

APPLYING A NEW DSS TOOL IN COLOMBIA: CREATING DEFENSIBLE OFFSITE MITIGATION OPTIONS



NatureServe
A Network Connecting Science With Conservation

Large investment projects in LAC

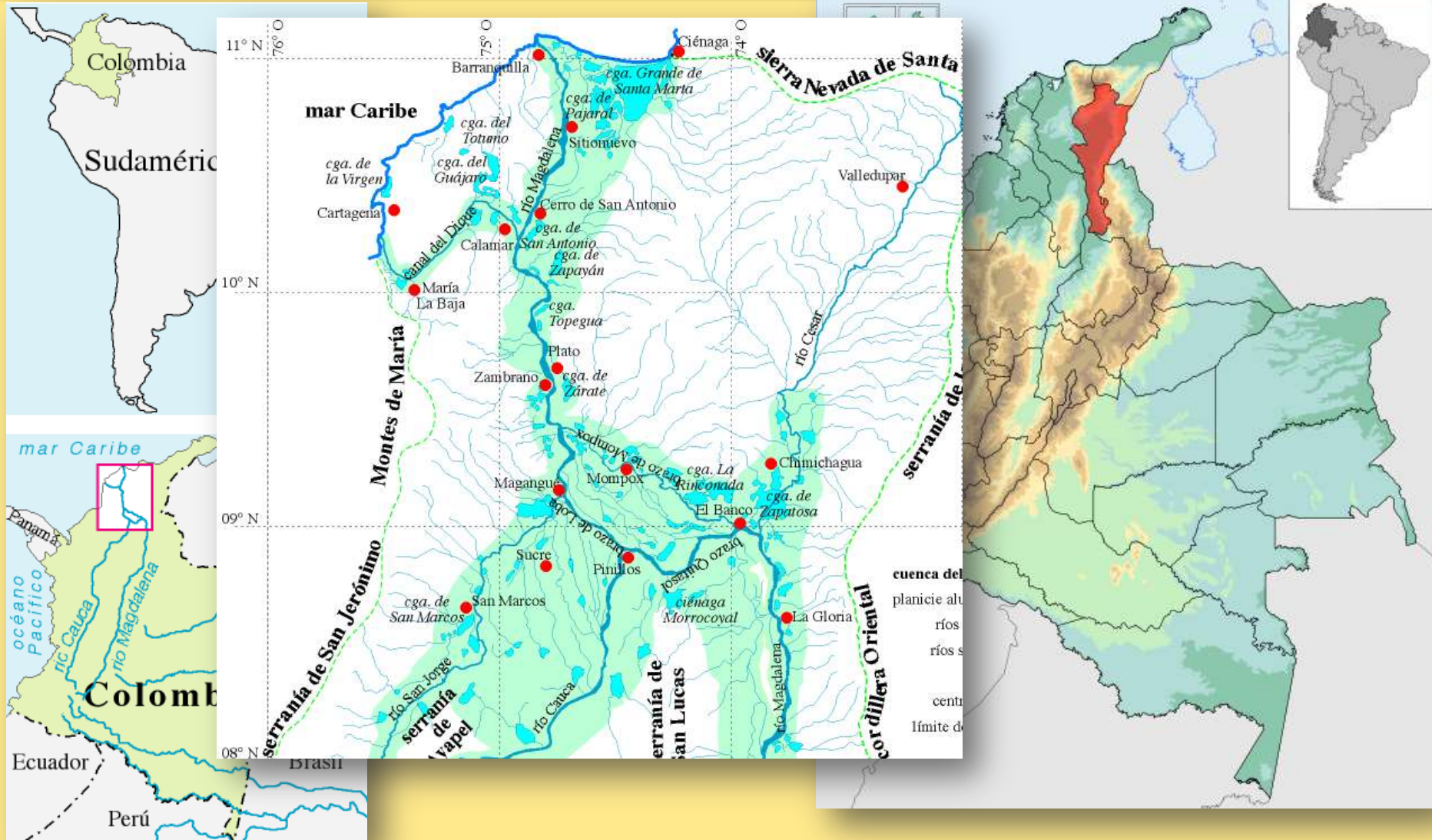


Consortium

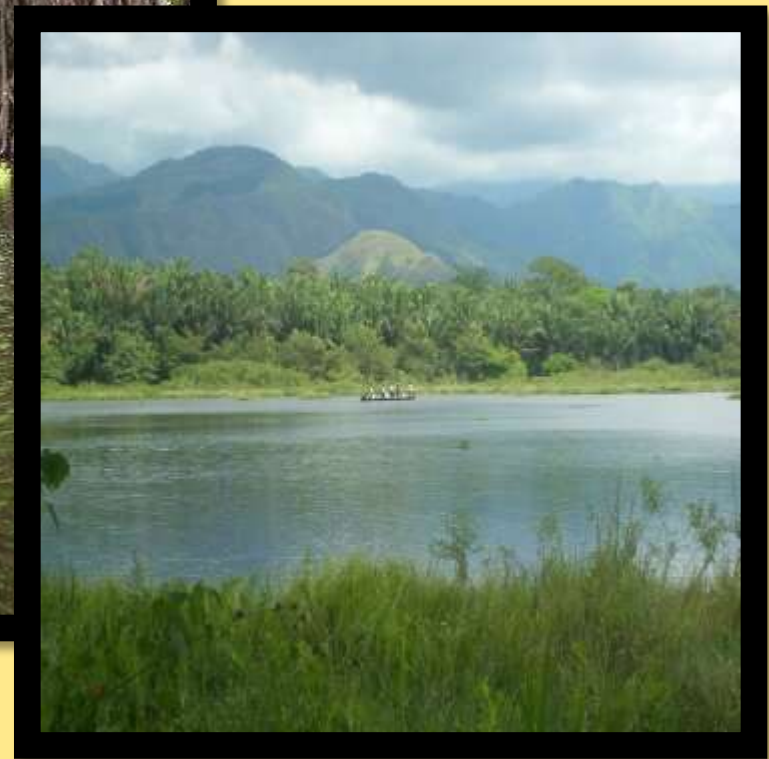
- The Nature Conservancy, Colombia
- Colombian Ministry of Environment, Housing and Development
- Alexander von Humboldt Institute
 - Conservation International
 - World Wildlife Fund



