Appendix B – Land-based Net Carbon Inventory Categories and Methodological Tiers

The tables below indicate whether a category was estimated in the current cycle and the IPCC Tier used. The IPCC guidelines employ a 3-level methodology hierarchy, representing increasing levels of complexity and specificity. Tier 1 uses IPCC default values for emissions, Tier 2 country or region-specific emission factors for greater accuracy, and Tier 3 requires detailed data and quantification tools using process-based models for the most precise estimations. See the *Inventory Basics* section in the final report for more information on IPCC Tiers, as well as their relation to underlying data and methods.

In the following tables, the notations of T1, T2, and T3 indicate the use of Tier 1, Tier 2, or Tier 3 methodologies. "NE" indicates that emissions or removals were *not estimated*. "IE" is an abbreviation for *included elsewhere*, meaning the emission is calculated by included elsewhere in the Inventory under a different key category/subcategory. "NA" is an abbreviation for *not applicable*, meaning that the category exists but the activity does not result in emissions/removals of that GHG.

Of note, to estimate emissions from drained organic soils, Tier 1 approach was used because the IPCC Wetland Supplement published in 2014 provides the most recent set of emission factors to estimate emissions from drained organic soils across climate zones, land use categories, and GHGs. Although these are not US specific (enabling Tier 2 approach), they reflect the latest research and ensure completeness and consistency.

Table 1: Forest Land remaining Forest Land

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in forest carbon stocks (biomass, dead organic matter, soil)	T1- soils T3 - all other pools	NA	NA
Emissions from managed soils	NA	NA	T1
Harvested wood products	T3	NA	NA

Table 2: Land converted to Forest Land

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in forest carbon stocks (biomass, dead organic matter, soil)	T2	NA	NA

Table 3: Cropland remaining Cropland

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in mineral soils carbon stocks	T3	NA	NA
Changes in biomass carbon stocks (perennial crops)	T1	NA	NA
Emissions from drained organic soils	T1	T1	T1

Table 4: Land Converted to Cropland

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in cropland carbon stocks (biomass, dead organic matter, soil)	T2	NA	NA
Emissions from drained organic soils	T1	T1	T1

Table 5: Grassland remaining Grassland

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in mineral soil carbon stocks	T3	NA	NA
Changes in biomass carbon stocks	T3	NA	NA

Table 6: Land converted to Grassland

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in cropland carbon stocks (biomass, dead organic matter, soil)	T2	NA	NA

Table 7: Wetlands remaining Wetlands

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in carbon stocks in wetlands and flooded lands (biomass, dead organic matter, soil)	T2	NA	NA
Non-CO_2 emissions from wetlands and flooded lands	NA	T2	NE
Aquaculture production	NA	NA	T1

Table 8: Land converted to Wetlands

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in carbon stocks in wetlands and flooded lands (biomass, dead organic matter, soil)	T2	NA	NA
Non-CO_2 emissions from wetlands and flooded lands	NA	T2	NE

Table 9: Developed Land remaining Developed Land

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in urban tree carbon stocks (biomass)	T2	NA	NA
Emissions from drained organic soils	T1	T1	T1

Table 10: Land converted to Developed Land

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Changes in carbon stocks in Developed land (biomass, dead organic matter, soil)	T2	NA	NA
Emissions from drained organic soils	T1	T1	T1

Table 11: Non-CO2 emissions from wildfires and biomass burning

Category/subcategory name	Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)
Non-CO_2 emissions from wildfires	IE	T3	T3
Non-CO_2 emissions from prescribed burns	IE	T2	T2