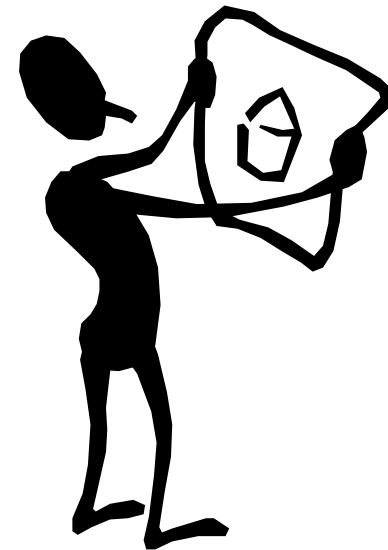# ERP Planning Framework

Selecting conservation areas

Combination of 3 Methods:

- ❖ Marxan modeling software

- ❖ Non-Marxan 'Common Sense' method

- ❖ Relative Biodiversity Index

Selecting conservation areas

Marxan

Marxan is a DOS-based optimisation computer software model developed to facilitate the design of marine protected areas

(Ball & Possingham 2000)

http://www.ecology.uq.edu.au/index.html?page=27710

Runs – 100
Iterations – 10,000,000
BLM – 0.05
Cost – Surface mean
(260-1300)

SPF – fixed at 1
Status of Planning Units – none locked in
Goal – **Independent goals**

The Nature
Conservancy
SAVING THE LAST GREAT PLACES ON EARTH
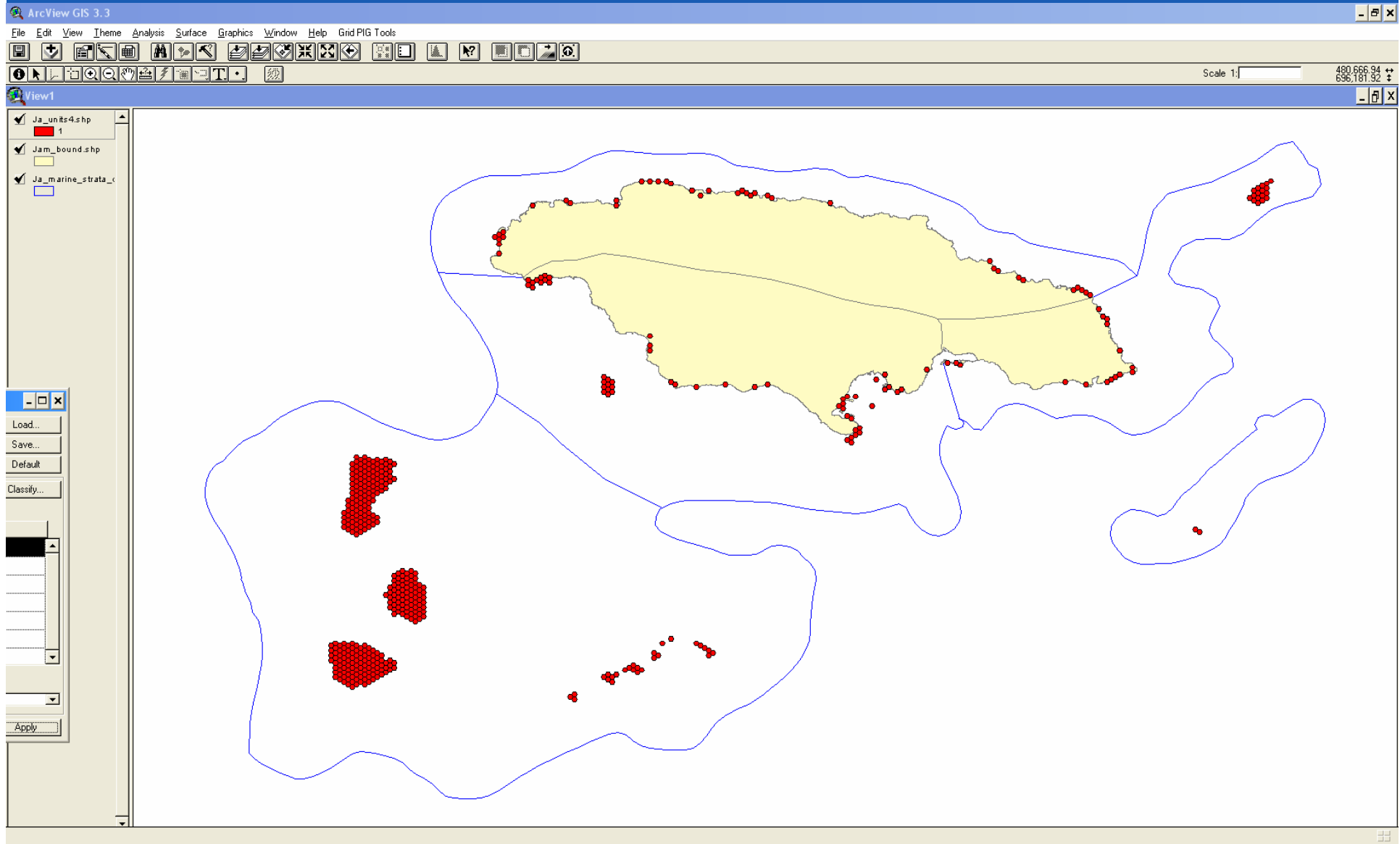
Non-Marxan 'Common sense' model

