

CONSERVATION IN THE ANTHROPOCENE

Creating a world where both people and nature can co-exist

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World Wildlife Fund

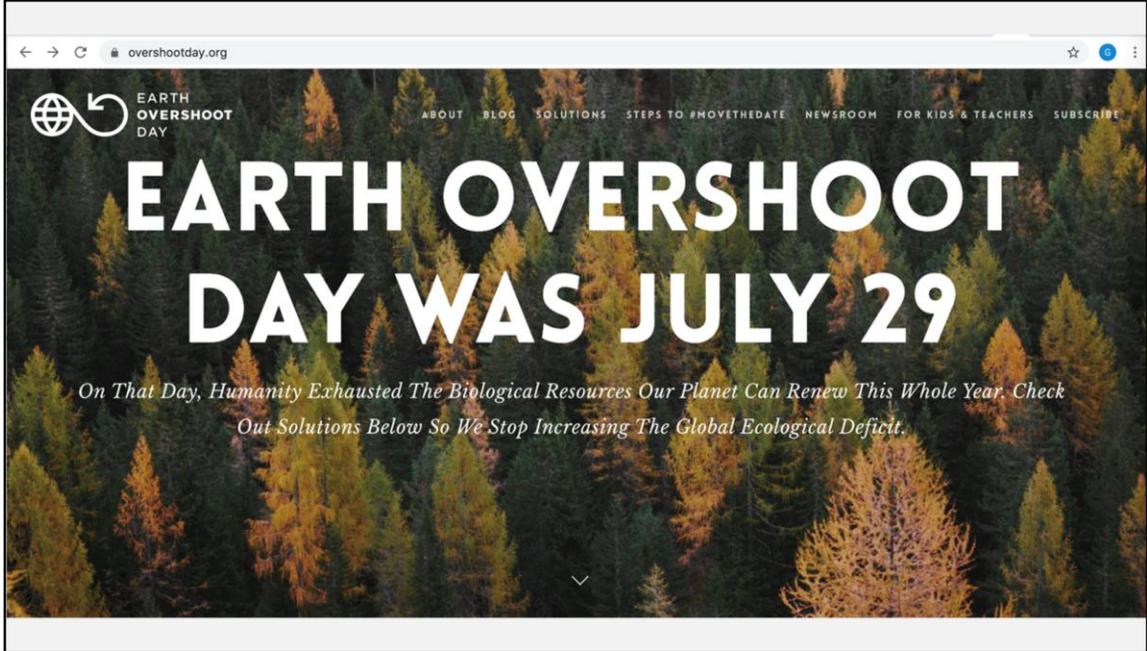
Hi,

Thanks for joining me this evening and for my host at Siena University.

I'm Gabby Ahmadi..... -what I do, what my role is, where I work.

Today, I'm going to give a presentation on the state of conservation, where it's heading, what we're doing about it, and what you can do about it.

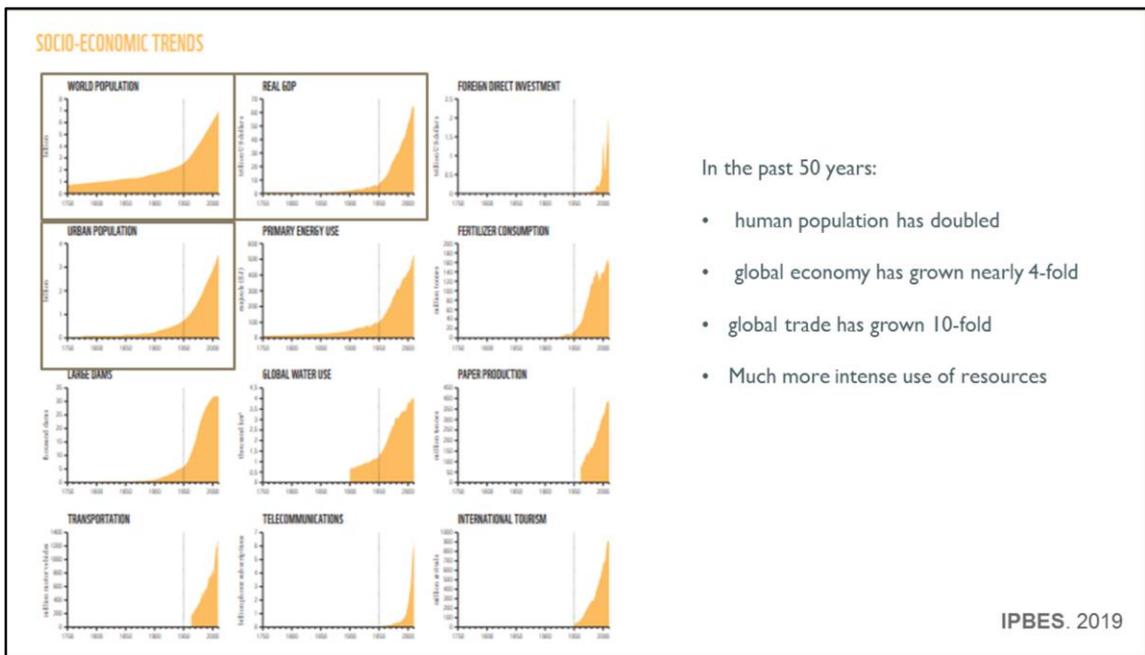
It's going to start off a bit heavy –and doom and gloom, but don't worry, I'll come back with some positive stories!



