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Subject: Environmental degradation caused by the pig industry in the Yucatán Peninsula

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On behalf of the Center for Biological Diversity, Greenpeace Mexico, and our millions of members and supporters, we write to express our concern about irreparable and ongoing harm to natural resources and the rights of the Mayan peoples by industrialized pig farms in the Yucatán Peninsula. As detailed in a regional citizen complaint (denuncia popular regional) filed by members of 21 Mayan original towns in the Mexican states of Yucatán, Campeche, and Quintana Roo with the relevant federal environmental authorities, there have and continue to be "serious effects on the environment and especially on the water sources of the communities" caused by the construction and operation of mega industrialized pig farms in the region. Even further, these operations, which often do not have authorized environmental impact statements, adversely affect air quality, biodiversity, and human health.

Accordingly, through this letter, we, the undersigned, are joining and supporting the social claim of the Mayan peoples of the Peninsula that seeks to address violations of their human rights to self-determination, autonomy, and Indigenous consultation. See Exhibit A. As summarized in that social claim, to date the free prior, informed, and culturally appropriate rights of the Mayan peoples have been violated by approving and implementing the pig farming industry without their consent in their Indigenous territory.

In furtherance of that support, we request that within the scope of your powers as the environmental authorities for Mexico you institute a moratorium on the construction of any new or expanded industrial pig farms, and suspend issuance of any environmental authorization or other water permits to any new or expanding industrial pig farms in the Yucatán Peninsula until a study

is conducted that can properly assess the carrying capacity of the environmental system of the Yucatán Peninsula for these operations. To address present pollution issues, we further request that you inspect, regulate, and, as necessary, sanction the Yucatán Peninsula's current pig farming industry. These steps are necessary to resolve the damage to natural and Indigenous resources being caused by the industrial pig farming industry in the Yucatán Peninsula.

The Center for Biological Diversity is an international non-profit corporation whose mission is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and waters, and public health through science, policy, and environmental law. The Center maintains offices across the United States and in La Paz, Mexico.

Greenpeace Mexico is a nonprofit environmental organization that defends Mexico's environment and the communities that depend on it through peaceful, creative direct action. For over twenty-five years, Greenpeace Mexico has worked to protect Mexico's biodiversity, stop climate change, and prevent pollution of its oceans, land, air, and fresh water.

Background

As Greenpeace Mexico documented in its report "The Meat that is Consuming the Planet," the consequences of the unfettered growth of the pig farming industry and the construction of hundreds of large industrial farms with little or no regulation has contributed to the degradation of the air, soil, and water of the Yucatán peninsula—one of the areas with the greatest natural wealth in the country.¹ In so doing, in addition to harming the rights of the Mayan peoples, these operations have exacerbated extinction risks and losses of biodiversity in the region.

The Mayan jungle of the Yucatán Peninsula is an amazing biodiversity reservoir. It protects the soil against erosion by accumulating organic matter and avoids both the dragging of substrates and silt in other places; it generates water for human consumption and for irrigation; it supplies oxygen and captures carbon dioxide, which mitigates global warming; it provides usable plant and animal resources for food and medicine; and it supplies critical habitat for countless numbers of species of flora and fauna, fungi, and microorganisms.

The Yucatán Peninsula is also the main carbon sink in the country and the most important hydrological reserve of groundwater at the national level. It houses four aquifers with an average recharge of 25,316 hm³, which is more than 32% of the recharge average of the whole country.²

¹ Full report available at: https://storage.googleapis.com/planet4-mexico-stateless/2020/05/188dc911-Informe_granjas_webok3.pdf.

² Official Gazette of the State of Yucatán (2013), Decree number 117. Decree that establishes the Protected Natural Area called the Ring of Cenotes Geohydrological State Reserve, available at: <https://whc.unesco.org/en/tentativelists/5784/>.

These attributes are threatened by industrial pig farms. The Yucatán Peninsula, which shows a total of 257 pig farms registered in an official database, currently maintains approximately 14.2% of the identified industrial pig farms in the Mexican Republic. Of those 257 registered operations, 86% are located in the state of Yucatán (that is 222 operations), with the remainder located in Quintana Roo and Campeche. The distribution of operations in the state of Yucatán is mostly concentrated in the municipalities surrounding the city of Mérida.³

These operations are woefully underregulated. For example, of the 222 farms in the state of Yucatán "with some record," Greenpeace reported that only 18 have authorized environment impact statements. Further, with regards to even the number of industrial pig farms in the region, these figures may be an underestimate as Juan Carlos Gamboa Bustamante, a representative from the Ministry of Agriculture in the state of Yucatán, has stated that there are in fact 410 pig farms in the state of Yucatán, not 222, and that in 2019 these operations produced 2,200,000 pigs.⁴