Cesar & la Ciénaga de Zapatos



La Ciénaga de Zapatoza



Coal Mining

Nacional | 27 Mar 2008 - 8:00 am

En el Cesar estará la mina de carbón más grande del mundo

El ministro del Medio Ambiente, Vivienda y Desarrollo, Juan Lozano Ramírez, dio vía libre a la multinacional minera norteamericana Drummond para la explotación de los yacimientos de 'El Descanso Norte', en jurisdicción de La Loma, Cesar.



Tools

NatureServe Vista
Mitigation Query Tool
Marxan

Colombia Eco-regional Assessment Workflow

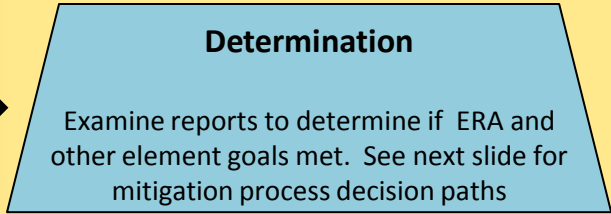
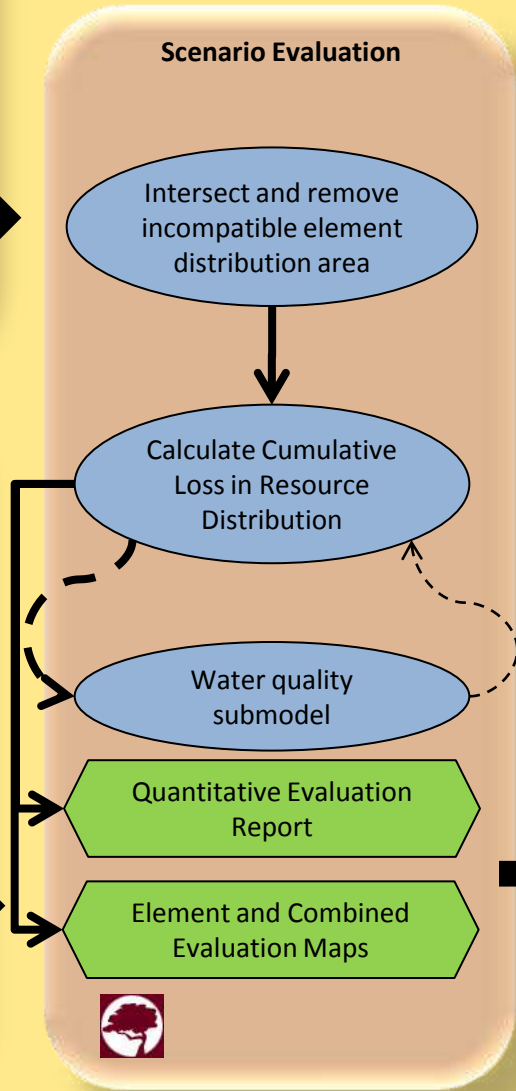
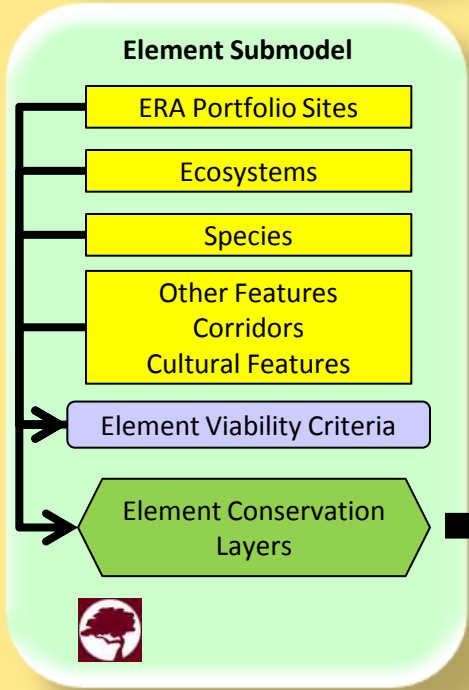
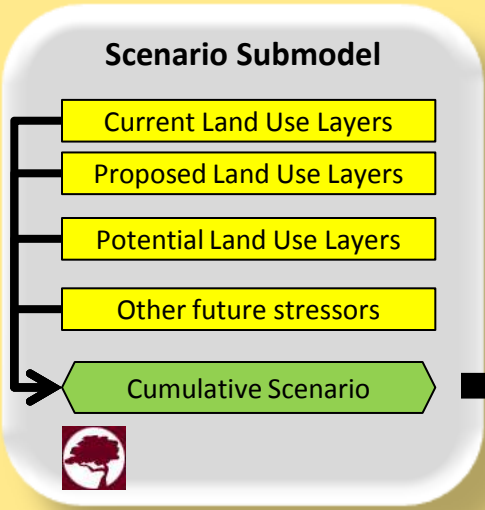
Spatial Data Input

