



Development of Protected Area Management



## **Standard Operational Procedures (SOP)**

St. Kitts and Nevis

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### **SOP 1**

### **Management Planning**

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Prepared by Eduardo Carqueijeiro *MSc, Arch, UNDP Individual Consultant*

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	<b>PA Authority Division/Function</b> ---	<b>SOP #</b>	<b>1 Terrestrial</b>
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### Purpose and scope

Management Planning is an essential step towards ensuring the proper management of protected areas.

In simple terms, a Management Plan is a document which sets out the management approach and goals, together with a framework for decision making, to be applied in the protected area over a given period of time.

Management Plans are concise documents that identify the key features and values of the protected area, clearly establish the management objectives to be met, define protection zones and indicate the actions and resources to be implemented.

As a management tool, planning helps protected area managers, rangers and senior executives to define and achieve the correct impartial authority in the protected area under their care. Management Plans have to have the status of legal documents to provide the PA personnel with the mandate to manage them and to be linked with national legislation.

### The following groups are the targets of this SOP:

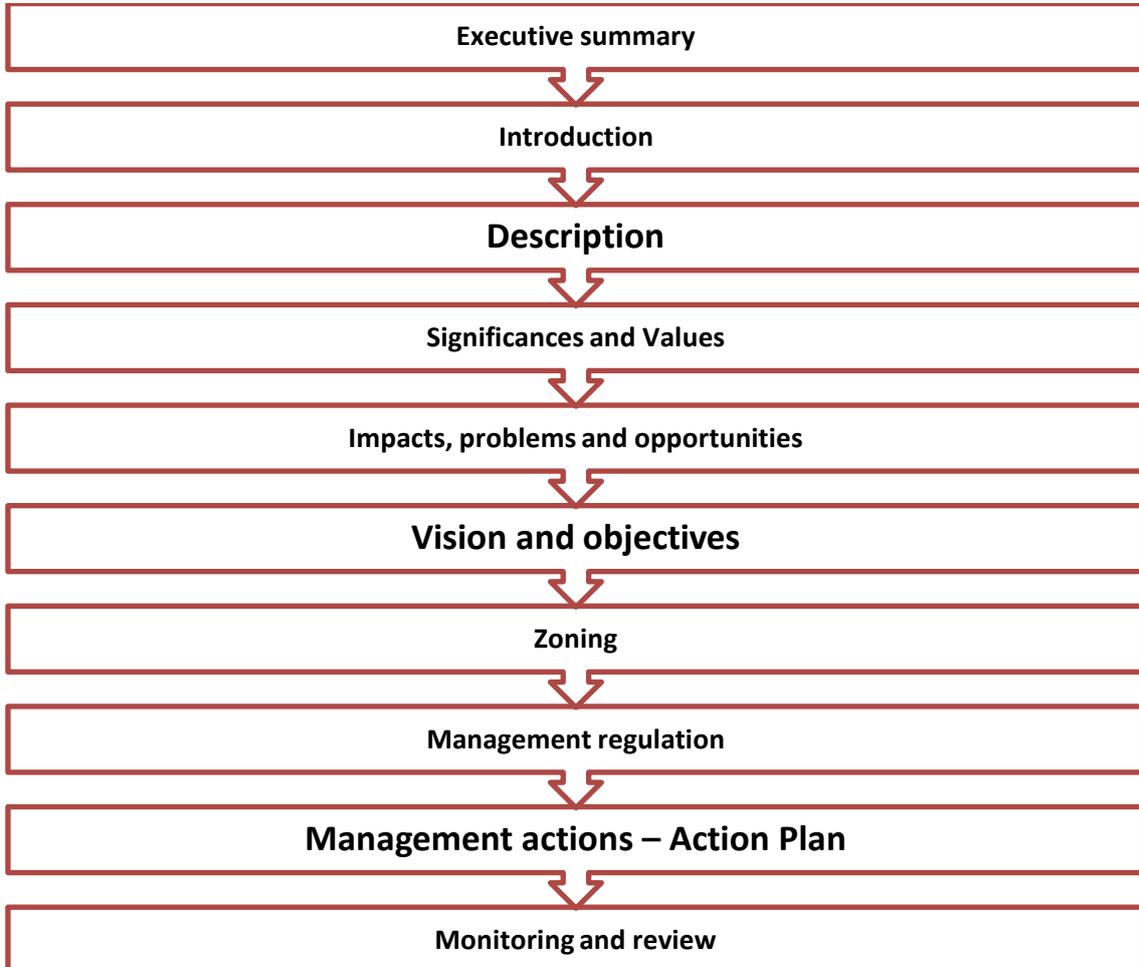
- a) PA managers
- b) PA operational staff
- c) PA Senior executives
- d) PA Rangers
- e) Specialist/other staff in the National Agency or other government sectors
- f) Senior decision makers in the National Agency or other government sectors

*But also, depending on the Plan Phase:*

- e) External expertise
- f) Other – ONGs, interested parties
- g) The public

## Procedures

There is no such thing as a standard format for Management Planning, but such planning tends to contain certain standard operational procedure elements such as:



**a. Executive summary**

This first chapter sums essential subjects covered by the plan as well as the decision-making process undertaken. This summary is imperative as some of final decision-makers and stakeholders will not have time to read and digest each chapter in detail.

**b. Introduction** This states the purpose and scope of the plan, and provides an

explanation of the purpose for which the protected area was established (including any legislative basis) and the authority for plan development.

- c. **Description** of the protected area to be planned. This chapter describes in detail all relevant information, related with data collection and participation undertaken. It includes all important characteristics data of the area - natural, cultural, historical and socio- economic, how the area is used, its legal and management frameworks.
- d. **Evaluation of Significances and Values.** This chapter identifies why the protected area is important, and explains the relevant values and significance associated with it. It details data gathered and analysis done.
- e. **Analysis of impacts, problems and opportunities.** This section contains an analysis of the impacts, constraints and threats but also of the opportunities existing or affecting the area. It is the core information that will feed also the conservation, management and maintenance actions in the Action Plan later on. A matrix table is fundamental to better understand and show this analysis.
- f. **Vision and objectives.** This section contains a concise long-term vision for the protected area, which will take the form of a “vision statement”. Also a set of detailed objectives must be provided. These are specific statements outlining what is to be achieved by management in the timeframe of the plan.
- g. **Zoning.** If different management zones are required, a zoning plan must be prepared to detail and explain the zoning classification in spatial and visual terms.
- h. **Supporting management regulation.** This section related to zoning, objectives, significances, impacts and opportunities will define the land or sea uses and actions allowed, conditioned or prohibited in the PA.
- i. **Management actions – Action Plan.** This chapter contains the specific actions that need to be implemented in order to achieve the objectives. It commonly includes:
  - *List of management actions/activities required to achieve PA Objectives;*
  - *Work plan identifying when each action is to be carried out, by whom (internal and external from PA if possible) with timeline;*
  - *Activities identified according to terms of short, medium and long term priorities;*
  - *Staff and finances required to carry them out (budget).*
- j. **Monitoring and review.** This section outlines how implementation of the plan will be monitored, and when and how a review of the plan will be accomplished. It will include the indicators against which the performance of the protected area will be measured.

**In detail, here are the different phases to follow:**

### **PHASE 1. Pre-planning**

- ✓ The pre-planning Phase is one of the most important steps in the planning process.

This stage defines how the Plan will be carried out, what process will be followed, the timing considerations and how participation will be prepared.

These decisions need to be made at the highest possible management level and are critical to start the planning process properly.

The pre-planning Phase includes the following steps:

**Step 1:** Identify the purpose and management objectives of the protected area; the broad objectives have to be in conformity with the National legislation (or formal agreements designating the area). They will set the guidance and the framework of the plan from the start.

**Step 2:** Design a preliminary approach where you identify the pathway to be followed when applying the planning process, its sequence and the methods to be used. Remember that the best approach is the one of sustainability, where PAs meet the environmental, social and economic targets without putting natural and cultural features at risk.

**Step 3:** Define who the plan binds. If only public administration, if public and private sectors, if only private and individuals. Members of the public, the authorities, civil service sectors, commercial interests and individual citizens are important users. There may be more key users situations, like private owners, local government and parishes or commercial enterprises for instance when existing infrastructure are already in place.

**Step 4:** See if there is necessary expertise within the PA system personnel and stakeholders or if there will be the need for external experts to gather and analyze information.

**Step 5:** Prepare a work package schedule for the management planning process. Identify the team that will carry out all the necessary PA planning Phases. There should be a responsible or a coordinator. If preparation is contracted out through experts or contractor, decisions should be made as to how the contract will be managed to ensure that the plan effectively delivers the requirements. Use an inter-disciplinary approach – bring experts and interested parties together to discuss the future management of the protected area.

Identify the involvement of personnel, citizens and stakeholders. These will include other staff, experts, government officials, local parish communities and other affected parties. Define the stages at which their participation will take place.

**Step 6:** Engage senior executive management in the internal process for final Management Plan approval. This is probably will have to be made also with external Donors, if external funding is provided. When external parties such as these funding bodies, steering committees and government departments are required, the procedures have to be identified and a timetable agreed on for the submission of a final version for approval.

### **PHASE 2. Data collection, background research and fieldwork**

- ✓ **Checklist of information** that may need to be collected:
  - Relevant and important Habitats and Species occurring in the area and their status.
  - Ecological resources and their condition

- Climate change ( see note 1)
- Cultural resources and their condition
- Landscape and aesthetic aspects
- Physical facilities and infrastructures (e.g. roads, buildings, easements, power and water supply)
- Socio-economic key features of the population living or using the area
- Visitor’s characteristics and influence on the area
- Land or sea uses, activities and occupations.
- Planning provisions for surrounding lands or sea.

**Step 1:** Gather available background information;

**Step 2:** Make or organize desk review, quantitative and qualitative evaluation of existing literature on the area;

**Step 3:** Perform or organize field inventories to check the information and to acquire additional data if required.

**Step 4:** Reflect upon the physical aspects of the area and its social/cultural and economic significance.

**Step 5:** Compile information in the form of Description to build the necessary chapter – see phase 3.

- ✓ **Note 1:** It is critical to gather information on the most up to date climate predictions for the region as part of this phase in case it is available; This information can be used throughout the planning process to support discussion on likely future scenarios that should be considered when developing and prioritizing PA strategies and actions. Additionally, collect information on major climate events that have occurred in the area (e.g. typhoons, floods, drought, etc) over the past and their associated impacts to populations’ natural and social resources; Any additional information on how it was coped with these past hazard events is also important. Historical photos and maps can also be useful for climate change planning.
- ✓ **Note 2:** See key data<sup>1</sup> . This list is non-comprehensive as existing data is lacking sometimes.
- ✓ **Note 3:** See also SOP#5

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Natural Resources, habitats and species data, see SOP #5 and:

- <http://caribbean-rris.biopama.org/country/KN>
- <https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>
- <https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

Birds and habitats data:

- BirdLife International (2016) Country profile: <http://datazone.birdlife.org/country/st-kitts-and-nevis>
- International Convention signed by SKN <http://datazone.birdlife.org/country/st-kitts-and-nevis/policy>
- CBD: Major Acts relating to Biodiversity: <https://www.cbd.int/doc/world/kn/kn-nbsap-01-p9-en.pdf>
- National Biodiversity and Action Plan (NBSAP) 2014-2020: <https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>
- Government of St.Christopher & Nevis United Nations Convention on Biodiversity fifth national report: <https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

United Nations Conference on Sustainable Development (Rio+20) National Preparatory Process – Stocktaking report : <https://sustainabledevelopment.un.org/content/documents/1029skn.pdf>

### PHASE 3: Description

The type of information to be included will vary from protected area to protected area and depend on the characteristics of the area itself.

