

INTERPRETATION CONCEPTS

NATIONAL WETLANDS CENTRE - SERPENTINE (ROTOPIKO LAKES)

APRIL 2010



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Note: The text outline is supplied as a separate document.

The National Wetland Trust is a non-profit organisation established in 1999 to increase the appreciation of wetlands and their values by all New Zealanders. Their vision is to build a national wetland centre in the Waikato that will allow people to learn more about our wetlands and to value their special qualities. A business plan has been prepared and the site at Serpentine (Rotopiko) lakes chosen. The land is managed by Waipa District Council who are working collaboratively with the Trust to achieve this vision.

This document puts their ideas and dreams on paper and gives them structure. It is a starting point from which to build the complete picture - a merging of landscape design, architecture and interpretation. It defines the themes and objectives and outlines in detail the interpretation concepts and the ways that they may be brought to life.

See Appendix 1 for survey results

Key markets are:

- Interactive travellers – domestic and international (singles, couples, families)
- Local families
- School groups
- Special interest groups (wetland restoration community groups, landowners, iwi, researchers etc)

Key parts of the experience for these groups are:

- Uniqueness
- Participation / interaction
- Fun
- Educational value
- Convenience / safe and easy access to wetlands



Main goal

To educate people about the usefulness, conservation and restoration of New Zealand wetlands

Communication objectives

- Visitors will leave with a sound understanding about the diversity and importance of New Zealand wetlands.
- Visitors will appreciate the connections between people (including themselves as individuals) and wetlands.
- Visitors will be able to make links between what happens in New Zealand wetlands and wetlands around the world.
- Visitor wetland related information needs are met and they also have the opportunity to discover new or unexpected information.
- Visitors know what behaviour if required in order to minimise their impact on the local environment.

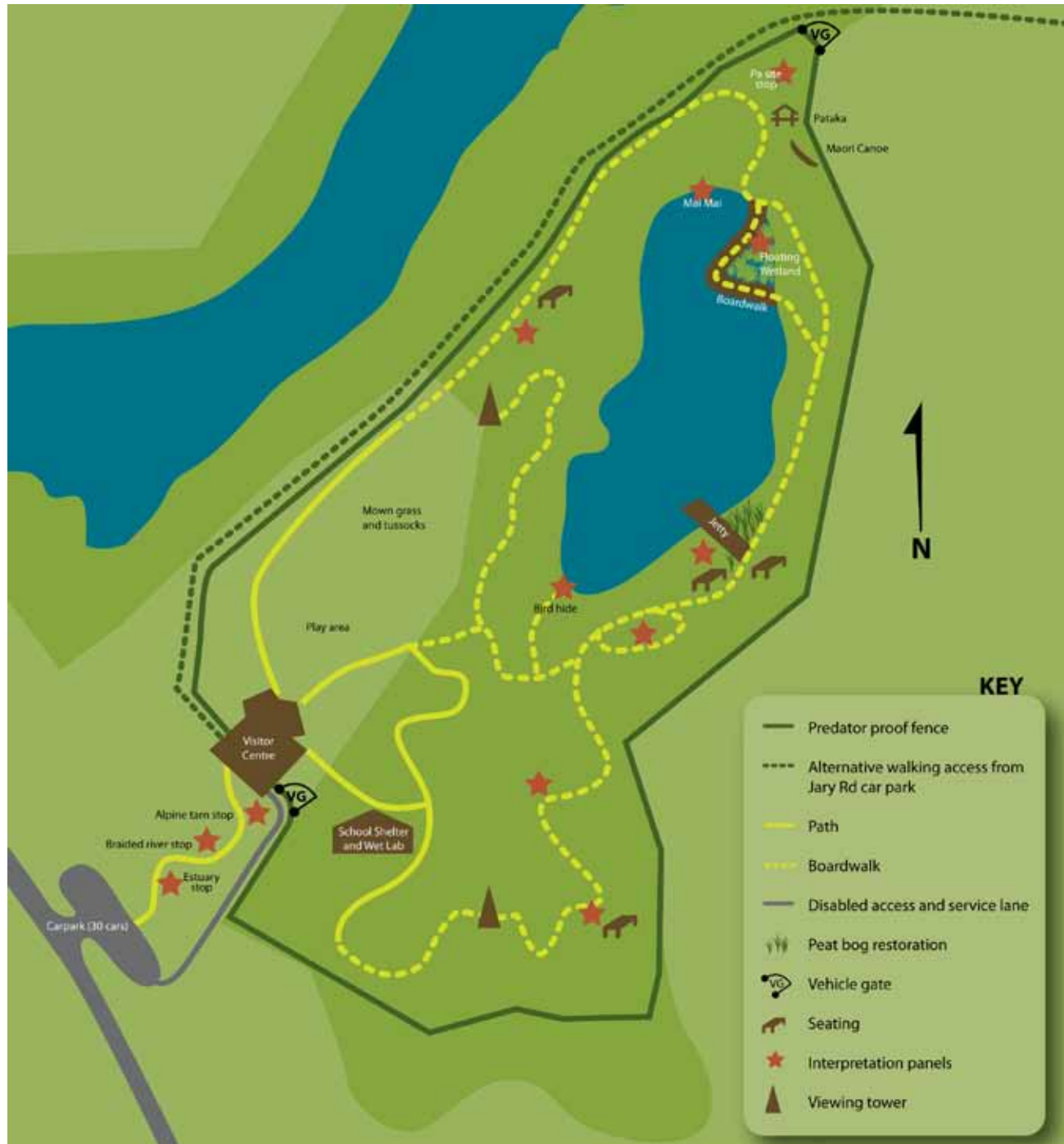
Experiential objectives

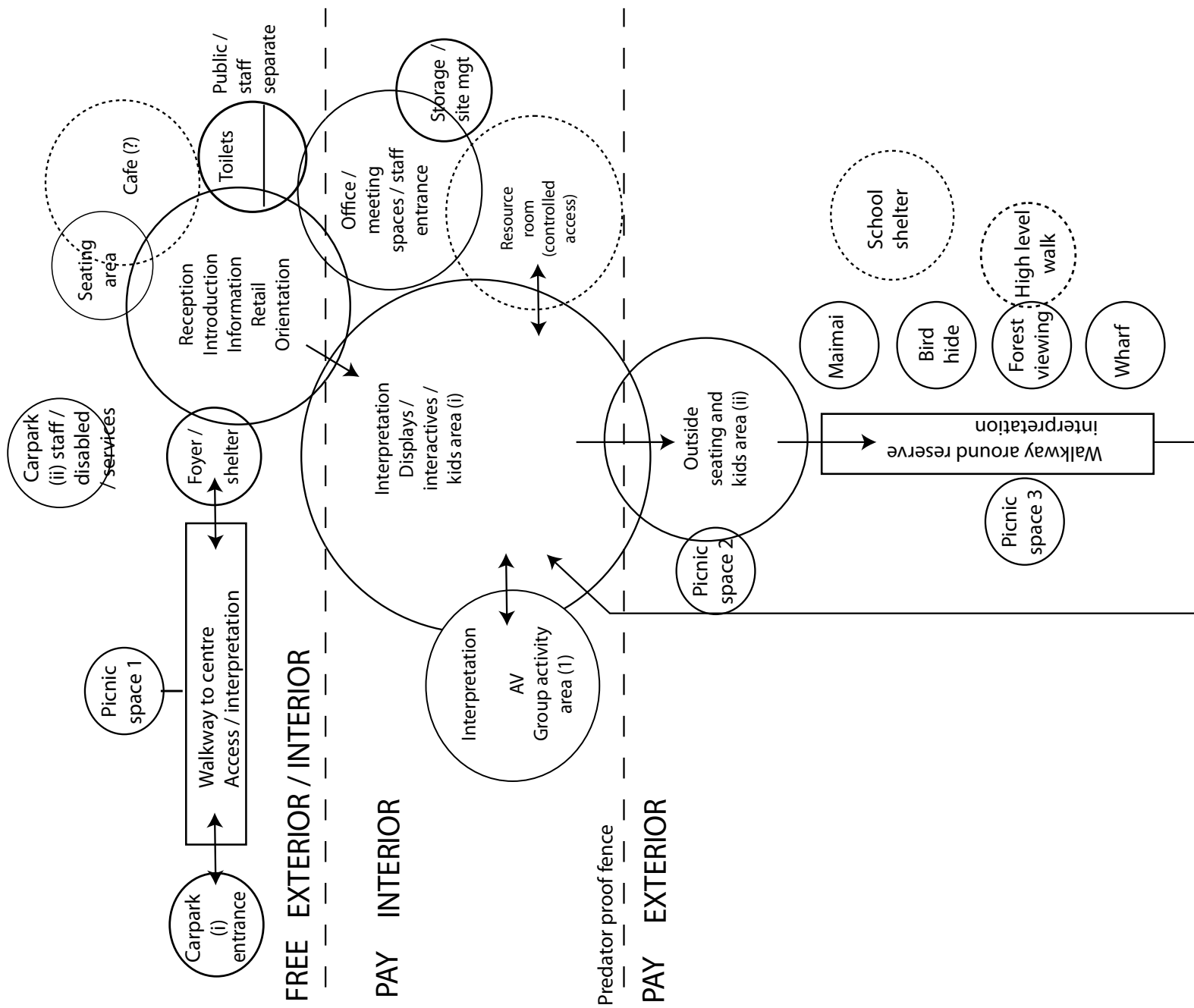
- That the visitor's basic physical and service needs are met (e.g. they experience a safe, warm environment; have access to clean toilets, have access to the services they require).
- Visitors will have a positive experience at the centre and in the surrounding reserve and will recommend it to others.
- Visitors (including children) will go on to explore other wetlands and act positively to protect or restore wetlands in their own area.

