

The Global Economic Contribution of Protected Natural Landscapes Through Tourism

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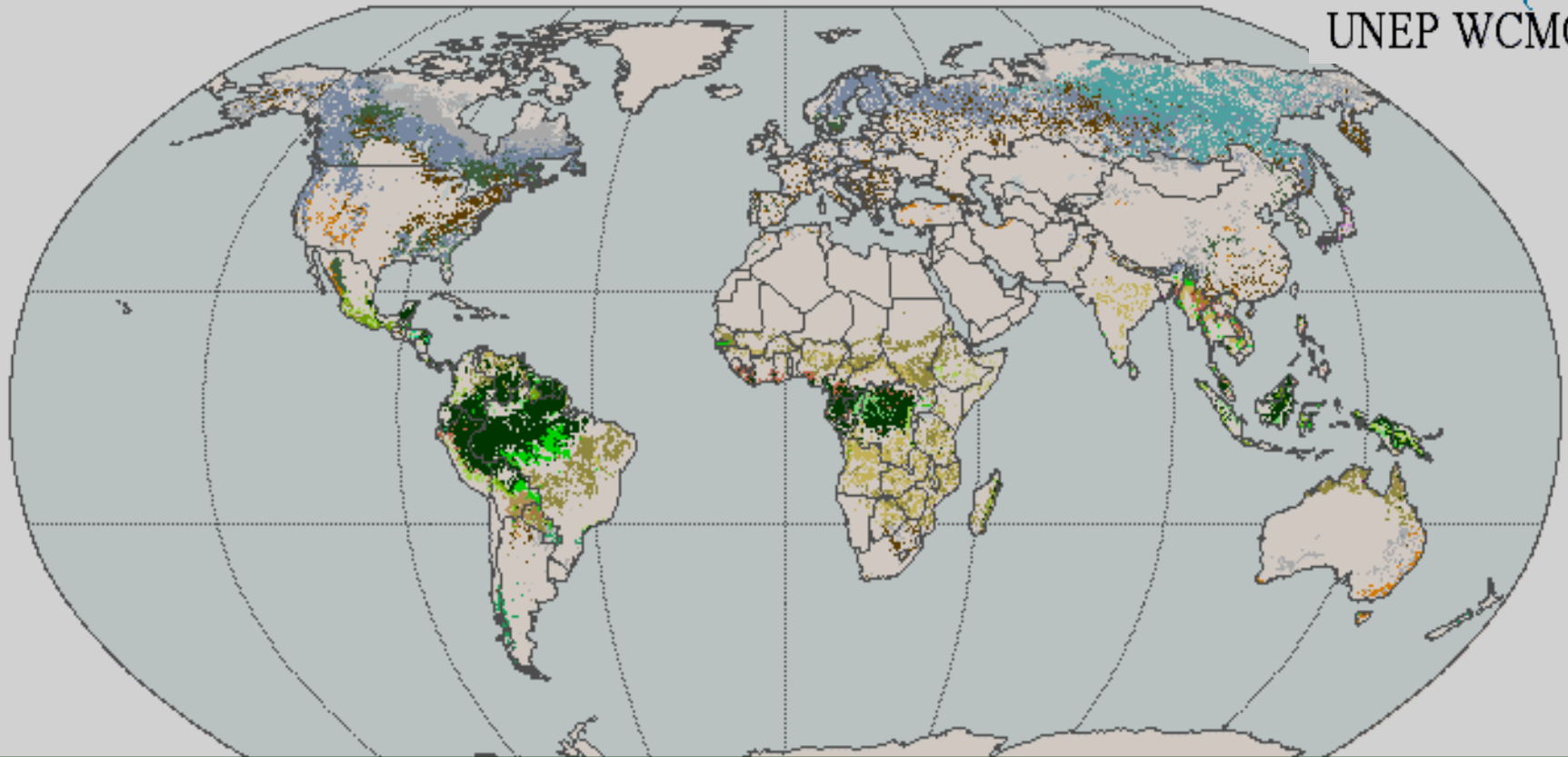
The Economic Contribution of Protected Natural Landscapes Through Tourism

- Purpose of this presentation is to explore the nature and amount of economic contribution (benefit side only) from tourism that is drawn by protected natural landscapes
- Purpose is also to add foundations for defining the relationships between protected natural landscapes, tourism and their economic impacts

Forest Ecosystems of the World



Temperate and Boreal Forest Types:



To study the economic impact of nature-based tourism and its future, one must be able to define and inventory the natural settings that are of interest. It is these settings or landscapes that draw tourists and benefits the tourism industry.

- **The 2005 Millennium Ecosystem Assessment listed 8 landscapes:**

- **Marine (349.3 km²)**

- **Coastal (17.9)**

- **Inland Water (10.3)**

- **Forest (42.2)**

- **Desert and other drylands (60.9)**

- **Island (9.9)**

- **Mountain (33.2)**

- **Polar (23.0)**

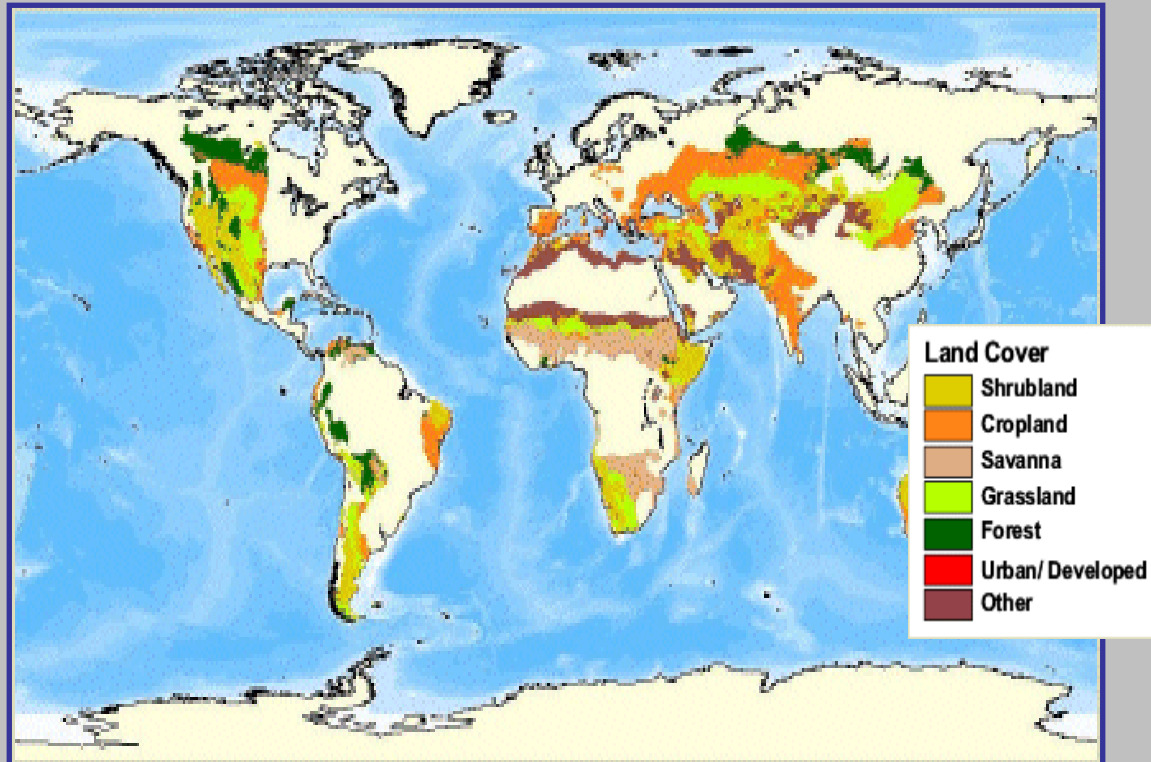
Source & © : Millennium Ecosystem Assessment Synthesis Report (2005), Chapter 1, p.31