This year, earth overshoot day was July 29.

This is the day of the year, where it is estimated that humans used all the resources the planet could regenerate by July 29.

Currently, we've used 1.3 Earths this year – and will be on track for about about 1.7 earths this year. This means the earth doesn't have time to recover. *Analogy – kind of like you used up your i-phone battery by 2pm.



Give an quick overview of IPBES report.... –maybe a slide? <https://www.ipbes.net/>

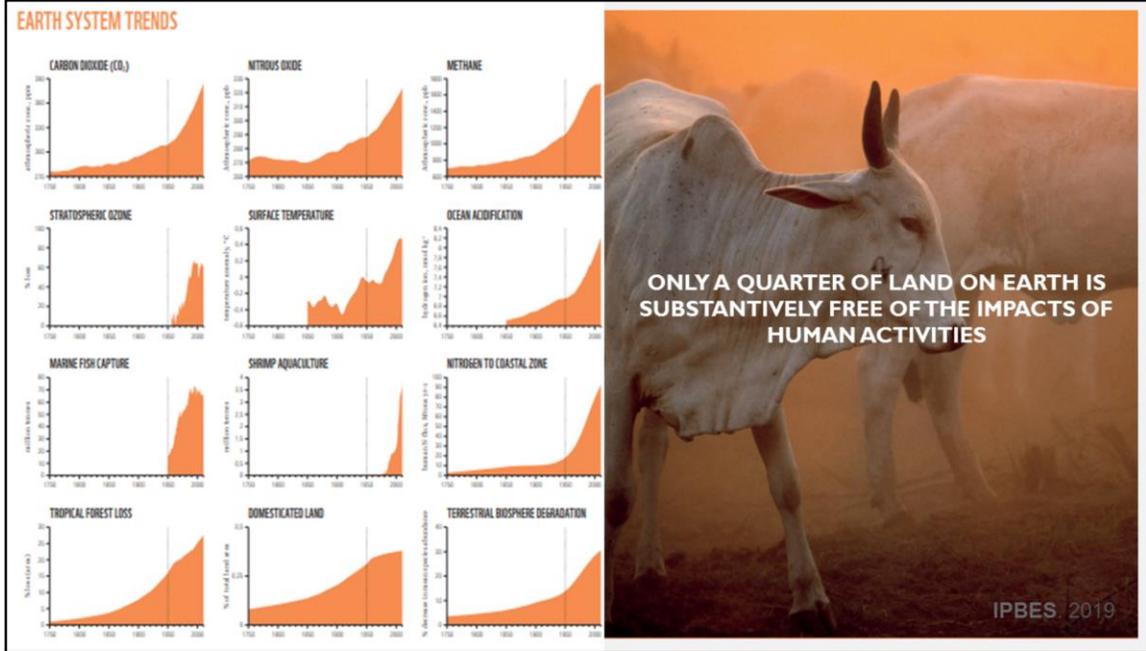
GDP going up, less poverty, less hungry people

Economic incentives generally have favored expanding economic activity, and often environmental harm, over conservation or restoration.

“BIODIVERSITY AND NATURE’S CONTRIBUTIONS TO PEOPLE SOUND, TO MANY, ACADEMIC AND FAR REMOVED FROM OUR DAILY LIVES. NOTHING COULD BE FURTHER FROM THE TRUTH – THEY ARE THE BEDROCK OF OUR FOOD, CLEAN WATER AND ENERGY. THEY ARE AT THE HEART NOT ONLY OF OUR SURVIVAL, BUT OF OUR CULTURES, IDENTITIES AND ENJOYMENT OF LIFE. THE BEST AVAILABLE EVIDENCE, GATHERED BY THE WORLD’S LEADING EXPERTS, POINTS US NOW TO A SINGLE CONCLUSION: WE MUST ACT TO HALT AND REVERSE THE UNSUSTAINABLE USE OF NATURE – OR RISK NOT ONLY THE FUTURE WE WANT, BUT EVEN THE LIVES WE CURRENTLY LEAD. FORTUNATELY, THE EVIDENCE ALSO SHOWS THAT WE KNOW HOW TO PROTECT AND PARTIALLY RESTORE OUR VITAL NATURAL ASSETS.” 28

