

Handbook on Best Practices for the Planning, Design and Operation of Wetland Education Centres



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Cover photo (back)

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The Convention on Wetlands of International Importance, also known as the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. www.ramsar.org



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Summary of the Handbook

Purpose of the Handbook

The objective of this Handbook is to present a range of key lessons learnt from a variety of wetland education centres around the world. It is hoped that these lessons will inform people involved in the planning and development of new centres or will assist others in the redevelopment or management of existing centres. This Handbook builds on, and borrows from, a previous online manual published in 2006 by Wetland Link International entitled 'Developing a Wetland Centre' which aimed to provide information to anyone interested in developing a wetland centre.

The target audience for the Handbook is intended to be diverse and extensive. This reflects the breadth of skills and interests involved in the design, planning and operation of wetland education centres.

For instance:

- * Are you an architect commissioned to build a wetland education centre?
- * Are you a conservation organisation thinking about developing a wetland education centre?
- * Are you a government official considering funding a new wetland education centre?
- * Are you currently managing and operating a wetland education centre?
- * Are you a consultant involved in the development of a wetland education centre?

This Handbook should have something of relevance to anyone involved in the planning, design and operation of wetland education centres. However, it must be emphasised that this Handbook is not a step-by-step guide to the development and management of wetland education centres. The planning, development and management of wetland education centres requires specialist skills combined with the know-how and dedication of exceptional individuals.

Structure of the Handbook

The Handbook is divided into chapters each of which deals with a component of the planning, design and operation of a wetland education centre. Throughout the Handbook, case studies drawn from around the world are used to illustrate key aspects of wetland education centres.

Each chapter of the Handbook identifies key lessons that have been learnt from the planning, design and operation of wetland education centres from all over the world. The individual chapters provide a range of technical and theoretical information to assist people involved in wetland education centres. A glossary of commonly used terms and suggested further reading and references are provided. The content of Handbook and each chapter are summarised in the following table.

Summary description and key best practice messages

Chapter 1

Background to Wetland Education Centres

A brief summary of history of wetland education centres and links with the Ramsar Convention.

Chapter 2

Planning or redeveloping a wetland education centre

Description of assessing the need for a centre, setting a vision, developing a masterplan and taking the masterplan through to implementation.

- * If you are planning a new wetland education centre, assess that there is a genuine need to have a centre.
 - * If you are at an existing centre, recognise that the centre may need redevelopment.
 - * Establish a clear vision for your centre.
 - * Create a learning environment with key goals of wetland education and conservation.
 - * Ensure that the necessary skills, experience and resources are in place to deliver the vision.
 - * Make sure that all stakeholders are identified and appropriately engaged.
 - * Listen to expert advice and guidance.
 - * Control and guide enthusiasm of stakeholders in order to keep to the vision.
 - * Develop a robust masterplan.
 - * Create a building that is fit for purpose.
 - * Define a sustainable financial plan for the centre which controls expenditure.
 - * Avoid impacts to existing wetlands.
-

Chapter 3

Ensuring the financial sustainability of a wetland education centre

Summary of the key issues to consider when planning the overall business and financial model for the wetland education centre, including consideration of operational and capital budgets.

- * Always develop a rigorous business plan.
 - * Ensure adequate market research and marketing are undertaken.
 - * Understand where capital funds will come from.
 - * Never commence a major capital project without having secured funding in place.
 - * Make sure that all long-term operational costs can be met.
 - * Diversify income streams to avoid becoming reliant on a single source of income.
 - * Embrace different ideas for generating income.
 - * Consider using volunteers to minimise overall costs.
 - * Ensure that routine financial management is undertaken to control budgets.
-

Chapter 4

Wetland education centre location in relation to the site

The principles of integrating people with wildlife and understanding how to minimise impacts on sensitive wetland environments.

- * Avoid impacts to the ecological character of all wetlands.
- * Ensure that the very habitats and species that inspired the establishment of the centre in the first place are protected from potential impacts by visitors.
- * Ensure that a robust environmental and ecological baseline is established prior to planning any developments.
- * Consider zoning areas to protect sensitive habitats and wildlife and to appeal to different types of visitor.
- * Think about the type of centre that is fit for purpose in the site.
- * Understand the position of the centre with regard to wider physical and cultural landscapes.
- * Sensitively integrate internal and external spaces.
- * Understand how visitors will travel to and access the centre.
- * Understand how different types of visitors will use different parts of the site.
- * Understand the flow of visitors around the site.
- * Comply with all wildlife and environmental legislation.

Chapter 5

CEPA programmes and learning content at wetland education centres

Advice on developing a range of innovative and creative CEPA programmes and understanding how people learn, how interpretation can be planned at a centre, what types of audiences may visit the centre and considering the moral and ethical perspectives of live animal exhibits.

- * Understand that visitors will comprise different groups and that people have different learning preferences.
- * Develop clear learning policies and interpretation plans.
- * Define the key messages and stick to these.
- * Education and learning can take place outside of a classroom and can be targeted at all age groups.
- * Ensure that adequate budgets are in place to deliver the interpretation plans.
- * Use a variety of media and techniques to convey messages.
- * Ensure that all opportunities to convey a message are taken.
- * Seek to improve existing programmes, try new ideas, seek to innovate and be creative in developing new programmes to match the various types of visitor.

- * Consider a pilot run or a soft launch of a new programme.
 - * Consider carefully the issues surrounding captive animals and feeding wild animals.
 - * Consult with stakeholders when developing new programmes.
 - * Consider working with external specialists.
 - * Undertake regular monitoring, feedback and evaluation.
-

Chapter 6

The importance of volunteers

Understanding the potential importance and variety of roles volunteers can have within the running of a wetland education centre.

- * Volunteers bring huge benefits to wetland education centres.
 - * While essentially a “free” resource, volunteers still need effective recruitment, training, development and management.
 - * Volunteers need to be kept motivated and engaged.
 - * Volunteers can provide centres with a vast range of skills and experiences.
 - * Volunteers can become important ambassadors for centres, taking the message into the wider community.
 - * Working with volunteers may well be subject to specific legal requirements.
-

Chapter 7

Wetland education centres and sustainable design

Understanding how a wetland education centre can also be a best practice example of economic, social and environmental sustainability.

- * Consider sustainability issues as early as possible in the design and planning process.
 - * Think about long-term costs and benefits of sustainable solutions - be prepared for the initial costs to appear higher or less attractive but focus on the long-term benefits.
 - * Integrate the three pillars of sustainability - environmental, social and economic - into the centre development.
 - * Source and use local and sustainable materials within the centre.
 - * Develop centre-specific sustainable solutions.
 - * Embed sustainability messages at every opportunity throughout the centre.
 - * Explain the links among sustainable practices and wetland conservation issues.
 - * Practice what you preach and implement sustainable solutions as part of the fabric of the centre.
 - * Ensure that all staff and volunteers understand and deliver sustainable working practices.
 - * Aspire to achieve national or international accreditation in different elements of sustainability.
-

Chapter 8

Quality assurance

Advice on how the importance of monitoring and evaluation as a means to ensure the quality of the centre.

- * Recognise the need for establishing and maintaining a quality assurance programme.
 - * Ensure that there are sufficient resources to implement the quality assurance programme.
 - * Make sure the quality assurance programme is fit for purpose with clear objectives.
 - * Consider external certification, accreditation or review.
 - * Believe the results.
 - * Act on the results.
-

Chapter 9

Continual professional development (CPD)

Ensuring that staff continue to develop and that the centre provides opportunities for continual professional development.

- * Recognise the benefits to both the centre and its staff of developing CPD programmes.
 - * Develop CPD programmes for all centre staff.
 - * Set realistic and achievable objectives for staff.
 - * Ensure that staff are encouraged and supported to complete their CPD programme.
 - * Develop CPD programmes in order to reach out to other stakeholders.
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Chapter 1

Background to Wetland Education Centres

1. What is a wetland education centre?

Most people recognise the terms ‘national park’, ‘nature reserve’, ‘botanical garden’ or ‘zoo’. However, the idea of a wetland education centre may not be as clear. For the purposes of this Handbook a wetland education centre can be defined as a place where there is interaction between people and wildlife and regular CEPA (Communication, Education, Participation and Awareness) activity occurs in support of wetland conservation aims. Usually such a place will support physical facilities for visitors.

Many wetland education centres may also be nature reserves. Also included are environmental education centres, field study centres, zoological and botanical gardens, many interactive natural history museums and a wide variety of community site-based centres. It is also possible that, due to the sensitivities of a site or the concern that visitors could impact upon important wildlife, a wetland education centre might be located at some distance from an actual wetland but still maintain virtual and educational links with the site.

Wetland education centres can be managed by governments, non-governmental organisations, private individuals and companies, or by any combination of these organisations through partnerships. They may be small centres dependent on civil society volunteers or expensive projects receiving backing from a central or local government.



Azraq Wetland Reserve managed by the Royal Society for the Conservation of Nature (Jordan) © Lew Young



Information Centre managed by the Royal Society for the Protection of Nature (RSPN) at the Phobjikha Conservation Area (Bhutan) © Lew Young

2. Global perspective on wetland education centres



WWT Slimbridge very early beginnings, 1946 © wwr

Some wetland education centres have a long history going back over half a century. For instance, the Wildfowl & Wetlands Trust's (WWT) headquarters at Slimbridge, UK, has been bringing people and wildlife together since 1946 and the National Audubon Society in the USA established their first centre, the Theodore Roosevelt Sanctuary & Audubon Centre, close to New York on Oyster Bay, in 1923.

Today, with the exception of Antarctica, wetland education centres can be found on every continent. They occur from the south of Africa (Ingula Visitor Centre, South Africa) to the far north of Europe

(Liminganlahti Visitor Centre, Finland); from the land-locked centre of Russia (Meshchera National Park) to the warm coastal areas of Asia (Nagenahiru Environmental Education Centre, Sri Lanka); and from the tropical forests of South America (Napo Wildlife Centre, Ecuador) to deserts of the Arabian peninsula (Qurum Environmental Information Centre Project, Oman) and the Australian outback (Window on Wetlands Visitor Centre, Australia).

Wetland education centres vary greatly. Some are relatively modest with limited facilities and attract relatively small numbers of visitors (Miyajimanuma Waterbird and Wetland Centre, Japan). Others have extensive buildings and facilities and attract hundreds of thousands of visitors each year (Hong Kong Wetland Park). Some are located in the heart of extensive rural, wetland landscapes (Oak Hammock Marsh Interpretive Centre, Canada) while others provide pockets of tranquillity in busy metropolitan areas (WWT London Wetland Centre, UK).

There is no one model of a wetland education centre. Reflecting the indigenous wildlife, culture and geography of the wetlands associated with each locality, each centre should develop and be adapted to its surroundings in order to engage with visitors and to raise awareness of the importance of wetland conservation.



The Ottoman Forts hosting the Wetlands information and education centre of Ghar El Melah, Tunisia. © Faouzi Maamouri, WWF MedPO, Tunis office.

3. The Ramsar Convention and Wetland Link International

The Ramsar Convention

Dedicated conservationists began developing an inter-governmental treaty for the conservation of wetlands in the 1960s as a response to concerns about the destruction of wetlands and the impact of this on both people and wildlife, especially waterbirds. These efforts resulted in the signing of the Convention on Wetlands in the Iranian city of Ramsar in February 1971, which is now more commonly referred to as the “Ramsar Convention”. The Convention embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance (“Ramsar Sites”) and to plan for the “wise use”, or sustainable use, of all of the wetlands in their territories.



Communication, Education, Participation and Awareness (CEPA) Programme

The Ramsar Convention’s mission, established through its Strategic Plan 2009-2015, is “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”. As part of the fulfillment of the Convention’s mission there is a commitment within the Strategic Plan to support, and assist in implementing the Convention’s Communication, Education, Participation and Awareness (CEPA) Programme for promoting the conservation and wise use of wetlands. A key ambition within the Strategic Plan is for all Contracting Parties to the Convention to have established at least one wetland education centre at a Ramsar Site in their country.

The official documents of the Convention include decisions adopted by the Contracting Parties at their Conference of Parties (COP). These decisions are formally known as Resolutions. At the 10th Conference of Parties (2008) Resolution X.8 was adopted which encourages those Contracting Parties with established, or proposed, wetland education centres and related facilities to support the development of those centres as key places of learning and training about wetlands and wetland-related CEPA.

Wetland Link International

Wetland Link International (WLI) is a global network of wetland education centres which is formally recognised by the Ramsar Convention and is open to all wetland education centres to join. Following collaboration and engagement with like-minded organisations, the WLI network was created in 1990 by the Wildfowl & Wetlands Trust (WWT). At the 10th Conference of Parties, the development of the network was encouraged through Resolution X.8, with Contracting Parties





Delegates lead a debate at the 3rd WLI Asia meeting, Malaysia © Wetland Link International



Russian version of the WLI Brochure © Wetland Link International

requested to support and participate in the global (and developing regional and national) network of such centres under the WLI programme. The objective of WLI is to build a network in order to help organisations throughout the world to develop new, and enhance existing, wetland education centres. Further information can be found at <http://wli.wwt.org.uk>

4. Wetland education centres and learning

Wetland education centres can be great learning environments and a gateway for people to get close to wetlands. An aspiration of learning at any wetland education centre should be to give people the information and knowledge necessary to make informed decisions about their local environments and to help deliver wetland conservation and wise use. The ‘education’ provided by a wetland education centre should not be seen as purely a formal process for schools and colleges but rather it should also be considered as part of a process for everyone, from children to adults.



Visitor Village in Brockholes Nature Reserve © Bentham Imaging

Chapter **2**

Planning or redeveloping a wetland education centre

Key best practice messages

- If you are planning a new wetland education centre, assess that there is a genuine need to have a centre.
- If you are at an existing centre, recognise that the centre may need redevelopment.
- Establish a clear vision for your centre.
- Create a learning environment with key goals of wetland education and conservation.
- Ensure that the necessary skills, experience and resources are in place to deliver the vision.
- Make sure that all stakeholders are identified and appropriately engaged.
- Listen to expert advice and guidance.
- Control and guide enthusiasm of stakeholders in order to keep to the vision.
- Develop a robust masterplan.
- Create a building that is fit for purpose.
- Define a sustainable financial plan for the centre which controls expenditure.
- Avoid impacts to existing wetlands.

1. Do you need a wetland education centre?

As basic as this question might seem, it is fundamental. The need for a wetland education centre must be established. Adopting a ‘build it and they will come’ attitude will not guarantee success. The objective of a wetland education centre should be to allow interaction between people and nature through CEPA activities (see Chapter 5) to support wetland conservation without compromising the wildlife present. Depending on the wetland, the message or the purpose, it might be possible that this goal could be achieved through other methods or approaches.

Similarly, the type, size and complexity of a wetland education centre might vary depending on the funding available, location of the site, the desired conservation messages and the learning activities.

Rather than build a new wetland education centre, another option would be to use an existing building. One example is the Dar el Bhira wetland museum which is located in a 1659 Ottoman fortress by the 'Lagune de Ghar el Melh et Delta de la Mejerda' Ramsar Site in Tunisia. Using historic buildings in such a way will help to minimize the impact of construction in a natural village. Therefore, once the basic need for a wetland education centre has been established, there are still many decisions to be made to ensure that it will be successful.

2. Do you need to redevelop your centre?

In time, an established wetland education centre may need redevelopment. The following issues need to be considered:

- * Does the current interpretation need to be updated?
- * Do the current education programmes need to be revised and changed?
- * Are the current buildings adequate for the desired uses?
- * Are your audiences changing and do you know what they want?

Updated interpretation may be required to reflect changing global or local wetland issues. New technology can provide new ways to interact with visitors. There could be a demand for temporary or seasonal interpretation or programmes. New buildings might be required to accommodate increased visitor numbers. Existing buildings may require redevelopment to accommodate new programmes, such as scientific research or children's play areas. It is important to recognise that new developments and redevelopments are an ongoing part of the centre planning and operations.

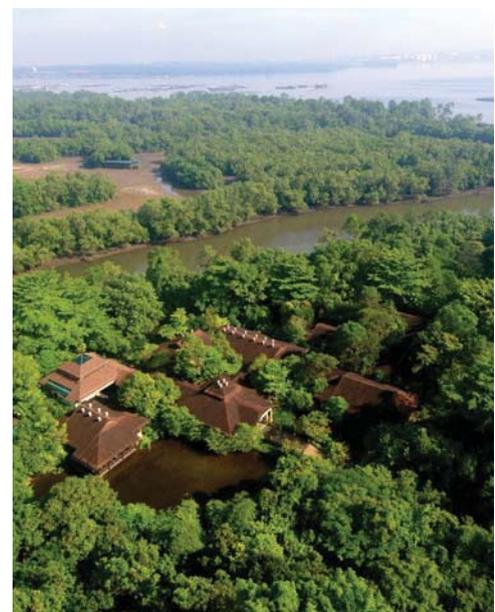
3. Setting a vision

Irrespective of whether a new centre is being planned or a redevelopment within an existing centre is under consideration, the principles should remain the same. The starting point should be a vision.

Setting a vision

In shaping a vision it is necessary to understand the need for the wetland education centre. For instance, it is to:

- * Raise awareness of a particular wetland species or issue?
- * Engage people to conserve a specific wetland?
- * Encourage wise use of wetlands?
- * Promote, raise attention to or restore a special site?
- * Motivate people to take personal action to conserve wetlands?



Sungei Buloh Wetland Reserve, Singapore
© National Parks Board, Singapore

- * Improve access and reconnect people with nature?
- * Cooperate with local communities?
- * Change political decision-making or opinion?
- * Generate income to support wetland conservation efforts?
- * Create a viable tourist attraction?

Some of these issues might need combining or other issues not listed here may require consideration. Consideration of these factors is essential in order for the wetland education centre to be successful.

