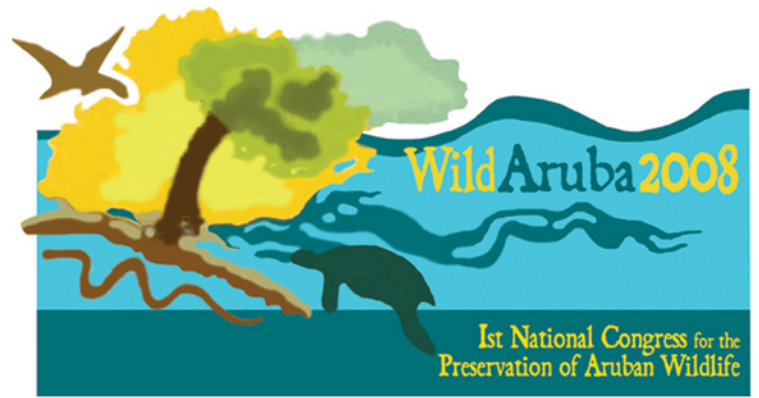


WildAruba
Conservation
Planning Workshop

25-29 August 2008

Final Report



WildAruba
Conservation Planning Workshop
Final Report

27-29 August 2008

Aruba

A contribution of the IUCN/SSC Conservation Breeding Specialist Group in collaboration with WildAruba.

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Barendsen, P., B. Boekhoudt, G. Boekhoudt, L. Carrillo, R. Derix, F. Franken, R.A. Odum, P. Portier, M. Sweerts-de Veer, R. van der Wal, and O. Byers (Editors). 2008. *WildAruba Conservation Planning Workshop Final Report*. IUCN/SSC Conservation Breeding Specialist Group: Apple Valley, MN.

WildAruba 2008 Workshop Committee: Facundo Franken (president), Melissa de Veer, Patricia Portier, Gisbert Boekhoudt, Robert Kock, Theo Oord and Richard van der Wal

An electronic version of this report can be downloaded at www.cbsg.org.

In loving memory of our esteemed environmental friends

“baluartenan di mundo ambiental di Aruba”

Gerold Engelbrecht and Egbert Boerstra.

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Lisbon Zoo
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Naturzoo Rheine
Nordens Ark
Odense Zoo
Oregon Zoo
Ouwehands Dierenpark
Riverbanks Zoological Park
Wellington Zoo
Wildlife World Zoo

Zoo de Granby
Zoo de la Palmyre

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Alice Springs Desert Park
Apenheul Zoo
Arizona-Sonora Desert Museum
Bramble Park Zoo
Brandywine Zoo
David Traylor Zoo of Emporia
Ed Asper
Edward & Marie Plotka
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Mark Barone
Montgomery Zoo
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Roger Williams Park Zoo
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\$100 and above

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Bighorn Institute
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***Thank you for your support!
30 November 2008***

WildAruba

Conservation Planning Workshop

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WildAruba
Conservation Planning Workshop
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Section 1
Executive Summary

Executive Summary

Background

The future of Aruba's natural environment and the future economic wellbeing of its citizens are intimately connected. Aruba has a unique natural heritage of land and sea that has drawn millions of visitors from every corner of the world. It is this natural heritage that makes Aruba so special. Just like many other places in the world, the natural environment of Aruba is under great pressure from increasing human populations and its future is uncertain. It is the intention of this workshop to contribute to the improvement of the quality of Aruba's environment by means of providing a route map with specific actions to enhance Aruba's natural beauty and natural resources that will impact the island's worldwide appeal in a constructive manner, thus subsequently adding value also to its economy.

WildAruba is a congress to both celebrate Aruba's unspoiled nature and to develop a plan to preserve the island's natural heritage for present and future generations of island residents and visitors. The congress is a partnership with the government of Aruba, local government organizations, non-governmental organizations, private sector or commercial and international associations.

WildAruba initiated in 2007 and set out to organize a conference for 2008 that would have two distinct elements: a symposium and a workshop. The two-day symposium focused on all aspects of Aruban wildlife including marine and terrestrial ecosystems and included presentations about the current knowledge and status of Aruban wildlife, the Aruban ecosystems, and the challenges facing conservation for the island. These presentations have also been published on the website:

www.wildaruba.org

The second part was an IUCN facilitated workshop of representatives from all the stakeholders of Aruban wildlife and its conservation. The workshop focused on developing a list of the most urgent issues and a unified conservation action plan to address these issues and accomplish the goal of preserving Aruba's natural heritage.

This report represents the output from the WildAruba Workshop. It will be presented to the Government of Aruba for consideration and it will be available to all interested parties and individuals on www.wildaruba.org

The Workshop Process

The WildAruba Executive Committee invited the Conservation Breeding Specialist Group (CBSG) — a specialist group of the IUCN's Species Survival Commission — to Aruba to facilitate the WildAruba workshop. Using CBSG tools and processes designed specifically for this type of conservation problem, the workshop brought together a diverse group of 65 stakeholders including biologists, representatives from governmental and non governmental organizations, teachers, zoo professionals, and naturalists, from Aruba, Bonaire, Curacao, Holland, Venezuela, and the USA (A full list of attendees can be found in Appendix I of this report). Participants worked from 27-29 August 2008 to produce a broad, comprehensive strategic plan for conservation of the country's wildlife.

The meeting began with everyone sharing what they valued most about Aruba's wildlife. There were many views, but also many similar themes.

These ideas were synthesized into an overall vision for the future of Aruba's nature:

Aruba, where people appreciate and respect the island's flora, fauna and environment, actively protect nature's evolving processes in healthy habitats, in both marine and terrestrial ecosystems, and manage to live in a sustainable balance between socio-economic development and conservation of its nature and cultural heritage.

Six working groups were then formed to address each of the primary themes: species, habitat, management, parks, healthy environment, and education. With the exception of periodic plenary sessions for presentation of progress reports and cross pollination of the work of the groups, the remainder of the workshop was spent in separate working groups. Each group identified individuals to serve as working group facilitator (to keep the discussions focused and ensure that each person wanting to speak was heard), recorder (to keep track of group discussion on computer), and presenter (to deliver the working group report in plenary).

The first task for the working groups was to review the issues that comprised their theme and write a clear statement of the group's vision in relation to that theme. Once these 'Theme Visions' were drafted, the groups were asked to identify the primary threats that might prevent Aruba from reaching that Vision. The remainder of the workshop was spent developing Goals, Objectives and specific, detailed Actions to mitigate those threats. To increase the potential for implementation, groups were asked to write their proposed Actions to meet the "SMART" criteria: Specific, Measurable, Achievable, Results-oriented and Time-fixed. Due to time constraint and the complexity of some of the subjects at hand these "SMART" criteria were not met by all groups or for every action. Each group produced a report on their discussions and conclusions. Those reports can be found in Sections 2 through 7.

Although there was a diversity of ideas and perspectives in the room, and that diversity was essential for the workshop, everyone said that they can support the general outcomes of the workshop and agreed to work together toward achieving the goals of the overall plan.

Priority Workshop Outcomes

On the workshop method

The *WildAruba Conservation Action Planning Workshop Report* presents the results of the efforts and energy the participants contributed to the workshop. Editing of the draft report was done with the assistance of workshop participants. Outside review by non-participants was not part of the process. No content changes were made by the editors and participants checked to ensure that accurate representations were made of their workshop products.

Each of the working groups presented their recommendations in the workshop's final plenary session. The recommendations were then prioritized by all workshop participants on the basis of importance of the recommendation to the protection of Aruba's nature. Prioritization was done by participants individually. Each participant was handed three stickers and was asked to stick them next to the three

recommendations they valued most (putting all three stickers next to one recommendation was also allowed). The high priority workshop recommendations are summarized below (in order of priority and with the number of votes received). All the recommendations are presented in the working group reports.

This workshop was very important for all the participants and for Aruba. It was very special and maybe unique, just as is the wildlife of Aruba, because it was the first time that any country has convened such a diverse array of stakeholders to develop a broad, comprehensive nation strategic plan for conservation of the country's wildlife. The plan laid out in this report will be a model for the world.