❖ Pre-selected areas prioritised based on explicit criteria: biological significance, threat intensity and conservation feasibility

Best Fishes

Criteria for Conservation Priority

CRITERIA	MEASURES	
Relative Biological Significance (High, Medium)	targets relative to total target # in Marine Stratification Unit), Endangered Species (P/A of Manatees), Source Area (P/A of Seabird Nesting & Roosting Areas & Turtle Nesting Beaches)	} OVERALL BIODIVERSITY VALUE
Relative Threat Intensity (High, Medium, Low)	P/A of mapped threats (by Threat Category) within Areas of Biodiversity Significance (ABSs)	
Conservation Feasibility (3,2,1,0)	3 - ABS is contained within or intersects a Protected Area; 2 - ABS is contained within or intersects a Game Reserve; 1 - ABS is contained within or intersects a Proposed Protected Area or has some protective legislation ; 0 - no PA status	

Areas of Biodiversity Significance (ABSs)

❖16 areas (mainland Jamaica and 2 offshore banks – Pedro & Morant)

❖ Areas determined based on marine biodiversity 'hot spots' (concentrations of multiple target occurences)

❖ Areas were reviewed and accepted by local experts at JERP workshop, October 2004 – Areas of Significant Biodiversity (ABS)
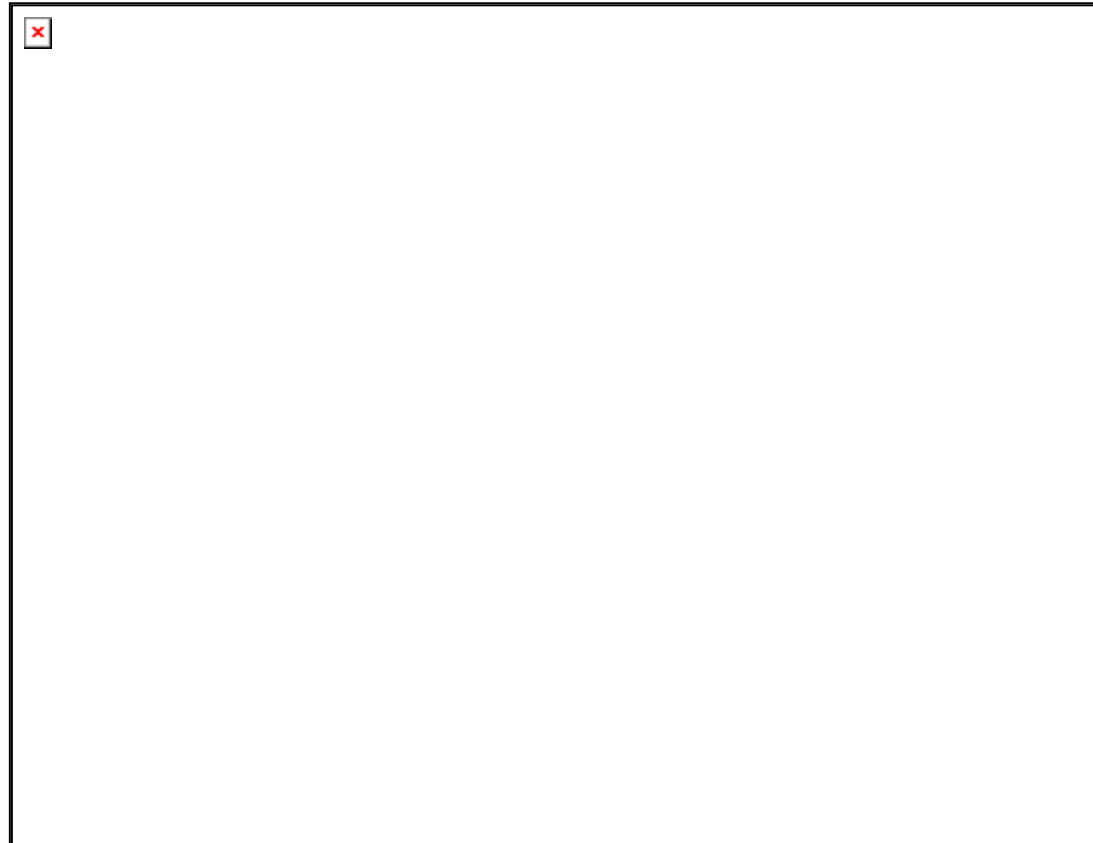
Draft Prioritisation Results

| ABS #	Area of Biodiversity Significance (ABS)	Marine Stratification Unit (MSU)	Relative Biological Significance	Relative Threat Intensity	Overall Biodiversity Value	Conservation Feasibility	Conservation Priority
