

# Assessing and valuing protected area benefits



Jamison Ervin, UNDP







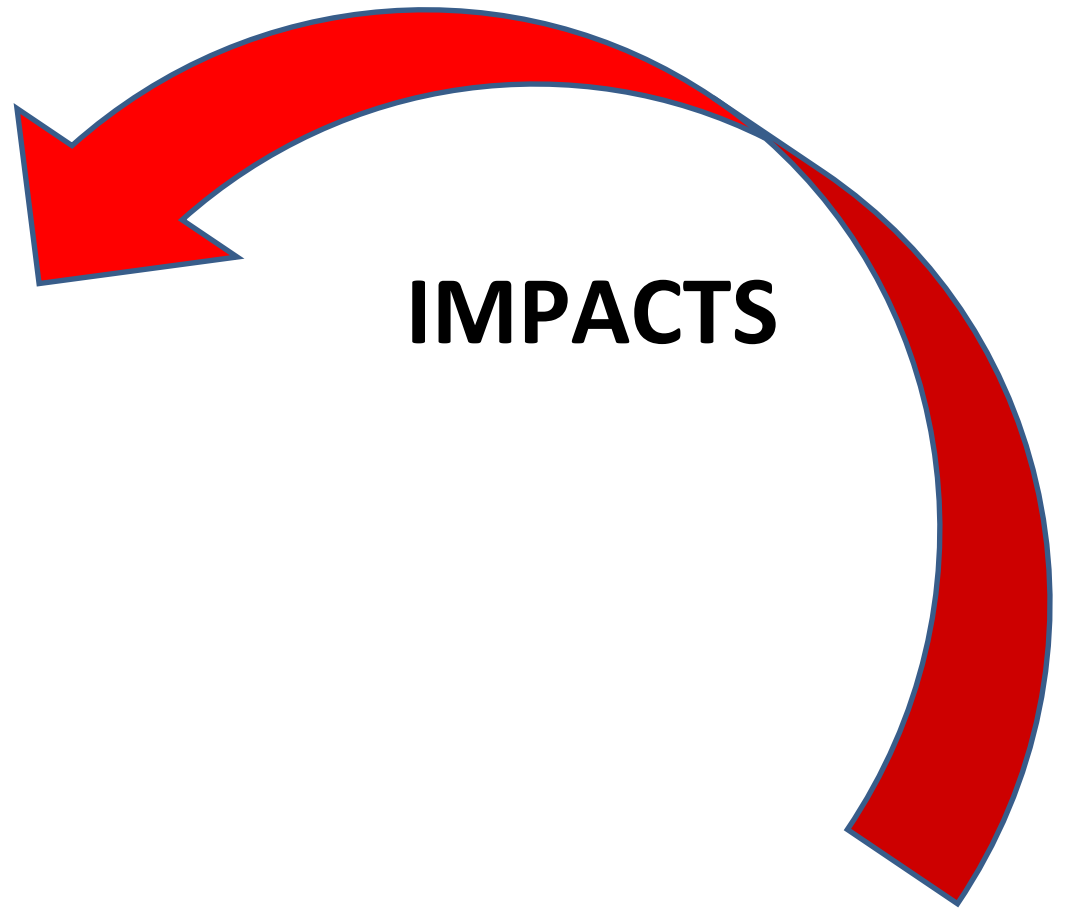


**35000 ha of forest store over 1.4 billion gallons of water per day, serving more than 8 million people daily**

**The cost is \$320 million, BUT this investment avoids \$6 billion in water treatment costs (plus \$300 million/year in operating costs)**





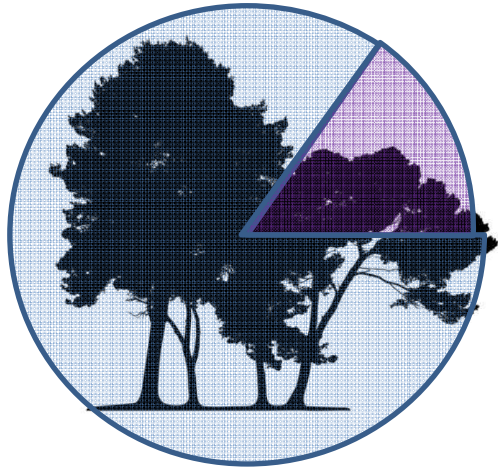




**IMPACTS**

**BENEFITS**

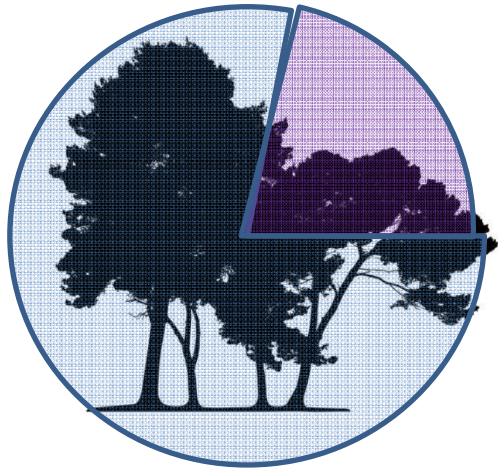




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**BENEFITS**



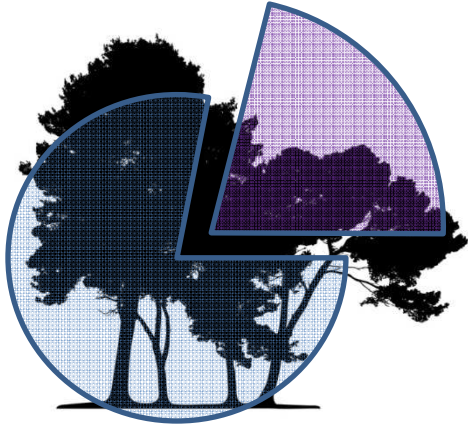


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**BENEFITS**



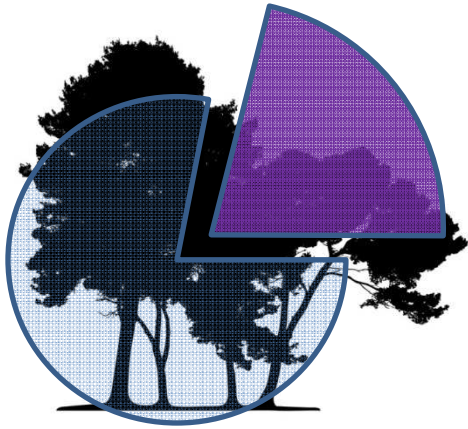




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**BENEFITS**





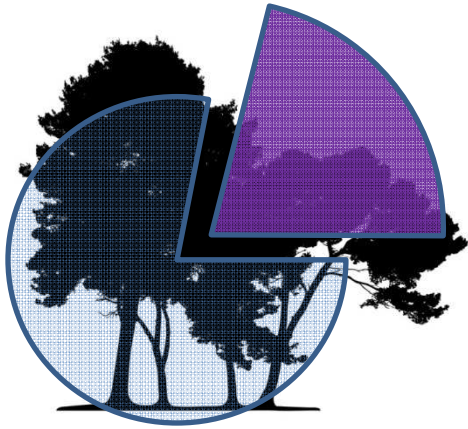
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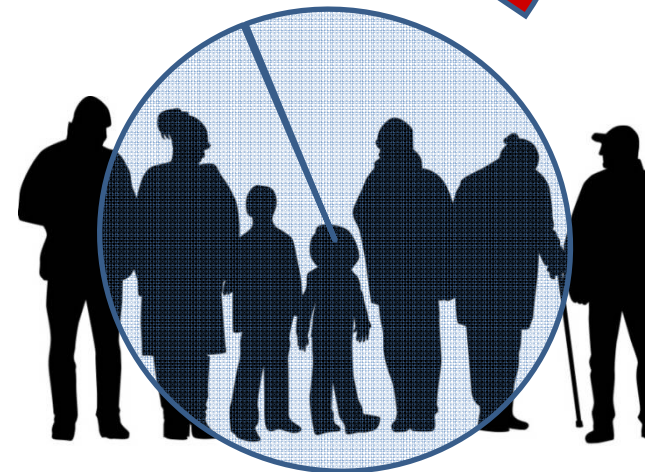




