Where the forest wildlands are?

www.intactforests.org

The Intact Forest Landscapes Mapping Team

Technical support
Where the Forest Wildlands are?
Where the Forest Wildlands are?
Where the Forest Wildlands are?

- Brazil
  - Intact
  - Non-intact

- Papua New Guinea
  - Intact
  - Non-intact

- Canada
  - Intact
  - Non-intact

- Democratic Republic of the Congo
  - Intact
  - Non-intact
The Intact Forest Landscape

An **Intact Forest Landscape (IFL)** is a seamless mosaic of forests and associated natural treeless ecosystems that exhibit no remotely detectable signs of human activity or habitat fragmentation and is large enough to maintain all native biodiversity, including viable populations of wide-ranging species.

**The IFL delineation is based on two main criteria:**

**Ecosystem alteration**

Areas with evidence of intensive human-caused alteration are removed:
- Settlements and infrastructure.
- Agriculture lands and forest plantations.
- Industrial resource extraction.
- Burned areas adjacent to the infrastructure.

**Landscape fragmentation**

Areas with evidence of low-intensity historic disturbances are treated as subject to “background” influence and are eligible for inclusion in an IFL.

1. Larger than 500 km²
2. At least 10 km wide at the broadest place
3. At least 2 km wide in corridors or appendages
High(est) Conservation Value
- Most efficient in performing globally important ecosystem functions:
  - biodiversity harboring;
  - carbon storage and sequestration;
  - water cycle regulation.
- May serve as natural ecosystem benchmarks.

Resilient to Climate Change
- Supporting natural forest dynamics, including large-scale disturbances.
- Resilient to long-term abiotic changes, including climate change.

Low Conservation Management Cost
- Low threat and low accessibility of core areas → low cost of protection
- Resilience to natural and human-caused changes → low cost of maintenance
- Integrity of most ecosystem components → low cost of restoration

Where the Forest Wildlands are? The IFL Mapping Team, 2018

Intact forest area within Parakana IR, Brazil
The World’s Intact Forest Landscapes

Where the Forest Wildlands are?

The IFL Mapping Team, 2018

- IFL 2016
- IFL loss 2000-16
- Extent of forest zone

11.6 Mkm² IFL area as of 01/01/2017
9.3% IFL area loss 2000-2016
205 km² IFL area loss per day
The World’s Intact Forest Landscapes

Annual IFL area loss, percent

<table>
<thead>
<tr>
<th></th>
<th>2000-2013</th>
<th>2013-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55 %</td>
<td>0.72 %</td>
<td></td>
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</table>

20% Annual IFL loss rate increase in 2013-2016 compared to 2000-2013

Countries with the highest annual IFL loss increase (by area)

- Russia by 90%
- Indonesia by 62%
- Brazil by 16%

IFL life expectancy

<table>
<thead>
<tr>
<th>2030</th>
<th>2040</th>
<th>2050</th>
<th>2060</th>
</tr>
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<tbody>
<tr>
<td>Paraguay</td>
<td>Central African Republic</td>
<td>Australia</td>
<td>Malaysia</td>
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<td>Solomon Islands</td>
<td>Nicaragua</td>
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<td>Myanmar</td>
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<td>Honduras</td>
<td>Vietnam</td>
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<td></td>
<td>Angola</td>
<td>Dominican Republic</td>
<td>Bolivia</td>
</tr>
</tbody>
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Where the Forest Wildlands are?

The IFL Mapping Team, 2018
What’s Eating Forest Wildlands?

IFL loss drivers

- S. America, tropical
- Eurasia, southern boreal and temperate
- Africa
- N. America, northern boreal
- S.E. Asia
- N. America, southern boreal and temperate
- Eurasia, northern boreal
- Australia
- S. America, temperate

km²*1000

<table>
<thead>
<tr>
<th>Fire</th>
<th>Logging</th>
<th>Agriculture/pasture</th>
<th>Energy/mining</th>
<th>Other transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.2%</td>
<td>37.0%</td>
<td>27.7%</td>
<td>12.1%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Where the Forest Wildlands are?

The IFL Mapping Team, 2018
What’s Eating Forest Wildlands?

Where the Forest Wildlands are?

European Russia

Malaysia

Indonesia

Forest loss

2000

2017

The IFL Mapping Team, 2018
A Series of Forest Degradation Events

Where the Forest Wildlands are?
A Series of Forest Degradation Events

Selective logging infrastructure
A Series of Forest Degradation Events

Burned forests

Illegal logging

New villages

Where the Forest Wildlands are?
A Series of Forest Degradation Events

Gabon

Peru

Annual forest loss within IFL 2000-13 fragmentation

Annual forest loss, ha×1000

- IFL 2016
- IFL loss 2000-16
- Forest loss, 2000-17

Where the Forest Wildlands are?

The IFL Mapping Team, 2018
How Good is Protection of “Protected” Wildlands?

- **14%** IFL area within IUCN category I-III protected areas in 2018.

- **33%** PAs containing IFLs experienced IFL loss (N=1367)

- **4.7%** IFLs area within “effective” PAs that did not experience IFL loss 2000-2016

The IFL area reduction, 2000-2013:
- Within PAs: **1.8%**
- Outside PAs: **6.2%**

Tsaratanana Reserve, Madagascar
How Good is Protection of “Protected” Wildlands?

IFL 2000-2016 within FSC-certified concessions

Cameroon: 90%
Gabon: 48%
Republic of the Congo: 51%

IFL loss 2000-16

CIB (Singapore): 62%
IFO (Europe): 47%

FSC-certified logging concessions
Forest Wildlands Are Not Created Equal

Intact Forest Landscapes, 2016
Forest Wildlands Are Not Created Equal

Biodiversity indicators:
- Vertebrate species richness (Meyer et al., 2015)
- Plant species richness (Kier et al., 2005)
- IUCN vertebrate Red List species number (IUCN, 2018)
- Biodiversity hotspots (Myers et al., 2000)
Forest Wildlands Are Not Created Equal

Carbon storage indicators:
- Above-ground biomass (Avitabile et al., 2016)
- Peatland area (Yu et al., 2010)
Forest Wildlands Are Not Created Equal

Resilience indicators:
• IFL patch area
• IFL core area (portion of the IFL further than 5 km from the edge)
• Ratio of core area to the patch area
• Area protected within IUCN category I-III PAs

Resilience rank

HIGH

LOW
Forest Wildlands Are Not Created Equal

Conservation value is a function of:
- Species diversity and endemism
- Ecosystem functions, particularly, carbon storage
- Resilience to climate change and natural dynamic processes

Overall conservation value rank

WHERE the Forest Wildlands are?

The IFL Mapping Team, 2018
Forest Wildlands Are Not Created Equal

Vulnerability (active threats) indicators:

- IFL patch loss area, 2000-2016
- Proportion of IFL area loss, 2000-2016
Forest Wildlands Are Not Created Equal

Conservation priority rank

High conservation priority assigned to the IFLs with highest conservation value and the highest vulnerability to fragmentation and alteration.