



MEMORANDUM

FOR : Undersecretary for Special Concerns and Concurrent Director,
Biodiversity Management Bureau

The Directors,
Ecosystems Research and Development Bureau
Environmental Management Bureau
Forest Management Bureau
Land Management Bureau
Mines and Geosciences Bureau

FROM : The OIC-Director
Policy and Planning Service

SUBJECT : REVISED DRAFT DAO RE: GUIDELINES FOR THE
SUSTAINABLE DEVELOPMENT PLANNING AND
MANAGEMENT OF PEATLANDS

DATE : 09 JUL 2021

This refers to the revised draft DENR Administrative Order (DAO) re: “*Guidelines for the Sustainable Development Planning and Management of Peatlands*,” submitted by the Biodiversity Management Bureau.

The draft DAO has already considered most of the recommendations of the Policy Technical Working Group, as well as the comments of the other Bureaus. The said draft policy also includes a section on the roles and responsibilities of relevant offices of the DENR, pursuant to the comments of the Forest Management Bureau. However, this office revised the proposed role of the Land Management Bureau in Section 9C because it is not in line with Section 4 of the 1987 Constitution, which states that the classification of lands as National Park may only be done by Congress. Classification of forestlands may also only be done via Presidential Proclamation or through an Act of Congress. We have already reformatted the draft DAO and corrected some typographical errors.

In view of the above, may we request for your concurrence (or comments) to the attached draft DAO on or before 22 July 2021. Otherwise, your lack of feedback will be considered your concurrence to the same.

For your information and appropriate action.


MELINDA C. CAPISTRANO



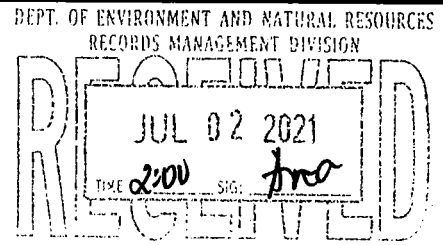
MEMORANDUM

TO : The OIC Director
Policy and Planning Service

FROM : The Undersecretary for Special Concerns and OIC Director

SUBJECT : **REVISED DRAFT DAO ON GUIDELINES FOR SUSTAINABLE DEVELOPMENT PLANNING AND MANAGEMENT OF PEATLANDS**

DATE :



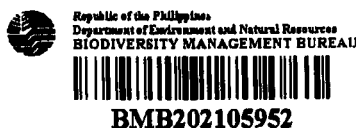
Respectfully submitted is the revised draft Guidelines for Sustainable Development Planning and Management of Peatlands. The recommendations of your Office to the consolidated comments on the draft DAO has been addressed in the revised draft policy. Details of the Bureau's response to comments are attached as **Annex 1**.

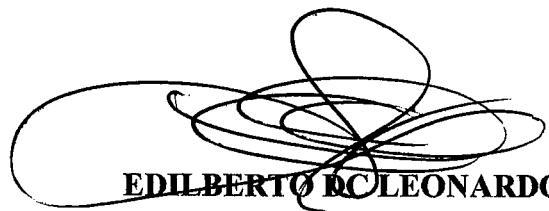
With regards to the updates on the coordination with LMB and MGB for the prevention of peatland conversion, we still have to schedule a meeting with these Bureaus. In relation to tapping of NCI-SRD regarding the inclusion of peatlands in DAR Administrative Order 1-2 s. 2002, the revision of Section 6. Strategy E is based on the said DAR AO as suggested during the PTWG meeting. However, collaboration with DAR in relation to peatland conservation can be further explored in the Wetland Working Group Committee meeting.

Further, validation and detailed assessment of suspected and confirmed peatland will be conducted upon the implementation of the Sustainable Use of Peatland and Haze Mitigation in ASEAN (SUPA). Attached for your reference is the initial list of suspected and confirmed peatlands which is subject for validation and updating (**Annex 2**).

