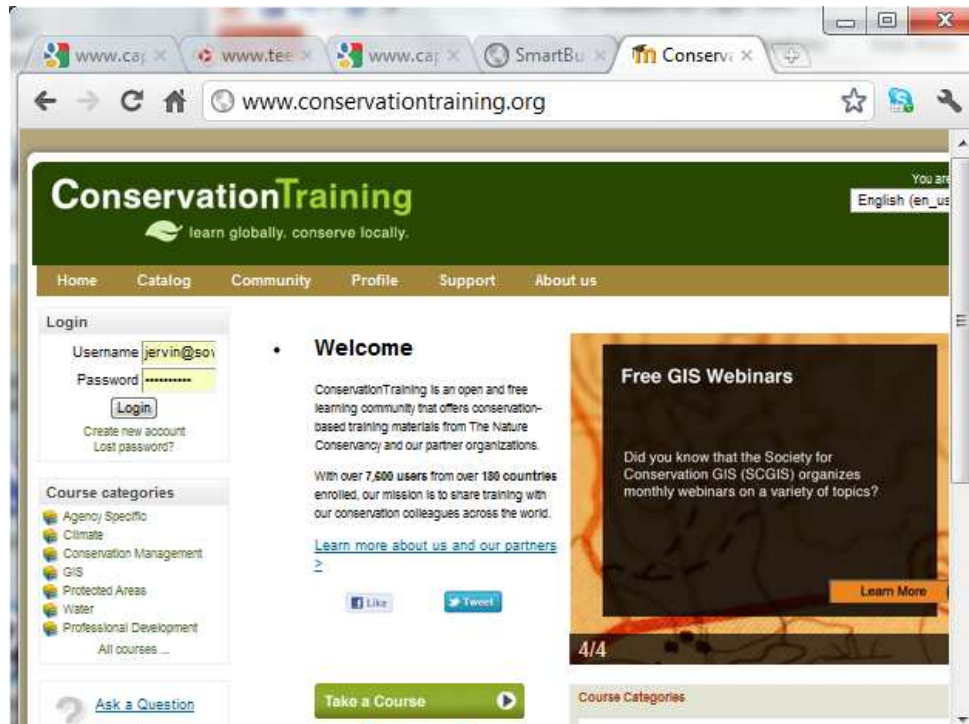


# Assessing protected area values: Making the economic case for conservation



Jamison Ervin, UNDP Senior Advisor

# TWO WAYS TO ACCESS E-LEARNING MODULES



www.conservationtraining.org

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# E-module on PA policy and valuation

The screenshot shows a web browser window with multiple tabs. The active tab is titled 'SmartGuider: P'. The address bar shows a file path: `file:///C:/Users/Owner/Desktop/Policy%20Module%20Lesson%203/player.html`. The page header features three logos: the **gef** logo (a green globe with a blue ring), the **Convention on Biological Diversity** logo (a green leaf), and the **UNDP** logo (a blue square with white text). Below the logos is a large orange banner with the text **Enabling Policy Environment**. Underneath the banner is a photograph of smooth, rounded, light-brown stones. The main content area has a green background with the text **Lesson 1: Assessing Protected Area Benefits**. Below this text is a button with a right-pointing arrow and the text **Begin**. At the bottom left, there is a small icon of a book and the text **Topics**. At the bottom right, it says **1 of 38**.





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

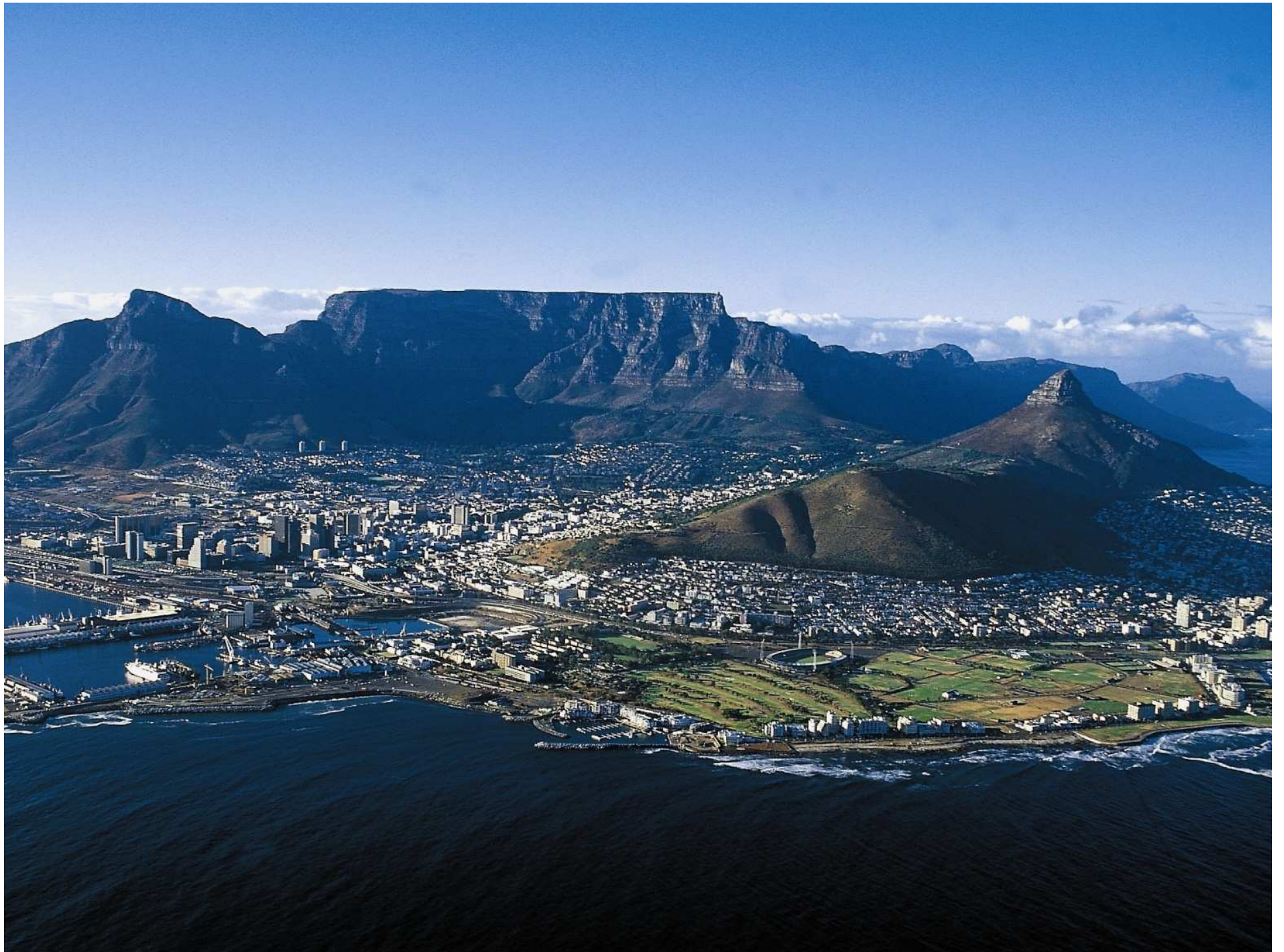
**The cost is \$320 million, BUT this investment avoids \$6 billion in water treatment costs (plus \$300 million/year in operating costs)**







8 million residents of Bogota obtain water from Chingaza and Sumapaz national parks.



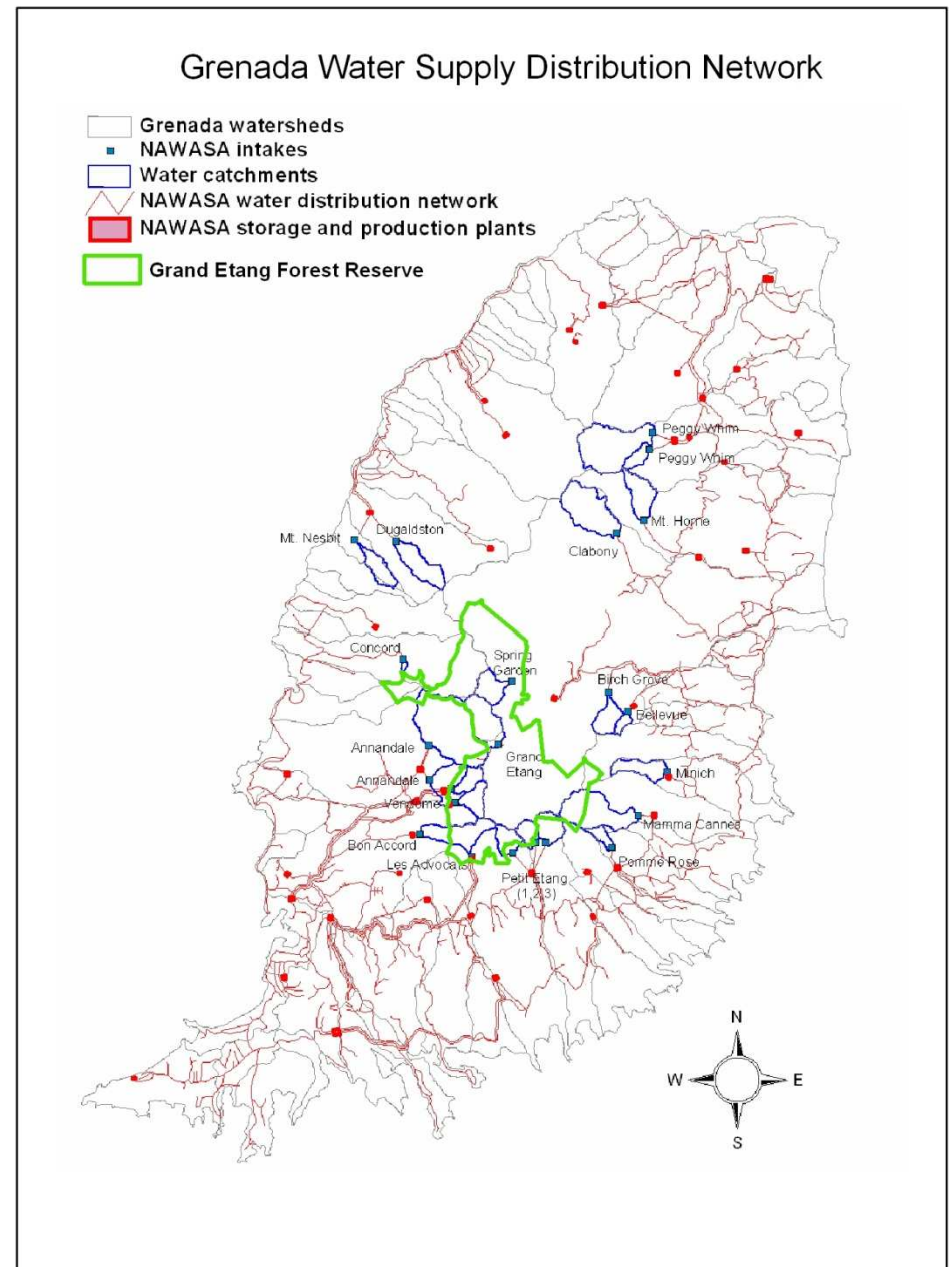




Protected areas = 9% of the Western Cape,  
but provide 60 % of the water generated



Grand Etang: Supplies 90%  
of Grenada's water supply  
AND cruise ships with  
water and avoids \$15mm  
annually



# The value of coral reefs

Healthy coral reefs in the Caribbean provide shoreline protection services estimated as worth between \$**X** per square kilometer in virtually unpopulated areas and \$**X** per square kilometer in densely settled and developed areas (Burke and Maidens 2004).