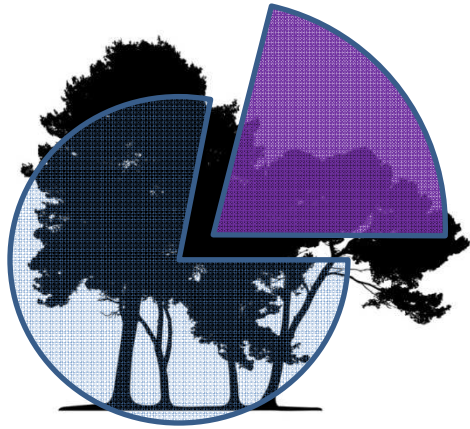
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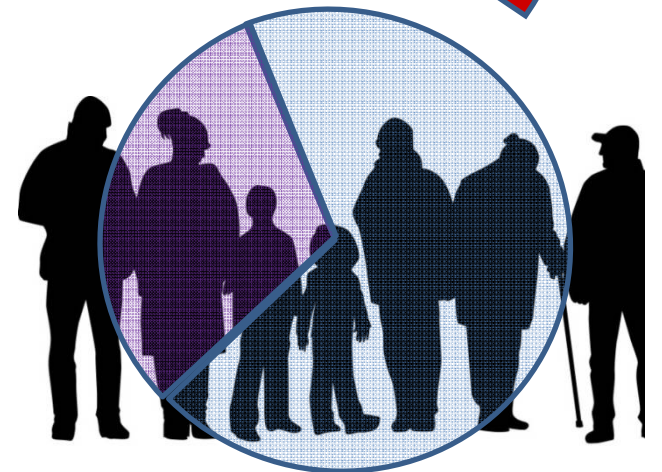
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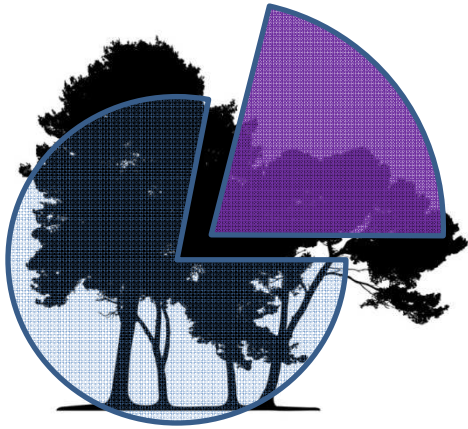


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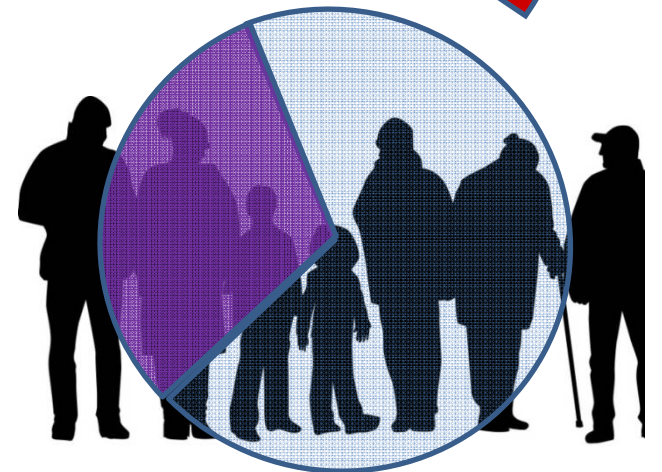


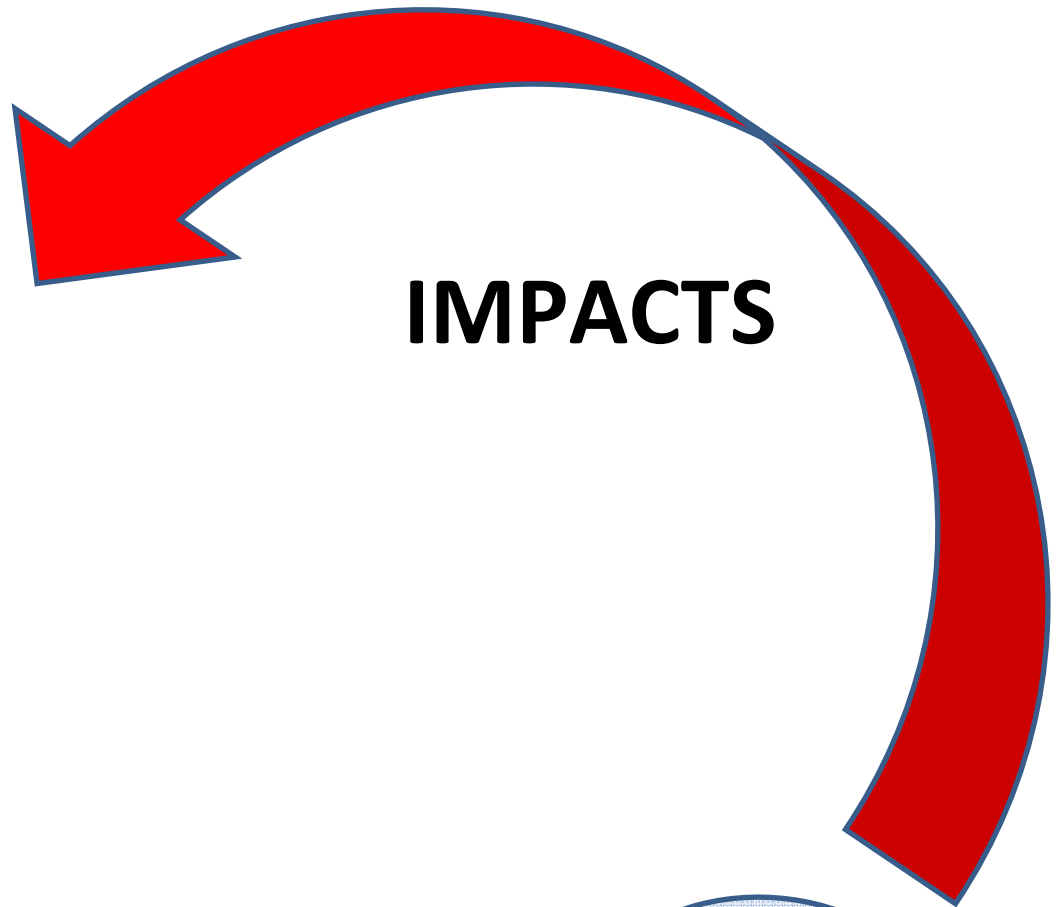
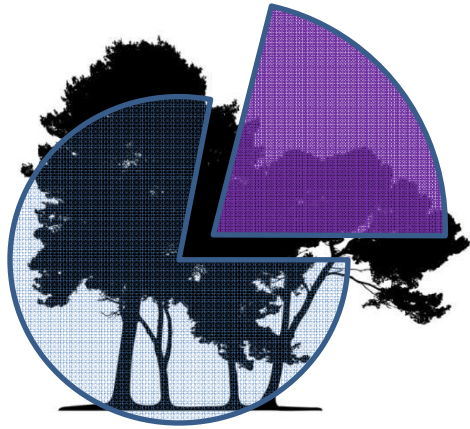


