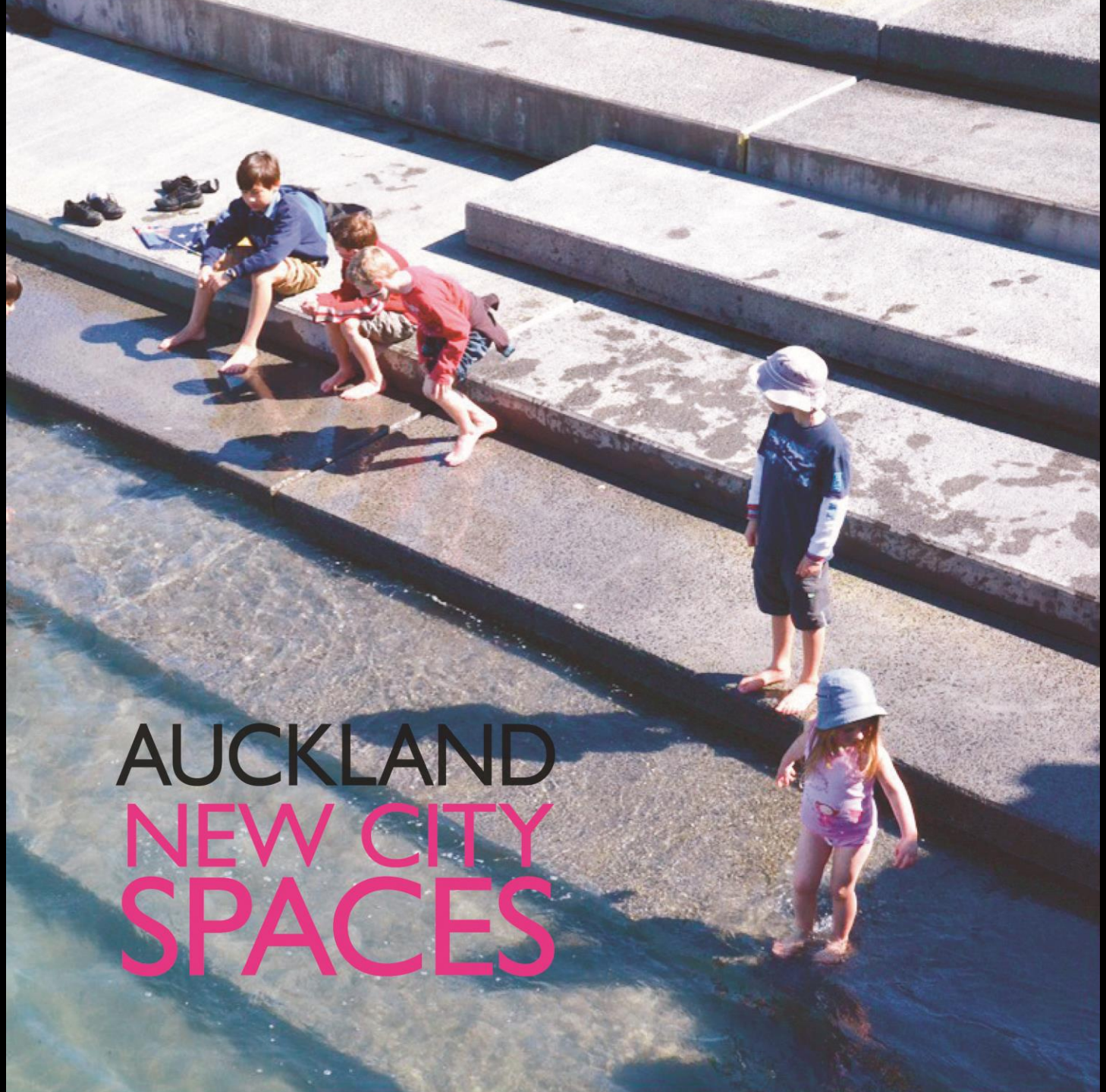
Shared Space – green natural version

Garden street from Todd – property – Long Bay (recently built)


OPTOMETRIST
Existing
Jasmax

Auckland Council
Te Kaunihera o Tāmaki Makaurau


SEALINK
JFE


AUCKLAND
NEW CITY
SPACES

Conclusions

- Not waste product but Gold
- Need to integrate
- Green infrastructure solutions
- Stormwater projects are also multi disciplinary placemaking projects
  - Civil engineering only a component


Stockholm
Helsinki
Frankfurt
Copenhagen
Dusseldorf
Munich
Bern
Vienna
Zurich
Geneva
Vancouver
Calgary
Toronto
Tokyo
Perth
Adelaide
Melbourne
Sydney
Auckland
IN THE TOP 10'S
WORLDS MOST LIVEABLE CITIES
MERCER/MONOCLE/ECONOMIST


THE
FACTOR


THE
W
FACTOR

THANK YOU

BLUE GOLD

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