World Resources Institute

EarthTrends The Environmental Information Portal

- **The World Resources Institute (WRI) lists coastal and marine, freshwater, forest, grassland and dryland ecosystems**



***IUCN*--A protected area is an area of land or sea dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, managed through legal or other effective means.**

CATEGORY Ia Strict Nature Reserve: managed mainly for science

CATEGORY Ib Wilderness Area: managed mainly for wilderness protection

CATEGORY II National Park: managed mainly for protection and recreation

CATEGORY III Natural Monument: managed mainly for conservation of specific natural

CATEGORY IV Habitat/Species Management Area: managed mainly for conservation

CATEGORY V Protected Landscape/Seascape: managed mainly for landscape/seascape conservation and recreation

CATEGORY VI Managed Resource Protected Area: managed mainly for the sustainable use

IUCN

The World Conservation Union

(The International Union for the Conservation of Nature and Natural Resources--IUCN)

The World Conservation Union

Percentage of Ecosystems Protected

- Marine 0.3
- Coastal 7
- Inland Water 12
- Forest 10
- Desert and other drylands 7
- Island 17
- Mountain 14
- Polar ?
- Total terrestrial surface 11.3% (UNEP-WCMC)

Source & © : *Millennium Ecosystem Assessment Synthesis Report* (2005), Chapter 1, p.31

© UNEP-WCMC, 2000

Tropical forest types:



Now Let's Define Tourism

- **Tourism comprises activities of persons traveling to and staying in places outside their usual environment for up to a year for leisure, business or other purposes** (http://www.world-tourism.org/statistics/tsa_project/TSA_in_depth/chapters/ch3-1.htm)
- **All travel is not tourism. Three criteria characterize a trip as tourism.**
- **It involves voluntary displacement outside the area of primary residence, i.e., the usual environment**
- **The travel must not occur because one is being remunerated by entities within the area visited (previously, tourism was restricted to recreation and visiting family and friends. Now tourism can include a vast array of purposes)**
- **Tourism can be with or without an overnight stay**



One Typology of Tourism

- **Adventure tourism:** Tourism in rugged regions, or adventurous sports such as mountaineering and hiking (tramping).
- **Agritourism:** Farm based tourism, helping to support the local agricultural economy.
- **Ecotourism:** Sustainable tourism which has minimal impact on the environment, such as safaris (Kenya) and Rainforests (Belize), or national parks.
- **Cultural tourism:** Usually urban tourism, visiting historical or interesting cities, such as London, Paris, Rome, Cairo, Beijing, Kyoto, etc.
- **Heritage tourism:** Visiting historical or industrial sites, such as old canals, railways, battlegrounds, etc.
- **Health tourism:** Usually to escape from cities or relieve stress, perhaps for some 'fun in the sun', etc. Often to "health spas".
- **Sport tourism:** Climbing, golf, tennis, diving, and particularly skiing.
- **Perpetual tourism:** Wealthy individuals always on holiday, some of them, for tax purposes, to avoid being resident in any country.
- **Drug tourism** (for use in that country, or, legally often extremely risky, for taking home)
- **Gambling tourism:** e.g. to Atlantic City, Las Vegas, Macau or Monte Carlo for the purpose of visiting the casinos.
- **Disaster tourism:** Traveling to a disaster scene not primarily for helping, but because one finds it interesting to see. It can be a problem if it hinders rescue, relief and repair work.
- **Medical tourism:** E.g., for what is illegal in one's own country, e.g. euthanasia; or for advanced care that is not available in one's own country, in the case that there are long waiting lists in one's own country
- **Armchair tourism:** and virtual tourism: Not traveling physically, but exploring the world through internet, books, TV, etc. (doesn't really meet the WTO criteria)
- **Space tourism:** Traveling outside the earth's atmosphere.
- **Regional tourism:** Tourism bundle of few countries in a region, using one of the countries as the transit point. The country of transit point is usually a country with good transport infrastructure. e.g. Singapore is the base for tourism for South East Asia due to its strategic location and good transport infrastructure.
- **Rural tourism:** Travel to rural areas to see and enjoy country lifestyles, scenery, recreation opportunities, etc.

Rural Tourism

(One Example)

Rural Vacations in the Czech Republic

Vysočina – holiday travel destination

Vast forests, pensive streams, well kept meadows, farms, and mysterious rocks are just some of the wealth of assets in Vysočina's well preserved natural surroundings. It is a beautiful and rugged landscape, subject to spring thaws, cool summer sun, misty late autumns and sparkling winter snows. You will wish to forget about the hurries of daily life and let your soul free to wander far from today's techno-crazed world.