- ✓ **Checklist of Information** to be included in the description:
  - Location (latitude and longitude);
  - Area;
  - Biological information (flora and fauna - habitats and species);
  - Physical information (climate, geology, geomorphology, hydrology, soil characteristics);
  - Cultural and aesthetic information (landscape and landscape features);
  - Historical information (land use and landscape history, archaeology, buildings);
  - Socio-economic information (basic data and trends among local citizens or communities);
  - Current land use including forestry, the extraction of other resources (eg gravel, sand and other sea natural resources);
  - Services in and to the area;
  - Main infrastructures e.g. Routes, resorts, other;
  - Legal status, e.g. if designation has occurred and other relevant legislation;
  - Other legal conditions and restrictions affecting the area;
  - Legal ownership, occupancy, access, tenure including if Royal land or private occur.
  
- ✓ **Note 1:** Lack of information should be highlighted in the Description as well. Identification of gaps in knowledge is as important as the rest in this Phase of the process. Keep also in mind not to defer this Phase for later until all the information is available.
- ✓ **Note 2:** Be objective – do not include “subjective value judgements”
- ✓ **Note 3:** Keep the Description brief – use maps, tabs, references and annexes when needed.

### PHASE 4: Identifying Values and Significances

Assess and describe significance of the area and identify key features of exceptional values by checking if the area contains them.

- ✓ **Criteria** to define exceptional values:
  - Outstanding examples of natural, scenic, geological, scientific, ecological, floral, faunal and recreational values;

- Unique biological characteristics, vegetation types and landforms;
  - Essential areas for protecting ecological integrity of the area as a whole, (including areas critical for watersheds, water flow...);
  - Key areas in economically, cultural or other terms for local communities and citizens;
  - Areas and resources which provide essential ecosystem services to people outside the PA, especially where these have significant economic or even political values;
  - Rare, endemic, sensitive, threatened or endangered habitats and species, plants and animals;
  - Outstanding examples of modified landscapes and evidence of sustainable man use;
  - Major historical or cultural sites;
  - Features with worldwide recognition or worldwide conservation status.
- ✓ **Note 1:** Whenever possible it is important to map these relevant significances. The sum of these maps will create the basic layers for the PHASE zoning chapter.
- ✓ **Note 2:** See Key data<sup>2</sup>

## PHASE 5: Identifying impacts, constraints, threats and opportunities

This Phase identifies existing and foreseen impacts and threat factors for the natural values.

- ✓ This identification should be ordered and grouped by activity sectors and sectors with significant presence in the area, such as:
- Agricultural / livestock sector;
  - Forestry sector;
  - Environment and conservation of nature sector;
  - Urbanization, industrialization, transport and communications sector;
  - Energy sector;

<sup>2</sup> Natural Resources, habitats and species data, see SOP#5 and :

<http://caribbean-rris.biopama.org/country/KN>  
<https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>  
<https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

Birds and habitats data:

BirdLife International (2016) Country profile: <http://datazone.birdlife.org/country/st-kitts-and-nevis>

International Convention signed by SKN <http://datazone.birdlife.org/country/st-kitts-and-nevis/policy>

CBD: Major Acts relating to Biodiversity: <https://www.cbd.int/doc/world/kn/kn-nbsap-01-p9-en.pdf>

National Biodiversity and Action Plan (NBSAP) 2014-2020: <https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>

Government of St. Christopher & Nevis United Nations Convention on Biodiversity fifth national report:

<https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

United Nations Conference on Sustainable Development (Rio+20) National Preparatory Process – Stocktaking report

: <https://sustainabledevelopment.un.org/content/documents/1029skn.pdf>

- Extractive industries and geological resources sector;
- Recreational, leisure, tourism and nature tourism sector.

**Step 1:** Build a matrix table

**Step 2:** Arrange stakeholder’s participation meeting in order to feed the table and listen to problems and impacts.

**Step 3:** With table done, make a list of measures and actions, inhibiting negative impacts, preventing and minimizing identified threat factors. Build a “positive” opportunity list deriving from the negative impacts and constraints listed.

- ✓ **Note 1:** Once the threats and opportunities identified and listed, they should be clearly analyzed under the Management Plan as they will feed the Action/Management Plan later in the process. See PHASE 9. These management measures will assume normative and regulatory characteristics in that Phase.
- ✓ **Note 2:** See Key data information footnote 1 or 2 and SOP#5
- ✓ **Note 3:** See SOP#6

#### **PHASE 6: Develop the management vision and objectives**

Generally, vision statement is a paragraph that best describes the desired or envisaged result of the policies for the protected area. Its purpose, due to its synthetic draft formula, is to provide a focus for the management objectives.

Include the following:

**Step 1:** Define the long-term vision statement output for the PA;

**Step 2:** Include the environmental, cultural, social and economic aspects of the protected area;

**Step 3:** Describe the PA typology (if possible both at national and international legislation levels that the plan is seeking to achieve in the long term. This will help people to see and understand what the area will look like in the future.

#### ✓ **Draft the objectives of the PA**

Objectives follow the vision output. They have to be more specific, defining the conditions the management aims to achieve.

Objectives tend to relate to important features of the protected area, defining and detailing how these will be conserved or developed, or to important areas of management activity.

Objectives must be clear to guide PA implementation and serve as structure for deciding whether outcomes and actions are in accordance with the law and the PA national and international classification.

Objectives in PAs should be tied to basic principles such as sustainable development, conservation of biodiversity and geodiversity, social equality, cultural values, economic values and benefits, among other.

The objectives are also a first step towards developing implementation strategies and evaluating performance and effectiveness of a PA. A well-defined set of objectives enables protected area entities to act with authority in addressing cross-sectoral or other interests.

Where sufficient scientific information is available, objectives may include targets that help guide monitoring and future evaluation. Such provisions could emphasize, for example, protecting or restoring the habitat of endangered species, protecting unique and threatened ecosystems, or preserving landscapes or seascapes of special natural and cultural value and as important management and control of invasive exotic and alien species.

Regardless of the wanted level of specificity, scientific, economic and cultural information must be used to frame the objectives.

The PA supplying of nonmaterial benefits, such as social well-being or mental health and well-being, is nowadays recognized as an objective to achieve as well.

Other objectives may relate to ensuring good governance and the participation of communities and/or private entities in protected area establishment and management.

Objectives may include purposes associated with fulfilling obligations under multilateral treaties international or regional instruments in force that bind the country legally.

✓ **Note:** See SOP #5

**Step 7:** See and choose most convenient from examples of objectives to illustrate the variety of ways in which they may be expressed:

- *establish and maintain a comprehensive, adequate and representation of important terrestrial and/or freshwater ecosystems and species;*
- *establish and manage the area to take full advantage of their scientific, educational, recreational, cultural, social, historical or archaeological significance, consistent with their primary conservation objectives and the goals;*
- *protect and restore irreplaceable habitats and ecosystems with unique characteristics that cannot be replicated through the conservation of other areas;*
- *protect endangered, threatened and endemic species, giving highest priority to locally and globally endangered species and their habitats;*
- *conserve habitats required for the maintenance of viable populations of migratory species;*
- *preserve and maintain small specified areas deserving special protection for their high natural and cultural significance or other pertinent value for present and future generations;*
- *protect special landscapes and their associated ecosystems to provide vital ecosystem services and economic livelihoods;*
- *protect and preserve large, intact and relatively unfragmented natural areas and natural ecosystems under elevated levels of threat;*
- *establish and implement actions to prevent, control and contain IAS that may have detrimental effects on biodiversity and population's health care;*
- *provide refuge and space for range expansion for species, to account for the impact of*

*climate change;*

- *protect economically useful species, genes and genomes for food, fibre, medicine and scientific research;*
- *conserve and maintain terrestrial/ marine protected areas to secure and strengthen their role in climate regulation through carbon sequestration and other processes;*
- *protect natural ecological processes that generate and maintain biodiversity and provide humanity with vital ecosystem services, including: hydrological benefits associated with controlling water flows and maintaining and improving water quality; protection of habitat for useful predators, pollinators and dispersal agents; reducing sedimentation, and maintaining soil and land productivity; disaster prevention through watershed protection to reduce the risk of floods and landslides;*
- *provide protection, consistent with conservation objectives, for cultural values (historical, archaeological, landscape, seascape, sacred, aesthetic);*
- *ensure full participation by all segments of society in the support and co-management of the PA;*
- *ensure the equitable sharing of benefits from allowed uses of the PA;*
- *establish a variety of governance arrangements for the PA;*
- *promote intergovernmental cooperation and co-management by multiple agencies and entities.*

✓ **Apart from these, here is an overall checklist of topics that can be used in the PA objectives:**

- Sustainable use of natural resources
- Habitat and species conservation and management;
- Climate change mitigation and adaptation;
- Encourage exploration and testing of approaches to climate change and desertification risks;
- Social and cultural features;
- Improve knowledge about ecosystem services and green economy provided by the PA;
- Strengthen the sustainable development models in the PA territory;
- Education and training;
- Communication of lessons learned;
- Promotion of education for sustainability;
- Research and monitoring;
- Infrastructure;
- Visitor use and facilities;

- Promote recreational opportunities for local visitors and visitors;
- Income generation;
- Protected area services and administration

✓ But also build objectives from the **Sustainable Development Goals-Agenda 2030<sup>3</sup>**

Additional important information can be used and be reflected in PA objectives. These are the UN Sustainable Development Goals (SDGs) and the 2030 Agenda:

- Goal 1. End poverty in all its forms everywhere
- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 10. Reduce inequality within and among countries
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 13. Take urgent action to combat climate change and its impacts\*
- Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

✓ **Note 1:** SKN Docs and reports on the 2015 UN Summit:

<https://sustainabledevelopment.un.org/memberstates/saintkittsnevis>

**And** SDGs SKN partnerships:

<https://sustainabledevelopment.un.org/memberstates/saintkittsnevis>

✓ **Note 2:** See Key data<sup>4</sup>

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<sup>3</sup> [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)

<sup>4</sup> Government of St. Christopher & Nevis United Nations Convention on Biodiversity fifth national report:

<https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

Having draft management objectives, the next Phase is to work out how to achieve the goals as they will feed the Action Plan Phase and the zoning Phase.

## PHASE 7: Zoning

Management Plans for all protected areas must identify different “management zones”, i.e. geographical spatial areas where uses and activities are applied and where different conservation and use objectives apply.

- ✓ Zoning is a widely used and long-established method of organizing spatial information, guiding the conservation areas, the management tasks and regulations, in a structured way.

The zones reflect the intended use, existing patterns of use, the ecosystems degree conservation, the degree of human use desired, and the required management and development levels.

Zoning always refers to what can and cannot occur in different areas of the PA, in terms of natural resources management, climate change risks, cultural management, human use, visitor use and experience, access, facilities and PA internal operations.

Through management zoning, the limits of acceptable use and development in the Protected Area are established and universally shown.

Zoning is particularly useful for handling large multi-purpose and multi-dimensional protected areas, and for providing connectivity between core areas.

It is also an appropriate tool for accommodating a variety of governance types or mixed tenure arrangements within a single designated protected area. For example, through careful zoning it may be possible within a multi-purpose protected area to have a terrestrial, marine or mixed land-sea protected area, or a ‘biodiversity hot spot’ under strict protection surrounded by a habitat conservation zone, some controlled tourism or a multiple-use area, or a mixed tenure system with a state-owned or controlled protected area next to a voluntary conserved area.

Various zones may also reflect different governance arrangements with respect to ownership, occupation or use rights.

- ✓ **Criteria** for zoning designations are based on the PA objectives. The gathered and analyzed data of the area is the basis for the zones within the scope of the options developed while relating them with impacts, constraints and opportunities. The zones are identified using the best information available, the professional judgement of the (interdisciplinary) team as well as cultural factors. So:

**Step 1:** Identify zones; start with the relevant management objectives.

**Step 2:** Identify exceptional or relevant resource values (see phase 4); use data gathered;

**Step 3:** Identify constraints imposed by the landscape and other ecological/geographical or biodiversity determinants e.g. slopes, soil type and hydrology, landscape, relevant habitats (see PHASE 5)

**Step 4:** Check visitor use experiences;

**Step 5:** Check uses and activities that damage PA resources or create inappropriate stress on the area management (see phase 5);

**Step 6:** Check the area efficiency to support different types of risks, upcoming uses and development;

**Step 7:** Check public participation or consultation results – prior to the preparation of the plan;

**Step 8:** Check national and local government policy and decisions regarding land use and desired outcomes for the area;

**Step 9:** Start mapping all these features and map all relevant issues deriving from PHASE 4: Identify Values and Significances.