On the other hand, we would like to inform that the Wetland Bills (House Bill Nos. 3460 and 8925 "*An Act Establishing a National Wetland Policy, Providing Mechanisms for its Institutionalization, and Appropriating Funds Thereof*") had recently been discussed during a House Committee on Natural Resources Technical Working Group (TWG) Meeting on 9 June 2021. Based on the result of the Meeting, the TWG as well as Congw. Amihilda Sangcopan, who sponsored the HB 3460, agreed to adopt the HB 8925 which will be further expound the HB 3460. The Committee Secretary on Natural Resources will prepare the substitute Bill for House Bill Nos. 3460 and 8925 as well as the Committee Report and will formally transmit it to the Plenary Affairs Bureau for consideration on its Second Reading. Hence, this Bureau will not pursue the draft Executive Order on Establishing a National Wetland Policy and Creating the National Wetland Conservation Committee.

For information and consideration.




EDILBERTO D. LEONARDO



DENR ADMINISTRATIVE ORDER

No. 2021-_____

**SUBJECT: GUIDELINES FOR SUSTAINABLE DEVELOPMENT
 PLANNING AND MANAGEMENT OF PEATLANDS**

Pursuant to Article II, Section 16 of the 1987 Constitution,¹ Executive Order (EO) No. 192 (1987),² and in relation to the Climate Change Act of 2009 (Republic Act No. 9729),³ Philippine Disaster Risk Reduction and Management Act of 2010 (Republic Act No. 10121), Wildlife Resources Conservation and Protection Act of 2001 (Republic Act No. 9147), National Integrated Protected Areas System (NIPAS) Act of 1992 (Republic Act No. 7586), as amended by the Expanded National Integrated Protected Areas System Act of 2018 (Republic Act No. 11038), and consistent with national commitments under the Convention on Wetlands or the Ramsar Convention, the following guidelines governing conservation and sustainable development of peatlands and peatland resources are hereby promulgated.

SECTION 1. Statement of Policy. It is the policy of the State to promote the conservation and sustainable development of peatland and peatland resources consistent with the principles of sustainable development, inclusive economic development, poverty reduction, biodiversity conservation, climate change adaptation and mitigation, and disaster risk reduction and management; while advancing the right to a balanced and healthful ecology in accordance with the harmony and rhythm of nature.

SECTION 2. Objectives. This Order shall have the following objectives:

- a. To promote the conservation and sustainable development of the country's peatland and peatland resources through the effective implementation and enforcement of pertinent specific measures required under various laws;
- b. To ensure that plans, programs and activities in or around peatlands are consistent with the goals of the Philippine Biodiversity Strategy and Action Plan (PBSAP) and the Philippine Development Plan (PDP), particularly on the rehabilitation of wetlands as wildlife habitat and their management for food production, water conservation and disaster mitigation.
- c. To institutionalize proper sustainable development planning and management of peatlands and ensure the inclusion and consideration of peatland issues and concerns in the local planning and development processes of the concerned local government units (LGUs), particularly in the updating of their Comprehensive Development Plans (CDPs), Comprehensive Land Use Plans (CLUPs) and formulation of their Forest Land Use Plans (FLUPs);

¹ The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

² "Reorganization Act of the Department of Environment and Natural Resources" (10 June 1987), specifically Sections 5(b), (c), (h) (5), (q).

³ Climate Change Act of 2009, as amended, specifically Section 15(c).

- d. To guide activities on raising public awareness of the existence of peatlands in the Philippines and of the vital ecosystem services that they provide, including the threats that peatlands face and the consequences of peatland degradation and loss; and
- e. To provide relevant information and guidance on peatlands and peatland issues and concerns to LGUs, local communities, businesses, planners, developers and other stakeholders;

SECTION 3. Scope and Coverage. This Order shall apply to areas identified by the DENR as peatlands as well as other areas that may potentially contain peatlands. This Order shall guide sustainable development planning and management of peatlands in public as well as titled lands.