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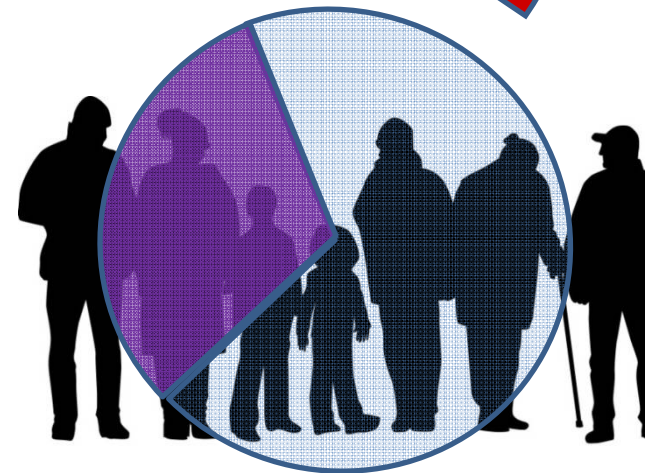




**IMPACTS**

**BENEFITS**

**Under valued**







**IMPACTS**

**BENEFITS**

**Under valued**



**IMPACTS**



**BENEFITS**

**Under valued**



# IMPACTS

## BENEFITS

**Under valued**



# IMPACTS

BENEFITS

**Under valued**



# IMPACTS

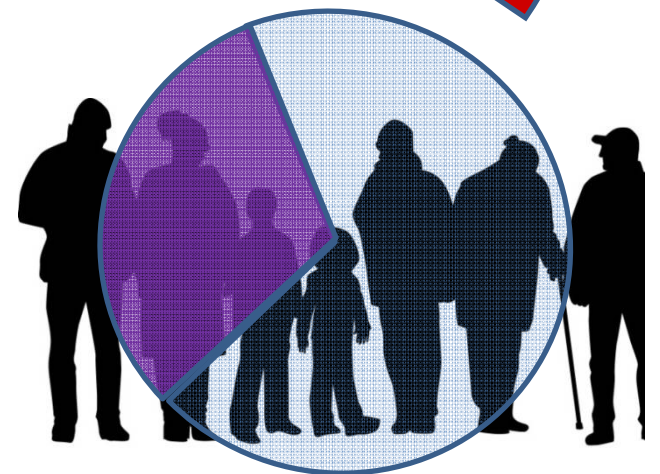
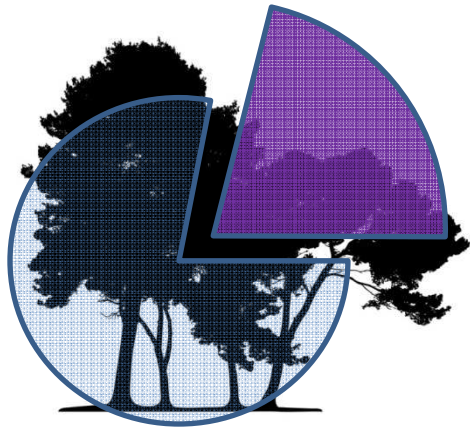
“Vicious  
cycle”

BENEFITS

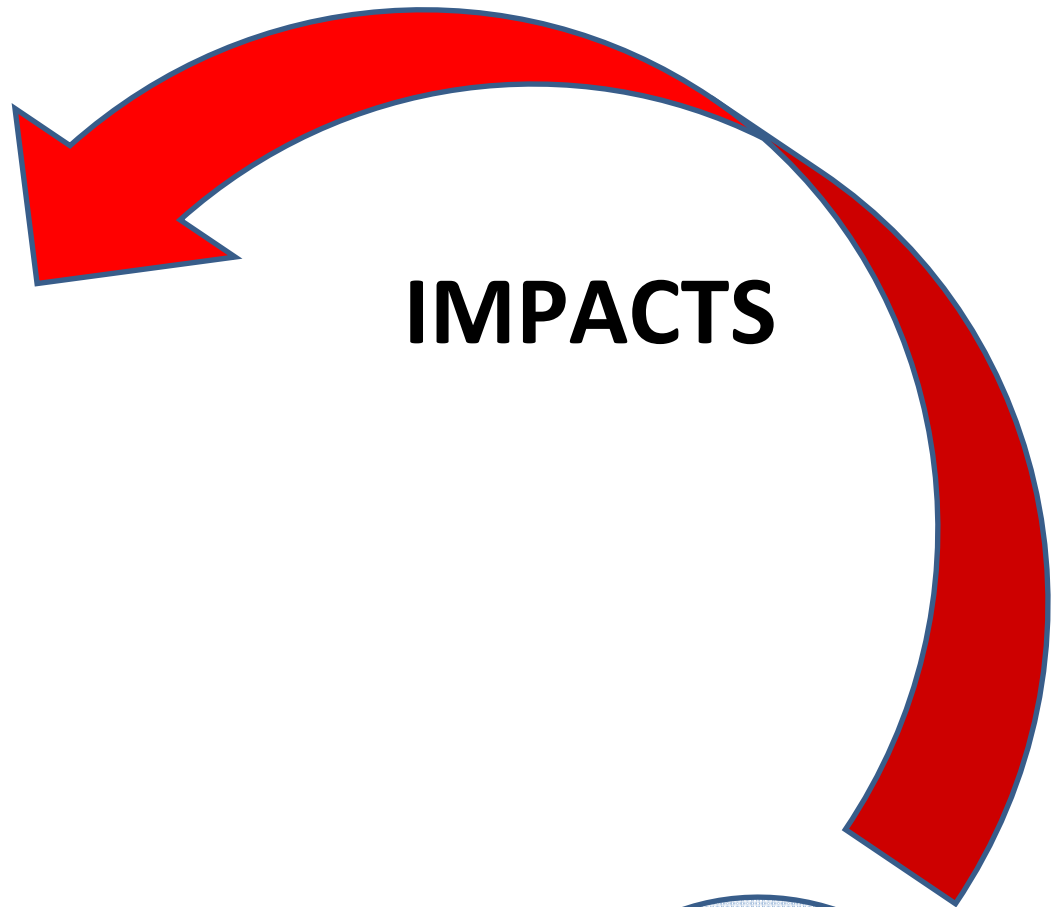
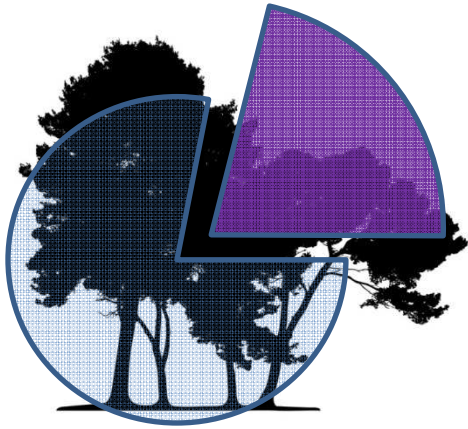
Under valued