Analytical Operation

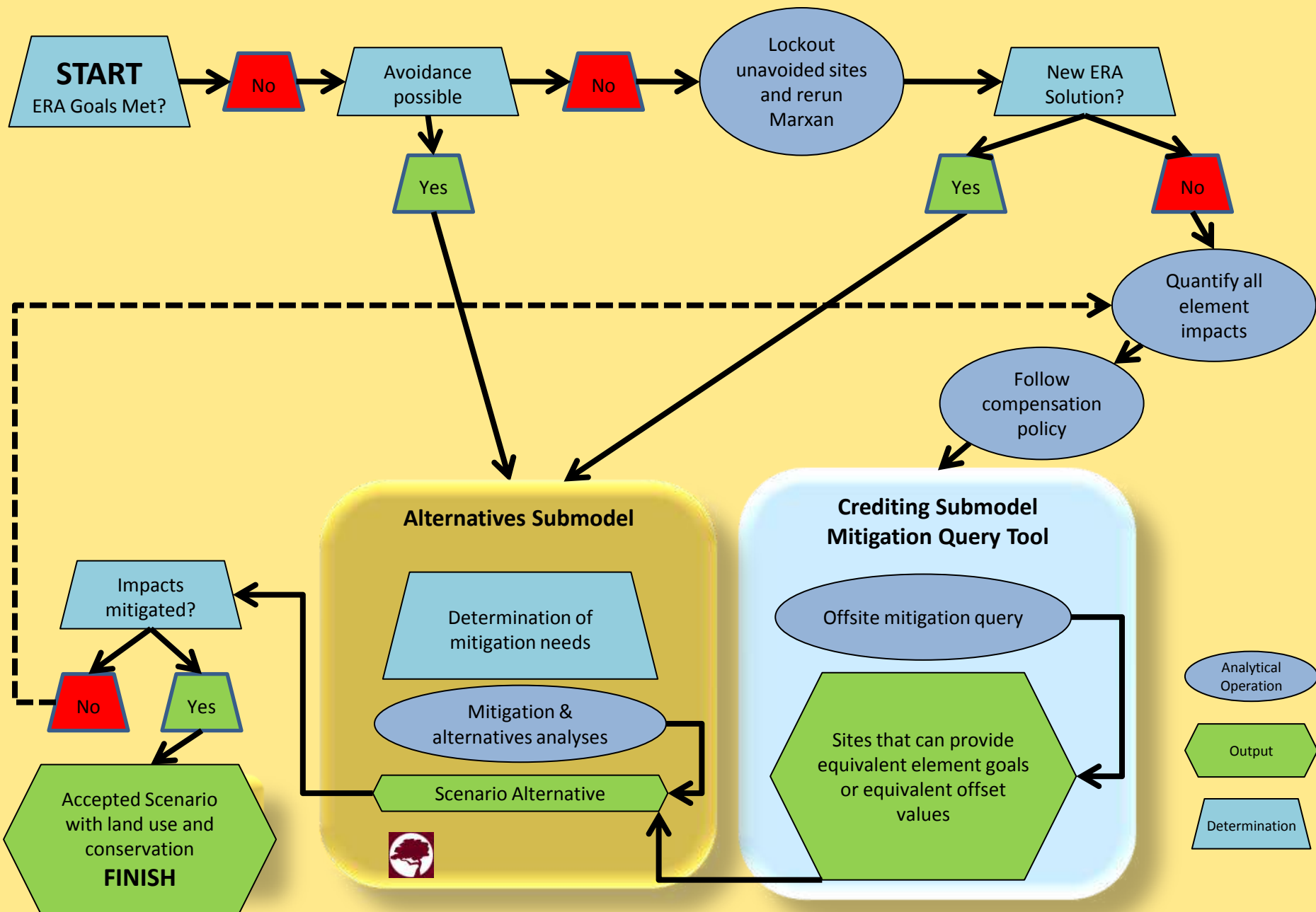
Other input

Output