Conclusions and Recommendations

The Institution of an Environmental Management Authority (EMA) tops the list with 33 votes. At present there is no Nature and Environmental Policy department. At least three Ministers have decision-making tasks that involve Nature, Environment and its protection and/or management, but there is no clear department in charge of policy making and or coordination of execution of management tasks regarding environment to resort under the Ministry of Environment.

Although the various government departments and other entities, both commercial and environmental NGOs, undoubtedly contribute to nature protection in some form, there is a lack of coherence in policy and execution of tasks. A strong and coherent integrated policy towards nature conservation is needed to counterbalance economical development which is usually profit driven and very focused in achieving its goals. A well organized and independently operating environmental management authority is also crucial to coordinate compliance to internationally acknowledged treaties for the protection of nature and to advice responsible decision making regarding the sustainable development of Aruba's territory.

This recommendation underscores that there is a consensus amongst participants of this congress of the urgent need to cluster the different nature conservation and environmental protection tasks. WildAruba therefore strongly recommends the government to erect an **Environmental Management Authority** with the highest priority.

The Establishment of a Marine Park. The need for a marine park to provide greater protection of the environment and flora and fauna was reiterated in various commissions and received the second most votes. Rapid coastal development and increasing pressure on the marine resources urge for the implementation of necessary legislation to protect nature. The establishment of an official entity like Parke Nacional Arikok would offer more possibilities for funding, enforcement while adding to the overall perception of Aruba's visitors, hence contributing to Aruba's tourism and economy with a value added product. The process initiated by the CZM should be encouraged and executed. The government is urged to support this effort and officialize the draft legislation and provide seed money for the maintenance of programs started by the CZM.

Reinforcement of a Moratorium on the Building of Hotels, Condominiums and Commercial Constructions: Concern about the sustainability of recent rapid economic developments and expressed desired projects create the need to have a tighter control on development. As a consequence of its small scale and fragile economy and ecosystems everything in Aruba is connected and development has far reaching impact on all sectors of the community, including social, cultural and environmental, especially endemic habitats and flora and fauna of the island. A moratorium will be an effective tool to lessen this pressure.

Education was also deemed highly necessary in reversing threats to Aruban nature. In fact so much so, that WildAruba called for a permanent education committee of key stakeholders involved in Aruba's natural history and heritage. Well documented and enthusiastically presented education is key to creating awareness amongst not only the younger generation, but also amongst decision makers and

indeed everybody living and working on Aruba. Access of such an education committee to the scholar curriculum would be vital.

Gathering Information on Species Habitat and Distribution More studies are needed to evaluate the impact that many economical developments have and decisions about the need to undertake them. They are also crucial in determining whether efforts to preserve nature are effective for more desired data based decision making.

Methods to Change or Modify Human Behaviour were highlighted to be very important to protect nature and take a nature minded, or at least nature considerate attitude when contemplating economical development in Aruba. These changes or modifications can be brought about in a number of ways. Education was already mentioned, but adequate legislation with proper enforcement, incentives for ecologically sound projects, compensation requirements after impact studies have been conducted for basically any project were also brought to the table.

The completed list of goals hereunder shows a much more extensive list of issues and goals desired by participants. While all these goals are deemed important, when participants were given the choice to vote for their top 3 priorities from this list, some goals did not receive votes in the process. It is possible that overlap of closely related subjects played a role in this. From comments received from participants, many expressed that the realisation of an Environmental Management Authority was crucial to them and that they trusted many of the other issues listed would be addressed by this Authority.

WildAruba Priority Recommendations

Institute an Environmental Management Authority (EMA) including a Biodiversity Office	33
Establish a Marine Park (implement protected marine areas leading to this)	20
Reinforce a moratorium on commercial development (hotels, malls, restaurants, etc.)	19
Create a permanent education committee of key stakeholders involved in Aruba's natural history and heritage	13
Gather information on species/habitat and distribution	11
Change/modify human behavior to create a more environmental minded population (Organize a national awareness campaign that leads to a permanently clean Aruba)	10
Ban all irresponsible driving, on land or sea, in Aruba (driving that in any respect damages or disturbs the natural habitat)	7
Clean air: reduce our dependence on fossil fuels; reduce use of pesticides/ herbicides	7
Develop a biosecurity plan	6
Ecological Corridors/Linear Parks	5
Monitoring programs of species and habitats of concern	3
Create red list of threatened species/habitat	3
Establish (9) Urban Parks	2
Clean water/clean soil: no waste water to be dumped in the sea directly but to be reused; minimize solid waste - reduce reuse recycle to reduce the quantities and to stimulate the recycle process	2
Establish partnerships and infrastructure to obtain long-term funding for the development of educational projects in	2

Aruba's natural history and heritage	
Control invasive species'	1
Prevent further environmental damage by restricting access to vulnerable areas	1
Include environment as a subject in all layers of education	1
Effective enforcement of environmental legislations/Implement environmental education in police department	1
Convince administrative and governmental bodies in education on the importance of Aruba's natural history and heritage in our school curriculum.	1
Re-use of uninhabited and abandoned sites (houses, industrial buildings, etc)	0
Limit expansion of the road system in rural and natural domain	0
Reinstall a clean environment in all urban, rural and natural areas	0
Protection of communities and habitats (plants, animas, fungi, marine, freshwater, terrestrial)	0
Install a body of authority responsible for Coastal Zone management	0
Specify and delimit protected marine areas	0
Centralization, process and distribution of all information through information centers related to the natural history and heritage of Aruba.	0
Restore environmentally damaged areas – site rehabilitations for actual damaged sites	0
Complete environmental legislation to be able to prevent environmental damage and act on damage that does take place.	0
Better cooperation between stakeholders – NGOs and GOs to meet on a regular basis	0
Promote visibility and public awareness for all people of Aruba to connect ad explore nature through Aruba's natural history and heritage	0

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Section 2
Species Working Group Report

Species Working Group

Working Group Participants: Jan Piet Bekker, Craig Berg, Gerard van Buurt, Ruud Derix, Jafet M. Nassar, R. Andy Odum, Robert N. Reed, Howard Reinert, Richard van der Wal

Theme vision: To have diverse viable natural communities of organisms in Aruba. Ecosystems are composed of species, plants and animals, interacting with each other and with the physical environment; therefore, it is of the essence to preserve species diversity in Aruba to guarantee all the ecosystems represented in the island.

Main goal: To preserve, maintain, and restore Aruban plant and animal species in natural, healthy ecosystems.

Threats: (■ very important, □ less important)

- (A) Exotics (invasives) ■
- (B) Habitat destruction/degradation/fragmentation ■
- (C) Deforestation/food depletion ■
- (D) Cave disturbance ■
- (E) Roads + construction ■
- (F) Pollution in all forms (light, noise, chemicals, physical, etc.) □
- (G) Water and nutrient □
- (H) Deliberate killing, hunting, fishing ■
- (I) Increase traffic in and off-road (air, sea, land) □
- (J) Diseases (plants and animals) □
- (K) Lack of awareness ■
- (L) Captures as pets □
- (M) Human disturbance ■
- (N) Decline of food resources □
- (O) Roost scarcity □
- (P) Wind Farms? □
- (Q) Fishing industry □
- (R) Lack of knowledge □
- (S) Oil spills □

Most threatened species:

Cascabel (Threats: H, E, A, B, K)
Cave dwelling bats (Threats: B, C, D, H, N, P, A)
Sea turtles (Threats: M, H, F,
Parakeets, *Aratinga pertinax* (Threats: L, A, B, C, H, N, *O)
Fresh-water fish upstreaming (Threat: B, F, G)
Dolphins/whales (Threats: M, F)

THREAT: INVASIVE SPECIES

Goal: Prevent all dangerous invasive species from arriving on Aruba and have the means to do so via a biosecurity plan that includes veterinary issues, plant diseases, etc. Invasives, in general, are one of the major threats to Aruba's biodiversity. We need to stop new exotic species from invading the island. Each new exotic species that arrives brings with it potential damage to the island. The invasive species already in the island need to be evaluated in terms of their impact on native flora, fauna and environments. Based on the results of these evaluations, we will have to take specific measures for their eradication or control.

Objectives:

- 1) Have a Biosecurity Plan in place within five years.
How? (a) Establish a relationship between responsible parties (customs, vet service, research, etc.); (b) create an alert list and program; (c) training, (d) legislation.