A vision for a centre may include several elements. For instance, the vision for a wetland education centre might state that it will be:

- * A world class example of a sustainable education attraction which engages a range of audiences about the values of wetlands in an enjoyable and informative way.
- * A centre which raises community awareness about a particular wetland.
- * A centre that protects important wetland habitats and wildlife.
- * A centre that engages and promotes wetland-related research.
- * A resource centre for the delivery of formal and non-formal education for local schools and colleges.
- * A retreat for outdoor recreation and nature enthusiasts.
- * An attractive and welcoming meeting facility for local community groups and corporate businesses.

The development and refinement of the vision is best undertaken as an iterative process involving a range of relevant stakeholders. However, the vision must remain realistic and above all achievable given the variety of constraints that will be faced. Ideally the vision should be expressed concisely in one or two sentences which sum up the aspirations of the centre. Spending time getting the vision right is important as it will shape the future of the centre and underpin future success.

Case study 2.1: Setting a Vision
Centre: Miranda Shorebird Centre
Location: Miranda, Firth of Thames, New Zealand
More information: www.miranda-shorebird.org.nz

Established in 1990, the Miranda Shorebird Centre has given itself a simple but clear vision: Keep the birds coming. The Miranda Shorebird Centre is owned and operated by Miranda Naturalists' Trust, a charitable trust established in 1975. The centre, located on the southwest coast of the Firth of Thames, was opened in 1990.

The Firth of Thames is an internationally important site for migratory shorebirds. Some birds migrate within New Zealand, others from breeding grounds in the Arctic, but all depend on a network of habitats that sustain them at different stages in their annual cycles. The Miranda Shorebird Centre's mission statement recognizes that to preserve these habitats demands a proactive approach. Monitoring bird populations and raising public awareness through education and training programmes are just two ways we are working to achieve this and to implement the vision for the centre.

Contributed by: Keith Woodley, Miranda Naturalists' Trust



© Keith Woodley

Consider study tours

In developing a vision it is wise to consider visiting other wetland education centres or at least engaging with them through other means such as e-mail or websites (for instance, the one maintained by WLI which carries site profiles for several hundred wetland centres).

Case study 2.2: Study tours for interpretation planning

Centre: Ganghwa Tidal-flat Centre

Location: Ganghwa-gun (county), Incheon City, Republic of Korea

More information: <http://tidalflat.ganghwa.incheon.kr>

Ganghwa Tidal-flat Centre, opened in 2005 as the first wetland education centre in the Republic of Korea. The centre is located in Ganghwa Island taking 1.5 hour to the west of Seoul, the capital city of Korea. Total area of the centre is about 12,873m² with the building space covering 704m². The tidal-flat of Ganghwa Island is an important breeding ground of the endangered Black-faced Spoonbills (*Platalea minor*). Also they provide feeding and roosting sites for migratory shorebirds in the East Asian-Australasian Flyway.

National environmental NGOs and various experts including oceanographers, ornithologists and benthos ecologists etc. participated in the masterplanning process, resulting in a very comprehensive learning content which covered social and historical issues as well as the ecosystem services surrounding the centre. During the masterplanning process, the local environmental NGOs consulted with the national park service in Germany as well as with wetland education centres in the UK. This assisted in developing education programmes for the centre. After opening to the public in 2005, the local environmental NGO, which had been delegated by the local government as the organization responsible for the centre management, used its experiences drawn from overseas and took responsibility for the interpretation and the development of special exhibitions through cooperation with local community and local schools as well.

However, since 2012 the centre has been operated directly by municipal government, and the cooperation with various stakeholders and experts for learning content development has declined. It is future challenge for the centre to re-build relationships for effective interpretation and operation of the centre .

Contributed by: KIM Soon Rae, Ganghwa people's network

BAK Sunyoung and KIM Kyungwon, Environmental Ecosystem Research Foundation (ERF)



© KIM Kyungwon, ERF

4. Understanding the masterplanning process

It is essential to develop a masterplan for your wetland education centre. A good masterplan will assist the successful delivery of the vision for the centre. The development of a masterplan should be an iterative process that is taken forward by a dedicated team and that engages with a variety of stakeholders. The objective should be to produce a document that defines the direction of a project and acts as a point of reference for the subsequent stages of construction and operation of a wetland education centre. One of the key elements in a good masterplan is being able to project forward from the planning phase to the operational mode and to understand future requirements and plan for them.

**Case study 2.3: Masterplanning
Centre: Hong Kong Wetland Park**

Location: Hong Kong, P.R. China

More information: <http://www.wetlandpark.gov.hk/tc/index.asp>

The Hong Kong Wetland Park is an ecotourism facility managed by the Government of Hong Kong. The site was upgraded from a mitigation area which was originally a compensation for the wetland lost due to the development of a new town. The project commenced in 2000 and the Park was opened to the public in 2006.



© Hong Kong Wetland Park

Prior to the start of the project, a feasibility study was commissioned by the government to review the need and set the objectives of the Park. The study also included international comparable analysis, detailed research on natural setting of the site, habitat design, consultation with stakeholders, identification of market potential, approach of exhibits and activity programmes, target groups, and functional and architectural design concept of the Park.

Operational and financial considerations were also taken into account in the masterplanning process of Hong Kong Wetland Park. With efforts from different experts across various governmental departments, the accessibility, transportation, functions, positioning and visitation numbers were carefully planned and anticipated. The government also committed to manage the Park in the long run. Therefore, the Park could be financially capable with government support in capital costs for constructing and recurrent costs for managing the operation of the Park.

Located adjacent to a Ramsar Site, the Hong Kong Wetland Park is designated as a protected area under the legislation of Hong Kong. The masterplanning of Hong Kong Wetland Park has enabled the Park to achieve its goals in providing conservation, education and tourism services on the wetlands and adding value to the adjacent wetland of international importance.

Contributed by: Cheng Chui Yu, Josephine, Hong Kong Wetland Park

In developing a masterplan it is important to consider some fundamental questions. Some of these will link back to the vision; others should address practicalities such as financing and staffing. The following is an initial checklist of questions which are suggested as a starting point in the development of a masterplan:

- * What is the vision for the centre and how will it deliver the vision?
- * What sorts of people will come to the centre and is there a specific target audience?
- * How many people will come to the centre and therefore how big should it be?
- * What are the key stories and messages to be told? (see Chapter 5)
- * What facilities should the centre provide?
- * Will old buildings be restored or are new buildings to be built?
- * Where should the centre be located? (see Chapter 4)
- * How can people and wetlands be brought together safely?
- * How can impacts to sensitive wetlands be avoided?
- * How much will the capital and operating costs be? (see Chapter 3)
- * Are there specific planning, legal or regulatory issue which need to be addressed?
- * Who will operate and run it?
- * How many staff and volunteers will be needed? (see Chapter 6)

This list is not intended to be exhaustive but it covers many of the key considerations that should be addressed during the masterplanning process. At the end of the masterplanning process the final

document should aim to have:

- * Described the terms of reference for the wetland education centre.
- * Identified constraints and opportunities.
- * Identified stakeholders and their involvement.
- * Described all attractions, habitats and services.
- * Developed an integrated interpretation plan for the whole site.
- * Developed an architectural plan or vision for the centre.
- * Provided a guide to those involved in the centre development.
- * Identified an appropriate management strategy.
- * Provided cost estimate for construction and operation.
- * Produced a financial plan and revenue model.

Case study 2.4: Masterplanning review

Centre: WWT Slimbridge Wetland Centre

Location: Gloucestershire, United Kingdom

More information: <http://www.wwt.org.uk/wetland-centres/slimbridge>

Although WWT's Slimbridge centre was established in 1946, redevelopment has taken place several times to allow the centre to grow with its audience, including building a state-of-the-art visitor centre in 2000. As part of an assessment of the operation of the building, WWT Consulting undertook a masterplanning review exercise in 2007 which highlighted that the new entrance was still not functioning to maximum effect.

Key findings were that: the ticket desk was too far from the entrance doors, leaving a large area of 'dead space'; the foyer space itself was too big with implications for noise, comfort and intimidation; and the signage was confusing and not sufficient to guide visitors to the ticket desk. Changes started with signage in the carpark and along the entrance ramp to the building, so that visitors understand about WWT and what to expect at the wetland centre; opening times, prices and information about membership are provided up front and bright images provide an indication of what to expect inside. Inside the building, the ticket desk has been brought forward, with multiple tills to reduce queues and a separate members' desk for fast entry. Once past the tills, visitors can now start their experience; large, colourful banners indicate the activities on offer and direct visitors to the appropriate area whilst a 3D map of the site and staffed information desk provide further orientation, a new cafe provides a place to relax if waiting for friends or wanting to decide on a programme for the day, and the rest of the large foyer can now be used to host temporary exhibitions to provide changeable interpretation.



WWT Slimbridge foyer redevelopment 2014
© Marie Banks, WWT Consulting

Contributed by: Marie Banks, Wildfowl & Wetlands Trust (Consulting)

5. Masterplanning stakeholder engagement and team building

Engaging stakeholders

The masterplanning process should consult, involve and engage with the stakeholders who have an

interest in, or who are affected by, the decisions relating to the wetland education centre. These might be people involved within the organisation who are planning the wetland education centre, but they might represent external interests such as local residents, local civil society groups, local schools and colleges, government agency representatives (e.g. from education, transport or tourism sectors), conservation groups or local businesses. It is important to give careful consideration to identifying the stakeholders. For instance, there might be a local hospital which may wish to engage with a wetland education centre in order to develop patient recuperation or rehabilitation programmes, or there might be a local food cooperative which is interested in growing wetland food products. Once they have been identified, it can be useful to establish a working group of stakeholders to involve in the centre development process.

All engagement with stakeholders should seek to be inclusive, participatory and should encourage them to participate in the process either directly or via a representative. Stakeholders should be made clear about the process, and understand why they are being involved, how their input will be used, the extent to which they can influence any outcomes, and how their input fits into the overall decision-making process. Whoever is developing a wetland education centre should ensure that they convey the message that they are genuinely open to stakeholders having a real influence on the outcomes.

Case study 2.5: Engaging with local communities

Centre: Jeungdo Tidal-flat Ecological Exhibition Centre

Location: Jungdo-myon (district), Shinan-gun (county), Jellanam-do (province), Republic of Korea

More information: <http://eng.shinan.go.kr/>

Jeungdo Tidal-flat Ecological Exhibition Centre is a wetland centre on Jungdo Island in the southwest of Korea, which was opened in 2006. The site is owned by Shinan-gun (county) municipal government and the total area of the centre is about 34,751m², with the centre building providing about 4,120m². Jungdo Island was designated as a provincial park in 2008 and national wetland protected area in 2010 as well as UNESCO Biosphere reserve in 2009 and Ramsar Site in 2011.



© Jeungdo Tidal-flat Ecological Exhibition Centre

Among the many Korean wetland education centres, the Jeungdo Tidal-flat Ecological Exhibition Centre has developed a unique brand based on the various eco-tours and outreach programs which engage with the local community. The centre has focused on a communication and education program for local community through regular civil monitoring of the tidal-flat ecosystem. Through this monitoring, the centre has trained local people as eco-guides and built the mutual trust between the centre and the community. The centre has developed eco-tour programs based on local ecological and cultural characteristics including traditional fishing, natural dyeing using wetlands plants, making tofu, salt-pan working experience, traditional shell-fishing, and electronic car experience. From 2006, the centre has held the Shinan Tidal-flat Fest every summer with the local community and it now attracts many visitors from outside. As the eco-tour aspect of the centre has developed, the centre inspired the local community to establish their own eco-tour travel agency, 'Gilbot' (meaning 'friends of the journey') in 2011. In 2012, about 10,000 people visited the Jungdo island through the 'Gilbot' travel agency.

In 2013, more than 1 million people visited the Jungdo Island based on above programs, representing a ten-fold increase in visitors since 2007 when the centre was first opened. This demonstrates the enthusiasm and commitment of the Institute of Tidal Island, the delegated organization responsible for the operation and management of the Jeungdo Tidal-flat Ecological Exhibition Centre. This enthusiasm is further supported by the local municipal government which plays a key role in boosting the various local community programs.

Contributed by: YOO Young-up, Jeungdo Tidal-flat Ecological Exhibition Centre
BAK Sunyoung and KIM Kyungwon, Environmental Ecosystem Research Foundation (ERF)

Stakeholder consultation should not be just about presenting plans and finished ideas. Communication should be in two directions and involve providing information and receiving and incorporating comments and feedback. Best practice involves a coherent, skilfully and deliberately designed, decision-making process. A good stakeholder process should break complex issues down into manageable portions and tackle them in a workable sequence.

Well-designed stakeholder meetings can be used to gain insights into potential centre usage, assist in developing creative ideas for centre use and help to identify possible obstacles (real or political) that may be faced in the development and implementation of a masterplan. Several meetings may be necessary to evolve and refine the objectives for the wetland education centre. This process may involve a series of smaller meetings with individual stakeholders or groups to refine various project ideas and elements before defining a clear course of action. A thorough and professional stakeholder engagement process can be useful in settling or defining potential conflicts facing the proposed development.

Stakeholder meetings can also assist in the selection of a team to develop and take forward the masterplan. Some stakeholders may possess unique skills that are useful in a feasibility study or the design process. Once their initial interest has been raised and their contribution has been valued some stakeholders may seek to assist in the day-to-day support of the centre.

Case study 2.6: Stakeholder engagement
Centre: Hunter Wetland Centre Australia
Location: Shortland, New South Wales, Australia
More Information: www.wetlands.org.au



© Ken Conway

The early campaign to secure a site for the establishment of a wetland education centre was achieved through extensive stakeholder engagement. Hunter Wetland Centre (HWC) opened in 1986 under the management of the newly formed Hunter Wetlands Trust an organisation which included members from community groups with an emerging interest in wetlands. These groups, Hunter Bird Observers, Australian Plant Society Newcastle Branch, Native Animal Trust Fund and Hunter Native Fish represent the foundation partners and the organisations and their members continue to be actively involved in the centre today. HWC is a member-owned not-for-profit company. It employs a small team of staff and relies on volunteers and networking to secure its future. Stakeholder engagement continues to be one of the pillars of the five year business plan.

The Board of 12 consists of six member-elected representatives and reserves six positions for stakeholder organisations including representatives from Hunter Councils, National Parks and Wildlife Service, Hunter Water, Newcastle University, NSW Department of Education and Communities. There is a Site Management Committee with further stakeholder representatives of Hunter Bird Observers Club, Australian Plant Society, Awabakal Local Aboriginal Land Council and the Native Animal Trust Fund.

Staff and Board Members sit on a range of natural resource management and Landcare Committees including Hunter Landcare, the Hunter Central Rivers Catchment Action Committee, Belmont Wetlands State Park, NSW Ramsar Managers Network and Director Christine Prietto is the Australian Governments Education NGO CEPA Focal Point for the Ramsar Convention. She is also a member of the Shorebirds Partnership CEPA Task force.

A range of other natural resource management groups are supported by HWC through the availability of meeting rooms and facilities at favourable rental rates.

Through this extensive stakeholder engagement process which is carefully nurtured the HWC is able to bring influence to bear on a range of issues that affect the Centre and the broader wetland environment.

Contributed by: Ken Conway and Christine Prietto, Hunter Wetland Centre

Masterplanning team

The implementation of the vision for a wetland education centre will usually require the establishment of a core masterplanning or development team. This team should include experts who can contribute technical knowledge to various aspects of the design and planning process. It can include, but not be limited to, participants who can provide expert knowledge and or experience in the following:

- * Upholding the vision for the centre.
- * Architecture and building design, including understanding building codes, construction techniques and costs.
- * Building operations and maintenance.
- * Marketing and promotion.
- * Staffing and administration.
- * Social inclusion.
- * Environmental education and teaching.
- * Interpretation planning and exhibit design.
- * Visitor experience and visitor flow.
- * Visitor access to the centre by public or private transportation.
- * Wetland ecology, hydrology, conservation and management.
- * Landscape architecture.
- * Financial and project management expertise.
- * Quantity surveying and the ability to assess economic viability of any proposal.
- * Other relevant stakeholders.

Often a number of these skills may reside in the same individual thereby making sure that the development team does not become too large or unmanageable. One approach is to divide the team into smaller groups that can focus on specific tasks and bring their suggestions and ideas to the overall masterplanning team. For instance experts in wetland management, restoration and construction might consider how the habitats can best be manipulated and managed to deliver the vision while an architect's team might consider elements of the building design. In this scenario, it is crucial that skill-based teams do not work in isolation and lose sight of the overall vision. Collaboration and joined-up thinking are essential to deliver a coherent centre.

There are many ways to conduct the masterplanning process. This should not necessarily be a linear process. There is need for research and feedback and for a progressive development of plans and ideas. Figure 2.1 shows an approach utilised by WWT Consulting (UK). This approach has been developed based on over sixty years of experience in the design, development and operation of wetland education centres and has been applied to project across the world. It clearly demonstrates the need to integrate teams focussed on various disciplines (business management, interpretation planning, habitat management and architecture) in an iterative process that ensures stakeholders are engaged throughout the process.

A common failing with wetland education centres is to develop designs for a main building without giving due consideration to the various uses of the centre. There are many examples where a centre has been driven by architectural ambition, the desire to create an iconic building requiring significant capital investment, which failed to consider function and purpose. Having a well-balanced and structured masterplanning processes and development team can prevent this from happening. One of the key skills

usually required during any building design process can be a quantity surveyor. A good quantity surveyor can help to avoid time and money being wasted by designing a building beyond the budget. This approach often ensures a smoother construction process with a reduced risk of budgets being exceeded.

Once established the development team should work together to take the vision from concept to detailed design stage and to implementation on the ground. As the process proceeds different sub-groups may become obsolete and new groups may be required, such as a building control group to supervise and oversee the building phase. Where necessary, the development team should consider adding new, specialist expertise to supplement the existing core skills.