- ✓ **Note 1:** The aim should be to use the minimum number of zones needed to achieve the management objectives.
- ✓ **Note 2:** Zones should be able to be easily identified by policy makers and users, population and visitors, to enable them to recognize what zones there are and therefore what constraints may arise.
- ✓ **Note 3:** One can create several distinct zones, with different names and attributes, but they all fall inside the framework for PA zoning which varies from more restrictive human activities to more human permissive and development oriented activities. This will depend on the importance and relevance of, on the one hand natural features, including biodiversity and geodiversity, and on the other hand, cultural, social and development features, including infrastructures.
- ✓ **Note 4:** Minimum zoning will vary from Core zone area, Buffer zone area, Transition zone area (common in all UNESCO Biosphere Reserves) to more detailed zones such as Wilderness zone area, Total Protection zone area, Restricted or Partial Protection zone area to Services, Urban and/or Infrastructure development zone areas.

### **Spatial mapping**

Computer generated spatial representation like Geographic Information Systems (GIS)<sup>5</sup> is the most common, universal and appropriate resource information to be used. GIS is a system of hardware and software, designed to show management, analysis, modeling, and display of spatially referenced data.

The final mapping is achieved through different information overlays that are integrated to achieve the best balance between conservation and use, thus meeting the objectives established for the area.

With this approach, zones can be delineated according to the analysis and relevance of key land or sea attributes (see PHASE 4) plus topography, hydrology, agricultural or forestry use, infrastructures.

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<sup>5</sup> To know more: [https://en.wikipedia.org/wiki/Geographic\\_information\\_system](https://en.wikipedia.org/wiki/Geographic_information_system)

And comparative systems available:

[https://en.wikipedia.org/wiki/Comparison\\_of\\_geographic\\_information\\_systems\\_software](https://en.wikipedia.org/wiki/Comparison_of_geographic_information_systems_software)

- ✓ **Note 1:** A freeware and easy open source tool is available: QGIS. <http://www.qgis.org/en/site/>
- ✓ **Note 2:** Use Satellite Images - Satellite images or **Google earth<sup>6</sup> kmz data** concedes to allow you to see and compare areas of land or sea with older images, to understand and differentiate habitats, uses and transformations in landscapes and seascapes.

#### **PHASE 8: Zoning - acts and activities regulations**

There is a need that the zoning spatial analysis design made in the previous phase have a complementary regulation that will support the zoning map, this regulation will describe what uses are permitted, conditioned and forbidden in the PA according to the different levels of protection versus development defined in the PA zoning.

This Phase can be part of the PA Plan when Zoning is implemented but can also be a distinctive SOP in day-to-day PA management and operational master work.

- ✓ **Note:** SOP nº 2 will be dedicated to this.

#### **PHASE 9: Operational Management Plan /Action Plan**

A detailed PA working annual operational plan should also be prepared. This should preferably be linked to the PA National authority annual budget and must provide a detailed step of the work to be carried out each year, a consequence of the whole Management Plan.

**Step 1:** Prepare a table where you list the PA objectives.

**Step 2:** Under each different objective (e.g. some more related to biodiversity and others to human activities), list actions taken from the matrix of PHASE 5: impacts, constraints, threats and opportunities. Remember that the ultimate goal is to define actions that will provide opportunities to overcome existing or potential impacts and threats. Using a participatory approach is the best way to prepare this list;

**Step 3:** Distinguish between repeated or on-going tasks and developmental or capital projects/actions;

**Step 4:** After the list is done, define priorities in terms of timeline and in budgetary terms;

**Step 5:** Define who will be coordinator or person responsible for the allocation of actions and budget – some can be internal, others from stakeholders, donor's or other funding sources.

- ✓ Example:

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<sup>6</sup> Free Download of Google earth: <https://www.google.com/earth/>

<b>OBJECTIVE</b>	<b>ACTIONS</b>	<b>RESPONSIBLE/ Partners</b>	<b>TIMESCALE/ Priorities</b>	<b>BUDGET and budget source</b>	<b>STATUS/ Observations</b>
<i>What is the PA objective to be implemented</i>	<i>What actions must be completed to implement the objective  (Take in consideration Values, Significance and Impacts and Opportunities defined in the Management Plan)</i>	<i>Who is responsible for the action  Internal  External – other Agencies, departments, stakeholders, donors...</i>	<i>When must the action be completed  Will it be achieved in short &lt;3 years  In average 3 to 5 years or long run &gt;5 years  Short-term actions must be clear, concrete, achievable within time and resource constraints, and prioritized.  Long-term recommendations should identify resource and policy changes needed for their implementation</i>	<i>How much will it cost to implement the action.  Where will the funding come from</i>	<i>Is the action underway, or will it be a new one. What constraints might occur</i>

#### **PHASE 10: Monitoring and review (indicators)**

The purpose of this Phase is to define how the PA Management Planning will be evaluated and if objectives are being met.

Once the Management Plan has been prepared and approved, and the operational action plans to guide its implementation are in place, staffs will be able to put the plan into practice, and committees, donors and stakeholders will proceed with implementation. Monitoring and review, with the use of indicators, will be used to follow Plan resources and efforts and to improve implementation or catch-up in actions falling behind.

- ✓ This Phase involves data collection to assess progress in achieving the goals and the action plan by using performance indicators. This PA management Phase needs to be based on clearly defined and easy to measure indicators, which in addition provide meaningful feedback.

This is also an important moment, internally and externally, for stakeholders to deliver feedback on the plan's performance. See also PHASE 12 consultation.

In this process, you should:

**Step 1:** Assess the conservation status of the flora and fauna populations in the protected area;

**Step 2:** Assess the conservation status of protected area habitats;

**Step 3:** Assess changes in current land use within the protected area compared to the exterior of the PA;

**Step 4:** Assess the value of landscape and geological resources;

**Step 5:** Evaluate the evolution of economic activities, as well as resident population and visitors;

**Step 8:** Evaluate the services and products produced, namely production of publications, leaflets, lectures, environmental education actions and associated resources.

✓ To achieve this, you have to:

- *Define performance indicators*
- *Undertake monitoring*
- *Periodically assess results and report findings*
- *Respond to conclusions and implement them*

Ensure that the results are not forgotten, buried in unread reports, but are made known, interpreted and communicated in an appropriate way to the right people, and used to make a positive difference to the PA management.

The success of implementation also relies on the support of protected area staff at all levels, who needs to see the assessment as a positive tool for them, rather than a personal interference in their work.

**Step 9:** Choose from the following **checklist of indicators** the ones that can be used or adapted:

- Ecological integrity and natural values
- Abundance of species of fauna and flora
- Distribution of species of fauna and flora
- Area occupied by habitats
- Diversity of species of each habitat
- Coverage of habitat species
- Water quality
- Area of geosites or important geodiversity
- Land use and occupation
- Area of forest occupation
- Agricultural area
- Area of meadow and/or pasture occupation
- Area of farms
- Area occupied by invasive species
- Number of new exotic species
- Area covered by rural fires
- Deforested area
- Area with adjustment measures against climate change
- Area with mitigation measures against climate change
- Extent and distribution of the social, cultural and economic impact on livelihoods or other socio-economic activities
- Trends in tenure change regarding land, water and natural resources within and near

- the protected area
- Trends in livelihoods related to land, water and natural resources within and near the protected areas.
- Area occupied by hunting areas
- Number of hunters per hunting zone
- Area of cultural values
- Conservation state of cultural items
- Products that encompass artistic, aesthetic, symbolic and spiritual values
- Culturally productive industries, activities and practices
- Actions to promote cultural development and creativity
- Area of projects associated with approved economic activities
- Number of misconduct processes instituted
- Regional commodities
- Licensed buildings
- Tourist accommodation capacity
- Number of companies licensed for tourist, recreational and sport activities
- Extension of trail and treks implemented
- Number of visitors
- Number of nature conservation projects carried out
- Number of research projects carried out
- Number and reclaimed extractive areas
- Number of publications produced
- Technicians allocated to the protected area
- Rangers allocated to the protected area
- Expenditures in the PA
- Number of vehicles per type
- Number of Km traveled by the vehicles
- Fuel used with the PA vehicles
  - External Information indicators
- Interested parties and stakeholder public attendance at meetings of protected areas
- Existence of protected area goals and objectives broadly agreed by stakeholders
- Variety of means of communication (e.g., websites, forums, offices open to the public, social communication events, social media) for informing the public and receiving feedback on the policies and operations of the protected areas and their governing bodies
- Amount and variety of information on the performance of the protected area
- Number and range of stakeholders who take advantage of opportunities to engage in consultation and decision-making regarding protected areas
- Level of satisfaction of stakeholders with the amount and quality of information provided on the performance of protected areas
- Extent of participation of stakeholders in the generation, analysis and reporting of technical information and plans regarding protected areas
- Appreciation of local knowledge and skills by the protected area governing bodies
  - Governance Indicators
- Extent of public acceptance and appreciation of protected areas
- Number and proportion of stakeholders who consider that the protected areas effectively conserve the biodiversity, cultural heritage or landscape values and respect individual and collective rights
- Level of stakeholders' satisfaction with their ability to have an active approach in policy-making and decision-making regarding protected areas
- Number of land and natural resource-use conflicts resolved and unsolved
- Instances of local peoples, women, youth and vulnerable groups, receiving support

(financial resources, training, material, technical assistance) to improve their participation in PA activities

- Actions taken to empower vulnerable groups
- Existence of a long-term strategic vision for the protected areas, coherently translated into clear conservation objectives
- Frequency of governing bodies' decisions supported, overruled or contradicted by other bodies at lower or higher level or by those with overlapping jurisdictions
- Existence of joint initiatives or protocols with other entities and actors at local, national and international levels; with private businesses on sectoral activities-forestry, mining, health, employment, tourism;
- Degree to which the management objectives for the protected areas are being met
- Degree to which the stated vision of the protected areas is being achieved
- Evidence of positive change in protected area appreciation as a direct result of social communication and outreach activities
- Evidence of unresolved complaints and public criticism
- Existence of appropriate protected area infrastructures and resources
- Evidence of PA financial sustainability
- Proportion of annual budget allocated to fixed costs (e.g., salaries, rents) versus variable costs (e.g., supplies and equipment, travel expenses, revenue generating initiatives)
- Proportion of annual budget allocated to operating costs (e.g., salaries, rents supplies and equipment, travel expenses, revenue generating initiatives) versus capital costs (e.g., buildings, infrastructure)
- Proportion of annual revenue earned directly by the protected area (e.g., from fees and licenses, local services, exclusive grants, in-kind contributions)
- Existence and use of laws and regulations guaranteeing public access to information about the functioning and results of the protected area
- Existence of protected area evaluation quality procedures (e.g., for management effectiveness and governance quality)

#### **PHASE 11: Decision to review and update the Management Plan**

One further step to be defined is the timeframe decision for reviewing or update of the Management Plan that can pass through an audit evaluation based on the monitoring implemented.

In many cases, the plan review will be bounded by legislation, national or in the PA Plan itself. Generally, this timeframe is of five or seven years.

Previous consultation and evaluation by stakeholders is a decisive phase when making the decision to undertake the revision.

✓ **Note:** This process may take between 12 months to two years. Bear this in mind.

#### **PHASE 12: Public consultation**

Formal public consultation includes the requirements of timely access to relevant and understandable information, as well as the opportunity to provide meaningful comments where significant decisions are being designed.

The principle of public participation also incorporates the prerequisite that comments made in the overall participation processes will be taken into account in decision making.

**Step 1:** Create a Stakeholder's database with names and contacts and best way to reach;

**Step 2:** As stated in the process, several focal consultations are needed. Remember and don't refrain from formally or informally contacting all relevant players of the PA management, during the whole process. Regardless of this, in the end, a formal phase to listen to all interested parties is a mandatory milestone.