Why? Invasive species are a major threat to native flora and fauna. Many are already in Aruba and they continue arriving, many of them, through the activities of humans. We need to stop the introduction of exotic species by all means. The most efficient and technically appropriate way to achieve this is by the creation of a Biosecurity Plan. Ideally, once it is activated, we will be able to stop the incoming of new unwanted exotics in Aruba.

- 2) Control existing invasives.
How: (a) Census and monitoring of invasives, (b) define involved parties, (c) removal procedures, (d) decision making.

Why? The invasive species already present in Aruba Island are causing a not yet well understood level of damage to native species and ecosystems. Parallel to the evaluation of their impact, we need to start eradication and control programs to make sure their populations do not continue growing. We also need to establish priorities in terms of what invasives should be the main target of control programs.

THREAT: HABITAT DEGRADATION (includes road and building construction)

Goal: Assess the status of Aruban habitats, reduce the loss, fragmentation, or degradation of existing habitat, preserve & restore habitats required by sensitive species, and maintain viable native communities across all representative native habitats. Habitat diversity is an essential part of Aruba's nature. We need to protect this diversity and guarantee that no habitat goes extinct on the island.

Objectives:

- 1) Gather information (establish database) on species, natural habitats, distribution (locally/time), importance.

Why? Baseline information on Aruba's native species and habitats is of the essence in order to propose effective measures for the conservation of Aruba's nature. We need to invest in research on the ecology of species, population dynamics, habitat preferences, feeding ecology, habitat characterization, reproductive biology, habitat diversity, and the spatial distribution of species.

- 2) Preserve critical natural habitats and communities (quiet, dark habitats).

Why? We need to identify critical habitats, because of their uniqueness or because they contain key or unique species that are endangered. Some of these habitats can play fundamental roles during part of the life cycle of certain species. For example: nesting sites (beaches) for sea turtles, maternity caves for bats.

- 3) Red List of threatened Aruban habitats (implies evaluation of habitats).

Why? Red Lists will become the main guide for future action plans for the conservation of Aruba's nature.

- 4) Habitat/community-specific action plans (re-forestation, re-introduction, cave and quarry protection, prevent hunting and killing, etc.).

Why? Based on scientific evidence, we need to propose specific action plans for the conservation of habitats and species that otherwise will suffer the negative impact of factors

that are affecting them. We will use the information in the Red Lists as an orientation to assign priorities to these plans. These action plans will make our research efforts effective.

THREAT: LOSS OF KEYSTONE, UNIQUE, UMBRELLA, AMBASSADOR AND CULTURALLY IMPORTANT SPECIES

Goal: Preserve keystone species, unique species, ambassador species and culturally important species, including their habitats (wild areas, urban areas and cunucus). There are species that require special care and major efforts to be preserved, because of their key ecological role, what they represent to the local people and their regional value as flag species.

Objectives:

- 1) Define which species in Aruba fit into each category.

Why? Keystone species help maintain the food webs of terrestrial and marine ecosystems in Aruba. One very effective way to protect entire ecosystems is by maintaining viable populations of keystone species. We should identify these species. However, it is important to indicate that some of them have been already identified: columnar cacti, agaves, marine coral, mangrove, seagrass, wata-keli, kibrahacha, divi-divi, etc.

Ambassador species are also important, because they represent internationally Aruba's nature and can become symbols of the national efforts for the conservation of Aruba's natural ecosystems. Some of these species include: shoko, cascabel, sea-turtles, nectar-feeding bats, etc.

Cultural species are those with which the people in Aruba have established historical emotional links. For this reason they want to protect them. We need to respect this attitude and try to help maintain these species in the island in a way that ensures they do not have negative impact on native species and habitats. Examples of these species include donkeys and aloe vera.

Unique species have a value by themselves because of this uniqueness. They contribute to the regional biodiversity only found in the Caribbean Region. Examples of these species include: dori, vesper mouse, land-snail, bats, shoko, and a variety of unique plants.

- 2) Use these species to encourage protection of habitats and create public awareness.

Why? It is easier to sell the idea of protecting a habitat or a species when you link it to a specific role or value.

- 3) Preserve these species with specific action plans.

Why? Only with specific action plans, well designed and appropriately justified, we will be able to raise funds to materialize the actions we want to implement for the preservation, maintenance and restoration of species and habitats in Aruba.

FINAL CONSIDERATIONS

As it is shown in the 'Actions Table' below, there is a need for creating a '**Biodiversity Office**' that can coordinate all the activities derived from the objectives proposed. This office can develop its work plan in combination with the activities and expertise of professionals belonging to the already existent organizations, such as LVV, Arikok National Park, and the Veterinary Service.

A Biological Station, especially designed to give logistic support to all types of biological research related to these objectives, would be of great value to achieve them and to reduce operational costs

(accommodation of researchers, feeding of researchers, lab materials, equipments, local transportation, etc.) related to research activity in the island.

SPECIES WORKING GROUP ACTIONS TABLE

Objective: Have a biosecurity plan to control invasive species			
	Measurable outcome	Responsible parties	Timeline
Action 1: Identify responsible party	1.1 Appointed coordinating entity. Proposal to ministry.	- Customs - Agricultural Department - Veterinary Service - Health Department (Appointed by government and given legal power. Initiators: Patty & Facundo)	January 1, 2009
Action 2: Alert List Program and laws related to biosecurity plan	2.2.a. Phytosanitary 2.2.b CITES 2.2.c Alert species list 2.2.d Vet laws 2.2.e Accomplish of legislation for A and C 2.2.f Lawyer hired + funds	- Responsible party for biosecurity plan	2.2.a July 1, 09 2.2.b April 1, 09 2.2.c April 1, 09 2.2.d April 1, 09 2.2.e Jan 1, 2010
Action 3: Training	3.1 Courses for customs	- Responsible party for biosecurity plan	July 2009

Objective: Control of invasive species			
	Measurable outcome	Responsible parties	Timeline
Action 1: Identification of responsible party	1.1 Entity of invasive species control established	LVV and Vet Service	January 1, 2010
Action 2: Monitoring program	2.1 Monitoring program established	Dutch Caribbean, Nature Alliance DCNA	July 1, 2010
Action 3: Training	3.1 Initiate program	Dutch Caribbean, Nature Alliance DCNA	July 1, 2010

Objective: Gather information (establish database) on native species, natural habitats, distribution (locally/time), importance			
	Measurable outcome	Responsible parties	Timeline
Action 1: Identification of responsible entity or person to regulate research on biodiversity and habitats	1.1 Entity of biodiversity research	LVV Vet Service (Biodiversity Office)	January 1, 2010

Objective 4: Creation of red lists of species and habitats			
	Measurable outcome	Responsible parties	Timeline
Action 1: Establish initial red list	1. Red lists of species and habitats	- Research coordinator (Biodiversity Office) - Researchers	March 15, 2010

Objective: Monitoring programs for species and habitats of concern			
	Measurable outcome	Responsible parties	Timeline
Action 1: Monitoring programs for species and habitats of concern	1. Research projects and programs	- Research coordinator (Biodiversity Office) - Researchers	March 15, 2010

Objective: Protection of communities and habitats			
	Measurable outcome	Responsible parties	Timeline
Action 1: Defined entities involved	1. Identity that coordinates this action	- Creation of a Biodiversity Office	Jan 1, 2010
Action 2: Identification of habitats that need to be protected	1. Identified habitats that will be protected	- Biodiversity Office - Researchers	Jan 1, 2010
Action 3: Establish procedures and specific action plans	1. Action plans specific for habitats and species (Example: Caves, mangrove, forest habitats, cascabel, etc.)	- Biodiversity Office - Researchers responsible for the approved projects	Jan 1, 2010
Action 4: Secure Parke Nacional Arikok by acquiring privately owned lands	1. Secured park	- Parke Nacional Arikok - NGO	Jan 1, 2010
Action 5: Secure Marine areas as park	1. Secured marine park	- Parke Nacional Arikok - NGO - Other agencies	Jan 1, 2010
Special Objective: Establishment of Biodiversity Office			
	Measurable outcome	Responsible parties	Timeline
Action 1: Creation of the entity	Entity created	Authorities NGOS Public	2009

Objective: Protection of specific habitats and species			
	Measurable outcome	Responsible parties	Timeline
Action 1: Protection of Aruba Caves	Protected caves: Guadirikiri, Fontein, Tunnel of Love, Quarry Wela, Serro Colorado, Kanashito	Parke Nacional Arikok	December 2008
Action 2: Protection of fresh water	Protected sources: Fontein Parts of Rooi		

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Section 3
Habitat Working Group Report

Habitat Conservation Working Group

Working Group Participants: Gisbert Boekhoudt, Desiree Elderling Randolph Fingal,, Ineke Jobse, Mimi Medina, Theo Oord (facilitator), Gregorio Ridderstap, Sergio Tromp, Edith van der Wal

Theme Vision: To preserve, improve and ecologically connect all kinds of natural habitats – terrestrial and marine – in Aruba.