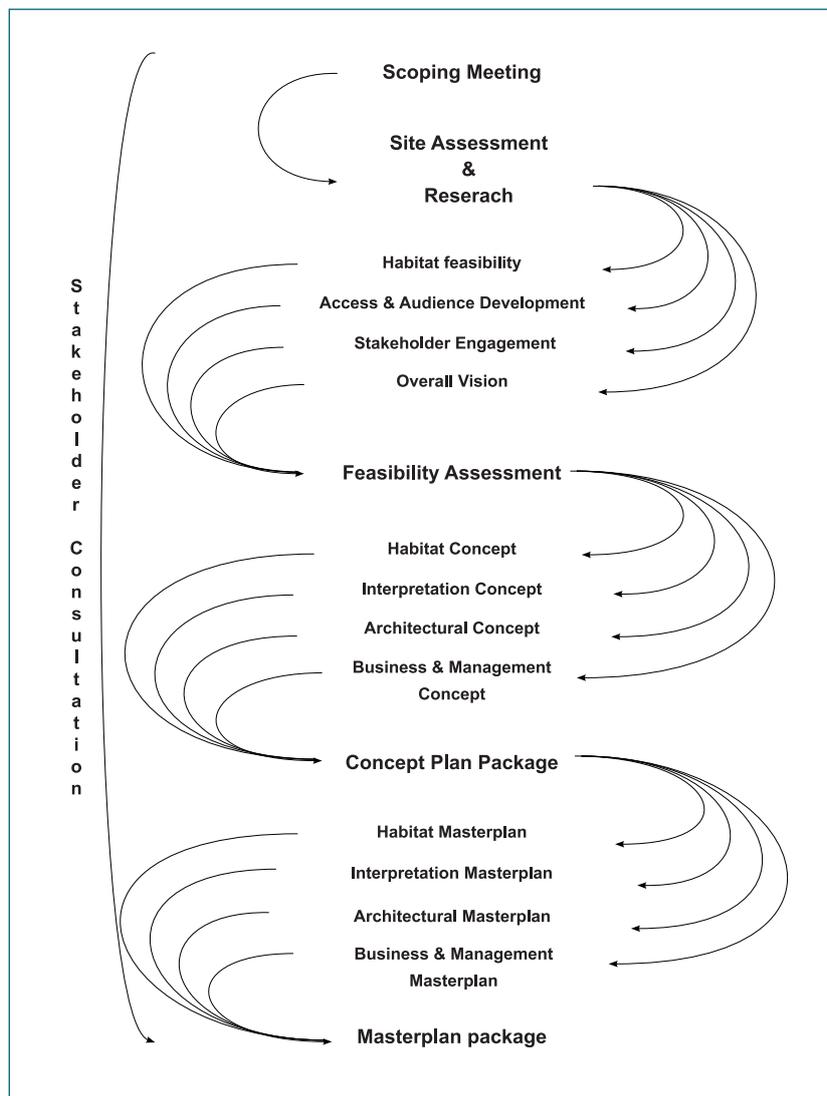


Figure 2.1 Masterplanning development process used by WWT Consulting, UK

Market research

Good market research, undertaken at the correct point in the masterplanning process, can be fundamental to the long-term success of the wetland education centre. If undertaken early enough in the process, for

instance before concept designs have been established, the outcomes of market research can be used to leverage support from potential funders and stakeholders alike. Often it is worthwhile to work with experienced and qualified individuals to help understand a variety of issues which can influence the design and costs of implementing the vision for the centre. Market research can assist in answering questions such as:

- * Is there a market for the vision and the centre?
- * What are the strengths and weaknesses of the vision?
- * What are the opportunities for and threats to the centre?
- * Who will visit the centre and can the visitors be identified into different groups or categories?
- * What facilities will these different groups expect or desire?
- * How will visitors get to the centre and how will they get around the centre?
- * Will they pay for entry and, if so, how much?
- * How much would they spend on a visit?

6. From vision to implementation

Figure 2.1 demonstrates that to proceed from the vision to implementation requires several iterative steps. This process needs to embrace different elements in order to deliver on a sustainable wetland education centre. There are four key elements to this process:

- * Habitat integration with site (see Chapter 4).
- * Architectural concept.
- * Interpretation concept.
- * Business concept.

Habitat integration

Wetlands and their associated habitats are fundamental components of a successful wetland education centre (see Chapter 4). They are the core hardware through which learning can be experienced and messages can be conveyed in exciting and evocative ways. While natural wetlands and the wildlife they support can be sensitive to disturbance and will require thoughtful integration, the restoration of degraded wetlands and creation of new wetlands can provide opportunities for engagement and the development of learning experiences, such as canoe safaris or pond dipping. Wetlands can be integrated into the building design, for instance to treat wastewater or to manage the risk of flooding, or created to improve landscape aesthetics and to create iconic views of built structures that integrate well into the site.



Tidalfat by the Ras Al Khor Ramsar Site, with city skyline of Dubai © Kevin Hyland



Tokyo Port Wild Bird Park © Kanai Yutaka

It is important to consider the timing of some habitat integration works. In order to allow habitats to become established and to mature, sometimes the creation or restoration of wetlands and associated ecosystems might need to be completed well in advance of building works. In other cases seasonal disturbance to sensitive habitats might limit the opportunities for undertaking certain development activities.

Buildings and architecture

The number, type, design and function of buildings will vary greatly from centre to centre. Some centres might only require a small car park, a modest display area and a viewing hide; others might require multiple hi-tech buildings providing facilities such as cinemas, lecture rooms, office accommodation and restaurants. Factors such as the vision, the budget, the sensitivity of the site and the market research will assist in setting the architectural scope for the centre.

Architecture is important as it will influence the operation and management of a centre. However, not all architects will understand the specific operational requirements of a wetland education centre and the fact that the building, while important in its own right, is just one element in a larger experience. Architecture also provides opportunities for innovation and sustainability. Low energy and low carbon design elements or water saving and recycling features within a building can be part of the overall conservation message and learning experience.

The overall location and size of the centre buildings and any associated car parking should also be considered as a site with a large footprint may mean that less area is available for wetland habitat for visitor and wildlife.

Interpretation and audience and access plan

Interpretation should be the process through which the centre will connect visitors to the wetland (see Chapter 5). Interpretation can take many forms, from graphic panels and exhibits to the interaction with staff and activities that visitors take part in. It forms the basis of the visitor experience and is the opportunity to influence how visitors feel as well as what they might learn. Interpretation should also be integrated throughout the whole site and every opportunity to deliver interpretative messages should be taken.

Done correctly, interpretation is not the same as information, although information provision should be part of any good interpretation plan. The development of an interpretation plan should consider all areas of the centre and all aspects of operations. It should involve the expertise of all the centre staff and volunteers as well as drawing upon the skills of learning (education), design, ecological and marketing specialists.

The development of the interpretation plan must embrace an understanding of who will visit the centre. The best interpretation plans have the concept ‘think visitor’ at their heart. While visitors will come in many shapes and forms, what might be fascinating and engaging for a conservation biologist might be of little interest for the majority of visitors. It is worth remembering that visitors are most likely to retain less of what they hear, compared to what they do. Similarly, different audiences will respond to different learning styles and approaches. Profiling the audience and their needs is essential if the opportunities to deliver sound wetland CEPA programmes are to be achieved (see Chapter 5).

Even the best intentioned interpretation plans will fail if visitors are denied access. In this sense, access might be physical. However, it might equally refer to barriers and factors that restrict visitor accessibility at the centre. 10% of humanity has some form of disability. Allowing universal access for those with mobility, hearing, vision, cognitive and other disabilities will require consideration of sensory, physical, social and cultural elements (see Chapter 7).

All these aspects need to be integrated during the masterplanning process to ensure that interpretation, audience and access plans work in combination with the architectural design of buildings and the wetland habitats.

Financing and business plan

All the best intentioned plans can fail if the financial planning has not been robust. The development of any financing model and business plan needs to consider many elements (see Chapter 3). It is crucial that financial planning looks beyond the initial capital costs of a centre building and considers all operational elements such as the management of the wetland and the planned education programmes. Where appropriate, the financing should also consider how direct wetland conservation benefits, such as habitat restoration, can be implemented as part of the centre’s objectives.

A variety of revenue models exist for wetland education centres. These will differ from location to location and country to country. Some centres will receive sizeable financial support from local or central governments, others will have to compete with other attractions. Different revenue models will translate into different business models. Some wetland education centres are owned and run by conservation charities, some are the responsibility of the local government and some may be privately owned. The key issue for any wetland education centre is to ensure that the financing and business models, from building a multifunctional centre building to installing a single interpretation panel, are viable and that long-term financial sustainability can be achieved.



Examples of how wetland education centres raise funds

Chapter **3**

Ensuring the financial sustainability of a wetland education centre

Key best practice messages

- Always develop a rigorous business plan.
- Ensure adequate market research and marketing are undertaken.
- Understand where capital funds will come from.
- Never commence a major capital project without having secured funding in place.
- Make sure that all long-term operational costs can be met.
- Diversify income streams to avoid becoming reliant on a single source of income.
- Embrace different ideas for generating income.
- Consider using volunteers to minimise costs.
- Ensure that routine financial management is undertaken to control budgets.

1. Developing a business management model

Getting the finances right for the design and operation of a wetland education centre is essential. Even the most attractive and engaging centre will ultimately fail if not enough attention is paid to understanding and securing its long-term financial security. Often a passion for wetlands is the catalyst for developing a wetland education centre; however this enthusiasm needs to be guided and controlled by sound business management. Therefore it is important that good business planning and management techniques are applied.

Different business models will apply at different centres. There is no one-size-fits-all solution for wetland education centres. Each centre will be unique. It is essential to consider the variety of models and select the one that will work best. Some fundamental questions which need to be considered include:

- * Who will own and the run the centre?
- * Who will be in charge of financial management?

- * How much financial support will be provided by the government?
- * How much will the centre be dependent on private partnerships and corporate donations?
- * Who will fund capital projects?
- * How big is the centre going to be?
- * How much will it cost to run?
- * How will day-to-day costs be met?
- * Is there potential to diversify income sources?
- * How will potential conflicts between financial and conservation objectives be managed?
- * How will future investment be attracted?
- * What will the finances look like in five or ten years' time?

In developing the preferred business model it is important to remain open-minded. Consider all options and seek advice from experts involved in the running and operation of other centres or even similar visitor attractions.

Maximising the chance of becoming financially sustainable often requires diversifying activity to extend the demographic reach of the centre. Sometimes this will require a strong governance framework to allow management the freedom to be entrepreneurial while maintaining the integrity of the core wetland conservation product. However, conflicts can arise between financial and environmental objectives and a business management framework needs to exist to resolve these challenges.

2. Know your place in the market

It is essential to understand the position a centre will occupy in a competitive market as all wetland education centres compete with other attractions. It is important to understand what makes the centre stand out from similar or competing attractions (see Chapter 2).

The use of market research can be vital in the early stages of planning a centre. There is a need to understand local trends in tourism, recreation, school outdoor programmes or similar nature-based activities. There is a need to identify possible comparators and competitors. A range of research techniques exist from desk-based studies to the use of focus groups. Think through the possibilities, and where necessary work with marketing professionals, to develop the best strategy to inform the planning process.

Initial market research will assist in understanding what the centre could be. Market research should provide information on the types and numbers of visitors, seasonal trends in visitor numbers, how much money visitors might be willing to spend on entry, food or other activities, what types of facilities would be expected (such as toilets, car parking, play areas, shops, etc.), how long they might stay at the centre, whether they would support the centre through volunteering or financial donations, and a multitude of other issues which may need to be considered.

Good market research can provide invaluable information which will shape the masterplanning process. However, it is important to consider carefully the results of market research and not let passion and ambition undermine or overrule careful and considered research. It is also wise to revisit market research

as part of an on-going and proactive marketing strategy.

In addition to informing the masterplanning process and business plan development, the results of initial market research can be used to establish a longer-term marketing strategy for the wetland education centre. When developing a marketing strategy it can be worthwhile to undertake a SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis to understand the current and future place in the market.

Marketing the centre can deliver significant returns, not just in terms of maintaining and increasing visitation but also in promoting wetland conservation messages. A variety of marketing techniques can be applied including direct marketing through advertisements, website, newsletter, public relation (PR) events, press releases and social media. There are also possibilities through developing links with other similar attractions or sites, establishing links with high profile issues which appear regular in the media or developing links with local or wider tourism bodies.

Once the 'brand' of the wetland education centre has been established it needs to be maintained. This will require on-going efforts to keep a strong presence and a positive profile. This will also require monitoring of competitors to understand what is happening in the market place and to place any changes in visitor numbers within a wider context.

Marketing will also benefit from visitor feedback and should be part of an on-going process that monitors and ensures that the centre's messages are reaching the target audiences and that the messages are being understood. However, marketing of any centre also needs to ensure that an appropriate balance is maintained between promoting the conservation aspects of a centre and highlighting activities that are primarily geared towards generating revenue.

Case study 3.1 : Marketing plan
Centre: Brockholes Nature Reserve
Location: Preston, United Kingdom
More information: www.brockholes.org

Brockholes Reserve is a wetland centre in the Northwest of England. The site is owned by The Lancashire Wildlife Trust, which is part of the UK Wildlife Trusts partnership. The Trust acquired the site in 2006 and has transformed it from a sand and gravel quarry into a 107 hectare wetland and woodland nature reserve.

To develop their marketing strategy the Wildlife Trust identified clear objectives, researched tourism trends, identified comparators and competitors, identified target markets and visitor profiles and used focus groups. The marketing strategy utilised over 15 key partners to help deliver a public relations campaign. Significant marketing was undertaken before the centre was opened which including billboard advertising, the use of natural symbols in local city centres, publicity leaflets and adverts in targeted newspapers and publications in order to develop a sense of anticipation and expectation.

A clear brand was developed for the centre which sought to develop a new kind of nature reserve that gave out the feeling of an engaging, fun day out full of wonder. Since opening, the marketing strategy has firmly established the brand of Brockholes reserve through regular marketing campaigns, developing links with tourism bodies in the region, keeping a consistently high profile in the media and learning from visitor feedback.

Contributed by: Kath Knight and Lindsey Poole, Lancashire Wildlife Trust - Brockholes Nature Reserve



© LWT

3. Understanding capital budgets

All centres will require an element of capital expenditure. Even the smallest, most low-tech centre will have needs for initial capital expenditure. For some large centres or for major redevelopments of existing centres the capital budgets required can be considerable. It is essential that all sources of capital funding are identified. For some centres this process will be relatively straightforward and be supported by either local or national governments. There will be different sources of capital funds available in different countries. However, for many organisations trying to raise capital funds can be a difficult and frustrating process.

Where funding has to be found it is always better to target a mix of funding rather than relying on a single source. It is good practice to research and try to establish partnership funding with other organisations or with government (regional/local/national) bodies. Any such partnership funding needs to be considered within the business model for the centre.

Companies seeking a triple bottom line outcome (which considers not just the financial but also the social and environmental outcomes) or pursuing their corporate social responsibility agendas will often consider sponsorships or run philanthropic foundations which have aims of supporting environmental and education projects. These organisations can be a good source of income through sponsorship schemes, grants or donations.

Setting up a legacy or bequest programme from deceased estates can also provide a source of funding. While unpredictable in both timing and size, such gifts can be a good way to support long-term conservation goals.

Often the quest for funding for capital projects will depend on grant and proposal writing. The application for such funds is normally a competitive process and a centre needs to try and maximise its chances of receiving funds. To achieve this, grant and proposal writing skills are vital for an organisation chasing these sources of funding. Professional fund raisers can play a vital role in securing funds.

Sometimes sufficient funds are available to finance a major centre development. The availability of funds does not mean that all the financial problems have been solved. Sound financial management is still required. As obvious as it seems, the key to sound management of capital projects is not to be seduced by the opportunity to spend money and don't spend more than there is available. This should also include keeping a contingency of at least 15% of the total project budget for unforeseen outcomes.

If all the desired funding is not available, this might not mean the end of the development. Consider taking a staged or phased approach to development, where an overall development is implemented through a series of stages with each progressive stage only being undertaken when the capital budget is available.

Case study 3.2 : Capital budgets**Centre: WWT London Wetland Centre****Location: Barnes, London, United Kingdom****More information: <http://www.wwt.org.uk/wetland-centres/london/>**

© Berkeley Homes

The WWT London Wetland Centre opened in 2000. Prior to development the 42 hectare site comprised four disused water supply reservoirs. An innovative funding arrangement between the site's owner Thames Water (a public water company), Berkeley Homes (a private housing developer) and the Wildfowl & Wetlands Trust (WWT) (a UK-based NGO) facilitated the redevelopment of the site and the creation of an award winning urban nature reserve. Land which formerly housed Thames Water's water treatment works was sold for housing development to Berkeley Homes.

Money from the proceeds of the luxury housing development was used to leverage further funding in order to provide a significant capital budget. This allowed the stark concrete water reservoirs to be transformed into an oasis for wildlife. Within thirteen years, the site has received national designation as a Site of Special Scientific Interest (SSSI) for breeding and wintering birds; water vole (*Arvicola amphibius*) (the UK's fastest declining mammal) have moved in; and the houses surrounding the wetland have risen a staggering 500% in value; in addition to the 225,000 visitors per year enjoying wetland nature in the heart of one of the world's busiest capital cities.

Contributed by: Marie Banks, Wildfowl & Wetlands Trust (Consulting)

4. Understanding operational finances

Establishing a thorough masterplanning process and a sound financial plan and business management framework should reduce the potential for day-to-day budgetary problems to occur. However, the presence of a plan or framework does not remove the daily challenges of running a financially viable centre.

It is recommended that a rolling five year business planning programme, based on the vision and masterplan, is implemented. This should be supported by annual budgets and regular, possibly monthly, financial reporting and management meetings. A good financial management and reporting system should provide information on all aspects of the running of the wetland education centre. These aspects should also consider other planning programmes such as CEPA and habitat management to ensure that all activities are addressed within the business planning programme.

When considering operational budgets it is beneficial to try and diversify income sources as much as possible. This might include elements such as paid entry to the centre, annual memberships or income generated by shops and restaurants. One of the keys to generating operational income is to consider a range of income options. Income might be secured through a range of sources such as room rental for events and functions or meetings, sponsorship of wildlife, running activity days for corporate organisations, or renting or sub-letting buildings or other spaces such as land for plant nurseries.

Considering how income can be generated by partnership or membership schemes can be important. It is advisable to maintain good networks with private companies and members or supporters. Developing collaborative partnership between “neighbour” organizations, or with university and research institutes can boost grant revenue.