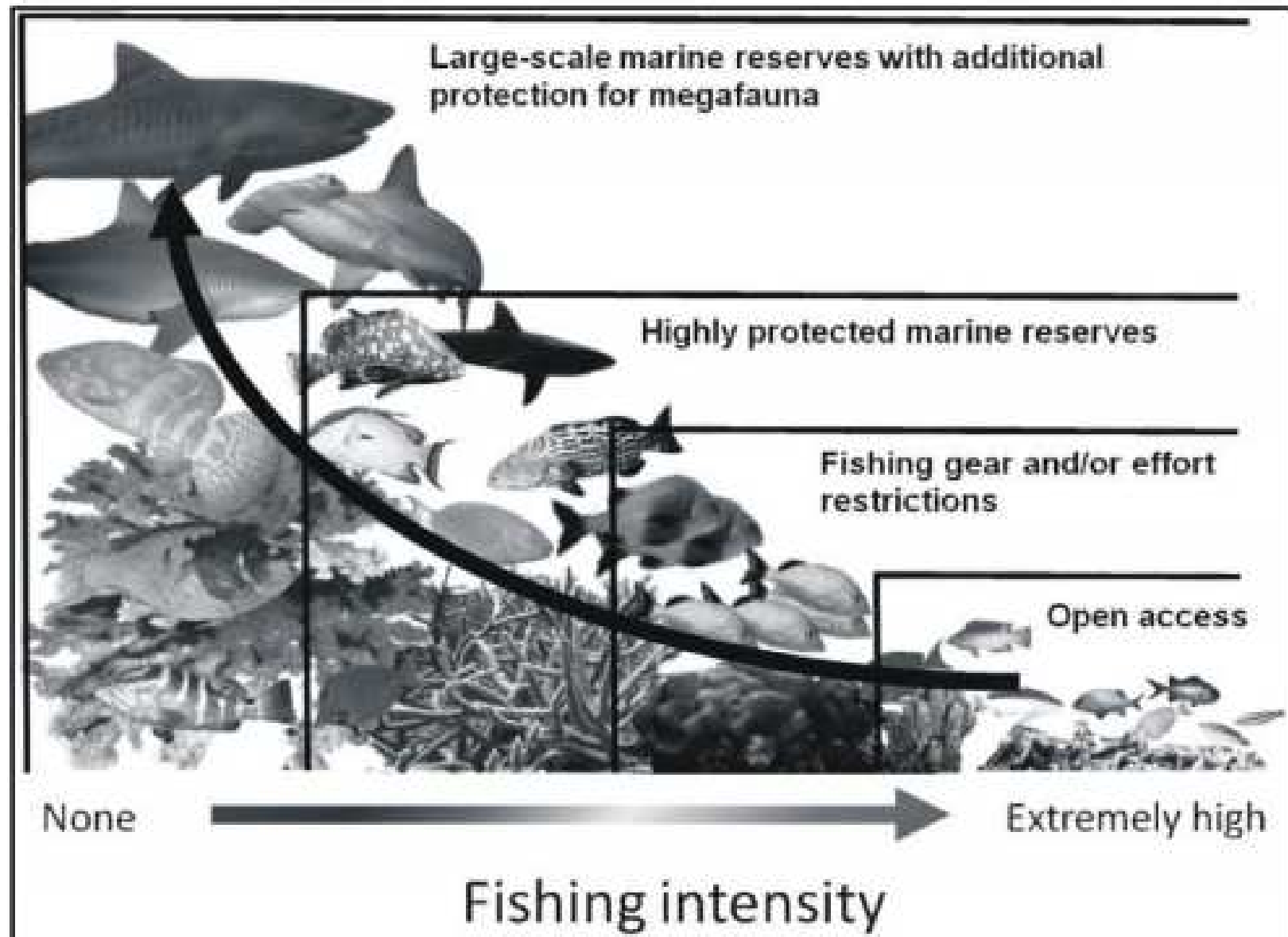


# The value of coral reefs

Healthy coral reefs in the Caribbean provide shoreline protection services estimated as worth between **\$2,000** per square kilometer in virtually unpopulated areas and **\$1** mm per square kilometer in densely settled and developed areas (Burke and Maidens 2004).