12/27/2002 Author: [COT](#)

[Regions - Historic monuments](#), [Regions - Vysočina \(Highlands\)](#)

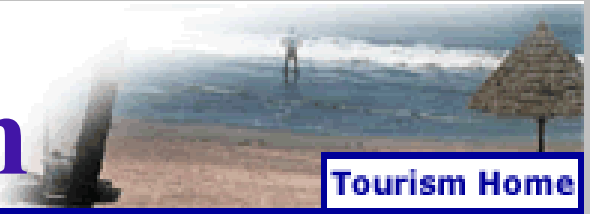
Nature-Based Tourism

A major type of rural tourism is nature-based tourism. Nature-based tourism is visiting natural landscapes at home and around the world to enjoy scenery, including wildlife. Examples of nature-based tourism activities include viewing natural scenery, mountain climbing, snowmobiling, fishing, photography, bird watching, and visiting parks. Ecotourism is a subset of nature-based tourism. (<http://www.agmrc.org/agmrc/commodity/agritourism/naturebasedtourism/>)

“... some studies refer to nature-based tourism as “ecotourism,” The two terms are not synonymous.

“Ecotourism” focuses on travel activities that promote conservation of nature, while “nature-based tourism” is evocative of a broader spectrum of outdoor-based recreation” (http://www.nal.usda.gov/ric/ricpubs/rural_tourism.html)

Photo is of the "Vysocina" or Bohemian-Moravian Highlands



According to the Quebec Declaration on Ecotourism:

Ecotourism “embraces the principles of sustainable tourism... and the following principles which distinguish it from the wider concept of sustainable tourism:

- ***Contributes actively to the conservation of natural and cultural heritage,***
- ***Includes local and indigenous communities in its planning, development and operation, contributing to their well-being,***
- ***Interprets the natural and cultural heritage of the destination to the visitor,***
- ***Lends itself better to independent travelers, as well as to organized tours for small size groups”.***

So we present

A Simplified Tourism Framework

- Tourism includes trips to and staying in places outside a person's usual environment for up to a year for leisure, business or most other purposes, except for being paid by an organization from within the destination community (World Tourism Organization--WTO)
- Rural Tourism includes trips to areas, regions or countries where the primary purpose is to see and visit rural cultural sites, agricultural areas, managed forests, and natural lands, including protected lands
- Nature-Based Tourism includes trips where the primary purpose is to see and visit natural lands and water (protected or not protected) that are either, or both,
 - the primary scenic attraction **OR**
 - the primary recreational attraction (not everyone enters onto and uses the natural landscapes for recreation)
- Eco-Tourism is a form of nature-based tourism and is "responsible travel to ... areas (with natural lands) that conserves the environment and improves the well-being of local people." (The International Ecotourism Society—TIES)

Tourism Trend: Internationally There is Rapid Growth

- **Worldwide, tourism thus far in 2005 has continued the overall growth trend for 2004**
- **International tourist arrivals grew on average by eight per cent in the first four months of 2005**
- **Rates of growth were strong in the second half of 2004, even in the face of terrorist threats and disease outbreaks, e.g., SARS**
- **International tourist arrivals grew to an all-time record of 763 million in 2004.**

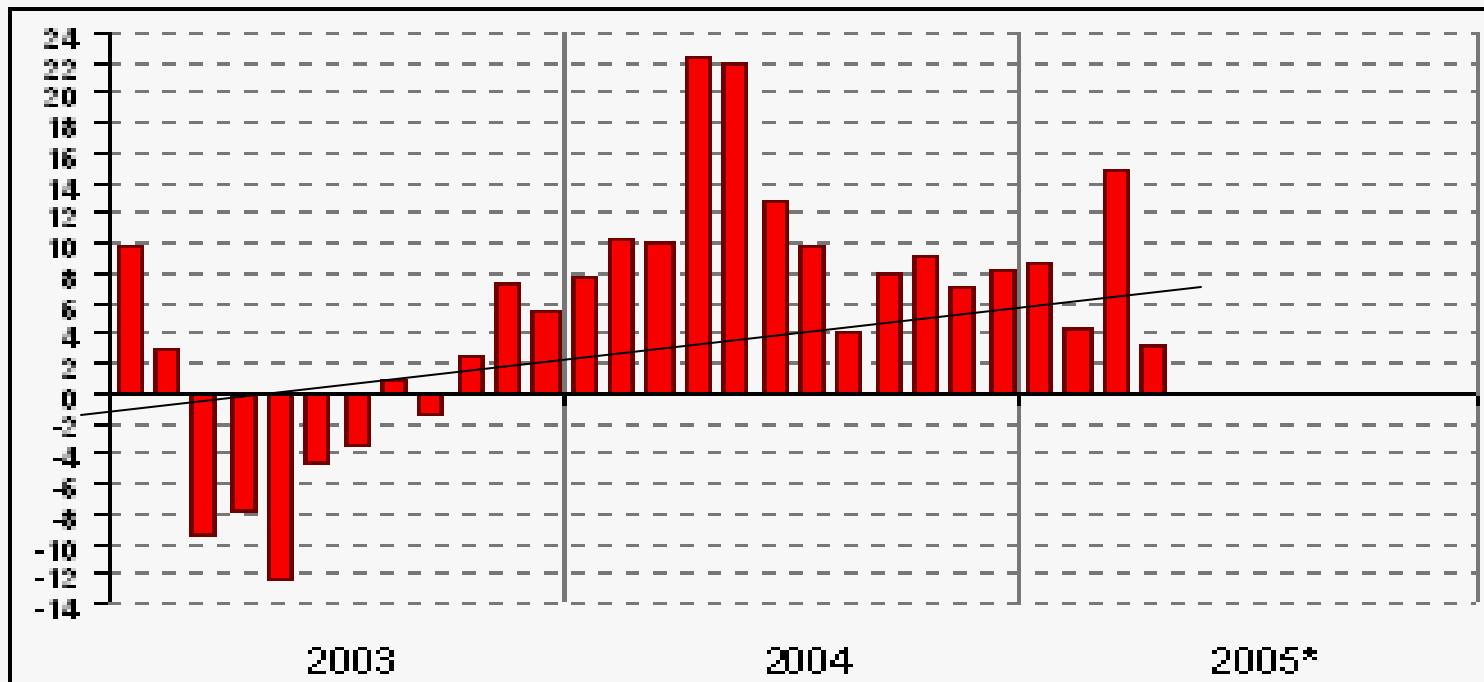
Status and trends in world tourism



International Tourist Arrivals, monthly evolution

World

%change



Source: WORLD TOURISM ORGANIZATION



US Tourism Demand is Growing

- **Travel and Tourism is a \$1.3 trillion industry in the United States (WTO)**
- **International travelers spent \$94 billion in the U.S. in 2004 (WTO)**
- **Shopping is most popular domestic trip activity included in 30 percent of all domestic trips (BTS)**
- **80 percent of adult travelers (over 118 million people) have included an historic or cultural activity while traveling (BTS)**
- **Americans planned to take 328 million leisure trips during June, July, and August—up 2.3 percent over summer 2004 (BTS)**

Source: Highlights of the 2001 National Household Travel Survey, U.S. Bureau of Transportation Statistics (BTS).

http://www.bts.gov/publications/highlights_of_the_2001_national_household_travel_survey/html/executive_summary.html

Impacts of Tourism and its Growth

Environmental Impacts of Tourism

Negative and positive effects of tourism on the environment.