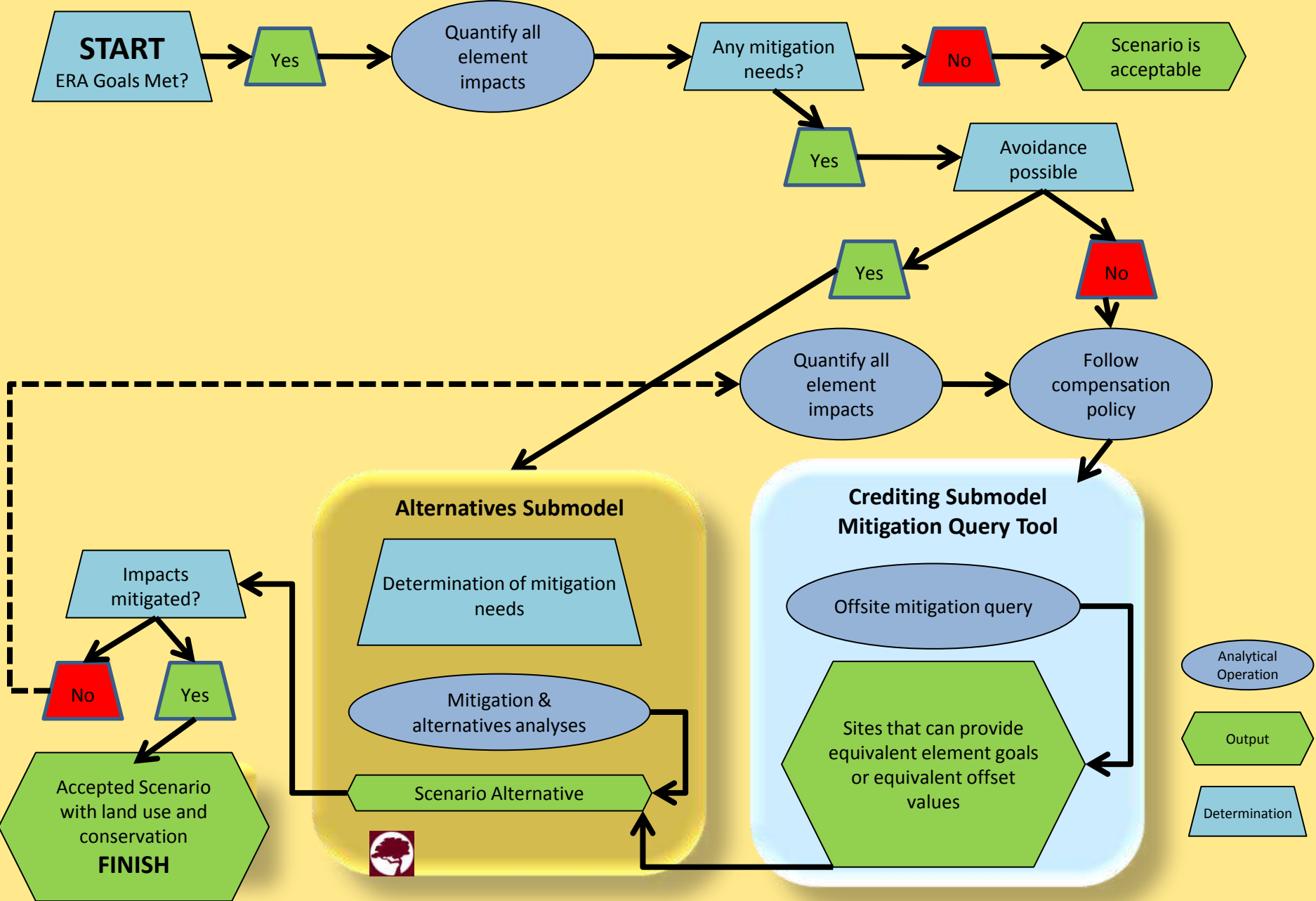
Determination



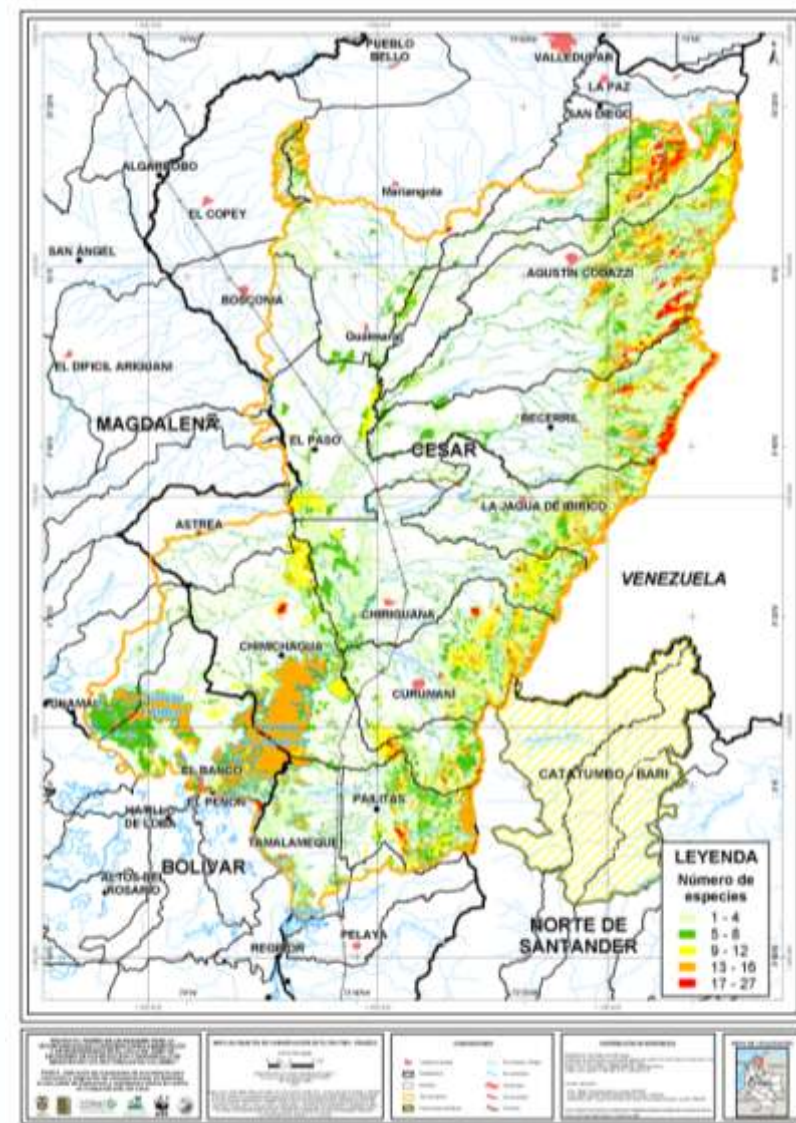