SECTION 4. Definition of Terms. For the purposes of this Order, the following terms shall be construed to mean as:

- a. *Land use planning*⁴ refers to the rational and judicious approach of allocating available land resources to different land - using activities, (e.g. agricultural, residential, industrial) and for different functions consistent with the overall development vision/goal of a particular locality;
- b. *Peat* refers to dead and partially decomposed plant material that have accumulated under high water saturation or waterlogged conditions. Peat soil is defined using the definition of histosol (organic soil) which are soils with cumulative organic layer(s) comprising more than half of the upper 80cm of the soil surface containing 35% or more organic matter (35% or more loss on ignition) or 18% or more organic carbon;
- c. *Peat swamp forest* refers to a type of peatland that has forest cover and can be found in certain areas in the tropical regions of the world including the Philippines;
- d. *Peatlands* refers to wetland ecosystems characterized by the accumulation of peat at the surface. Major characteristics of peatland are the presence of peat and permanent water logging. Peatlands may have vegetation in the form of trees, shrubs, grasses and mosses;
- e. *Protected Area*⁵ refers to identified portions of land and/or water set aside by reason of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploitation;
- f. *Riparian area or zone* refers to land that occurs along watercourses and water bodies and are composed of moist to saturated soils, water-loving plant species and their associated ecosystems. This may be found surrounding lakes, estuaries, streams and rivers.
- g. *Subsidence* refers to the lowering or collapse of the ground level that results from draining water from peatlands and or due to fire incidence;
- h. *Wetlands*⁶ refer to a wide variety of inland habitats such as marshes, peatlands, floodplains, rivers and lakes, and coastal areas such as saltmarshes, mangroves,

⁴ HLURB CLUP Guidebook Volume I

⁵ Republic Act No. 11038

⁶ Republic Act No. 11038

intertidal mudflats and seagrass beds, and also coral reefs and other marine areas no deeper than six (6) meters at low tide, as well as human-made wetlands such as dams, reservoir, rice paddies and wastewater treatment ponds and lagoons.

SECTION 5. Guiding Principles. The following are the guiding principles for the sustainable development planning and management of peatlands.

- a. Recognition of peatland as one of the most significant natural ecosystems in the world which have key values for biodiversity conservation, climate regulation, hydrology and water regulation, and support for human welfare.
- b. Wise use of wetlands which integrates protection and sustainable use, to maintain the ecosystem services provided by peatland, including the tangible and intangible benefits for humans, in a fair and equitable way.
- c. The precautionary principle: where it is anticipated that the effects of an intervention could be seriously damaging. Measures to prevent this damage should not be avoided because of lack of full scientific certainty.

SECTION 6. Strategies for the Sustainable Development Planning and Management of Peatlands and Related Specific Actions. The DENR, including its field offices, shall promote and practice the following strategies:

A. Planning for the protection of peatlands from clearing and conversion. Peatlands are very fragile ecosystems. Once degraded, it is very difficult or sometimes impossible to restore to original conditions since physical conditions may have changed dramatically. As such, peatland shall be left undisturbed and no development shall be done.

1. Identify and come up with a list of potential peatlands in their respective areas of concern/jurisdiction. The area should be at least one (1) hectare to be considered as peatland.
2. Conduct assessment, mapping and delineation of peatlands as one of the bases for land use planning. The assessment shall include an inventory of peatlands within A&D and private lands, as well as the type of title issued, and peatlands susceptible to hazards such as fire and flooding. In case a public land has been assessed as peatland, this area should be tagged and prevented from being released as A&D
3. Place identified peatlands under protection forests categorization in Comprehensive Land Use Plans (CLUPs) and other plans in consultation with concerned agencies. In case of NIPAS, designate peatlands as strict protection zones
4. Where necessary, prioritize peatland for protection under the National Integrated Protected Areas System (NIPAS), as amended by RA 11038, or declared as critical habitat under the Wildlife Act, or as a local conservation area or other effective area-based conservation measures through the ordinances of LGUs
5. In cases where the peatland is within a NIPAS site, include its management as a thematic area in the Protected Area Management Plan (PAMP)
6. Pursue international recognition of peatlands such as Ramsar Site, ASEAN Heritage Park, World Heritage Site, etc.
7. Strengthen implementation of forestry laws and other applicable laws against illegal forestry activities, drainage, conversion, peat extraction, deliberate setting of fire within peatland or adjacent areas that may affect the peatland
8. Raise awareness on peatlands and its services and values