Socio-Cultural Impacts of Tourism

The effects of tourism on host communities.

Economic Impacts of Tourism

The role of tourism in economic development.



WORLD TOURISM ORGANIZATION



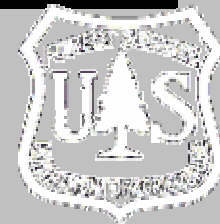
Production and Consumption Branch

Tourism



Tourism Home

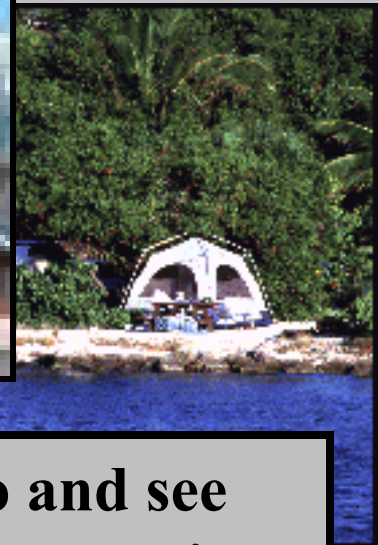
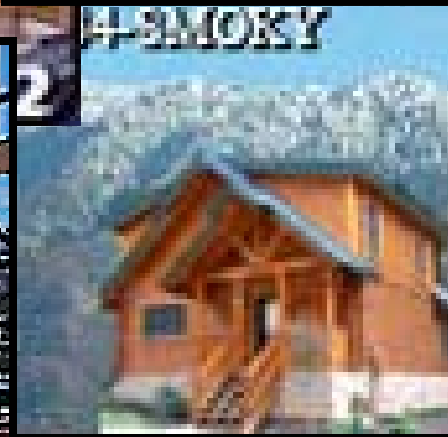
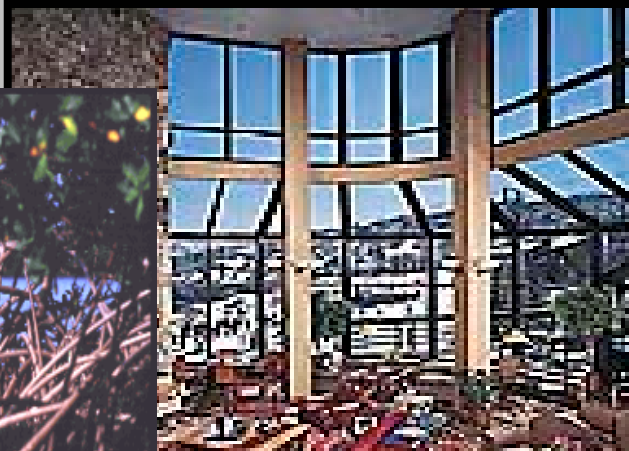
Understanding the Economic Impacts of Tourism



- The geographic area of interest must be clearly defined. It may be a local community, a multi-community area, one or more provinces, an entire country, a continent or region of the world.)

Economic impact = Number of Visitors * Average spending per visitor * Multiplier

- Better estimates can be gained by:
 - (1) Differentiating visitors with different spending patterns (e.g. overnight visitors, day users, visitors in resorts)
 - (2) Tracking visitor spending for different things (e.g. lodging, restaurant meals, tours, vehicle rentals, gas, groceries)
 - (3) allocating spending into the economic sectors that receive it and applying appropriate economic multipliers for those sectors



Why are people going to these places? To do and see what? What is the primary motivation? What portion of their spending is because of the natural landscapes?

The general research question is: “What portion of tourism’s economic impact is due to the existence of, access to and use of protected natural landscapes in local areas, regions, countries and the world?”

- **Answer, generally, “We don’t know, yet.”**
- **Why? No one seems to have focused on the world-wide total economic impact of nature-based tourism, particularly that portion attributable to protected lands**
- **But! Some really good scientists are working on pieces of the nature-based tourism economic story**
- **Our approach, disaggregate world tourism impacts by proportion of area that is protected**

WTTC TOURISM SATELLITE ACCOUNT—A FOOTHOLD

- There are two basic summations of tourism demand (Travel & Tourism Consumption and Total Industry Demand)
- By employing input/output modeling separately to these two aggregates, the Satellite Account is able to produce two different and complementary summations of Travel & Tourism impact:
 - the Travel & Tourism Industry contribution

WTTC and its economic research partners – Oxford Economic Forecasting, (OEF), since 1999, and Global Insight (previously known as DRI•WEFA), from 1990-1999 – have developed and published research on the economic contribution of Travel & Tourism. The 2005 update of the WTTC TSA research is the fifth annual update undertaken for WTTC by OEF. In carrying out the work, OEF has drawn extensively on the methodology developed over the years by WTTC to develop TSAs as operational tools.

World Tourism Economy-Wide Total Impact (Domestic + International)

- **World T&T Economy employment from personal, business and other travel is estimated to be 221,568,000 jobs in 2005, 8.3% of total world employment, 1 in every 12 jobs**
- **The World's 2005 T&T Industry is expected to contribute 10.6% (US\$ 4.7 trn) of global Gross Domestic Product**
- **World Travel & Tourism is expected to generate 12% of total imports (US\$1.5 trn) in 2005**
- **Total Impact (GDP + Imports) = US\$ 6.2 trn**

Economic Impact of Nature-Based Tourism

- PS----Keep this estimate in mind---total impact = \$6.2 trn (GDP + Imports projected for 2005)
- Filion (1992) identified, through an analysis of inbound tourist motivations to different worldwide destinations, that 40-60% of all international tourists are nature tourists (Upper Bound)
- Buckley (2000) and Mallett (1998) indicated that from $\frac{1}{4}$ to $\frac{1}{2}$ of the total tourism industry is nature based in U.S. and Australia
- WTO (1998) stated that ecotourism and all nature-related forms of tourism account for approximately 20 percent of total international travel (<http://www.ecotourism.org/research/stats/files/stats.pdf>)
- Wright and TIES estimated that 40% of tourists travel to see wilderness
- Assume a modest $\frac{1}{3}$ of the world-wide tourism industry serves nature based travelers