For the Visitor Centre and associated structures

- Ecologically sustainable and efficient incorporating current water, waste, energy and light saving technologies.
- Of timber construction, appropriate to the site and the buildings function and relationship to the wetlands.
- Blend into the environment but capitalises on views
- Functional spaces will be created for the following functions: inside visitor information delivery, interpretation, visitor seating, group gathering space, modest retail, staff administration office(s), staff toilet, public toilets; outside seating/picnicking (one large area covered). A meeting space may be considered if feasible. (see diagram on following page).

SITE MAP





The primary theme to tie together the wetland stories is:

- Making connections – Why wetlands matter

Secondary themes

- There's more to wetland than meets the eye (variety of life/ variety of habitat type (form))
- A powerful force in the environment (function and values)
- People in a hidden world (recreation / use / education / understanding / management / impact of wetlands on community / impact of community on wetlands)
- Our wetlands and the World e.g. Ramsar /International flight ways (international)
- Why do we see wetlands the way we do? (national)
- The local scene (regional)



CONCEPTS

1.1. Carpark entrance

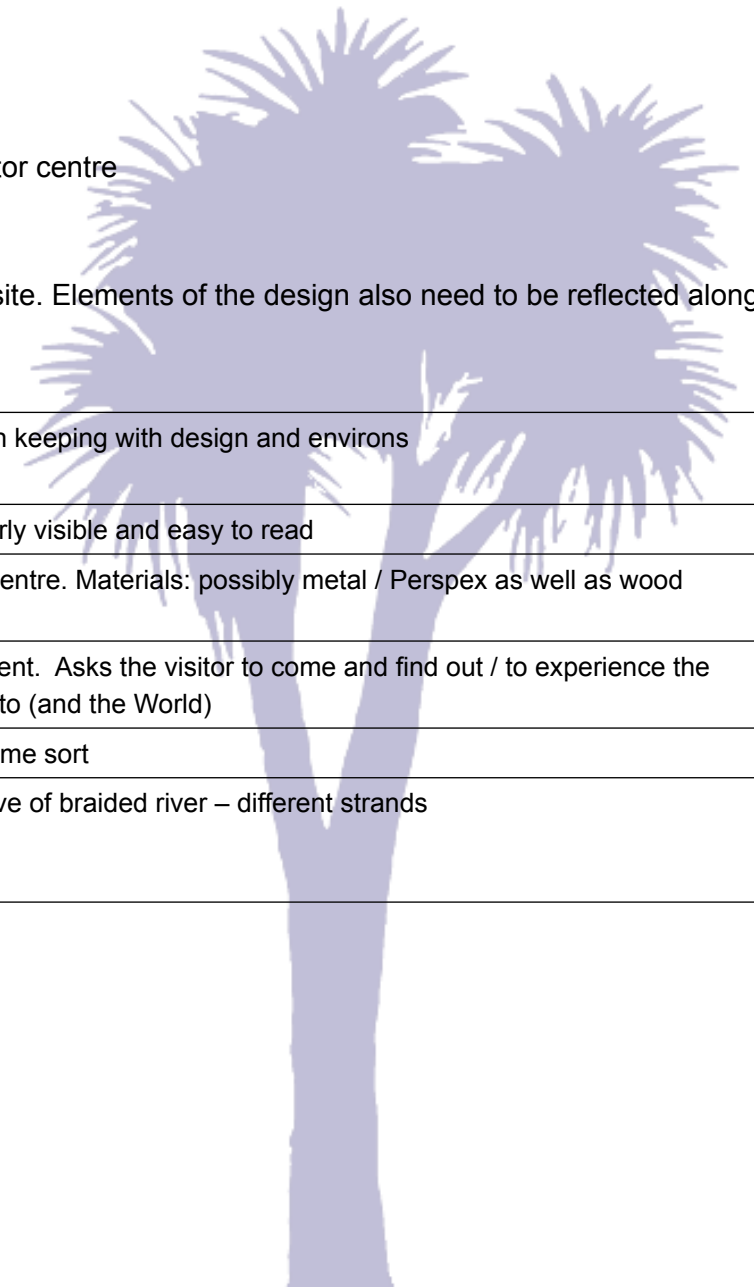
Objectives

- Sets the style for the centre.
- The entrance needs to act as a magnet encouraging people towards the path/road to the visitor centre

Content and media

The design needs to have strong connections to the building and the gateway from building to the site. Elements of the design also need to be reflected along the walkway and in the other buildings.

<ul style="list-style-type: none">• Name of centre with logo (to be decided)	<ul style="list-style-type: none">• Semi sculptural. Bold statement but in keeping with design and environs
<ul style="list-style-type: none">• Opening hours information	<ul style="list-style-type: none">• Printed information. Needs to be clearly visible and easy to read
<ul style="list-style-type: none">• Two or three iconic species (possibly cabbage trees / flax / bittern) and Maori patterning	<ul style="list-style-type: none">• Sculptural forms reflecting theme of centre. Materials: possibly metal / Perspex as well as wood
<ul style="list-style-type: none">• What is a wetland?	<ul style="list-style-type: none">• Asks the question or makes a statement. Asks the visitor to come and find out / to experience the wetlands of New Zealand, the Waikato (and the World)
<ul style="list-style-type: none">• Landscaping – reflecting local environment	<ul style="list-style-type: none">• Possibly including water feature of some sort
<ul style="list-style-type: none">• Floor element leading from entrance up to and into the visitor centre. In upper stages at least a design to mimic a braided river	<ul style="list-style-type: none">• Built into the walkway/road Descriptive of braided river – different strands



1.2 Pathway/road to visitor centre building and entrance to building

Objectives

- Introduces the visitor to the variety of wetlands in New Zealand.
- Provides points of interest on the walk and places to stop.
- The building entrance needs to encourage people to the building – be obviously a visitor entrance, dramatic up to a point (fitting in with style and sensitive to the natural landscape) but welcoming.
- To develop the themes of diversity and connections
- To encourage people to visit some of these areas around the country

Content and media (general)

- Specific wetland types are represented at hubs along the path / driveway from the carpark to the building, e.g. estuary, braided river alpine tarn, i.e. those not represented naturally at the location and introduced as constructed wetland gardens. Wetland types on the site (peat bog, peat lake, kahikatea swamp forest) are interpreted on the walk around the site.
- Stylised reconstructions in very sharply defined spaces with sample plants where possible
- Facts and figures presented in static form
- Examples of where to go (e.g. a 'rotating triangular post' at each site with photos of the places and maps of where they are).
- Props used as required (e.g. dingy (small boat) in estuary / trampers(hikers) tent in alpine - or large background images)
- Each site could also have sounds associated with each place – birds calls, geysers, waves crashing, braided river in flood etc – also human sounds – e.g. people catching flounder or kids playing in mud??
- Interactive element at each site related to water flow as each of these wetlands has a different pattern of water flow.
- Pou carved to represent wetland types also encourage visitors from one 'hub' to the next.

1.2.1 Braided river

Content and media

<ul style="list-style-type: none"> Stylised environment / planting 	<ul style="list-style-type: none"> Possible some water element circulating - part of main pathway
<ul style="list-style-type: none"> Where's a good place to see braided rivers 	<ul style="list-style-type: none"> Panel mimicing braided river pattern close to the ground
<ul style="list-style-type: none"> Facts and figures 	<ul style="list-style-type: none"> Panel mimicing braided river pattern close to the ground
<ul style="list-style-type: none"> Eco stories: Formation / species 	<ul style="list-style-type: none"> Rotating barrel
<ul style="list-style-type: none"> Human story - Saving the black stilt. 	<ul style="list-style-type: none"> Rotating barrel. 3 D models or sculptures of stilts (pied / black / hybrids). Quote from researcher eg Rachel Keedwell
<ul style="list-style-type: none"> Pou - representation of river systems 	

1.2.2 Estuaries

Content and media

<ul style="list-style-type: none"> Stylised environment / planting 	<ul style="list-style-type: none"> Use strong visual image on background panel plus plantings (a good imitation is unlikely)
<ul style="list-style-type: none"> Where's a good place to see estuaries 	<ul style="list-style-type: none"> Map panel built into bank
<ul style="list-style-type: none"> Facts and figures 	<ul style="list-style-type: none"> A dingy leant up against a 'wharf post' with text routed into or printed onto hull.
<ul style="list-style-type: none"> Eco stories. Bird counts / Ohiwa 	<ul style="list-style-type: none"> Panel in wharf post and a series of strong visual images on flat panels Sound of birds calling / audio of community conservation group people 3 D model or sculpture of godwits or other migratory wading bird
<ul style="list-style-type: none"> Pou representing traditional food gathering / estuary species 	

1.2.4 Geothermal

Content and media

<ul style="list-style-type: none"> Simulated environment / planting 	<ul style="list-style-type: none"> Visuals to represent / plantings Localised audio (geyser eruptions sounds etc)
<ul style="list-style-type: none"> Where to go to see these wetlands 	<ul style="list-style-type: none"> Rotating barrel for 'where to go' information
<ul style="list-style-type: none"> Facts and figures 	<ul style="list-style-type: none"> Post panel

