1D. Using a Conceptual Model to Document Your Situation Analysis
Adaptive Management Workshop Presentations

1A-1B. Team, Scope, Vision
1B. Conservation Targets
1B. Viability Assessment
1C. Threat Rating
1D. Conceptual Models

1. Conceptualize
   - Define planning purpose and project team
   - Define scope, vision, targets
   - Identify critical threats
   - Analyze the conservation situation

2A-1. Strategy Selection
2A-2. Results Chains
2A-3. Goals and Objectives

2B. Monitoring Plan

5. Capture and Share Learning
   - Document learning
   - Share learning
   - Create learning environment

4. Analyze, Use, Adapt
   - Prepare data for analysis
   - Analyze results
   - Adapt strategic plan

3. Implement Actions and Monitoring
   - Develop work plan and timeline
   - Develop and refine budget
   - Implement plans

Conservation Measures Partnership
Open Standards
1. Conceptualize

- Define planning purpose and project team
- Define scope, vision, targets
- Identify critical threats
- Analyze the conservation situation
1. **What Are Situation Analysis and Conceptual Models**
2. **How to Develop Conceptual Models**
3. **Adding Human Wellbeing Targets (optional)**
4. **Examples**
What is Situation Analysis?

• A process that will help your project team create together a common understanding of your project’s context – including the biological, environment and the social, economic, political, and institutional systems that affect the conservation targets you want to conserve.

• Can be in-depth, formal assessment or less formal description based on available information and/or knowledge of key informants.
What is a Conceptual Model?

A tool for documenting a situation analysis.

A diagram that portrays what is happening within a project. It shows the major forces (threats and opportunities) that are influencing biodiversity and lays out the causal relationships among those forces.

A good conceptual model…
A Good Conceptual Model:

1. Presents a picture of your situation
2. Shows assumed relationships between factors
3. Shows major direct threats and indirect threats and opportunities
4. Presents only relevant factors
5. Based on sound data and information
6. Results from a team effort
1. Presents a picture of the situation at the project

- Int'l demand for mahogany
- Int'l price of mahogany
- Need for local sources of income

- Logging (siltation)
  - Coral Reefs
  - Intertidal Systems
2. Shows assumed linkages between factors

Situation Analysis
Indirect Threats & Opportunities (Root Causes): Factors that contribute (positively or negatively) to direct threats
4. Presents only relevant factors

Situation
Analysis

Int’l Demand of Mahogany leads to Coral Reefs
4. Presents only relevant factors

Situation Analysis

Int’l Demand of Mahogany leads to Int’l Price for Mahogany leads to Logging (siltation) leads to Coral Reefs
4. Presents only relevant factors

Situation Analysis

- Int’l Demand of Mahogany
- USA Timber Demand
- Int’l Price for Mahogany
- Logging (siltation)
- Coral Reefs

leads to
leads to
leads to
4. Presents only relevant factors

Situation Analysis

- Int’l Demand of Mahogany
- Leads to
- Int’l Price for Mahogany
- Leads to
- Logging (siltation)
- Leads to
- Coral Reefs

USA Timber Demand

California Housing Starts
4. Presents only relevant factors

Situation Analysis

- Int’l Demand of Mahogany
  - leads to
  - Int’l Price for Mahogany
    - leads to
    - Logging (siltation)
      - leads to
      - Coral Reefs

- USA Timber Demand
- California Housing Starts
- Success of Movie Business
4. Presents only relevant factors

Situation Analysis

Int’l Demand of Mahogany

leads to

Int’l Price for Mahogany

leads to

Logging (siltation)

leads to

Coral Reefs

USA Timber Demand

leads to

California Housing Starts

leads to

Success of Movie Business

leads to

Emergence of New Sex Symbols
4. Presents only relevant factors

Situation Analysis

Low supply of mahogany

Low growth rate of mahogany

Int’l Demand of Mahogany

Int’l Price for Mahogany

Logging (siltation)

Coral Reefs

USA Timber Demand

California Housing Starts

Success of Movie Business

Emergence of New Sex Symbols
5. Is based on sound data & information

- Existing Information
- Primary Information
6. Results from a team effort
Our Example – Swan Coastal Plain Wetlands