•(Filion, Fern L.; Foley, James P.; Jacquemot, Andre J. 1992. The economics of global ecotourism. Unpublished report on file at: Canadian Wildlife Service, Environment Canada, Hull, PQ. 15 p.) **Note:** Total Direct Economic Impact of Nature Tourists (Filion) in 1994 was US\$166-250 billion (<http://www.ecotourism.org/research/stats/files/stats.pdf>)

Economic Impact of Protected Natural Lands

- $1/3 \times \$6.2 \text{ trn} = \underline{\$2.06 \text{ trn}}$ = total nature-based economic impact
- According to the Millennium Ecosystem Assessment Synthesis Report, there are 179.5mm km² of natural or modified natural earth surface (excluding ocean surface) (*Source & © : [Millennium , Ecosystem Assessment Synthesis Report \(2005\), Chapter 1, p.31, Conditions and Trends Working Group Report, C.SDM Summary](#)*)
- According to the UNEP World Conservation Monitoring Centre, 20.3 mm km², or 11.3% of the natural land surface, is protected as IUCN I - VI
- 11.3% of the \$2.06 trn is attributable to protected natural lands, or \$233.6 bn per annum

Economic Impact of Protected Natural Lands

- Keep this number in mind --- \$233.6 bn per annum of global tourism economic impact due to protected natural lands
- In Class Ib of the IUCN there are listed 642,486 km² of protected land classified as wilderness, 3.16% of all IUCN protected lands
- One could conclude that 3.16% of total economic impact of protected lands, or \$7.4 bn per annum, is attributable to wilderness


(Phil. Trans. R. Soc. B (2005) 360, 443–455, doi:10.1098/rstb.2004.1592, Published online 28 February 2005)



Economic Impact of Nature-Based Tourism in the United States

- In the United States there are approximately 745 million acres of public land that is protected (3,014,908 km²)
- This protected U.S. land is 14.85% of World PAs, thus, one could assert that **\$34.7 bn** of tourism economic impact is attributable to U. S. public lands
- Within these U.S. protected lands is the National Wilderness Preservation System that includes 106,498,016 acres (43,098 km²), 14.3% of U.S. public protected lands
- Extending our disaggregation method, U.S. Wilderness appears to contribute around **\$4.9 bn** annually

Economic Impact of Tourism Summary

- Total global tourism impact = **\$6,201 bn** per annum
 - 1/3, or **\$2,067 bn per annum** could be attributed to global nature-based tourism
 - **\$233.6 bn** per annum could logically be said to be due to the world's protected natural lands
 - Following this same pattern of disaggregation, one could assume U.S. protected lands contribute **\$34.7 bn** per annum to the U.S. economy
 - Of the U.S. protected lands, 14.3% is designated Wilderness, which one could modestly extrapolate as contributing **\$4.9 bn** annually
 - A reality check: (TIES and Filion, 1992) estimated worldwide in 1988 that the economic impact of international nature-based tourism was US\$233 billion. A number of authors have said international is only about 1/8 to 1/10 of total tourism, thus, the total impact would be **\$1,864 bn to \$2,330 bn.**
- 

Triangulation

Personal Expenditures in Visiting National Forest Wilderness—U.S.

Table 3: Comparative Descriptive Statistics Using NVEXPAND to Weight

	Mean	Std.Dev.	Minimum	Maximum	NumCases
FULL NVUM SAMPLE					
Y	32.0168	60.8562	1	365	70303
PEOPVEH	2.40046	1.40657	1	10	70030
PRACTD1S	229.649	478.452	0	7222	70303
EXPEND	\$198.773	587.089	0	23724	9229
WILDERNESS OBSERVATIONS					
Y	32.8479	66.6972	1	365	9111
PEOPVEH	2.40865	1.42485			
PRACTD1S	240.638	495.577			
EXPEND (per party)	\$126.408	444.695			
WILDERNESS OBSERVATION					
Y	34.6125	69.3161	1	365	6413
PEOPVEH	2.40654	1.42907	1	10	6380
PRACTD1S	221.416	474.946	0	4000	6413
EXPEND	\$111.334	393.867	0	7041	832

Spending per traveling party within 50 miles of wilderness area visited

*Y=number of visits to the forest in the past 12 months; PEOPVEH=number of people traveling in vehicle when surveyed;PRACTD1S=one way distance from Zip Code of origin to site or forest where surveyed; EXPEND=sum of observations' expenditure data from NVUM Economics Portion of survey. Weighted by NVEXPAND.