<ul style="list-style-type: none"> • Eco stories. • How to survive in hot water (plant and animal adaptations). • Water movement in a geothermal environment. 	<ul style="list-style-type: none"> • Panels and 3 D models of some adaptations. • Diagram to demonstrate movement of water.
<ul style="list-style-type: none"> • Human Stories: • Traditions relating to geothermal origins. • Early Maori use / early tourism links (Pinks and White Terraces) / industry / spas 	<ul style="list-style-type: none"> • Post panels • Models of one of the uses
<ul style="list-style-type: none"> • Pou - representation of geothermal zone 	

1.2.4 Alpine tarn

Content and media

<ul style="list-style-type: none"> • Simulated environment / planting 	<ul style="list-style-type: none"> • Backdrop image with tarn lake. Reflective / tannin stained. Props as appropriate.
<ul style="list-style-type: none"> • Where's a good place to see tarns 	<ul style="list-style-type: none"> • Outdoor 'hut' book pages showing different examples
<ul style="list-style-type: none"> • Facts and figures 	<ul style="list-style-type: none"> • Panel built into prop (stylised tent)
<ul style="list-style-type: none"> • Eco stories: Tiny creatures with a big story to tell (diatoms) / species 	<ul style="list-style-type: none"> • Panel built into prop (stylised tent)
<ul style="list-style-type: none"> • Human story - Trampers and tarns 	<ul style="list-style-type: none"> • Stylised representation of tent and tramper set up by tarn. Audio story comes from the tent. What alpine tarns mean to trampers
<ul style="list-style-type: none"> • Pou - representation of alpine zone 	



2.1 Foyer / Reception / Introduction to site

Objectives

This is where we have to make an immediate impact and encourage people to (pay and) carry on through to the rest of the site.

- To prepare / orient visitors for the rest of the wetland experience.
- To create a sense of anticipation
- To make an immediate connection between wetlands and the visitor
- To provide resources that people can take around the site and / or away with them for future reference

Main functions

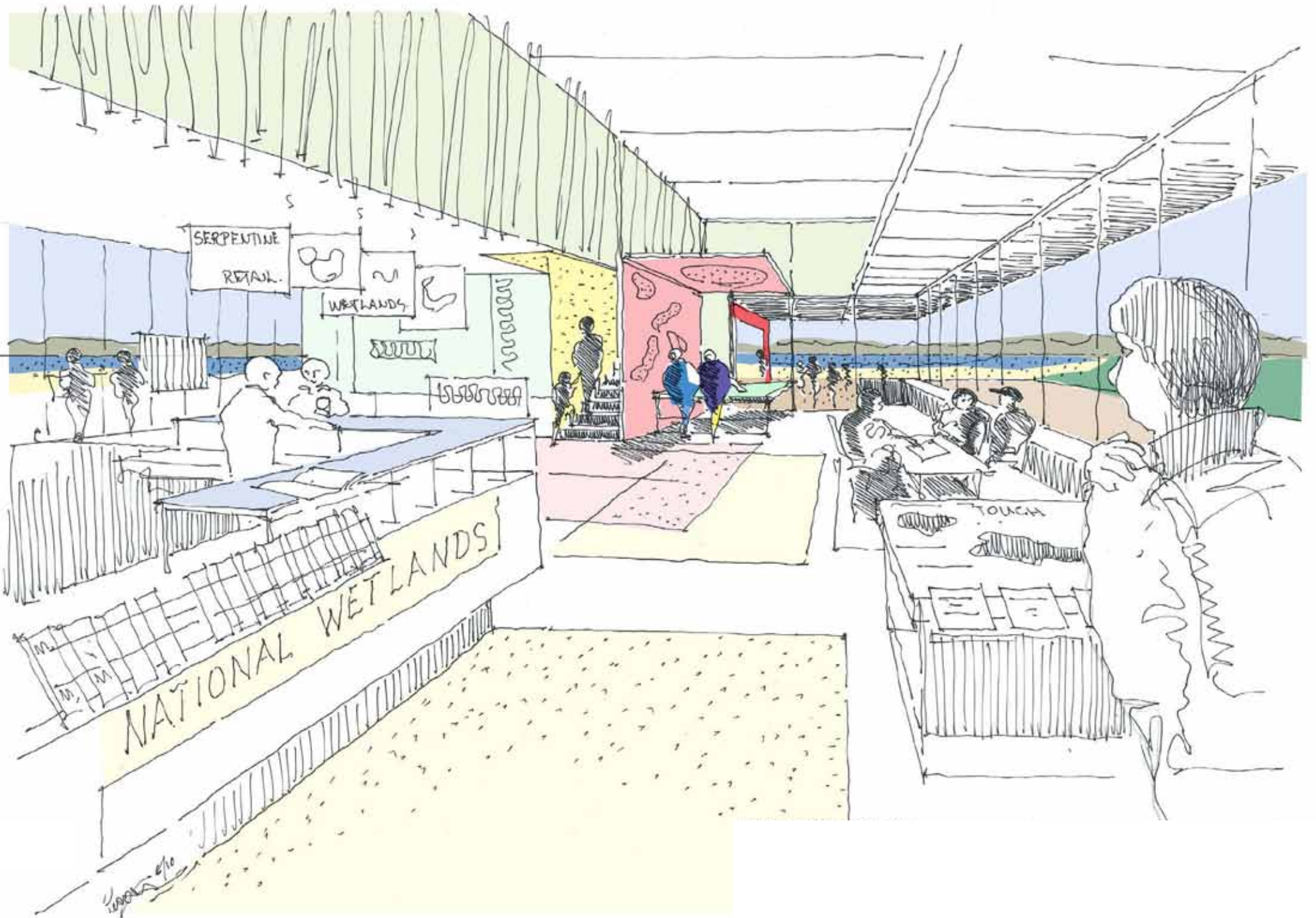
- Reception / ticket sales
- Retail
- Orientation to site
- Upcoming events / what's new in the centre / wetland news from around the country
- Directions to where to get more information / supply of more detailed information
- Introductory concepts (see essential narrative below)

Content and media

<ul style="list-style-type: none">• Site map	<ul style="list-style-type: none">• Panel
<ul style="list-style-type: none">• Signposting for toilets etc	<ul style="list-style-type: none">• Reed sculpture
<ul style="list-style-type: none">• For more info (how to, where to, why etc)	<ul style="list-style-type: none">• Racks for brochures and indexed dispenser for factsheets
<ul style="list-style-type: none">• Latest news / upcoming events	<ul style="list-style-type: none">• Centre activity programmes, national/local wetland events. Changeable panels
<ul style="list-style-type: none">• Sponsors information	<ul style="list-style-type: none">• Panel / plaque.• Also have names of sponsors running along floor graphic (see 1.1)

<ul style="list-style-type: none"> • Reception desk 	<ul style="list-style-type: none"> • Themed design - linked to office areas. Clear view of retail area, entrance and entry into display areas and auditorium
<ul style="list-style-type: none"> • Retail 	<ul style="list-style-type: none"> • Themed (requires retail plan)
<ul style="list-style-type: none"> • What is a wetland / variety of wetlands in New Zealand 	<ul style="list-style-type: none"> • ‘What is a wetland - more than words can say’ image projections (see Appendix 2) with word overlays. Changing wetland images to introduce what wetlands are and the variety of forms they take. Possibly black and white images slowly changing to full colour to show the forgotten nature of wetlands followed by their beauty and detail. Followed by image of loss including graphs • Panels (1) – definitions • Models or 3D art / sculpture suspended from ceiling of flocking migratory birds such as knots or godwits.
<ul style="list-style-type: none"> • Connections between people and wetlands (obvious and obscure). What do people have in common with wetlands (travel / migration as well as impact on lives). 	<ul style="list-style-type: none"> • Cut-out images of people with specific wetland objects or images. “You have more in common with wetlands than you think / Wetlands are more important to your everyday lives than you might think” .
<ul style="list-style-type: none"> • Kids adventure book 	<ul style="list-style-type: none"> • Tour of the site with activity bits to fill in – do it all (in one visit or more) and get a prize

Note: This is also where visitors could to pick up an audio programme. (see Appendix 3 for technical specifications) if it can be done within budget, and / or printed guides in various languages.



2.2 Auditorium / lecture theatre (large enough for one large coach / one school group)

This is available for groups to use in poor weather, for small group lectures or conferences, public talks, mobility-limited visitors etc. Each of these groups could have targeting programming but the main feature would be an introductory AV. Could be a separate room or an area that can be blocked off from the main room.

Objectives

- To encourage those with little time to come back again and find out more / visit the rest of the site
- To introduce wetlands – what they are and as places of great diversity, beauty and complexity
- To banish some of the wetland myths – creature of the black lagoon etc.
- To provide a variety of programmes that can be utilised by different groups (e.g. short intro to the site for schools / quick tour of wetlands for short stop bus travellers / detailed documentary for special interest groups
- To provide an alternative space for group activities or functions and potential income stream via hire out facilities

Content and media (for main ‘introductory’ programme)

<ul style="list-style-type: none"> • Variety and range of wetlands in NZ and the variety of life in them. • The myth of wetlands (what people say about wetlands vs reality) • Maori association with wetlands • Loss of wetlands over time • Why that matters to us • What’s being done 	<ul style="list-style-type: none"> • Audio / visual presentation • Adjustable seating (35 – 40) • Push button change from presentation to meeting / conference use • Alternative shows stored on mpeg video to allow choice of content options – or times shows • Five minute video clips, e.g. Department of Conservation ‘Meet the locals’ video series
<ul style="list-style-type: none"> • Wall images reflecting theme : Everything is connected – why wetlands matter 	<ul style="list-style-type: none"> • Simple static panels that add colour and concepts whilst the room is being used for meetings etc. Some thematic word elements included across photos / images

2.3. Main display area

2.3.1 Wetland of the month - changeable displays (have several on hand)

Objectives

- Allows variety of displays over time.
- Shows variety of wetlands around the country
- Show-cases community restoration projects around the country to reward effort and encourage other communities to restore wetlands
- Encourages visitors to 'think and act locally'

Content and media

<ul style="list-style-type: none">• Wetland - name and location (local, regional, national)• What's important about that wetland• What threats it faces• What's being done to help by organisations and / or local people	<ul style="list-style-type: none">• Free-standing, static, changeable displays that clip into a permanent frame with permanent heading text 'what's happening in a wetland near you'. Frame design matches general design features. Each should have a blackboard space for updated information (e.g. Open Day on March 7).
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2.3.2 Kids corner 3 – 8 yrs

Comfort corner. Games, books, microscope with large screen for easy viewing, live animals (fish or koura) in large aquarium (visible outside children's area too), dress ups, puppets (puppet theatre), toys etc, books on wetland adventure that translates to things on site (e.g. you become Pete the pukeko and go looking for a, b, c, d, and do the activities, fill in the spaces etc). Comfortable chair and magazines to encourage less-engaged child minders to relax and stay.