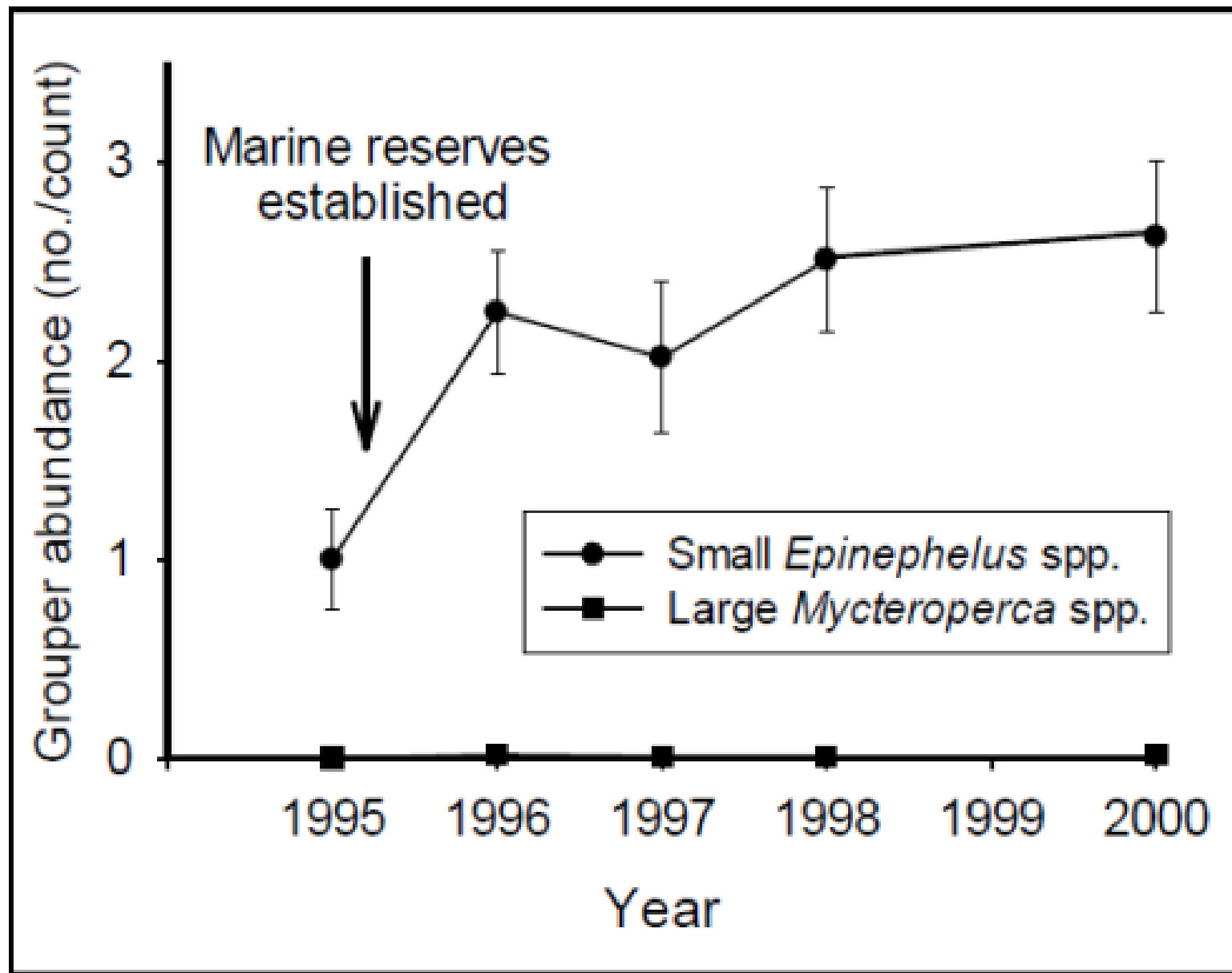


# The value of MPAs to fisheries

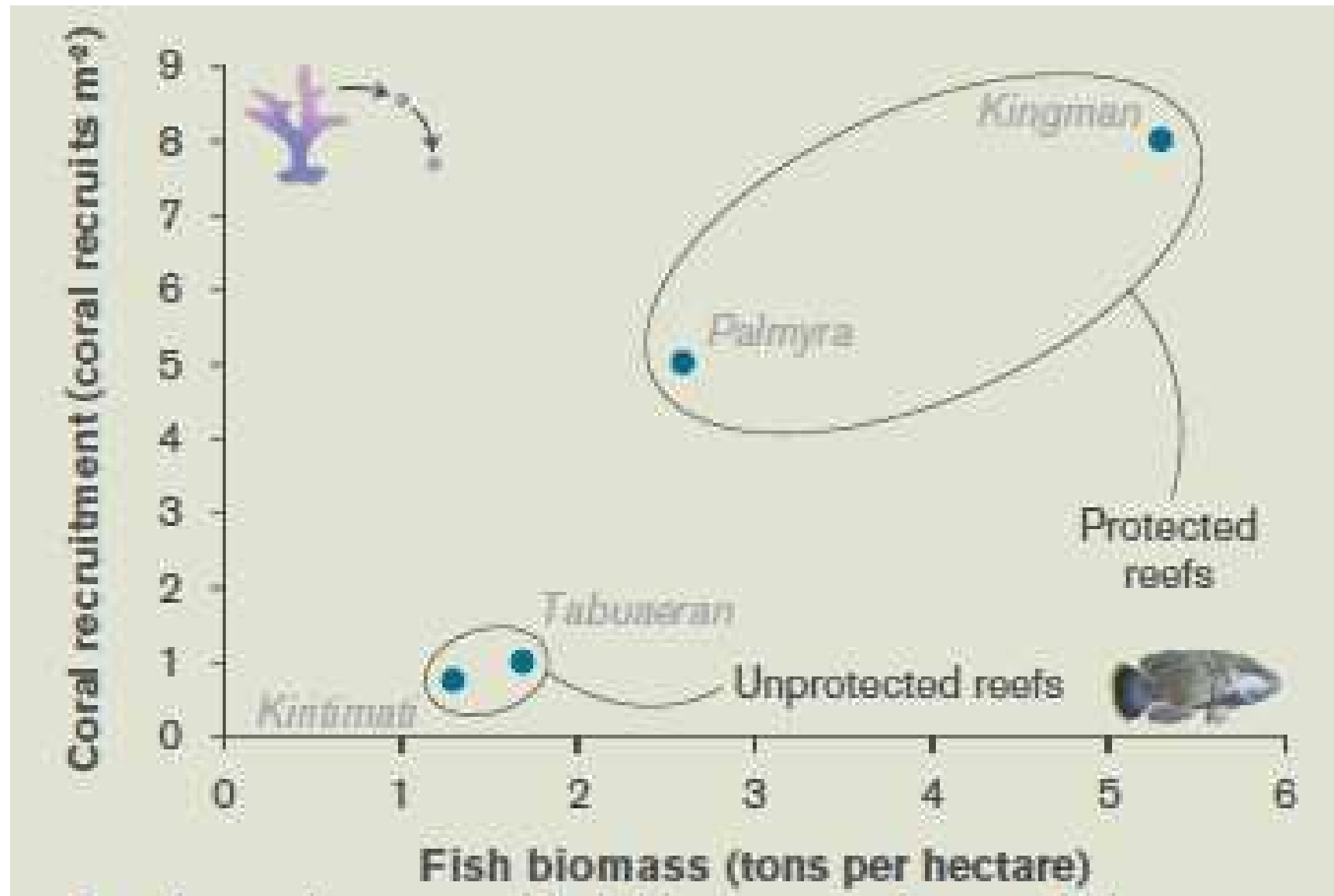




# The value of MPAs to fisheries



# The value of MPAs – resilience after bleaching





# The value of MPAs – tourism



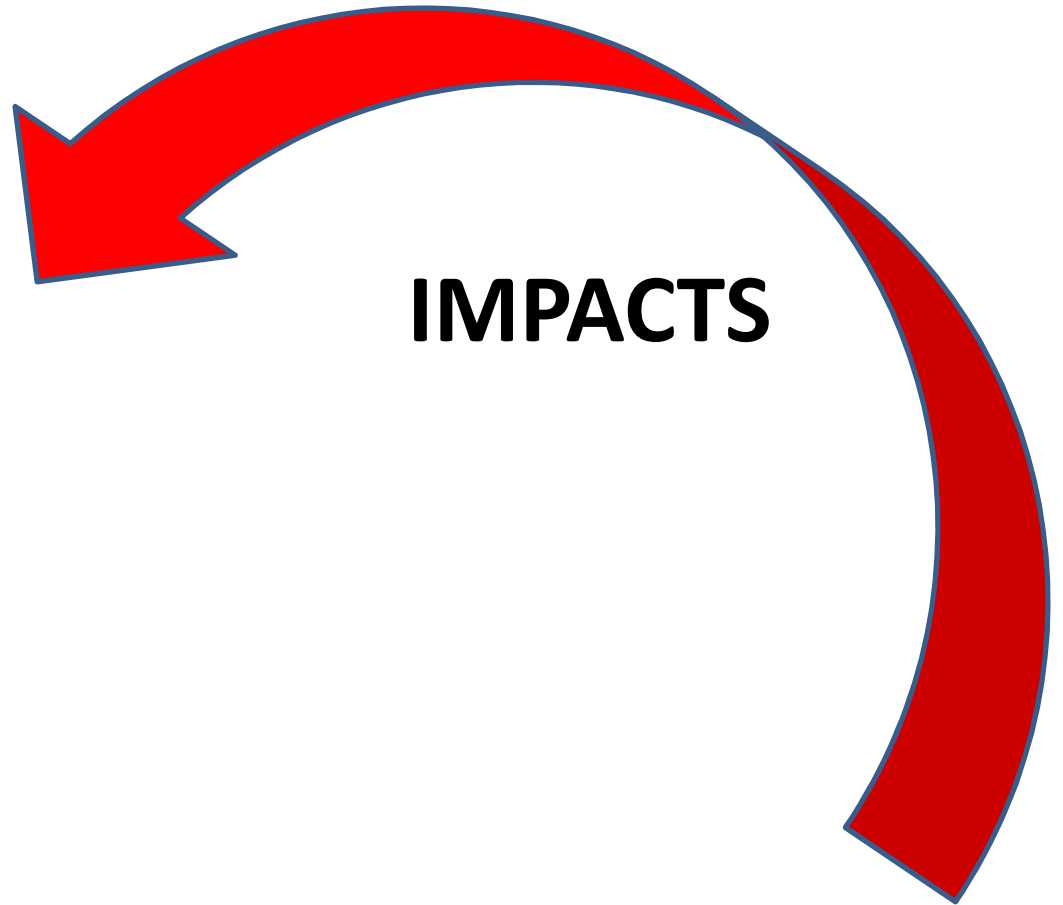
# The value of tourism



- 16-18% of GDP in the Caribbean
- 30mm visitors a year to Caribbean
- Tourists come to view healthy reefs and habitat