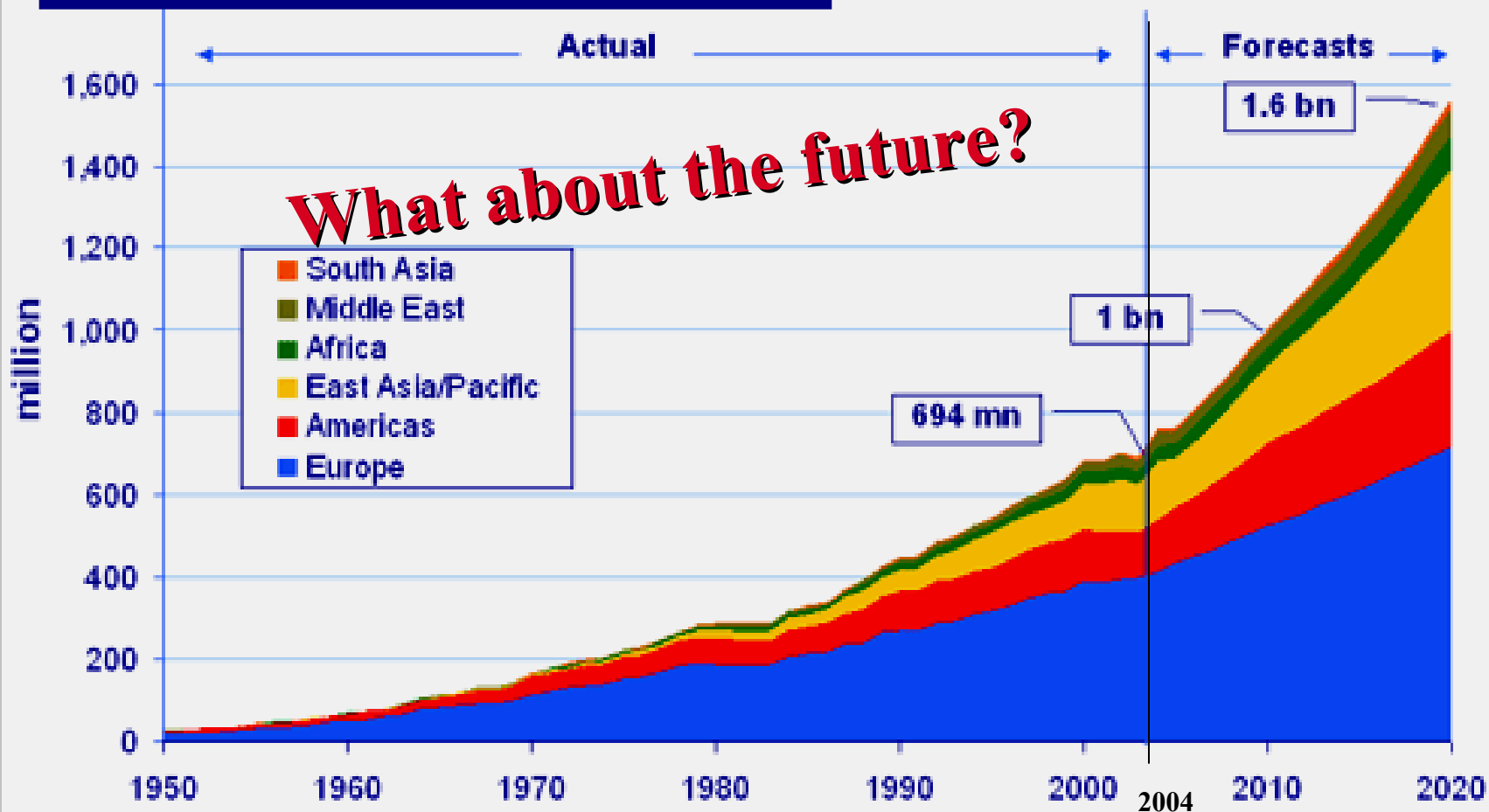
Visitation to USA Designated Wilderness

Total NWPS visits	12,825,610
• FS visits	10,517,000
• NPS visits	1,923,841
• FWS visits	333,466
• BLM visits	51,302
• Total single-day site visits	8,458,490
• Total multi-day site visits	4,367,120



If each person spent on average at least \$126.41/wilderness visit across the entire trip (a modest assumption), then \$126.41 x 12,825,610 visits = \$1,621,285,300 total spending. If the appropriate country-wide multiplier were 2.0 for the total U.S. tourism economy, there would be an economic impact of \$3.24 bn annually. For Wilderness recreation use alone. Earlier we conservatively estimated via disaggregation \$4.96 bn.

Projected International Arrivals



WTO's *Tourism 2020 Vision* forecasts international arrivals are expected to reach over 1.56 billion by 2020. Of these worldwide arrivals in 2020, 1.2 billion will be intra-regional and 0.4 billion will be long-haul travelers.

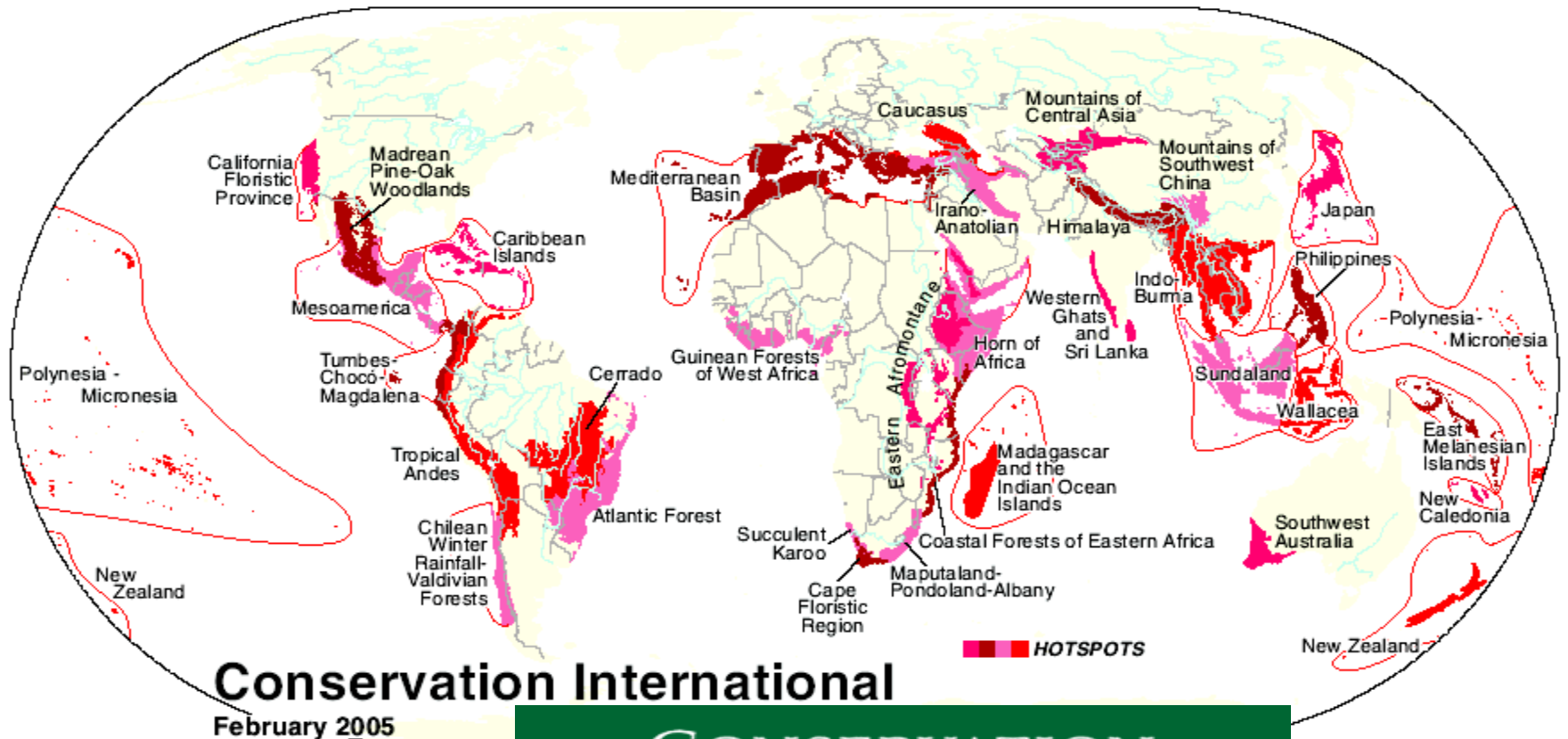
Projected U.S. Protected Natural Land Tourism Growth to 2020