Regrettably, due to time constraints and inter-relatedness with other working groups, the Habitat working group has not been able to fully work out the details of the actions it proposes. However, the goals and objectives put forward below should give others a good basis and guidance for follow up.

Threats

A. Overpopulation / overdevelopment

Over population and overdevelopment can obviously have serious detrimental consequences due to, for example:

- Heavy traffic as this leads to fragmentation / disruption of habitats
- Excavation of building materials as this leads to habitat destruction
- Pollution (air, light, sound, chemical, oil, nutrients, plastics, trash, etc.) as this leads to deterioration of habitats
- Urban expansion as this leads to shrinking and vanishing habitats

B. Human behavior and attitude

- Economic primacy over habitat / short term economic gain over long term sustainability
- Ignorance and lack of education
- Driving behavior (off road, high speed in shallow water)
- Bulldozing / eradication of natural vegetation (shrub, cunucu and mondi)

C. External influences

- Lack of control over international trade and travel, via both air and sea, is a potential threat for the introduction of invasive species that can cause extensive environmental damage and disasters. In Aruba, the introduction of *Bufus marinus* and the Boa constrictor are examples of invasive species. Ironically, during WildAruba 2008 two non-endemic lizards were found on the premises of the Radisson hotel where the workshop took place, apparently introduced with palm trees from Cuba.

Threat A: Overpopulation / overdevelopment

Goal I: Protect and restore a healthy and diverse marine life

1. Objective: Install the body of authority responsible for Coastal Zone Management (CZM)			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Establish a foundation	Foundation	CZM Group	1 year

2. Objective: Specified and delimited protected marine areas			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Design maps defining protected marine areas	Maps	DIP	1 year

3. Objective: Implementation of protected marine areas			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Establish a Marine Park	Marine Park	CZM,Natl.Park, AHATA,ATA	3 years

Goal II: Protect natural habitats and prevent overdevelopment causing overpopulation

1. Objective: Re-use of uninhabited and abandoned sites (houses, hotels, industrial buildings)			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Creation of new legislation and revision of deficient legislation			
b. A full inventory of potential for redevelopment			
c. Design visions & plans for redevelopment			
d. Reinforce the law (institution)			
e. Information to the public about the law			

2. Objective: Reinforce a moratorium on tourism-related development (hotels, malls, etc.)			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Putting out our position as the Wild Aruba network to government and related officials		Executive Committee Wild Aruba	A.S.A.P.

3. Objective: Limit expansion of the road system in rural & natural domain and further contiguous natural habitats			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Provide adequate corridors/passages on the road system for natural exchange by means of waterways, cactus hedges, tranceras, etc.			

Goal III: Preserve and restore ecological connections

1. Objective: Keep the waterway system intact with a maximum contribution to the natural habitats			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Stop filling in with landfill / building			
b. Create green buffers along the waterways for natural vegetation			
c. Monitor natural values in the waterway system as a basis for active park management			

THREAT B: Human behavior and attitude

Goal I: To promote a positive attitude and behavior of the people (inhabitants and visitors) on Aruba towards nature

1. Objective: Irresponsible driving, in any respect damaging to natural habitat, is banned from Aruba			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Mechanically restrict any place where traffic is not allowed			
b. Increase penalty measures to effective levels			
c. Create awareness of existing rules			
d. In natural habitats, limit driving/moving to very slow speeds (open for specification)			
e. Extend authority to an environmental control body, with a hot line number			

2. Objective: (Re)install a clean environment in all urban, rural and natural areas			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Work out an ongoing national campaign of awareness, that leads to a clean Aruba			
b. Introduce compulsory elements (GO – inspection & fining) and pressure elements (NGO – church, school & sport) in a cooperative approach for this campaign			
c. Improve facilities (decentralized) for waste-disposal			
d. (Re)start recycling			
e. Put garbage residues to supportive re-use for habitat restoration			
f. Create systems to limit excessive pollution (air, light, sound, chemical, oil, nutrients, plastics, trash, etc)			

3. Objective: People on Aruba appreciate, value and respect nature			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Increase contact with nature by organizing field trips into natural areas			
b. Design a baseline questionnaire as a campaign of action research			

Threat C: External influences

Goal I: Create a green zone along the shores

1. Objective: To protect the area and let people enjoy the ecosystem (Example: sea turtle)			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Zoning plan			

2. Objective: Redirect national economic gains into island-related nature conservation causes, e.g. habitat protection			
Action(s)	Measurable outcome	Responsible parties	Timeline
a. Reconsider all of the cost/gain structure of the (tourist) industry (tax holidays).			

Overarching Goal: Obtain adequate finances to realize our vision.

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Section 4
Management Working Group Report

Management Working Group

Working Group Participants: Pieter Barendsen (facilitator), Julio Beaujon, Egbert Boerstra, Henry de Cuba, Gerold Engelbrecht (recorder), Angiolina Henriquez, John Ras, Merrill Robles, Danilo Webb, Rodney Werleman

Theme Vision: A Healthy and Sound Aruban Environment (water, air, sea, land, flora and fauna)

Threats: (prioritized)

1. LACK OF AND/OR INADEQUATE LEGISLATION /ENFORCEMENT

Lack of legislation synchronized with latest developments, and the lack of the enforcement of existing legislation, is a threat to the vision.

Explanation: New legislation is urgently needed to center, concentrate and direct one policy for the environment: for its conservation, protection and maintenance. For instance: private property is very well protected on Aruba and owners almost daily “clean” terrains without any liability when it comes to destroying habitat and thus the ecosystem. Also to mitigate pollution, and preserve species and habitat, one needs both adequate legislation and proper enforcement in place.

2. FRAGMENTATION OF ENVIRONMENTAL AUTHORITY

The current fragmented government authority gives rise to confusion, delays, lack of cooperation and communication, within the government entities themselves (public), NGOs and GOs (private). Currently 4 Ministries are in some way involved with environmental issues.

3. LACK OF FUNDING

Management to preserve and/or create a healthy and sound environment will certainly come with a cost. A solid and secured budget to address this issue is a “conditio sine qua non” Funding should be in accordance with the responsibility the authority will have to carry. It is necessary for the establishment of the authority regardless of its legal form

4. LACK OF (POLITICAL) PROFESSIONALISM

Public policy-making should be based on the expertise both inside and outside the public sector. Expertise should be recognized.

5. LACK OF AWARENESS AND LINKAGE BETWEEN TOURISM, ECONOMIC DEVELOPMENT, ENERGY AND ENVIRONMENT

Aruba’s marine and terrestrial areas certainly need to be protected or else Aruba will lose its habitats, ecosystems, identity and consequently its attraction. Tourism is prioritized as a source of income for a large part of the community. The economic benefit of investments is related to its impact on nature, and should be taken into account when decisions concerning these investments are taken. These decisions should always include relevant compensation for replacement of the impacted environment.

6. POLITICAL INTERFERENCE

Political interference is a threat to our vision because it undermines and weakens the management of the environment. Proper profiles of the functions within the authority are essential. Recruitment procedures must be in place to guarantee the right person in the right spot.

7. LACK OF ENVIRONMENTAL MANAGEMENT AND TECHNICAL EXPERTISE AT POLITICAL AND MANAGEMENT LEVEL.

It is imperative that the authority is headed by, and staffed with, well educated personnel with a proven track record in environmental management and possessing sufficient technical skills and expertise. If the described personnel are not available locally in Aruba they should be hired abroad.

8. LACK OF EXECUTING POWER

Lack of executing power is a threat to our vision. The authority should have the statutes drawn in such a manner that they comply with the responsibility of the authority, so that it enjoys the independency to the general benefit.