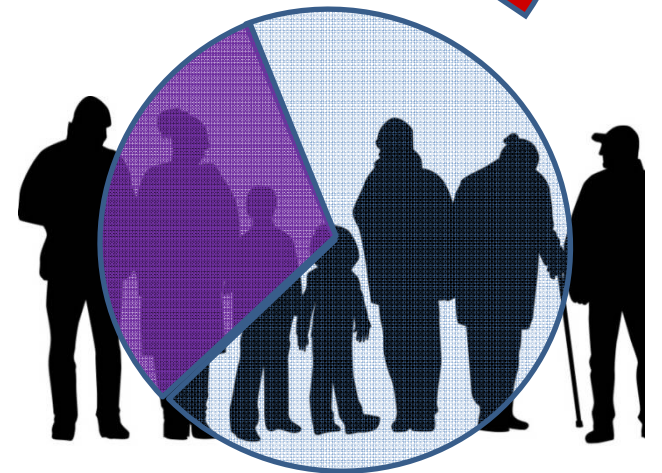
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**BENEFITS**

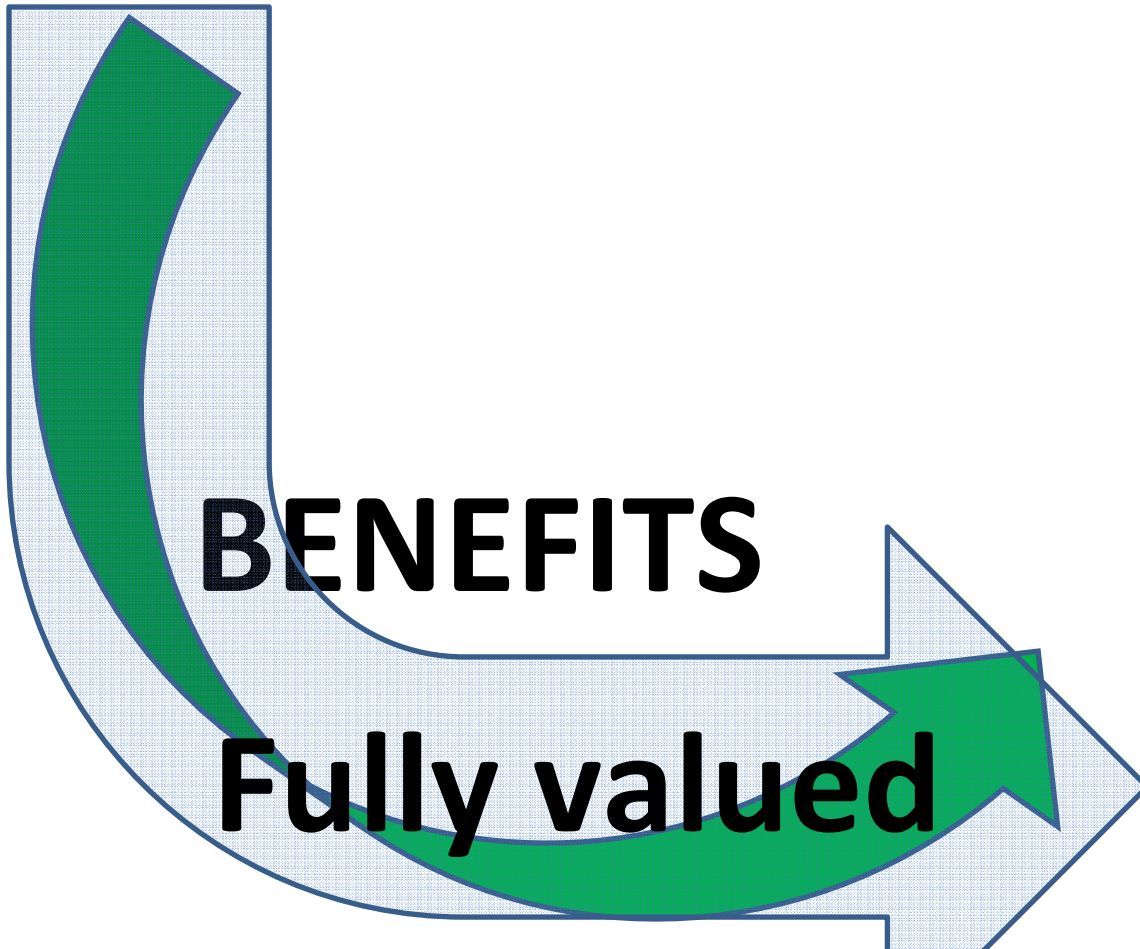


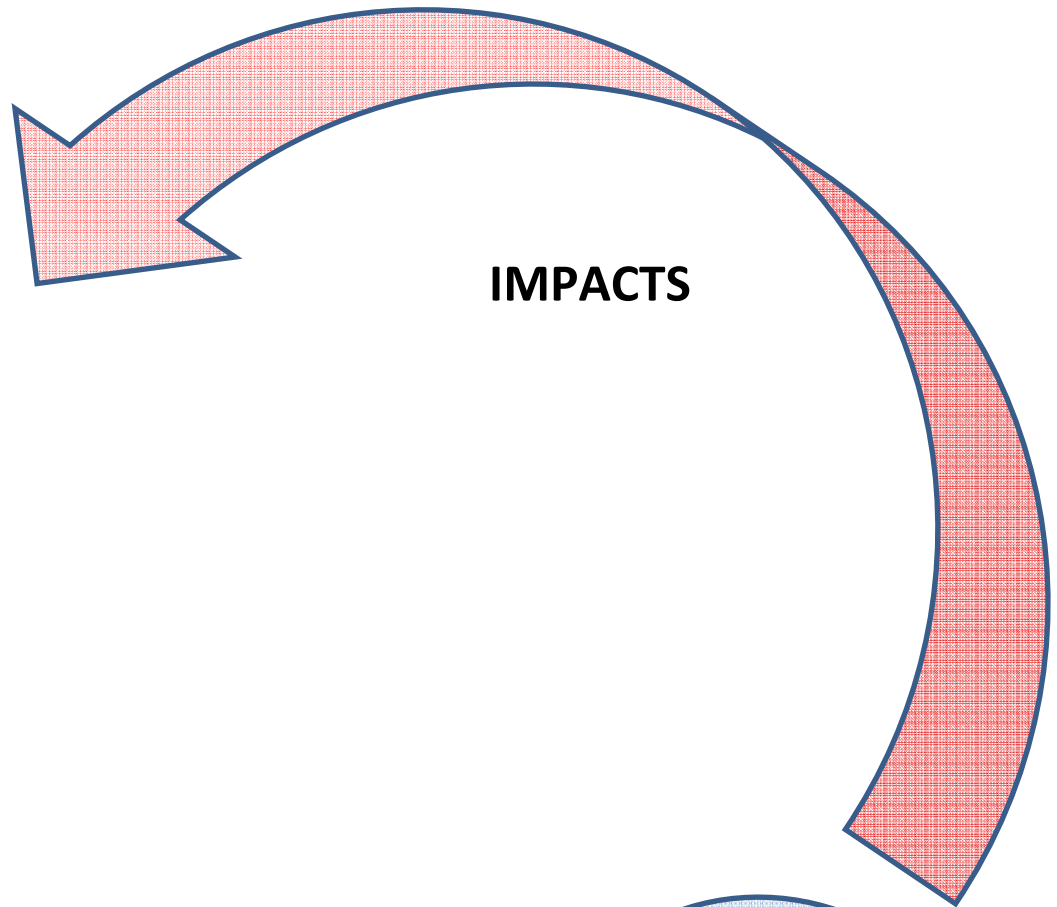
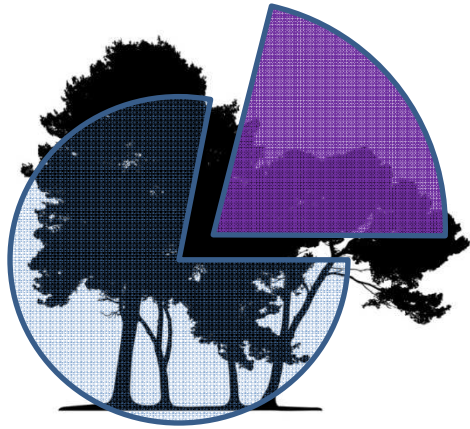
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