



MSP Initiative Update

Seychelles Marine Spatial Planning Initiative

13 January 2015

UNDP-GEF-GoS Protected Area workshop

Joanna Smith, PhD

TNC Canada



Seychelles Marine Spatial Planning Initiative
www.seychellesmarinespatialplanning.com

Multi-objective Marine Planning

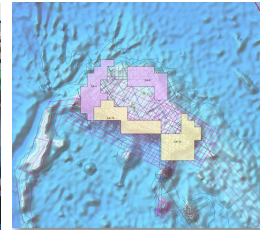
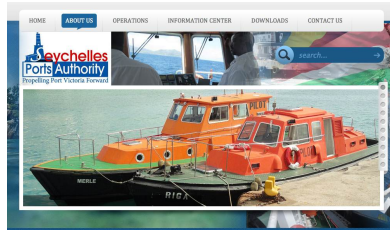
Zone A – Food Security & Fisheries (incl. Fisheries Replenishment)

Zone B – Biodiversity

Zone C – Industrial and Public Utility

Zone D – Non-Renewable Resources

Zone E – Tourism & Recreation



Timeline to Complete Phase 1

January

Steering Committee #3 meeting to review “strawdog” (Zones A, C, D, E)

February

Zoning workshop for TNC Technical Team to develop Map 1.0

Joint SC and TWG meeting to review **Map 1.0**

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Incorporate feedback and produce Map 2.0

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Joint SC and TWG meeting to review **Map 3.0**

Cabinet Review of Map 3.0

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Incorporate feedback and produce Map 4.0

June

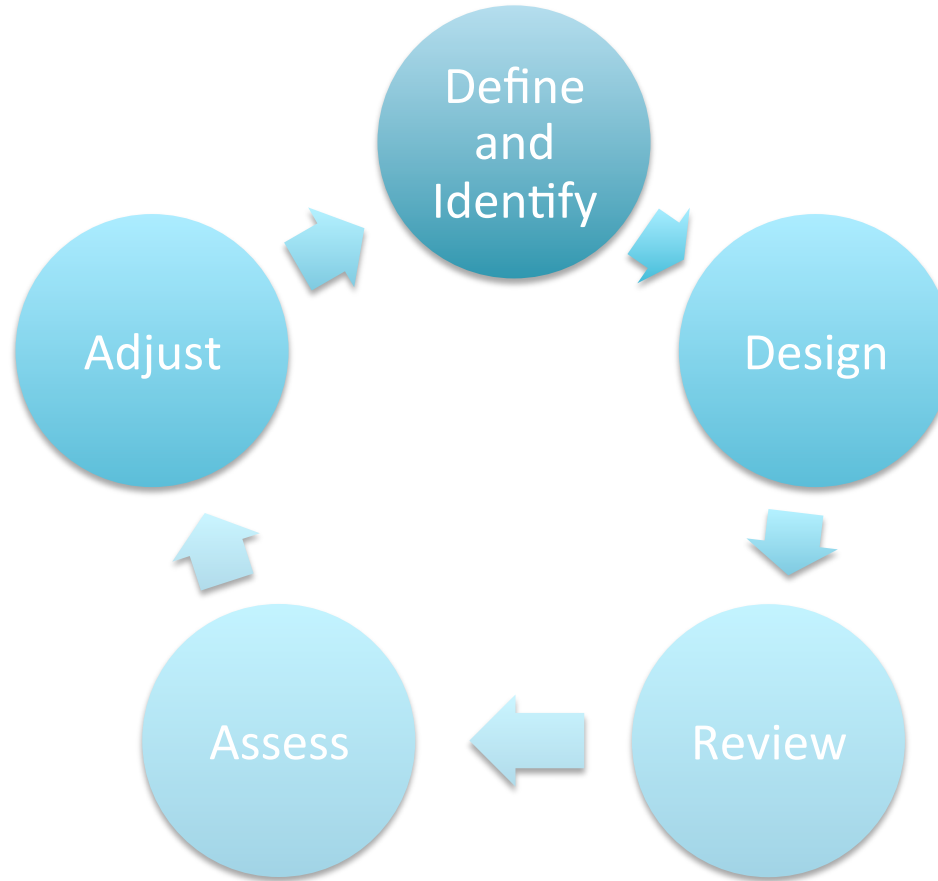
SC meeting to review **Map 4.0**

Cabinet Meeting: Present Map 4.0

MSP Final Report to MEE



Process Overview



Zoning Process (WS#2 May 2014)

