

1.1.1 Expected Biodiversity Changes (VCS, 3.19; CCB, B2.1)

The project area was not cleared or drained of existing natural ecosystems in the 10 years before the 2022 start date. Table 5.4 below displays NLCD land cover types within the project area at 2012 and 2022.

Table 5.4. NLCD cover types within the project area at 2012 and 2022

NLCD Cover Type	Acres (2012)	Acres (2022)	Change
Open water	1.4	5.8	4.5
Developed, Open Space	112.6	112.4	-0.2
Developed, Low Intensity	15.5	14.4	-1.2
Developed, Medium Intensity	0.1	0.0	-0.1
Deciduous Forest	2,814.2	6,169.6	3,355.4
Evergreen Forest	1,395.1	1,236.7	-158.4
Mixed Forest	3,079.2	3,371.9	292.7
Shrub/Scrub	2,171.8	495.9	-1,675.9
Grassland/Herbaceous	2,079.8	187.8	-1,892.1
Pasture/Hay	0.3	0.3	0.0
Woody Wetlands	10,340.4	10,398.6	58.1
Emergent Herbaceous Wetlands	27.7	44.1	16.4
Barren Land (Rock/Sand/Clay)	0.0	0.8	0.8

The table above shows a general increase in the NLCD cover types associated with natural ecosystems and a general decrease in NLCD cover types associated with non-natural ecosystems.

<b>Biodiversity element</b>	Mature forest cover
<b>Estimated change</b>	Expected to increase
<b>Justification of change</b>	Because the project area has transitioned from industrial forestland ownership to tribal ownership with a forest management plan in place to encourage mature forest, it is expected that the mature forest cover will increase. This increase in mature forest cover will benefit habitat for multiple wildlife species. See section 5.2.3 for further information.

1.1.2 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

This project will monitor two biodiversity indicators that have direct impact on the stated biodiversity goal of supporting more mature, healthier, and diverse forest ecosystems: stand age and live/dead basal area per acre. Both of these indicators have been identified as important indicators of overall habitat quality and condition in several published studies.<sup>1</sup>

Area	Objective	Activities	Term	Indicator/Output	Unit/Measure	Data Collection Method/Tool	Fr M
Stand Age	1. Increase the average stand age of the project area.	1.1 Passive forest management will be a change from the without-project scenario and will allow stand ages to increase on average across the project area.	2022–2042	Average stand age in years compared to the without-project scenario.	Difference in average stand age in years between project and without project scenario (as measured in matched FIA control plots).	Stand age in years will be collected as part of the regular forest inventory (see detailed procedures in BoisForte_VM0045_InventorySOPs) and baseline FIA control plot update procedures. Once a stand age is measured using an increment borer at the project start date, the stand age will be calculated by adding the subsequent number of years up through each monitoring event until the stand is harvested or otherwise disturbed. Then, a new stand age will be assigned.	At ca in m ev le ev ye
Basal Area of Live and Dead Trees	2. Increase the average basal area per acre of native tree species within the project area.	2.1 Passive forest management will be a change from the without-project scenario and will allow basal area per acre to increase on average across the project area.	2022-2042	Average basal area per acre (ft <sup>2</sup> /ac.) compared to the without-project scenario.	Difference in average basal area of live and dead trees in square feet per acre between project and without project scenario (as measured in matched FIA control plots).	Basal area in square feet per acre will be collected as part of the regular forest inventory (see detailed procedures in BoisForte_VM0045_InventorySOPs) and FIA control plot update procedures.	At ca in m ev le ev ye

<sup>1</sup> Van Den Meersschaut, D. (1998). Development of a stand-scale forest biodiversity index based on the State Forest Inventory. Integrated tools for natural resource inventories in the 21st century, 340-349.

Corona, P., Chirici, G., McRoberts, R.E., Winter, S. and Barbati, A., 2011. Contribution of large-scale forest inventories to biodiversity assessment and monitoring. *Forest ecology and management*, 262(11), pp.2061-2069.

Storch, F., Dormann, C.F. and Bausch, J., 2018. Quantifying forest structural diversity based on large-scale inventory data: a new approach to support biodiversity monitoring. *Forest Ecosystems*, 5(1), pp.1-14.