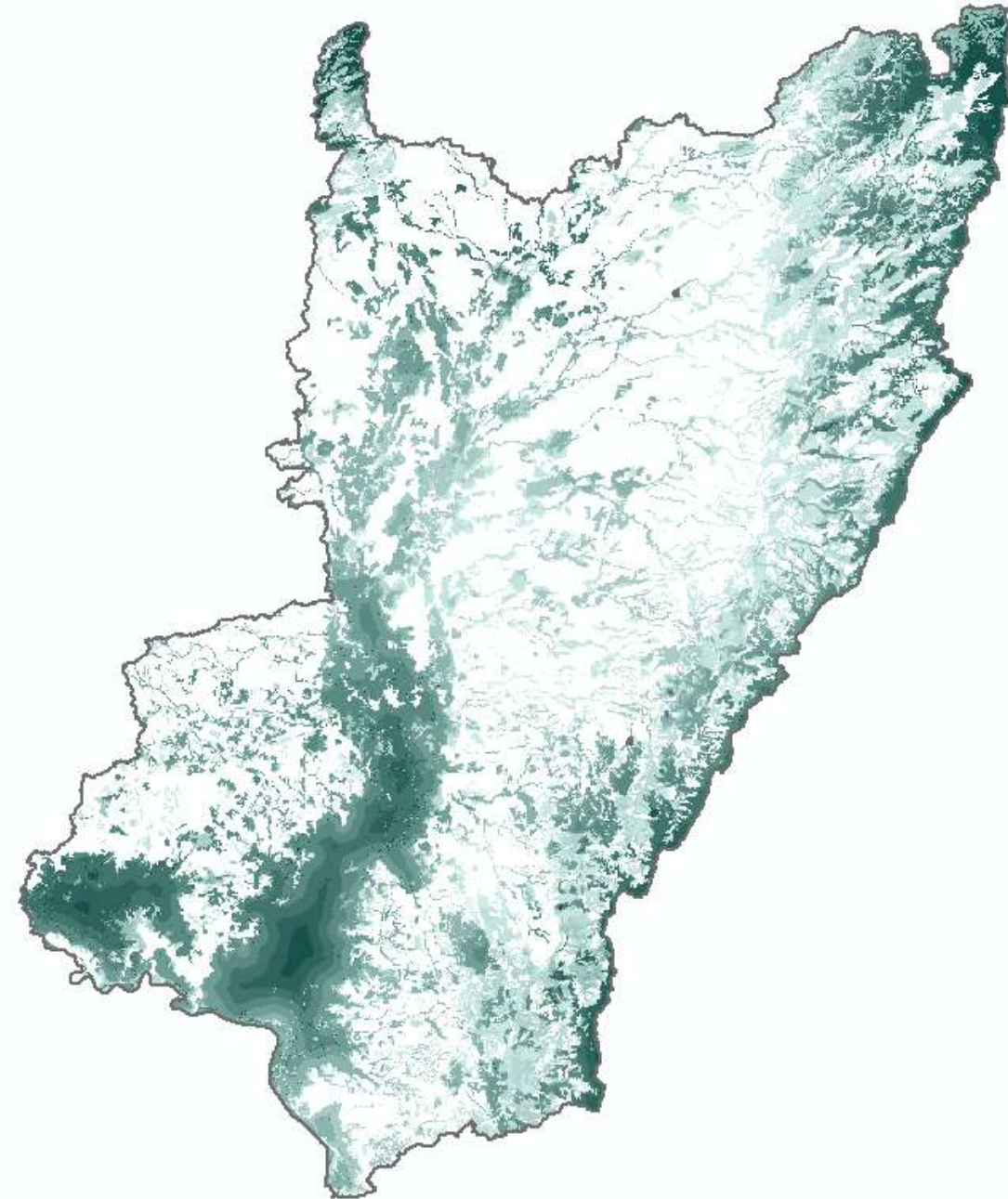
Colombia Assessment & Mitigation Workflow - ERA Goals NOT met