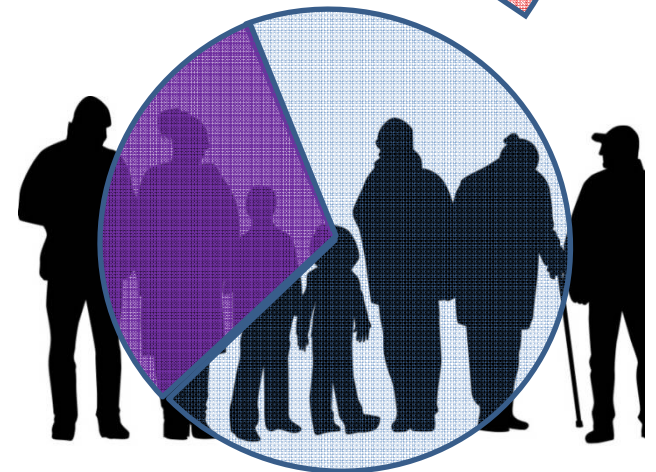
**BENEFITS**

**Fully valued**





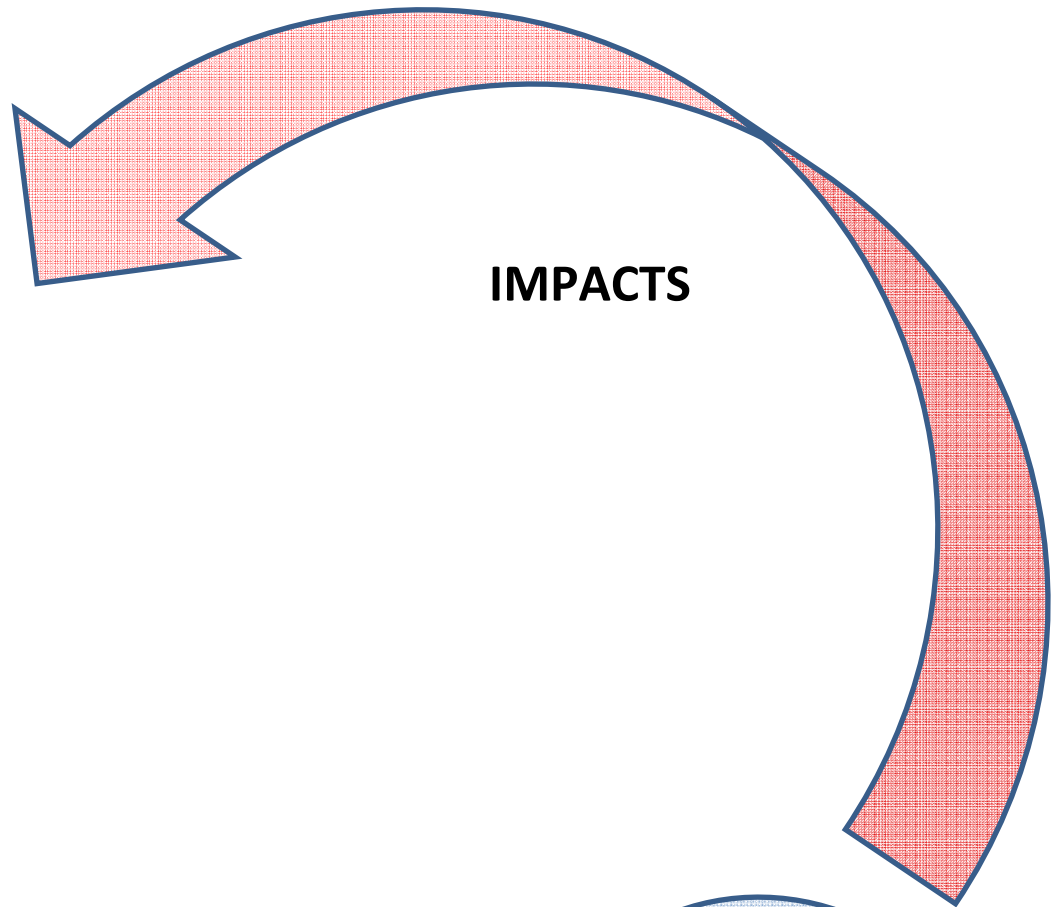
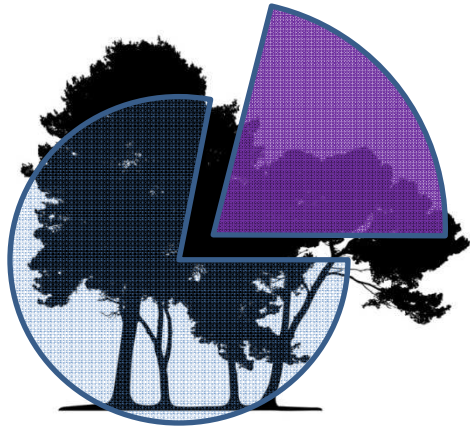
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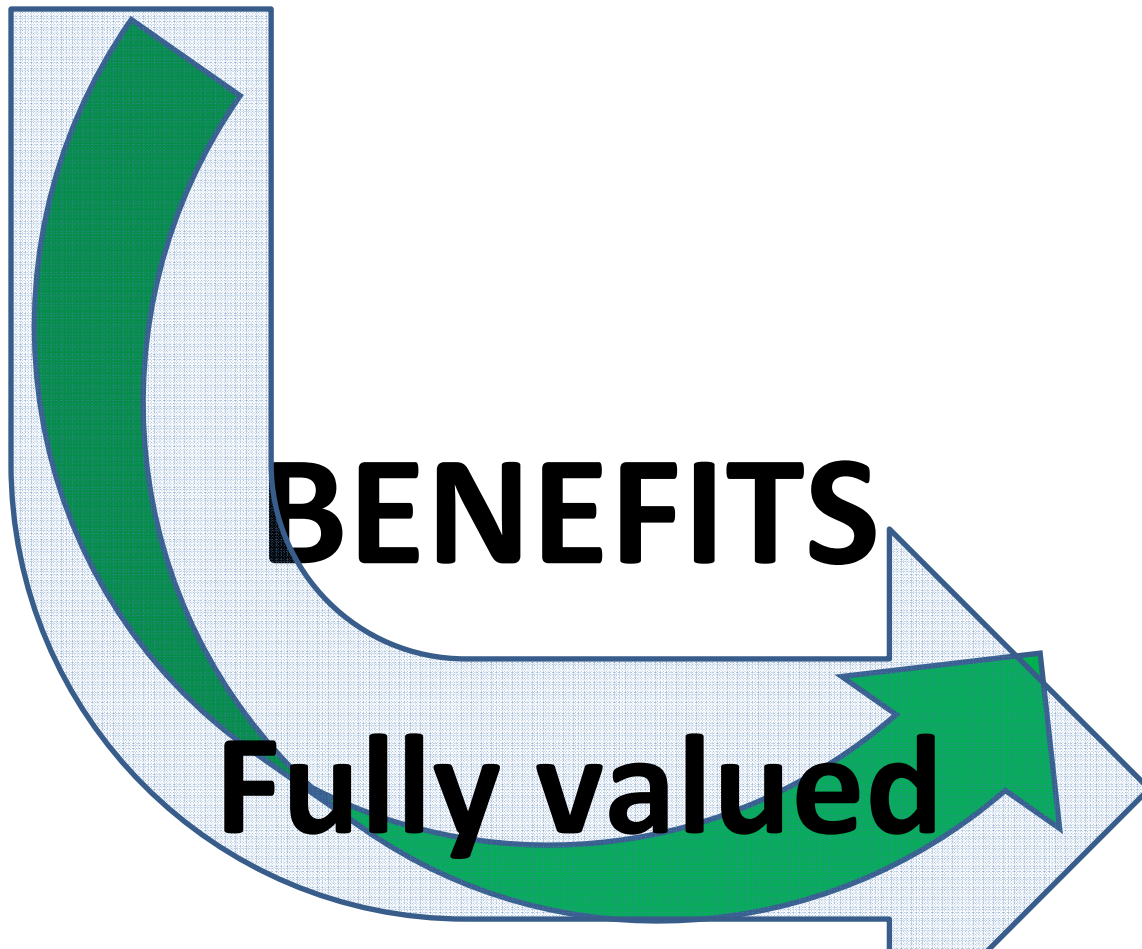
**BENEFITS**