Situation Analysis

Adapted from WWF Australia’s WetlandsWatch Project
Place Your Project Scope, Targets and Direct Threats

- Clearing for residential & infrastructure
  - Illegal clearing by landowners
  - Invasive weeds
  - Altered hydrology
  - Seasonally flooded wetlands
    - Eucalyptus-Melaleuca woodlands
    - Fringing shrublands
      - Blue billed ducks
      - Lakes

- Increased groundwater extraction
  - Climate change (reduced rain)
  - Overgrazing
  - Pesticides from agriculture
  - Reduced reproductive success
Limited awareness of sustainable land management

Weak law enforcement

Add Contributing Factors

Limited landowner awareness

Lack of landowner understanding of vegetation management

Colonization through firebreaks

Disturbance to native vegetation

Limited landowner knowledge of laws

Weak law enforcement

Clearing for residential & infrastructure

Illegal clearing by landowners

Invasive weeds

Increased groundwater extraction

Altered hydrology

Climate change (reduced rain)

Overgrazing

Pesticides from agriculture

Reduced reproductive success

Project Scope: Wetlands and bordering habitat on Swan Coastal Plain

Eucalyptus–Melaleuca woodlands

Seasonally flooded wetlands

Fringing shrublands

Blue-billed ducks

Lakes
Ineffective policies for wetland management

- Conservation value of wetlands recognized by state law
- Failure to prioritize wetland conservation in state/local planning
  - Limited landowner awareness
  - Lack of landowner understanding of vegetation mgmt
  - Disturbance to native vegetation
  - Weak law enforcement
  - Colonization through firebreaks
- Limited landowner knowledge of laws
  - Clearing for residential & infrastructure
  - Illegal clearing by landowners
- Weak law enforcement
  - Invasive weeds
  - Altered hydrology
  - Climate change (reduced rain)
  - Overgrazing
- Increased groundwater extraction
- Pesticides from agriculture
- Reduced reproductive success

Project Scope: Wetlands and bordering habitat on Swan Coastal Plain

- Eucalyptus–Melaleuca woodlands
- Seasonally flooded wetlands
- Fringing shrublands
- Blue billed ducks
- Lakes
A growing population that is putting increased pressure on food, water, and land resources
Don’t Forget to Include Opportunities!

Start them with a “+”.

- + Conservation value of wetlands recognized by state law
- Failure to prioritize wetland conservation in state/local planning
  - Limited landowner knowledge of laws
  - Limited landowner awareness
  - Lack of landowner understanding of vegetation mgmt
- + Water efficiency measures
- Growing population
  - + Growing demand for organic produce
- Demand for land
  - Demand for firewood
  - Recreational use
- Demand for water
  - Demand for food
- Disturbance to native vegetation
  - Colonization through firebreaks
- Weak law enforcement
- Failed implementation of state/local planning policy
  - Clearing for residential & infrastructure
- Increased groundwater extraction
  - Climate change (reduced rain)
  - Overgrazing
  - Social acceptance of wetlands for grazing
- Limited organic agriculture
  - Limited agricultural success
- Subsidies for conventional agriculture

Project Scope: Wetlands and bordering habitat on Swan Coastal Plain
- Eucalyptus – Melaleuca woodlands
- Seasonally flooded wetlands
- Fringing shrublands
- Blue billed ducks
- Lakes
Recent Addition of (Optional) Human Wellbeing Targets

What people have been saying:

• There is no way we can work on project/site X without addressing or recognizing human needs

• We have to prove to our constituency that there is a benefit to them beyond biodiversity

• Open Standards do not work in complex social situations
What is a Human Wellbeing Target?

Human wellbeing targets focus on those components of human wellbeing affected by the status of conservation targets.