Often the wildlife spectacle at a wetland education centre is a seasonal event. During the times of significant wildlife interest the income from increased visitation might contribute to a significant portion of the annual revenue. However, good financial management needs to ensure that the budgets can cope with the seasonality and times of lower wildlife interest can be used for other activities which will both generate funds and also not impact upon the core nature experience, or on those who are coming to the centre to enjoy it. Similarly, targeting school holiday periods with seasonal events such as daytime childcare camps or activity days can increase seasonal income, or putting on events to coincide with religious or cultural festivals. In some extreme climatic conditions, such as during harsh winters, it can be worth considering a temporary shut-down when visitors are excluded. For sites that experience hot, dry seasons, consideration should be given to holding events in the evening when it is cooler, such as star-gazing or watching wildlife such as bats or fire-flies. Periods of limited visitation can also be used to undertake maintenance, such as decorating areas or updating exhibits, which would otherwise be difficult to undertake with visitors present. This approach also allows for a seasonal ‘re-launch’ marketing campaign to reinvigorate interest from the repeat visitor.



WWT canoe safari © Ben Langdon



Volunteers making a hide in Miyajimanuma, Japan © Katsumi USHIYAMA

Staff and labour costs can represent a significant proportion of the overall operation budget. A significant way to reduce this cost is to develop a network of motivated and skilled volunteers (see Chapter 6). Such individuals are often vital to the work of many wetland education centres, giving countless hours of dedicated service in support of the conservation goals of the centre. However, volunteers will also need investment in support and management to be effective.

In diversifying income it is prudent to consider whether the money being received is legal and ethical. Each centre should develop its own guidelines on how it considers such issues. Consideration should be given as to whether a partnership with or a donation received from an organisation or individual could be a financial bonus in the short-term but a long-term problem in the eyes of many visitors or audiences if the centre is associated with, for example, receiving money from a donor with a history of environmental damage.

Case study 3.3: Operational budgets

Centre: Hunter Wetland Centre

Location: Shortland, New South Wales, Australia

More information: <http://www.wetlands.org.au/>

Hunter Wetland Centre (HWC) Australia was founded in 1986 by The Hunter Wetlands Trust a community group formed from several local environment groups. The Trust secured grant funds to purchase the 45ha site that included a sporting complex, a former waste disposal site and some grassy areas used as pasture for horses. The remaining wetlands on the property were in poor condition. With volunteer labour and in kind assistance from local industry the remaining ponds were cleared of dumped rubbish and a series of ponds were reinstated with access paths across the property and a program of suitable plantings was commenced and that has continued for over 25 years.



© Ken Conway

The HWC has a not for profit charity status but has never been successful in securing guaranteed on-going government funding. Funds are raised through an active ecotourism program, grant applications, commercialising our expertise, bequests and donations and leasing of buildings to stakeholder organisations.

Financial decisions are based on a prioritised five year business plan. It is the basis of preparation for an annual business plan and budget. Monthly financial reports related to budget and previous year's results are provided to Management and the Board to monitor financial progress. An annual external audit is conducted with results reported to members.

This financial process is backed up by a regular review of all programs, financial performance. Adjustments to programs are made in a timely manner in a process that drives innovation in programs to ensure ongoing relevance and return on investment.

An annual strategy day is held by the Board and staff each year in January to ensure the business plan and all programs are generating desired outcomes. This process is preceded by discussions with stakeholders and the volunteer base. This process focuses on idea generation and product innovation as it is recognised that to remain financially viable HWC is competing for customers in the broader entertainment market segment. Decisions made are then fed into the annual business plan and budget.

Contributed by: Ken Conway and Christine Prietto, Hunter Wetland Centre

Chapter **4**

Wetland education centre location in relation to the site

Key best practice messages

- Avoid impacts to the ecological character of all wetlands.
- Ensure that the very habitats and species that inspired the establishment of the centre in the first place are protected from potential impacts by visitors.
- Ensure that a robust environmental and ecological baseline is established prior to planning any developments.
- Consider zoning areas to protect sensitive habitats and wildlife and to appeal to different types of visitor.
- Think about the type of centre that is fit for purpose in the site.
- Understand the position of the centre with regard to wider physical and cultural landscapes.
- Sensitively integrate internal and external spaces.
- Understand how visitors will travel to and access the centre.
- Understand how different types of visitors will use different parts of the site.
- Understand the flow of visitors around the site.
- Comply with all wildlife and environmental legislation.

1. Integrating people and wildlife

Wetland education centres should be about direct interaction with and experience of nature. One of the genuine challenges for a wetland education centre is to locate a centre building and its attendant infrastructure in such a manner that such experiences are enhanced rather than degraded. However, there is an obvious and inherent issue within this concept. If learning is to be experiential how can the safeguards be established which protect the experience so that the centre can operate without degrading the very wildlife that it seeks to conserve, promote and utilise to convey learning messages?

Sometimes tensions can develop between different groups of visitors. How can a centre accommodate the peace and quiet of a bird watching hide alongside the need to provide interactive play areas for enthusiastic children? How can access to a centre be provided without disturbing wildlife? How can the



Aerial view of Oak Hammock Marsh Interpretive Centre, Canada © Nathalie Bays

waste and pollution that even the best intentioned centre will generate not impact upon sensitive wildlife? All these tensions, and more, require consideration.

2. Considering the appropriate locations

A robust masterplanning process should identify the ecological and environmental constraints and the sensitive areas to be protected (see Chapter 2). These should be considered throughout the design, planning and operational activities. Even the most conservation-minded of wetland education centres is not above the law and needs to adhere to environmental and wildlife legislation. Opportunities should be taken to demonstrate that there are sustainable, innovative and cost-effective solutions associated with environmental compliance and good stewardship of nature. Where constraints are placed on developments due to ecological issues, use this as an opportunity to demonstrate innovation as part of the learning messages for the centre.

Sensitivity of the surrounding ecosystems

It is good practice to take a systematic approach to assessing any ecological or environmental impacts prior to commencing the planning process. The Ramsar Convention has adopted guidelines on environmental impact assessments (EIA), and usually national guidance will be available. The Ramsar guidance promotes an avoid-mitigate-compensate approach, with an emphasis on avoiding impacts. Wetland education centres should also promote this approach.

An EIA should be comprehensive and ensure impacts are avoided. Different types of wetland education centre exist and every wetland is different, therefore a range of impacts and sensitivities will exist. Some

wetlands will hold local, national or even international designations aimed at protecting their wildlife. The Ramsar Convention promotes the wise use of all wetlands, not just those harbouring rare or iconic species. The ecological character of wetlands should also include the benefits (also termed ‘ecosystem services’) that the wetland provides. Therefore understanding the sensitivity of a wetland, or its ecological character should include not just recording species or habitats but also understanding and recognising the overall value of the wetland in terms of its provisioning, regulating, cultural and supporting ecosystem services.

The masterplanning process should take an iterative approach and as ecological sensitivities emerge so the design process needs to remain flexible to accommodate these (see Chapter 2). Impact assessments also need to consider other elements including the soils, water, heritage and cultural aspects of a site. Changes in the design of buildings, roads or other infrastructure should be considered. The EIA process should also include the impacts of non-built structures, such as from physical access, light from car parking or noise from outdoor activities. All impacts need to be considered and relocation and redesign should be pursued rather than mitigation or compensation.

The development and sensitive siting of a wetland education centre offers the opportunity to the organisation to demonstrate innovation and to ‘practice what they preach’. If impacts are absolutely unavoidable and mitigation is required then the cost of mitigation must be offset against not just the benefits associated with reducing the impact but also the chance to use the mitigation as a learning and communication opportunity. Such innovation could include creating wetlands to mitigate against flood risks or to treat wastewater, designing green roofs to provide habitat or to insulate buildings, developing floating or stilted buildings to mitigate against flooding or to facilitate construction in a floodplain, or sensitively designing windows with overhangs and blinds to minimise reflection of the sky and to reduce risks of bird strikes. All of these approaches translate into conservation messages in their own right (see Chapter 5).



WWT London Wetland Centre entrance © Adam Freeman, WWT

Zonation

During the planning process it is important to think about the various functions of the wetland education centre. There will always be the need to strike a balance between the needs of the visitor and wildlife needs. Thinking through where to place certain activities and features is essential. Centre facilities need to work from a visitor perspective, but they must also not compromise wildlife. One of the best ways to consider this is through appropriate zoning.

Think about the resilience of wildlife to disturbance and think about the impact of activities. Identify and zone areas based on their level of disturbance (Figure 4.1). For instance, some wetland education centres have created areas for high disturbance activities, such as children's play areas. Usually it makes sense to concentrate such activities close to the main centre buildings and other facilities such as toilets and refreshments. Disturbance caused by visitors can be concentrated and then zoned across the rest of the site. One model is to ensure that with greater distance from the main centre facilities the activities become quieter allowing visitors that wish to observe wildlife in relatively low levels of disturbance the chance to do so. This approach also provides for the needs of wildlife. To a large extent this can be self-regulating due to the fact that families with young children may not venture as far from the hub of the centre and its facilities and those seeking a wilder experience will expect and be happy to adventure further afield. Not only can this be good practice in terms of wildlife but the zoning of activities also reinforces the different audience segments which often prefer to have some separation.

Within a zoning scheme it may also be possible to establish buffer zones which protect areas from disturbance. Native tree planting or scrub can be used as natural barriers and can also provide valuable habitats for wildlife. Understanding which types of visitors will be moving around different parts of the centre is crucial. Access routes, paths, boardwalks and the overall flow of visitors around the centre need to be considered when integrating disturbance zones. Maintenance access for both built and natural elements of the centre also need to be considered to ensure that movements of horticultural and maintenance machinery do not impact on visitors or wildlife.



Figure 4.1
Example of a wetland education centre showing areas of different levels of disturbance

Key: Areas within Red dotted line = High disturbance (main centre building, play area, car park, cafe); Yellow dotted line = Medium disturbance (boardwalks, foot-paths; hides); Green dotted line = Low disturbance (no visitor access)

© Rob McInnes

If the centre is to have attractions such as outdoor restaurants, play areas or other activity areas where large numbers of visitors will congregate, then it is important to calculate the carrying capacity of the overall centre, and especially the busiest attractions (see Chapter 2). Matching expected disturbance to a manageable carrying capacity can be important to prevent unwanted impacts on both wildlife and the enjoyment of visitors.

Potentially a centre may have areas which are open for free to the public and other areas which are within a 'pay zone' where admission is charged (see Chapter 3). The relative impact of visitors within these different zones also needs to be included within the zoning and carrying capacity assessments. Any changes in the relative differences in pay zones and open access areas need to be translated back into the business and financial models.



Visitor Village in Brockholes Nature Reserve © Alan Wright

One of the key relationships that requires sensitive planning and management is the interface between the internal space and the outside spaces. These interface areas can provide tempting insights of what visitors may expect to find if they wander further into the wild habitats. The interface between the internal and external areas of the centre requires careful consideration and should be at the forefront of the planning of the location of the centre, its facilities, the activities it will provide and the threats these might pose to sensitive wildlife habitats.

In some situations the potential impacts of building a wetland education centre within a sensitive wetland will be too great to proceed. Therefore consideration needs to be given to siting a wetland centre at some distance from the wetland of interest. In this scenario the access to the wetland may only be visual or it may be controlled carefully by centre staff. Such a situation will usually require considerable innovation and creativity to ensure that the delights of the wetland are brought to the centre rather than the centre being immersed in the wetland.

Consider the wider landscape

No wetland education centre sits in isolation within the landscape. The creation and development of a wetland centre needs to consider not just its immediate footprint but also how it will integrate with the wider landscape. Will the centre be considered a monstrous intrusion or a theme park style creation that attracts thousands of tourists to a tranquil wetland area? Will the centre buildings intrude into sight lines or historical landscapes? Will the intrusion create a social or cultural impact on the local community? Will the centre be a focus for possible vandalism or petty crime? Being sensitive to the wider landscape can bring rewards in time, especially if the local community appreciate the positive impact that a wetland centre can have on their environment.

Case study 4.1: Thinking about the wider site

Centre: Xixi National Wetland Park

Location: Hangzhou, Zhejiang, P.R. China

More information: <http://www.xixiwetland.com.cn> and <http://www.cnwm.org>



Landscape of Xixi Wetland © Song Miaofang

As the first wetland park in China, Hangzhou Xixi Wetlands are located within the transition zone from the low-hill region to the Hangjia Lake Plain region in Western Hangzhou City. The local government acquired the park in 2003 and has developed the 1,008 hectare wetland. Covering a large area and a diversity of wetlands and wetland uses, the Xixi Wetland Centre includes Xixi Wetland Park and the China Wetland Museum.

As an external space for a wetland centre, Xixi Wetland Park has a wetland research centre, three birdwatching zones, Hangzhou Wetland Botanic Garden and the Environmental monitoring station, meteorological station, wildlife rescue station and bird banding station mainly for popularising scientific education and wetland research. The China Wetland Museum, with an area of 2.02 hectares, provides the main internal space of the education centre. Visitors may tour both the park and the museum by boating, walking and driving.

With well distributed facilities and many staff working on education, wetland conservation and eco-tourism, visitors may choose different ways to both travel around and enjoy the beautiful scenery in the park and take part in wetland protection activities in Xixi wetland.

Contributed by: Song Miaofang Echo, Hangzhou Xixi National Wetland Park

Considering access to the site

All wetland education centres aspire to attract visitors. Therefore there is a need to understand how visitors are going to access the site. Will they be expected to drive? Are coaches going to bring large numbers of visitors? If so, will there be adequate car parking available? Will any increase in road traffic

impact on the local highway network? Will they come on public transport? Are there opportunities to make a positive contribution to local public transport infrastructure as part of the development? Does public transport provide access right up to the centre's doors? Can forms of green transport be developed to reduce car dependency? Will visitors cycle or walk? Will visitors that cycle, take public transport or walk be encouraged with a reduction in their entry fee or some other incentive? Understanding how visitors will access the centre, and any associated impacts with transportation also requires careful consideration.

Case study 4.2: Thinking about the site and beyond
Centre: Suncheon Bay International Wetland Centre
Location: Suncheon City, Republic of Korea
More information: <http://eng.2013expo.or.kr>

Suncheon Bay is a Ramsar Site located in the middle of southern coast of Korea. The first wetland centre in the bay, Suncheon Bay Ecological Park, was opened in November, 2004. As the physical facilities expanded to meet the need of growing visitor numbers, the centre became a challenge to the natural characteristic of the Suncheon Bay ecosystem. To conserve the core area of Suncheon Bay Ramsar Site from heavy disturbance, Suncheon City decided to relocate the wetland centre into an area behind the bay. The new location for the wetland centre was selected through a zoning process of the protected area, which also reflected the city's approach to urban planning. Taking six years to build and costing approximately US\$41 million, Suncheon Bay International Wetland Centre was opened in 2012.



View of Suncheon Bay © KIM Kyungwon, ERF

The purpose of Suncheon Bay International Wetland Centre is to accommodate more than 2 million annual visitors throughout a nearby garden expo site and to effectively protect Suncheon Bay ecosystem. The total area of the centre is 40,989m² and the inside space is about 2,638m². A building consisting of one storey below ground and two above provides about 9,985m² of floor space. There are three main halls in the centre: a thematic theatre, an eco-city hall, and an ecological experience hall. The ecological experience hall provides visitors with the experience of the various types of wetland habitats; from upper streams through to the estuary and tidal-flats in Suncheon Bay. Through the experience of visiting the centre, visitors improve their understanding of the whole ecosystem and have the chance to participate in conservation activities.

Contributed by: LEE Kijeong, Suncheon city
 BAK Sunyoung and KIM Kyungwon, Environmental Ecosystem Research Foundation (ERF)

Chapter **5**

CEPA programmes and learning content at wetland education centres

Key best practice messages

- Understand that visitors will comprise different groups and that people have different learning preferences.
- Develop clear learning policies and interpretation plans.
- Define the key messages and stick to these.
- Education and learning can take place outside of a classroom and can be targeted at all age groups.
- Ensure that adequate budgets are in place to deliver the interpretation plans.
- Use a variety of media and techniques to convey messages.
- Ensure that all opportunities to convey a message are taken.
- Seek to improve existing programmes, try new ideas, seek to innovate and be creative in developing new programmes to match the various types of visitor.
- Consider a pilot run or a soft launch of a new programme.
- Consider carefully the issues surrounding captive animals and feeding wild animals.
- Consult with stakeholders when developing new programmes.
- Consider working with external specialists.
- Undertake regular monitoring, feedback and evaluation.

1. What is a CEPA programme?

What is a programme? A programme at a wetland education centre can be defined as any set of activities that involve people to be influenced, calling them to action towards wetland conservation. Wetland CEPA programmes will vary from centre to centre and from season to season within centres. The format and content will vary depending on the target audience and purpose. But the motivating force behind all programmes should be to give people the intellectual and conceptual tools to make informed decisions about their local environments in order to deliver wetland conservation.

Different types of programme

Some wetland education centres will develop programmes for school children where the emphasis may be on delivering on targets within national curricula. Many programmes will engage with a wide variety of audiences. The key issue is to be creative and ensure that the range of programmes cater for the range of visitors' needs.

The following are some programmes that are widely implemented at wetland education centres:

- * Formal learning programmes linked to school curricula using outdoor and internal spaces.
- * Train the trainer programmes which allow education professionals to develop wetland conservation related skills and knowledge.
- * Engagement programmes targeted at particular audience sectors.
- * Volunteer programmes aimed at expanding and motivating the voluntary sector.
- * 'Quiet' season programmes to stimulate visitors in periods when the wildlife spectacle may be more subtle.
- * Immersive programmes which take visitors into 'wilder' or not normally accessible parts of a wetland using off-road vehicles, guided walks or canoes and boats.
- * Events programmes which mark seasonal cultural or religious festivals and intertwine celebrations with wetland-related messages.



