

## Gold Mining in Madre de Dios, Peru

- Uncontrolled small-scale gold mining deforests large swaths of Amazon rainforest in Peru
- In 2014, Peru was the eighth top gold producer, where an estimated 175,000 artisanal gold miners operated
- In 2015, a 13% rise in gold production is expected, drawing in new large- and small-scale miners for profit

### DEFORESTATION IN PERU



Destruction from gold mining in Madre de Dios, Peru.  
Aerial photo by Enrique Ortiz

In December 2014, officials from within Peru's Ministry of the Environment stated that nearly 360,000 acres of the Peruvian rainforest were cleared that year, up from an average of 280,000 acres per year since 2001. As of September 2012, Madre de Dios alone lost over 50,000 hectares of forested land to deforestation from artisanal and small-scale gold mining (AGSM).

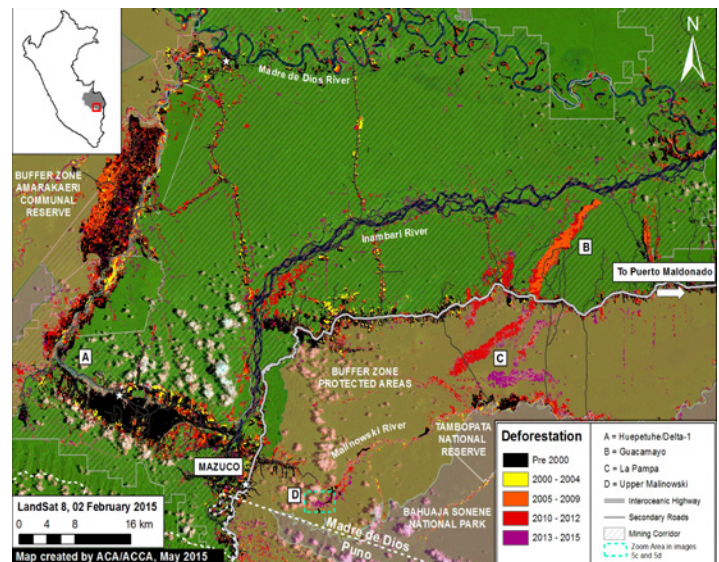
Completion of the Interoceanic Highway in 2010 increased access to the Madre de Dios region and today more than 59,000 miners are estimated to be operating without legal operating permits in the area. Recent efforts to legitimize illegal mining operations in Peru have left many miners in limbo, with only 631 successful permits issued nationwide. Those still awaiting approval are often unable to afford the necessary steps to formalization.

By leveling forests, removing topsoil, and releasing mercury, illegal mining devastates habitat, contaminates waterways, and endangers public health. Miners use mercury as a gold magnet, creating mixed nuggets of mercury and gold. The mercury is then burned off at multiple stages of extraction, releasing an estimated 30 to 40 tons of atmospheric mercury into the environment annually. In Madre de Dios, from February until April of 2015, a monthly average of 1.1 metric tons of mercury were released, showing a 30% increase from 2014. Although in 2013 Peru's Vice Minister of the Environment signed the Minamata Convention, a legally binding international treaty aimed at reducing mercury pollution, Peru has not yet ratified.

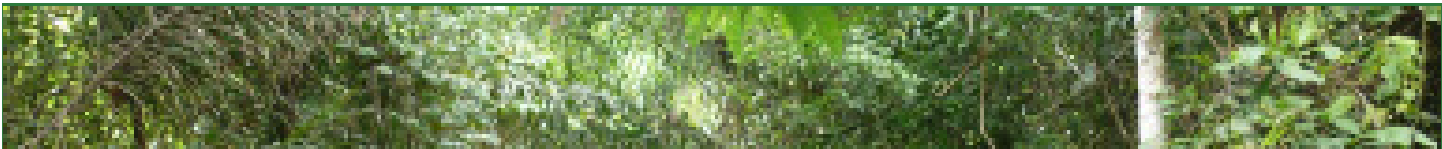
### HUMAN HEALTH IMPACTS OF MINING

Mercury pollution by ASGM activity poses a serious risk to human health, including impaired neurological development in children. Mercury is released directly into the river (as excess or accidental waste), or burned off the gold-mercury amalgamate in order to have purer gold for sale. The resulting atmospheric mercury lingers locally and can be captured and spread to waterways by precipitation cycles. In the waterways, fish take in the mercury as methylmercury. The fish are then consumed by humans, who can accumulate fatal amounts of mercury causing nervous system failure. When mercury vapor is inhaled, humans are susceptible to nervous, digestive, and immune system complications, as well as damage to lungs and kidneys.

In 2012, an ACA-sponsored study conducted by the Carnegie Institution for Science found that 9 of the 15 most-consumed fish species in Madre de Dios have mercury levels exceeding the safe limit set by the World Health Organization (WHO). A follow-up Carnegie study found that 78% of people in Puerto Maldonado have dangerously high levels of mercury in their bodies. Children in indigenous communities are even harder-hit, with an average of 5 times the WHO safe limit of methylmercury in their bodies.



Deforestation in the Madre de Dios mining zone.  
Map from MAAPProject



## The Amazon Conservation Association in Madre de Dios, Peru

The Amazon Conservation Association (ACA) works in Madre de Dios to mitigate the impacts of illegal mining with its Peruvian sister organization, the Asociación para la Conservación de la Cuenca Amazónica. ACA/ACCA emphasizes on-the-ground activities, including:

### **Building Prevention & Restoration Capacity**

- Supporting sustainable economic alternatives to mining, including agroforestry, aquaculture, and ecotourism
- Implementing a communications strategy to educate rural families on forest resources and to communicate results of mercury pollution research
- Supporting the creation of conservation areas that protect against mining
- Piloting reforestation of areas destroyed by mining to test and demonstrate techniques

### **Strengthening Governance**

- Aiding smallholders whose land is invaded by illegal miners and working to clarify land tenure and conflicts over land rights. *ACA has already provided free legal advice to nearly 100 beneficiaries.*
- Providing technical assistance to government authorities and supporting development of regional policies and formation of the Regional Environmental Authority in Madre de Dios
- Working with a coalition of other conservation non-profits to propose and advocate for a regional mining strategy

### **Increasing Knowledge**

- Supporting the science needed to help decision-makers and the public understand the impacts of mercury on public health and the environment

## Learn More

For more information about gold mining in the Peruvian Amazon, see the new documentary, *Amazon Gold*, co-produced by ACA Board Members Sarah duPont and Enrique Ortiz and our partners at the Amazon Aid Foundation



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