Compounding the risks of this already significant industrial footprint, local production is increasing. The industry is currently growing at a rate of approximately 4.5% annually—a percentage even higher than that of Sonora and Jalisco (2.6 and 1.7%, respectively), which are presently the main producers of pork in Mexico.⁵ Indeed, between 2006 - 2018 pig production in the peninsula increased by 36%, with the most growth happening in the state of Yucatán at 39%, followed by Campeche and Quintana Roo with 10% and 9% industrial growth respectively.⁶

When viewed in terms of numbers of animals slaughtered in the region, approximately 1,875,890 industrially farmed pigs were slaughtered for meat and other products on the Yucatán Peninsula in 2018.⁷ That is equivalent to filling the Azteca Stadium 21 times, if each pig was given a seat. Of this production, 93% corresponds to the state of Yucatán, followed by 4% from Campeche and only 3% from Quintana Roo.⁸

³GeoComunes and Consejo Civil Mexicano para la Silvicultura Sostenible, AC (2019), Geovisualizador de la península de Yucatán. Pig and poultry farms, available at: <http://geocomunes.org/Visualizantes/PeninsulaYucatan/>.

⁴ Available in: <https://www.milenio.com/estados/estiercol-megagranjas-porcinas-dana-cenotes-selvas-yucatan>.

⁵ OECD (2019), "Market examinations in Mexico: case study of the pork meat market", available at: <https://www.oecd.org/daf/competition/market-examinations-mexico-pork-meat-market-web-esp.pdf>.

⁶ SIAP (2017), Livestock Production Units, on the map "Infrastructure of the Agrifood Sector" of the Agrifood and Fisheries Information System, available at: <https://www.gob.mx/siap/acciones-y-programas/informacion-geoespacial-32571>.

⁷ *Id.*

⁸ *Id.*

Damage to the environment

The Mayan jungle of the Yucatán Peninsula provides home and refuge to a large number of mammals, such as spider monkeys (*Ateles geoffroyi*) and jaguars (*Panthera onca*), whose survival is highly threatened, mainly by the disappearance of their habitat. Both species are in the endangered category by NOM-059-SEMARNAT-2010. Birds such as Yucatán parrots (*Amazona xantholora*) also suffer from the consequences of deforestation and are in the category of threatened species in the same NOM. At least 20 of the 200 endemic plant species of the Yucatán Peninsula are at risk of disappearing due to the devastation of their habitats. Likewise, endemic flowers have been lost due to deforestation and changes in land use, which are the food of the almost 200 species of native bees that scientists have identified only in the Yucatán Peninsula.⁹

In ecological terms, cenotes are also home to numerous endemisms, such as blind eels (*Ophisternon infernale*), the white lady (*Ogilbia pearsei*), and crustaceans such as *Creaseria morleyi* and *Typhlatya campecheae*.¹⁰ These species are threatened by discharges of polluting substances to the cenotes, such as nitrates from the excreta of pigs in industrial farms or the removal of the surrounding vegetation that prevents the infiltration of water and causes the deterioration of the ecosystem.

This loss of biodiversity is magnified due to the establishment and operation of industrial pig farms—45% of which are constructed on dry forest and cause particularly significant impacts to the medium deciduous and sub-deciduous forests. Indeed, at least 43 industrial pig farms have been identified in four Natural Protected Areas *and* in four Ramsar sites: Laguna de Terminos, Ring of Cenotes Geohydrological Reserve, Laguna de Yalahau State Park, and Ría Celestún Biosphere Reserve.¹¹

In addition, in the Yucatán Peninsula, 122 industrial pig farms (47% of the known farms in the area) have been established in regions considered either as Ramsar sites, Protected Natural Areas, or priority attention sites for the conservation of biodiversity. Operations in conservation sites total 20, while those located in restoration sites total 102 (65% of them in places of extreme priority). Such findings are alarming because it means that the authorities are not ensuring the protection of, or giving due importance to, these areas that are critical to our fight against climate change and the extinction crisis. In addition to being a shelter for flora and fauna species, they

⁹This happens when the jungle is destroyed in the Mayan territory, Yucatan Times (Nov. 30, 2020), [This happens when the jungle is destroyed in the Mayan territory - The Yucatan Times](#) (Accessed February 26, 2021).

¹⁰Mejía, JAM, Soberanis, FE, & Gregory, RB (2019). The perception of the crowd as an indicator of sustainable management of cenotes for tourist use in Yucatán, Mexico. PASOS Magazine of Tourism and Cultural Heritage, 17 (6), 1143-1158.