✓ **Note:** Due to the importance of this Phase, it will be considered an autonomous SOP. See SOP#6

### PHASE 13: Revision of draft and deliver of PA final plan

This Phase is needed when it is necessary to revise the draft PA Plan, taking into account the comments received from stakeholders and the public.

**Step 1:** Take into consideration all comments received – either in written form or being delivered in meetings;

**Step 2:** Check the considerations and comments and their importance and relevance. If appropriate, add the PA Plan under the proper chapter;

**Step 3:** Comments received will be included in a Consultation Summary Paper, annex to the Management Plan, or in a separate document.

✓ **Note:** This Summary Paper consultation report must detail how the comments received have been considered and indicate why some comments have not been used. This will help public and stakeholders to check if the Plan final version takes their comments on board.

### PHASE 14: Approval of plan and legal status

An important procedure in the PAs legislation is to define the legal status of the management plan once it has been approved.

✓ The plan should have sufficient legal force to provide the necessary powers to protected areas authority and staff to manage the area, including allocating budget and financial resources.

Giving the plan legal effect is also important to ensure that other sectors and levels of government are fully informed about the plan, respect the legal status of the plan, and undertake their activities in a manner consistent with the plan.

An approved management plan generally becomes the support for the PA authority to exercise management, undertake actions and assume responsibilities necessary for effective plan implementation. These responsibilities and competencies include the authority to approve, prohibit or regulate activities in the protected area or in zoning, consistent with the plan.

Many elements of a management plan may not have regulatory content, for example, education, research, monitoring or outreach. However, elements related to the control of

activities within the protected area or particular zones will necessarily have regulatory content and implications. This requires that the protected areas legislation be clear and that the management plan has sufficient legal status to serve as a framework status to generate regulatory action.

✓ **Note:** see SOP#2

The legal status of a management plan should also be sufficient to pursue compliance and enforcement measures in accordance with applicable existing law, and should be able to withstand judicial review.

This protected area enlarged view, gives added importance as a valuable tool for sustainable development. Such areas, when well designed and effectively managed generate benefits that may have direct and immediate economic and social value in addition to conservation value.

This procedural step involves the submission of the final plan for approval by the competent authority.

**Step 1:** Revise the whole process to check if all phases have been successfully closed.

**Step 2:** Arrange with senior executive the timetable for superior approvals and submission to members of Government.

**Step 3:** Check for formal legal publication after submission and approval by member of government and disseminate among personnel and external interested parties.

## Legislation

The following national legislation applies:

National Conservation and Environment Protection Act, NCEPA, 1987, namely part II, III (till is revoked)

Protected Areas Regulations, February 2017 (final draft)

Protected Areas Management Plan, February 2017 (final draft)

National Conservation and Environmental Management Bill, NCEMB, final draft 2017, namely part IV, V, VII, IX, X, XIV.

- ✓ The NCEMB will be enhanced by the “Protected Areas Regulations” and the “Management Plan for the Protected Areas in St. Kitts and Nevis” also to be promulgated following the enactment of the legislation. These two guiding legal documents will be the legal operational framework that bound the PA Standard Operational Procedures and will replace the existing NCEPA. **Nevertheless, until it is replaced NCEPA is still legally in place.**

## References

- BIOPAMA. SKN data: <http://caribbean-rris.biopama.org/country/KN>
- Borrini-Feyerabend, G., N. Dudley, T. Jaeger, B. Lassen, N. Pathak Broome, A. Phillips and T. Sandwith (2013). Governance of Protected Areas: From understanding to action. Best Practice Protected Area Guidelines Series. IUCN.
- Expanding Coverage and Strengthening Management Effectiveness of the Protected Area Network on the Island of Mauritius. UNDP, Ministry of Agro-Industry and Food Security. Government of Mauritius. 2012
- Government of St. Christopher & Nevis, United Nations Convention on Biodiversity, fifth national report, 2014:  
<https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>
- Jamaica Protected Areas System Master Plan-consultation draft 2012
- Lausche, Barbara. 2011. Guidelines for Protected Areas Legislation. IUCN
- National Parks of St Eustatius; <http://www.statiapark.org/index.html>
- NBSAP. Antigua e Barbuda National Strategic Biodiversity Action Plan 2014-2020. Government of Antigua and Barbuda
- Parks Caribbean. Protected Areas Development in the Caribbean:  
<http://parkscaribbean.net/protected-areas-101/2>
- Review of the policy, legal and institutional frameworks for protected areas management in St. Lucia. OECS Protected Areas and Associated Livelihoods Project. Prepared by: Lloyd Gardner Environmental Support Services, LLC. 2007
- St. Christopher & Nevis National biodiversity strategy & action plan 2014-2020:  
<https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>
- Secretariat of the Convention on Biological Diversity (2008). Protected Areas in Today's World: Their Values and Benefits for the Welfare of the Planet.
- St Vincent and the Grenadines National Parks and Protected Areas System Plan 2009-14. National Parks, Rivers and Beaches Authority. 2009
- The Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (WCR)- SPAW protocol:  
<http://www.cep.unep.org/content/about-cep/spaw/development-of-guidelines-for-the-management-of-protected-areas-and-species/protected-areas/protected-area-guidelines/annotated-format-final-english.pdf/view>
- Improving Management of Coastal Resources and the Conservation of Marine Biodiversity in Programme on Improving Management of Coastal Resources and the Conservation of Marine Biodiversity in Selected CARICOM Countries. Baseline Study. Caribbean Environmental Health Institute (CEHI).
- The Green List for Protected Areas Global Standard. IUCN. 2014

- United Nations Conference on sustainable development (Rio+20) National preparatory process St. Kitts and Nevis, stocktaking report:  
<https://sustainabledevelopment.un.org/content/documents/1029skn.pdf>
- UNDP PRODOC 2014. Conserving Biodiversity and reducing habitat degradation in Protected Areas and their areas of influence in St. Kitts and Nevis:  
<https://info.undp.org/docs/pdc/Documents/KNA/UNDP%20Prodoc%20-%20St%20%20Kitts%20%20Nevis%20-%2006%20Aug%202014%20FINAL.pdf>

	<b>PA Authority Division/Function</b> ---	<b>SOP #</b>	<b>1 Marine</b>
		<b>Preparation Date</b>	June 2017
<b>SOP TITLE MANAGEMENT PLANNING</b>		<b>Implementation Date</b>	
		Last Reviewed/Update Date	
		Approval	

### Purpose and scope

Management Planning is an essential step towards ensuring the proper management of protected areas.

In simple terms, a Management Plan is a document which sets out the management approach and goals, together with a framework for decision making, to be applied in the protected area over a given period of time.

Management Plans are concise documents that identify the key features and values of the protected area, clearly establish the management objectives to be met, define protection zones and indicate the actions and resources to be implemented.

As a management tool, planning helps protected area managers, rangers and senior executives to define and achieve the correct impartial authority in the protected area under their care. Management Plans have to have the status of legal documents to provide the PA personnel with the mandate to manage them and to be linked with national legislation.

### The following groups are the targets of this SOP:

- a) PA managers
- b) PA operational staff
- c) PA Senior executives
- d) PA Rangers
- e) Specialist/other staff in the National Agency or other government sectors
- f) Senior decision makers in the National Agency or other government sectors

But also, depending on the Plan Phase:

- e) External expertise
- f) Other – ONGs, interested parties
- g) The public

## Procedures

- ✓ There is no such thing as a standard format for MPA Management Planning, but such planning tends to contain certain standard operational procedure elements such as:



### k. Executive summary

This first chapter sums essential subjects covered by the plan as well as the decision-making process undertaken. This summary is imperative as some of final decision-makers and stakeholders will not have time to read and digest each chapter in detail.

- l. Introduction** This states the purpose and scope of the plan, and provides an explanation of the purpose for which the protected area was established (including any legislative basis) and the authority for plan development.
- m. Description** of the protected area to be planned. This chapter describes in detail all relevant information, related with data collection and participation undertaken. It includes all important characteristics data of the area - natural, cultural, historical and socio- economic, how the area is used, its legal and management frameworks.
- n. Evaluation of Significances and Values.** This chapter identifies why the protected area is important, and explains the relevant values and significance associated with it. It details data gathered and analysis done.
- o. Analysis of impacts, problems and opportunities.** This section contains an analysis of the impacts, constraints and threats but also of the opportunities existing or affecting the area. It is the core information that will feed also the conservation, management and maintenance actions in the Action Plan later on. A matrix table is fundamental to better understand and show this analysis.
- p. Vision and objectives.** This section contains a concise long-term vision for the protected area, which will take the form of a “vision statement”. Also a set of detailed objectives must be provided. These are specific statements outlining what is to be achieved by management in the timeframe of the plan.
- q. Zoning (marine spatial management).** If different management zones are required, a zoning plan must be prepared to detail and explain the zoning classification in spatial and visual terms. In this sense, the best approach is using Marine Spatial Planning and management process.
- r. Supporting marine management regulation.** This section related to zoning, objectives, significances, impacts and opportunities and will define the coastal and sea uses and actions allowed, conditioned or prohibited in the PA.
- s. Management actions – Action Plan.** This chapter contains the specific actions that need to be implemented in order to achieve the objectives. It commonly includes:
- *List of management actions/activities required to achieve PA Objectives;*
  - *Work plan identifying when each action is to be carried out, by whom (internal and external from PA if possible) with timeline;*
  - *Activities identified according to terms of short, medium and long term priorities;*
  - *Staff and finances required to carry them out (budget).*
- t. Monitoring and review.** This section outlines how implementation of the plan will be monitored, and when and how a review of the plan will be accomplished. It will include the indicators against which the performance of the protected area will be measured.

In detail, the different Phases to follow:

### **PHASE 1. Pre-planning**

✓ The pre-planning Phase is one of the most important steps in the planning process.

This stage defines how the Plan will be carried out, what process will be followed, the timing considerations and how participation will be prepared.

These decisions need to be made at the highest possible management level and are critical to start the planning process properly.

The pre-planning Phase includes the following steps:

**Step 1:** Identify the purpose and management objectives of the Marine PA; the broad objectives have to be in conformity with the National legislation (or formal agreements designating the area). They will set the guidance and the framework of the plan from the start.

**Step 2:** Design a preliminary approach where you identify the pathway to be followed when applying the planning process, its sequence and the methods to be used. Remember that the best approach is the one of sustainability, where PAs meet the environmental, social and economic targets without putting natural and cultural features at risk.

**Step 3:** Define who the plan binds. If only public administration, if public and private sectors, if only private and individuals. Members of the public, the authorities, civil service sectors, commercial interests and individual citizens are important users. There may be more key users in particular situations, like private owners, local government and parishes or commercial enterprises for instance when existing infrastructure are already in place.

**Step 4:** See if there is necessary expertise within the PA system personnel and stakeholders or if there will be the need for external experts to gather and analyze information.

**Step 5:** Prepare a work package schedule for the management planning process. Identify the team that will carry out all the necessary MPA planning Phases. There should be a responsible or a coordinator. If preparation is contracted out through experts or contractor, decisions should be made as to how the contract will be managed to ensure that the plan effectively delivers the requirements. Use an inter-disciplinary approach – bring experts and interested parties together to discuss the future management of the protected area.

Identify the involvement of personnel, citizens and stakeholders. These will include other staff, experts, government officials, local parish communities and other affected parties. Define the stages at which their participation will take place.

**Step 6:** Engage senior executive management in the internal process for final Management Plan approval. This is probably will have to be made also with external Donors, if external funding is provided. When external parties such as these funding bodies, steering committees and government departments are required, the procedures have to be identified and a timetable agreed on for the submission of a final version for approval.

### **PHASE 2. Data collection, background research and fieldwork**

To collect data careful selection is needed and a general rule is that data should be up-to-date, objective, reliable, relevant and comparable.