© Hong Kong Wetland Park

Case study 5.1: Outreach programme

Centre: Oak Hammock Marsh Interpretive Centre

Location: Manitoba, Canada

More information: <http://www.oakhammockmarsh.ca/>

The Oak Hammock Marsh Interpretive Centre has been running an outreach education and public awareness raising programme since 1996. This is an example of an innovative CEPA programme that reaches out to a wider community spread over hundreds of square kilometres. The Legacy Watershed Ecovian Team take to the road every year and travel hundreds of kilometres across Manitoba, Saskatchewan and Ontario delivering wetland conservation messages to schools, youth groups, senior citizens and community groups. Since 1996 more than 150 different communities have been paid a visit by representatives from the centre spreading the wetland word.



© Nathalie Bays

Contributed by: Nathalie Bays, Oak Hammock Marsh Interpretive Centre

Think beyond traditional education opportunities

When designing new programmes try and think how different sectors of the centre's audience can be reached through innovative and creative means. There may be activities which seem not to have an

obvious link with wetland conservation. But think again. Challenge staff to find the link and embed the messages in the activity. It may even be that the programme is developed at the centre but is implemented through an outreach activity in the wider community. Consider developing creative programmes around diverse areas such as:

- * Health and fitness activities and ‘green gyms’.
- * Photography or art courses.
- * Meditation and retreat programmes.
- * Outdoor dance and theatre.
- * Star gazing and astronomy.
- * School holiday clubs.
- * Local food and local produce.
- * Citizen science.
- * Nature nurture sessions for children with learning special needs.
- * National or local eco-tourism initiatives.
- * Political campaigns or local or national current affairs.
- * Partnerships with non-usual suspects such as local businesses.
- * Corporate team-building days.
- * Weddings and other family occasions.
- * Celebrating cultural diversity.

Case study 5.2: Engaging with local communities

Centre: Miyajimanuma Waterbird & Wetland Centre

Location: Bibai City, Hokkaido, Japan

More information:

http://www.city.bibai.hokkaido.jp/miyajimanuma/21_english/21_engtop.htm

Established by Ministry of Environment in 2007, and managed by Bibai City, the Miyajimanuma Waterbird & Wetland Centre attracts around 30,000 visitors per annum. The 41 hectare site is designated as a Ramsar Site and comprises a shallow freshwater lake surrounded by agricultural land.

Miyajimanuma is an important stopover site of Anatidae, especially the greater white-fronted geese. Geese are considered a nuisance by the local farmers since tens of thousands of geese foraging on agricultural fields can cause serious damage to wheat production. At the same time, local agriculture is causing serious damage to Miyajimanuma in terms of nutrient and sediment loading and water level management of the lake. For the sustainable management of the site, the centre works with the local community through a framework which creates mutual benefits for both the wetland and the local community.



© Katsumi Ushiyama

For example, flooding of winter paddies is practiced for water quality and water level management, cover crops are grown as alternative feeding areas to alleviate wheat damage by geese, and dredged sediments rich in nutrients are under investigation to be used as the supplement the agricultural soils. These farming practices are not only wetland-friendly but also benefit farmers.

Various community members also take part in the centre’s programme. Elders teach indigenous craft-making at events, women prepare local dishes at events like “Guided foot path walks with farmers lunch”, and there is also a children’s group. All the members come together in the community-based country festival. By creating such social links between the local people and the wetland, Miyajimanuma can truly be recognized as a local treasure and can be sustainably managed for the coming generations.

Contributed by: Katsumi USHIYAMA, Miyajimanuma Waterbird & Wetland Centre

2. Understanding learning

What is learning?

A wetland education centre should be a great learning environment; a real and inspiring place where CEPA can take place. But what is 'learning'?

Learning theory has shifted in recent years towards a lifelong process of finding meaning that enters all aspects of our daily lives. Learning is also linked to behavioral change. One aspiration of learning at wetland education centres should be the intention to raise the level of competence in individuals to the point where they have the tools and skills to change their behaviour, and to hopefully make a positive contribution to wetland conservation.

In essence, learning is the process of active engagement with experience. Many people still see 'education' as purely a formal process for schools and colleges rather than a lifelong process for everyone. The following describe some guiding principles of learning:

- * Learning is an individual process. People learn at their own rate and in different ways. Learning includes building on existing knowledge and experience. It occurs in both solitary and social contexts.
- * Learning programmes should be learning-centred (rather than educator-centred). The starting point should be where is the learner? and then adopt the learner's perspective.
- * Learning should be inclusive of all and a lifelong activity, from cradle to grave.
- * Learning is cross-curricular and cross-sectoral. Wetlands can inspire learning in all subjects from art to zoology and history to physics.
- * Learning should be active and based around experiences. Research into how people learn indicates that we have 'multiple intelligences' and learn in a number of different ways. Some people prefer 'hearing about it', some prefer touching, learning through movement, numeracy, 'doing', reading or even music. Individuals often have preferred learning styles and contexts. Some learn best through team work, others through solitary activity. Some prefer 'formal' learning sessions, others learn best through self-guided discovery. Not everyone is rooted to one learning style or context. Wetland centres should consider designing learning programmes, experiences and interpretation that use a diversity of approaches and media to cater for this variety of audiences and learning needs.
- * Learning involves elements of knowledge, skills, values, attitudes and action competence that precede behavioral change. There are cognitive (knowing) and affective (emotional) elements.
- * Learning outcomes can be shaped around 'what will people know' but there should also be emotional outcomes (how will they feel) and behavioral outcomes (what will they do afterwards).

Developing a learning policy

The visitor's learning experience needs to be planned, shaped



Environmental school at Muraviovka Park, Russia

© Sergei M. Smirenski

and evaluated through the development of a learning policy which clearly articulates the principles and rationale behind delivering and achieving learning outcomes. The learning policy needs to integrate perfectly with the masterplan for the centre and be developed as a parallel but connected process.

Typically a learning policy should include the following sections:

- * Summary
- * Introduction
- * Description of the relevant organisation and its vision/mission
- * Guiding principles of learning within the organisation
- * Why the centre has a Learning Policy?
- * Audiences and their learning needs
- * Detail of formal education provision - programmes for schools and colleges
- * Detail of non-formal learning provision - programmes, events and activities for the general public
- * Resources and budget
- * External networks
- * Current trends within the learning sector
- * Marketing
- * Evaluation

In the case where the centre is part of a larger organisation, either a government run authority or a conservation charity for instance, the learning policy might also reflect the larger corporate aims of these parent organisations.

Case study 5.3: Learning policy

Centre: Hunter Wetland Centre

Location: Shortland, New South Wales, Australia

More information: <http://www.wetlands.org.au/>

Hunter Wetlands Centre (HWC) opened in 1986 as Shortland Wetlands Centre, modelled after the Wildfowl & Wetlands Trust's centre at Slimbridge, UK. The centre's education program was strongly supported by an early partnership with the New South Wales (NSW) Department of Education, which supplied a qualified teacher and a small budget to allow the development of a school excursion program. The centre's charter was developed around education of all visitors about the value of wetlands.



© Ken Conway

As of 2013 the partnership with the NSW Department of Education and communities is in its 27th year. The cornerstone of the HWC's Learning policy is curriculum based education. A grant was secured in 2009 to build a new education facility and in 2011 the new education centre with modern and well equipped classroom facilities was commissioned replacing a single room set up on the ground floor of the Visitor Centre.

The facility services Kindergarten to year 12 students and integrates environmental education across all curriculum areas. Courses are based on wetland ecology, promote hands on activity and integrate with Science, Human Society, Environmental Studies and Geography. The Centre also provides professional development for teachers. Schools visit on a daily basis with approximately 75% of their time spent on outdoor learning.

Teachers are supplied by the NSW Department of Education and communities and the Department has representatives on the HWC Board and Site Management Committees which ensures activities are fully integrated.

Contributed by: Christine Prietto and Carolyn Gillard, Hunter Wetland Centre

3. Interpretative planning

Learning and interpretation

Interpretation is a process by and through which wetland education centres can excite and 'connect' their visitors to nature. Interpretation is not the same as information, although the provision of information is part of any interpretation plan.

There are many definitions of interpretation. One classic one is that "interpretation is revelation based on information" (Tilden, 1957). Another, from Interpret Canada (1976), says that interpretation is "the communication process designed to reveal meanings and relationships of our cultural and natural heritage to visitors through first-hand experiences with objects, living things, landscapes or sites."

Interpretation can be considered as a broad-based process that draws from the learning, design, ecological and marketing professions. It involves and uses the expertise of all of the centre's staff and volunteers-everyone can interpret.

The following principles can be used to guide the design and delivery of all interpretative elements within a wetland education centre. They are of equal importance and form the basis of the standards against which the effectiveness of interpretation can be measured.



Exhibition Hall of Upo Ecological Park, R.O.Korea © CHOI Jinwoo, ERF

1. Think about the type of visitor

All interpretation and exhibit development should start with an analysis of the types of visitor that will visit the centre and understanding their viewpoint. Each type of visitor will have different likes and dislikes, expectations and needs. It is important to establish what is going to be important to the visitor and what their learning agenda is, although they may not think about it in those terms.

Analysis should be undertaken to assess the types of visitors in order to target messages to the various visitor groups. Research undertaken by WWT in the UK suggests that visitors can be categorised into different segments, excluding formal education groups. While this may not be the case for every centre, the approach provides a useful example. The categories identified include:

- * Families: those who want to learn together; and those who primarily want to entertain their children.
- * Birdwatchers: people with an interest in birdwatching; expert birdwatchers; and people who birdwatch as a social activity.
- * Naturalists: people with an interest in natural history; and people who enjoy natural history as a social activity.

- * Social day outers: people that want to have a good day out as a social activity but may not have a strong interest in the natural environment.
- * Sensualists: people who feel an emotional connection with the natural environment and who seek out peace, beauty and/or wildlife spectacles, but do not necessarily know a great deal about different species and habitats.



The Globe exhibit at Hong Kong © MET Studio Design

Irrespective of the category, people visit wetland education centres primarily for leisure and pleasure. This is entirely compatible with learning. Indeed, all these different groups will learn more if they are enjoying the experience. This enjoyment will be increased if the interpretative experience is diverse to allow different visitor types to learn in their own way. For instance, some visitors may wander quickly around the centre stopping momentarily to look at the headline of some label, others they may stop a little longer at selected places, or they may linger and absorb interpretation in detail.

All wetland education centres should be creating experiences with a high 'wow' factor (defined as a really impressive feature, view, exhibit, etc.) that engage with the different audiences and provides a memorable experience which provoke visitors to take positive wetland conservation action. It is these experiences that will also define and differentiate the centre in the visitor attraction marketplace.

Case study 5.4: Using different media

Centre: Hong Kong Wetland Park

Location: Hong Kong, P.R. China

More information: <http://www.wetlandpark.gov.hk/tc/index.asp>

The Hong Kong Wetland Park runs extensive education programmes for a wide range of visitors. In planning and developing its education programmes, the Park places the importance on delivering the right messages and using the appropriate media to create a diverse visitor experience.

The Park conducts regular market research to study the demographics of its visitors, and reviews its marketing position from time-to-time. The audience of the Park comprise students, teachers, families, general public, tourists, nature lovers, volunteers and institutional groups. Hence, the Park needs to use different media as the vehicle to convey the conservation messages to the various audiences. It is important to design the programmes with a view to cater for the needs of the recipients.

The array of programmes ranges from guided tour for schools; dramas for families; playgroups for kids; mobile apps for digitally aware visitors; art workshops for artistic persons; train-the-trainer workshops for teachers; teaching kits for schools; photo-sharing machine for photographers; to multi-language audio equipment for tourists. The Park also established collaborations with community groups, universities and corporations to bring in their expertise and resources, as well as convey conservation messages across these institutions. The volunteer programme of the Park recruited more than 1000 active volunteers, not only helping the Park in almost all aspects in education, operation and conservation, but also providing valuable opportunities for passionate individuals to take part in wetland conservation.

The diverse education programmes enabled the Park to raise awareness of wetland conservation across all levels and provide enjoyable journeys to visitors.

Contributed by: Cheng Chui Yu, Josephine, Hong Kong Wetland Park



© Hong Kong Wetland Park

2. Think about the needs of the visitor

Visitors will be more receptive to learning messages if their hierarchy of needs has been met. The hierarchy of need, based on Maslow's pyramid (Maslow, 1948), is as follows:

- * Basic physiological needs - are the visitors fed, watered, dry, not too hot or cold, noise-free, uncrowded and not troubled by a needing the toilet?
- * Do they feel safe? Are they free from fear of falling, drowning, being bitten etc.?
- * Do they belong? Are they part of a social group? Do they feel included or excluded? Do they feel threatened?
- * Do they have good self-esteem? Do they feel good in the environment?

Ensure that the visitor experience is managed throughout their stay and that their various needs are being met. Do not overload visitors with messages. Exciting interactive areas should alternate with quiet areas for contemplation and rest. Beware of areas where visitors may feel rushed, crowded or bored. Different areas should be zoned to facilitate visitor flow and to provide areas for the variety of visitor types. The core zone of a centre may be an intensive area with the point of entrance, car park, visitor centre, shop, restaurant and other exhibits where the noise levels and movement of visitors is greatest. An inner zone may contain the main exhibit area and possibly captive animal exhibits, an interactive pond area or a museum of wetland products. The outer zone could be a 'wilder' and more conventional wetland nature reserve with low levels of disturbance.

3. Have clear objectives in order to change behaviour

The ultimate goal of a wetland education centre should be to change behaviors in pursuit of wetland wise use and conservation. All interpretative activities and exhibits should have three types of objectives:

- * Learning objectives: What will the visitor know and understand after the activity/experience?
- * Feeling (emotional) objectives: How will the visitor feel while both undertaking the activity/experience and after it?
- * Doing (action) objectives: How will behaviour be changed or challenged by carrying out the activity?

One approach to interpretation which seeks to generate a behavioral change has been developed by the American interpreter John Veverka (Veverka, 1994). This is based around three elements:

- * Provoke: Begin the process with a provocative or attention-grabbing statement or proposition.
- * Relate: Help the visitor identify with the message by relating it to the visitor's own experience.
- * Reveal: The revelation or answer to the proposition through a unique or unusual viewpoint.



WWT interactive pond game © wwt

4. Use a diversity of media and approaches to interpretation

Interpretative messages should use a multitude of media and formats to appeal to the variety of different visitors and their differing learning styles and contexts. For instance, this could include:

- * Differentiating interpretation according to the visitor's needs, age, ability, curriculum requirements etc.
- * Using a variety of senses and sensory approaches.
- * Using biofacts (e.g. plant and animal specimens) and artefacts (cultural objects) as appropriate.
- * Utilising a range of media to target specific visitor types including graphics, audio-visual presentations, interactive 'hands on' features such as tactile graphics, interactive IT and web cams, art such as sculpture or poetry and live exhibits.
- * Exploring nature at first-hand and providing a direct experience of living plants, animals, landscapes and the elements.
- * Making use of the full centre/site and all aspects of the centre to relay wetland conservation messages so that learning is not confined to a specific education room or complex and key messages are reinforced.
- * Involving all staff and volunteers in learning and allow for visitor - interpreter contact. Visitor empathy can be increased via contact with enthusiastic, knowledgeable and committed staff and volunteers. Having 'serious fun' - wonderment and discovery that is based on sound learning principles, styles and contexts.

Irrespective of the media employed, it is essential that all media speak with consistent voices and that the messages do not get mixed or lost. Despite the plethora of different media available all of them need to stay on message and not send out conflicting or ambiguous signals.

Case study 5.5: Pledging support to a key message

Centre: Qurm Environmental Information Centre

Location: Shati Al Qurm, Sultanate of Oman

More information: <http://www.musandam.net/vb/showthread.php?t=32749>

The Qurm Nature Reserve is located on northern coast of the Sultanate of Oman and was designated as a Ramsar Site in 2013. The area contains mangrove forest and salt marsh facing the Gulf of Oman. This coastal wetland in the arid Arabian Desert and Gulf of Oman ecoregion provides shelter and habitat for juvenile fish and marine invertebrates, and serves as natural protection from tropical storms and cyclones.

The Qurm Environmental Information Centre (QEIM) carries out a range of activities at the site including tourism, education and research. The Ministry of Environment and Climate Affairs launched the "I pledge" initiative in order to contribute to the preservation of the environment and the reduction of pollution. The campaign is the first in the Arab world, which aims to raise awareness of the environment and its vital resources. A particular emphasis of this at QEIM is the pledge to protect wetlands and especially mangrove systems. Visitors to the centre are encouraged to pledge their support either electronically via a website or manually on paper.



© Amran Alkamzari

Contributed by: Amran Alkamzari (Oman Ministry of Environment & Climate Affairs) and Rob McInnes (RM Wetlands & Environment)

5. Develop a coherent interpretation plan

Based on a centre's learning policy, the interpretation plan should be developed and applied across all areas of development and operations including centre/exhibit development, interpretation hardware (the physical features including the wetland), interpretation software (people-led activities), special events and activities, visitation marketing and customer service. The interpretation plan should have been brainstormed and developed initially as an integral component of the masterplanning process. Individual interpretation plans can be generated for each development within a wetland education centre, or for the entire centre itself.

The structure of interpretation plans will vary depending on the learning policy. The learning policy would usually be drafted, following consultation with stakeholders, by a small working group of centre staff and relevant external representatives such as local school or college staff, government officials or other education officials. However, it is good practice for an interpretation plan to include:

- * Description and vision of the wetland education centre.
- * The need for the development and how it has been identified.
- * Why have an interpretation plan?
- * Which audiences is it aimed at?
- * Access issues and how to overcome them.
- * Consultations and market research.
- * How will the plan be achieved?
- * Design considerations for the development.
- * The storyline - one technique is to describe the visitor experience as a narrative written to a friend in letter form.
- * What are your key messages that you are aiming to interpret to your visitors?
- * Can you order your messages into a hierarchy with top messages, secondary messages and tertiary messages? Or can they be organised into core messages (which comprise the baseline of knowledge, attitudes/values and skills needed by individuals and societies to inform and take action on behalf of the future sustainability of wetlands and their biodiversity), corporate messages (which are about the organisation running the wetland education centre) or wetland specific messages (which are unique to the individual wetland associated with the centre)?
- * How will your messages best be presented? (For instance, what media are appropriate to each message and for each audience segment?)
- * Consider a thematic interpretation plan which groups messages into wider themes and gives a central meaning to your content rather than presenting your audience with a random jumble of facts.
- * Where on site are your messages best told? (For example, the importance of clean water to people and wildlife and the natural cleaning processes of wetlands could be told adjacent to a wetland treatment system or in the toilets, but would probably not be as appropriate in the shop or restaurant)
- * The experience - identify zones and pulses, then for each area, list the objectives; themes, stories and messages, and treatments/methods (i.e. which media will you use)?
- * How will sensitive or controversial issues be addressed?
- * How will the plan be SMART (Specific, Measurable, Achievable, Realistic, Timebound)?
- * Resourcing the plan.
- * Marketing and promotion.
- * Volunteer strategy.
- * Monitoring and evaluation based on key performance indicators identified for the plan.