2.3.3 Web cams (national /local) what's happening here – what's happening there?

Cameras on wetland bird nests, Aratiatia Dam to view hydro dam water release, eel fish passes, underwater camera in Blue Springs/Waihou River, trout spawning etc

Objectives

- Create a sense of real-time connection to real wetlands / wetland species
- Increase understanding that international wetland have different species but similar values / issues

2.3.4 Problem solving Interactive(s) - Physical format x 2

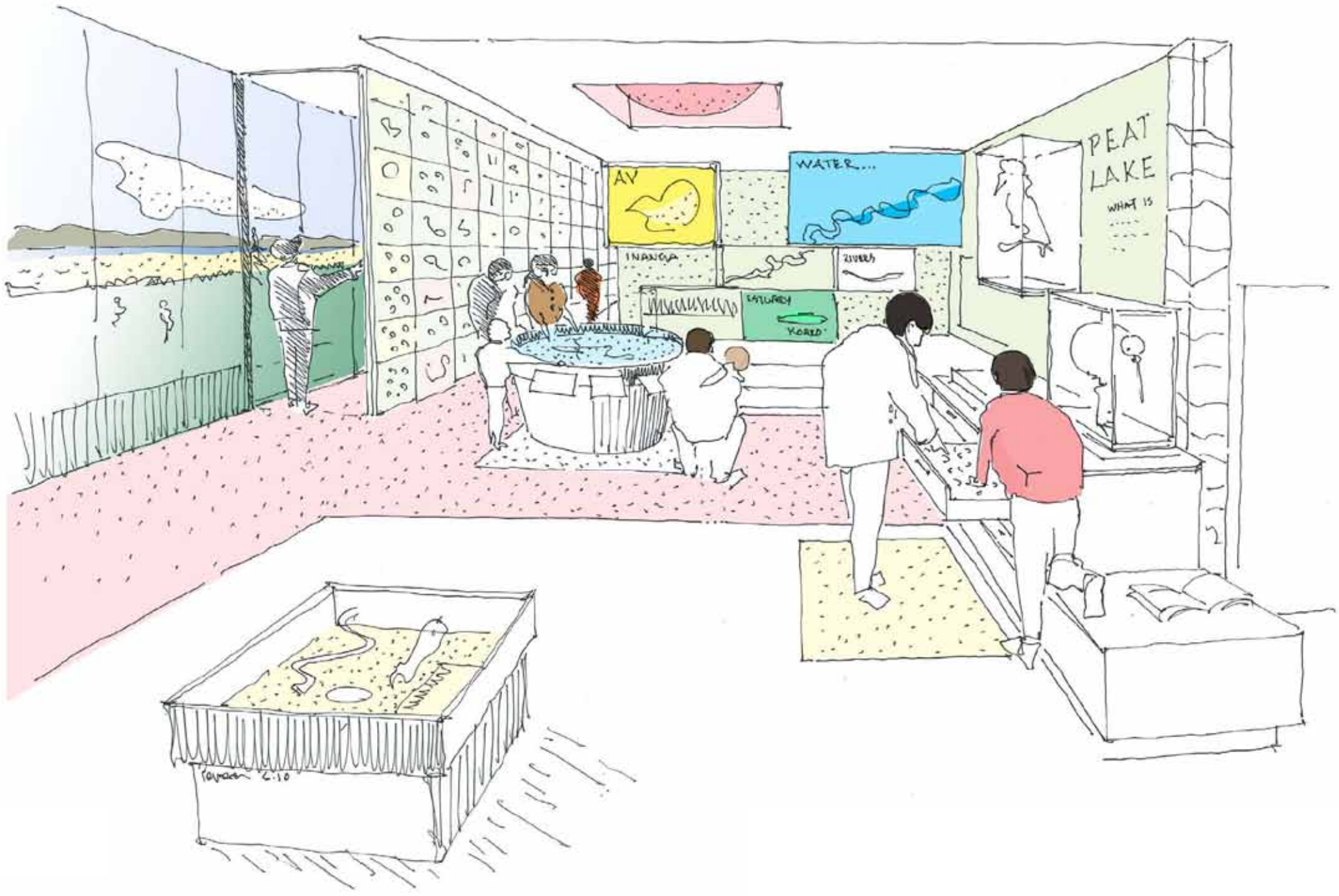
Objectives

- Encourage people to think through the processes that affect wetlands and how wetland species survive in difficult or extreme conditions (floods, geothermal heat/chemicals, wet and dry seasonal change etc)

<ul style="list-style-type: none"> • Nutrient flow / filter functions 	<ul style="list-style-type: none"> • Water flow / flood control / nutrient inputs etc. Water pump system to illustrate flows in and out of a wetland. If possible introduce variables such as land clearance etc. See appendix
<ul style="list-style-type: none"> • Interdependent species 	<ul style="list-style-type: none"> • What happens when you remove key species. Cause and effect game. Make a choice re behaviour - follow through impacts - outcomes for different species (pests / natives) = survival / death / decline etc

2.3.5 Computers x 4

<ul style="list-style-type: none"> • Relevant games – information, identification charts, site finding maps, international google wetland tours etc 	<ul style="list-style-type: none"> • Limited www access to predefined sites • Attractor loop • Link to wall mounted monitors • Link to server with selection of natural history interactive / educational games and programmes. Selection of games from simple (e.g. jigsaw pictures of wetland to reassemble) to more complex layered games (these can also be sold on CD)
<ul style="list-style-type: none"> • Wetland Trust wetland directory 	<ul style="list-style-type: none"> • On-line directory of wetlands people can visit in NZ



2.3.6 Wetlands – Form and Function

Objectives

- Demonstrate how wetlands as natural systems are useful to people and to the wider environment (not ‘worthless wastelands’) – what have the wetlands ever done for us!
- Identify main values that wetlands have
- Look at some of the processes that take place in wetlands (hydrology, absorption of pollutants etc)

Content and media

<ul style="list-style-type: none"> • Nutrient filters / improve water quality 	<ul style="list-style-type: none"> • Model or drawing magnified showing the ‘friendly’ bacteria on plant stems that de-nitrify water
<ul style="list-style-type: none"> • Sponges / flood control 	<ul style="list-style-type: none"> • Glass case housing live wire rush/giant cane rush, showing the roots of peat-forming plants that store water
<ul style="list-style-type: none"> • Carbon sink / denitrifies N03 to N2 or N20 / climate regulation 	<ul style="list-style-type: none"> • Use interactive models to explain with appropriate captions. Possibly use an actual sink in the carbon sink model “Is this a carbon sink?” Portray the amount of carbon stored in wetlands is the same as is currently in the atmosphere, draining all the world’s wetlands would double atmospheric carbon!
<ul style="list-style-type: none"> • High biodiversity / habitat values 	<ul style="list-style-type: none"> • Photo murals showing different wetland types and the different iconic and more secretive species found in them.
<ul style="list-style-type: none"> • Commercial values (harvesting / tourism) 	<ul style="list-style-type: none"> • Discovery drawers with examples of wetland products
<ul style="list-style-type: none"> • Cultural / spiritual values (Food basket / medicinal plants / aesthetics / peaceful) 	<ul style="list-style-type: none"> • Panel – a cook’s tour of a wetland – use 3 D elements for some products, create a recipe using wetland food
<ul style="list-style-type: none"> • Recreational / educational values (fishing, kayaking, hunting, education, whitebaiting) 	<ul style="list-style-type: none"> • Panels with a montage of recreation activities / school group etc
<ul style="list-style-type: none"> • Future values (for our kids) – what would we loose if we didn’t have wetlands? 	<ul style="list-style-type: none"> • Video – a future news broadcast about world troubles as a result of wetland loss. • Cut out of child with statement about how he/she wants wetlands to be there even if he/she might not see the things that are there on a regular basis

Objectives

- Emphasise that wetlands are some of the most diverse / richest ecosystems in the world.
- That wetlands are layered and that different communities occupy different niches and take advantage of the variety of conditions (including day / night, wet / dry etc)
- That pests and weeds lower the diversity of wetlands. Low diversity wetlands are more at risk.