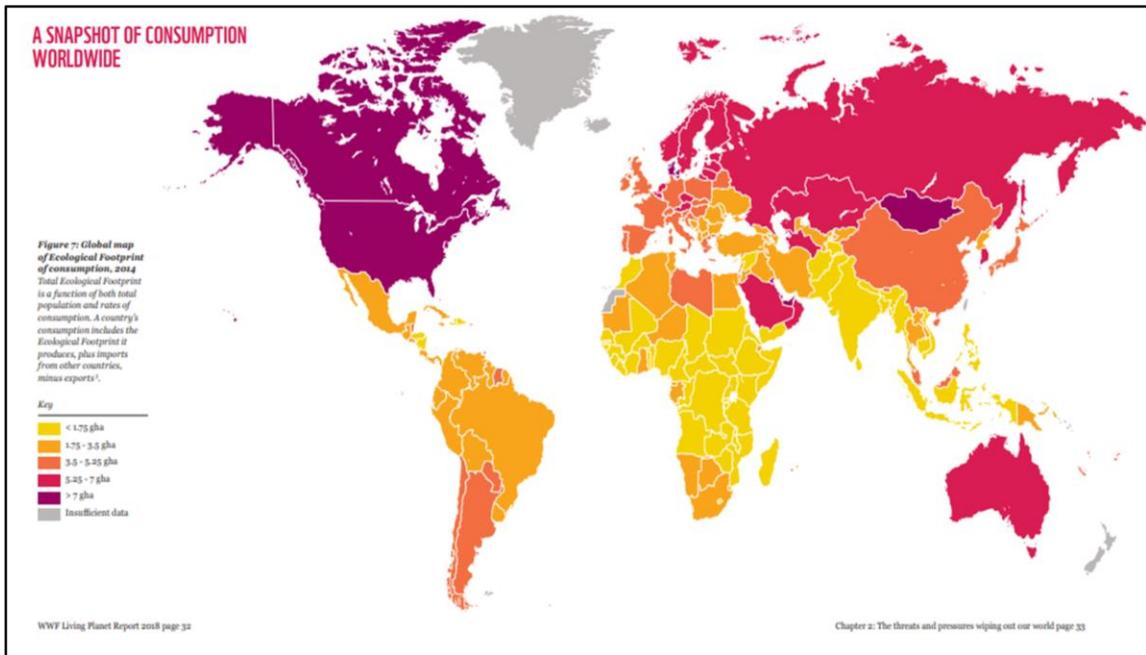
Sir Robert Watson, Chair of IPBES

Incorporating the consideration of the multiple values of ecosystem functions and of nature's contribution to people into economic incentives has, in the economy, been shown to permit better ecological, economic and social outcomes.



But while that's all happening, the state of the environment is declining
 Graphs here – showing species decline

“GUNS, NETS AND BULLDOZERS: THE THREATS OF OLD ARE STILL THE DOMINANT DRIVERS OF CURRENT SPECIES LOSS.” (MAXWELL ET AL., 2016)¹



Highlight- how much consumption is driven by wealthier nations – ie. Europe, U.S. Canada,