Case study 5.6: Getting messages over through play**Centre: WWT London Wetland Centre****Location: Barnes, London, United Kingdom****More information: <http://www.wwt.org.uk/wetland-centres/london/>**

The London Wetland Centre attracts nearly 225,000 visitors per year, many of whom have young children. Called 'eXplore', the play area designed for children under 12 years old, contains a number of play activities based on different wetland themes, each with different messages. A zip-wire encourages children to pretend to be birds migrating from one end (Siberia) to another (the UK). A series of tunnels allows children to run in and out, and mimics the habitat of water voles, a burrowing mammal found in the banks of rivers and streams. The 'duck race' is a raised channel of flowing water complete with jets of water that can be aimed at plastic ducks to move them down the channel. And a cloud burst play area gives random 'showers' of "rain" from above, that the children need to avoid (or in the summer, aim for!).



© WWT

All these elements of play encourage children to get wet, play with water, and learn about wetlands and wildlife in a fun and engaging way, whilst also providing prompts for structured play and some more detailed information for the adult carers.

Contributed by: Chris Rostron, Wildfowl & Wetlands Trust and Marie Banks, Wildfowl & Wetlands Trust (Consulting)

6. Maintain, monitor and evaluate the interpretation

The importance of a clean, cared-for environment with clear signage and orientation, of assistance to the visitor in planning the day, and of the highest quality customer service and infrastructure (e.g. toilets, catering and retail) are all crucial elements in defining a successful and fulfilling visitor experience. Similarly, well-maintained and functioning interpretative materials promote a positive image of the centre.

Interpretation should be subject to routine formative and summative evaluation. Formative evaluation occurs before the design process and informs the need for the interpretation. Summative evaluation occurs afterwards and informs about the effectiveness of the interpretation in meeting its learning, feeling and doing objectives. Does it work? Are the intended audiences understanding and acting on the messages? How do you know? Monitoring should be ongoing throughout development and operational phases. Lessons learnt may be incorporated into revisions and refurbishments of the design.

Once different visitor types have been identified there is need for regular surveys and monitoring to ensure that the centre is catering for the needs of different groups. If certain groups feel that their experience fails to match their expectations then it is unlikely that they will return or recommend the centre to friends and family.

Success, or lack of it, needs to be constantly evaluated. A variety of techniques can be used, such as visitor feedback cards, annual surveys, online surveys, staff and volunteer feedback and off-site market research. The approach taken needs to be fit for purpose. For instance if a centre undergoes significant seasonal differences in the visitor experiences, such as a winter season dominated by migrating waterbirds, then monitoring and evaluation needs to assess the impact of seasonality on different visitors.

4. Consider moral and ethical issues regarding live animal displays

Some centres will want to use live animal displays, such as amphibians in tanks or wild bird collections, either in aviaries or through the use of pinioned birds. The use of live exhibits or the feeding of wild animals should be a matter for discussion and resolution in the masterplanning phase of developing any centre.

The use of live animal displays will present a unique set of issues, not least the ethical dilemma of keeping and breeding animals in captivity purely for public engagement or, in the eyes of some sectors, for public enjoyment. While some zoos and wetland education centres will argue that captive breeding programmes which aim to re-introduce species back to the wild are essential components of conservation biology, or similarly that keeping species alive in captivity as a genetic ark is vital for maintaining biodiversity, there are genuine ethical debates to be had.

There can also be issues surrounding the feeding of wild animals. This may include concerns regarding attracting vermin such as rats to feeding locations, risks of polluting water courses with excessive animal feed or risk of disease transmission in wild birds by attracting large numbers of birds to one feeding location.

This Handbook does not intend to go into the details regarding the morals and the ethics of the captive animal debate or the issues surrounding feeding wild animals. However, if best practice is to be delivered by a centre then this extends to captive animals. To achieve best practice there are several issues which must be considered and addressed comprehensively. The following are a starting point:

- * Legal compliance with any captive animal licensing systems.
- * Animal welfare issues.
- * Availability of animal husbandry and veterinary support.
- * Management of potentially invasive alien species.
- * Health and safety of animals, visitors and staff.
- * Minimise the potential for disease transmission.
- * In-breeding and genetic issues within small populations.
- * Interspecies competition and threats.
- * Sourcing wild animals and ethical practices.
- * Ethical reviews and reporting.
- * Membership of national or international zoological organisations.
- * Costs and benefits of keeping captive animals.



© Emma Alesworth, WWT Consulting

Case study 5.7: Feeding wild birds
Centre: Ras Al Khor Wildlife Sanctuary
Location: Dubai, United Arab Emirates
More information: <http://www.wildlife.ae/en/>

Located within Dubai City, Ras Al Khor Wildlife Sanctuary (RAKWS) is the UAE's first Ramsar Site. It is located at the head of the 14km long watercourse known as Dubai Creek, and covers an area of 620 hectares featuring sabkhas saline flats, intertidal mudflats and mangroves, small lagoons and pools, and a few tiny islands which lie at the interface between the Arabian Gulf and the Al Awir Desert.

During winter, RAKWS supports more than 20,000 water birds of 67 species and acts as a critical staging ground for the wintering birds of the East African-West Asian Flyway. Due to the proximity of Dubai city, it is an important eco-tourism destination and receives increasing numbers of local and international visitors.



© Dubai Municipality

The Greater Flamingo (*Phoenicopterus ruber*) has always been present at Ras al Khor. Since the mid-1980s the flamingo was the catalyst for the first habitat protection and conservation measures with the installation of a flamingo breeding island. Concurrently the Ruler of Dubai instructed supplemental feeding. Based on their highly visible presence, further protection measures were taken which led to the establishment of the first Ramsar Site, thus ensuring long-term protection for this critical staging ground for bird species. Additional positive spin-offs of the feeding programme are the close observation of the birds leading to ring recovery data, notably linking Dubai's flamingos with breeding colonies in Iran and Turkey; furthermore the feed site has become a very popular tourist attraction providing a focal point for CEPA activities.

Contributed by: Mohammed AbdulRahman Hassan Abdulla (Dubai Municipality) and Kevin Hyland (Wildlife Protection Office, Dubai)

5. Interpretation is a specialism and may need external help / support

The process of masterplanning, developing learning policies and interpretation planning can benefit from expert input. In many centres the staff will be highly competent and bring a wealth of experience to the planning and design processes. Stakeholder engagement will introduce different perspectives. Understanding the audiences and the visitors' needs will further inform the planning processes. However, despite this wealth of information, there may still be the need to consult and engage with external experts and specialists. Sometimes an external perspective can help centre staff to navigate around a seemingly unmovable blockage or an intractable problem. Sometimes recent innovation or developments in interpretation delivery may not have reached centre staff but are familiar to external specialists. Sometimes centre staff will struggle to continue doing their normal jobs while finding time to contribute to new interpretation plans. Sometimes simply having a fresh pair of eyes viewing a centre for the first time can be beneficial to all involved.

Case study 5.8: Specialist interpretation planning**Centre: Ballycroy National Park****Location: Ballycroy Village, County Mayo, Ireland****More information: <http://www.ballycroynationalpark.ie/visit.html>**

© WWT Consulting

Ballycroy National Park is in Ireland's wild west, on the coast of County Mayo. The park itself is designated for one of the largest intact areas of Atlantic Blanket Bog in Europe and is largely inaccessible to all but the most intrepid of visitor. Those willing to trek the 30km along an ancient herding track, The Bangor Trail, the only route through the park across mountainous and difficult terrain, are rewarded with stunning remote landscapes and chance encounters with indigenous wildlife, including the reintroduced Golden Eagle. However, for the average visitor this is out of reach, so the National Park Visitor Centre needs to provide visitors with a remote access experience and engage people with the stunning habitats, species, culture and history of the area.

WWT Consulting worked with the National Parks and Wildlife Service to design and install the interpretation experience to showcase the variety of habitats and interesting stories of an area rich in cultural heritage. Local craftspeople were involved to ensure the accuracy of the depictions and a series of interactive experiences were created to bring the park to the visitor. The inside interpretive experiences are complemented by a series of boardwalks and trails around an area of bog habitat representative of the park, with a viewing platform and exhibits to draw the eye to the distant mountain range and some of the species that live there. Local residents were asked to contribute to the interpretation to showcase some of the local culture and, through a series of stakeholder workshops, WWT Consulting assisted in turning these ideas into engaging interactive experiences that would appeal to international tourists as well as the next generation of local residents.

Contributed by: Marie Banks, Wildfowl & Wetlands Trust (Consulting)

Chapter **6**

The importance of volunteers

Key best practice messages

- Volunteers bring huge benefits to wetland education centres.
- While essentially a “free” resource, volunteers still need effective recruitment, training, development and management.
- Volunteers need to be kept motivated and engaged.
- Volunteers can provide centres with a vast range of skills and experiences.
- Volunteers can become important ambassadors for centres, taking the message into the wider community.
- Working with volunteers may well be subject to specific legal requirements.

1. What is volunteering?

Volunteering may have different definitions in different countries. One definition defines volunteering as any activity that involves spending time, unpaid, doing something that aims to benefit the wider community or environment. The central component of volunteering is that it must represent an individual’s freely made choice to contribute their time and energy.

However, not all countries have a culture of volunteering. Furthermore for some centres volunteers may not be available because of the remoteness of the site. Therefore, if considered desirable, for some centres it will be necessary to develop the culture of volunteering amongst the local community.

2. Who are volunteers?

There are many different types of volunteer. Some will provide significant support to the day-to-day running of a centre. Some will provide essential skills and experience and contribute significantly to developments and operations. Typical volunteers may include:

- * Retired people who are willing to use some of the experiences that they have gained in their professional lives.
- * People of any age who have time to spare.
- * People who are looking to meet new friends.
- * People who want to feel that they are doing their bit for conservation and putting something back into society or their local community.
- * People who are keen to pursue a career in conservation or education seeking to gain experience and skills.
- * Corporate volunteers from the private sector.
- * People undertaking volunteering as part of a rehabilitation programme.

Many wetland education centres are supported by volunteers. Some large centres might have hundreds of volunteers and a paid volunteer coordinator. Often volunteers are crucial to the delivery of education messages (see Chapter 5).

3. Why develop a network of volunteers?

Across the world many wetland education centres depend on volunteers. Without them many centres would not be able to offer such an interesting and enjoyable range of experiences to the public. The days of considering volunteers as simply cheap labour have passed. Volunteers are now among the most valued members of many communities with their knowledge, effort and opinions being highly valued. There can be much more to developing a network of volunteers than simply saving money.

Volunteer networks can strengthen links with the local community around a wetland education centre and help to embed conservation messages into the local populace. Working with local business or private corporations can strengthen ties which may later be used to help with leveraging funds and financial support. The support of volunteers can often be used in support of grant applications as tangible manifestations of contributions or benefits to the local community.

Volunteers can introduce a dynamic diversity to a wetland centre. Volunteers from a non-nature conservation background can bring a refreshing and sometimes unexpected perspective on both day-to-day matters and longer term strategic issues. This outsiders' view can help a centre develop, move forward and enrich it in ways that might not have seemed obvious to people who have spent their life in wetland conservation.

The involvement of volunteers can also help organisations engage differently with different sectors. The presence of volunteers from different sectors or cultural or physical backgrounds represents a clear statement of inclusivity and engagement-with-all can have a significant impact on funders and supporters alike (see Chapter 7).

The question 'Why develop a network of volunteers?' needs to be considered in the visioning and masterplanning process (see Chapter 2). It is a key decision to consider. Even before considering policies or even what individual volunteers might do, the first question is 'Why?' The 'Why' can then become a reference point for the rest of any volunteer programmes. It should explain the greater purpose that will be achieved through involving volunteers, over and above the specific tasks that they might do.

4. What can volunteers do?

The design and operation of a wetland education centre makes demands on many different skills (see Chapter 2). There are the obvious roles for volunteers, such as working with school groups on education activities or helping in the monitoring and identification of wetland wildlife. But there are so many other opportunities for volunteers to bring their experience and enthusiasm into the day-to-day work of a wetland centre.

Volunteers can be ambassadors for a wetland education centre and take the conservation messages into a range of circumstances away from the centre. Well motivated and enthused volunteers can help to spread the word and deliver learning messages about wetland conservation to numerous audiences.

Within a centre there are many activities where volunteers can provide support (see Chapter 5). The following list is not exhaustive, but includes some ideas as to how volunteers can support the activities of a centre:

- * Supporting programmes and helping out in both indoor and outdoor classrooms.
- * Leading and organising guided nature walks.
- * Giving talks and presentations.
- * Providing help to seasonal or one-off events and celebrations.
- * Contributing to conservation research programmes including data gathering, monitoring, surveys and analysis.
- * Partaking in practical habitat management and horticultural activities.
- * Assisting with visitor services such as operating payment desks or orientating new visitors.
- * Supporting learning programmes and helping out in indoor and outdoor classrooms.
- * Contributing to various administration departments such as marketing, finance, human resources, translation, publications or fundraising.



© Ken Conway

Case study 6.1: The importance of volunteers
Centre: Miranda Shorebird Centre
Location: Miranda, Firth of Thames, New Zealand
More information: <http://www.miranda-shorebird.org.nz/>

Miranda Shorebird Centre is owned and operated by Miranda Naturalists' Trust, a charitable trust established in 1975. The centre, located on the southwest coast of the Firth of Thames, was opened in 1990.

Miranda Naturalists' Trust (MNT) depends on volunteers for almost all aspects of its operation. From initial fund raising to the building of the Miranda Shorebird Centre (MSC), from fitting out the building to developing interpretation and education material, to the ongoing operation, volunteers have been essential. Most people volunteer because they share the objectives of MNT and want to contribute. One benefit volunteers enjoy is staying at the shorebird centre free of charge. It is one of the duties of a part-time staff member to coordinate the volunteer roster and associated training programmes.

Each summer MSC runs a 6 day residential field course. Limited to 12 people but open to anyone and with no prior experience necessary, the course has proved extremely valuable as a method of recruiting long-term volunteers. Over half of the current council of trustees including the Chair and membership secretary, plus a number of other long-serving volunteers, became involved in MNT through participating in the field course.

Contributed by: Keith Woodley, Miranda Naturalists' Trust



© Keith Woodley

It might be that a volunteer decides to help out at a centre as a way of getting some physical exercise. It might also be that the same volunteer has extensive professional skills in a certain area, such as in marketing or legal fields. There is no problem with volunteers multi-tasking. The whole process of volunteering should be a two-way benefit. The individual needs to feel challenged and rewarded. The organisation needs to benefit by delivering improved outcomes, be they financial, educational or environmental.

Wetland education centres that engage volunteers will have specific legal and moral obligations to uphold. These may well vary from country to country. Particular attention should be paid to the following issues:

- * Are volunteers treated as paid employees under specific laws?
- * Do organizations have the same obligations (such as health and safety) to volunteers as employers do to paid employees?
- * Is there a minimum age for volunteers?
- * Do volunteers need to be screened prior to working with children?
- * Do volunteers need screening regardless of their employment status?
- * What level of training and supervision do volunteers need?
- * Are there things that volunteers cannot do?
- * What rights do volunteers have?
- * Can a volunteer receive expenses?
- * Are there any tax benefits to the volunteer or the organization?

This list is not definitive and national guidelines and obligations are likely to exist. It is recommended that advice is taken prior to setting up a volunteer programme. Also consider talking to similar organisations that already have volunteer networks to understand the issues and benefits of developing a network of volunteers.

Case study 6.2: What can volunteers do?

Centre: Guandu Nature Park

Location: Taipei, Taiwan

More information: <http://gd-park.org.tw/en/front>

The Guandu Nature Park was established in 2001 when the Wild Bird Society of Taipei was entrusted by the Taipei City Government to manage the 57 hectare park at the junction of the Tamshui and Jilong rivers. The park is composed of different wetland habitats including freshwater and brackish ponds, swamps, mudflats and rice paddies. The nature centre building serves as the main information centre, exhibition centre, research centre and also houses the Park's management team.



© Rob McInnes

The Nature Park offers many activities including guided nature tours, multi-media shows, special exhibitions, lectures, tutoring and consultation. Since the establishment of the Park, volunteers have contributed greatly to all the activities and events undertaken at Guandu Nature Park. A variety of educational services, including tutoring and guiding school children, involve volunteers as mentors and guides. The Park routinely runs events to attract visitors, such as birdwatching fairs or cultural or artistic festivals. Such events require volunteers to meet visitors, to help with preparation and promotion and to provide support to the Park's small number of staff during the events. The Park also has an on-going programme of habitat monitoring which depends on the support of dedicated and skilled volunteers to record important wildlife. The ecological information collected by volunteers is used to inform site management and to help conserve the valuable wetland habitats.