<ul style="list-style-type: none"> • Different plant and animal communities in different types of wetlands. Use different NZ wetlands to highlight different communities 	<ul style="list-style-type: none"> • Wall panels combined with wall jigsaws. Fit the right species into the right wetland jigsaw. • 'Hands on' display allowing you to pick a wetland and work out what lives in it. Could be interactive based on EW posters
<ul style="list-style-type: none"> • High levels of endemism. We have things living here that live no where else in the world. What's more some of them are confined just to wetlands – sometimes just one wetland. Lose wetlands, lose the species 	<ul style="list-style-type: none"> • Panel • Model of one of our more unique species e.g. giant cane rush and the moth larvae Fred the Thread' who lives inside it. What happens to 'Fred' if his wetland is lost?
<ul style="list-style-type: none"> • Many species are secretive and we are still finding new species (Fred the thread). 	<ul style="list-style-type: none"> • Story of Fred the Thread on video – told by researcher. Produce as animated film (possibly a future project) – tie in to searches for signs of Fred in the giant cane rush bog (patterns on the plant stem)
<ul style="list-style-type: none"> • The interesting adaptations that wetland plants and animals have to help them to survive in difficult conditions (e.g. damp / acidic etc). e.g. camouflage, big feet, fuzzy spongy roots that grow upward etc 	<ul style="list-style-type: none"> • Panels showing different species with different adaptations. Some stuffed species. Panels have hooks with 'dress ups' eg large 'false' feet for kids
<ul style="list-style-type: none"> • Meet the enemy – an introduction to pests and weeds. What threats are faced by native wetland species 	<ul style="list-style-type: none"> • 'Real' weed samples in action – showing destructive properties. • Interactive (physical and electronic) – 'Make it through the maze' (on wall) without getting strangled by a plant or munched by a rat (random 'sticky ends' come to players. Some get through) • Panel • Spot the 'enemy' among the good guys – find (or perhaps 'shoot' with herbicide) the weed growing among the native plants in an interactive game with 'pop-up's' showing the little diagnostic features to look for to tell them apart. • Link to the good, the bad and the ugly – plant lookalikes, see natives and the weeds that look similar in the outdoor glasshouse.

2.3.8 How we use wetlands (in the past, now, future options)

Objectives

- Explore the ways we use wetlands (sustainable or unsustainably) and show how this has been of benefit to people (e.g., created farms) but also how it has created problems and led to loss of wetlands / loss of wetland quality

Content and media

• Kai / food gathering	<ul style="list-style-type: none"> • Archival film of use / development (e.g. dam development in South Island). Insert screen into panels • Panels • Samples of wetland products incorporated into panels (e.g. sphagnum / peat)
• Recreation / tourism	
• Drainage for agriculture / horticulture / forestry	
• Flooded for hydro	
• Industry (e.g. sphagnum, peat)	

2.3.9 Threats

Objectives

- Increase understanding about the factors that put wetlands at risk. Even things that may seem unrelated (e.g. washing car at home, water goes into storm water system, detergents end up in wetlands, using mould-killing bleach on roofs or paths that wash into stormwater and streams).
- What can people do to help minimise some of the threats.

Content and media

• Drainage / land conversion using the Ngatea Plains as a case study. From iwi hunting ground to fertile farmland.	• Historic images overlays – photography and re-photography ideas
• Flooding (e.g. for hydro)	<ul style="list-style-type: none"> • Panel • Could have reversible jigsaw, threats on one side, the solutions on the other • enlarged photo of drainage scheme with 3D elements possibly
• Flood protection schemes (prevent regular water input into wetlands)	
• Pollution / Eutrophication	• Actual things that cause pollution hanging from ceiling – tipping contents (figuratively) into a wetland panel. Diagram of effects in panel
• Invasive species - pests (including pest fish, deer, predators etc) and weeds).	• Glass case with pests crammed in / compare to fragility of wetland plants.
• Fire	• Video footage of fire in Whangamarino with panel info

2.3.10 Loss of wetlands

Objectives

- Illustrate how much we have lost in a short space of time.

Content and media

<ul style="list-style-type: none"> • Facts and figures of losses up to now and on-going loss 	<ul style="list-style-type: none"> • Map showing progressive losses (LED lights or equivalent)
<ul style="list-style-type: none"> • How do we compare internationally? 	<ul style="list-style-type: none"> • Spinable globe with comparisons

2.3.11 Who look after our wetlands?

Objectives

- Look at the questions 'Who does it' and 'Why do it'. Review the different agencies and groups that have an interest in wetlands (DOC / Councils / special interest groups, trusts / Iwi etc)
- Introduce visitors to individuals who make a difference.
- Encourage people to take action themselves and to believe that what they can do as individuals will make a difference. **(What you can do?)**
- Use case studies to highlight successes

<ul style="list-style-type: none"> • DOC / Councils / Fish & Game NZ / Trusts etc. Who they are and what they do 	<ul style="list-style-type: none"> • Cut out 'example' people with speech bubble explanations
<ul style="list-style-type: none"> • What can you do? 	<ul style="list-style-type: none"> • Panel with pockets for handouts / takeaways • Video clip of a landowner talking about their project (changeable) • Interactive landscape screen (bring your own landscape and add computer generated wetland features. Print outs can be picked up at desk (small charge).
<ul style="list-style-type: none"> • Examples of groups and specific projects and ideas and the people behind them. 	<ul style="list-style-type: none"> • Changing displays focussing on different examples (e.g Maungatautari wetland / predator proof fences /

2.3.12 Wetlands in art, myth, legend and in the media

Objectives

- Increase understanding about the role that art plays (and played) in our perception of the environment and the way we treat it as a result
- Increase understanding about the role that literature (oral traditions, written works, comics, news stories etc) have played (and play) in our perception of the environment and the way we treat it as a result

Content and media

<ul style="list-style-type: none"> • Our views of what wetlands are, are often defined by what we see and hear. Different now to 150 years ago. Different now to 20 years ago 	<ul style="list-style-type: none"> • Historical views / images of wetlands / contemporary views (art and sculpture) – use of flax and cabbage trees in art for example.
<ul style="list-style-type: none"> • Where did you get your impression of wetlands from? Was it from one of these..... How do these stories reflect the reality of wetlands today and here in New Zealand? 	<ul style="list-style-type: none"> • Different example from famous films and books (projections, still images etc, music from movies e.g. Deliverance). TV screen and ‘home’ seating to watch. • Have some of the books in the retail store.
<ul style="list-style-type: none"> • Wetlands in the media. Current issues (like the motorway / taniwha issue). Changeable with current newsworthy items. News headlines that give certain impressions of wetlands (trampers lost in mud infested hell hole / DOC fights fire in remote idyllic wetland). Quotes from people involved. ‘What do you think’ comments 	<ul style="list-style-type: none"> • Changeable display • Tablet and screen for ‘what do you think’.

2.3.13 Ramsar sites

Objectives

- To identify how New Zealand’s wetlands are seen in an international context.
- People will gain an understanding of the Ramsar treaty and what it means for us in NZ – and other countries.

Content and media

<ul style="list-style-type: none"> • What is Ramsar – why is it important? • Describe NZ’s 6 Ramsar sites and some proposed ones 	<ul style="list-style-type: none"> • Same map as above could also show Ramsar sites • Touch screen style possibly to bring up each site with descriptions • Information on visiting Ramsar wetlands
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2.3.14 Bird migration story

Objectives

- To use the stories of bird migrations between the hemispheres to highlight the international need for wetland conservation and international co-operation.
- Tie the New Zealand wetland story into the world situation – we lose our wetlands (or Siberia / Holland lose theirs) then the whole system goes down

Content and media

<ul style="list-style-type: none">• Stories of bird migration.• Godwit and lesser knot as specific examples. Use stories relating to their migrations. Include references to wetlands here and internationally.	<ul style="list-style-type: none">• Incorporate a floor element that can be made as a rubbing e.g. bird foot prints
<ul style="list-style-type: none">• When migratory birds leave New Zealand they have a long way to go and are dependent on wetland habits surviving in many other countries	<ul style="list-style-type: none">• Map (may be digital or 2 D) Show significant international wetlands and flightpaths. LED lights to illuminate paths• Link visitors trip to New Zealand with godwits and other international migrants. Did you spend a long time in the air visiting NZ? Godwits spent 7 days flying to get here. Or link our visiting birds to visitors homelands

3. Walkway circuit(s)

The walkway around the sites is part of the journey and part of the story. It should encourage people to stop and actively participate in the stories. It becomes a canvas for the regional stories about peat lakes and swamps etc. Different methods will be used in the construction of the walkway but in some areas they should reflect the materials and design of the main building.

Objectives

- To introduce themes to connect the site (Rotopiko / Serpentine lakes) with the regional picture and the national picture.
- To develop a strong regional picture using materials that can be reused at other sites / for other purposes

Content and media (general comments)

The stories of the site and the region told at different locations around the walkway – probably in defined hubs (eg the mainmai / a shelter, seating area etc). Format can vary – from panels, art/sculpture, audio, reconstructions etc

3.1 Wharf/jetty

An area where people can access the lake where wildlife / vegetation unlikely to be disturbed. Use as site for peat lake interp (see 3.2).