This information is quite relevant to be incorporated latter in the spatial zoning and management process:

- Biological and ecological distributions including areas of known importance for a particular species or biological community; relevant and important Habitats and Species occurring in the area. Their status,
- Spatial information about human activities;
- Oceanographic and other physical environmental features (bathymetry, currents, sediments) which in the absence of comprehensive biological data can be especially important for identifying different habitats and important processes, e.g., upwelling areas;
- Cultural resources and their condition
- Physical facilities and infrastructures
- Socio-economic key features of the population living or using the area
- Visitor’s characteristics and influence on the area
- Sea uses, activities and occupations.
- Planning provisions for surrounding lands or sea.
- Jurisdictional and administrative boundaries will also be relevant, when institutional arrangements are considered.

✓ **Note:** see also SOP#5 and 6

**Step 1:** Data that can be collected from many sources including:

- scientific literature; Make or organize desk review, quantitative and qualitative evaluation of existing literature on the area;
- expert scientific opinion or advice;
- government sources;
- local stakeholder’s knowledge
- direct field measurement. Perform or organize field inventories to check the information and to acquire additional data if required.

**Step 2:** Organize information in the form of Description to build the necessary chapter – see phase 3.

When reviewing available data, you should look for spatial information that covers most of the marine area. It is often unproductive to spend time collecting fine scale data sets for small sub-areas of the management area because, when taken together, they are frequently not comparable.

✓ **Note 1:** See key data<sup>7</sup>. This list is non-comprehensive as existing data is lacking sometimes.

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7

Natural Resources, habitats and species data, see SOP#5 and:

<http://caribbean-rris.biopama.org/country/KN>

<https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>

<https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

Birds and habitats data:

BirdLife International (2016) Country profile: <http://datazone.birdlife.org/country/st-kitts-and-nevis>

International Convention signed by SKN <http://datazone.birdlife.org/country/st-kitts-and-nevis/policy>

CBD: Major Acts relating to Biodiversity: <https://www.cbd.int/doc/world/kn/kn-nbsap-01-p9-en.pdf>

National Biodiversity and Action Plan (NBSAP) 2014-2020: <https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>

Government of St. Christopher & Nevis United Nations Convention on Biodiversity fifth national report:

<https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

### PHASE 3: Description

The type of information to be included will vary from protected area to protected area and depend on the characteristics of the marine area itself.

✓ **Checklist of Information** to be included in the description:

- Location (latitude and longitude);
- Marine/terrestrial boundaries (coordinates of the series of points that describe the borders of the area – position of central point and approximate radius as a minimum). Further relevant information (e.g. map with boundaries, grid in an appropriate scale and any explanatory information) in an appendix;
- surface area: square kilometers, hectares or other appropriate units;
- geographic description of regional setting and accessibility, e. g. the regional land and sea surroundings and access routes to and through the area;
- Biological information (flora and fauna - habitats and species), e.g.:
  - flora: dominant marine, coastal, and estuarine plants and where available, phytoplankton; when possible, a summary of the plant community and related environmental factors, such as the depth of occurrence, together with any botanical features that may have special interest. Plant species identified in the area could be listed in an appendix, coverage of the area;
  - fauna: dominant marine, coastal or estuarine fauna, with an account of their ecological relationships and spatial coverage, if known. Full information on mammals, reptiles, amphibians, fish, birds, invertebrates and zooplankton as appropriate; could be listed in an appendix;
  - migratory animals that periodically or occasionally visit the area ; where known, major migration routes and important areas (reproduction zones, areas where juveniles grow up, resting areas, feeding areas etc) along the migration routes

Also indicate the area's degree on naturalness, rarity, aesthetic values, and degree of habitat representativeness; indicate the type of information used to assess this status.

- Physical information (climate, geology, geomorphology, hydrology, e.g.):
  - Geology: e.g. evolution, ongoing processes, erosion, accumulation /deposition;
  - geomorphology: coastal and marine landscapes, sediment types and qualities;
  - bathymetry: a bathymetric map with the highest resolution available, illustrating submarine structures (e.g. sills, banks, reefs, flats, trenches and canyons); when possible, refer to bathymetric GIS datasets (DEM, depth contours);
  - physical (oceanographic) parameters: e.g. figures on climate and meteorology incl. water temperature, currents, water level changes/tidal regime, salinity, fresh

water input, stratification and transparency;

- water and sediment quality (chemical parameters), e.g. oxygen, nutrients and pollutants and contaminants.
- Cultural information and historical information (marine archaeology)
- Socio-economic information (basic data and trends among local users or communities);
- Current sea uses and services (e.g. fisheries and other sea natural resources). Describe, as appropriate:
  - Recent developments and ongoing activities;
  - Uses and activities on land or outside the site, which may affect it;
  - Forms of commercial uses and activities;
  - Recreational values and forms of use;
  - Ongoing traditional user rights, uses and management practices;
  - Ongoing and proposed research projects and programmes on e.g. biological and socioeconomic issues;
  - Ongoing and proposed educational programmes and activities, general or specific, target groups and users
  - Future demands known;
- Main infrastructures (e.g. Marinas, resorts, other);
- Legal status. Describe the following, depending on the information available and the legal status of the site:
  - Legal status existing or foreseen according to national jurisdiction;
  - national and international laws and regulations relevant for the site;
  - relevant legislative and enforcement authorities;
  - traditional management practices;
  - stakeholders of the area and other interested parties (NGOs, local communities etc.).
  - Other legal conditions and restrictions affecting the area;
- ✓ **Note 1:** Lack of information should be highlighted in the Description as well. Identification of gaps in knowledge is as important as the rest in this Phase of the process. Keep also in mind not to defer this Phase for later until all the information is available.
- ✓ **Note 2:** Be objective – do not include “subjective value judgements”
- ✓ **Note 3:** Keep the Description brief – use maps, tabs, references and annexes when needed.

#### PHASE 4: Identifying Values and Significances

Assess and describe significance of the area and identify key features of exceptional values by checking if the area contains them.

- ✓ **Criteria** to define exceptional values:
  - Outstanding examples of natural, scenic, geological, scientific, ecological, floral, faunal and recreational values;
  - Unique marine biological characteristics;
  - Essential areas for protecting ecological integrity of the area as a whole, (including reefs and other geodiversity or biodiversity critical areas);
  - Key economically areas for local communities and other users;
  - Areas and resources which provide essential ecosystem services to people outside the PA, especially where these have significant economic or even political values;
  - Rare, endemic, sensitive, threatened or endangered habitats and species;
  - Major historical or marine archeological sites;
  - Features with worldwide recognition or worldwide conservation status.
- ✓ **Note 1:** Whenever possible it is important to map these relevant significances. The sum of these maps will create the basic layers for the PHASE zoning chapter.
- ✓ **Note 2:** See Key data<sup>8</sup>

#### PHASE 5: Identifying impacts, constraints, threats and opportunities

This Phase identifies existing and foreseen impacts and threat factors, for the natural values.

Consider the actual and potential stress factors and human activities in order to assess their impacts on biodiversity and natural features (habitats and species) within or close to the MPA boundaries, but also more distant regional influences, when appropriate.

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8

Natural Resources, habitats and species data, see SOP#5 and:

<http://caribbean-rris.biopama.org/country/KN>  
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Government of St. Christopher & Nevis United Nations Convention on Biodiversity fifth national report: <https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

United Nations Conference on Sustainable Development (Rio+20) National Preparatory Process – Stocktaking report : <https://sustainabledevelopment.un.org/content/documents/1029skn.pdf>

These impact activities include, e.g.:

- *Sources of external or internal pollution and/or eutrophication;*
  - *Biological threats, such as the invasion/introduction of alien species;*
  - *Fishing and sea resources;*
  - *Tourism, recreational, leisure and nature tourism;*
  - *Coastal development;*
  - *dredging;*
- ✓ Another important task is compiling information (and mapping the spatial and temporal distribution and density) of human activities in the marine area. The distribution of species and habitats is very diverse and therefore some areas are biologically or ecologically more valuable than others. The same is also true for human activities. Some areas are more economically valuable than others. These areas are important to identify and map.

Important human uses include both commercial and fishing. Examples of human activities in marine areas are listed below and should be analysed in this Phase.

Examples of human activities in marine areas, *adapted from Ehler, Charles, and Fanny Douvere.2009*

- Commercial fishing: nets
- Commercial fishing: hook/line
- Commercial fishing: pots/traps
- Commercial fishing: spears/harpoons
- Commercial fishing: trawls/dredges
- Commercial fishing: seine nets
- Commercial fishing: beach seines
- Commercial fishing: purse seines
- Offshore aquaculture/mariculture
- Recreational fishing: hook/line
- Recreational fishing: pots/traps
- Recreational fishing: shellfishing
- Recreational fishing: spearfishing
- Recreation: sailing
- Recreation: boating
- Recreation: personal watercraft
- Recreation: scuba diving/snorkeling
- Recreation: wildlife watching
- Marine transportation: cargo vessels
- Marine transportation: tankers
- Marine transportation: liquefied natural gas (LNG) carriers
- Marine transportation: cruise ships
- Marine transportation: ferries
- Port and harbour operations
- Port and harbour dredging
- Dredged material disposal
- Offshore airports
- Offshore industrial production facilities

- Offshore liquefied natural gas (LNG) terminals
- Offshore oil and gas exploration
- Offshore oil and gas development
- Cables, pipelines, transmission lines
- Sand and gravel mining
- Offshore renewable energy: wind farms
- Offshore renewable energy: wave parks
- Offshore renewable energy: tidal
- Offshore renewable energy: currents
- Ocean desalination plants
- Carbon sequestration sites
- Military operations
- Strictly protected marine reserves
- Multiple use marine parks
- Scientific research
- Cultural and historic conservation

Many carry negative impacts and consequences, see examples of the effects of human activities:

#### **Physical impacts**

- Substratum removal
- Substratum change (inc. smothering)
- Increased siltation (deposited sediment)
- Turbidity changes (suspended sediment)
- Emergence regime changes (inc. desiccation)
- Water flow rate changes
- Temperature changes
- Wave exposure changes
- Noise disturbance
- Visual disturbance
- Changes in electromagnetic fields
- Litter

#### **Chemical impacts**

- Synthetic compound contamination
- Heavy metal contamination
- Hydrocarbon contamination
- Radionuclide contamination
- Nutrient changes (eutrophication)

- Salinity changes
- De-oxygenation

#### **Biological impacts**

- Physical damage to species (inc. abrasion)
- Displacement (moving) of species
- Removal of target species
- Removal of non-target species
- Changes in population or community structure or dynamics
- Introduction of microbial pathogens or parasites
- Introduction of non-indigenous species and genetically modified organisms.

In this phase bearing in mind the above, you should:

**Step 1:** Build a matrix to list the impacts of human activities against species/habitat sensitivity.

**Step 2:** Arrange stakeholder's participation meeting in order to feed the table and listen to problems and impacts.

**Step 3:** With table done, make a list of measures and actions, inhibiting negative impacts, preventing and minimizing identified threat factors. Build a "positive" opportunity list deriving from the negative impacts and constraints listed.

- ✓ **Note 1:** Tourism can be very important but if not controlled, it can become a threat to marine ecosystems in different ways. Some examples of this are the damage inflicted on coral by divers and boats, the spilling of residual waters from (cruise) ships and vessels, the damage caused to marine mammals or turtles by vessels, boats or beach vehicles. Sports fishing of a single species may also significantly affect the population of this species. These activities impact the value of MPA ecosystems.
- ✓ **Note 2:** Once the threats and opportunities identified and listed, they should be clearly analyzed under the Management Plan as they will feed the Action/Management Plan later in the process. See PHASE 9. These management measures should assume normative and regulatory characteristics in that Phase.

#### **PHASE 6: Develop the management vision and objectives**

- ✓ Generally, vision statement is a paragraph that best describes the desired or envisaged result of the policies for the protected area. Its purpose, due to its synthetic draft formula, is to provide a focus for the management objectives.

**Step 1:** Define the long-term vision statement output for the PA;

**Step 2:** Include the environmental, cultural, social and economic aspects of the protected area;

**Step 3:** Describe the PA typology (if possible both at national and international IUCN classification that the plan is seeking to achieve in the long term. This will help people to see and understand what the area will look like in the future.