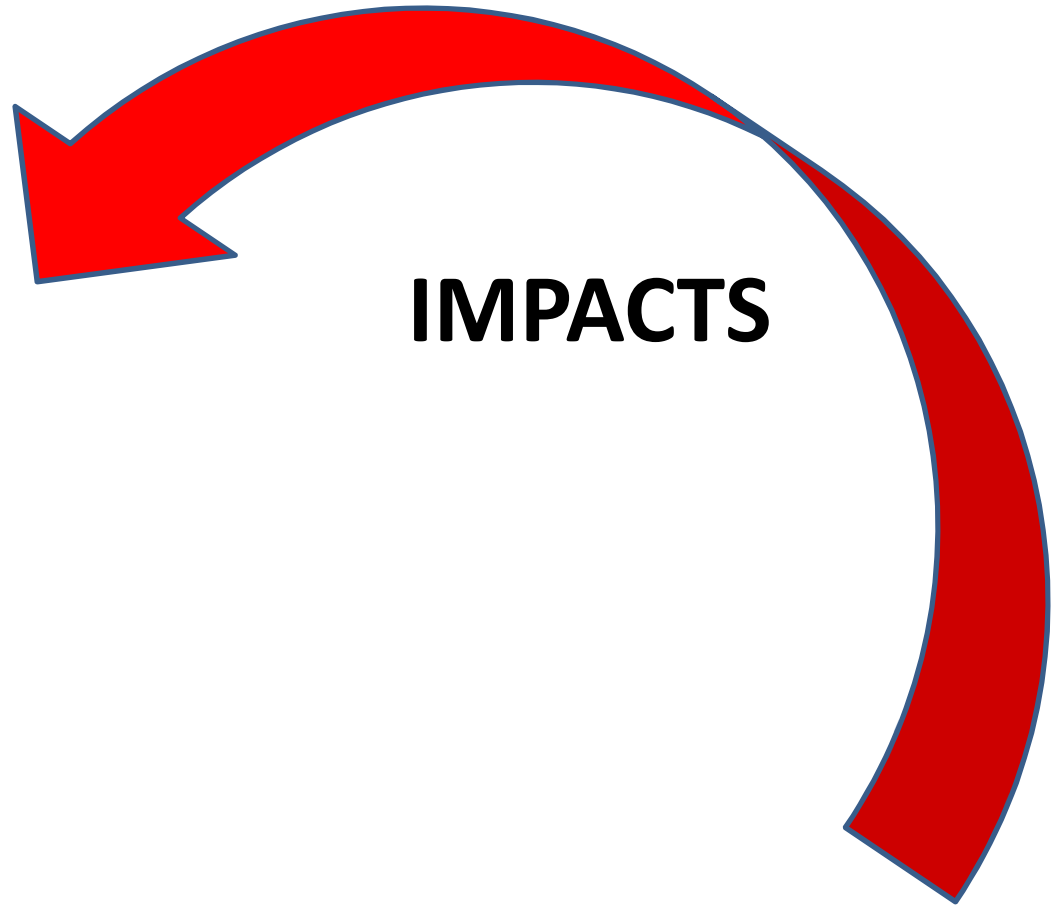




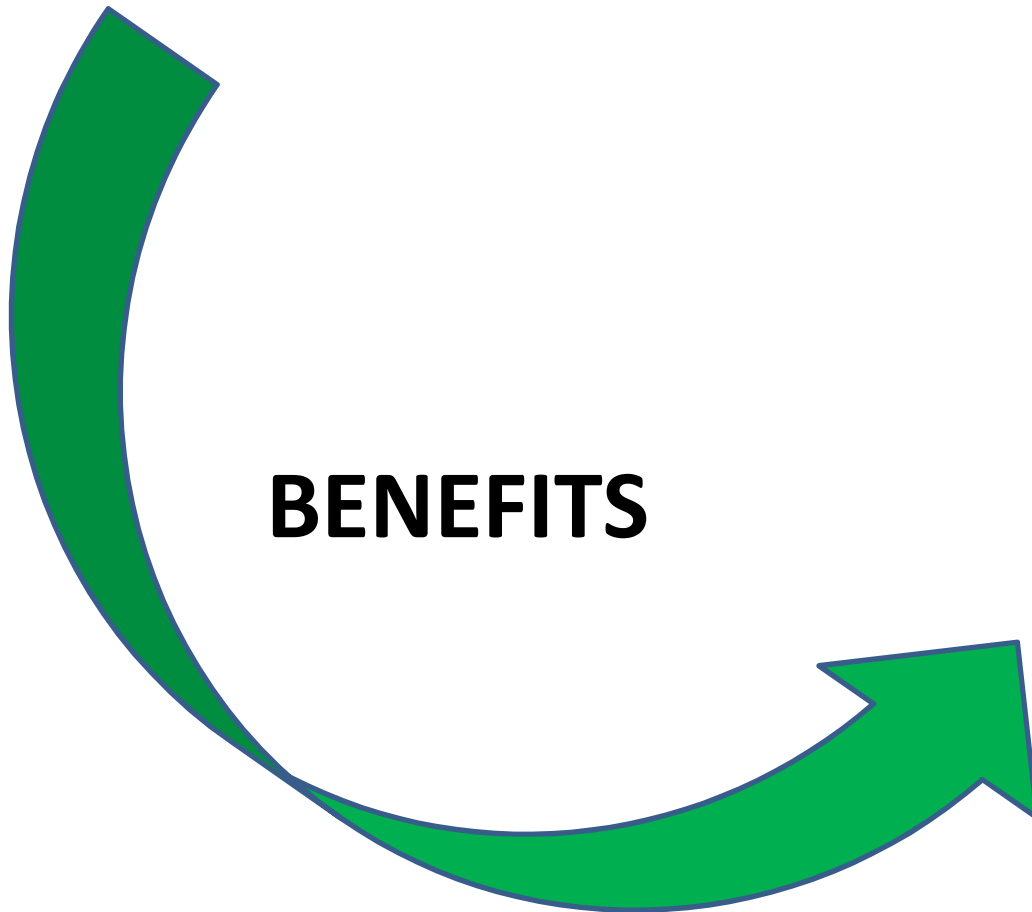


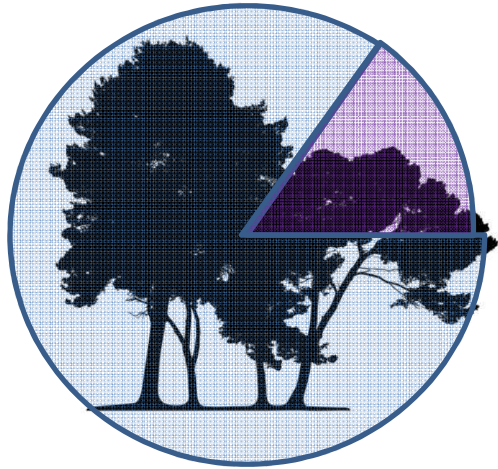


**IMPACTS**



**BENEFITS**



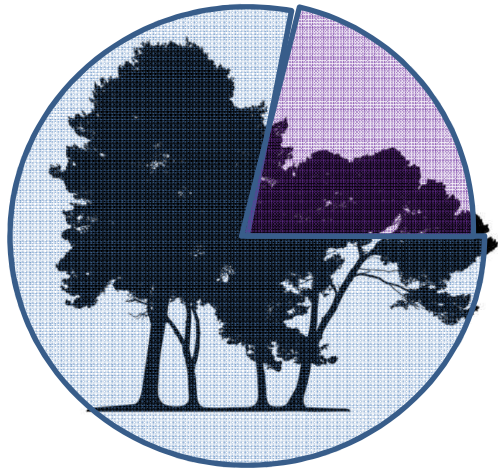


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**BENEFITS**



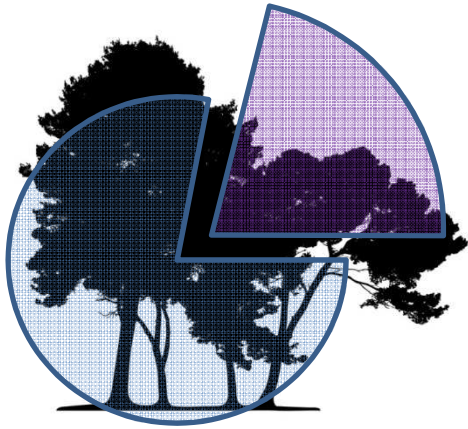




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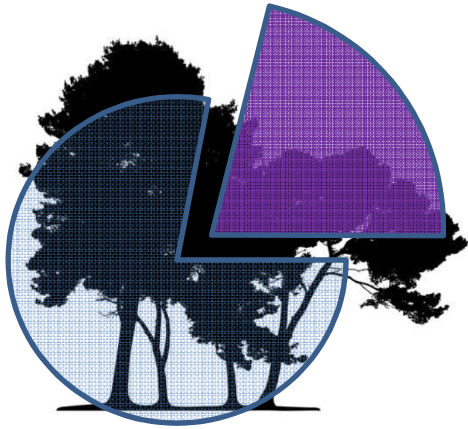




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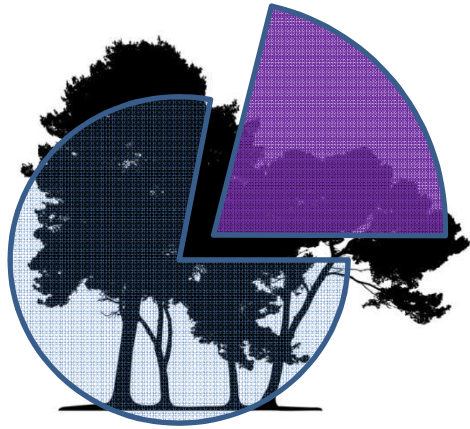
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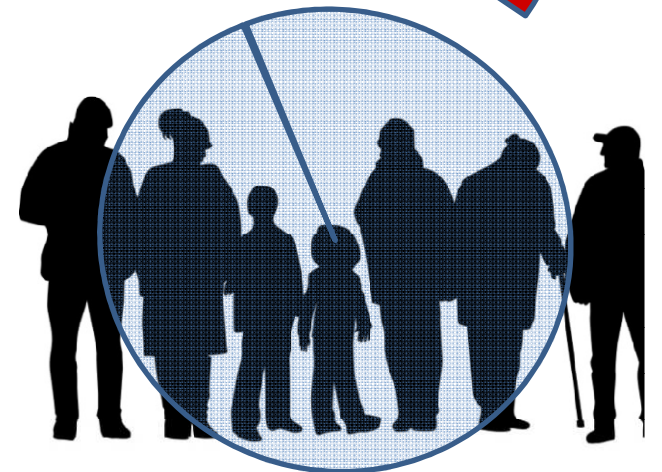




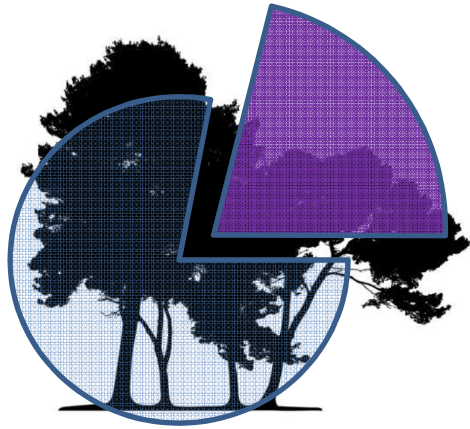
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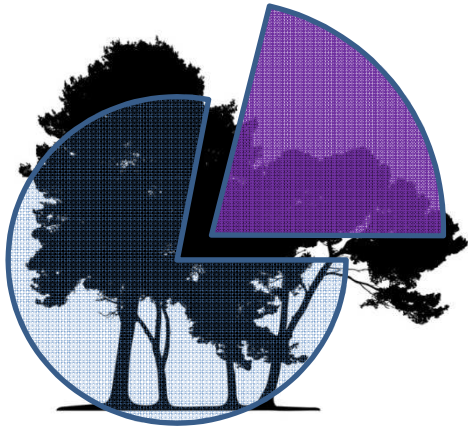
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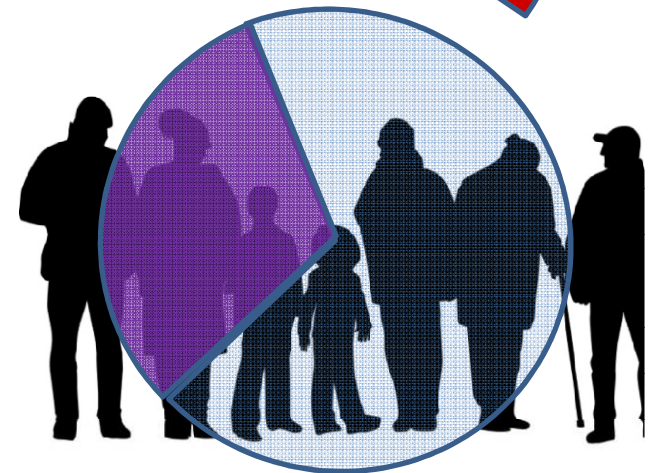
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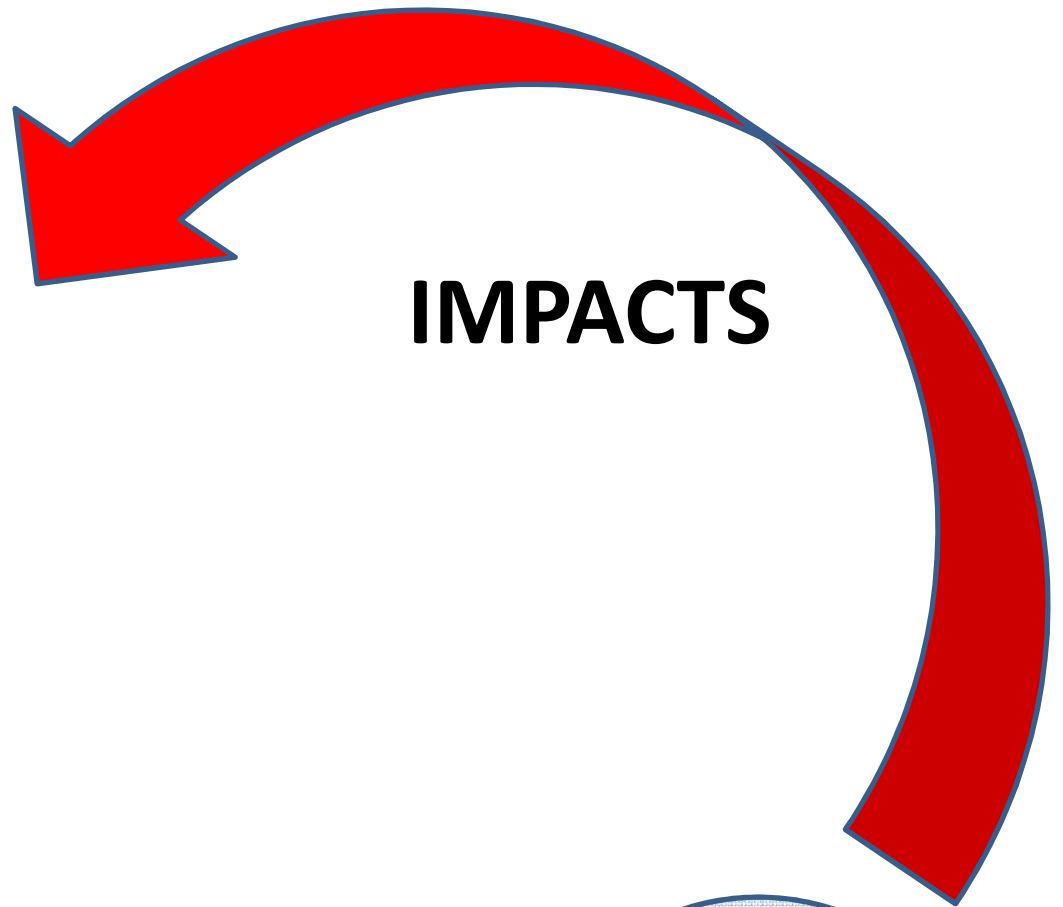
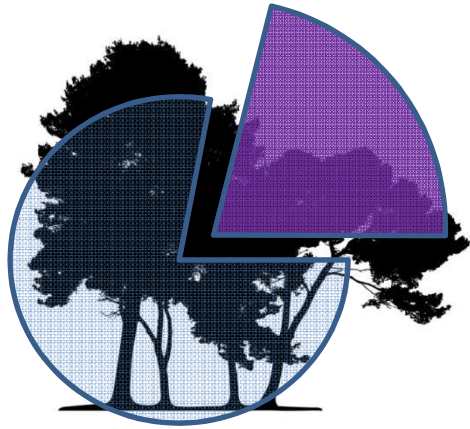
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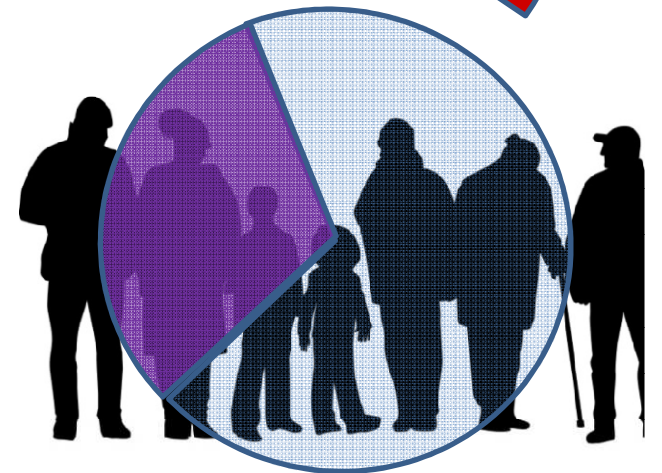