It should be clearly defined that the powers of the authority are independently executed. As stated under “Lack of funding”: the availability of, and the access to, financial funding is essential and lack thereof can severely cripple the executing power of the authority.

9. LACK OF PRIORITY IN DECISION MAKING.

Environmental conservation is not respected and recognized by the decision makers.

10. LACK OF PUBLIC ENVIRONMENTAL AWARENESS

The presence of awareness and consciousness within the public on environmental issues supports our vision. This awareness and consciousness also functions as an instrument of feedback on actions taken in the interest of environment/nature. The authority could also function as a reporting agency for complaints, in order to structure and strengthen those complaints and make them heard. The authority would be in a better position to discuss these complaints with competent parties be it inside or outside of the government.

Goal: Establish an *Environmental Management Authority* - an independent authority responsible for a healthy and sound environmental management

Independent defined as:

1. Independent policy making
2. Independent decision making
3. Financial independency / guarantee
4. Exclusion of nepotism and political interference
5. Statutes in place

This authority should engage in the following activities:

1. Effective networking, cooperation and communication with NGOs
2. Management policy and decision making
3. Initiate, and obligatorily advise on, legislation relevant to the environment
4. Enforcement of legislation/regulation
5. Research (surveys, baseline studies, etc.) and education, both internally and externally
6. Conservation and protection, prevention, restoration and reforestation
7. Advisory body for public concerns on flora, fauna, water, sea, air and land. Act as a voice. The idea is to be open to the public, have front desk function in hearing what the public has to say and analyze, align or translate it in to policies that stand a fair chance to be executed ¹⁾.
8. A policy control and monitoring unit.

Objective:

Institute *Environmental Management Authority (EMA)*

MANAGEMENT WORKING GROUP ACTIONS TABLE

1. Objective: Institute an Environmental Management Authority (EMA)			
	Measurable outcome	Responsible parties	Timeline
Action 1: Prepare letter to have decision by Council of Ministers to institute a working group that has the task to investigate and prepare a proposal for the institution of EMA with addenda: Decision in 2 weeks Terms of reference: <ul style="list-style-type: none"> • Initiate within 2 weeks • Report within 6 months after initiation • Composition working group • Funding 	Letter with addenda	Executive Committee (Pieter Barendsen)	Before 15 Sept 2008
Action 2: If No: Executive committee must convene and determine how to push it in the next most effective way (e.g. via parliament)	Meeting Exec Committee	Pieter Barendsen	Within 2 weeks after negative decision.
Action 3: If YES: inform stakeholders of decision	Via website and email	Pieter Barendsen	Within 2 weeks after decision

¹⁾ The front desk function is not intended for criticizing the task of the EMA, but EMA should be open to commentaries on its policies

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Section 5
Nature Related Parks Working Group Report

Nature Related Parks (Land and Marine including National, Educational, Botanical and Natural) Working Group

Working Group Participants: Byron Boekhoudt, Facundo Franken, Mercedes Levenston, Marck Oduber, Desiree Paalman, Castro Perez, Fernando Simal

Theme Vision: A system of recognized parks, appropriately funded maintained, and professionally operated to serve their specific purpose, that incorporate all the native habitats, containing and preserving high *biodiversity*, contributing to visitors, both locals and tourists, a *fulfilling experience* in assigned areas and also preserving nature in specially assigned conservation areas.

Two essential elements in our vision: maintaining high biodiversity and allow visitors. Is this possible? We think so with implementation of well regulated, zoning etc.

We included all types of parks in our vision, including botanical park, national terrestrial and marine parks, conservation areas, Salt Spray Park, urban areas (e.g. Pos Abou, Wilhelmina Park, Linear Park) and ecological corridors. The idea is to have a system of management for all nature related parks. Areas that have natural values, either flora or fauna, and that include management to maintain and promote these values. There was a discussion about the purpose of parks. Are parks meant to protect nature or are parks meant for human use and/or recreation. The discussion clarified that, by zoning and proper regulation and with adequate education and awareness (with enforcement), these functions do not have to be mutually exclusive. We can assign conservation areas or reserves where human impact is limited and have recreation areas where people visit and are allowed to do specific activities.

Biodiversity refers to the diversity of species within a sea/landscape, diversity of sea/ landscapes within a park/area, and diversity of breeds within species.

By *fulfilling experience* we mean, enjoying the connection with nature, becoming an integral part of our educational system. The visitors would acquire (incrementally) an appreciation for nature and it's valuable ecosystem services.

As a group we basically started listing possible and achievable plans. We came short of considering specific habitats or species. The idea for a linear park to Punta Basora and those of the Urban Parks are new. We reviewed and found that these ideas cover all the native habitats, being Aruba lava formation, quartz – diorite and lime stone terraces.

Threats that could keep us from reaching our vision:

- Lack of water / water supply.
- Invasive species
- Lack of funds
- Nutrient rich effluent, chemical pollution, litter and solid waste
- Climate change
- Coastal Development
- Lack of education/awareness
- Overharvesting/overgrazing/overfishing (Can deplete resources)
- Lack of planning (spatial)
- Lack of legislation/regulation
- Low enforcement/implementation
- Air pollution
- Overpopulation
- Political meddling
- Lack of sufficiently or appropriately trained personnel (Kader)/training/materials for doing the job

- Lack of management
- Lack of reserved areas, connecting green areas (trankeras), corridors and the recognition and structure to carry out the realization, connecting natural areas

Clustering/Consolidating Threats:

1. Lack of legislation/regulation/enforcement
2. Coastal development
3. Exotic invasive species
4. Lack of funds
5. Lack of education and awareness
6. Lack of natural corridors

1. *Why is lack of legislation/regulation/enforcement a threat?*
(Free for all) Lack of respect leads to undesired/unwanted and harmful behavior and activities. This leads to destruction of habitats, species extinction and unfulfilling experiences.
2. *Why is coastal development a threat?*
Reduces (fragile) habitats (degradation), which reduces biodiversity and causes crowding, degradation of the ecosystem and a poor visitor experience.
3. *Why are exotic invasive species a threat?*
Reduce endemic species, reduce biodiversity, cause imbalance in native ecosystem and an overall loss of biodiversity
4. *Why is lack of funds a threat? It leads to:*
Poor or insufficient operating and maintenance. Service declines. Closure of parks and inability to develop plans.
5. *Why is lack of education and awareness a threat?*
People would not know and value nature and habitats. Ignorant people destroy nature and habitats and cannot enforce or protect nature. Lack of education cycle, leads to poor services and ultimately loss of species and habitats.
6. *Why is lack of natural corridors a threat?*
Isolation of natural interactions, 'island' populations created, loss of biodiversity, loss of experiencing of nature.

Main Goals:

We expect to have by 2013 an:

- Established Marine Park
- Established and well managed Salt Spray Parks, the expansion of NPA
- Botanical Park
- Linear Parks (Airport to Arashi; Airport to Punta Basora)
- Urban Parks (9) for each Urban Center
- Ecological corridors (linear parks) through gullies and backyards connecting natural areas.

Goal: Establish Marine Park

Objectives:

- 1) Establish legislation
- 2) Allocate funding
- 3) Lobby to make this a priority at the department of legislation
- 4) Establish management authority/foundation
- 5) Implement operation

* Only these objectives are mentioned as the area is already designed

Goal: Salt Spray Park

Objective: Acquire legislation

* Only these objectives are mentioned as the area is already designed on paper, and this park is not to accommodate visitors on site (no facilities like those of a nature park).

Goal: Botanical Park

Objectives:

- 1) Obtain land lease for an established long term period
- 2) Secure a water source.

*Initial activities are already begun by Serenity Foundation

Goal: Linear Park(s) with bicycle paths

Objectives:

- 1) Identify LP areas and needs towards San Nicolas
- 2) Appoint execution and development entity/authority
- 3) Secure and allocate funds
- 4) Appoint entity to develop it
- 5) Secure necessary legislation

* Design is on paper.