**Fully valued**



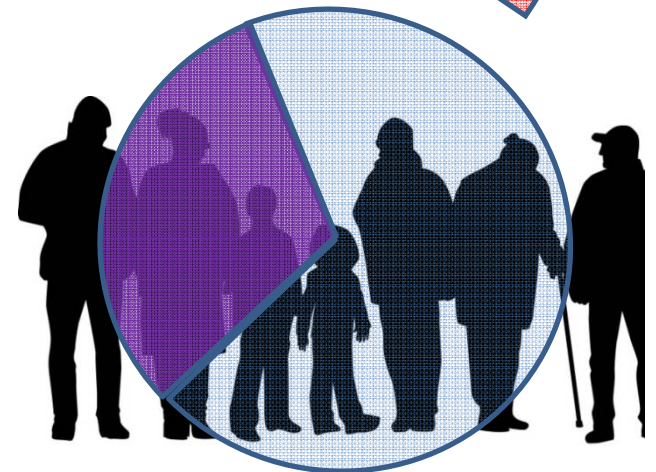


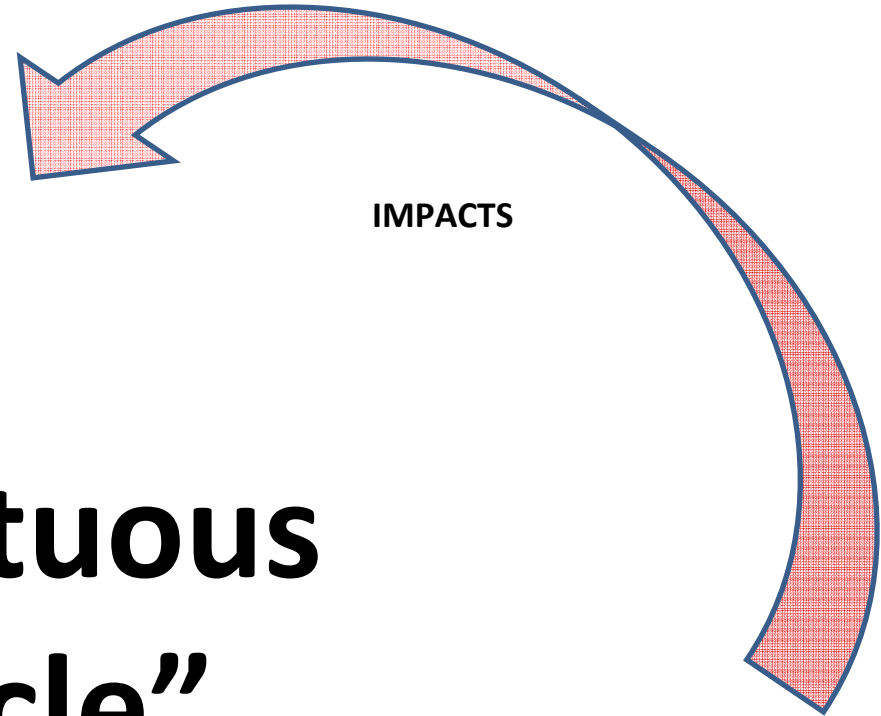
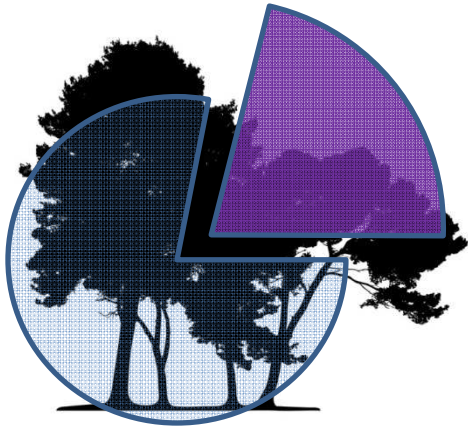
**IMPACTS**



**BENEFITS**

**Fully valued**





IMPACTS

**“Virtuous  
cycle”**

**BENEFITS**

**Fully valued**



Under what circumstances is it important to assess and integrate PA values?







...when there is a problem caused  
by undervaluation



# Examples of relevant cases for PA valuation

1. A road is planned through a protected area
2. Protected areas are underfunded
3. Private forests are being cleared around protected areas
4. Law enforcement is low in protected areas
5. Protected areas are being degazetted or privatized
6. Sustainable livelihoods and subsistence are compromised





BUT...protected  
areas are not  
ATM machines





And protected areas are not piñatas...