*Millennium Ecosystem Assessment defines human wellbeing as including: 1) necessary material for a good life, 2) health, 3) good social relations, 4) security, and 5) freedom and choice.
### Categories of Human Wellbeing Targets

<table>
<thead>
<tr>
<th>Situation</th>
<th>Analysis</th>
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<tbody>
<tr>
<td><strong>Necessary material for a good life:</strong> including secure and adequate livelihoods, income and assets, enough food at all times, shelter, furniture, clothing, and access to goods;</td>
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<tr>
<td><strong>Health:</strong> including being strong, feeling well, and having a healthy physical environment;</td>
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<tr>
<td><strong>Good social relations:</strong> including social cohesion, mutual respect, good gender and family relations, and the ability to help others and provide for children;</td>
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<td><strong>Security:</strong> including secure access to natural and other resources, safety of person and possessions, and living in a predictable and controllable environment with security from natural and human-made disasters; and</td>
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<tr>
<td><strong>Freedom and choice:</strong> including having control over what happens and being able to achieve what a person values doing or being</td>
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*Source: Millennium Ecosystem Assessment*

This framework is for brainstorming! Actual categories do not matter – just clarity on what a human wellbeing target is.
Human wellbeing – in the context of a conservation project – is achieved via ecosystem services provided by functioning conservation targets. For example:

Services that intact, functioning ecosystems, species, and habitats provide and that can benefit people.
The services that intact, functioning ecosystems, species, and habitats provide and that can benefit people

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provisioning</td>
<td>Products obtained from ecosystems</td>
<td>Food, fuelwood, water, minerals, pharmaceuticals, biochemicals, energy</td>
</tr>
<tr>
<td>Regulating</td>
<td>Benefits obtained from regulation of ecosystem processes</td>
<td>Carbon sequestration, climate regulation, waste decomposition, water/air purification, crop pollination, pest control</td>
</tr>
<tr>
<td>Supporting</td>
<td>Services necessary for production of all other ecosystem services</td>
<td>Nutrient dispersal &amp; cycling, seed dispersal, soil formation</td>
</tr>
<tr>
<td>Cultural</td>
<td>Non-material benefits obtained from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences</td>
<td>Cultural diversity, spiritual &amp; religious values, knowledge systems, educational values, inspiration</td>
</tr>
</tbody>
</table>
Example:
Tropical Forest Site
Example: Tropical Forest Site

Situation Analysis

Vision
Scope: Rio Arroyo Tropical Forest

- Rivers & Gorges
- Riparian Beaches
- Jaguars
- Primary Forest

KEY
- Target
- Stress
- Direct Threat
- Indirect Threat or Opportunity
Example: Tropical Forest Site

Situation Analysis

Scope:
Rio Arroyo Tropical Forest

Vision

- Rivers & Gorges
- Riparian Beaches
- Jaguars
- Primary Forest

Potential gas & petroleum exploration

Commercial fishing in neighbour country

Small scale commercial agriculture

Hurricane floods & landslides

Sedimentation

Sedimentation

Excessive hunting

Illegal selective logging

Large scale soy plantations

KEY

- Target
- Stress
- Direct Threat
- Indirect Threat or Opportunity
Example: New Mexico, USA

Situation Analysis

Adapted from a real plan
Key Points to Introduce this Step

Situation Analysis

A process for analyzing and creating a common understanding of the context of a project & includes biological, social, economic, cultural, political and institutional systems that affect the conservation targets.

A conceptual model is one way to document a situation analysis. Content is more important than format. A good conceptual model will greatly facilitate strategy selection.

Probe for opportunities, not just threats.

You need the right team to develop the model (wide range of expertise) & you need to ask the right questions.
Situation analysis helps you develop more robust conservation strategies by…

– Evaluating factors that are driving the perceived problems

– Identifying key individuals/groups (supporters as well as non-supporters)

– Articulating and making explicit our understanding of the site conditions

– Highlighting points of intervention
Assignment - Develop a Conceptual Model

Develop a Conceptual Model based on your team’s current knowledge of your site

• Assemble your project team
• Place your project scope, conservation targets and direct threats
• Add indirect threats and opportunities
• Document your work in the Diagram
• Prepare a 15-minute presentation of your conceptual model. During the presentation, we suggest describing the model from the right (conservation targets) to the left (direct threats and then indirect threats and opportunities). Since you already described your conservation targets and direct threats during previous classes, you can just mention them briefly here.