

5-S Example – “Atlantic Ocean Beaches and Bays, New York”

Step 1 -- Systems: This step has 3 parts: a) identifying the stewardship targets and the natural processes that maintain/support them, b) ranking the ‘viability’ of the target based on the spatial extent, condition and other factors, and c) using these ranks to assess the overall “biodiversity health” of the site.

A. Identify conservation targets:

Project Scope and Targets	
Project:	Atlantic Ocean Beaches & Bays (NY)
Ecoregion(s):	North Atlantic Coast
Conservation Targets	1: Island Marshes: Island Marshes include the islands of marsh in the lagoons plus the salt marshes associated with the bayside of the barrier islands.
	2: Mainland Marshes: Mainland Marshes are the marshes associated with the "mainland", the south shore of Long Island proper.
	3: Eelgrass
	4: Hard Clams
	5: Beach Dependent Species: Beach Dependent Species are those plants and animals which are limited to primary dunes and area seaward of the dunes. Nested targets include: Piping plovers, least terns, common terns, roseate terns, black skimmer, oyster catchers, 'Amaranthus pumilus, Plygonum
	6: Barrier Islands and Lagoons: Nested targets include Mud and sand flats and shoals

5-S Example – “Atlantic Ocean Beaches and Bays, New York”

B & C. Assess the viability (health) of the targets and the overall health of the site.

Conservation Target	Category	Key Attribute	Indicator	Indicator Ratings				Current Rating
				Poor	Fair	Good	Very Good	
5 Beach Dependent Species	Landscape Context	Essential habitat	Distribution of naturally occurring early successional beach habitat	Extremely limited distribution of naturally occurring early successional beach habitat	Distribution of naturally occurring early successional beach habitat is restricted	Widely distributed , naturally occurring early succession al beach habitat	Shoreline is predominately naturally occurring early successional beach habitat	Good
5 Beach Dependent Species	Landscape Context	Habitat suitability	Accessibility to prey by plover chicks	Chicks unable to forage sufficiently at dawn and dusk	Chicks frequently unable to forage at dawn and dusk	<i>Chicks always able to forage at dawn and dusk</i>	Chicks able to forage at all times	Fair
5 Beach Dependent Species	Landscape Context	Habitat suitability	Disturbance frequency of upper beach habitat	Very frequent disturbance of upper beach habitat	Frequent disturbance of upper beach habitat	<i>Irregular disturbance frequency of upper beach habitat</i>	Low disturbance frequency of upper beach habitat	Fair

5-S Example – “Atlantic Ocean Beaches and Bays, New York”

Step 2 -- Stresses: This step involves identifying the stresses affecting each of the focal targets identified in Step 1 and then ranking the stressors, based on the best available info and judgment.

Stresses and stress ranks for the “beach dependent species” target

Stresses - Altered Key Ecological Attributes		Severity	Scope	Stress
1	Disturbance and harassment	High	High	High
2	Lack of connectivity between nesting and preferred foraging habitats	Medium	Very High	Medium
3	Extraordinary predation	High	High	High
4	Direct take	Low	Low	Low
5	Reduced foraging time	Low	High	Low
6	Lack of preferred foraging habitat	Medium	High	Medium
7	Habitat destruction or conversion	Very High	High	High

5-S Example – “Atlantic Ocean Beaches and Bays, New York”

Step 3 – Sources: This step has several parts: a) identify the sources of the stresses identified in Step 2 and then rank them by their degree of contribution to the stress and the irreversibility of the stress caused by that source; b) combine that information with the stress rankings to generate a list of critical threats. The critical threats are then ranked to generate a list of the 8 highest threats.