**IMPACTS**

**BENEFITS**

**Under valued**





**IMPACTS**



**BENEFITS**

**Under valued**



**IMPACTS**

**BENEFITS**

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**IMPACTS**

**BENEFITS**

**Under valued**



**IMPACTS**

**BENEFITS**

**Under valued**



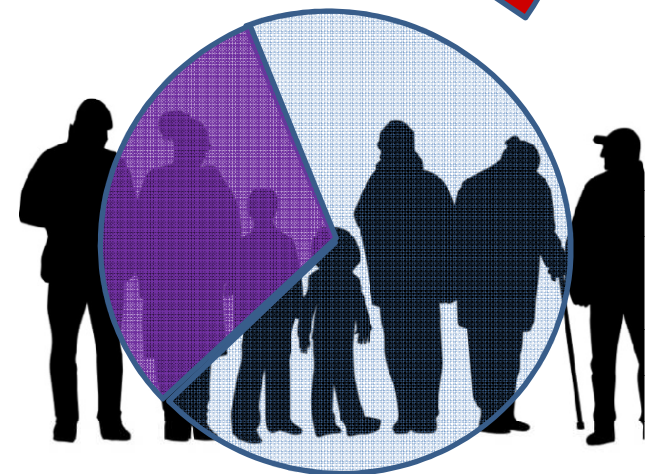
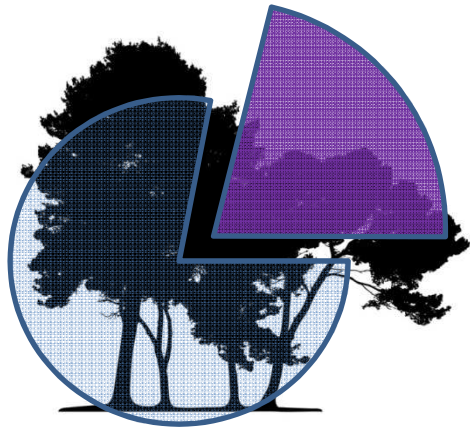
# IMPACTS

“Vicious  
cycle”

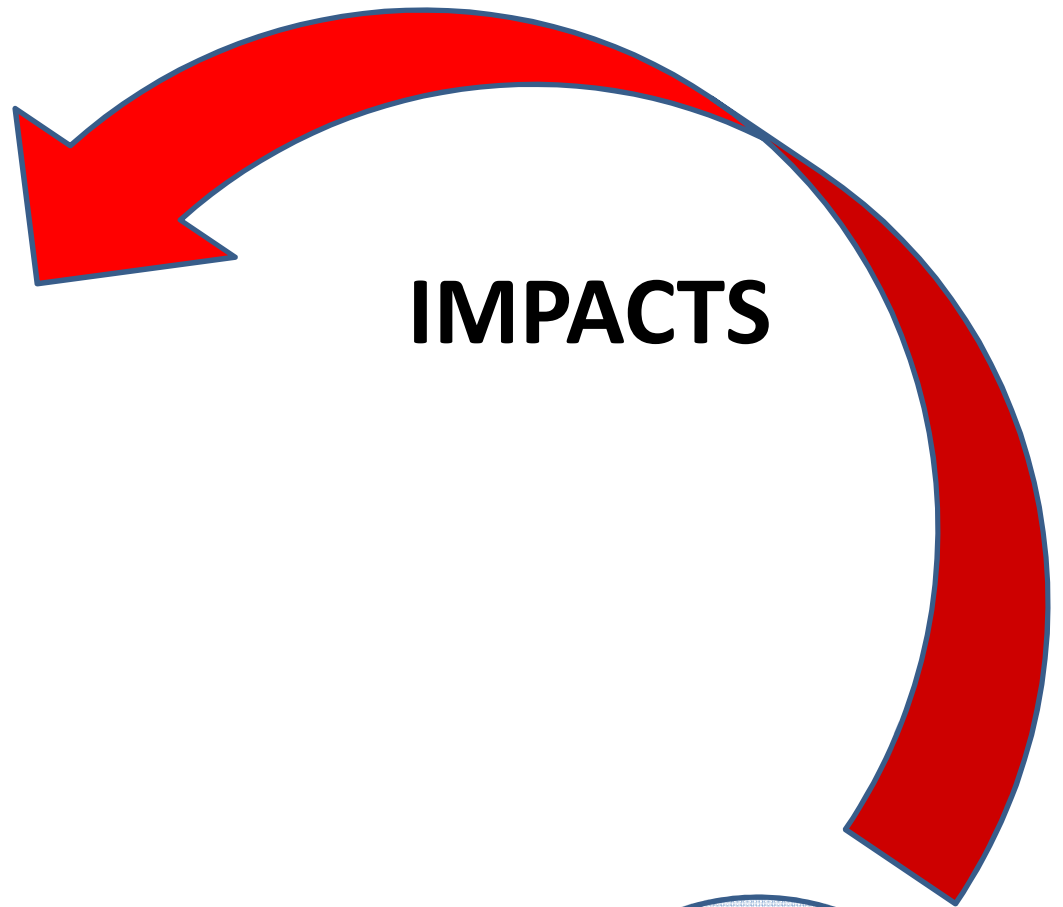
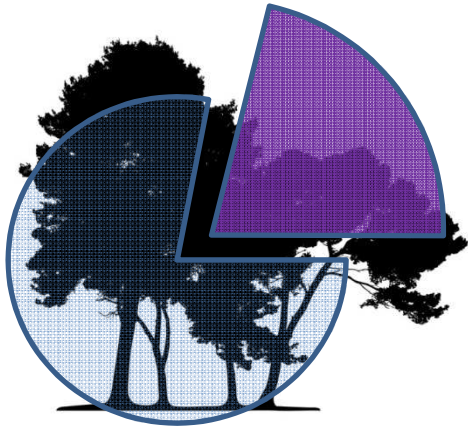
BENEFITS

Under valued

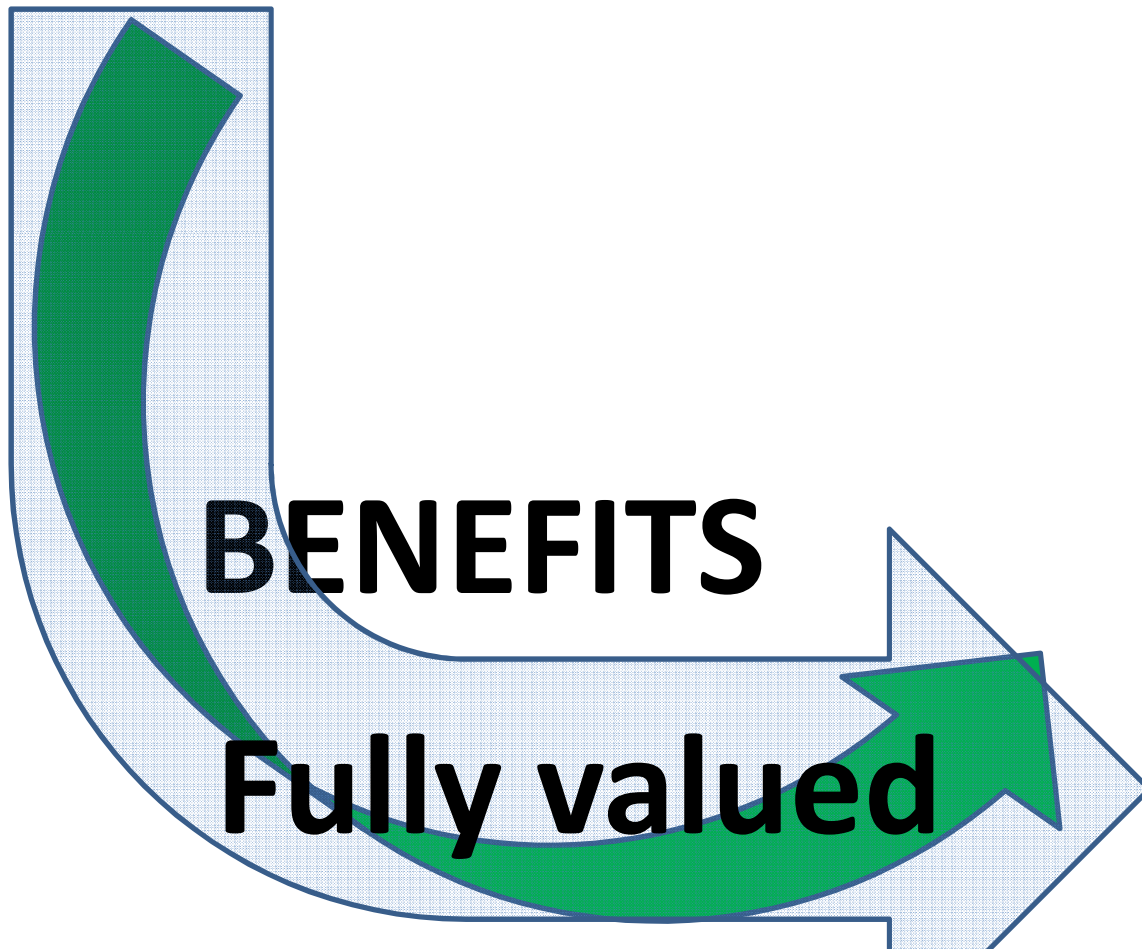
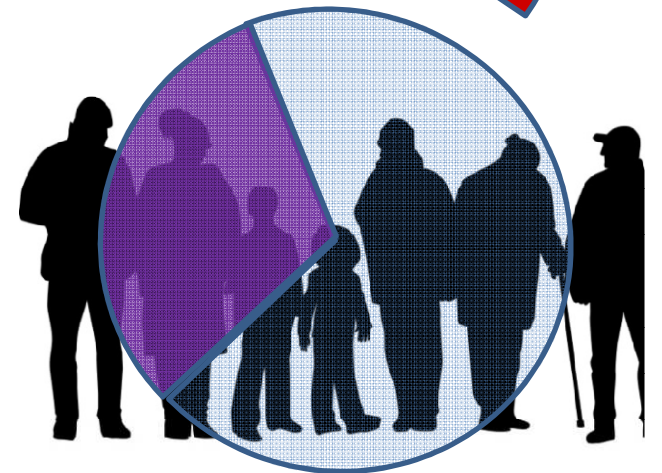
**IMPACTS**