Goal: Urban Parks (could also include quarries)

Objectives:

- 1) Identify and reserve terrain where parks will come
- 2) Establish feasibility study and gap analysis
- 3) Secure funding
- 4) Appoint entity to develop them
- 5) Decree announcing park

Goal: Restore, reforest and re-use blighted areas (quarries)

Objectives:

- 1) Reserve and assign quarries to which purpose
 - a. Restore
 - b. Reforest
 - c. Re-use
- 2) Establish feasibility study and gap analysis
- 3) Secure funding
- 4) Appoint entity to develop them
- 5) Decree announcing work

Goal: Ecological corridors

Objectives:

- 1) Identify natural areas needing connection
- 2) Establish feasibility study
- 3) Secure funding and appoint an entity to develop
- 4) Secure necessary legislation

NATURE RELATED PARKS ACTIONS TABLE

Objective: Establish Marine Park			
	Measurable outcome	Responsible parties	Timeline
Action 1: Draft proposal to Advisory Board on Flora and Fauna	Letter of advice to the concerning Minister	Byron Boekhoudt, Castro Perez, Mark Oduber	March 2009
Action 2: Establish Legislation	Revised draft to gov't and parliament	Marck Oduber, Byron Boekhoudt, Castro Perez,	March 2009
Action 3: Allocate funding	Approved budget, deposited in foundation bank acct.	Castro Perez, Byron Boekhoudt, Marck Oduber	March 2009
Action 4: Establish a management authority	LB of tasks, foundation statutes, formation report	Marck Oduber, Byron Boekhoudt, Castro Perez,	October 2008
Action 5: Implement operation	Operating Marine Park	Byron Boekhoudt, Castro Perez, Marck Oduber	March 2009

Objective: Salt Spray Park Establish Legislation			
	Measurable outcome	Responsible parties	Timeline
Action 1: Draft proposal to Advisory Board on Flora and Fauna	Letter of advice to the concerning Minister	Facundo Franken	March 2010
Action 2: Draft request to legislation department	Letter of Council of Ministers assigning task to concerning departments	Facundo Franken	March 2011

Objective: Salt Spray Park Secure funding			
	Measurable outcome	Responsible parties	Timeline
Action 1: Draft proposal to allocate funds	Letter of advice to the concerning Minister	Facundo Franken	March 2010
Action 2: Draft request	Letter of Council of Ministers assigning task to concerning departments	Facundo Franken	March 2011

Objective: Botanical Park: Obtain Land Lease for an established long term lease			
	Measurable outcome	Responsible parties	Timeline
Action 1: Submit a written request to the government	Adendum to the statutes	Desiree Paalman	March 2009

Objective: Botanical Park: secure a water source			
	Measurable outcome	Responsible parties	Timeline
Action 1: Meet with proper authorities	Drafted contract	Foundation Management & Public Works (DOW)	2 months

Objective: appoint entity in charge of 2 linear and 9 urban Parks			
	Measurable outcome	Responsible parties	Timeline
Action 1: Draft letter/ proposal to request the establishment of committee.	Decree of tasks	Mercedes, Mark	6 months

Objective: Secure funding for 2 linear and 9 urban parks			
	Measurable outcome	Responsible parties	Timeline
Action 1: Set-up a foundation or associate with existing one	Notarial deed/ Letter of agreement.	Mercedes, Mark	2 years
Action 2: Fundraising	Financial statement	Mercedes, Mark, Desiree	2 years

Objective: necessary legislation to establish 2 linear and 9 urban parks			
	Measurable outcome	Responsible parties	Timeline
Action 1: Inventory of necessary legislation	Report listing necessary legislation	Mercedes, Marck,	2 years
Action 2: Draft legislation proposal	LB Linear Park	Mercedes, Mark	3 years

Objective: Secure funding National Park to acquire private domains within			
	Measurable outcome	Responsible parties	Timeline
Action 1: Prioritize domains to acquire	Prioritization list	FPNA	1 year
Action 2: Negotiate values	Preliminary purchase agreement	FPNA	1 year
Action 3: Draft project proposals	Project Proposal Submitted	FPNA	2 year
Action 4: Execution	Deeds of ownership	FPNA	4 year

Objective: identify areas in need of natural corridors			
	Measurable outcome	Responsible parties	Timeline
Action 1: Establish criteria for identification	List of prioritization of areas	Facundo Franken	1 year

Objective: establish legislation for natural corridors			
	Measurable outcome	Responsible parties	Timeline
Action 1: Draft proposal to Advisory Board on Flora and Fauna	Letter of advice to the concerning Minister	Facundo Franken	March 2009
Action 2: Draft request to legislation department	Letter of Council of Ministers assigning task to concerning departments	Facundo Franken	March 2011

Objective: allocate funding for natural corridors			
	Measurable outcome	Responsible parties	Timeline
Action 1: Calculate mantainance costs	Budget	Facundo Franken	May 2009
Action 2: Budget costs	Budget 2011	Facundo Franken	April 2009

Objective: Ecological Corridors Appoint Entity			
	Measurable outcome	Responsible parties	Timeline
Action 1: Draft letter to the responsible authorities argueing the necessity.	BID (documentation department) code	Facundo Franken	May 2009
Action 2: Draft letter/ proposal to acquire an entity	LB of tasks, formation report	Facundo Franken	Sep 2009

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Section 6
Healthy Environment Working Group Report

Healthy Environment Working Group

Working group participants: Stanley Brown, Fayona Flanegien, Willem Jacobusse, Nilda Koolman, Fanny O'Neill, Nataly Wolff

Theme Vision: An environment that facilitates stable eco-systems and allows them to evolve in a dynamic balance, where human influence is limited and ecologically sustainable, and where humans in particular respect and behave responsibly towards all species.

Threats: Main threat categories

- Education related issues
- Behavior related issues
- Legislation/reinforcement issues
- Ongoing pollution of air water and soil
- Natural disaster (as a consequence of climate change)

Goals:

1) Clean-air

Objective: Reduce our dependence on fossil fuels, and reduce usage of pesticides/herbicides

Actions:

- Inventory of pesticides and herbicides currently in use. Identify most harmful products for a “Black list” stimulating usage of biodegradable pesticides.
- Make the electricity rates progressive. In this way whoever consumes more, pays more.
- Introducing bicycle paths, trams, better organized and promoted public transportation.(frequent routes, smaller air-conditioned buses, more covered bus stations/stops, give buses right of way)
- Within 5 yrs, 20% of the household can provide for their own energy capacity (3 to 5 kilowatt).

2) Clean-water/Clean-soil

Objective: No waste water¹ to be dumped in the sea directly but to be reused.

Action: Implementation of the Cartagena treaty and the usage of the treated water (irrigation).

Objective: Reduce, reuse, recycle. Reduce the quantities of waste produced and stimulate the recycle process.

Action: Recycling of paper, glass, plastic and aluminum and public awareness. More waste bins that are being properly maintained and regularly emptied.

3) Prevent further environmental damage

Objective: Restrict access to vulnerable areas.

Action: NO driving on the beaches NOT EVEN by the Police, Visibility team or otherwise. Put a fence around the beach, only access is by foot. No driving in the dunes. Light pollution regulations within 1 year. Better control of camping permits on the beaches.

4) Restore environmental damage

¹ wastewater” includes any industrial wastewater or domestic wastewater, whether treated or untreated, containing human, animal, vegetable or mineral matter in liquid or solid form, in suspension or in solution;

Objective: Site rehabilitation for actual damaged sites.

Actions: Beaches and dunes Coastal Zone Management within 5 years. Clean up illegal dumps NOW using cameras and fines.

5) Change/modify human behavior

Objective: A more environmental minded population.

Action: Make the environment a mandatory part of the curriculum. Environmental education should be included as part of the penalty for environmental crimes. Enforcement of sanctions. Hidden camera program (locations unknown). Social control of the public (neighborhood watch).

6) To have a complete environmental legislation

Objective: To be able to prevent environmental damage and to act on environmental damage.

Action: Short term - Differentiation of import duties within the existing system and enforcement of anti-littering measures. Long term - No taxation on income but on usage: the more you use the more tax you pay. With every new piece of legislation, a statement of environmental impact (to avoid direct/indirect consequences for the environment) should be required.

7) Better co-operation between Stakeholders

Objective: That NGOs and GOs meet on a regular basis.

Action: Bring in an international mediator to bring NGOs and GOs together.