9. As much as possible, limit necessary development to degraded peatlands
 10. Continue identification and assessment of potential peatlands
- B. Regulation on the use of water in peatlands
1. Require the presentation of appropriate permits from concerned national government agencies such as the DENR, the National Water Resources Board (NWRB) and the National Irrigation Administration (NIA), prior to the construction of drainage canals in peatland
 2. Adopt water management systems to protect against flooding and to ensure adequate water supply during dry season
 3. Ensure that permitted construction of canals comply with the proper specifications as to width and depth
 4. Install waterflow control structures on existing canals
- C. Improvement of agricultural and agroforestry practices in degraded peatland that has been converted to agriculture land
1. Ensure adoption of best management practices by existing agricultural or agroforestry plantations in peatlands, including:
 - (a) Maintain high water table to prevent fires (50 to 75 cm below the surface)
 - (b) Find alternatives to burning for clearance
 - (c) Maintain buffer zones between plantations and outside peatlands
 - (d) Maintain natural vegetation, preferably leguminous cover crops, on bare soil to reduce risk of erosion.
 - (e) Practice compaction of peat soil before planting.
 - (f) Use renewable sources of energy.
 - (g) Plant at a higher density (160 palms per hectare)
 2. Shift to agricultural products that are more suited to peatland conditions
 3. Modify agricultural practices to adapt to peatland conditions
- D. Risk reduction from peatland fires
1. Inform and educate local communities on the dangers of peatland fires and enlist their participation in fire prevention and control strategies
 2. Adopt fire prevention and control measures for peatlands
 3. Adopt zero burning policy
 4. Promote composting of agricultural wastes
- E. Prevention of land use conversion of peatlands released as agricultural land
1. Prohibit the sale or lease of peatlands covered by the certificate of land ownership award (CLOA)⁷
 2. Inclusion of peatlands released as agricultural land into areas non-negotiable for conversion⁸
 3. Declare peatlands which has been classified as agricultural land, as protection area through local ordinance;
 4. Classify peatlands released as agricultural land under environmentally critical area (ECA)⁹

⁷ Republic Act No. 6657 "Comprehensive Agrarian Reform Law"

⁸ Section 4 of the Department of Agrarian Reform (DAR) Administrative Order No. 01-02, which classifies swamp forests or marshlands "areas non-negotiable for conversion" into non-agricultural uses."

⁹ as defined by the Presidential Proclamation 2146 and further clarified in Section 3.b of EMB Memorandum Circular 005 Series of 2014 "Technical Definition of ECA and Corresponding Operationalization Guide of the Revised Guidelines for Coverage and Screening and Standardized Requirements under the Philippines EIS System".

F. Rehabilitation and improvement of the resilience of deforested or degraded peatlands

1. Prioritize degraded peatlands for reforestation, such as, under the National Greening Program (NGP)
2. Report the existence of abandoned peatlands released for agricultural use and coordinate their reversion with concerned national government agencies
3. Promote the refilling, blocking or plugging of abandoned drainage canals
4. Reforest and rehabilitate riparian areas
5. Require oil palm plantations to undertake rehabilitation of their abandoned peatlands

G. Research and Development (R&D)

Undertake R&D on peatlands such as but not limited to the following:

1. Peatland ecosystems and biodiversity;
2. Hydrological processes to better understand peatland functioning;
3. Carbon stock assessment and accounting verification;
4. Vulnerability to climate change and disaster risk management;
5. Applicable restoration and rehabilitation in peatland;
6. Peat fire prevention and disaster risk reduction;
7. Appropriate techniques and practices for peatland management;
8. Support to community development and livelihood activities building on traditional knowledge and practices, among others.