Selected Activities	Millions	Indexed Change		
	Participating (1995)	(Base year 1995 = 1.00) People	Days	Trips
Sightseeing	113	1.32	1.43	1.43
Downhill Skiing	17	1.22	1.31	1.36
Non-consumptive wildlife	117	1.29	1.09	1.15
Going to the Beach	124	1.24	1.17	1.17
Biking	57	1.28	1.25	1.45
Hiking	48	1.23	1.24	1.23
Horseback Riding	14	1.23	1.22	1.29
Rock Climbing	8	1.21	1.15	1.03
Walking	134	1.21	1.29	--
Camping	42	1.19	1.36	1.30
Backpacking	15	1.11	1.15	1.08
Hunting	19	0.91	0.99	1.03

Source: RPA, USDA Forest Service, Athens, GA

Forecasts

CI has identified 34 biodiversity hotspots, each holding at least 1,500 endemic plant species, and having lost at least 70 percent of its original habitat extent. Overall, the 34 hotspots once covered **15.7 percent of the Earth's land surface**. In all, 86 percent of the hotspots' habitat has already been destroyed, such that the intact remnants of the hotspots **now cover only 2.3 percent of the Earth's land surface**.



HOTSPOTS

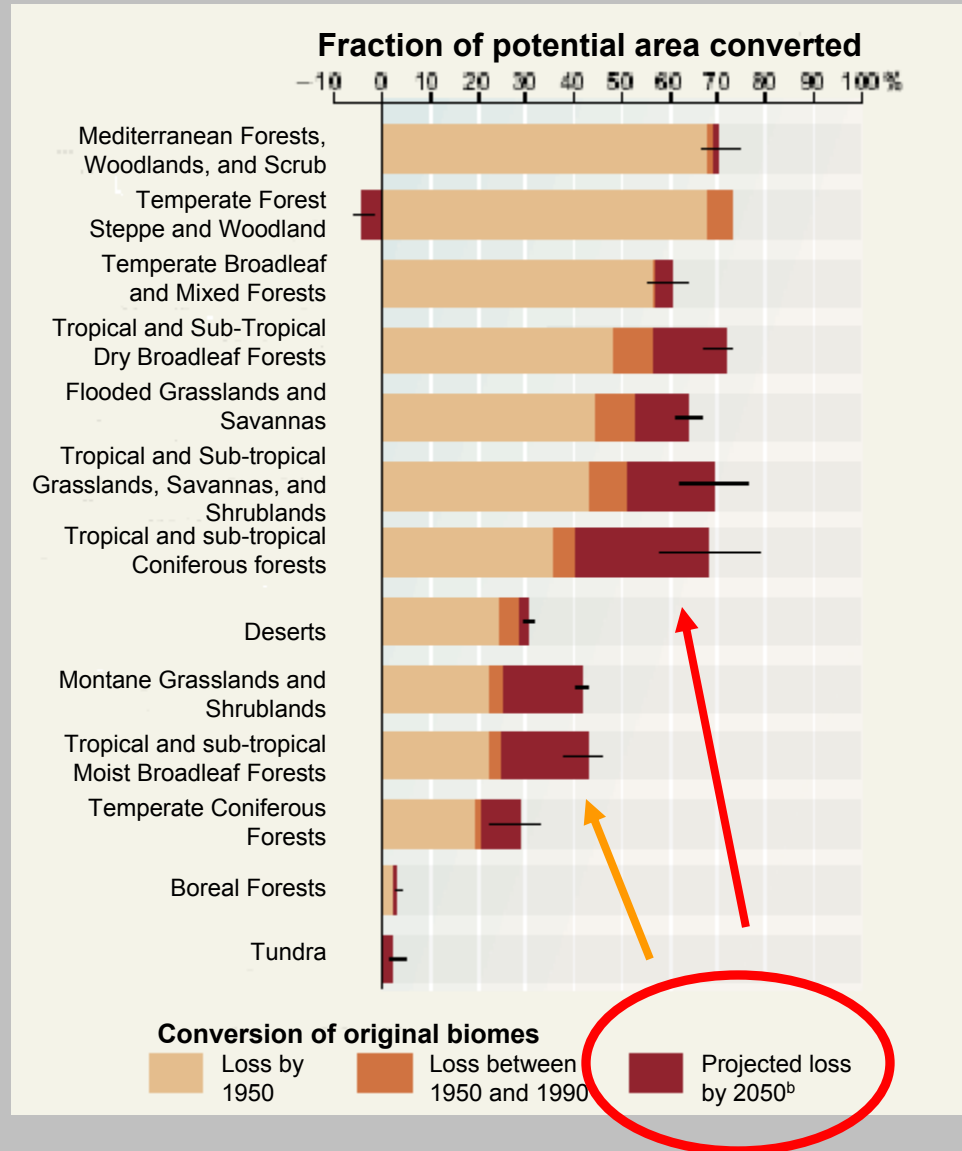
CONSERVATION
INTERNATIONAL

Conversion of Terrestrial Biomes^a

(Adapted from C4, S10)

It is not possible to estimate accurately the extent of different biomes prior to significant human impact, but it is possible to determine the “potential” area of biomes based on soil and climatic conditions. This figure shows how much of that potential area is estimated to have been converted by 1950 (medium certainty), how much was converted between 1950 and 1990 (medium certainty), and how much would be converted under the four MA scenarios (low certainty) between 1990 and 2050. Mangroves are not included here because the area was too small to be accurately assessed. Most of the conversion of these biomes is to cultivated systems.

Source: Millennium Ecosystem Assessment. 2005. *Ecosystems and Human Well-being Synthesis*. Washington, DC: Island Press.