8) Effective enforcement of environment legislation

Objective: Integrate an Environmental legislation/education in the police department

Action: Policing capabilities for non-police personnel, re-training of authorized officials, and Park rangers authorized to sanction/more responsibilities. All police officers should be required to receive environmental (re)training.

9) Implementation of environment as a subject in all layers of education

Objective: See Education Working Group report.

HEALTHY ENVIRONMENT WORKING GROUP ACTIONS TABLE

Clean air: Objective: Reduce our dependence on fossil fuels, and reduce usage of pesticides/herbicides			
	Measurable outcome	Responsible parties	Timeline
Action 1: Inventory of pesticides and herbicides currently in use.	Inventory list	Suggestion:LVV, gezondheidsdienst	Sept, Cct, Nov 2008
Action 2: Identify most harmful products for a "Black list"	Final blacklist	Idem	December 2008
Action 3: Create an alternative and environmentally friendly list of products	Alternative list	Idem	December 2008
Actions 4: To search for the existing report on bicycle paths	Report Armand Hessels	Fayona Flanegien	15 September 2008
Action 4A: If yes, initiate works based in this report		Stanley Brown	22 September 2008
Action 5: Approach ELMAR to make the electricity rates progressive.	New rates list	Stanley Brown	January 2009

Clean-water/Clean-soil: Objective: No waste water ² to be dumped in the sea directly but to be reused.			
	Measurable outcome	Responsible parties	Timeline
Action 1: The usage of the treated water. (irrigation)	Policy DOW (for Parkietenbos facility)	Fayona Flanegien	April 2009

Prevent further environmental damage: Objective: Restrict access to vulnerable areas			
	Measurable outcome	Responsible parties	Timeline
Action 1: Limited number of camping permits. Better control of camping sites during camping season.	KPA/ CZM	Natalie Wolff	By February 2009 (before the next camping period)

Restore Environmental damage: Objective: Site rehabilitation for actual damaged sites.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Clean up illegal dumps	FAL's map	DOW, SERLIMAR, FAL, IVM	January 2010
Action 2: Distribution of waste bins		Stanley Brown & Fanny Oniel	October 2008

Change/modify human behavior: Objective: A more environmentally minded population.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Environment (Re)education as part of the penalty		KPA/ Dir onderwijs/ KIA/SERLIMAR/BUVO	January 2010
Action 2: Promotion of social control of the public to the public (neighborhood watch)			
Action 3: Reward HEROES			

² "wastewater" includes any industrial wastewater or domestic wastewater, whether treated or untreated, containing human, animal, vegetable or mineral matter in liquid or solid form, in suspension or in solution

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Section 7
Education Working Group Report

Education, Awareness and Respect of Nature Working Group

Working group participants: *Albertina Albertsz, Liliana Braamskamp-Erasmus, Estella Brown Thode, Sjeidi Felician, Alvin Kock, Robert Kock, Jimmy Mijer, Orlando Quandt, Olinda Rasmijn, Sharon Timmer-Antonette, Mirscha D. Winterdaal*

Theme Vision: A conscientious, educated and responsible community, including visitors, that respects, appreciates and enjoys Aruba's nature ensuring the well-being and persistence of Aruba's natural history and heritage.

Threats:

1. Lack of information
 2. Lack of government support
 3. Lack of money/resources
 4. No value for nature / positive use of nature
 5. Lack of involvement/connection with nature
 6. Lack of professionalism regarding environment education
- Lack of education 1
 - No link of NP with schools 6
 - Identify topics 1
 - No respect for nature 4
 - Lack of knowledge/information of our nature/parents 1
 - Nature is not a priority 2
 - Not valuing what we have 4
 - There is no timeline 1/6
 - Lack of money /resources 3
 - Not clear concept/consensus of nature 1
 - Too much indoors activities 5
 - No time for nature 4
 - People became materialistic 4
 - Don't value nature 4
 - Don't know how to use nature in a positive way 4
 - Weak legislation/school curricula 2
 - No law enforcement 2
 - No rangers outside the park 2
 - People don't see the economical value of nature 5
 - Nature has no political support 2
 - Children don't have access to nature and information about it 1
 - Parents don't educate children about nature 1
 - There is not a piece of nature everywhere/neighborhood 5
 - It is not clear who is responsible for education on nature 1
 - Lack of professionalism of NGOs 6
 - Lack of safety and security 6
 - Lack of volunteers work 5
 - Field trips/ curricula 2
 - Less love/appreciation of the country 5
 - Lack of literature/information/no publication 1

Prioritized Threats:

1. There is a lack of priority to incorporate Aruban nature knowledge into school curricula.
2. Insufficient budget/funds allocated to develop environmental education program/material.
3. The information and research about the Aruban nature is not always structured or published/reader friendly and not easily accessible.
4. There is a lack of networking on professional level related to environmental education (between NGOs, government and private sector)
5. Shifting to modern life-style which leads to disconnection with nature.

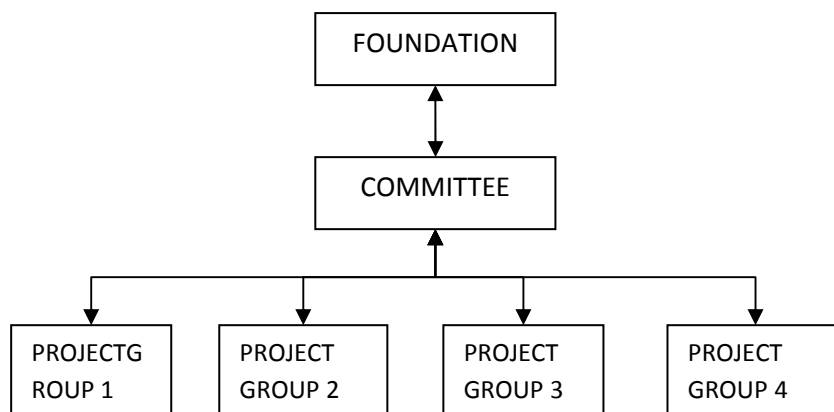
Goals:

- In the next five years there is a national curriculum implemented in the educational system concerning natural history and heritage.
- By 2010 there is a national awareness plan to conserve and appreciate Aruba's nature.

Objectives (in order of relevance according to timetable of 1 to 5 years):

- 1) Create a permanent education committee of key stakeholders involved in natural history and heritage.
 - ❖ Create a permanent education committee of key stakeholders involved in environmental education.
- 2) Convince administrative and governmental bodies in education of the importance of Aruba's natural history and heritage in our school curriculum.
Ensure Aruba's educational excellence in natural history and heritage through teacher training and the implementation, monitoring and evaluating school curriculum.
 - ❖ Convince and ensure schools and inspectors/head of schools/minister.
 - ❖ Upgrade/update/finalize the curriculum.
 - ❖ Measure level of Aruban nature knowledge among school children and community to have a starting point.
 - ❖ Implement, monitor, evaluate and adapt the school curriculum.
- 3) Establish partnerships (e.g. NGOs, GOs) and infrastructure to obtain long term funding for the development of educational programs in Aruba's natural history and heritage for school children and general community..
 - ❖ Setup structures to attract funds on a long-term basis.
 - ❖ Prepare an estimated budget.
 - ❖ Project "dossier".
 - ❖ Create partnerships between government and NGOs.
- 4) Centralization, processing, and distribution of all information related to the natural history and heritage of Aruba.
 - ❖ Conduct more base-line research.
 - ❖ Create a centralized information data-base.
 - ❖ Have all information generated by research processes into useful information to raise awareness and educate the public.
- 5) Promote visibility and public awareness for all people of Aruba to connect and explore nature through Aruba's natural history and heritage.
 - ❖ Create opportunities for families to connect with nature.
 - ❖ Promote visibility of the awareness plan on a national level.

The following structure is recommended to help with the implementation of the actions. For this to work, we recommend that an existing foundation is responsible for this structure, or that WildAruba become a Foundation.