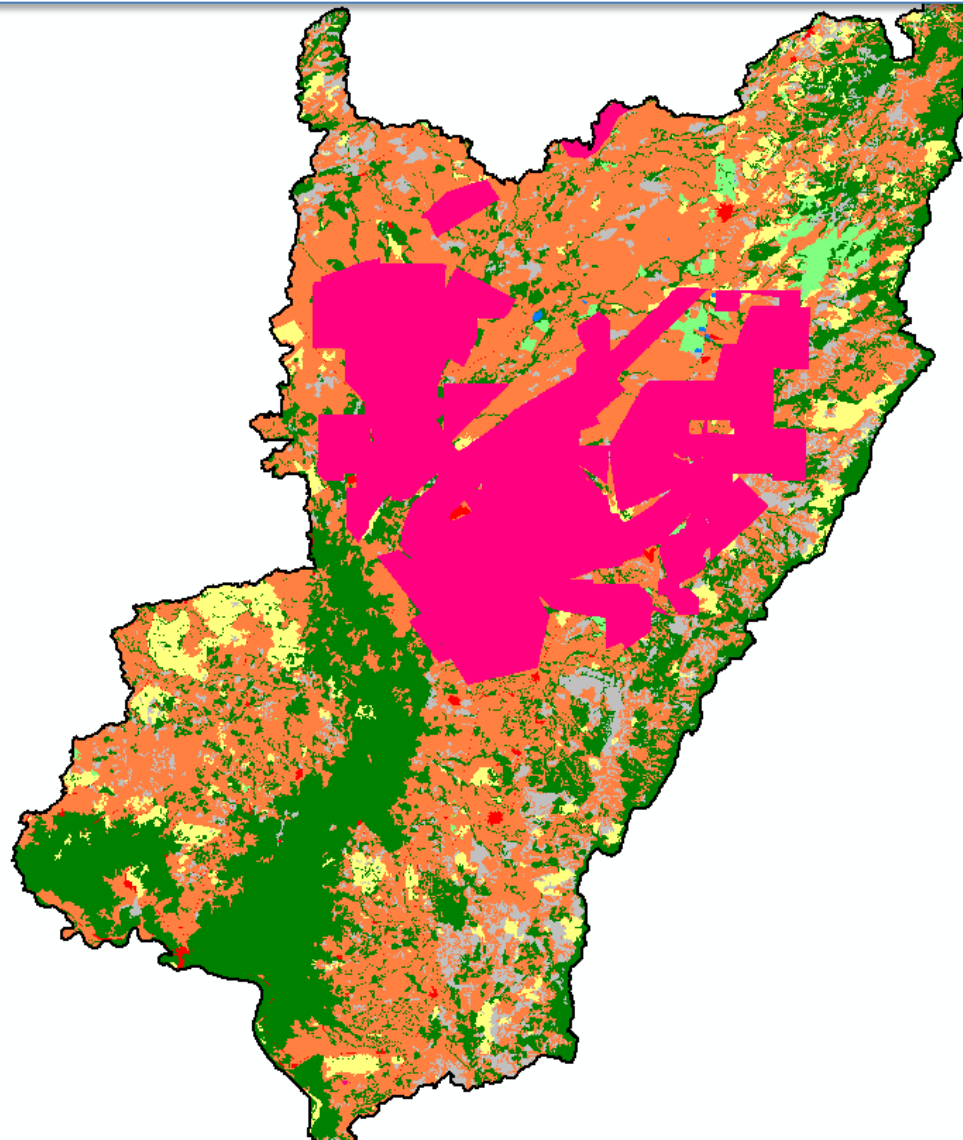
Colombia Assessment & Mitigation Workflow - ERA Goals met



Conservation Elements



Scenarios



Analysis: Scenario Evaluation

[Customize the current report](#)

Overall Scenario Performance

All Elements (91 Total)

	Goals Met For	% of Goals Met	Goals Unmet For	% of Goals Unmet
Protected and Compatible	12 elements	13.19%	79	86.81%
Compatible	16 elements	17.58%	75	82.42%

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Goal Performance by Element

Elements (91 elements)

Name	Distribution		Goal	Protected and Compatible		Percent of Goal	Compatible		Percent of goal	
	Area (hectares)	Avg Occs/Condition		Area (hectares)	Avg Occs/Condition		goal Met (hectares)	Avg Occs/Condition		
Bradypus variegatus	18,237	1 0.37	100 percent of area	100%	16,956	1 0.37	92.98%	16,956	1 0.37	92.98%
Mazama americana	94,147	1 0.52	100 percent of area	79%	79,950	1 0.53	84.92%	84,215	1 0.53	89.45%
Puma concolor concolor	111,810	1 0.52	100 percent of area	100%	101,619	1 0.52	90.89%	103,882	1 0.52	92.91%
Sabal mauritiformis	26,064	222 0.53	100 percent of area	67%	17,600	114 0.54	67.53%	18,799	124 0.53	72.13%
Tapirus terrestris terrestris	12,371	1 0.36	100 percent of area	89%	11,069	1 0.37	89.48%	11,228	1 0.37	90.76%
Vegetacion acuatica	14,483	79 0.45	60 percent of area	160%	13,966	75 0.45	160.72%	13,993	75 0.45	161.03%
Parinari pachyphylla	2,298	95 0.36	100 percent of area	67%	1,543	63 0.38	67.15%	1,543	63 0.38	67.15%
Haematoxylum brasiletto	2,931	104 0.35	100 percent of area	55%	1,616	65 0.37	55.13%	1,957	67 0.38	66.77%
Saguinus oedipus	44	1 0.4	100 percent of area	0%	0	0 0	0%	44	1 0.4	100%
Ateles hybridus hybridus	85,075	1 0.34	100 percent of area	71%	60,102	1 0.34	70.65%	67,423	1 0.35	79.25%
Pradosia colombiana	2,767	35 0.37	100 percent of area	64%	1,781	27 0.38	64.37%	2,117	28 0.4	76.51%
Tremarctos ornatus	70,253	1 0.59	100 percent of area	92%	64,906	1 0.6	92.39%	67,134	1 0.6	95.56%
Leopardus wiedii	3,863	1 0.47	100 percent of area	59%	2,196	1 0.47	59.95%	2,196	1 0.47	59.95%
Sabanas secas en lomerio	19,175	45 0.3	49 percent of area	198%	18,678	45 0.3	198.79%	18,678	45 0.3	198.79%
Swietenia macrophylla	2,388	26 0.36	100 percent of area	57%	1,404	18 0.37	56.70%	1,740	19 0.39	72.86%

Mitigation: Avoidance & Minimization

Generate Conservation Solution



Welcome to the Conservation Solution Wizard

The Vista Conservation Solution Wizard is used to develop a dataset that can be utilized by other software designed to generate conservation solutions, specifically the MARXAN and SPOT applications, which perform essentially the same functions. MARXAN was developed under contract to the Great Barrier Reef Marine Park Authority to aid in the identification of reserve systems comprised of planning units. Similarly, SPOT (Spatial Portfolio Optimization Tool) was developed by The Nature Conservancy to facilitate the selection of conservation portfolios comprised of analysis units. In both applications, criteria are applied to component units, and penalties and scores are then assigned to reserves or portfolios; those with the lowest scores are identified as the best areas for achieving conservation.