FEb 2014
to
Aug 2014

1. Review existing plans, literature, guidelines
2. Review global “lessons learned”
3. Gather and review data layers
4. Zoning process
5. Scale and scope
6. Objectives
7. Approach, types and names
8. Criteria for defining the spatial extents
9. Develop spatial and non-spatial tools
10. Analyse information and data
11. Draft zones and develop zoning map
12. Draft management objectives and direction

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Developing a Zoning Design

- List the spatial information to inform zoning
- Identify the advice shared about specific places
- Discuss scale for zoning
- Develop methodology to approach zoning design by Planning Unit
- Process GeoMarks for zoning:
 - Zone boundary definition vs. management considerations



Developing a Zoning Design

- Use GeoMarks and other spatial info to Identify Planning Units for use in defining zone boundaries
 - Identify GeoMarks related to special management considerations in specific areas. These are to be called “Zone Specific Management Areas”.
- Process Advice logs for zoning
- Incorporate UNDP – GEF Protected Area Marxan outputs and advice
- QA/QC for all spatial data in the GIS product
- Develop a strawdog design
 - Create an integrated spatial data set that depicts, for any given location (planning unit), the different zone types that were identified as priorities for that location. This is expressed as a map that displays the unique combinations of potential zones that were discussed for any given location.



Zone design - > “map”

- Goal is for non-overlapping zones
- Prepare options with pros and cons
- Future: Trade-off analysis
- Management considerations
- Recommended Uses for each Zone location

Compatibility Matrix

version 4.0 Date: 8 Jan 2015
 This draft has not been approved by the Seychelles MSP Initiative.
 New cell numbers - January 2015