# Protected areas are a societal investment

SAVINGS DEPARTMENT

No. [REDACTED]

The First National Bank & Trust Company  
OF NEWTOWN, PA.

In Account with

*Buck Tail Club*

*Frank R. [REDACTED]*

Day	Deposited	Withdrawn	Balance
July 27	221.00		221.00
Aug 13	105		326
22	204		530
22	99		629
Sept 4	199.00		828.00
17	264.00		1092.00
25	117		1199.00
Oct 8	174		1363.00
18	72		1435.00
23	370		1437.00
24	120		1557.00
30	105		1663.00
Nov 13	172.92		1836.52
19	117		1953.52
21		1000	953.52

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Economic valuation reveals the hidden  
benefits of societal investments in  
biodiversity protection...

...which leads to better decisions.



# Steps in Assessing Protected Area Values

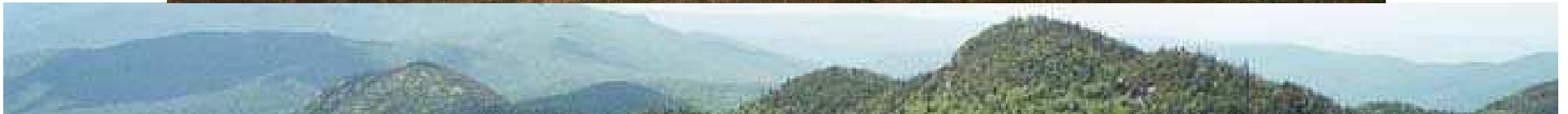
1. Clearly define the situation, audience and decision
2. Choose which benefits and services are included
3. Choose valuation method for each benefit
4. Develop measurable indicators
5. Analyze the economic and social value of benefits
6. Communicate the results to key decision makers





# STEP 1

Clearly define the situation, audience and decision



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Clearly define situation, audience and decision



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Clearly define situation, audience and decision



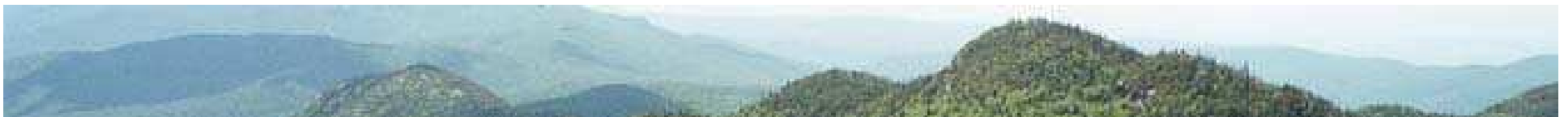


# STEP 1

Clearly define situation, audience and decision



**Problem that valuation will solve:** Existing levels of protection (.2%) and existing management are insufficient to sustain key biodiversity features, upon which major ecosystem services, livelihoods and human wellbeing depend



## STEP 2

Choose which benefits, goods and services are included



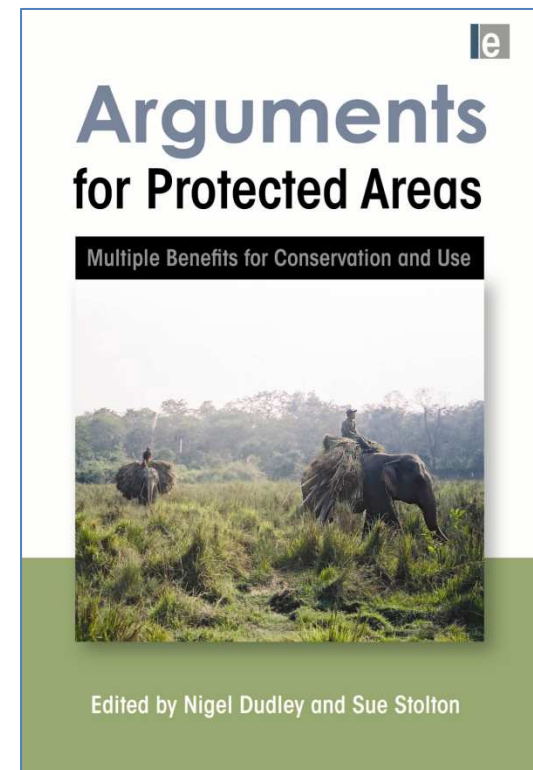
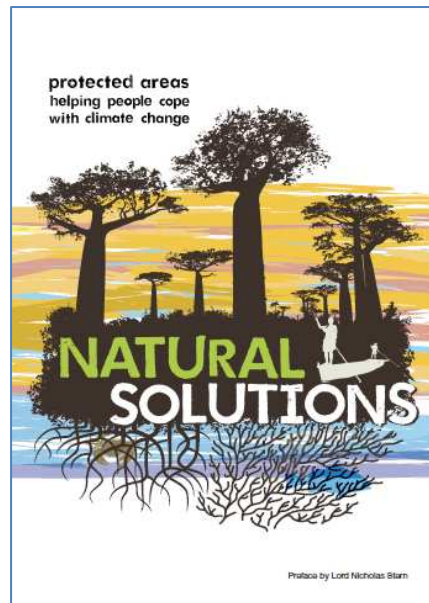
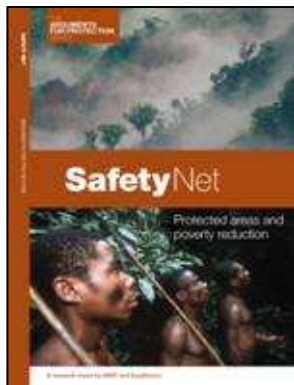
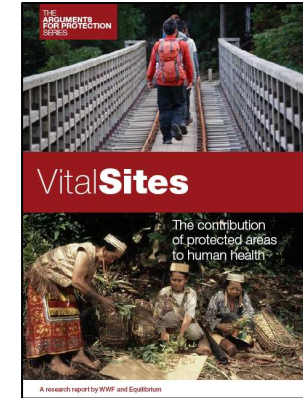
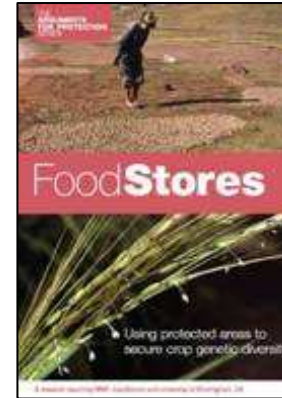
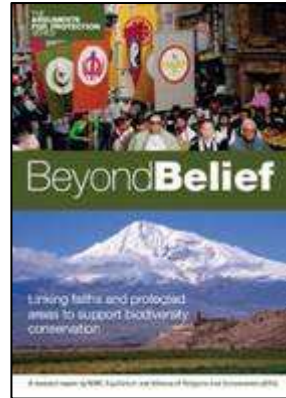


# STEP 2

Choose benefits and services that:

- Are associated with key national goals, such as poverty reduction
- Are easy to measure, have clear indicators and available data
- Are easiest to communicate to key stakeholder groups
- Have the highest economic values
- Are likely to lead to changes that will improve the policy environment
- Are most important across the entire protected area system
- Are likely to lead to broad public support