SECTION 7. Laws Applicable to Peatlands. The DENR shall ensure that the safeguards, restrictions and standards prescribed by the said laws are observed and complied with in peatlands. Strategies in Section 6, shall be in accordance with the various provisions of law having relevance to the sustainable development planning and management of peatlands as listed in Annex "A" of this Order.

SECTION 8. Raising Awareness. The DENR shall promote communication, education, participation and public awareness (CEPA) through preparation and dissemination of information materials and public awareness campaigns on the existence and importance of peatlands (Annex B) on the prevention or reduction of the threats to peatlands and on the consequences of peatland degradation and loss (Annex C).

SECTION 9. Roles and Responsibilities of DENR Offices. The following are the roles and responsibilities of concerned DENR Offices:

A. Biodiversity Management Bureau

1. Provide technical assistance and guidance to the DENR Field Offices in peatland conservation and management
2. Lead capacity buildings relevant to peatlands conversion and management
3. Consolidate results of peatland inventory and assessment submitted by the DENR Field Offices into a national peatland map
4. Maintain and update national inventory and database of peatlands
5. Notify concerned DENR Offices (e.g. LMB, MGB, FMB, ERDB) regarding the peatlands in the country and recommend policies, rules, and regulations for the protection and conservation of peatlands.
6. Conduct periodic monitoring of peatlands and peatland related activities in collaboration with concerned DENR Offices and Field Offices.

B. Forest Management Bureau

1. Prioritize peat swamp forest/peatlands within forest land that are not Protected Areas as Protection Forest.
2. Prioritize watershed with identified peatlands/peat swamp forest in watershed characterization, vulnerability assessment and integrated watershed management plan preparation.
3. Provide technical assistance and guidance on forest fire management measures.
4. Prioritize degraded peatlands in the rehabilitation/reforestation/restoration programs, such as NGP, using the appropriate rehabilitation strategies and species suitable to peatland ecosystem.

C. Land Management Bureau

- ~~1. Classify peatlands/peat swamp forest as forest/timber land and/or national park~~
Reserve identified peatlands/peat swamp forest from being released as Alienable and Disposable land.

D. Mines and Geosciences Bureau

1. Conduct Geohazard Assessment in peatlands
2. Assist in peatland assessment particularly in soil analysis

E. Environmental Management Bureau

1. Assist in peatland assessment, particularly in water analysis

F. Ecosystems Research and Development Bureau

1. Undertakes research and development on peatlands such as but not limited to the items stated in Strategy G of Section 6

G. Regional Offices and its Respective PENROs/CENROs

1. Conduct inventory, assessment, monitoring and mapping and delimitation
2. Recommend management prescription mentioned in Strategy A
3. Implement plans and programs of the DENR for the protection and conservation of peatlands.
4. Enforce environment and natural laws, rules and regulations relevant to the strategies mentioned in Section 6.
5. Undertake planning and implementation of activities mentioned in Section 6 for the protection of peatlands from clearing and conversion and further degradation
6. Undertake awareness raising on the existence and importance of peatlands.
7. In coordination with LGUs and concerned stakeholders, facilitate designation of peatlands as national park and/or other effective area-based conservation measures (OECM) such as local conservation area and critical habitat.
8. Coordinate with other government institutions, LGUs and stakeholders in the integration of peatlands protection and conservation to the plans and programs of the LGU.

SECTION 10. Monitoring and Evaluation. The Biodiversity Management Bureau in collaboration with concerned DENR Field Offices shall conduct periodic monitoring of peatlands and peatland related activities.