POPULATION INDICATOR: THE LIVING PLANET INDEX

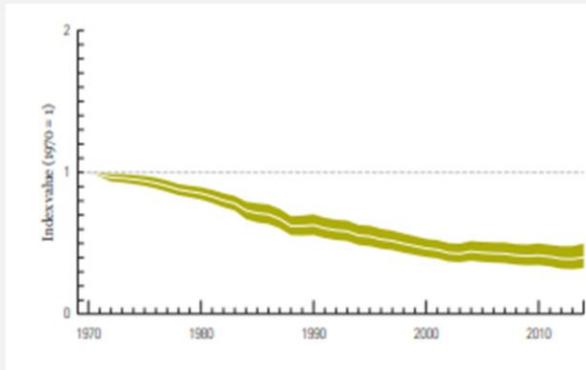


Figure 20: The Global Living Planet Index: 1970 to 2014

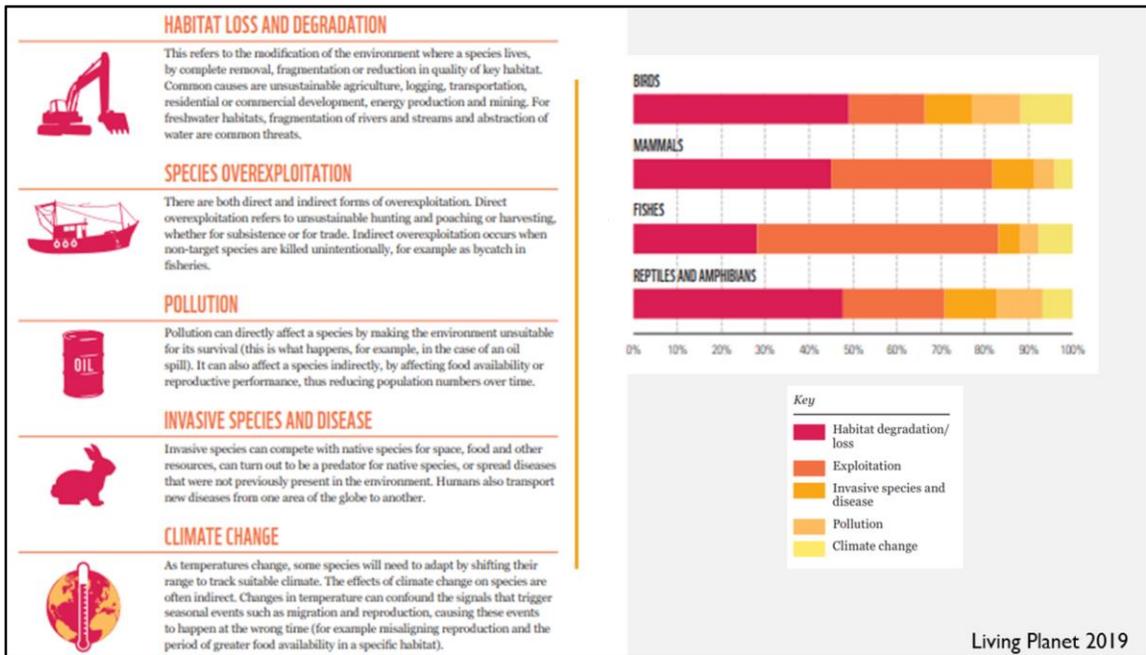
Average abundance of 16,704 populations representing 4,005 species monitored across the globe declined by 60%. The white line shows the index values and the shaded areas represent the statistical certainty surrounding the trend (range: -50% to -67%).

Key

- Global Living Planet Index
- Confidence limits

Break each of these statements into separate slides with photos..

Maybe just use the one graph – the bottom graph.



The Living Planet Index (LPI) is an indicator of the state of global biodiversity and the health of our planet. First published in 1998, for two decades it has tracked the population abundance of thousands of mammals, birds, fish, reptiles and amphibians around the world.

It uses the trends that emerge as a measure for changes in biodiversity.

Climate change is part of the story, but a lot of this is driven by habitat loss and degradation. Opening up forest to logging, clearing areas for development, building roads in remote places



**ON A GLOBAL SCALE, THE AREA OF MINIMALLY
DISTURBED FORESTS DECLINED BY 92 MILLION
HECTARES BETWEEN 2000 AND 2013**

© Minzayar Oo / WWF-Myanmar

227,336,600 175,000,000 football fields.



Break each of these statements into separate slides with photos..

Maybe just use the one graph – the bottom graph.

Photo: Fiji



Break each of these statements into separate slides with photos..

Maybe just use the one graph – the bottom graph.

Photo: Common tree frog (*Hyla arborea*) silhouette viewed through leaf, the Netherlands



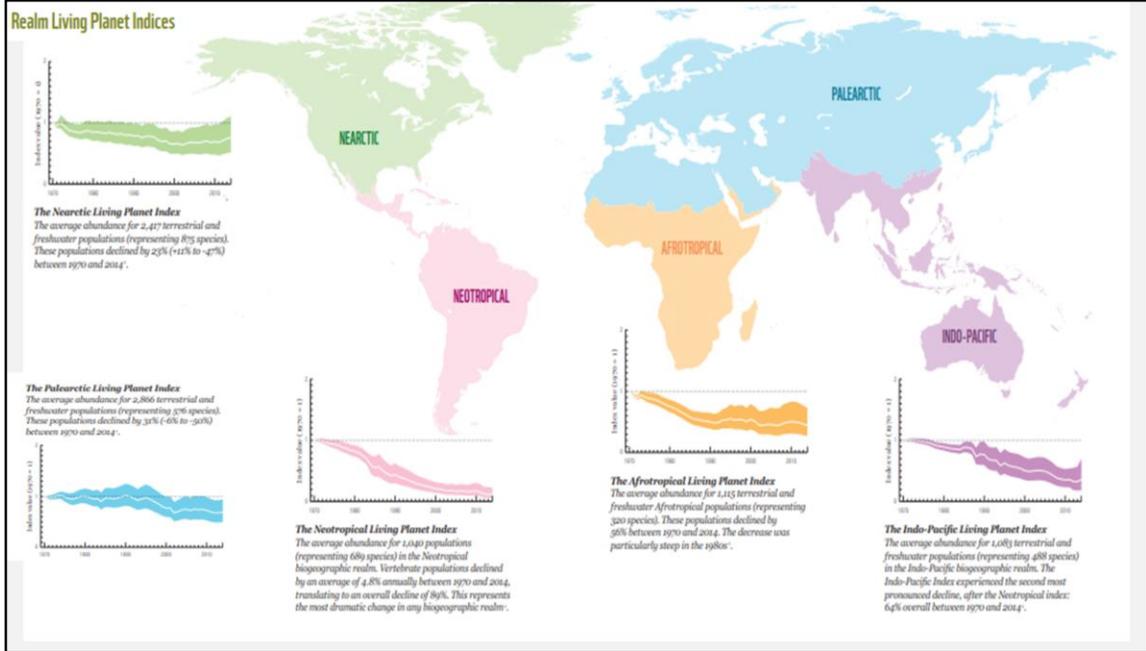
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Photo:

Workers unloading tuna fish catch, largely skipjack, Tema port, Ghana.

The government of Ghana works with WWF and other international organizations to implement electronic monitoring of the country's tuna fisheries. This pilot project began in 2015 with the aim to track fishery activities and provide accurate data on fishing.

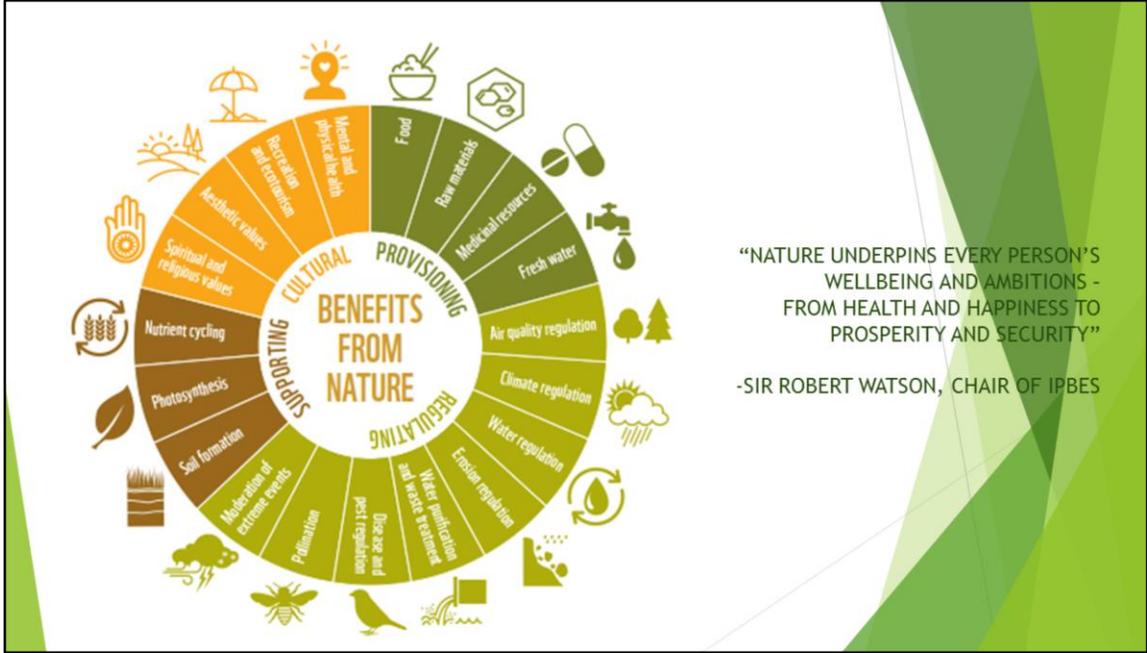


As seen in the map below (figure 22), populations are in decline in all realms, but declines are especially pronounced in the three tropical realms. Here, average vertebrate abundance in 2014 was less than half of what it was in 1970. The LPI indicates that the Neotropical realm, covering South and Central America, and the Caribbean, has suffered the most dramatic decline at 89% loss compared to 1970. Nearctic and Palearctic populations are faring slightly better with declines of 23% and 31%.

The white line in the LPI graph shows the index values and the shaded areas represent the statistical certainty surrounding the trend (95%). Threat data is available for 3,789 – just under a quarter – of the populations in the global LPI¹. This is explored in chapter 2.