**BENEFITS**



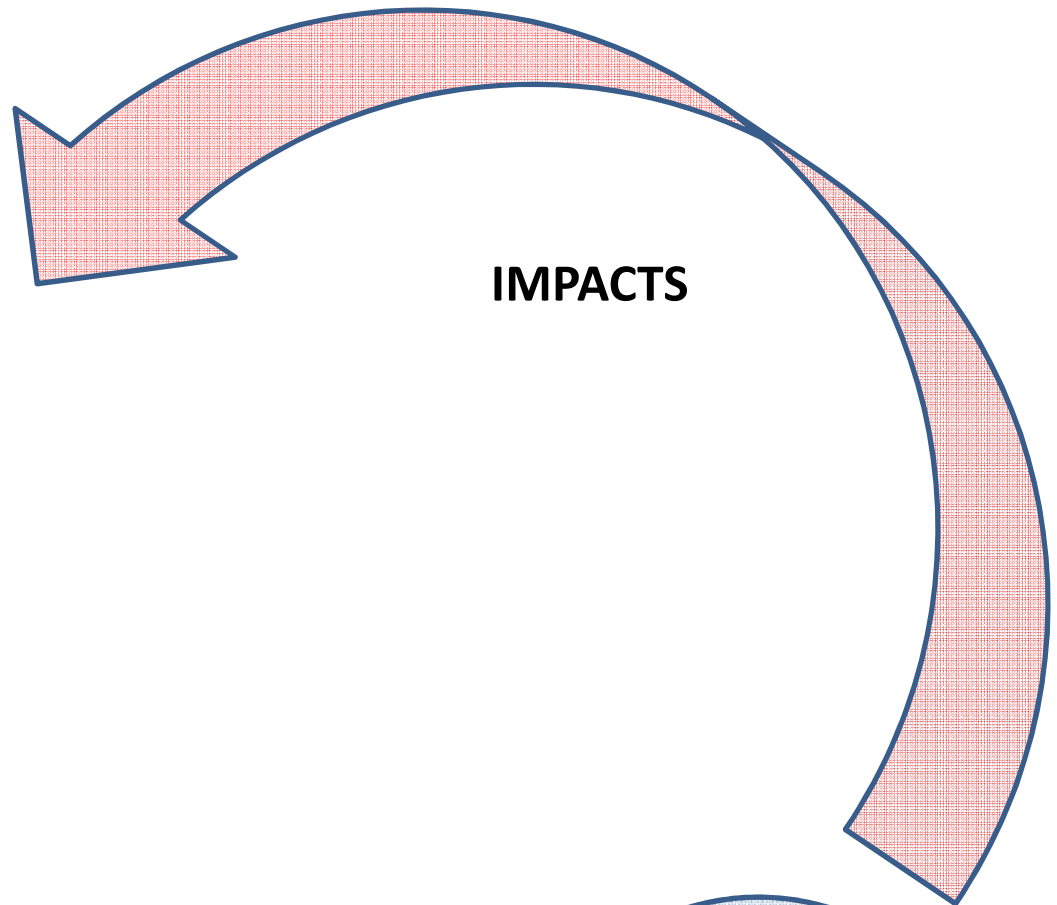
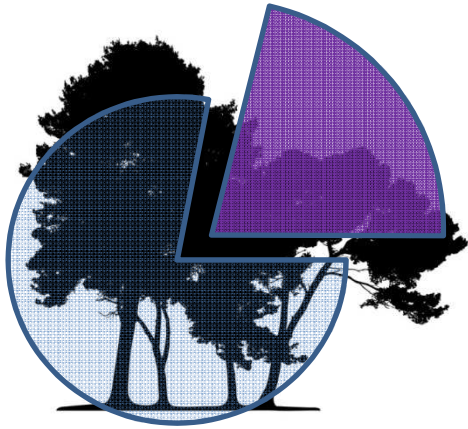
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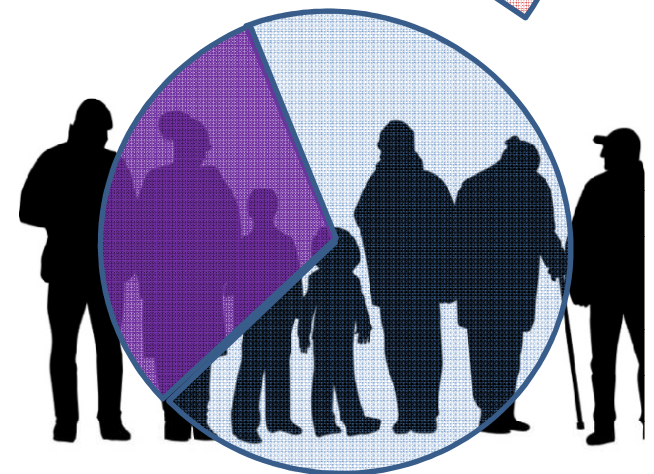
**BENEFITS**