✓ **Draft the objectives of the PA**

Objectives follow the vision output. They have to be more specific, defining the conditions the management aims to achieve.

Objectives tend to relate to important features of the protected area, defining and detailing how these will be conserved or developed, or to important areas of management activity.

Objectives must be clear to guide PA implementation and serve as structure for deciding whether outcomes and actions are in accordance with the law and the PA national and international classification.

Objectives in MPAs should be tied to basic principles such as sustainable development, conservation of biodiversity, social equality, cultural values, economic values and benefits, among other.

✓ Objectives are also a first step towards developing implementation strategies and evaluating performance and effectiveness of a MPA. A well-defined set of objectives enables protected area entities to act with authority in addressing cross-sectoral or other interests.

Where sufficient scientific information is available, objectives may include targets that help guide monitoring and future evaluation. Such provisions could emphasize, for example, protecting or restoring the habitat of endangered species, protecting unique and threatened ecosystems, or preserving landscapes or seascapes of special natural and cultural value and as important management and control of invasive exotic and alien species.

Regardless of the wanted level of specificity, scientific, economic and cultural information must be used to frame the objectives.

The PA supplying of well-being or mental health is nowadays recognized as an objective to achieve as well.

Other objectives may relate to ensuring good governance and the participation of communities and/or private entities in protected area establishment and management.

Objectives may include purposes associated with fulfilling obligations under multilateral treaties international or regional instruments in force domestically that bind the country legally.

✓ **Note:** See SOP#5

**Step 4:** See and choose most convenient from examples of objectives to illustrate the variety of ways in which they may be expressed:

- *establish and maintain a comprehensive, adequate and representation of important marine ecosystems and species;*
- *establish and manage the area to take full advantage of their scientific, educational, recreational, cultural, social, historical or archaeological significance, consistent with their primary conservation objectives and the goals;*

- *protect and restore irreplaceable habitats and ecosystems with unique characteristics that cannot be replicated through the conservation of other areas;*
- *protect endangered, threatened and endemic species, giving highest priority to locally and globally endangered species and their habitats;*
- *conserve habitats required for the maintenance of viable populations of migratory species;*
- *preserve and maintain small specified areas deserving special protection for their high natural and cultural significance or other pertinent value for present and future generations;*
- *protect special seascapes and their associated ecosystems to provide vital ecosystem services and economic livelihoods;*
- *protect and preserve large, intact and relatively unfragmented natural areas and natural ecosystems under elevated levels of threat;*
- *establish and implement actions to prevent, control and contain IAS that may have detrimental effects on biodiversity and population's health care;*
- *provide refuge and space for range expansion for species, to account for the impact of climate change;*
- *protect economically useful species, genes and genomes for food, fibre, medicine and scientific research;*
- *Improve knowledge about ecosystem services and green economy provided by the MPA;*
- *conserve and maintain marine protected areas to secure and strengthen their role in climate regulation through carbon sequestration and other processes;*
- *protect natural ecological processes that generate and maintain biodiversity and provide humanity with vital ecosystem services;*
- *provide protection, consistent with conservation objectives, for cultural values (historical, archaeological, seascape, sacred, aesthetic);*
- *ensure full participation by all segments of society in the support and co-management of the MPA;*
- *ensure the equitable sharing of benefits from allowed uses of the MPA;*
- *Promote recreational opportunities for local visitors and visitors;*
- *Protected area services and administration*
- *establish a variety of governance arrangements for the MPA;*
- *promote intergovernmental cooperation and co-management by multiple agencies and entities.*

Other specific MPA objectives<sup>9</sup> may apply:

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<sup>9</sup> [http://www.oecd.org/environment/resources/mainstream-biodiversity/events/?utm\\_source=Adestra&utm\\_medium=email&utm\\_content=OECD%20work%20on%20mainstreaming%20biodiversity%20OECD%20side%20events%2C%20workshop%20and%20presentati](http://www.oecd.org/environment/resources/mainstream-biodiversity/events/?utm_source=Adestra&utm_medium=email&utm_content=OECD%20work%20on%20mainstreaming%20biodiversity%20OECD%20side%20events%2C%20workshop%20and%20presentati)

- *The preservation of marine biodiversity;*
- *The recovery of marine habitats;*
- *The Protection of coastal and marine ecosystems in sustainable development, adaptation and mitigation in climate change strategies and in resilience actions;*
- *The protection of natural infrastructures;*
- *To enhance science-policy interface and accessibility to related knowledge;*
- *Scientific research applied to the conservation of nature;*
- *Environmental information, awareness and education;*
- *Progressive adaptation to the general rules for the emission of effluents bearing in mind the characteristics of the receiving environment;*
- *The importance of sustainable ocean-based economy in Small-Island developing States;*
- *The promotion of nature-based sustainable development tourism;*
- *The promotion of regional economic-traditional activities such as sustainable fishing methods;*
- *The promotion of cooperation for integrating regional climate change adaptation strategies*

✓ **But also, the Sustainable Development Goals- Agenda 2030** <sup>10</sup>

Additional UN SDG important universal goals can be used and reflected in MPA objectives.

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts\*

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[ons%20at%20CBC%20COP13&utm\\_campaign=Copy%20of%20CBD%20COP13%20Cancun%20Dec%202016&utm\\_term=demo](https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)

<sup>10</sup> See the document: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

✓ **Note 1:** SKN Docs and reports on the 2015 UN Summit:

<https://sustainabledevelopment.un.org/memberstates/saintkittsnevis>

And active SDGs SKN partnerships:

<https://sustainabledevelopment.un.org/memberstates/saintkittsnevis>

✓ **Note 2:** See Key data<sup>11</sup>

Having draft management objectives, the next Phase is to work out how to achieve the goals as they will feed the Action Plan Phase and the zoning Phase.

## PHASE 7: Zoning

Management Plans for Marine PAs must identify different “management zones”, i.e. geographical spatial areas where uses and activities are applied and where different conservation and use objectives apply.

Analogous to land use management in terrestrial environments, marine zoning management:

- Works toward sustainable development, rather than only conservation or environmental protection, and in doing so contributes to more general social and economic objectives:
- Provides a strategic, integrated and forward-looking framework for all uses of the sea to help achieve sustainable development, taking account of environmental as well as social and economic goals and objectives;
- Safeguards ecological processes and overall resilience to ensure the environment has the capacity to support social and economic benefits (including those benefits derived directly from ecosystems);
- Identifies, safeguards, or where necessary and appropriate, recovers or restores important components of marine ecosystems including natural heritage and nature conservation resources;
- Through spatial planning, analyzes and allocates space in a way that minimizes conflicts among human activities, as well as conflicts between human activities and nature, and,

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<sup>11</sup> Government of St. Christopher & Nevis United Nations Convention on Biodiversity fifth national report: <https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

where possible, maximizes compatibilities among sectors.

In this way, Marine zoning planning and management is a widely used and long-established method of organizing spatial information, guiding the conservation areas, the management tasks and regulations, in a structured way.

The zones must reflect the intended use, existing patterns of use, the ecosystems degree conservation, the degree of human use desired, and the required management and development levels.

- ✓ Zoning always refers to what can and cannot occur in different areas of the MPA. Through management zoning, the limits of acceptable use and development are established and universally shown.

Zoning is particularly useful for handling large multi-purpose and multi-dimensional protected areas, and for providing connectivity between core areas.

It is also an appropriate tool for accommodating a variety of governance types or mixed tenure arrangements within a single designated protected area. For example, through careful zoning it may be possible within a multi-purpose protected area to have a terrestrial, coastal, marine or mixed land-sea protected area, or a 'biodiversity hot spot' under strict protection surrounded by a habitat conservation zone, some controlled tourism or a multiple-use area, or a mixed tenure system with a state-owned or controlled protected area next to a voluntary conserved area.

Various zones may also reflect different governance arrangements with respect to ownership, occupation or use rights.

- ✓ **Criteria** for zoning designations are based on the MPA objectives. The gathered and analyzed data of the area is the basis for the zones within the scope of the options developed while relating them with impacts, constraints and opportunities. The zones are identified using the best information available, the professional judgement of the (interdisciplinary) team as well as cultural factors. So:

**Step 1:** Identify zones; start with the relevant management objectives. Provide information on the used zoning system and categories if any (e.g. core zones/sanctuaries, use zones, buffer zones, development areas, areas of impact, natural resource units) and the implications to management, including the reason/s for which a particular area has been given a zone classification;

**Step 2:** Identify exceptional or relevant resource values (see phase 4); use data gathered;

**Step 3:** Identify constraints and other ecological/geographical or biodiversity determinants (see phase 5)

**Step 4:** Check visitor use experiences;

**Step 5:** Check uses and activities that damage PA resources or create inappropriate stress on the area management (see PHASE 5);

**Step 6:** Check the area efficiency to support different types of risks, upcoming uses and development;

**Step 7:** Check public participation or consultation results – prior to the preparation of the plan;

**Step 8:** Check national and local government policy and decisions regarding coastal and sea activities and the desired outcomes for the area;

**Step 9:** Start mapping all these features and map all relevant issues deriving from PHASE 4: Identify Values and Significances.

- ✓ **Note 1:** Zones should be able to be easily identified by policy makers and users, population and visitors, to enable them to recognize what zones there are and therefore what constraints may arise.
- ✓ **Note 2:** One can create several distinct zones, with different names and attributes, but they all fall inside the framework for MPA zoning which varies from more restrictive human activities to more human permissive and development oriented activities. This will depend on the importance and relevance of, on the one hand natural features, including biodiversity and on the other hand, cultural, social and development features. Minimum zoning will vary from core zone area, buffer zone area, transition zone area (common in all UNESCO Biosphere Reserves) to more detailed zones such as core zones/sanctuaries, no take zones, use zones, buffer zones, development areas, areas of impact, natural resource units or other classifications.

### Spatial mapping

Computer generated spatial representation like Geographic Information Systems (GIS) is the most common, universal and appropriate resource information to be used. GIS is a system of hardware and software, designed to show management, analysis, modeling, and display of spatially referenced data, allowing to understand, question, interpret, and visualize data in many ways that reveals relationships, patterns, and trends in the form of maps, reports, and charts.

- ✓ **Note 1:** To know more:  
[https://en.wikipedia.org/wiki/Geographic\\_information\\_system](https://en.wikipedia.org/wiki/Geographic_information_system)  
And comparative systems available:  
[https://en.wikipedia.org/wiki/Comparison\\_of\\_geographic\\_information\\_systems\\_software](https://en.wikipedia.org/wiki/Comparison_of_geographic_information_systems_software)
- ✓ **Note 2:** A geodatabase is also a database designed to store, query and manipulate geographic information and spatial data. It is also known as a spatial database and can be used in MPA zoning.

The final mapping is achieved through different information overlays that are integrated in order to achieve the best balance between conservation and use, thus meeting the objectives established for the area.

With this approach, zones can be delineated according to the analysis and relevance of key attributes. Where practicable, the use of overlay presentation is recommended in order to illustrate the associations between such factors as topography, biological communities and major uses. Attached maps can include e.g.

- Regional setting: location, boundaries, access;
- land/water tenure and jurisdiction;

- land topography and seabed bathymetry;
  - geology/sedimentology;
  - biology;
  - dominant habitats/biotopes;
  - major uses, user conflicts and threatened resources;
- ✓ **Note 1:** QGIS, a freeware and easy open GIS source tool is available at: <http://www.qgis.org/en/site/>
  - ✓ **Note 2:** A review of tools used to develop geodatabases and their use through GIS and spatial modelling is readily from several excellent sources of information, along with other decision support tools, e.g. The Ecosystem-based Management Tools Network: [www.ebm-tools.org](http://www.ebm-tools.org/) / <https://ebmtoolsdatabase.org>
  - ✓ **Note 3:** You can use satellite Images - Satellite images or Google earth **kmz data** concedes to allow you to see and compare areas, in order to understand and differentiate habitats, uses and transformations although more precise inland and coastal areas than sea and ocean. Free Download of Google earth: <https://www.google.com/earth/>

#### PHASE 8: Zoning - acts and activities regulations

There is a need that the zoning spatial analysis design made in the previous phase have a complementary regulation that will support the zoning map, This regulation will describe what uses are permitted, conditioned and forbidden in the PA according to the different levels of protection versus development defined in the PA zoning.