- Feed an eel (encourage ‘tame’ eels to wharf)
- Option for someone to operate a supervised kayak 'tour' operation

3.2 Peat lakes

Content and media

• Where to see other peat lakes	• Map panel (you are here - press button - run by solar battery)
• Facts and figures	• Panels format but built into wall of maimai (duck shooters hut)
• Eco stories. Formation and species	• Panel plus underwater viewing shute
• Human story - recreation (general)	• Recreation other than duckshooting (see 3.6)

3.3 Lowland swamps

Content and media

<ul style="list-style-type: none"> • Where to see lowland swamps 	<ul style="list-style-type: none"> • Outdoor book
<ul style="list-style-type: none"> • Facts and figures 	<ul style="list-style-type: none"> • Panel built into reconstructed / stylised waka
<ul style="list-style-type: none"> • Eco stories. Wildlife abundance 	<ul style="list-style-type: none"> • Panel built into reconstructed / stylised waka
<ul style="list-style-type: none"> • Human story - Uses / food basket 	

3.4 Bogs (restiad peat bog / spagnum)

Content and media

<ul style="list-style-type: none"> • Where to see other bogs (all types) 	<ul style="list-style-type: none"> • Panel with lift up lid - partly turfed with lift up to see cross section of spagnum (scaled down)
<ul style="list-style-type: none"> • Facts and figures 	<ul style="list-style-type: none"> • Panel with lift up lid - partly turfed with lift up to see cross section of spagnum (scaled down)
<ul style="list-style-type: none"> • Eco stories. Rare and unusual species 	<ul style="list-style-type: none"> • Search for signs of 'Fred the Thread' markings on the giant cane rush stems • Emphasis on planted areas of giant cane rush
<ul style="list-style-type: none"> • Human story - Preserving history – items and even bodies preserved in bogs (here and internationally) – tell us more about the past. Also spagnum harvest 	<ul style="list-style-type: none"> • Panel • Cross section mockup of items hidden in mud • Clear sealed tubes filled with dried spagnum • Possible audio of one of the people involved in the industry

3.5 Kahikatea swamps (in kahikatea grove – viewing platform)

Content and media

<ul style="list-style-type: none"> • Where to see kahikatea other forest / swamps 	<ul style="list-style-type: none"> • Large format image of South Island kahikatea forest (west coast) – with map
<ul style="list-style-type: none"> • Facts and figures 	<ul style="list-style-type: none"> • Inscribed in long thin strips built into display
<ul style="list-style-type: none"> • Eco stories. Historical use of timber / land drainage 	<ul style="list-style-type: none"> • Opposing image to one above showing drainage (Ngatea land drainage)
<ul style="list-style-type: none"> • Human story - someone involved with conservation movement / forest protection 	<ul style="list-style-type: none"> • Possibly an audio of Maori nose-flute music (atmosphere rather than related to particular story) • Quotes from Joseph Banks impression of kahikatea forest in the Piako River from James Cook's voyage

3.6 Maimai

Objectives

- Introduces hunting as a recreational use of wetlands along with associated issues – animal rights, work for conservation, conflicts of use, risks and benefits to native species from creating habitat for exotic game birds (e.g. inbreeding with grey duck) – how to minimise risks.

Content and media

<ul style="list-style-type: none"> • People use wetlands in different ways (focus on the culture of duck hunting / life styles). Different uses can be in conflict. 	<ul style="list-style-type: none"> • Mock up of maimai interior / exterior • Model or cutout of duck hunter with audio (lifestyle / culture stories)
<ul style="list-style-type: none"> • Alternative views (e.g. land mangers, animal rights people, Maori, other recreational users of wetlands 	<ul style="list-style-type: none"> • Cutouts of other ‘characters’ with alternative views (these could be changed weekly or monthly). Use with school ‘debate’ activity eg – you are the hunters, you are the animal right people, you are the conservation staff, etc – what are your points of view/ concerns? How can they be accommodated?
<ul style="list-style-type: none"> • Game birds – Native species / other species / the law. Main species with short descriptions. Some are native – what native species are not protected. Why not / should they be? / what mechanisms are in place to ensure they don’t get shot out? Are some game birds pests – when is a pest not a pest – when someone wants to hunt it (e.g. coarse fishers / koi) 	<ul style="list-style-type: none"> • Static images – cutout silhouettes – for younger kids • Panel info on species protection • Panel info on wetland birds / gamebirds. • Interactive games (physical / not digital) (i) encouraging people to think about what the difference is between protected species, game birds and pest species (ii) possibly a 'hunting' game
<ul style="list-style-type: none"> • Maimais are a part of the landscape now but are architectural oddities with the potential to be regulated out of existence. Also ... is that whole lifestyle on the wane? 	<ul style="list-style-type: none"> • Photo books (images from hunting culture).

3.7 Bird hide

Objectives

- A quiet place to contemplate the beauty of wetlands / encourage observation
- Provide a viewing area close up without disturbing wildlife



Content and media

<ul style="list-style-type: none">• Listen, look, smell, touch, taste (?) – what makes a wetland – a sensory experience. Encourage people to get up close and personal with a wetland.	<ul style="list-style-type: none">• Access to water and mud / views out onto one of the lakes• Photos of the same view in different seasons (e.g. in early morning fog, late afternoon sun to show the dynamic nature of a single spot)
<ul style="list-style-type: none">• How to draw a bird. Encouraging people to observe	<ul style="list-style-type: none">• A step by step drawing guide.• Have examples of famous drawn birds in different styles (eg from Buller to Biney)

3.8 Predator proof fence / other management systems and options

Objectives

- Highlight practical / possible options for managing wetland areas from the easy and cheap to the extreme

Content and media

<ul style="list-style-type: none">• Predator proof fence (either set up to enclose an area or just a sample section)	<ul style="list-style-type: none">• Showcase history of development and use / examples / benefits and costs.
<ul style="list-style-type: none">• Regular fence / other management options that can be illustrated in part / replanting / pond development	<ul style="list-style-type: none">• Discuss pros and cons. Use case studies• Discuss pros and cons of pest eradication

2.3.9 Pataka (Maori storage hut)

Objectives

- Provides more information about wetlands as places of Maori tradition associated with food gathering
- Wetlands were seen as valuable assets by Maori not wasteland
- What was harvested and how (then and now)

Content and media

<ul style="list-style-type: none"> • Role of pataka in relation to gathering of food in wetlands 	<ul style="list-style-type: none"> • Compare pataka to modern storage options
<ul style="list-style-type: none"> • Identify traditional food species and the way they were preserved. 	<ul style="list-style-type: none"> • Images and / or models. Short captioned texts • Cutout of Maori child – what was their role in food gathering • Photo books (historical images of wetland pa – food gathering etc). • Computer Interactive ‘game’ (eg storing food - would you survive over winter). Choices – choose ‘a’ or ‘b’ - if ‘b’ – your food rots and you go hungry • Busy days (public holidays) could have ‘wild foods stall’. Otherwise stock something along those lines (kawakawa pepper) in the shop
<ul style="list-style-type: none"> • What are the connections to today – traditional harvest issues (e.g. smaller eels than previously etc) 	<ul style="list-style-type: none"> • ‘People’s thoughts’ board – written quotes from prominent Maori re traditional harvest – different opinions and view points. Background illustration relating to harvest e.g. drying eels
<ul style="list-style-type: none"> • Changeable display area 	<ul style="list-style-type: none"> • Related displays e.g a kite weaving display / edible foods (with samples)

4. Potential future functions / developments

4.1 Resource room (limited public access - Non interpretive)

A space to house 1-3 computers for data-base searches, research papers etc, library, resource files. Computers needs to be additional to staff requirements. Other resources need to be accessible for reception staff to use photocopier etc. I.e , space must be adjacent to staff areas and access able to be controlled by staff.

Content and media

• Networked computers
• Scanner
• Laser printer
• Photocopier

4.2 Café

Open to all-comers – gives selected glimpses out to the site. Café themed tastefully around wetlands.

Content and media

• ‘Site cam’ – live feed from a portion of site – displayed on screen
• Internet kiosks
• Wall mural (with things kids can do built into it (e.g. crawl-through a ‘pond’ - see some underwater life in crawl-through. Mural is graphic style not photo montage

4.3 Kid’s outside area

Objectives

- Primary intent is that kids have fun. Learning is secondary but activities should be themed.

Content and media

• Be an eel. A crawl-through as if you are inside / underwater in a wetland – what will you see.	• Crawl through construction. Mock under-water with images and ‘touchables’ of things you’d experience if you were right in a wetland
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<ul style="list-style-type: none"> • 'Making a dam' interactive 	<ul style="list-style-type: none"> • Make section with alternative pathways for water flow. Different results happen with different actions (e.g. taking away water flow for irrigation / dam and diverting more flow into a single channel / land development)
<ul style="list-style-type: none"> • 'What's wild in wetlands. Ties into the 'wild animals' / bayou perceptions of wetlands. 	<ul style="list-style-type: none"> • A large-scale pick up pieces / models puzzle –(e.g. Crocodiles in Canada? Hippos in Helensville? – pukekos in Paris?) Models of international wetland species x 4'Models. • 'Hands in' set up "what would I find in this type of wetland" have to guess from the feel of object. • Explore and find section – with 'take home' treasures
<ul style="list-style-type: none"> • A board game (large scale built into surface of deck or hardened surface) 	<ul style="list-style-type: none"> • "The Whitebait River Race" - 3 D board game. Like snakes and ladders but covers the migratory story of galaxids (meet a dam that you can't climb up, go back 2. Find a fish pass go forward 3). Flat graphics and 3D modelled elements.
<ul style="list-style-type: none"> • Viewing tower and eel slide 	<ul style="list-style-type: none"> • Slopes and landings to simulate and interpret fish ladder over dams, and slide with mock (sponge) turbine kids can use to try and 'catch' the eels (other kids) sliding down.
<ul style="list-style-type: none"> • 'Wet-lab' 	<ul style="list-style-type: none"> • Tanks with wetland plants kids can use to create a 'bog in a cup', purchase cup from retail area and decorate with wetland theme.

4.4 Gathering Place

Semi open area for school groups to congregate. Include same sculptural images from front entrance on shelter wall to create shelter from wind / rain.