SECTION 11. Coordination with other government agencies. The DENR shall coordinate with other agencies to support the implementation of this Order.

SECTION 12. Separability Clause. If any part of this Order is declared unconstitutional or otherwise defective on any ground, the remaining parts not affected thereby shall remain valid and effective.

SECTION 13. Repealing Clause. All other orders, circulars, memoranda and other issuances, or parts thereof, inconsistent with the provisions of this Order are hereby repealed, amended or modified accordingly.

SECTION 14. Effectivity. This Order shall take effect after fifteen (15) days after its publication in a newspaper of general circulation and upon acknowledgement by the Office of the National Administrative Register (ONAR).

ROY A. CIMATU
Secretary

ANNEX "A"

Legal provisions applicable to peatlands

While there is no Philippine law that specifically deals with peatlands, the conservation and sustainable use of peatland and peatland resources is apparent in the laws dealing with wetlands, forestry, agriculture, agrarian reform, water use and appropriation, protected areas, wildlife resources, and environmental impact assessment.

Several laws present a range of protection levels available to peatlands. Applying certain laws, peatlands may be reserved and set aside primarily for conservation use. Other laws allow certain forms of development or resource use but provide conditions or limitations based on ecological considerations. Some laws provide legal basis for the reforestation, rehabilitation and restoration of peatlands.

The pertinent provisions of various laws relating to conservation and sustainable are cited below:

- a. Presidential Decree (PD) No. 705 "**Revised Forestry Code of the Philippines**," Sections 16(8) and 33(h):

"The following lands, even if they are below eighteen percent (18%) in slope, are needed for forest purposes, and may not, therefore, be classified as alienable and disposable land xxx Strips of mangrove or swamplands at least twenty (20) meters wide, along shorelines facing oceans, lakes, and other bodies of water, and strips of land at least twenty (20) meters wide facing lakes;"

" Lands to be reforested and/or afforested are as follows: xxx swamps xxx."

- b. PD No. 1067 "Water Code of the Philippines," Section 74:

"Swamps and marshes which are owned by the State and which have a primary value for waterfowl propagation or other wildlife purposes may be reserved and protected from drainage operations and development."

- c. PD 1096 "National Building Code of the Philippines," Section 102 and 105:

"It is hereby declared to be the policy of the State to safeguard life, health, property, and public welfare, consistent with the principles of sound environmental management and control."

"In the case of sites or buildings intended for use as human habitation or abode, the same shall be at a safe distance, as determined by competent authorities, from streams or bodies of water..."

- d. PD 1468 "Revised Coconut Industry Code," Section 2:

"It is hereby declared to be the policy of the State to promote the rapid integrated development and growth of the coconut and other palm oil industry in all its aspects and to ensure that the coconut farmers become direct participants in, and beneficiaries of, such development and growth."

- e. PD No. 1586 "**Establishing an Environmental Impact Statement System...**", Sections 1 and 4, in relation to Presidential Proclamation No. 2146 "Proclaiming Certain Areas and Types of Projects as Environmentally Critical and Within the Scope of the Environmental Impact Statement System established under Presidential Decree No. 1586":

"It is hereby declared the policy of the State to attain and maintain a rational and orderly balance between socio-economic growth and environmental protection."

"No person, partnership or corporation shall undertake or operate any such declared environmentally critical project or area without first securing an Environmental Compliance Certificate issued by the President or his duly authorized representatives."