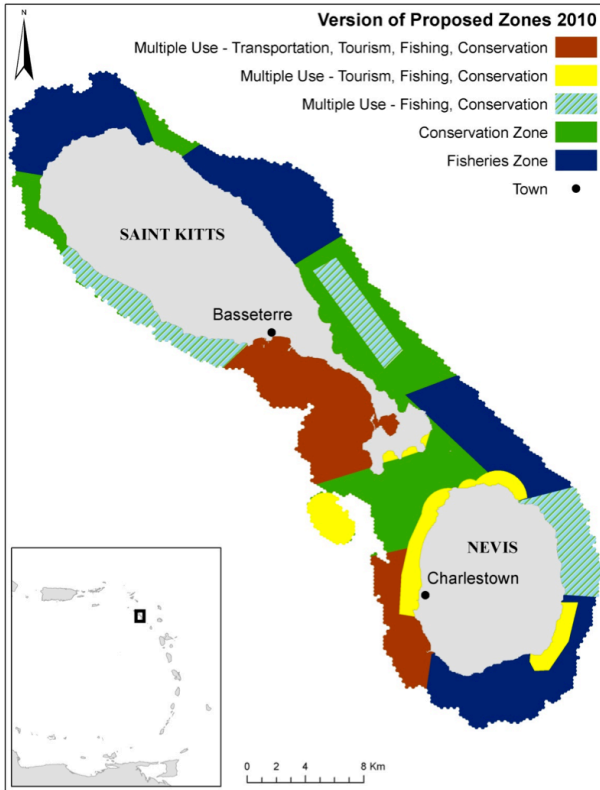
ID	Zones and Suggested Names	Targeted Uses in each zone (f = future) (* = added use, Nov/Dec)	A	B	C	D	F	E	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	
			Artisanal	Industrial tuna	Mariculture	Semi-industrial	Fisheries Replenishment	Biodiversity	Strict Nature Reserve (IUCN Ia)	Ecological Reserve (IUCN IV)	National Park (IUCN II)	Protected Landscape/Seascope (IUCN V)	Sustainable Use Area (IUCN VI)	Disposal-at-sea Sites	Ferries	Ports, Harbours, Marinas	Reclamation	Renewable Energy: wind	Shipping: International	Minerals and Aggregates	Natural Gas Exploration	Shipping: Petroleum	Petroleum Exploration: seismic	Petroleum extraction	Recreation (motorised)	Recreation (non-motorised)	Seychelles Culture	Sport fishing	Tourism (motorised)	Tourism (non-motorised)	
1	A - Food Security & Fishing	Artisanal																													
2	A - Food Security & Fishing	Industrial tuna	1																												
3	A - Food Security & Fishing	Mariculture	2	28																											
4	A - Food Security & Fishing	Semi-industrial	3	29	54																										
5	A - Food Security & Fishing	Fisheries replenishment	4	30	55	79																									
6	B - Biodiversity	Biodiversity protection	5	31	56	80	103																								
7	B - Biodiversity	Strict Nature Reserve (IUCN Ia)	6	32	57	81	104																								
8	B - Biodiversity	Ecological Reserve (IUCN IV)	7	33	58	82	105																								
9	B - Biodiversity	National Park (IUCN II)	8	34	59	83	106																								
10	B - Biodiversity	Protected Landscape/Seascope (IUCN V)	9	35	60	84	107																								
11	B - Biodiversity	Sustainable Use Area (IUCN VI)	10	36	61	85	108																								
12	C - Industrial & Public Utility	Disposal-at-sea Sites	11	37	62	86	109	126	143	160	177	194	211																		
13	C - Industrial & Public Utility	Ferries	12	38	63	87	110	127	144	161	178	195	212	228																	
14	C - Industrial & Public Utility	Ports, Harbours, Marinas	13	39	64	88	111	128	145	162	179	196	213	229	244																
15	C - Industrial & Public Utility	Reclamation	14	40	65	89	112	129	146	163	180	197	214	230	245	259															
16	C - Industrial & Public Utility	Renewable Energy: wind (f)	15	41	66	90	113	130	147	164	181	198	215	231	246	260	273														
17	C - Industrial & Public Utility	Shipping: International	16	42	67	91	114	131	148	165	182	199	216	232	247	261	274	286													
18	D - Non-renewable Resources	Mining: Minerals and Aggregates (f)	17	43	68	92	115	132	149	166	183	200	217	233	248	262	275	287	298												
19	D - Non-renewable Resources	Natural Gas Development (f)	18	44	69	93	116	133	150	167	184	201	218	234	249	263	276	288	299	309											
20	D - Non-renewable Resources	Shipping: Petroleum (f)	19	45	70	94	117	134	151	168	185	202	219	235	250	264	277	289	300	310	319										
21	D - Non-renewable Resources	Petroleum Exploration: seismic*	20	46	71	95	118	135	152	169	186	203	220	236	251	265	278	290	301	311	320	328									
22	D - Non-renewable Resources	Petroleum Development (f)	21	47	72	96	119	136	153	170	187	204	221	237	252	266	279	291	302	312	321	329	336								
23	E - Tourism & Recreation	Recreation (motorised)	22	48	73	97	120	137	154	171	188	205	222	238	253	267	280	292	303	313	322	330	337	343							
24	E - Tourism & Recreation	Recreation (non-motorised)*	23	49	74	98	121	138	155	172	189	206	223	239	254	268	281	293	304	314	323	331	338	344	349						
25	E - Tourism & Recreation	Seychelles Culture	24	50	75	99	122	139	156	173	190	207	224	240	255	269	282	294	305	315	324	332	339	345	350	354					
26	E - Tourism & Recreation	Sport fishing	25	51	76	100	123	140	157	174	191	208	225	241	256	270	283	295	306	316	325	333	340	346	351	355	358				
27	E - Tourism & Recreation	Tourism (motorised)	26	52	77	101	124	141	158	175	192	209	226	242	257	271	284	296	307	317	326	334	341	347	352	356	359	361			
28	E - Tourism & Recreation	Tourism (non-motorised)*	27	53	78	102	125	142	159	176	193	210	227	243	258	272	285	297	308	318	327	335	342	348	353	357	360	362	363		



GLOBAL ENVIRONMENT FACILITY
 INVESTING IN OUR PLANET

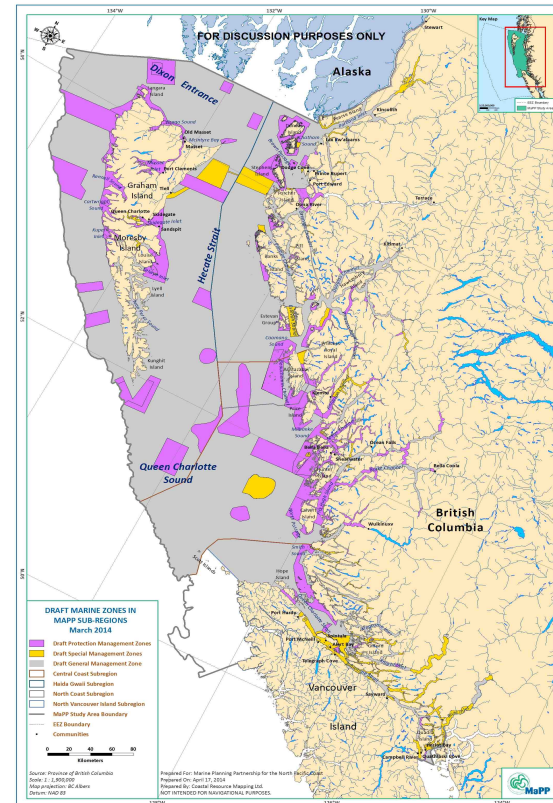
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Zoning Examples