**Fully valued**



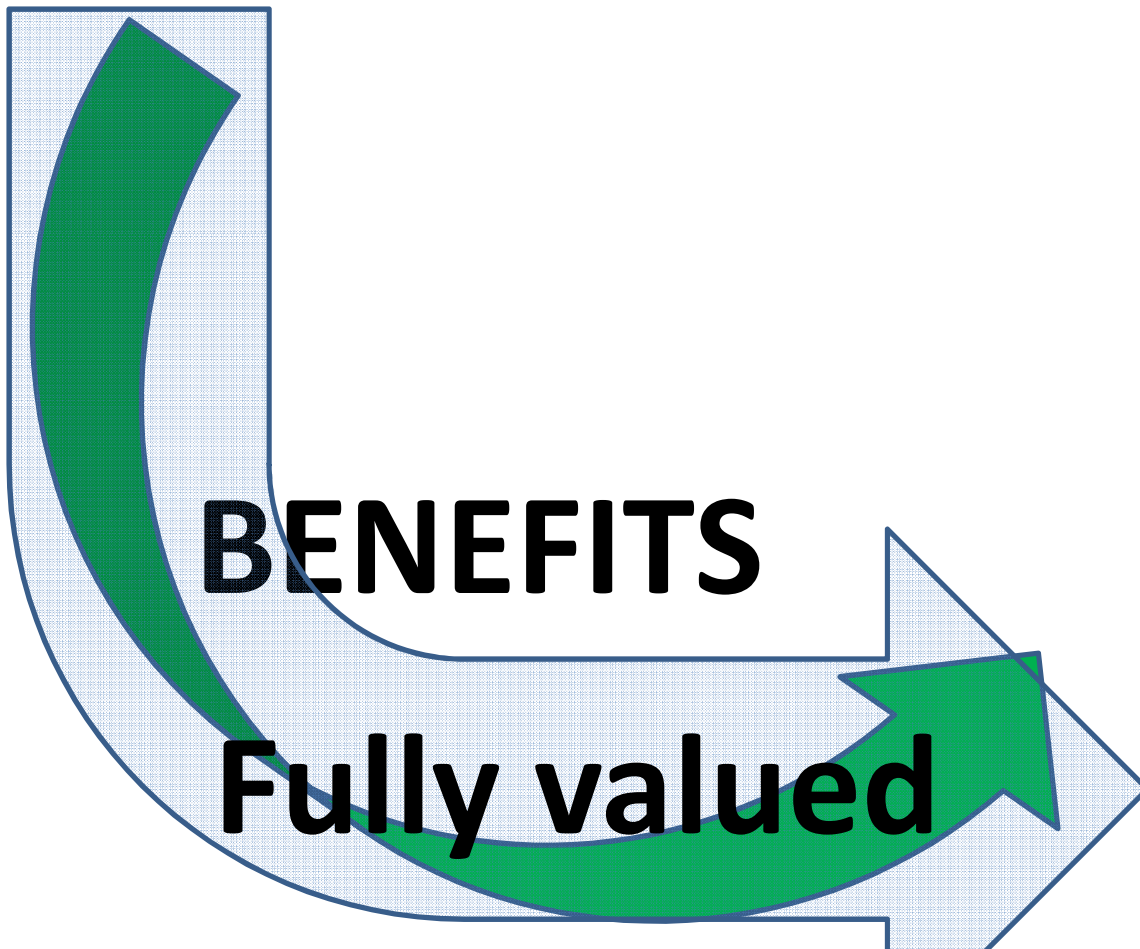


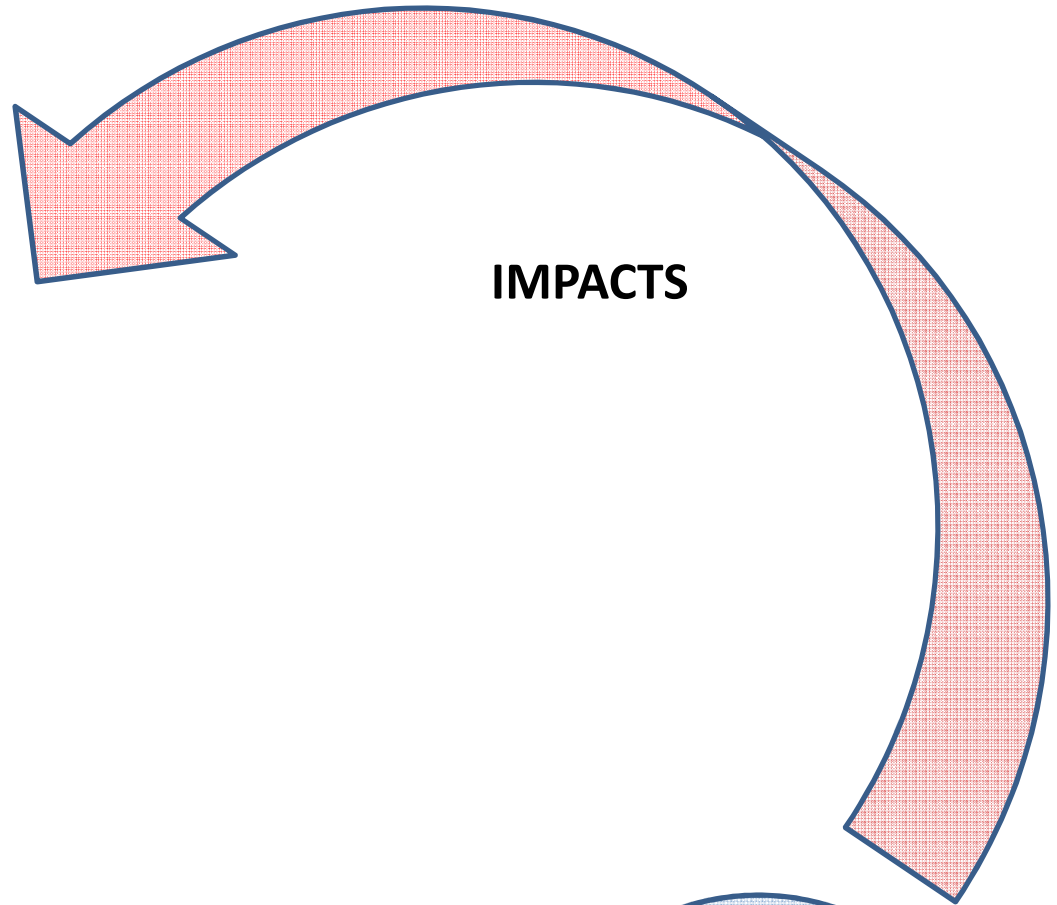
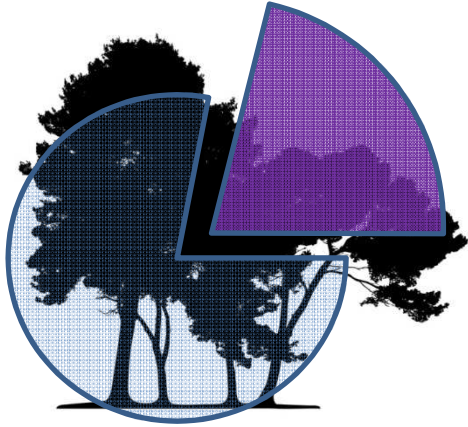
**IMPACTS**



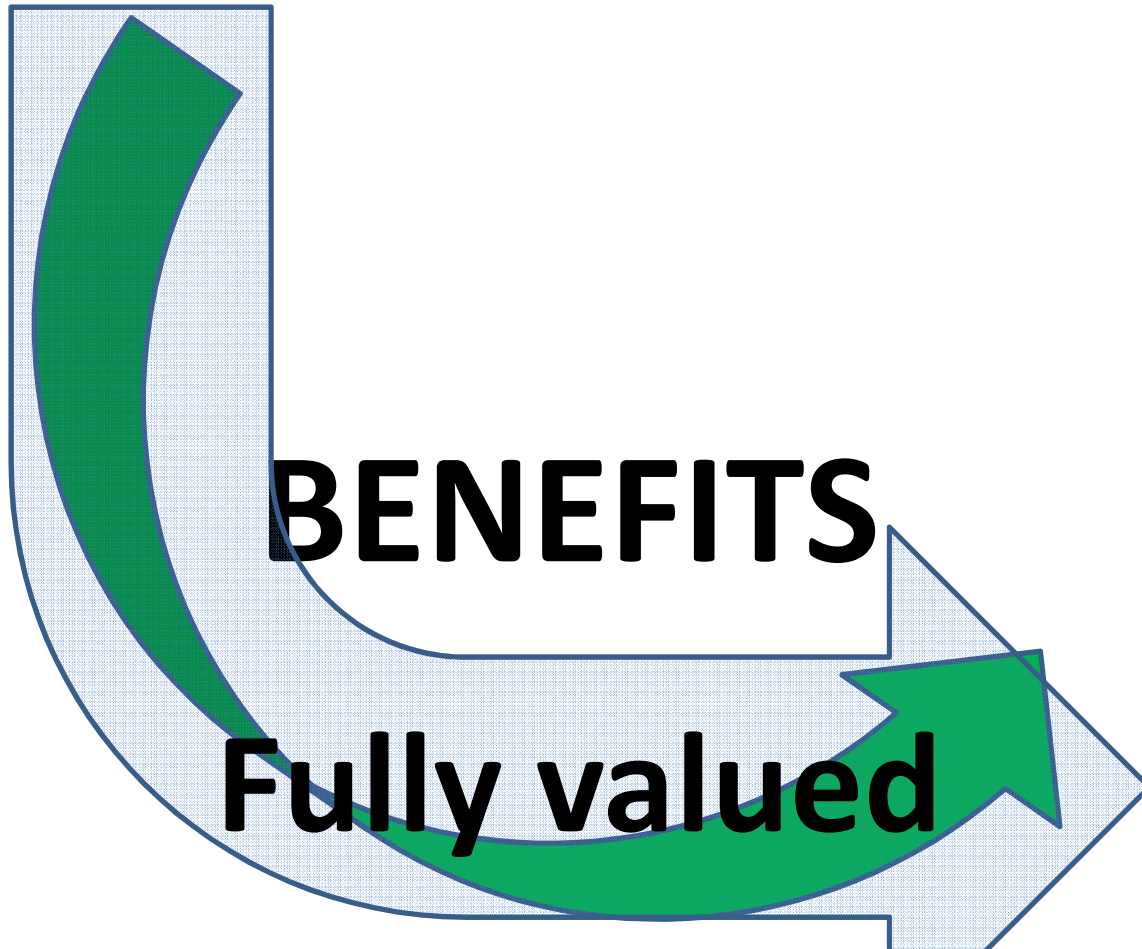
**BENEFITS**

**Fully valued**



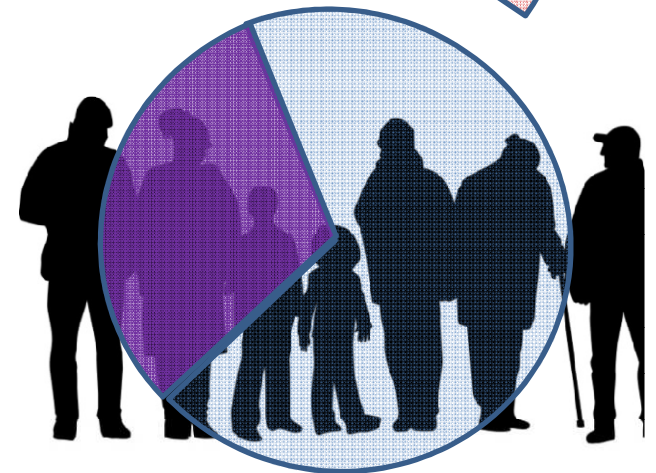


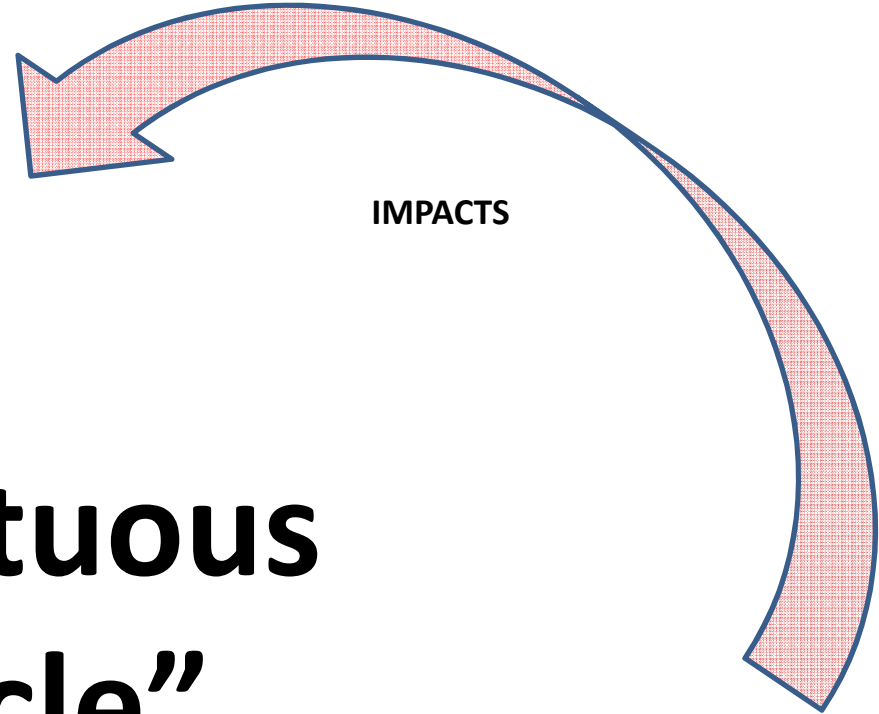
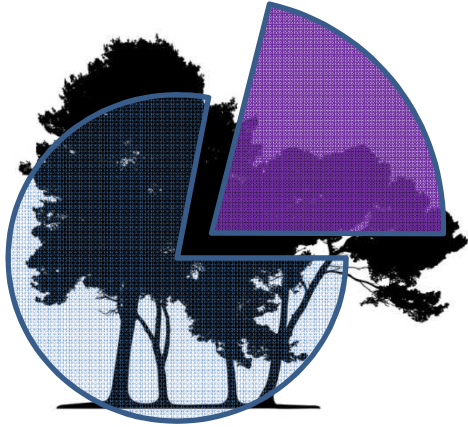
**IMPACTS**



**BENEFITS**

**Fully valued**



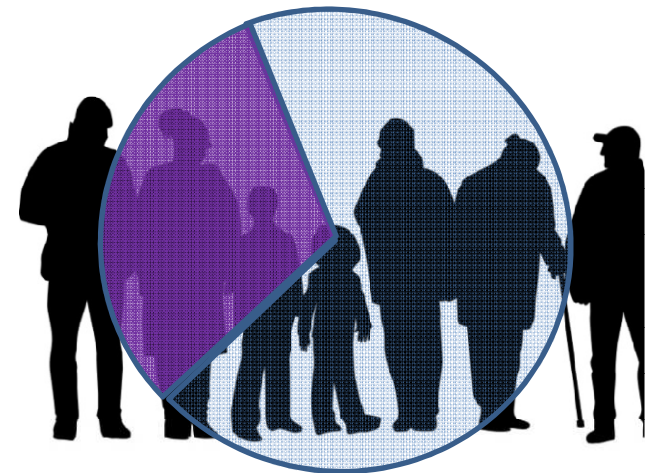


IMPACTS


**“Virtuous  
cycle”**

**BENEFITS**

**Fully valued**







... Under what circumstances is it important to assess and mainstream the values of protected areas and biodiversity?