"B. Environmentally Critical Areas

"1. All areas declared by law as national parks, watershed reserves, wildlife preserves and sanctuaries;

"2. Areas set aside as aesthetic potential tourist spots;

"3. Areas which constitute the habitat for any endangered or threatened species of indigenous Philippine Wildlife (flora and fauna); xxx"

f. Republic Act (RA) No. 3601 "**An Act Granting the National Irrigation Administration,**" as amended, Section 2(c) which authorizing the NIA:

"To construct multiple-purpose water resources projects designed primarily for irrigation, and secondarily for hydraulic power development and/or other uses such as flood control, drainage, land reclamation, domestic water supply, roads and highway construction and reforestation, among others, provided, that the plans, designs and the construction thereof, shall be undertaken *in coordination with the agencies concerned.*"

g. RA 7586 "National Integrated Protected Areas System (NIPAS) Act," Section 2: as amended by RA 11038 "Expanded National Integrated Protected Areas System (ENIPAS) Act of 2018"

"It is hereby recognized that these areas, although distinct in features, possess common ecological values that may be incorporated into a holistic plan to conserve and protect our natural heritage; that ***effective administration of these areas is possible only through cooperation among the national government, local governments and concerned nongovernment organizations, private organizations, and local communities***; that the ***use and enjoyment of these protected areas must be consistent with the principles of biological diversity and sustainable development.***"

h. RA 7607 "**Magna Carta of Small Farmers,**" Sections 9(8) and 19:

"The farmers shall xxx participate in the conservation, protection and development of the national patrimony"

"To enhance the compatibility of environmental protection with sustained agricultural productivity, ***the Department of Environment and Natural Resources shall adopt measures to promote conservation practices*** such as reforestation, watershed management, antipollution programs and other similar measures."

i. RA 8425 "Social Reform and Poverty Alleviation Act," Section 2(4)(g):

"The Social Reform Agenda shall promote ecological balance in the different ecosystems, in a way that gives the basic sectors a major stake in the use, management, conservation and protection of productive resources."

j. RA 9147 "Wildlife Resources Conservation and Protection Act," Section 2(a):

"It shall be the policy of the State to conserve the country's wildlife resources and their habitats for sustainability. In the pursuit of this policy, this Act shall have the following objectives: to conserve and *protect wildlife species and their habitats to promote ecological balance and enhance biological diversity*; xxx"

k. RA 9367 "**Biofuels Act of 2006**," Section 2(d):

"It is hereby declared the policy of the State to reduce dependence on imported fuels with due regard to the protection of public health, the environment, and natural ecosystems consistent with the country's sustainable economic growth that would expand opportunities for livelihood by mandating the use of biofuels as a measure to xxx ensure the availability of alternative and renewable clean energy without any detriment to the natural ecosystem, biodiversity and food reserves of the country."

- l. Department of Agrarian Reform (DAR) Administrative Order No. 01-02, which classifies swamp forests or marshlands "areas non-negotiable for conversion" into non-agricultural uses."
- m. DENR Memorandum Circular (DMC) No. 2004-12 "Revised Guidelines governing the Identification of Forest Areas for the Establishment of African Oil Palm (*Elaeis guineensis* Jacq.) Plantation," which prohibits the establishment of African palm oil plantations inside protected areas and buffer zones and limits them to "open areas/brushland areas" in forest lands.

ANNEX "B"

Importance of Peatlands

Peatlands provide food, wood, non-timber forest products, medicine and other natural materials especially to immediate local communities. It also provides number of services and functions including water regulation, irrigation, ecotourism and recreation opportunities and aesthetic values, among others. It also has global benefits such as biodiversity conservation and carbon sequestration and storage.