EDUCATION WORKING GROUP ACTIONS TABLES

COMMITTEE

Objective 1: Create a permanent education committee of key stakeholders involved in natural history and heritage.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Create an Education Commission with the help of WildAruba	Commission itself	WildAruba Executive Commission	3 months for 29 Aug 08

The committee is going to be appointed by WildAruba. Functions if the committee is:

- Install the projects groups
- Monitor, advice and evaluate the projects
- Report advances to WildAruba
- Through advice of the project group

All the project groups should follow this guidelines in order to function properly:

- Identify stakeholders
- Gather key stakeholders in a meeting
- Draft a plan for functioning

PROJECT GROUP 1

Objective 2: Convince administrative and governmental bodies in education of the importance of Aruba's natural history and heritage in our school curriculum.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Create a Project Group (1) to present, lobby and follow-up on the process	Project Group (1) is established and functioning	WildAruba will set up a commission to setup this Project Group (1)	Within 3 months
Action 2: Prepare documents containing success stories from the region and ongoing assessments of the innovations in the current curriculum of Aruba	Written document is available	The established Project Group (1)	6 months after Project Group (1) is in place
Action 3: Lobby and present the document to education foundations and governmental bodies	The adoption of the plan and follow up	The established Project Group (1)	Ongoing
Action 4: Involve media to address the issue to the public	It's publicized	The established Project Group (1)	The end of setup Project Group (1)

PROJECT GROUP 2

Objective 3: Establish partnerships (e.g. NGOs, GOs) and infrastructure to obtain together long term funding for the development of educational projects in Aruba's natural history and heritage for school children and general community.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Create a project "dossier" for partners, infrastructure, budget	Project "dossier"	Project Group	6 months after creating Education Commission
Action 2: Approach and engage possible entities for long-term partnership	Establish partnership	Project Group	1 year
Action 3: Prepare annual reports for the partners to keep them engaged	Reports	Project Group	Ongoing

PROJECT GROUP 3

Objective 4: Centralize, process, and distribute of all information, through information centers, related to the natural history and heritage of Aruba.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Gather all available information both scientific and not	List of information	Project Group	6 months – ongoing
Action 2: Make contact with scientific entities to gathered information related to Aruba's natural history and heritage	Data base of contacts	Project Group	6 months - ongoing
Action 3: Sign commitment with outside researchers to delivered copy publication to local entities	Agreement	Project Group	6 months – ongoing
Action 4: Search information from national library, national archive and other local and private entities	List of publications	Project Group	6 months – ongoing
Action 5: Send information gathered to national library, Parke Arikok library, and National Archive, Aruba University	Data base sent	Project Group	6 months – ongoing
Action 6: Translate scientific language into reader/educational friendly language	Reader friendly publications	External entity e.g. IPA students, writers.	1 year – ongoing

PROJECT GROUP 4

Objective 5: Promote visibility and public awareness for all people of Aruba to connect and explore nature through Aruba's natural history and heritage.			
	Measurable outcome	Responsible parties	Timeline
Action 1: Develop a communication and marketing plan to promote visibility and awareness about Aruba's natural heritage	Communication and Marketing plan ready	Project Group	1 year
Action 2: Execute, monitor and evaluate the plan	Reports	Project Group	After 1 year – ongoing

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Appendix 1
Participant List

Participant List

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**Appendix 2
Initiation & Invitation List**



WildAruba 2008 Workshop Invitation

Call to Action

For Sustainable Nature Development & Protection

Date: August 27-29 2008

Time: 9:00 a.m. – 5:00 p.m.

Place: Radisson Aruba Beach Resort

Contact telephone / person: 585 0400 – Melissa Sweerts

E mail: melissa.deveer@aruba.gov.aw or vetservice@aruba.gov.aw

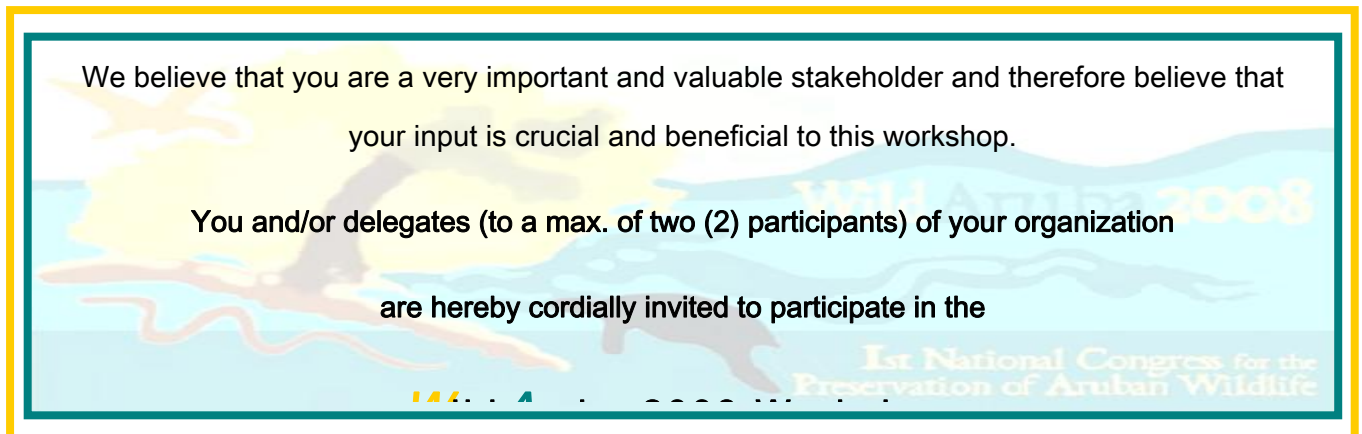
This workshop is part of the First National Congress for the Preservation of Aruban Wildlife and is preceded by a 2-day general symposium. The overall goal of the Congress is to disseminate information about Aruba wildlife, both terrestrial and marine, and to develop a plan to preserve Aruba's natural heritage. The symposium will offer presentations on the current knowledge about and status of Aruban wildlife, the Aruban ecosystems, and the challenges facing conservation on the island. The workshop will create a forum on Aruba to review the current status of the Aruban wildlife and develop a five-year action plan for addressing the most critical issues facing Aruba's wildlife.

This invitation is extended to researchers, policy advisors, educators, practitioners and NGOs, who can make this an opportunity to engage together in constructive dialogue to identify possible solutions to conservation issues. This is followed, with the assistance of the IUCN (International Union Conservation of Nature) facilitators, by developing a national work document listing the most urgent issues and serving as the foundation of an integral five year conservation action plan containing potential solutions addressing these specific issues. The action plan will include mutually agreed upon protocols, including organizational and structural elements that will further define the tasks and responsibilities of the different groups managing wildlife on the island, as well as identify and promote the effective channels of communication for cooperation and efficiency. The intention is to together create a vision for sustainable nature conservation for Aruba for the year 2025, in line with 'Nos Aruba 2025 – Abo Dicidi Awe Nos Aruba Di Mañan'.

Some of the following questions will be addressed during the workshop:

- a) Which are the main issues facing Aruba's nature?
- b) Which species should be monitored?
- c) Which species should be managed?
- d) Which habitats should be preserved?
- e) Which areas should be restored for which species?
- f) Which policy instruments are needed for nature conservation?
- g) What are the requirements to protect identified habitats and identified priorities?
- h) Which actions should be taken to meet the requirements to protect identified habitats and identified priorities?
- i) What can my department or I do to draft, implement, and complete the nature action plan?
- j) In which fields and what subjects should there be more studies?
- k) What policies need to be created to support nature conservation?

This workshop offers the unique opportunity for the Aruban stakeholders to get together and initiate and stimulate workable solutions for the conservation and protection of our natural treasures.



If you think your voice should be heard on this matter, then please reply before July 18th, 2008. Your presence for all three workshop days is highly appreciated.

Organized by:

- The Ministry of Public Health, Environment, Administrative Affairs and Immigration
- The Ministry of Labor, Culture and Sports
- The Ministry of Education, Social Affairs and Infrastructure
- Fundacion Parke Nacional Arikok
- Aruba Tourism Authority (ATA)
- Aquarium and Zoo Association (AZA)
- Participating NGOs include: STIMARUBA, FANAPA (Dutch

Respectfully yours,

The **WildAruba** Committee

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	Ruthline Schwengle
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	Toon Kokx

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Ministerie van Binnenlandse Zaken en Koninkrijksrelaties



AMSTERDAM MANOR
BEACH RESORT ARUBA



Antraco Aruba Group



Mr. Alex Cybul



La Linda



Poster Uno PRICEWATERHOUSECOOPERS



The News



Waico N.V.