¹¹ Terms Lagoon: <https://rsis Ramsar.org/ris/1356?language=en>, Ring of Cenotes: <https://rsis Ramsar.org/ris/2043>, Yalahau Lagoon <https://rsis Ramsar.org/ris/1690?language=en>, Ría Celestún: <https://rsis Ramsar.org/ris/1333?language=en>.

are an important source for the economic activation of communities since they favor tourist activity.¹²

Regarding greenhouse gas emissions, livestock production systems are the cause of 15% of these gas emissions in the country, with cattle and pigs being the main sources thereof.¹³ In pig supply chains, greenhouse gas emissions come mainly from feed production and manure management. Indeed, according to the National Inventory of Greenhouse Gases and Compounds Emissions, between 1990-2015 manure management in pig farms produced 4,844.64 Gg of CO₂e in one year,¹⁴ which is equivalent to the amount of CO₂ emissions resulting from electricity generation in the state of Mexico,¹⁵ or 1 million 291 thousand 904 vehicles in the country¹⁶.

Animal waste additionally includes a number of potentially harmful contaminants, such as nutrients, disease-causing agents like bacteria and viruses, volatile and odorous compounds like hydrogen sulfide and ammonia, antibiotics and other pharmaceutical residues, pesticides, and hormones.¹⁷ “While those emissions are miniscule for pet owners, they can be quite substantial for farms that have hundreds or thousands of animals.”¹⁸ As an example, hog farms in the U.S. state of North Carolina now house more than 9.7 million pigs. Together, these animals produce more than 36 billion liters of urine and feces each year, which is more than 500 times the amount of waste generated by the entire human population of U.S. capital of Washington, DC¹⁹ Extrapolating the above, that probably equates to approximately 5.678 billion liters of urine and feces being generated in the Yucatán alone each year.

¹² Greenpeace, What is behind the pork industry in the Yucatan peninsula? The meat that is consuming the planet, at 44.

¹³ INECC (2018), "National inventory of greenhouse gas and compound emissions", available at: <https://www.gob.mx/inecc/acciones-y-programas/inventario-nacional-de-emisiones-de-gases-y-compuestos-de-efecto-invernadero>.

¹⁴ INECC (2018), "National inventory of greenhouse gas and compound emissions", available at: <https://www.gob.mx/inecc/acciones-y-programas/inventario-nacional-de-emisiones-de-gases-y-compuestos-de-efecto-invernadero>.

¹⁵ Government of the State of Mexico, Ministry of the Environment (2008), "Inventory of gas emissions from greenhouse effect and vulnerability of the State of Mexico to global climate change, available at: http://sma.edomex.gob.mx/sites/sma.edomex.gob.mx/files/files/sma_pdf_base_diag_cam_cli.pdf.

¹⁶ INECC (2019), Portal of Energy Efficiency Indicators and Vehicle Emissions, available at: <http://www.ecovehiculos.gob.mx/>.

¹⁷Waterkeeper All. v. EPA, 399 F.3d 486, 494 (2d Cir. 2005).

¹⁸Waterkeeper All. v. EPA, 853 F.3d 527, 529 (DC Cir. 2017).

¹⁹See Env'tl. Working Grp., Exposing Fields of Filth: Data and Methodology (2016), <https://www.ewg.org/research/exposing-fields-filth/data-andmethodology#>.

W5kdTaZKiUl; EPA, Risk Assessment Evaluation for Concentrated Animal Feeding Operations (2004) <https://nepis.epa.gov/Exe/ZyPDF.cgi/901V0100.PDF?Dockkey=901V0100.PDF>;

US Census Bureau, QuickFacts: District of Columbia,

<https://www.census.gov/quickfacts/fact/table/dc/PST045217> (In 2017, the population of Washington, DC was 693,972 people).

Request

Due to these and other concerns related to impairment of environmental resources, biodiversity, and the rights of the Mayan peoples by industrial pig farms in the Yucatán Peninsula, we request that a review be made of the existing industry to identify which operations are without authorization in terms of environmental impact and to verify that all operations are presented in the regional modality. In the same way, the environmental authority must assess the accumulated and synergistic environmental impacts from the pig industry on the Yucatán Peninsula to both regulate, inspect, and sanction the current pig industry, *and* identify the carrying capacity of the system regional environmental (SAR) of the Yucatán Peninsula for the pig industry, which is highly polluting, in order to avoid the unregulated proliferation of this activity and an environmental catastrophe in the Yucatán.

It is unsustainable and indefensible that these types of largely unregulated and highly polluting projects continue to be authorized in the Yucatán Peninsula. Based on the principle of precaution and prevention, any request for authorization of environmental impact for the installation of new farms in the Yucatán Peninsula must be denied and a moratorium put in place until this industry can be properly regulated without causing additional environmental harm.

Accordingly, we ask that the environmental authorities act to prevent the irreparable damage to natural resources reported here from continuing to occur. Until there is a study of the carrying capacity of the environmental system of the Yucatán Peninsula and the functional integrity of the system is determined, we request that the environmental authorities place a moratorium on issuing any environmental authorization and water permit to any new or expanding industrial pig farm in the Yucatán Peninsula.

Sincerely,



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