# Arguments for Protection

## STEP 2

Choose which benefits, goods and services are included



Sustainable livelihoods and subsistence

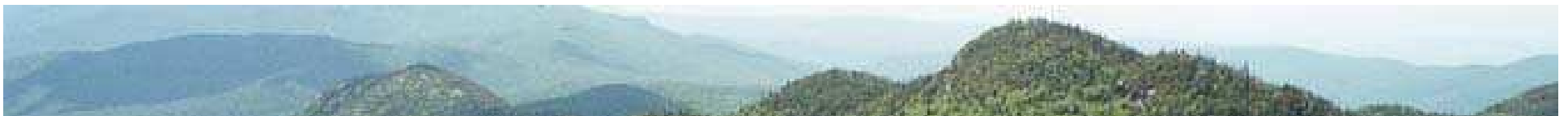
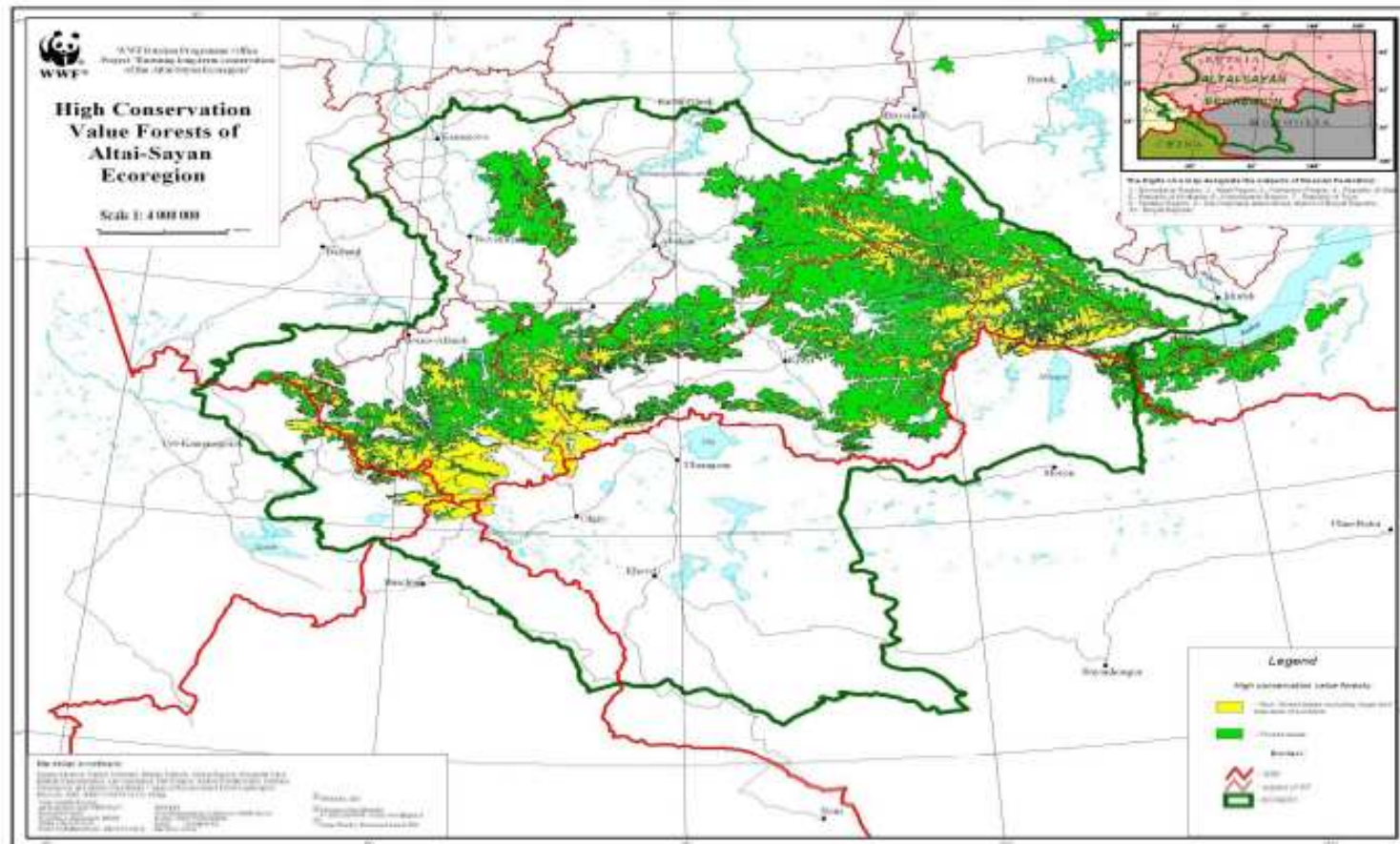




# STEP 2

Choose which benefits, goods and services are included

**Carbon storage: 3.21 billion tones of Carbon**



# STEP 3

Choose valuation method for each benefit/service

- Market price
- Replacement cost
- Costs avoided
- Net factor income
- Willingness to pay



# STEP 4

## Develop measurable indicators

Benefit or service	Potential Indicator
<b>Food security</b>	<ul style="list-style-type: none"><li>• Average protein intake per person</li></ul>
<b>Health</b>	<ul style="list-style-type: none"><li>• # and % of people using medicinal plants</li></ul>
<b>Fisheries</b>	<ul style="list-style-type: none"><li>• List and volume of annual catch</li><li>• # of people employed</li><li>• Total \$US added to economy</li></ul>
<b>Disaster mitigation</b>	<ul style="list-style-type: none"><li>• Hectares of avoided erosion</li><li>• # of people protected from flooding</li></ul>
<b>Water supply</b>	<ul style="list-style-type: none"><li>• Volume (cubic meters/second) from PAs</li><li>• Hectares irrigated</li><li>• Energy in megawatts from hydropower</li></ul>



# STEP 4

## Develop measurable indicators



- Number of families who rely on grazing
- Value of livestock that depends on grassland

## STEP 5

Analyze the economic and social value of the benefits



# STEP 5

Analyze the economic and social value of the benefits

## **DEVELOP IMPLEMENTATION PLAN**

- Develop description of work/Terms of Reference
- Develop budget for staffing, experts, communication
- Develop timeline
- Identify specific responsibilities:
  - Project management arrangements
  - Proposed division of work between staff, consultants
  - Criteria for review of consultants' performance
  - Process for monitoring the research process
- Conduct assessment





# STEP 6

Communicate the results to key decision makers



# STEP 6

Communicate the results to key decision makers

## **POTENTIAL AUDIENCES**

- Protected area managers
- Community members
- Government officials
- Ministries and agencies
- Private enterprises
- Donor agencies
- Environmental, social NGOs
- Land use planners

## **POTENTIAL MECHANISMS**

- Media,
- Launch events,
- Workshops,
- Print materials
- Paid advertisements
- Tours
- One-on-one meetings



## STEP 6

Communicate the results to key decision makers





# STEP 6

Communicate the results to key decision makers

Simple

Powerful

Actionable

Surprising

Targeted

Iconic

Concrete



## STEP 6

Communicate the results to key decision makers



Kazakhstan agreed to establish 3 million hectares of protected areas in key Saiga habitat by 2030

# Exercise

Think of a situation in your country where protected area valuation is needed. Then discuss each step:

1. Clarify the situation
2. Identify the benefits/services
3. Choose the method
4. Select indicators
5. Develop plan and conduct analysis
6. Communicate the results