1	Negril	Northern	High	Medium	High	3	High
2	Falmouth/Duncans (including Lili's Rock, Stewart Bay)	Northern	High	Medium	High	2	Medium
3	Montego Bay/Reading area	Northern	Medium	High	Medium to Low	3	Medium
4	Ironshore/Rose Hall area	Northern	Medium	Medium	Medium	0	Low
5	Discovery Bay/Pear Tree	Northern	High	Medium	High	1	Medium
6	West of Port Maria and Pagee to Robin's Bay	Northern	Medium	Low	Medium	0	Low
7	Trident Wall to Boston Bay	Northern	High	Medium	High	1	High
8	Western Kingston Harbour and Port Royal Cays	Southern	High	High	Medium	3	High
9	Portland Bight coastal area (including Canoe Valley, Hellshire Bay and Manatee Bay)	Southern	High	High	Medium	3	High
10	Coastal Black River (to Scotts Cove) and Treasure Beach	Southern	High	Medium	High	2	High
11	Alligator Pond Area	Southern	High	High	Medium	2	Medium
12	Sav la Mar area (including Cabarita)	Southern	Medium	Medium	Medium	0	Low

HIGH

MEDIUM

MEDIUM-LOW

Conservation Feasibility

CONSERVATION FEASIBILITY OF AREAS OF BIODIVERSITY SIGNIFICANCE (ABS).			
ID #	Area of Biodiversity Significance (ABS)	Marine Stratification Unit (MSU)	Conservation Feasibility
1	Negril	Northern	3
2	Falmouth/Duncans (including Lili's Rock, Stewart Bay)	Northern	2
3	Montego Bay/Reading area	Northern	3
4	Ironshore/Rose Hall area	Northern	0
5	Discovery Bay/Pear Tree	Northern	1
6	West of Port Maria and Pagee to Robin's Bay	Northern	0
7	Trident Wall to Boston Bay	Northern	1
8	Western Kingston Harbour and Port Royal Cays	Southern/Eastern	3
	Portland Bight coastal area		

🟢 HIGH
🟡 MEDIUM
🔴 LOW