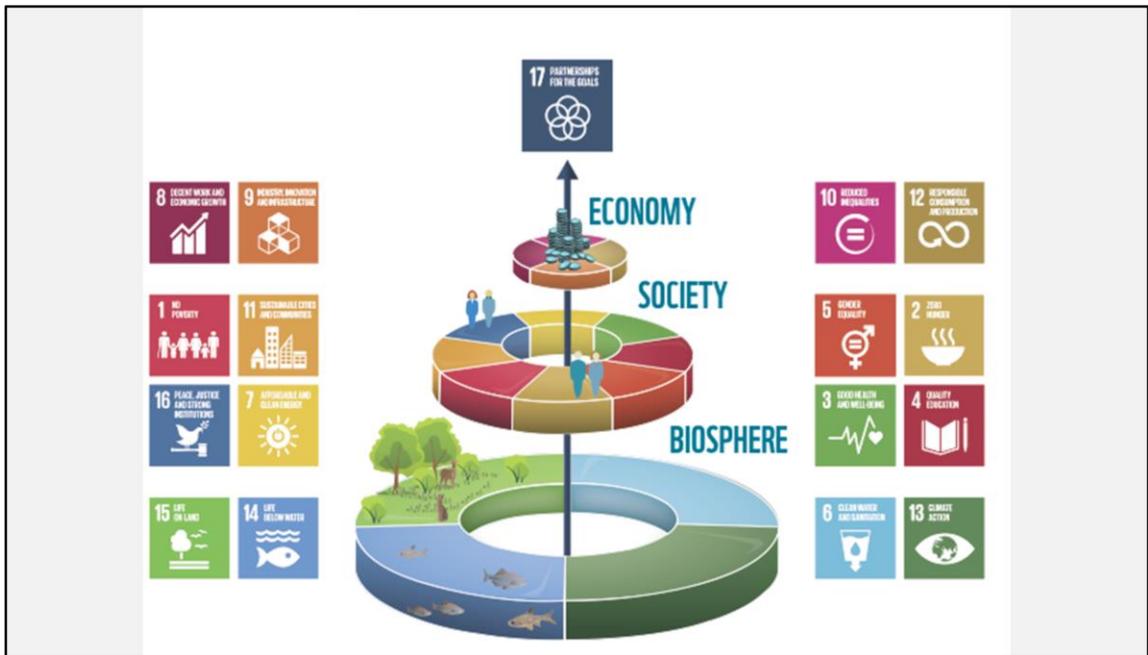
- Health – mental health, diet, disease
- Livelihoods – many jobs dependent on natural resources – from tourism, to fishing, to park rangers
- Culture,



“NATURE UNDERPINS EVERY PERSON’S WELLBEING AND AMBITIONS - FROM HEALTH AND HAPPINESS TO PROSPERITY AND SECURITY”

-SIR ROBERT WATSON, CHAIR OF IPBES

This is an examples of many of the benefits nature provides to people.



Connections to People Sustainable Develop Goals –
 ‘Blueprint for a more sustainable future’.

The **sustainable development goals (SDGs)** are a collection of 17 global goals set by the [United Nations General Assembly](https://www.un.org/en/assembly/) in 2015 for the year 2030.

EVOLUTION OF CONSERVATION

Rough timeline	Framing of conservation	Key ideas	Science underpinning
1960-1970	 Nature for itself	Species Wilderness Protected areas	Species, habitats and wildlife ecology
1980-1990	 Nature despite people	Extinction, threats and threatened species Habitat loss Pollution Overexploitation	Population biology, natural resource management
2000-2005	 Nature for people	Ecosystems Ecosystem approach Ecosystem services Economic values	Ecosystem functions, environmental economics
2010	 People and nature	Environmental change Resilience Adaptability Socioecological systems	Interdisciplinary, social and ecological sciences

Transition – more to the solutions sections!

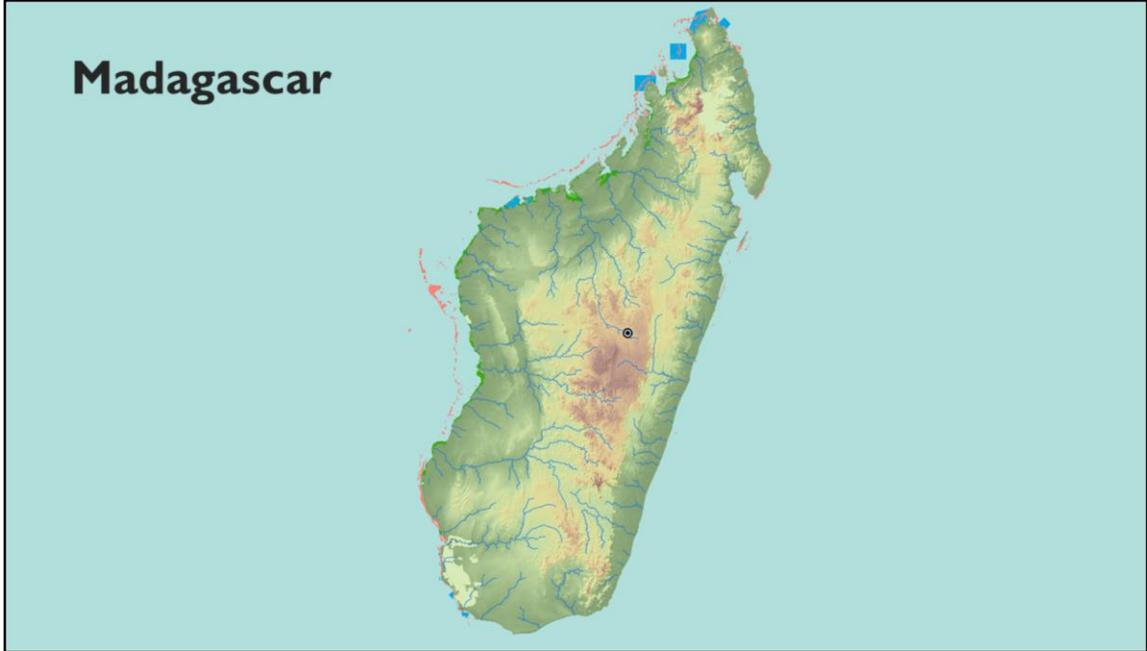
This made seem overwhelming, but they are people tackling these issues all around the globe.