Contributed by: Nelson Chen, Guandu Nature Park

5. Keeping volunteers motivated

Volunteers give their time for free. However, it is important that they are motivated and rewarded (see Chapter 9). This will involve managing volunteers and making time for them. Some of the key elements of best practice in managing and motivating volunteers include:

- * Applying the organisation's commitment to equal opportunities in how volunteers are recruited, selected and coordinated.
- * Making sure that appropriate insurance cover is in place for volunteers and making them aware of health and safety issues.
- * Where it is legal to do so, paying travel and subsistence expenses or discounts in shops and offering these expenses without waiting to be asked by your volunteers.
- * Having a clear volunteer policy that guides the organisation's involvement with volunteers and that is readily available to all.
- * Providing volunteers with an induction process, support and any ongoing training they require to fulfil their roles.
- * Implementing award schemes, through giving tangible items or arranging events, to recognise excellence and the contribution volunteers make to the centre.
- * Allowing volunteers to advance and grow by setting new challenges and tasks, and diversifying their opportunities and activities.
- * Ensuring that the centre's management team have procedures in place in case a problem with a volunteer arises.
- * Recognising and valuing your volunteers and the contribution they make, and saying thank you to them.



Volunteers making reed screen in Miyajimanuma, Japan © Katsumi Ushiyama

The ambition of any centre should be more than just to have a certain number of volunteers. The aim should be to grow the numbers and types of volunteers and to enthuse them. Different things will motivate different volunteers. Creating the right working conditions and environment are crucial. But all volunteers are individuals exerting an individual choice. Understanding personal motivations is vital if a centre is to get the most out of these dedicated individuals.

Chapter **7**

Wetland education centres and sustainable design

Key best practice messages

- Consider sustainability issues as early as possible in the design and planning process.
- Think about long-term costs and benefits of sustainable solutions - be prepared for the initial costs to appear higher or less attractive but focus on the long-term benefits.
- Integrate the three pillars of sustainability - environmental, social and economic - into the centre development.
- Source and use local and sustainable materials within the centre.
- Develop centre-specific sustainable solutions.
- Embed sustainability messages at every opportunity throughout the centre.
- Explain the links among sustainable practices and wetland conservation issues.
- Practice what you preach and implement sustainable solutions as part of the fabric of the centre.
- Ensure that all staff and volunteers understand and deliver sustainable working practices.
- Aspire to achieve national or international accreditation in different elements of sustainability.

1. Consider all elements of sustainable design and development

A wetland education centre should not just be an example of wetland conservation, but it should aspire to demonstrate best practices in sustainable design and development. All centres provide opportunities to promote environmental, social and economic sustainability in all aspects of their design and operation.

Environmental sustainability

A range of environmental considerations will present themselves during the planning, design and operation of a wetland education centre. Some of these will focus on the planning stage and others will be part of the long-term legacy and operation of the centre.

During the planning and design stage of any wetland centre the following need to be carefully considered (see Chapter 2):

- * How can all detrimental environmental impacts be avoided?
- * Where environmental impacts cannot be avoided, how can they be minimised and appropriate mitigation measures implemented?
- * Are there options to highlight positive wetland messages through mitigation measures, such as the use of treatment wetlands or sustainable drainage systems?

The location of any wetland education centres should be carefully planned so as to avoid being located close to any ecologically sensitive areas. Furthermore, the construction of the centre and facilities, e.g. car parks and access roads, should as far as possible, not lead to the loss of natural habitats. Try to minimize the ‘footprint’ of the site.

The design of a wetland education centre should consider reducing ecological and water footprints, reducing embodied carbon and overall carbon budgets, seek to use environmentally sustainable products and attempt to showcase green technologies. The following highlight some of the environmental considerations which should be included in a sustainable design:

- * Evaluating the use of renewable energy sources such as solar panels, wind turbines or ground source heat pumps.
- * Use natural solutions to the treatment of human wastes such as treatment wetlands and composting toilets.
- * Create wetlands to act as natural air conditioners and to regulate local climate extremes.
- * Recycle and reuse water.
- * Integrate energy and water-saving devices throughout the centre.
- * Consider green roofs and walls as natural insulators and providers of habitat.
- * Use natural, sustainable, local, sustainably-sourced or recycled products.
- * Ensure materials used in construction are as sustainable as possible.

Case study 7.1: Sustainability
Centre: Brockholes Nature Reserve
Location: Preston, Lancashire, United Kingdom
More information: <http://www.brockholes.org/>

Brockholes wetland centre is in the Northwest of England. The site is owned by The Lancashire Wildlife Trust, which is part of the UK Wildlife Trusts partnership. The Trust acquired the site in 2006 and has transformed it from a sand and gravel quarry into a 107 hectare wetland and woodland nature reserve.



© Alan Wright

The brief for the visitor facilities was that they should be an exemplar of sustainable design and be able to cater for up to 250,000 visitors. In addition the building had to meet specific site conditions; it had to be able to withstand flooding (the site is a floodplain) and be ‘Secure by Design’ to avoid vandalism.

The architect’s response to these conditions was to design a building that floats. The final design consisted of 5 barn-like buildings on a 2,400 square metre floating pontoon. When water levels rise, the pontoon floats up then falls again as the flood recedes, effectively making the buildings flood proof. Access is via two drawbridges which are lifted at night creating total security. In addition to the flood risk management solutions, the centre building is designed to minimise energy demands through innovative ventilation and solar shading blinds and high performance double glazing.

The added benefit of this design is that visitors feel much closer to nature as the building nestles in the lake amongst the reed beds.

Contributed by: Kath Knight, Lancashire Wildlife Trust - Brockholes Nature Reserve

Social sustainability

All centres should provide access for all or ‘universal access’. There should be no barrier to inclusion. These barriers may be obvious in some cases but in others the barriers may be more difficult to identify. Every centre needs to consider access for all and how the following barriers can be designed and managed:

- * Sensory barriers: visitors with visual or hearing difficulties.
- * Physical barriers: visitors in a wheelchair or with mobility issues or simply placing signage and interpretation at an inaccessible height.
- * Intellectual barriers: visitors will have a range of academic and intellectual levels.
- * Language barriers: visitors will understand and relate to different terms and terminology in different ways.
- * Social and cultural barriers: Certain images and references may not be appropriate for the site due to cultural sensitivities.



Wetland centres should be accessible for a wide range of visitors © Lew Young

Care should be taken in the design and planning stage to understand the local context of these issues (see Chapter 2). For instance, from a landscape architectural perspective it might be desirable to create pathways out of stone slabs and gravel but from the perspective of parents pushing children in buggies or wheelchair users this could be difficult to access. Similarly, creating complex and attractive interpretation will work for many visitors but equal provision needs to be made for the visually impaired (see Chapter 5). In such a scenario consider using tactile models and signage and the use of braille or recorded information.

Good stakeholder engagement may identify social groups or sectors that will benefit from inclusion. For instance, organisations supporting young offenders or rehabilitating addicts may be looking for opportunities to volunteer or get involved with nature-based projects. Hospitals or local doctors might be interested in encouraging patient rehabilitation, for individuals with both psychological and physical conditions, through engagement with wildlife and nature. These represent opportunities to promote social inclusion and for the centre to become an integral component in the local community.

© WWF Hong Kong



Cultural inclusion might also require sensitive consideration of traditional or local use of building designs or materials. Providing continuity with cultural standards can enhance social acceptance and sustainability.

There are good examples of national or international standards for access for all. These can be a good starting point. Sometimes there will be local or national grant-schemes available to

assist in delivering on social inclusion issues. The bottom line should be that all centres are open and welcoming to all people.

Economic sustainability

Detailed financial and business plans should define the financial sustainability of the centre (see Chapter 3). However, whilst budgets are managed on a short-term through a profit-loss account it is essential to consider all long-term costs and benefits. Often the fixation in budgeting is on controlling costs and the benefits should look after themselves. But often the benefits are harder to translate into monetary terms. This should not be an excuse to ignore the range of benefits associated with sustainable solutions but rather it should be considered an opportunity to think carefully about the full range of benefits that will accrue. For instance, while an oil-fired central heating system might seem to have low capital costs and can be bought simply, is it really more sustainable than the extra short-term costs of using ground source heat pumps? While a sewage treatment package plant has a known cost and will do the job of cleaning water, would it be more sustainable to use a constructed wetland that would create a low-energy, low-carbon option that promotes wise use of wetlands? Modifying the storm sewage system with concrete pipes may be the least-cost option in the short-term for managing intense seasonal rainfall but an integrated wetland solution that provides many benefits such as recreation, amenity and climate control may be more sustainable. Therefore it is important that the benefits of alternative, more sustainable solutions are given due consideration.

When considering the long-term sustainability of costs, always bear in mind the following:

- * Consider the balance between short-term costs and long-term benefits.
- * Think carefully about all of the benefits and how they might deliver on the vision for the centre.
- * Consider costs and benefits of retrofitting more sustainable solutions to existing infrastructure.
- * Consider working in partnership with local or community-run businesses and franchising out services, such as catering, to local business.
- * Consider the role of volunteers in assisting to deliver sustainable economic solutions.

2. Interpretation and education based on your sustainable solutions

While wetland messages will, and should, be at the core of the learning experience at any centre, it should still be possible to promote the education centre as an example of sustainable solutions (see Chapter 5). Most sustainable solutions can be linked back to a wetland story in both obvious and maybe some more creative ways. The following are some examples:

- * Making links among the uses of fossil fuels, atmospheric carbon emissions and climate change.
- * Making links between the loss of wetlands and the changes in water resources.
- * Making links between wastewater disposal and eutrophication of water bodies.
- * Making links between non-renewable resource use and habitat loss and destruction.

Undoubtedly there will be many other links and stories to be told. These should all be part of the learning experience and the take home messages associated with a wetland education centre that is truly aspiring to promote itself as a sustainable development.

Case study 7.2: Wetland treatment systems
Centre: Wildfowl & Wetlands Trust
Location: Nine centres across the United Kingdom
More information: <http://www.wwt.org.uk>

All nine Wildfowl & Wetlands Trust (WWT) visitor centres in the UK have integrated wetland treatment systems and sustainable drainage systems (SuDS). Wetland treatment systems (or constructed wetlands) make use of the natural cleansing properties of wetlands to treat a variety of pollutants, including sewage, to a level suitable for safe discharge to the environment. SuDS employ the same principles to manage runoff from buildings and hard surfaces and provide a level of treatment. As part of natural water management, WWT also has Rain Gardens which work with nature to harvest valuable water and store it for drier times. The benefits are multiple including:



Rain garden in London Wetland Centre © WWT

- * Naturally cleaning wastewater without use of chemicals.
- * Lower energy usage and operational costs compared to traditional sewage treatment.
- * Lower foul drainage costs.
- * Provides additional habitat for biodiversity and protects sensitive aquatic habitats.
- * Provides additional water storage and slow release in flood events to prevent flooding downstream.
- * Provides additional amenity opportunities (wildlife watching etc.) and learning opportunities for visitors.

Wetland treatment systems can be used for a variety of applications and WWT uses them to treat wastewater from visitor and staff toilets, to clean water for captive animal enclosures including mammals as well as birds, and to polish extracted water from local water courses that is used on site in wetland habitat displays.

The design of wetland treatment systems has been honed by WWT over the last 25 years and the understanding of the potential for a variety of species of plants to be used allows for the design of systems that more closely mimic natural and complex wetland ecosystems with the potential to support a wider variety of wildlife than a traditional constructed wetland planted with a mono-specific stand of reed.

Contributed by: Marie Banks, Wildfowl & Wetlands Trust (Consulting)

3. Aspire to achieving national / international certification

Many countries will have national standards and certification programmes which address a variety of sustainability issues. There may be accreditation schemes which consider building design and materials. Or there may be best practice in using local produce or materials. There are also internationally recognised accreditation schemes such as those promoted by the International Organization for Standardization (ISO). For example, the ISO 14000 family of standards addresses various aspects of environmental management. It provides practical tools for companies and organizations looking to identify and control their environmental impact and constantly improve their environmental performance. Similarly, ISO 15392 provides general principles on sustainability in building construction. And there are many more schemes under the ISO system.

Sometimes the cost of achieving accreditation is perceived as a barrier. However, it is important to also consider and reflect upon the benefits that such accreditation schemes bring. Not only can they contribute to sustainability, but the accreditation can be worn as a badge of honour that clearly informs a range of audiences that the centre genuinely practices what it preaches and is an international exemplar of best practice.

The following suggestions are made when considering national or international sustainability accreditation:

- * Consider the ambition to achieve accreditation at the masterplanning stage.
- * Understand the requirements of different accreditation schemes.
- * Communicate the importance of accreditation as an education message.
- * Consider different types of accreditation for different aspects of design and operations.
- * Work with organisations that specialise in accreditation as part of the stakeholder engagement.

4. Integrate sustainability into the daily management and operation of a centre

Sustainability features should be there for the long-term. As with any building or habitat, such features and schemes tend not to manage themselves. Sustainability features will require day-to-day management. While potentially this could be considered onerous, it also has the added value of continually reinforcing messages for staff, volunteers and visitors. The awareness of sustainability should be integrated across all the levels of the centre staff and should seek to be the operational norm.

While wetland conservation should be the primary remit of the centre, many environmental issues are related to the long-term sustainability of the planet's resources. Making daily operations reflect sustainability issues should be the goal of any well-run centre, even if it is just stopping a dripping tap or turning off a light.



Volunteer school pupils cleaning the ghar el melah lagoon, Tunisia © Faouzi maamouri, WWF MedPO Tunis Office



Educational display at the Yatsu-higata Ramsar Site, Japan © Lew Young

Chapter 8

Quality assurance

Key best practice messages

- Recognise the need for establishing and maintaining a quality assurance programme.
- Ensure that there are sufficient resources to implement the quality assurance programme.
- Make sure the quality assurance programme is fit for purpose with clear objectives.
- Consider external certification, accreditation or review.
- Believe the results.
- Act on the results.

1. The need for quality

All wetland education centres should aspire to deliver a visitor experience of the highest quality. Put simply, quality is vital for success. Quality is vital for business viability, the attractiveness of the centre, the visitor experience, the pride of the staff and volunteers and also for the wildlife a centre will support. Ensuring the quality of your centre should be a structured and fascinating task for those that know the centre best, but is also an ongoing process in the pursuit of excellence.

2. Recognise the need for evaluation

Many tourist or visitor attractions place immense effort and resources into the design of the attraction and the building of a state of the art feature. However, there is a fundamental error that is common not just to visitor attractions but also to some wetland education centres; no money is reserved for understanding whether all this investment has actually delivered on its desired outcomes. The need for evaluation and quality assurance must be recognised right at the beginning of the planning process.

The vision statement should define the aspiration and ambition of the centre. The masterplan should set

out the key outcomes for the centre (see Chapter 2). Without an appropriate monitoring and evaluation plan it is impossible to understand whether the centre has delivered on its vision.

A lack of attention to quality issues from the outset of a development could have serious consequences later in terms of loss of reputation, declining income and the initiation of potentially expensive damage limitation measures. The earlier in the process that the need for quality assurance is recognised, and monitoring and evaluation measures are implemented, then the chance of ensuring success is improved. Furthermore, the allocation of appropriate funding is also vital. It is pointless if a robust process is designed but its implementation is compromised by a lack of budget (see Chapter 3).

3. Monitoring and evaluation

There are a range of activities, protocols and methods that can be implemented as part of a quality assurance scheme. The final selection of a preferred approach to monitoring and evaluation will be centre-specific and should be designed and agreed by the centre management team. Some of the following considerations should be taken into account when designing a monitoring and evaluation scheme:

* What outcomes are being evaluated? For instance:

- Visitor numbers across different visitor categories.
- Number or range of programmes implemented.
- Participants in certain activities.
- Customer satisfaction indicators.
- Business performance indicators.
- Financial bottom line or triple bottom line?
- Environmental performance indicators.

* What methods are going to be used?

- Feedback from visitors, staff and volunteers (using a range of techniques including verbal reporting, written forms and face-to-face interviews).
- Focus groups.
- Door-step surveys.
- Membership surveys.
- Commissioning research.

* Who will provide the information?

- Visitors.
- Targeted visitor segments.
- Staff.
- Volunteers.
- 'Secret visitors' - briefed individuals who visit a centre anonymously to record certain performance criteria.
- Independent researchers or consultants.
- Partner organisations.
- Local universities, schools and colleges.

- * Who will collate and evaluate the information?
 - Staff and volunteers.
 - Independent researchers or consultants.
 - Local universities, schools and colleges.
- * How will the results be presented and disseminated?
 - As a document only for senior management.
 - As an annual report available to visitors, staff and volunteers.
 - Open access on a website.
- * How will actions and recommendations be implemented?
 - Feedback into annual reporting.
 - Information for budgetary reviews.
 - On-going development projects.
 - Routine maintenance.
- * How frequently will the process be repeated?
 - Weekly, monthly, annually, biannually.
 - As required or ad hoc.

Case study 8.1: Quality evaluation

Centre: Mai Po Nature Reserve

Location: Mai Po, Hong Kong, P.R. China

More information: <http://www.wwf.org.hk/en/getinvolved/gomaipo/>

Since 1983, WWF-Hong Kong has actively managed the Mai Po Nature Reserve to continuously developing research, facilities and education programmes. A wide range of thematic learning has been developed through environmental education programmes. Those programmes aim to promote a stronger commitment among the general public and students towards wetlands conservation in Hong Kong.

To achieve excellence and ensure programmes are delivering wetland conservation message and motivating participants to take action, a quality assurance framework has been developed which aims at providing a quality Education for Sustainable Development programme through improvement and accountability. The quality assurance process includes self-evaluation and external review. Internally, the education team carry out Planning-Implement-Evaluation (P.I.E) cycle to periodically review programme effectiveness. There is also continuous improvement to the programme through constant peer review among education staff and gaining feedback, both qualitative and quantitative data, from participants. By analysing participants' responses, it is possible to cross check programme effectiveness against the programme objectives. Externally, the Reserve staff seek advice from experts, gaining school sectors' suggestions from teacher focus groups and annual inspections by the Education Bureau and funders. All the measurements recorded and analysed under the quality assurance framework are crucial to shed light on the goal of making Mai Po Nature Reserve a centre of excellence in the region.