To continue, click Next.

Site Explorer

Selection Attributes
 FD: 3606
 FD: 3590
 FD: 3592

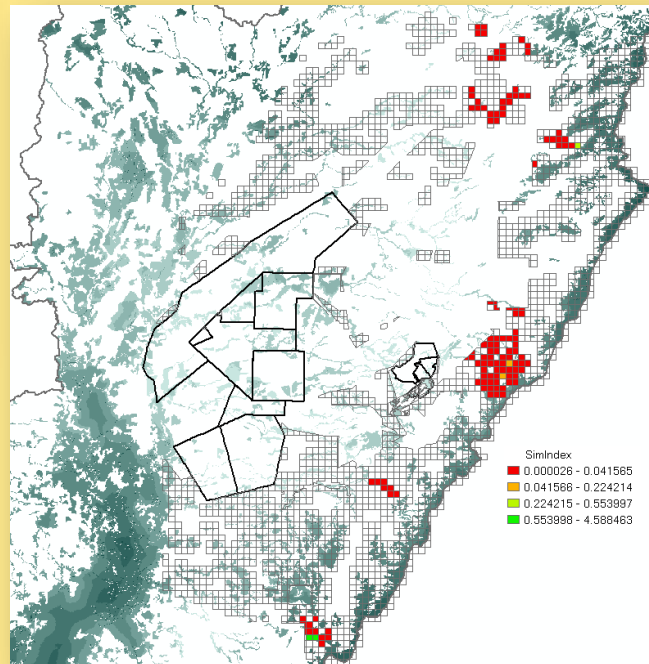
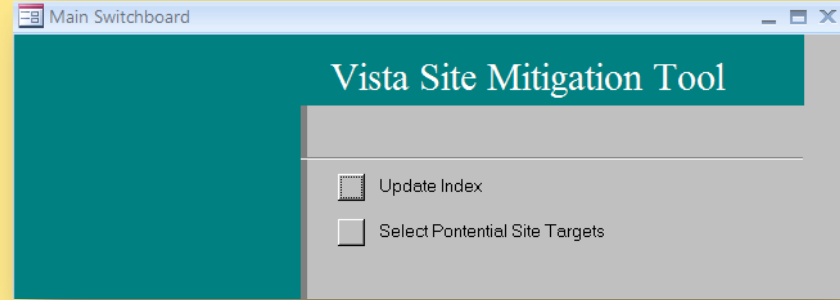
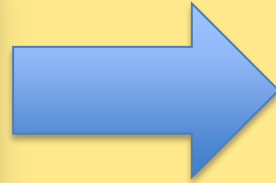
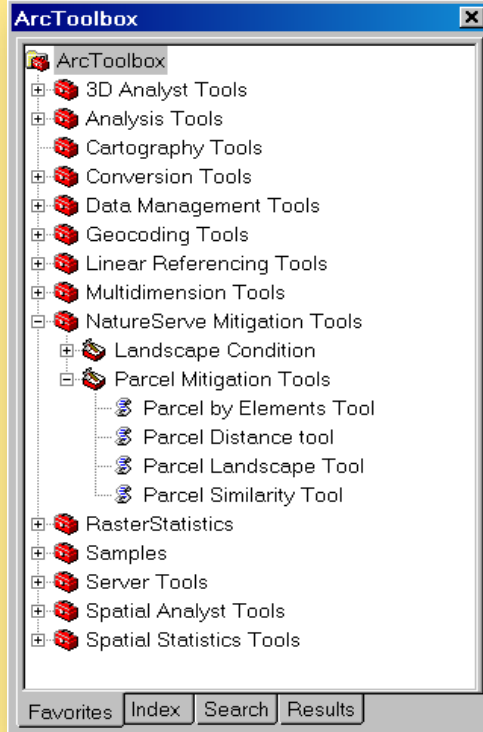
Element Name	Total	% Prot	Response	Compatible Area
<i>Ateles hybridus hybridus</i>	1 occ's: 85,875 ha	100% occ's: 64.3% area	Negative	
<i>Gypsoalba puncta</i>	1 occ's: 63,264 ha	100% occ's: 64.3% area	Negative	
<i>Alouatta palliata</i>	52% occ's: 39,270 ha	34.6% occ's: 47.4% area	Negative	
<i>Cebus castaneus</i>	1 occ's: 176,583 ha	100% occ's: 63.4% area	Negative	
<i>Pithecia nana centralis</i>	1 occ's: 396,826 ha	100% occ's: 83.6% area	Negative	
<i>Coccyzus acutus</i>	1 occ's: 92,868 ha	100% occ's: 83.6% area	Negative	
<i>Megascops americana</i>	1 occ's: 94,147 ha	100% occ's: 75.7% area	Negative	
<i>Trochotus manatus manatus</i>	802 occ's: 12,938 ha	3.7% occ's: 48.6% area	(None)	
<i>Alouatta seniculus</i>	1 occ's: 168,607 ha	100% occ's: 76.4% area	Negative	
<i>Alouatta palliata</i>	125 occ's: 33,976 ha	74.4% occ's: 73.6% area	Negative	
<i>Arboreal sloth in pendente</i>	328 occ's: 23,537 ha	44.8% occ's: 61.2% area	Negative	
<i>Vermivora chrysotis</i>	1 occ's: 201,494 ha	100% occ's: 78.9% area	Negative	

