

OVERVIEW OF BIODIVERSITY SERVICES



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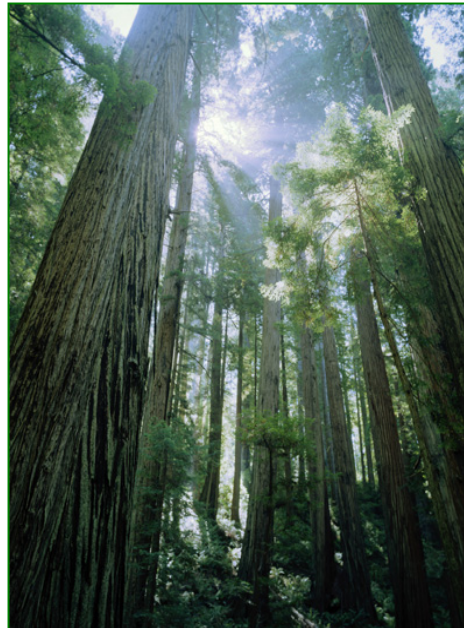
MAJOR FOREST ECOSYSTEM SERVICES

**Watershed Protection
Services**

**Biodiversity
Conservation Services**

**Climate Regulation
Services**

**Agricultural
Services**



**Landscape Quality, Recreation,
Cultural/Spiritual Values**



BENEFITS OF BIODIVERSITY PROTECTION

Provide diverse habitat conditions

Conserve genetic and chemical information

Maintain ecosystem functioning



Provide insurance against future change

Provide spiritual, aesthetic and cultural values



FINANCIAL VALUE

Ecosystem	Area (millions ha)	Value (\$/ha/yr)	Global value (\$trillions/yr)
Open ocean	33,200	252	8.4
Coastal	3,102	4,052	12.6
Tropical forest	1,900	2,007	3.8
Other forests	2,955	302	0.9
Grasslands	3,898	232	0.9
Wetlands	330	14,785	4.9
Lakes & Rivers	200	8,498	1.7
Cropland	1,400	92	0.1

Total Biosphere worth:

\$33.3

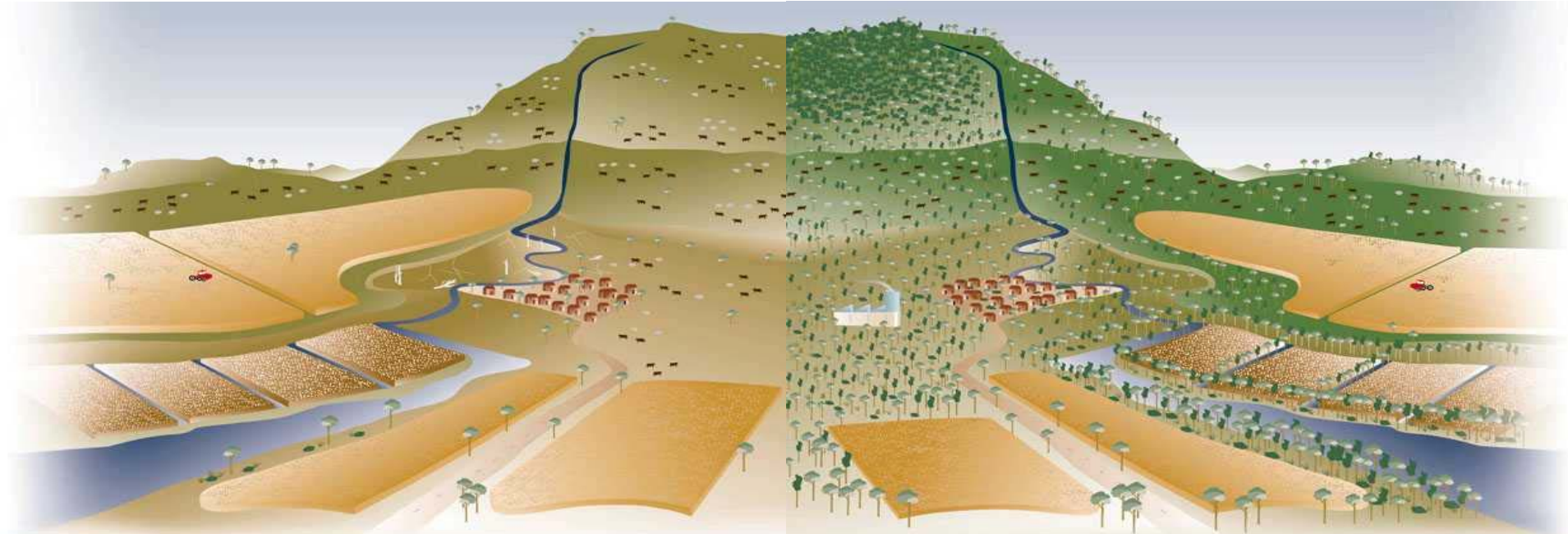


FINANCIAL VALUE

Forest Good or Service	Tropical Forests (\$USD/ha)	Temperate Forests (\$USD/ha)
Timber	200- 4400 (NPV)	-4000 to + 700 (NPV)
Conventional logging	300- 2660 (NPV)	
Sustainable	20- 440	
Conventional logging	30- 266	
Sustainable		
Fuelwood	40	--
NTFPs	0-100	Small
Genetic Information	0-3000	--
Recreation	2- 470 (General) 750 (Forests near towns) 1000 (Unique forests)	80
Watershed Benefits	15-850	10 to +50
Climate Benefits	360- 2200 (GPV)	90- 400 (Afforestation)
Amenity	--	Small
Non-use values	n.a.	70?
Option values	2-12	12- 45
Existence values	4400 (Unique areas)	



INFLUENCE OF LAND MANAGEMENT



P R E S E N T

The existing rural landscape.

LAND USE

OUTPUT	AREA (ha)	REVENUE (000's)
Sheep	250,000	25,000
Cattle	200,000	40,000
Wheat	250,000	118,000
Canola	150,000	112,000
Cotton	150,000	490,000
TOTAL	1,000,000	785,000

ENVIRONMENTAL PROBLEMS

- ◆ Dryland salinity increasing
- ◆ Rising water tables and saline discharge
- ◆ Nutrients leaching into waterways
- ◆ Low biodiversity
- ◆ Soil erosion and turbid waterways

F U T U R E

Planted forests in the landscape create a more diverse economy and a healthier environment.

LAND USE

OUTPUT	AREA (ha)	REVENUE (000's)
Sheep	150,000	18,000
Cattle	120,000	28,000
Wheat	200,000	94,000
Canola	120,000	90,000
Cotton	150,000	490,000
Timber	26,000	12,000
Bioenergy	117,000	9,000
Charcoal	117,000	14,000
Carbon credits		41,000
Salinity credits		26,000
TOTAL	1,000,000	822,000

ENVIRONMENTAL BENEFITS

- ◆ Dryland salinity reduced
- ◆ Lower water tables and clean discharge
- ◆ Nutrients retained on farm
- ◆ Biodiversity increased
- ◆ Soil erosion reduced



Existing profitability of practices

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THANK YOU!



www.forest-trends.org



www.katoombagroup.org