4.5 Multi-media Experience room / corridor

With surround projections taking you through a day in the life of a wetland in 5 minutes. As day turns to night different species are seen, different scenes are presented (e.g. at dawn a hunter goes to his maimai etc). Also views above water and below water. Could have additional underwater experience with video projection of underwater plants from drift-dive taken with fish-eye lens, bubble generator simulating gentle current, wind generator to crank up the water current. Possibly showing 'fish-eye' view of threats through the ceiling – e.g. cow face or back-end looming over, fisherman, stormwater pipe with periodic 'discharge' onto the ceiling.

4.6 Overnight wetland experience

Set up as a unique / exclusive opportunity (for a price) - possibly either in the mai mai or associated structure set up as a rustic 'hut' accommodation unit.

4.7 Glass-bottom boat or sunken glass room to experience lake underwater environment

4.8 High level forest walk through kahikatea forest.

1. Wetland Focus Group - Interactive travellers

Participants

Adrian and Judi	Wealthy New Zealanders, well travelled overseas/NZ
Leonie	Upper middle-income, travels in NZ and some overseas
Richard	Middle income from USA, has travelled in NZ/overseas
Anna	Lower income, rural landowner, well travelled in NZ
Ben	Middle income local nursery owner/landscaper, well travelled in NZ
Wendy	Alternate lifestyle, well travelled
Akiko and Keiko	Japanese backpackers, first trip to NZ.

Summary of responses

We had a lively discussion around all the questions, particularly what people liked and didn't like about visitor centres, museums etc. It was clear however that visiting wetlands was not top of the list on participants' travel itinerary, although with the exception of the backpackers everyone was very aware of their ecological value. The participants thought this would be similar for other visitors and felt that special efforts needed to be made to attract people to such a centre. They also thought the centre designers needed to be very clear about their purpose and to target their audiences appropriately.

Although the backpackers had limited English, this in itself provided a useful contribution – they said they often found visitor centres/museums outside of Japan boring because they couldn't understand interpretive material and therefore placed a lot of importance on excellent visual media.

Responses to questions

When you visit museums, visitor centres, zoos etc what services would you expect to find?

- Toilets (this was an emphatic first response from nearly everyone at once!)
- Changing rooms for babies
- Café, with real food not chippies and chocolate bars
- Needs to be well lit
- Mix of interpretive media
- Ability to get out into the environment and be a part of it, e.g. through a boardwalk

- Translations into other languages. Could be cards, a self-guided prompt/brochure or via headsets and tapes/CDs
- Information needs to be aimed at all age levels and different levels of understanding rather than generically assuming everyone knows nothing or everything
- Interactive displays, e.g. make your own bird, build your own meeting house
- Provide a separate area for bus-loads of kids
- Somewhere to get out of the rain, important in NZ as it's often wet
- Something which orients you to the centre/museum
- A welcoming face and someone who is knowledgeable who can direct you where to go, what's best for your interests
- Using local tangata whenua as guides
- A shop with quality/classic local products, not plastic tikis
- Interpretation of history not only natural values – show a timeline
- Something that talks about current day practices and uses
- More seating than is usually provided
- Water coolers
- Needs to be affordable – NZ visitor experiences are often expensive for backpackers and NZers themselves
- Parent friendly

When you visit visitor centres, museums etc what are the things you like most and least about the displays?

Like most

- Lots of audio visuals – videos, movies etc running regularly
- Dioramas, like life-scale recreated scenes in history, habitats – you don't always get to see the real thing at the site
- Everything explained, all the plants and animals not just some. All the names like in Maori, English, Latin
- Well lit areas
- Displays which are well maintained and look professional
- Nice finishings overall using NZ products
- Visually exciting stuff, makes you enthusiastic and interested – colourful displays
- Variety of media needs to be used, mixing read text, tapes, AVs, going into the environment

Like least

- Dirty toilets
- Crappy-looking displays, not cared for, mouldy, text missing etc
- Dark places
- Text it's hard to read, so if they've used a dark background and put writing on top you can't decipher
- Languages we can't understand, everything aimed at English speakers
- Early closing – assumes tourists keep standard work hours. Lots of people travelling would particularly prefer places stay open later
- Tiny writing
- Dry information
- Nowhere to sit down
- Poor spelling, bad grammar in writing
- Displays which aim to please everyone rather than identifying the target audiences

Have you ever visited a wetland site in NZ or overseas?

- Most people needed to think about this question for a few minutes before answering. The Japanese girls had trouble understanding the concept of a wetland and had never seen one – the group talked about the symbol of JAL (the crane) and its habitat, which helped them make the connection.
- Adrian and Judi, former dairy farmers, had once been to a man-made wetland created on an environmentally-friendly farm in the Manawatu as part of a conference and had visited another site in the Bay of Islands;
- Leonie and her husband had deliberately visited the latter site as a stop-off on a boating trip;
- Richard had been to the Great Dismal Swamp in the Eastern USA twice, although because he was travelling through it rather than specifically to visit it;
- Anna and Ben had done the mangrove walk by the Whangarei aquatic centre a few times;
- Adrian and Judi had also been to the Florida everglades for holidays although this was because of the reputation of the everglades themselves rather than because they are a type of wetland. They really liked a slower-paced, ecologically focused airboat trip they went on as opposed to a 'horrible, noisy fast thing which was a menace”.

When the word wetland is mentioned, what images spring to mind?

- Swamp – stinky, reeds, cattails, raupo
- Mangroves
- Not many left
- Bitterns

- The crane on JAL Airlines
- Binoculars
- Swampy water
- You either love wetlands or hate them
- The birds
- Big education push for fresh water sites
- Need to look after them
- Historical values, who was there before
- Grebes
- People don't know enough about them
- Lovely botanical values, all the plants and insects
- How councils want us to look after them.

What information would you expect to expect or like to find in a centre specializing in wetlands?

- Information about the flora and fauna, especially the birds
- Definition of a wetland
- Information about the creepy crawly things
- Why wetlands – how they were/are created, why they are so important (lots of emphasis on the why important)
- How people lived before there, there's often nothing on the history of the people
- Stuff about the mozzies and sandflies
- Information in different languages, please!
- Medicinal and cultural uses
- What uses wetland "products" have like flax, raupo – before and now, eg flax mills
- Something that pulls people in – a giant taniwha or bird outside so it gets you interested and wanting to go there. Use Weta Studios!
- Information that's aimed at people like us, not just kids or scientists
- Being able to be in a wetland at night – what it's like at different times of the day and night.

Which ways do you most/least like to receive information or learn about new things?

Like most

- AV type, lots of moving visuals like videos, movies
- Ability to get out in the site, such as a boardwalk, places to experience the wetland itself and see what lives in it (several people including the backpackers mentioned a very good local forest canopy walk in AH Reed Park)
- So I can see things, e.g. binoculars in this case
- Interactive displays, either making things, touchy feely things like a touch tank in an aquarium
- Computer interactives
- Life cycle demonstrations
- Things I can read, either brochures or display text
- Stuff kids can enjoy while I get into other things and take it all in
- Reading material I can carry around with me and refer back to
- Souvenirs to take away which are useful for adults and might remind me of what I saw like a keyring or fridge magnet. Although free “showbags” with educational info for kids to take away are really good.

Like least

- Computer interactives
- Information to take away which will just get trashed. Spend the money instead on better quality displays
- Information based around one aspect of the place instead of looking at the people and the plants. It’s very frustrating if only botany is covered for example instead of the history of the people as well.

Is there anything else you would like to say about the proposed visitor centre?

- Needs to be a real emphasis on who it’s for and how to get people in there
- The shop could have good carvings from a local carver, needs material from local artists
- Have a café which stays open for evening meals, especially at that (the Rangiriri) site as there’s nothing of quality between Auckland and Hamilton – people could have dinner and experience the wetland at night. Cool!
- If you had the water coolers you could market it as “swamp water”
- Demonstrations of flax weaving would be good
- Free binoculars, not ones where you have to pay extra or give people tokens to use when they come in
- Provide cheaper alternative if people don’t want to pay (eg displays in the café or shop or picnic area)
- Need to be able to see the live stuff easily, like eels – maybe feeding the eels, attracting the marsh birds at different set times otherwise visitors might not see anything. Very annoying!!
- Kids can collect the bugs through an activity.

2. Wetland survey - School groups

Participants – two Auckland secondary school science classes (junior / senior)

Summary

Overall the students had a good broad knowledge of what wetlands were although some of their specific perceptions seemed to be formed from popular culture rather than real or 'New Zealand' experiences. There were general similarities with what the students expected from a visitor centre experience and what they liked and didn't like. The most popular content elements were hands-on type activities and games – only two students specifically mentioned computers as something that they liked or would put into a centre if they were designing it. Lengthy texts were disliked as were tours / tour guides (perceived as boring). Students were both quite inventive (e.g. commando mud pools for active use by kids) and quite practical (e.g. safe toddler play area) when it came to things they would put in a wetland centre – one even went so far as to draw a floor plan!

Reponses to questions

What are the things you like best in visitor centres, museums or zoos?

- Interactive / hands-on activities / practical things you can play with or use (15)
- Experiments
- Things that are different / interesting / useful (4)
- Things that make you think
- Learning (2)
- Diagrams
- Understandable information
- The organisation boards saying what's in there and something about it
- I love the new exhibits at museums, pamphlets and information
- Things all around you to read and look at
- Microscopes
- Touch screen computers
- TVs showing information / videos
- Things that make noises

- 3 D objects on the walls / Models (3)
- Real animal skeletons
- I like tunnels you have to go through to see things – best when pitch black and you can't see anything
- Bright colours (2)
- Visual things / pictures (3)
- The darkness of those rooms at the zoo
- Real animals (5)
- Feeding animals (2)
- Strange looking insects
- Deadly stuff
- Free stuff
- Gift shop / Souvenirs (4)
- Curved lines

What are the things you like least in visitor centres, museums or zoos?