But now, I want to give you a brief overview of how conservation as evolved over time – and the current thinking in the field of conservation.



Journey through different conservation approaches across the world – and how we’re tackling some of the toughest conservation challenges.

I wanted to give you a flavor of all the different types of interventions that are need to achieve real conservation impact on the ground – and how it takes many different groups to make this happen.



Only in 2004, WWF started to bring its attention to the rich and unique marine/coastal domain

- Of this large island-4th largest in the world
- Which harbors
- And among

In fact, we knew that :

This natural resource directly benefits the economy and people

- 20% of mangroves in Africa
- among the top 15 countries hosting the largest area of coral reefs in the world 90% of which are on the country's west coast (Allnutt et al., 2012)







We'll start off with Madagascar.

Typically

Madagascar is the world's 4th largest island

Wide continental shelf – host to extensive coral reefs and mangroves

*Underwater photos?

The island nation of Madagascar contains extensive mangrove ecosystems, which as of 2005 totaled approximately 280,000 hectares - 5000 km of shallow coast water coastlines- some of the most extensive in the region



Fish landings increasing,
catch rates decreasing



Habitat loss and
degradation



70% of the population lives
below the poverty threshold

Trends in mangroves?

Coral reefs? Any info there?

Decline/collapse in shrimp fisheries

Madagascar's HDI value for 2017 is 0.519— which put the country in the low human development category—positioning it at 161 out of 189 countries and territories. Between 2000 and 2017, Madagascar's HDI value increased from 0.456 to 0.519, an increase of 13.9 percent. Table A reviews Madagascar's progress in each of the HDI indicators. Between 1990 and 2017, Madagascar's life expectancy at birth increased by 15.3 years, mean years of schooling increased by 0.9 years and expected years of schooling increased by 4.2 years

average measure of basic human development achievements in a country.



Direct threats

- overexploitation
- habitat destruction
- impacts from climate change

Indirect threats

- migration,
- political climate,
- selling fishing rights to foreign vessels,



WWF and partners work with many of these communities – on both protection and restoration of mangroves. This is a community getting ready to plant mangroves – and many of the projects I’ve seen have been really successful –partly due to the fact that they have consulted experts to help inform where and what species to plant.

In addition to mangrove conservation- WWF has helped to set up more sustainable harvest for firewood – or provide alternatives. WWF is also working to help support additional sources of incomes to both improve livelihoods of local communities, and to provide means of reducing pressure on coastal resources.

For example – beekeeping in the mangroves.



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For example – beekeeping in the mangroves, providing local beekeepers with beehives boxes? To collect honey that they can sell.

Providing vaccines for chickens – we visited a farmer proudly showing off his healthy batch of chickens.

-chicken farming photos?



- Fueling this rampant poaching is a steady consumer demand for ivory.
- We are seeing demand increasing in East Asian and Southeast Asian markets, with the greatest demand in China, Hong Kong, Singapore, and Thailand.



- The ivory trade only threatens an iconic species, it endangers the lives and livelihoods of local people, and undermines national and regional security.
- In addition, around 100 rangers are killed annually in the line of duty as they work to protect elephants and other wildlife



-leveraging resources, building capacities, working on policies – to help reduce illegal wildlife trafficking.

-reducing demand - Demand primarily from China and Thailand that place a high cultural value on ivory. (behavior change, psychology, etc. marketing, advertising)



- In 2015, President Obama and Chinese President Xi Jinping made a commitment to enact “nearly complete bans” on the import and export of ivory in their countries.
- And in December of last year, China took the remarkable step of closing its legal domestic ivory markets
- We now have an historic opportunity to continue the momentum in Thailand, Hong Kong and Singapore.