A. Identify the sources contributing to each threat and rank their contribution.

Threats - Sources of Stress		Disturbance and harassment	Lack of connectivity between habitats	Extraordinary predation	Direct take	Reduced foraging time	Lack of preferred foraging habitat	Habitat destruction or conversion	Threat to System Rank
5	Beach Dependent Species	High	Medium	High	Low	Low	Medium	High	
1	Incompatible recreation	Contribution	Very High						High
		Irreversibility	High						
		Override							
		Source	Very High	-	-	-	-	-	
	Combined Rank	High	-	-	-	-	-		
2	Shoreline armoring	Contribution					High	Medium	Medium
		Irreversibility					High	High	
		Override							
		Source	-	-	-	-	-	High	
	Combined Rank	-	-	-	-	Medium	Medium		
3	Shoreline stabilization	Contribution					High		Medium
		Irreversibility					High		
		Override							
		Source	-	-	-	-	-	High	
	Combined Rank	-	-	-	-	Medium	-		
4	Incompatible development	Contribution						Very High	High
		Irreversibility						High	
		Override							
		Source	-	-	-	-	-	-	

5-S Example – “Atlantic Ocean Beaches and Bays, New York”

B. Combine the stress and source rankings to develop a threat ranking for each conservation target, then combine the threat rankings across each target to develop an overall threat ranking and a threat status for the entire site.

Threats Across Systems		Island Marshes	Mainland Marshes	Eelgrass	Hard Clams	Beach Dependent Species	Barrier Islands and Lagoons	Overall Threat Rank
1	Incompatible development	Medium	Very High	-	-	High	-	High
2	Shoreline armoring	High	Very High	-	-	Medium	-	High
3	Phragmites	High	Very High	-	-	-	-	High
4	Predation	-	-	-	Very High	-	-	High
5	Fishing (Direct take)	-	-	-	Very High	-	-	High
6	Mosquito control ditching	High	High	-	-	-	-	High
7	Shoreline stabilization	High	-	-	-	Medium	-	Medium
8	Nuisance Algal Blooms	-	-	-	High	-	-	Medium
9	Mining of tidal deltas	High	-	-	-	-	-	Medium
10	Incompatible recreation	-	-	-	-	High	-	Medium
11	Predators	-	-	-	-	High	-	Medium
12	Off-road vehicles	-	-	-	-	High	-	Medium
13	Boat wakes	Medium	Medium	-	-	-	-	Medium
14	Navigational dredging	Medium	Medium	-	-	-	-	Medium
15	Mosquito control spraying	Medium	Medium	-	-	-	-	Medium
16	Global warming	Low	Medium	-	-	-	-	Low
Threat Status for Targets and Site		High	Very High	-	Very High	High	-	Very High

5-S Example – “Atlantic Ocean Beaches and Bays, New York”

Step IV—Strategies: Brainstorm a variety of specific strategies (management actions) that could be used to abate each threat identified in Step 3. A “situational assessment” compiling information on the human communities is done and used to develop and assess strategies. The strategies are then ranked based on a cost: benefit assessment, feasibility and probability of success (using TNC’s Excel spreadsheet tool) & an action plan is made.

#	Objectives, Strategic Actions and Action Steps
Objective:	(No net loss or maintain xx%) of native upland buffer vegetation within 50m of mainland shoreline by 2010
Strategic action:	Establish Baseline
Strategic action:	Designate "significant ecological areas"(adjacent areas to tidal wetlands where they have the potential to migrate in response to sea level rise)where State, County or Towns will purchase buffer lands & easements
Action step #1	Help Towns develop incentives and strategies for taking advantage of opportunities when properties change hands
Action step #2	Identify parcels in priority areas(vacant parcels, underdeveloped parcels," un-development" opportunities & repetitive loss structures?
Action step #3	Identify priority areas--tidal wetlands(appropriate slope and space) that have the ability to migrate in response to sea level rise
Action step #4	Provide model easements and help secure funds
Strategic action:	Review NYS tidal wetland regulations to identify ways to protect buffer
Objective:	Maintain island marsh acreage and outside perimeters
Strategic action:	Control boat wakes in vicinity of island marshes
Action step #1	Develop wake rules and post them
Action step #2	Increase enforcement
Objective:	No net increase of shoreline armoring above 2004 levels by 2006 and a net decrease of 5% by 2014 (bulkheads, seawalls, docks)
Strategic action:	Upgrade town codes and improve enforcement
Action step #1	Hold a series of ongoing professional workshops for Town decision makers