- Things about clothing
- Things that you have to read a lot to get the information (10)
- Too much historic information
- Monotonous / boring tour guides (6)
- Irrelevant or boring information (3)
- Having to learn about things that are boring and take notes during tours
- Worksheets where you have to fill in the facts
- Things that are displayed in a boring way
- Exhibits where you can't see the animals or things properly
- Small fonts / lettering
- Things that don't move on their own
- Nothing to look at or do (2) Being out in the open on hot days (2) "I'd rather be inside with air con"
- Where you have to walk everywhere / too far to see things (3)
- Having to walk around for ages because the place is so big / get lost in (2)

- If there is no food area
- Concrete walls / floors (2)
- Small rooms
- Bright fluro lighting
- Anything that smells horrible
- Plastic annoying gift shops

What images come into your head when someone says 'wetland'?

- Swampy America and hover boats
- Insects / creepy crawly bugs (3)
- Alligators and crocodiles, snakes leopards
- Scavengers
- Long legged herons looking for food
- Wet / muddy / humid areas (15)
- Swamps (12)
- Estuaries, mud flats, crabs, mangroves (4)
- Trees / rain forests / shrubs (5)
- Waterfalls, rivers, lakes (3)
- Long wet grass (4)
- Wetland animals / birds / fish (8)
- Ferns
- Mountains
- Nature and animals
- Rubbish / polluted rivers
- Floods
- A boring place where nothing happens
- No one there
- Fun and excitement
- Deep blue / Green

- Muddy shoes
- Rocks
- Lord of the Rings

If you were a designer of a visitor centre or museum about wetlands what would you put in it?

- Fun, hands-on activities people can do / interactive displays / active involvement (13)
- Free Telescopes and binoculars (2)
- Microscopes
- Exciting puzzles, mazes, tunnels for kids
- 3D Models (3)
- Large models of animals
- Press buttons giving info about pictures
- Touch screen computers
- Lord of the Rings video that has wetlands
- A theatre / movies that shows wetlands and (related) stuff (2)
- Dead carcasses of all the things that live there
- Mud samples
- Lots of mud sand and water
- Lots of pictures (6)
- Bright colours (as wetlands seem pretty dull)
- Information for everyone – kindergarten stuff to professional scientist stuff (2)
- Interesting things (3)
- Lots of strange facts like how the average person uses 60 sheets of toilet paper a day but about wetland things
- A quiz
- Stuff that kids will like
- Create indoor wetlands (2)
- A miniature / artificial wetland / lake that you can walk around (2)
- Real wetland as an animal/bird sanctuary
- Real animals / enclosures / aviaries / aquariums (5)

- Crocodiles
- A massive mud pool – kids bring bad cloths so they can do activities in it like commando missions with nets and stuff and have showers and changing rooms incorporated
- Suspended walkway / pathways over wetlands (2)
- Make a loop walk without detours
- An obstacle course
- Boats so you can go out in the wetlands (3)
- A bush theme
- Make it dark and creepy
- Decorations so it will look flash
- Play areas for little kids
- Easily accessible exit
- Water fountains
- A lounge
- Café / Vending machines / lollies (4)
- Astroturf flooring and pathways
- Gift shop (4)
- Toilets
- Air conditioning and heating

Teacher response

- Group size: 25 – 30
- Requirements: Tables and chairs
Activities for 5 – 6 groups
- Presentation styles: Hands-on
- Take-away resources: Worksheets from activities
- Design ideas: Comfortable, light, interesting displays

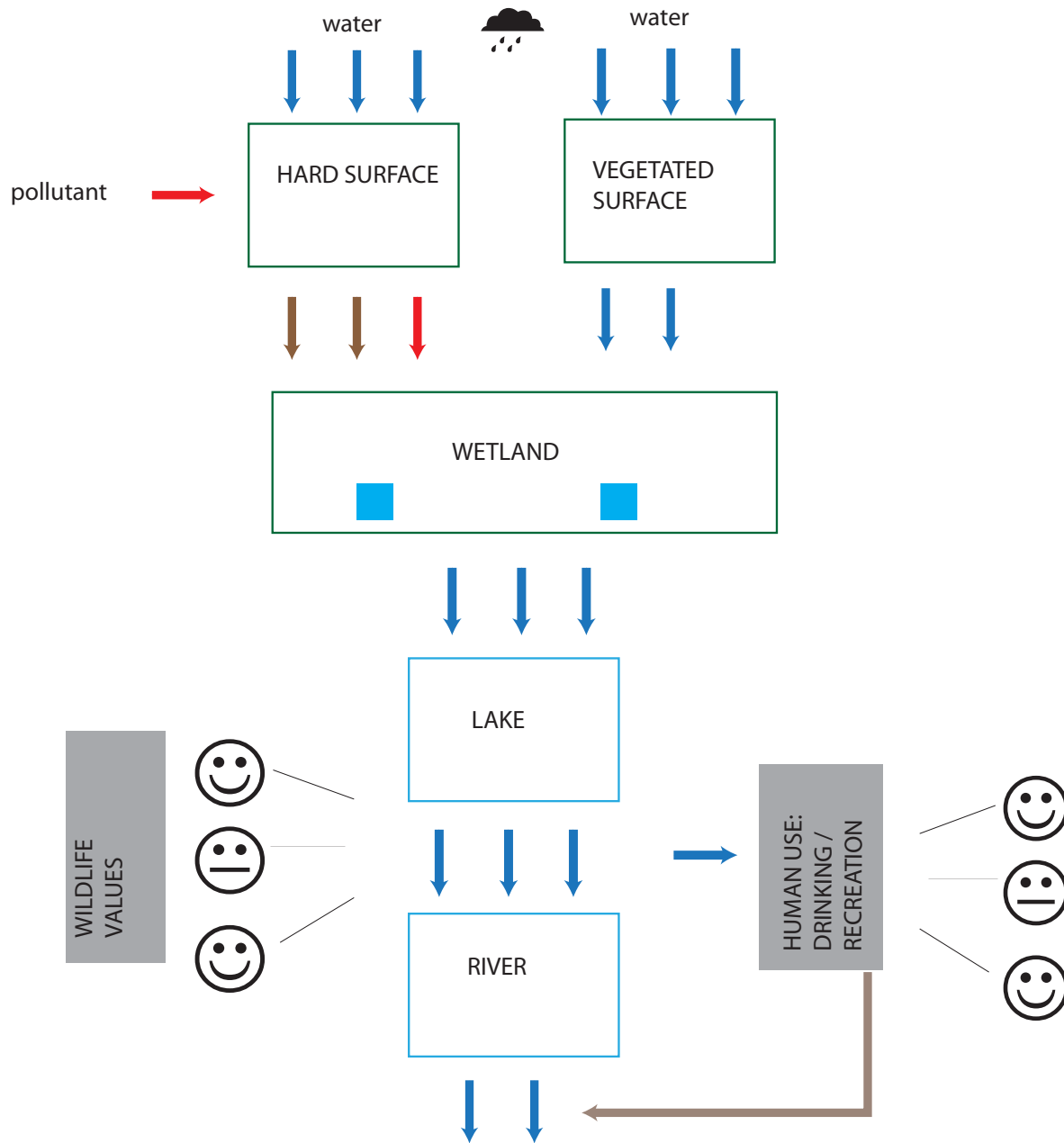
Critical path: design and implementation of National Wetlands Centre

This process comes after the initial decision making process of the project management team

- Feasibility studies
- Site choice
- Business / project plan
- Interpreters / Architects / Landscape architects

Interpretation concept development				If required funding available		
Research	xxxxxx					
Specialist inputs	xxxxxx					
Concept designs to draft stage		xxxxxxx				
Approval of drafts			xxx			
Costing estimate					xxx	
Text outline			xxx			
Architectural / landscape plans						
Research	xxxxxx					
Specialist inputs	xxxxxx					
Concepts to draft stage		xxxxxxx				
Approval of concepts			xxx			
Costing / timeline estimates					xxx	
Detailed design						xxxxx
Working drawings (interp & architectural) & documentation						
Concept designs including plans, elevations, detailed working drawings and specs						xxxxx
Prepare / submit accompanying documentation						xxxxx
Display works						
Text						XXXXXXXXXXXXXXXXXX
Graphics						XXXXXXXXXXXXXXXXXX
Photography (commissioned)						XXXXXXXXXXXXXXXXXX
Source stock photography						XXXXXXXXXXXXXXXXXX
Model making						XXXXXXXXXXXXXXXXXX
Digital manipulation						xxxxxxx
Digital output						xxxxxxxxxx
Display fabrication						xxxxxxxxxx
Other (e.g. audio visuals)						XXXXXXXXXXXXXXXXXX
Construction (following consents)						
	xxxx				xxxxxxxxxx	
	xxxxx				Xxxxxxxxxx	
	xxxxx				xxxxxxxxxx	
	xxxxx				xxxxxxxxxx	
Surfaces prepped for display installation					xxxxxxxxxx	
Installation						
					xxxxxxxxxx	

APPENDIX 3 - INTERACTIVE CONCEPT (DRAFT)



Variables : Increase / decrease / remove / add
↓ Variables: quantity / colour
😊 Variable outcomes
 Variable: stored water

Possible to build in evaporation feedback loop as well??



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