- At the same time, we're working on changing consumer attitudes towards ivory in places like China.
- Together with TRAFFIC and GlobeScan, we have identified the demographics most likely to purchase ivory and are developing strategies to influence them and create a new social norm



Poachers come from the north east – which is community land/town across lake to get into the Kafue NP. So cameras are put on 2 islands in the lake and one on each end to form a ‘digital trip line’ – so we can see every boat coming and going into and out of the park. By law no fishing at night – so any boat on the lake at night is illegal, and usually up to no good. The first month we turned on the system (without attempting to apprehend any poachers) we were counting about 21 boats per night.



Henry Malaika from CC Systems installs FLIR technology on a tower in Zambia.

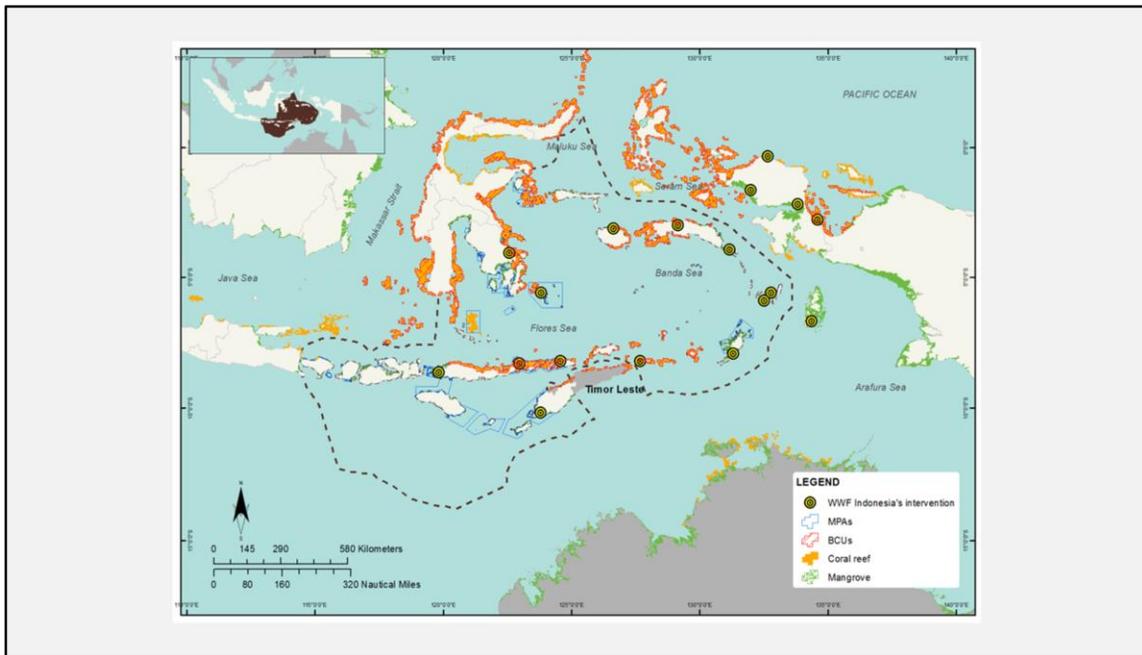


Cecilia Sekeleti, a new ranger, in the Marine Unit Command Center in Zambia.

All female ranger monitoring the cameras – though this will likely be done by AI.

They have already caught several poachers using this technology.





Sunda Banda Seascape



- **5,000** small islands
- **151 million** ha



- **1 million** ha coral reefs
- **75,000** ha seagrass
- **192,000** ha mangroves



- **27.6 million** people
- **4,900** coastal villages



- **85** MPAs established, covering
- **9.6 million** ha

Seascapes Approach

Seascope

Leverage
Sustainable finance
Market-based approach



coral reef-mangrove-seagrass interface



small-scale fisheries



area-based conservation



community-based conservation

climate and science



- Indonesia had established 19.1 million ha of (172) MPAs as of 2017, nearly reaching its original goal of 20 million ha.
- Government's new target is 30 million ha of MPAs by 2030 (10% of its marine areas to be protected).
- Improvement in well-being for communities in terms of **food security** and **decreases in social conflict** over marine resources



WHAT'S HAPPENING IN MICHIGAN....



High WATER on lakes this last summer



Invasive species in lakes (i.e. Asian carp)



Human health impacts



Pollution in waterways (i.e. from Lawn fertilizers)

In **Michigan**, 11.5 percent of adults and 9.2 percent of kids have asthma, the **MI Air MI Health** coalition reports – about 25 percent above the national average. It's been linked to heart disease, lung cancer and diabetes too.

REDUCE CARBON
FOOTPRINT AND
MAKE MORE
SUSTAINABLE
CHOICES

- Drive a smaller car
- Food waste
- Consumer choices
- 'Fast fashion'
- Wild yards!

ENGAGE IN CIVIL
SOCIETY

- Inform yourself in elections and look at candidates positions on environmental issues
- Join or support environmental groups
- Keep yourself informed!

TRUST THE
SCIENTISTS 😊