This Phase can be part of the PA Plan when Zoning is implemented but can also be a distinctive SOP in day-to-day PA management and operational master work. **SOP nº 2** will be dedicated to this.

#### PHASE 9: Operational Management Plan /Action Plan

A detailed MPA working annual operational plan should also be prepared. This should preferably be linked to the PA National authority annual budget and must provide a detailed step of the work to be carried out each year, a consequence of the whole Management Plan.

**Step 1:** Prepare a table where you list the PA objectives.

**Step 2:** Under each different objective (e.g. some more related to biodiversity and others to human activities), list actions taken from the matrix of PHASE 5: impacts, constraints, threats and opportunities. Remember that the ultimate goal is to define actions that will provide opportunities to overcome existing or potential impacts and threats. Using a participatory approach is the best way to prepare this list;

**Step 3:** Distinguish between repeated or on-going tasks and developmental or capital projects/actions;

**Step 4:** After the list is done, define priorities in terms of timeline and in budgetary terms;

**Step 5:** Define who will be coordinator or person responsible for the allocation of actions and budget – some can be internal, others from stakeholders, donor’s or other funding sources.

Example:

<b>OBJECTIVE</b>	<b>ACTIONS</b>	<b>RESPONSIBLE/ Partners</b>	<b>TIMESCALE/ Priorities</b>	<b>BUDGET and budget source</b>	<b>STATUS/ Observations</b>
What is the PA objective to be implemented	What actions must be completed to implement the objective	Who is responsible for the action	When must the action be completed	How much will it cost to implement the action.	Is the action underway, or will it be a new one. What constraints might occur
	(Take in consideration Values, Significance and Impacts and Opportunities defined in the Management Plan)	Internal  External – other Agencies, departments, stakeholders, donors...	Will it be achieved in short <3 years  In average 3 to 5 years or long run >5 years  Short-term actions must be clear, concrete, achievable within time and resource constraints, and prioritized.  Long-term recommendations should identify resource and policy changes needed for their implementation	Where will the funding come from	

### ✓ Financing the Plan

An adequate financial resource to fund the action plan and the MPA is essential. Generally is inherently a cross-sectoral governmental responsibility, sometimes top-up with Donors funding programmes. There are, however, other financing mechanisms available that can generate substantial increases in funding.

Alternative financing can include, apart from grants and donations from international and multinational organizations, grants from foundations, partnerships with non-governmental organizations, funds from the private sector, and user fees, among others. See overall information that could be adapted to SKN MPA reality:

<b>Financing mechanism</b>	<b>Source of revenue</b>
<b>Government revenue allocations</b>	
Direct allocations from government budgets	Government budget revenues; taxpayers
Government bonds and taxes earmarked for	Tax payers; investors who purchase bonds
<b>Grants and donations</b>	
Bilateral and multilateral donors	Donor agencies
Foundations	Individuals; corporations
Non-Governmental Organizations (NGOs)	NGO members and supporters
Private sector	Investors

Conservation trust funds	Multi-source
<b>Tourism revenues</b>	
Diving fees	Divers
Yachting fees	Yachting community
Tourism-related operations of protected area	Tourism operators; tourists
Voluntary contributions by tourists or tourism	Tourism operators; tourists
<b>Energy revenues</b>	
Right-of-way fees for oil and gas pipelines	Energy companies
Oil spill fines and funds	Energy companies
Voluntary contributions by energy companies	Energy companies
<b>Mining revenues</b>	
Royalties and fees from offshore mining	Mining companies
Voluntary contributions by offshore mining	Mining companies
<b>Fishing revenues</b>	
Tradable fishing quotas	Commercial fishers
Fish catch and services levies	Commercial fishers
Eco-labeling and product certification	Seafood producers, wholesalers, retailers
Fishing access payments	Governments; associations of and/or
Recreational fishing license fees and excise taxes	Recreational Fishers
Aquaculture permit fees	Aquaculture industry
<b>Marine transportation revenues</b>	
Oil spill fines and funds	Marine transportation industry
Voluntary contributions by marine	Marine transportation industry

*Examples of mechanisms for financing adapted from: Spergel, Barry, and Melissa Moye, 2004.*

## **PHASE 10: Monitoring and review (indicators)**

The purpose of this Phase is to define how the MPA Management Planning will be evaluated and if objectives are being met.

Once the Management Plan has been prepared and approved, and the operational action plans to guide its implementation are in place, staffs will be able to put the plan into practice, and committees, donors and stakeholders will proceed with implementation. Monitoring and review, with the use of indicators, will be used to follow Plan resources and efforts and to improve implementation or catch-up in actions falling behind.

This Phase involves data collection to assess progress in achieving the goals and the action plan by using performance indicators. This MPA management Phase needs to be based on clearly defined and easy to measure indicators, which in addition provide meaningful feedback.

✓ This is also an important moment, internally and externally, for stakeholders to deliver feedback on the plan's performance. See also PHASE 12 consultations and SOP#6.

In this process, you should describe any biological, environmental and/or usages monitoring programmes proposed for the site, and provide guidance on how they are to be used in reviewing the management plan. It may also be necessary to develop other monitoring programmes to be initiated during the life span of the current plan.

Some of the results from monitoring may eventually be included in the appendices; e. g.:

- *Research and monitoring programmes on the biological/ecological status;*

- *Plans and guidance for evaluating the effectiveness of the management to meet the goals and objectives of the MPA;*
  - *Plans for monitoring the usage, e.g. surveillance proposed to assess movement/activities of people, vessels and aircraft within and through the area, and other regulations;*
  - *Indicators used in the effectiveness evaluation, reasons for selecting them, and sources of information (e.g. existing monitoring programs and/or specifically designed surveys).*
- ✓ To achieve this, you have to:
- Define performance indicators
  - Undertake monitoring
  - Periodically assess results and report findings
  - Respond to conclusions and implement them

Ensure that the results are not forgotten buried in unread reports, but are made known, interpreted and communicated in an appropriate way to the right people, and used to make a positive difference to the PA management.

The success of implementation also relies on the support of protected area staff at all levels, who needs to see the assessment as a positive tool for them, rather than a personal interference in their work.

Choose from the following **checklist of indicators** the ones that can be used or adapted:

- Ecological integrity and natural values
- Abundance of species of fauna and flora
- Distribution of species of fauna and flora
- Area occupied by habitats
- Diversity of species of each habitat
- Coverage of habitat species
- Area of geosites or important geodiversity
- Area occupied by invasive species
- Number of new exotic species
- Area with adjustment measures against climate change
- Area with mitigation measures against climate change
- Area of cultural values
- Conservation state of cultural items
- Products that encompass artistic, aesthetic, symbolic and spiritual values
- Culturally productive industries, activities and practices
- Actions to promote cultural development and creativity
- Area of projects associated with approved economic activities
- Number of misconduct processes instituted
- Regional commodities
- Licensed fleet
- Ports/marinas in the neighborhood
- Number of licenses per fishing gear group for the licensed fleet; Quantity of fish caught by the licensed fleet
- Number of companies licensed for tourist, recreational and sport activities
- Number of visitors

- Number of nature conservation projects carried out
- Number of research projects carried out
- Number and reclaimed extractive areas
- Number of publications produced
- Technicians allocated to the protected area
- Rangers allocated to the protected area
- Expenditures in the PA
- Number of PA vessels/vehicles per type
- Fuel used with the PA vehicles
- External Information indicators
  - Interested parties and stakeholder public attendance at meetings of protected areas
  - Existence of protected area goals and objectives broadly agreed by stakeholders
  - Variety of means of communication (e.g., websites, forums, offices open to the public, social communication events, social media, etc.) for informing the public and receiving feedback on the policies and operations of the protected areas and their governing bodies
  - Amount and variety of information on the performance of the protected area
  - Number and range of stakeholders who take advantage of opportunities to engage in consultation and decision-making regarding protected areas
  - Level of satisfaction of stakeholders with the amount and quality of information provided on the performance of protected areas
  - Extent of participation of stakeholders in the generation, analysis and reporting of technical information and plans regarding protected areas
  - Appreciation of local knowledge and skills by the protected area governing bodies
- Governance Indicators
  - Extent of public acceptance and appreciation of protected areas
  - Number and proportion of stakeholders who consider that the protected areas effectively conserve the biodiversity, cultural heritage or landscape values and respect individual and collective rights
  - Level of stakeholders' satisfaction with their ability to have an active approach in policy-making and decision-making regarding protected areas
  - Number of water and natural resource-use conflicts resolved and unsolved
  - Instances of local peoples, women, youth and vulnerable groups, receiving support (financial resources, training, material, technical assistance) to improve their participation in MPA activities
  - Actions taken to empower vulnerable groups
  - Existence of a long-term strategic vision for the protected areas, coherently translated into clear conservation objectives
  - Frequency of governing bodies' decisions supported, overruled or contradicted by other bodies at lower or higher level or by those with overlapping jurisdictions
  - Existence of joint initiatives or protocols with other entities and actors at local, national and international levels; with private businesses on sectoral activities- health, employment, tourism, fisheries;
  - Degree to which the management objectives for the protected areas are being met
  - Degree to which the stated vision of the protected areas is being achieved
  - Evidence of positive change in protected area appreciation as a direct result of social communication and outreach activities
  - Evidence of unresolved complaints and public criticism
  - Existence of appropriate protected area infrastructures and resources

- Evidence of PA financial sustainability
- Proportion of annual budget allocated to fixed costs (e.g., salaries, rents) versus variable costs (e.g., supplies and equipment, travel expenses, revenue generating initiatives)
- Proportion of annual budget allocated to operating costs (e.g., salaries, rents supplies and equipment, travel expenses, revenue generating initiatives) versus capital costs (e.g., buildings, infrastructure)
- Proportion of annual revenue earned directly by the protected area (e.g., from fees and licenses, local services, exclusive grants, in-kind contributions)
- Existence and use of laws and regulations guaranteeing public access to information about the functioning and results of the protected area
- Existence of protected area evaluation quality procedures (e.g., for management effectiveness and governance quality)

### **PHASE 11: Decision to review and update the Management Plan**

One further step to be defined is the timeframe decision for reviewing or update of the Management Plan that can pass through an audit evaluation based on the monitoring implemented.

In many cases, the plan review will be bounded by legislation, national or in the PA Plan itself. Generally, this timeframe is of five or seven years.

Previous consultation and evaluation by stakeholders is a decisive Phase when making the decision to undertake the revision.

✓ **Note:** This process may take between 12 months to two years. Bear this in mind.

### **PHASE 12: Public consultation**

Formal public consultation includes the requirements of timely access to relevant and understandable information, as well as the opportunity to provide meaningful comments where significant decisions are being designed.

The principle of public participation also incorporates the prerequisite that comments made in the overall participation processes will be considered in decision making.

**Step 1:** Create a Stakeholder's database with names and contacts and best way to reach;

**Step 2:** As stated in the process, several focal consultations are needed. Remember and don't refrain from formally or informally contacting all relevant players of the PA management, during the whole process. Regardless of this, in the end, a formal phase to listen to all interested parties is a mandatory milestone.

Involving key stakeholders is essential for a number of reasons. Of these, the most important is because MPAs should aim to achieve multiple objectives (social, economic and ecological) and should therefore reflect as many expectations, opportunities or conflicts occurring in the area.

The scope and extent of stakeholder involvement differs greatly and is often culturally influenced. The level of stakeholder involvement will largely depend on the political or legal requirements for participation that already exists in SKN.