Scenario Composición

Component	Area	Land Use	Policy
Mulos_da_escenario_2	2511 hectareas	Mineria 32	Ley Forestal
Mulos_da_escenario_2	1151 hectareas	Mineria 32	Ley Forestal y humedales y perezos
zonas_mineras_1km_buf	132 hectareas	Mineria 32	Ley Forestal

Overrida: (None) (None)

Offsite Mitigation: The Mitigation Query Tool Overview

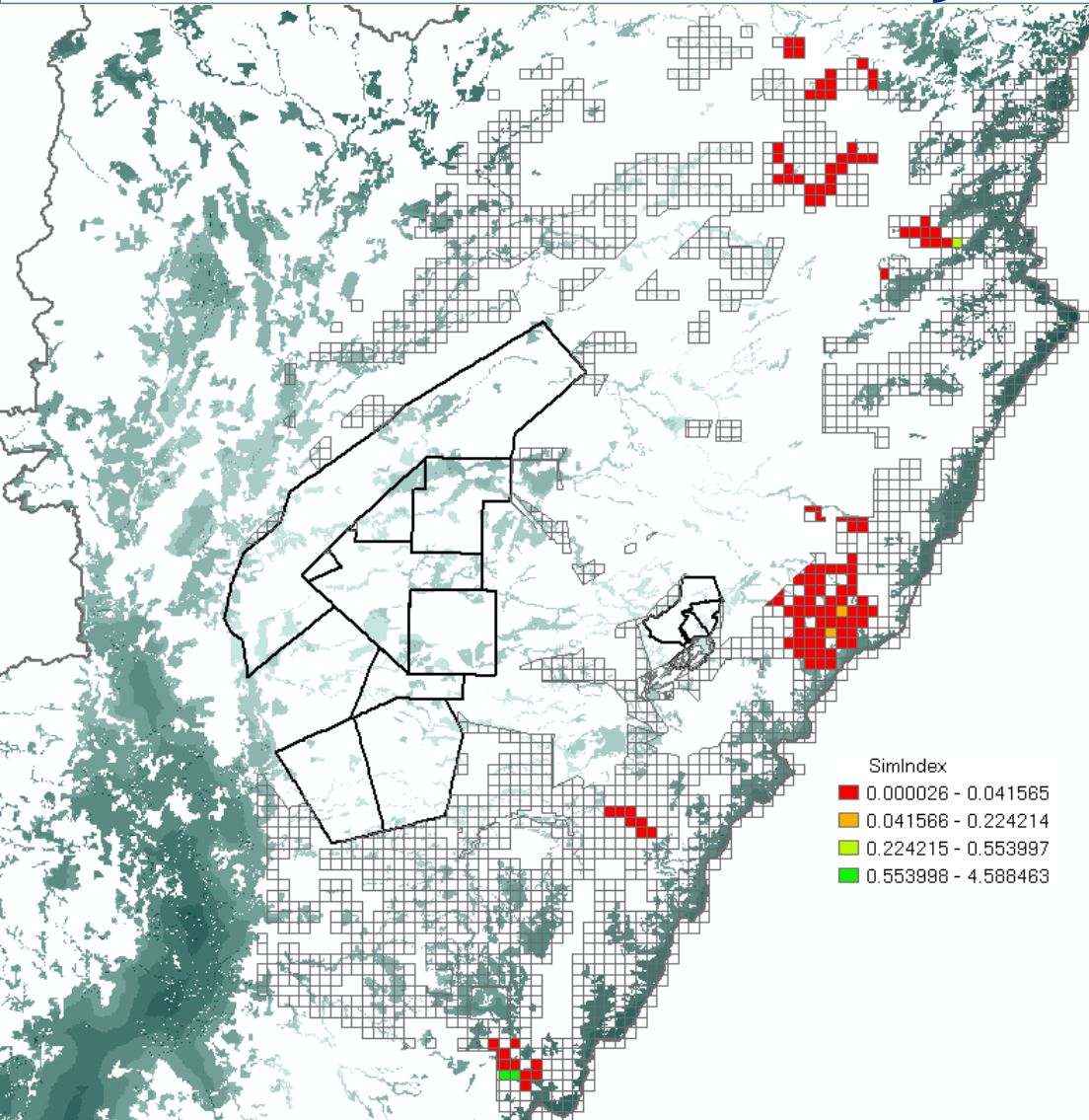


SITE_ID	Simindex	LC	Conn
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510	0.000695	0.474941	<Null>
511	0.000286	0.500476	0.605281
554	2.048202	0.999865	<Null>
555	0.005222	0.503031	<Null>
556	0.000481	0.1274	<Null>
606	4.588463	0.999691	<Null>
607	0.003662	0.503031	<Null>
609	0.000111	0.498938	<Null>
661	0.000026	0.266028	<Null>
662	0.002053	0.502148	<Null>
706	0.001256	0.794819	<Null>
707	0.000124	0.855178	<Null>
1021	0.00091	0.503034	<Null>
1055	0.001014	0.970779	<Null>
1092	0.001112	0.837552	0.905099
1093	0.000035	0.3	0.908157
1131	0.000349	0.503397	<Null>
1132	0.000342	0.503053	<Null>
1170	0.000926	0.979184	<Null>

Offsite Mitigation: The Mitigation Query Tool

- How can it help me?
 - Find areas with similar characteristics according to user-defined criteria
- What is it doing?
 - Creating a weighted index of sites
- What do I need to run it?
 - The same setup to run Vista

Offsite Mitigation: The Mitigation Query Tool



1. Identify impact site
2. Select out incompatible areas
3. Identify priority receiving areas
4. Define weights
5. Use tool
6. Repeat as necessary

Q&A



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