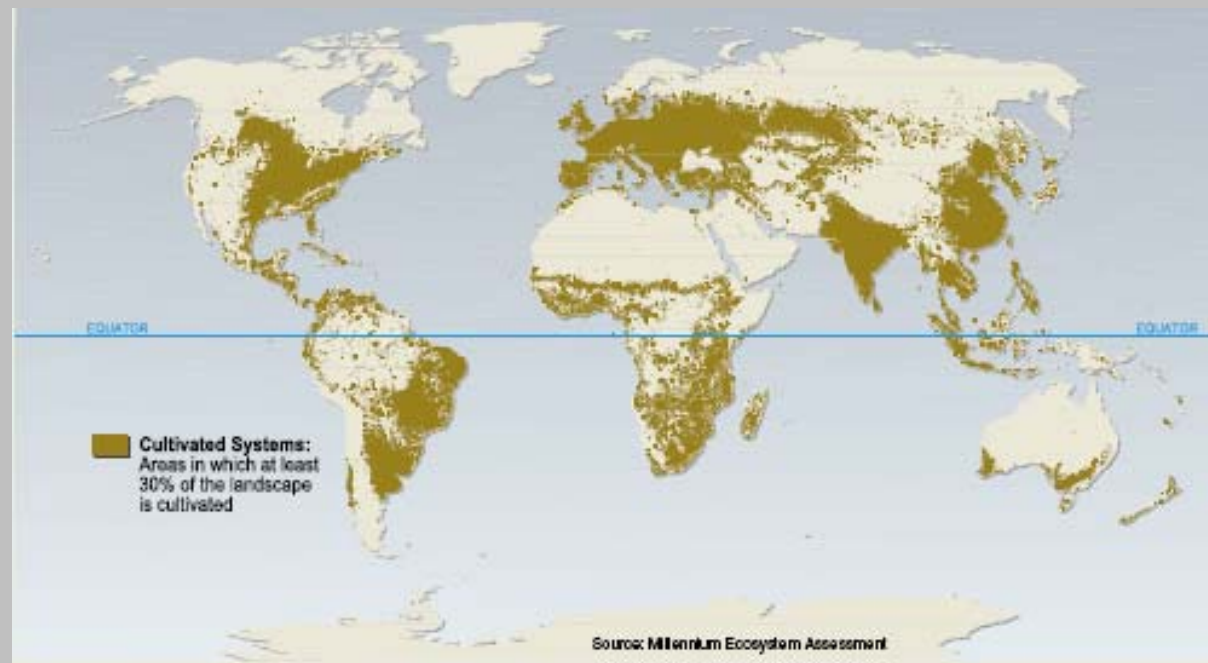


^a A biome is the largest unit of ecological classification that is convenient to recognize below the entire globe, such as temperate broadleaf forests or montane grasslands. A biome is a widely used ecological categorization, and because considerable ecological data have been reported and modeling undertaken using this categorization, some information in this assessment can only be reported based on biomes. Whenever possible, however, the MA reports information using 10 socioecological systems, such as forest, cultivated, coastal, and marine, because these correspond to the regions of responsibility of different government ministries and because they are the categories used within the Convention on Biological Diversity.

^b According to the four MA scenarios. For 2050 projections, the average value of the projections under the four scenarios is plotted and the error bars (black lines) represent the range of values from the different scenarios.

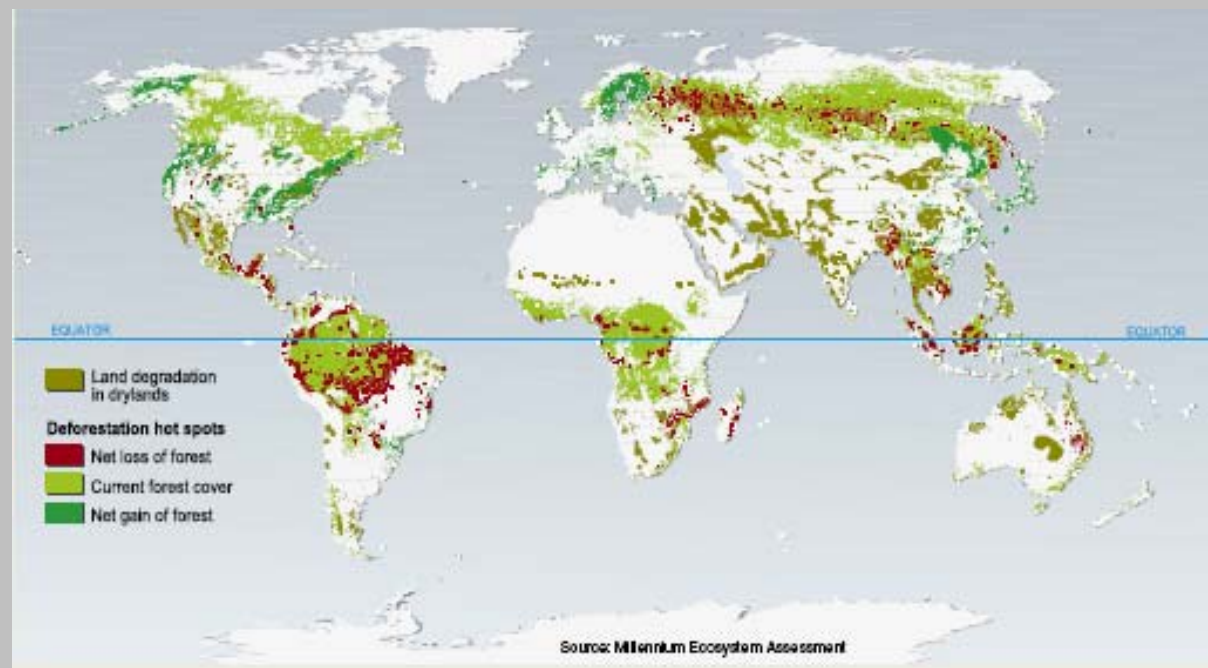
Extent of Cultivated Systems, 2000

Cultivated systems cover 24% of the terrestrial surface.



Locations Reported by Various Studies as Undergoing High Rates of Land Cover Change in the Past Few Decades (C.SDM)

In the case of forest cover change, the studies refer to the period 1980-2000 and are based on national statistics, remote sensing, and to a limited degree expert opinion. In the case of land cover change resulting from degradation in drylands (desertification), the period is unspecified but inferred to be within the last half-century, and the major study was entirely based on expert opinion, with associated low certainty. Change in cultivated area is not shown. Note that areas showing little current change are often locations that have already undergone major historical change (see Figure 1).



Source: Millennium Ecosystem Assessment. 2005. Ecosystems and Human Well-being Synthesis. Washington, DC: Island Press.

Economic Impact Of Protected Natural Lands

- Estimated US\$233.6 bn per annum of global tourism economic impact attributable to the 20.3 mm km² of the World's protected natural lands
- Protected wilderness is estimated to contribute US\$7.4 bn per annum to the World's economy
- We propose to form an international working group to work through the Wild Planet Project to improve upon these estimates and to report to you our progress at the 9th WWC

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The Economic Contribution of Protected

**Join us in sessions Monday and
Tuesday afternoon to discuss further
the economic contributions of
Wilderness—Theme 8 in your program**

Tourism Research, Athens, GA, USA