- a. **Peatlands and water.** Peatlands generally consist of about 90% water and act as vast reservoirs. Water absorbed by peatlands during wet seasons is gradually released during the dry season and helps maintain constant supply to downstream communities and ecosystems for drinking, domestic, agricultural and other uses. Water from peatlands has a characteristic dark brown or tea-like color due to dissolved tannins from peat.
- b. **Peatlands and biodiversity.** Peatlands are rare type of ecosystem and are globally important for biodiversity conservation at genetic, species and ecosystem levels. Peatlands are the habitat of unique animal and plant species. Animals and plants found in peatlands have evolved to adapt to the soft ground and waterlogged conditions. Species that are suited to harder mineral soils and drier conditions usually do not thrive or survive in peatlands.
- c. **Peatlands and climate change.** Peatlands are important in the regulation of greenhouse gases and climate change. Peatlands store more carbon compared to other terrestrial ecosystems. While covering only about three percent (3%) of the world's land area, peatlands store about one third of the world's land carbon in their carbon-rich peat. In addition, the trees and biomass in peatlands also store and continue to sequester carbon from the atmosphere. The carbon stored in peatlands can be thousands of years old and estimated to be about 1.2 trillion tons. The Caimpugan peat swamp forest alone is estimated to store 22.9 million tons of carbon (Alibo & Lasco, 2012).¹⁰
- d. **Peatland and disaster risk reduction.** Healthy and intact peatlands provide natural protection against floods due to the high-water absorbency of peat. Their existence is a positive contribution to flood management.
- e. **Peatland and ecotourism.** Pristine peatlands are potential recreation and tourism sites that can provide additional or alternative sources of income for local communities from ecotourism and related industries.

ANNEX "C"

1. **Threats to peatlands.** Direct threats to peatlands include clearing, drainage and land conversion for agricultural, industrial and residential purposes, excavation, burning, and overexploitation of peatland resources such as timber, non-timber forest products and wildlife. Indirect threats include water pollution, climate change, and conduct of incompatible activities in areas adjacent to peatlands.

¹⁰ Alibo, Van Leeah B., and Rodel D. Lasco. 2012. "Carbon Storage of Caimpugan Peatland in Agusan Marsh, Philippines and its Role in Greenhouse Gas Mitigation." *Journal of Environmental Science and Management* 15(2): 50-58.

2. Consequences of peatland degradation and loss. Drainage and conversion of peatlands reduces their capacity to store water and regulate its flow consequently affecting onsite and downstream water users and beneficiaries. Over-extraction of water lowers the water table and exposes the peat to air. This causes the organic matter in peat to decompose. This dehydration and oxidation results in the subsidence or physical collapse and compaction of the dried peat. Subsidence compromises the stability of trees, houses and other structures by exposing roots and foundations and increases the risk of injury or damage due to strong winds caused by typhoons and other weather disturbances.

Pursuant tothis Administrative Order is hereby promulgated for the information, guidance, and compliance of all concerned.

SECTION 1. Basic Policy. It is the policy of the State to protect and advance the rights of the Filipino people to a balanced and healthful environment. In pursuit of this goal, the State shall....

SECTION 2. Objectives. This Guidelines shall have the following objectives:

- a. Lorem Ipsum Dolor
- b. Lorem Ipsum Dolor

SECTION 3. Scope and Coverage. This Order shall primarily apply to

SECTION 4. Definition of Terms. The following terms as used in this Order shall be understood and defined as:

- a. **Lorem Ipsum Dolor** – amet sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est labo
- b. **Lorem Ipsum Dolor** – amet sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est labo

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- a. Lorem
- b. Ipsum
- c. Dolor

SECTION 7. Funding. The Department shall allot regular funds to support the implementation of this Order.

SECTION 8. Separability Clause. Should any of the provisions of this Order be subsequently or otherwise revised, modified or repealed accordingly, the same shall not affect the validity or legality of the other provisions so far as they could stand independently of the provisions so revised, modified or repealed.

SECTION 9. Repealing Clause. All other orders, circulars, memoranda and other issuances (i.e., DAO 2018-22, TB 2017-11, and TB 2018-03), or parts thereof, inconsistent with the provisions of this Order are hereby repealed, amended or modified accordingly.

SECTION 10. Effectivity Clause. This Order shall take effect fifteen (15) days after its publication in a newspaper of general circulation and upon acknowledgement thereof by the UP Office of the National Administrative Registrar (ONAR).

ROY A. CIMATU
Secretary