All individuals, groups or organizations that are in one way or another affected, involved or interested in marine and maritime issues can be considered stakeholders. However, involving too many stakeholders at the wrong moment or in the wrong form can be very time consuming and can distract you from the expected or anticipated result. To involve stakeholder's effectively (e.g., leading toward expected results) and efficiently (e.g., producing expected results at least-cost), you need to consider three important steps:

**Step 1.** Consider who should be involved; with the database, decide who is who

**Step 2.** Define timeframe and consider when stakeholders should be involved,

**Step 3.** Organize the process on how should stakeholders be involved

- ✓ Stakeholder empowerment will be most successful when your efforts start early on and continue throughout all subsequent steps of the process. Possible ways to empower stakeholders include:
  - *Distributing information to raise awareness of the possibility of participating;*
  - *Workshops for local communities to support understanding about MPAs and the effects (positive and negative) it may have on certain stakeholder groups;*
  - *Active Social media;*
  - *Training sessions for certain stakeholder to support the collection of necessary spatial data related to their activities so that they will be able to take a position when discussing MPA planning and management;*
  - *Education initiatives for stakeholder groups to develop and improve negotiation skills.*
  
- ✓ **Note:** Due to the importance of the topic, it will be considered an autonomous SOP. See SOP#6

### **PHASE 13: Revision of draft and deliver of PA final plan**

This Phase is needed when it is necessary to revise the draft PA Plan, considering the comments received from stakeholders and the public.

**Step 1:** Take into consideration all comments received – either in written form or being delivered in meetings;

**Step 2:** Check the considerations and comments and their importance and relevance. If appropriate, add the PA Plan under the proper chapter;

**Step 3:** Comments received will be included in a Consultation Summary Paper, annex to the Management Plan, or in a separate document.

- ✓ **Note:** This Summary Paper consultation report must detail how the comments received have been considered and indicate why some comments have not been used. This will help public and stakeholders to check if the Plan final version takes their comments on board.

## PHASE 14: Approval of plan and legal status

An important procedure in the PAs legislation is to define the legal status of the management plan once it has been approved. The plan should have sufficient legal force to provide the necessary powers to protected areas authority and staff to manage the area, including allocating budget and financial resources.

Giving the plan legal effect is also important to ensure that other sectors and levels of government are fully informed about the plan, respect the legal status of the plan, and undertake their activities in a manner consistent with the plan.

An approved management plan generally becomes the support for the PA Authority to exercise management, undertake actions and assume responsibilities necessary for effective plan implementation. These responsibilities and competencies include the authority to approve, prohibit or regulate activities in the protected area or in zoning, consistent with the plan.

Many elements of a management plan may not have regulatory content, for example, education, research, monitoring or outreach. However, elements related to the control of activities within the protected area or particular zones will necessarily have regulatory content and implications. This requires that the protected areas legislation be clear that the management plan has sufficient legal status to serve as a framework status to generate regulatory action.

The legal status of a management plan should also be sufficient to pursue compliance and enforcement measures in accordance with applicable existing law, and should be able to withstand judicial review.

This MPA enlarged view, gives added importance as a valuable tool for sustainable development. Such areas, when well designed and effectively managed generate benefits that may have direct and immediate economic and social value in addition to conservation value.

This procedural step involves the submission of the final plan for approval by the competent authority.

**Step 1:** Revise the whole process to check if all phases have been successfully closed.

**Step 2:** Arrange with senior executive the timetable for superior approvals and submission to members of Government.

**Step 3:** Check for formal legal publication after submission and approval by member of government and disseminate among personnel and external interested parties.

## Legislation

Nationally the following legislation applies:

Protected Areas Regulations, February 2017 (final draft)

Protected Areas Management Plan, February 2017 (final draft)

The Fisheries Act, 1984, namely part III

Fisheries Regulations, 1995, namely part VI, VII

Fisheries, Aquaculture and Marine Resources Act (FAMRA) 2016

The National Conservation and Environment Protection Act, 1987, namely part II, III (till is revoked)

National Conservation and Environmental Management Bill, NCEMB, final draft 2017, namely part IV, V, VII, IX, X, XIV.

- ✓ The NCEMB will be enhanced by the “Protected Areas Regulations” and the “Management Plan for the Protected Areas in St. Kitts and Nevis” also to be promulgated following the enactment of the legislation. These two guiding legal documents will be the legal operational framework that bound the PA Standard Operational Procedures and will replace the existing NCEPA. **Nevertheless, until it is replaced NCEPA is still legally in place.**
- ✓ Please note that when implementing each SOP, these acts/guidelines must be verified by current legislation (including enacted versions of the drafts referenced).
- ✓ Please note that the Fisheries, Aquaculture and Marine Resources Act (FAMRA) 2016, declared a 2 miles radius as Marine Managed Area and within it there are three Conservation Zones: Sandy Point, Keys and the Narrows, which are areas also defined by the UNDP Prodoc Biodiversity project for MPAs.

## References

Allan N. Williams. Land policy, administration and management St. Kitts and Nevis country experience. 2003

Arthurton, A. L. and K. McDonald. 2010. Establishing a socio-economic monitoring program for the Narrows to inform marine conservation and decision-making in St. Kitts and Nevis. Socio-economic monitoring by Caribbean fishery authorities. CERMES:

[https://www.cavehill.uwi.edu/cermes/docs/technical\\_reports/arthurton\\_2010\\_narrows\\_nevis\\_socmon\\_marine\\_conserv.aspx](https://www.cavehill.uwi.edu/cermes/docs/technical_reports/arthurton_2010_narrows_nevis_socmon_marine_conserv.aspx)

A Biodiversity Profile of St. Kitts and Nevis. Prepared by Bruce Horwith and Kevel Lindsay revisions by Bruce Potter edited by Judith Towle. Nevis Historical and Conservation Society St. Christopher Heritage Society. 1999

Barry Spergel and Melissa Moye. Center for Conservation Finance. Financing Marine Conservation. WWF. 2004

Caribbean Fisheries legal and institutional study: Findings of the comparative assessment and country reports. Cristina Leria. UN Food and Agriculture Organization. Barbados, 2016

Caribbean MPA mapping programme:

<http://campam.gcfi.org/CaribbeanMPA/CaribbeanMPA.php>

Christine Toppin-Allahar. Land Law and Agricultural Production in the Eastern Caribbean: A Regional Overview of Issues and Options. FAO 2013.

Coral Reef Report, Nature Conservancy:

[http://www.agrra.org/wp-content/uploads/2016/06/SKN-Report-Card\\_2016\\_WebLowRes.pdf](http://www.agrra.org/wp-content/uploads/2016/06/SKN-Report-Card_2016_WebLowRes.pdf)

Day J., Dudley N., Hockings M., Holmes G., Laffoley D., Stolton S. & S. Wells, 2012. *Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas*. IUCN.

Designing Marine Protected Areas for Coral Reef Connectivity:  
<http://blog.nature.org/science/2016/01/21/wiring-up-the-caribbean-designing-marine-protected-areas-for-coral-reef-connectivity/>

Ehler, Charles, and Fanny Douvère. Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. UNESCO. 2009

Environmental and Socioeconomic Baseline Studies. St. Kitts and Nevis Site Report for Central Forest Reserve, St. Kitts. The OECS Protected Areas and Associated Livelihoods (OPAAL) Project. Prepared by Island Resources Foundation. 2013

FAO Fishery Country profile:

<http://www.fao.org/fi/oldsite/FCP/en/kna/profile.htm>

Government of St. Christopher & Nevis, United Nations Convention on Biodiversity, fifth national report, 2014: <https://www.cbd.int/doc/world/kn/kn-nr-05-en.pdf>

Gross, John E., Woodley, Stephen, Welling, Leigh A., Watson, James E.M., eds. (2016). Adapting to Climate Change: Guidance for protected area managers and planners. Best Practice Protected Area Guidelines Series. IUCN.

Guidelines for the management of marine protected areas in the OSPAR maritime area: 2003-18. OSPAR Commission

Queeley Maritza. An analysis of fisher practices and attitudes towards marine resource management and regulations in St.Kitts and Nevis. World Maritime University Dissertations. 2016

Karen L. Eckert, Thomas D. Honebrink. 1992. Sea Turtle Recovery Action Plan for St. Kitts and Nevis, Southeast Peninsula Land Development and Conservation Board. Caribbean Environment Programme, United Nations Environment Programme:

[http://www.widecast.org/Resources/Docs/STRAP St Kitts Nevis 1992.pdf](http://www.widecast.org/Resources/Docs/STRAP_St_Kitts_Nevis_1992.pdf)

Lausche, Barbara. Guidelines for Protected Areas Legislation. IUCN, 2011

Management Plan for Central Forest Reserve National Park 2007-2011.Federation of St. Kitts and Nevis. The Organization of Eastern Caribbean States (OECS)

National Report on Integrating The Management of Watersheds and Coastal Areas in St. Kitts and Nevis. Department of Environment Ministry of Health and Environment.2001

National Environmental Summary. Federation of St. Kitts & Nevis. United Nations Environment Programme. 2010

Organization of Eastern Caribbean States Environment and Sustainable Development unit. Protected Areas Systems plan for St. Kitts and Nevis systems plan report. Eco report. 2010. Ecoengineering Caribbean limited:

[http://biological-diversity.info/Downloads/St.Kitts&Nevis\\_Systems\\_Plan\\_Body.pdf](http://biological-diversity.info/Downloads/St.Kitts&Nevis_Systems_Plan_Body.pdf)

Protected Area Management Plan for the Proposed Nevis Peak National Park and Camps River Watershed Area. Organization of Eastern Caribbean States (OECS) Secretariat Environment and Sustainable Development Unit. Prepared by Island Resources Foundation. 2009

Rehabilitation and Management of the Basseterre Valley as a Protection Measure for the Underlying Aquifer. Vol I,II. Prepared for the St. Kitts Water Department by The Ocean Earth Technologies Consortium. 2009

Robert S. Pomeroy, Kimberly Baldwin, Patrick McConney. Marine Spatial Planning in Asia and the Caribbean: Application and Implications for Fisheries and Marine Resource Management. 2014

Stacy-ann Robinson. Evaluation of the Current Status of Marine Protected Areas Management in the Caribbean. GOPA Gesellschaft für Organisation Planung und Ausbildung mbH. 2013

Seychelles' Protected Areas Policy. Ministry of Environment & Energy. 2013

Scientific considerations for designing marine reserves, Protected Planet Ocean.  
<http://www.protectplanetocan.org/somr/scientificConsiderations.html>

St. Christopher & Nevis National biodiversity strategy & action plan 2014-2020:  
<https://www.cbd.int/doc/world/kn/kn-nbsap-v2-en.pdf>

St. Kitts and Nevis National Maritime Policy and Action Plan, Department of Maritime Affairs, Ministry of Tourism and International Transport. Draft. 2013:

<http://intfish.info/wp-content/uploads/2015/09/skn-oceanpolicy.pdf>

Second National Communication Report, St. Christopher & Nevis. under the United Nations Framework Convention on Climate Change (UNFCCC). Droiterre Inc. and Associates, Legal & Environmental Consultants 2015

St. Kitts and Nevis National Maritime Policy and Action Plan. Final Draft January 2013. Department of Maritime Affairs.

The Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (WCR)- SPAW protocol:

<http://www.cep.unep.org/content/about-cep/spaw/development-of-guidelines-for-the-management-of-protected-areas-and-species/protected-areas/protected-area-guidelines/annotated-format-final-english.pdf/view>

Vera N. Agostini, Shawn W. Margles, Steven R. Schill, John E. Knowles, Ruth J. Blyther. 2010. Marine Zoning in Saint Kitts and Nevis, A Path Towards Sustainable Management of Marine Resources. The Nature Conservancy

[http://www.marineplanning.org/pdf/StKitts\\_Nevis\\_Full\\_Report.pdf](http://www.marineplanning.org/pdf/StKitts_Nevis_Full_Report.pdf)

UNDP PRODOC 2014. Conserving Biodiversity and reducing habitat degradation in Protected Areas and their areas of influence in St. Kitts and Nevis

<https://info.undp.org/docs/pdc/Documents/KNA/UNDP%20Prodoc%20-%20St%20%20Kitts%20%20Nevis%20-%206%20Aug%202014%20FINAL.pdf>

United Nations Conference on sustainable development (Rio+20) National preparatory process St. Kitts and Nevis, stocktaking report:

<https://sustainabledevelopment.un.org/content/documents/1029skn.pdf>