St. Kitts and Nevis, Caribbean

Source: Agostini et al. 2014



North Coast British Columbia, Canada

Source: Marine Planning Partnership 2014

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Zone A

Food Security and Fisheries

Primary objective: allocate space and guarantee access for food security, foreign exchange earning and income generation from fisheries

Targeted Uses: Fishing: industrial, semi-industrial, artisanal, aquaculture

Data Layers

- Fisheries restricted zones (for industrial fishing)
- Lobster fishing areas around islands – Inner Islands
- Sea cucumber survey
- Sea cucumber dive sites
- SFA Industrial longline 2003-2012
- SFA Industrial purse seine 2003-2012
- VMS Artisanal local vessel 2009-2013 (-2010)
- VMS Semi-industrial fishing 2009-2013
- SFA Potential Aquaculture Farms
- Social Survey for Density of fishing effort (gear, season, where)
- GeoMarks from WS3 and TWG2



Photo: Safety4sea.com



Photo: wikipedia.com

Zone B

Biodiversity Zone

Primary objective: allocate space for conserving marine biological diversity and ecological processes - genes, species, populations and habitats .

Secondary objective: plan for climate change adaptation.

Targeted Uses: Biodiversity, cultural heritage, subsistence fisheries.

Data Layers

- GOS-UNDP-GEF Protected Area work
- GeoMarks
- Stakeholder Advice



Photo: Tony Baskeyfield

Zone C

Infrastructure Zone

Primary objective: allocate space for permanent and necessary marine infrastructure, defense, and public utilities that support people and marine economic activities in the Seychelles

Targeted Uses: disposal sites, ferries, maritime telecommunications, waste management

Considerations:

- Port of Victoria
- Reclamation areas Mahe
- GeoMarks from WS3 and TWG2
- Halpern 2008 shipping data
- Areas to be Avoided for IMO shipping, British Admiralty Chart No. 721

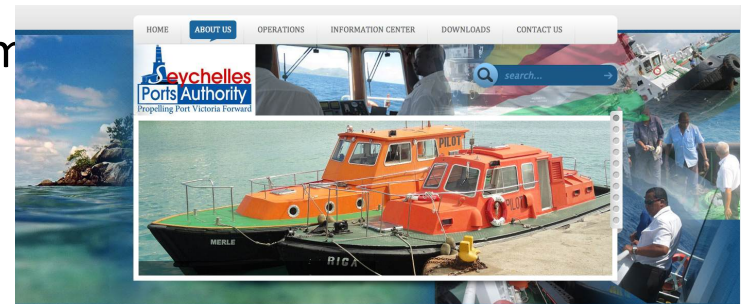


Photo: Seychelles Port Authority

Zone D

Non-renewable Zone

Primary objective: allocate space (identify the footprint) for non-renewable developments such as petroleum, natural gas and mining

Targeted Uses: petroleum exploration (future), mining – minerals and aggregates, natural gas (future)

Data Layers

- Licensed Blocks (including new in 2014)
- Restricted Area (on Mahe Plateau)
- Seismic Surveys
- PetroSeychelles Technical Atlas Low Gravity areas, page 11
- Well locations from previous drilling
- Km of seismic by Planning Unit (Rick)

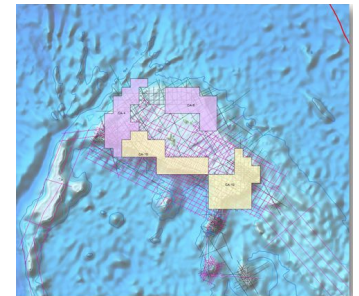


Photo: Petro Seychelles

Zone E

Tourism and Recreation

Primary objective: allocate space to maximise opportunities for tourism, recreation and appreciation of culture.

Targeted Uses: Coastal accommodation, fishing: recreation and sport, public recreation, Seychelles culture, tourism

Considerations:

- Dangerous swimming beaches (surfing)
- Anchorages
- Hotels
- Hotels classified by size (# of beds)(Rick)
- Beaches (swimming)
- Distance from hotels (Rick)
- Distance from beaches (Rick)
- Distance from dive sites (Rick)
- Distance from Areas of Outstanding Beauty (Rick)
- Distance from coastline (Rick)
- Areas of outstanding beauty (terrestrial)
- View Points
- GeoMarks from WS3 and TWG2



Photo: Frontiers Travel



Photo: JustSeychelles.com



Questions and Discussion