Students learning on boardwalk © Samson So/WWF Hong Kong

Contributed by: Nicole Wong and Lydia Pang, WWF Hong Kong

4. Think of both the costs and the benefits

The design of a thorough quality assurance scheme is meaningless if there is no budget for implementation (see Chapter 3). Therefore it is essential to consider where the funding will come from for monitoring and evaluation. It may be part of original funding requirements, it could be from a core annual budget which has been allocated by the management team or it may be conducted as part of the routine operational budget for the centre. The key issue is to ensure that there are adequate funds available. Where funds are limited consider integrating a feedback form on the centre's website or brief staff to record anecdotal evidence when talking to visitors. This way there will hopefully still be a basic level of quality assurance.

Remain realistic when designing a protocol. Investigate ways to control costs, possibly through using volunteers, partner organisations, higher education establishments or even local schools. Consider the frequency of reporting and how the results will be integrated into future budgetary discussions. Ensure that the process is fit for purpose and that the costs justify the efforts.

However, it is important to not only focus on the costs. The flip side of the equation is the benefits. Improving the quality of the centre, the visitor satisfaction, the learning outcomes and the delivery of wetland conservation can all be enhanced through the implementation of actions informed by the quality assurance monitoring and evaluation process. The aim should be to develop a quality assurance scheme where the benefits of doing it outweigh the costs of not doing it.

5. External review

While it may be adequate to use a robust internal system to monitor and evaluate the quality of a wetland education centre, there may also be merit in considering an external review or third-party accreditation scheme. Any such decision will ultimately depend on defining the purpose and objective of the quality assurance scheme.

An external certification or accreditation scheme can be a useful approach for a centre to illustrate its credentials within its market place. For example, a national rating scheme for visitor attractions can be used as a certificate of quality and used to promote or market the centre. Similarly, with regard to sustainability or green business practices, certification programmes help to ensure that a centre is operating sustainable practices within local, national or international standards. Such external certification schemes can vary significantly in their style from simple self-assessment approaches to third party certification, where an assessor will visit a centre on a routine basis.

Working with local partners can be beneficial in providing independent insights into the performance of a centre. For instance, local schools, colleges and universities can be helpful partners when it comes to designing, implementing and analysing quality assurance programmes. Often the costs associated with gathering and evaluating data can be reduced by working in partnerships. Additionally, partnership working provides the process with a degree of independence.

Commissioning experts or consultants to undertake specific investigations can also be useful if particular insights are required. This can be essential if a major development or redevelopment is planned. Similarly, working with experts to design and audit quality performance programmes can also be helpful.

Results of monitoring and evaluation from one centre may be useful to other wetland education centres around the world. Methods employed, costs incurred, effectiveness of approaches, influence on decision-making, these are all aspects that will resonate beyond your centre. Consider the wider dissemination of results, possibly through a formal publication which will be subjected to a peer-review process. This will not only provide information to a wider audience, it will provide the confidence that the approach applied at your centre is thorough and transparent.

In some situations, funders or supporters may require evaluation as a precondition of the receipt of funds. Having a robust quality assurance programme in place, and particularly if there is an element of independent or external evaluation, can be considered a huge positive by some funders. Similarly, some funders will require the evaluation of how their funds have demonstrated the desired or proposed outcomes. Using the existing quality assurance protocol may be a cost-effective way to give confidence to funders.

6. Believe the results

If external review processes are used, then go into any such process with your eyes open. If internal reporting and evaluation using staff and volunteers are to be conducted, prepare to hear some unpalatable comments. The key message is that any quality monitoring and evaluation process may generate results that the centre management team do not like.

However, do not reject or dismiss the unpalatable or look for reasons why they are wrong or don't truly reflect the centre. More often than not, the results will be correct. Believe the results of the monitoring and evaluation process. Failure to do so can lead to even further unpleasant surprises in the future.

Chapter 9

Continual professional development (CPD)

Key best practice messages

- Recognise the benefits to both the centre and its staff of developing CPD programmes.
- Develop CPD programmes for all centre staff.
- Set realistic and achievable objectives for staff.
- Ensure that staff are encouraged and supported to complete their CPD programme.
- Develop CPD programmes in order to reach out to other stakeholders.

1. What is continual professional development?

Continual (or continuous/continuing) professional development (CPD) is the means by which people maintain and increase their knowledge and skills in relation to their professional lives. It should be considered as a combination of approaches, ideas, experiences and techniques which allow individuals to learn and to grow. Done well, CPD should provide a way for an individual to develop and to link learning to practice.

There are many reasons for implementing a CPD programme at the centre. The benefits should be for both the individual and centre. Some of the benefits to the individual will be:

- * Building confidence and credibility through a clear learning progression.
- * Showcasing achievements and contributions to the centre.
- * Achieving career goals by focussing on the relevant training and development.
- * Coping positively with change through a constant updating of skills.
- * Being more productive and efficient.

In return the benefits to the wetland education centre can be apparent by:

- * Helping to maximise staff potential by linking learning to actions and theory to practice.
- * Helping line managers to set clear work objectives.

- * Linking training activities more closely to business needs.
- * Promoting staff development.
- * Improving staff morale and motivation.
- * Reinforcing a positive brand image for the organisation.
- * Reducing staff turnover and recruitment costs.
- * Maintaining institutional knowledge and allowing internal knowledge transfer.



Training programme on ecotourism (Kushiro-shitsugen Wetland) © Kushiro International Wetland Centre

2. Within the wetland education centre

In many professional organisations CPD is obligatory, however, in some it is not a requirement. A wetland education centre will require individuals with a vast cross-section of skills (see Chapter 2). These could include educators, wildlife wardens, marketing staff, health and safety officials, researchers, retail staff, horticulturalists, etc. Many different occupations could be present. Each member of staff, irrespective of their position or particular job, should be provided with the opportunity to pursue their own course of CPD. Each member of staff should also be encouraged and supported by the organisation to do so.

However, one size does not fit all. CPD needs to be personalised and fit for the purpose of the individual and the organisation. The individual and the organisation should work together to set clear objectives and understand how their achievement will be monitored and measured. CPD could be viewed as another learning programme within your wetland education centre.

Case study 9.1: CPD across wetland centres**Centre: Mai Po Nature Reserve and Guandu Nature Park****Location: Mai Po, Hong Kong, P.R. China and Taipei, Taiwan.****More information:****<http://www.wwf.org.hk/en/getinvolved/gomaipo/> and <http://gd-park.org.tw/en/front>**

Sharing similar conservation and education values, Guandu Nature Park and Mai Po Nature Reserve have been in collaboration over the past few years on various aspects. Since 2010, capacity building and staff exchange tours have been jointly organized between two organizations on a regular basis. The objective of these tours is to create opportunities of best practice sharing among conservation educators in terms of education programme development, delivery, monitoring and evaluation.



© WWF Hong Kong

Organization of these study tours has promoted the establishment of an informal communication platform between two organizations and successfully helped further collaboration on regional conservation education works development. This collaboration has further increased the quality of education work and staff capacity. In 2012, Mai Po Nature Reserve and Guandu Nature Park signed a Memorandum of Understanding to further strengthen the collaboration on the following aspects:

- * Internship and staff exchange programmes: each party is responsible for the creation of internship and staff exchange opportunities to enable other parties to send staff.
- * Study tours for staff and stakeholders: Both parties commit to organise study tours attended by respective staff and stakeholders.

Both parties recognise the tremendous potential benefits on staff development and will continue to find more resources for staff exchange and capacity building programmes. With joint collaboration, both organizations commit to promote higher level of conservation education across the two administrative regions.

Contributed by: Nicole Wong, WWF Hong Kong

3. The centre as a resource and provider of CPD

The multitude of activities which may take place at a wetland education centre lend themselves to the delivery of a CPD agenda beyond the centre staff. Many organisations would relish the opportunity to engage with the centre to help them deliver on their own commitments to CPD. CPD activities can be delivered through a range of learning programmes from formal classroom teaching, to practical skills in horticulture or ecology, to office-based experience in marketing or fundraising (see Chapter 5).

Often the opportunity to develop CPD programmes will provide mutual benefits. Consideration of such opportunities should be embedded in the masterplanning process and be investigated during stakeholder participation and engagement. There might also be financial benefits through charging fees for formal courses or learning opportunities.

Case study 9.2: Academic and professional development**Centre: Centro de Estudios de Humedales****Location: Pica, Tarapaca region, Chile****More information: <http://www.ceh.cl>**

The Centro de Estudios de Humedales (CEH) was created in 2008 under an agreement between the Centre for Development Studies and the mining company Doña Inés de Collahuasi SCM (CMDIC) as an initiative within the bicentennial celebrations to mark Chilean independence. The centre is located in an oasis within one of the driest parts of South America.



© Carolina Vera

The objective of the centre is to become a research reference centre that contributes to the knowledge and management of wetlands in the driest desert in the world, under a climate change context and with multiple land uses and conservation approaches. One of the centre's key lines of action is to generate and promote applied

research knowledge on Andean wetlands. To achieve this, the centre has established a programme of environmental education, which focuses on enhancing the natural and cultural heritage of the territory and the development of projects involving local actors, including the recovering of traditional knowledge.

At the same time the centre supports academic and professional development of undergraduate and graduate students in areas related to the wetland conservation and sustainable management. This professional development programme is further reinforced through a network of experts from public and private sectors enabling further knowledge transfer. Other key lines of action are:

- * Research projects and information across several areas including: wetland ecology, systems and management models, biodiversity, water systems resilience, load capacities of ecosystems, vulnerability to climate change and anthropogenic factors, strategic environmental assessment, decision-making processes and valuation of environmental services.
- * Developing conservation actions and monitoring plans to the Chilean northern wetlands.

Contributed by: Carolina Vera Burgos, Centro de Estudios de Humedales (CEH) - Wetlands Studies Centre

Further reading and resources

Background

This Handbook contains many examples and provides a summary of best practice in the design and operation of wetland education centres. It is not an exhaustive text and many resources exist which will help people who are involved in wetland education centres. The following sections detail just some of the resources which are available both on-line and in printed format.

Web-based resources

Chapter 2: Planning or redeveloping a wetland education centre

General

<http://name-aam.org/about/who-we-are/standards>

<http://www.tourism.wa.gov.au/Publications%20Library/Visitor%20Centre%20Operations%20Manual.pdf>

<http://wli.wwt.org.uk/>

<http://www.wwtconsulting.co.uk/our-services/visitor-centre-planning-and-design/>

http://www.bgci.org/resources/start_a_garden/

Stakeholder engagement

<http://www.ramsar.org/pdf/lib/hbk4-07.pdf>

Universal access

http://www.bca.gov.sg/BarrierFree/others/ud_guide_2007.pdf

<http://www.bca.gov.sg/friendlybuilding/Contents/Contents2.aspx?ContId=1>

<http://www.archsd.gov.hk/archsd/html/ua/01-Chapter1.pdf>

<http://www.ausaid.gov.au/publications/Pages/accessibility-design-guide.aspx>

Chapter 3: Ensuring the financial sustainability of a wetland education centre

Background

<http://www.insights.org.uk/articleitem.aspx?title=Visitor+Centres>

Chapter 4: Wetland education centre location in relation to the site

<http://www.neefusa.org/>

<http://www.naee.org.uk/>

Chapter 5: CEPA programmes and learning content at wetland education centres

Interpretative planning

<http://www.nps.gov/hfc/services/interp/>

<http://www.interpnet.com/>

<http://www.ahi.org.uk/>

Exhibit development

http://www.exploratorium.edu/vre/ape//ape_intro.html

Captive animals and live exhibits

<http://www.eaza.net/Pages/European%20Association%20of%20Zoos%20and%20Aquaria.aspx>

<http://www.biaza.org.uk/>

<http://www.waza.org/en/site/home>

CEPA programmes

http://www.ramsar.org/cda/en/ramsar-activities-cepa/main/ramsar/1-63-69_4000_0__

http://www.ramsar.org/cda/en/ramsar-activities-cepa-wetland-cepa/main/ramsar/1-63-69%5E20257_4000_0__

http://www.esdtoolkit.org/esd_toolkit_v2.pdf

<http://unesdoc.unesco.org/images/0012/001271/127100e.pdf>

Chapter 6: The importance of volunteers

General overviews on national volunteering programmes including legal and financial aspects:

<http://www.volunteering.org.uk/>

<http://volunteer.ca/>

<http://www.volunteeringnz.org.nz/>

Centre specific volunteer information:

<http://www.wwt.org.uk/wetland-centres/slimbridge/volunteer/>

<http://www.wetlands.org.au/page26182/Volunteer.aspx>

<http://www.wwf.org.hk/en/getinvolved/actlocally/>

<https://www.sbwr.org.sg/friendsowetland/volunteers/>

Chapter 7: Wetland education centres and sustainable design

Access for all

<http://www.dogrosetrust.org.uk>

http://www.bca.gov.sg/BarrierFree/others/ud_guide_2007.pdf
<http://www.archsd.gov.hk/archsd/html/ua/01-Chapter1.pdf>
<http://www.ausaid.gov.au/publications/Pages/accessibility-design-guide.aspx>

Sustainable building design

<http://www.breeam.org/>
<http://www.iso.org/iso/home/standards/management-standards/iso14000.htm>
http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=40432
<http://72.13.185.105/nature/field-notes/pdf/environmentally-sensitive-building.pdf>
<http://72.13.185.105/nature/field-notes/pdf/green-roof.pdf>

Chapter 8: Quality assurance

Quality evaluation

http://ec.europa.eu/enterprise/sectors/tourism/files/studies/evaluation_quality_performance/qualitest_manual_en.pdf
<http://www.visitengland.org/busdev/accreditation/attractions/codeofpractice/index.aspx>

Chapter 9: Continual professional development (CPD)

<http://www.cipd.co.uk/>

Specific bibliography

A good starting point is the previous online manual published in 2006 by WLI through WWT entitled 'Developing a Wetland Centre' which provides excellent information to anyone interested in developing a wetland centre.

<http://wli.wwt.org.uk/wp-content/uploads/2012/04/developingawetlandcentre.pdf>

Other references include:

- Carter, J. (1997) *A sense of place - an interpretive planning handbook. The Tourism and Environment Initiative*. Inverness, UK.
- Ilyina, L. and E. Pylenkova (2013) *Methodology for creating visitor centres in nature reserves, national parks and other nature areas. Designers work experience*. Wetlands International Russia Programme, Moscow.
- Maslow, A.H. (1948) " 'Higher' and 'Lower' Needs", *Journal of Psychology*, 25, pp. 433-436.
- Tilden, F. (1957) *Interpreting Our Heritage*. University of North Carolina Press.
- Veverka, J.A. (1994) *Interpretive Master Planning*. Acorn Naturalists, California.

Glossary

Audience	The people who are or will be visiting a centre. It is usually helpful to subdivide the audience into groups or segments (e.g. socio-economic) so that its composition can be better understood
Biofacts	A specific type of artefact that is natural e.g. skulls, feathers and taxidermy
Capital costs	The fixed, one-time expenses incurred on the purchase of land, buildings, construction, and equipment used in the development and implementation of the centre
CEPA	Communication, education, participation and awareness
EIA	Environmental impact assessment
Habitat	The type of environment where plants and animals live
Hardware	All the elements of the centre and the site that do not involve people, including the wetland, live exhibits, buildings, interpretation boards and panels, artwork, etc
Information	The factual content of messages
Interactives	Any exhibit or display that changes following a choice or action made by a visitor
Interpretation	The communication process designed to reveal meanings and relationships of cultural and natural heritage to visitors through first-hand experiences with objects, living things, landscapes or sites
Interpretation Policy	A document that identifies the philosophy, development and methods (media and treatments) that will be used to deliver the organisation's learning messages
IT	Information Technology
Masterplan	A comprehensive plan of action for the future development of a centre
Mission	Concise statement expressing how the organisation aims to deliver its vision

NGO	Non-governmental organisation
Operational costs	The expenses which are related to all the day-to-day operation of the centre. Also known as revenue costs.
Programme	Any activity or set of activities that involve people to be influenced, calling them to action towards the conservation of wetlands
Ramsar	The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources
SMART	Specific, Measurable, Achievable, Realistic, Timebound. The qualities that should be possessed by all good plans, from Masterplans to Education Plans
Software	Events, activities or programmes that are people-led
Triple bottom line	The “bottom line” refers to the sum of revenue minus expenses, which is either “loss” if negative, or “profit” if positive. The triple bottom line adds two more “bottom lines” to the simple economic; social and environmental concerns.
Universal access	The ability to enable people with any disability to participate equally in activities at a centre through the design and implementation of appropriate initiatives.
Vision	A concise statement that expresses what the organisation wishes to achieve
Volunteer	An individual who has chosen to take part in any activity that involves spending time, unpaid, doing something that aims to benefit the environment or someone (individuals or groups) other than, or in addition to, close relatives
Wetland	Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres
WLI	Wetland Link International

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Azraq Oasis Wetland Reserve, Jordan
 Bongam Tidal-flat Eco-Education Centre, Republic of Korea
 Brockholes Nature Reserve, The Lancashire Wildlife Trust, United Kingdom
 Centro de Estudios de Humedales, Chile
 Ganghwa Tidal-flat Centre, Republic of Korea
 Guandu Nature Park, Taiwan
 Hong Kong Wetland Park, People's Republic of China
 Hunter Wetland Centre, Australia
 Hwapocheon Wetland Eco-Park, Republic of Korea
 Jeungdo Tidal-flat Ecological Exhibition Centre, Republic of Korea
 Mai Po Nature Reserve, WWF Hong Kong, People's Republic of China
 Miranda Shorebird Centre, New Zealand
 Miyajimanuma Waterfowl and Wetlands Centre, Japan
 Oak Hammock Marsh Interpretive Centre, Canada
 Qurm Environmental Information Centre, Sultanate of Oman
 Ras Al Khor, Dubai Municipality, United Arab Emirates
 Secretariat of the Ramsar Convention on Wetlands
 Seosan BirdLand Wetland Centre, Republic of Korea
 Suncheon Bay International Wetland Centre, Republic of Korea
 Sungei Buloh Wetland Reserve, Singapore
 Tokyo Port Wildbird Park, Wild Bird Society of Japan, Japan

Upo Ecological Park, Republic of Korea
XiXi National Wetland Park, People's Republic of China
Wildfowl & Wetlands Trust, United Kingdom / Wetland Link International
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