...when there is a problem caused  
by undervaluation!





# Examples of undervaluation:

1. A road is planned through a large protected area
2. Headwater forests are being degraded
3. Wetlands are being drained and mangroves are being cut down
4. Rivers are being polluted from agricultural waste
5. Illegal fishing is occurring within protected areas
6. There is sand mining allowed on protected beaches
7. A protected area is planned for degazettement



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]*

Date	Deposited	Withdrawn	Balance
July 20	221.00		221.00
Aug 13	105		326
Aug 22	204		530
Sept 4	99		629
Sept 17	199.00		828.00
Sept 25	264.00		1092.00
Oct 8	117		1199.00
Oct 18	174		1363.00
Oct 18	72		1435.00
Oct 23	370		1437.00
Oct 24	120		1557.00
Oct 30	105		1663.00
Nov 13	172.92		1836.52
Nov 19	117		1953.52
Nov 21		1000	953.52

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Oct 30	105		1663.00
Nov 13	172.92		1836.52
Nov 19	117		1953.52
Nov 21		1000	953.52





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







...which leads to better economic  
and policy decisions





# Valuation: 3 phases

1. **IDENTIFY** and **ASSESS** the full range of ecosystem services and people affected

3. **CAPTURE** the value of ecosystem services and seek **SOLUTIONS**

2. **ESTIMATE** and **DEMONSTRATE** the value of ecosystem services



TEEB. 2010. *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature.*



# Steps in Assessing Protected Area Values

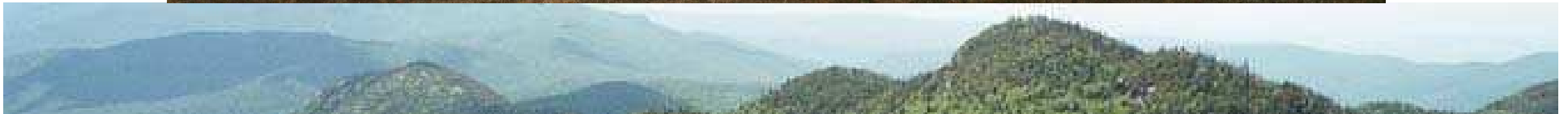
1. Clearly define the situation, audience and decision
2. Choose which benefits and services are included
3. Choose valuation method for each benefit
4. Develop measurable indicators
5. Analyze the economic and social value of benefits
6. Communicate the results to key decision makers
7. Identify and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





# STEP 1

Clearly define the situation, audience and decision



# STEP 1

Clearly define situation, audience and decision



# STEP 1

Clearly define situation, audience and decision





# STEP 1

Clearly define situation, audience and decision



# STEP 1

Clearly define situation, audience and decision





# STEP 1

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 saiga populations, upon which major ecosystem services, livelihoods and human wellbeing depend



## STEP 2

Choose which benefits, goods and services are included



## STEP 2

Choose ecosystem 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 easy to communicate to key stakeholder groups
- Have the highest economic values
- Are the most important benefit across an entire ecosystem or protected area system





## STEP 2

Choose which benefits, goods and services are included



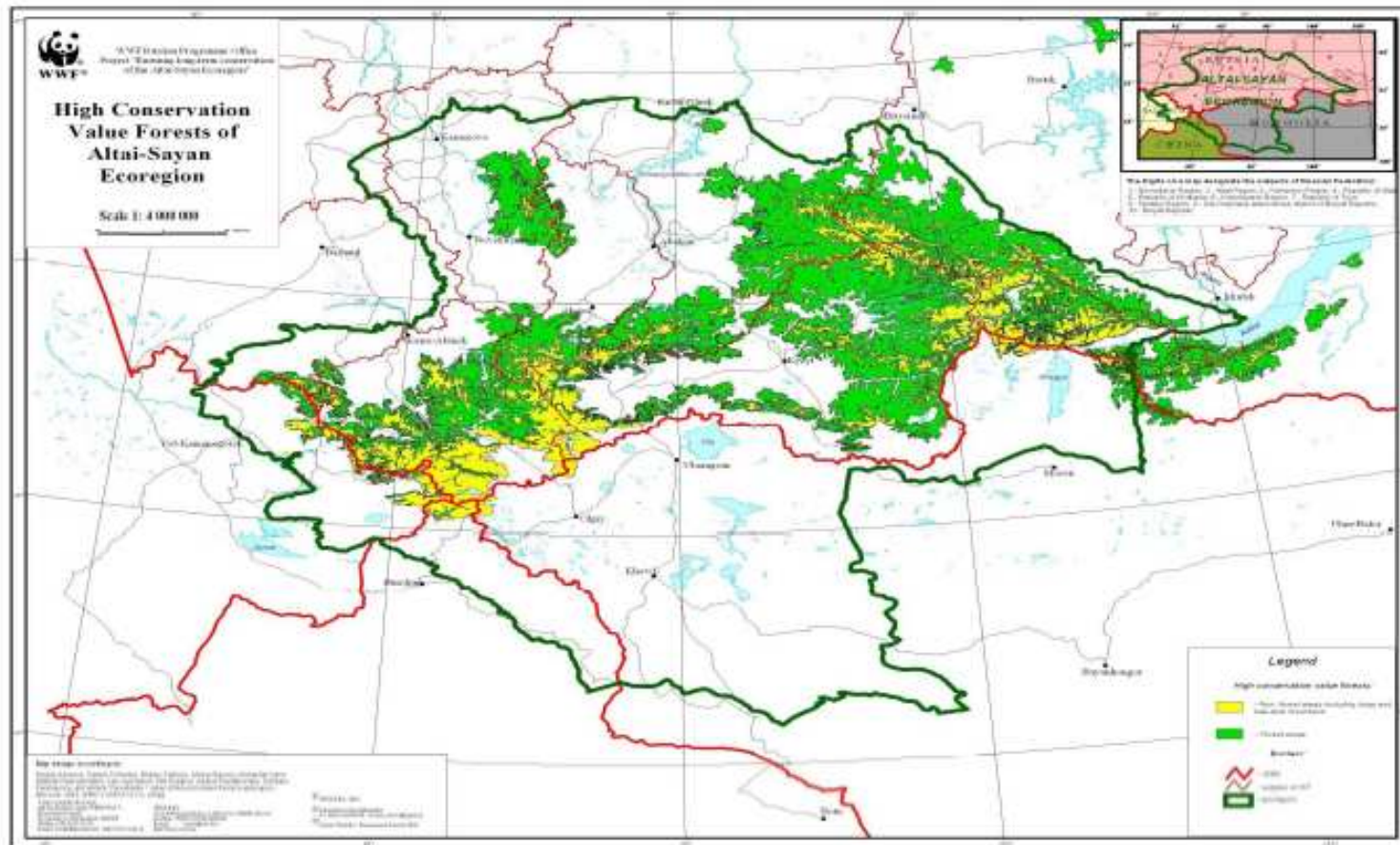
Sustainable livelihoods and subsistence



# STEP 2

Choose which benefits, goods and services are included

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



# STEP 3

Choose a valuation method for each benefit/service

- Market price
- Replacement cost
- Costs avoided
- Net factor income
- Willingness to pay
- Contingent valuation
- Value comparison study



# STEP 4

## Develop measurable indicators

Ecosystem service	Potential Indicator
Food security	<ul style="list-style-type: none"><li>• Average protein intake per person</li></ul>
Health	<ul style="list-style-type: none"><li>• # and % of people using medicinal plants</li></ul>
Fisheries	<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>
Disaster mitigation	<ul style="list-style-type: none"><li>• Hectares of avoided erosion</li><li>• # of people protected from flooding</li></ul>
Water supply	<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

## Develop and implement valuation assessment





# STEP 5

## Develop and implement valuation assessment

- Develop description of work
- Develop terms of reference
- Develop methodology
- Develop budget for staffing, experts, communication
- Develop timeline
- Conduct assessment



## 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



Meetings were held with a wide variety of stakeholders from across Kazakhstan

# STEP 7

## Identify and implement the policy or finance mechanisms

### Kazakhstan 'steppes' up protection of endangered antelope

Mar 2007. Almaty, Kazakhstan – A new nature reserve in north-western Kazakhstan will protect unique wetlands and habitats of rare saiga antelopes that inhabit the country's famous steppes.

More than 93% of the Irgiz-Turgay nature reserve, with an area of 763,549 hectares, will become a protected pasture for wild ungulates, including saiga antelope. 'This large reserve is an important step in



achieving our goal of creating a system of protected areas of more than 6 million hectares, particularly for rare ungulates and birds,' says Tatyana Bragina, Coordinator of the Altyn Dala Conservation Initiative.

Kazakhstan agreed to a goal of establishing 6 million hectares of new protected areas in key Saiga habitat by 2030

# STEP 7

## Identify and implement the policy or finance mechanisms



- Reform or create policies, plans, laws
- Create/expand protected areas, buffer zones, corridors
- Modify management plans and practices
- Institute user fees, PES and other finance mechanisms
- Incorporate protected areas into spatial and land-use planning
- Create public-private partnerships



# Protected area valuation



Aims to place protected areas into economic decision-making frameworks...



# Protected area valuation

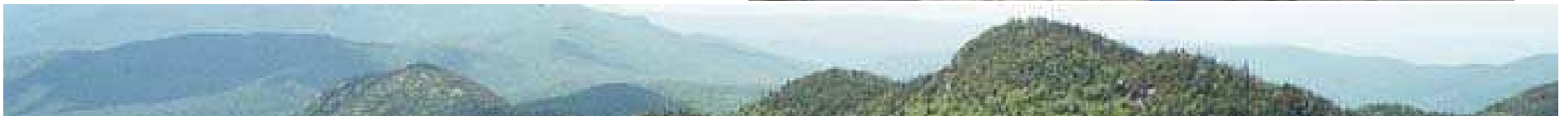
...in other words, to place protected areas on the radar screen of major decision makers...



# Mainstreaming and integration



...in order to make  
better societal  
decisions.





# Exercise

1. What is an protected area problem in your country that valuation can help to solve?
2. What are the ecosystem services that are most important and feasible to include?
3. What are the indicators that will be most relevant with decision makers?
4. What are the most important mechanisms for integrating the protected area values?

