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U.S. Virgin Islands' Forests, 2024: A Forest Inventory and Analysis Report





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Cover photo: The dry forest of the arid east end of Point Udall, St Croix is a combination of cactus and shrubs. (Courtesy photo by Brian Daley)

Following page photo: Flower of the native orchid, *Epidendrum cilliare*, which often grows as an epiphyte in Virgin Islands forests. (Courtesy photo by Brian Daley)

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Belinda Esham and Theodore Ridley



ABSTRACT

This report summarizes the findings of data collected as part of the Forest Inventory and Analysis (FIA) program in the U.S. Virgin Islands (USVI) using data collected during inventory years spanning 2014 to 2024. The year 2024 was the first year the All Conditions Inventory (ACI) was employed and notable differences from traditional forest land inventory are highlighted in this report. The ACI yielded more information than measuring forest land alone. It has promise in island inventories where urban trees, fruit trees, yard trees, and other land conditions not defined as forest are important. As of 2024, forest land covers 59.6 percent of the USVI and is relatively stable, as changes in forest cover have been within sampling errors since 2004 when the inventory was first implemented. The data in this report are based on 108 field plots across the USVI, mainly on St. Croix, St. John, and St. Thomas. Dry tropical forests dominate the islands, with a lesser amount of moist forest occurring on all three islands. The majority of trees fall into the smaller diameter classes, although there is some indication that forests are growing into larger classes slowly. The effects of hurricanes Irma and Maria in 2017 were apparent and that is discussed in detail in this report. Development pressure, strong storms, and nonnative species all impact the USVI's forests and will continue to be a threat going forward. The forest inventory is an important tool to measure these effects over time.

KEYWORDS: Caribbean, FIA program, forest health, forest inventory, all conditions inventory, tropical forests, U.S. Virgin Islands.

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View of Altona Lagoon and the Caribbean Sea beyond from St. Croix. (Courtesy photo by Micheal Morgan)

FOREWORD

The Forest and Rangeland Renewable Resources Research Act of 1978 mandated inventories of our Nation's forest resources. These inventories are part of a continuing nationwide undertaking by the regional research stations of the U.S. Department of Agriculture Forest Service and cooperating State forestry agencies. Forest inventories in the 13 Southern States (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia), the Commonwealth of Puerto Rico, and the Territory of U.S. Virgin Islands (USVI) are conducted by the Southern Research Station, Forest Inventory and Analysis (FIA) Research Work Unit (SRS-4801) operating from its headquarters in Knoxville, TN. The primary objective of these appraisals is to develop and maintain the resource information needed to formulate sound forest policies and programs.

Additional information about any aspect of this inventory may be obtained from:

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Southern Research Station
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2730 Cherokee Farm Way, Suite 100
Knoxville, TN 37920

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Ausley "Burl" Carraway, III
Program Manager

The year 2024 represented a closeout of the periodic inventory, which has been conducted since its inception in 2004. In 2025 the USVI started normalized annual inventory, measuring a portion of plots each year. This report highlights changes in the USVI forest resources. Inventories feature (1) a nationally consistent, fixed-radius, four-point plot configuration; (2) a systematic national sampling design consisting of a base grid derived by subdividing the Environmental Monitoring and Assessment Program grid into roughly 6,000-acre hexagons; (3) integration of the forest inventory and forest health monitoring sampling designs; (4) annual measurement of a fixed proportion of permanent plots (starting in 2025); (5) a default 5-year moving average estimator, with provisions for optional estimators based on techniques for updating information; and (7) a summary report every 5 years. Additional information about annual surveys is available on the U.S. Department of Agriculture, Forest Service Research and Development website (USFS-FIA) (USDA Forest Service 2025).

The Southern Research Station's FIA Research Work Unit and the International Institute of Tropical Forestry (IITF) collected data for this fourth forest inventory of the USVI in 2024, closing out the periodic inventory. The year 2019 was skipped due to the COVID 19 pandemic. This bulletin provides inventory statistics and discusses the principal findings from the full remeasurement of all plots of annual inventory data from the mapped-plot design. Forest land estimates and inventory volume, growth, removals, and mortality statistics are summarized from these data. In addition, the 2024 inventory employed the All Conditions Inventory (ACI) approach, which delineates and samples all land conditions, including nonforest conditions. Differences between the forest land inventory and the ACI are discussed throughout this report. The 2004, 2009, 2014, and 2024 inventory data and tools to query those data as well as data for other States and survey years, are available on the USFS-FIA website (USDA Forest Service 2025).

HIGHLIGHTS FROM THE FOURTH FOREST INVENTORY OF THE U.S. VIRGIN ISLANDS

Forest Area

The overall forest area in the U.S. Virgin Islands (USVI) experienced a period of relative stability from 2014 to 2024. A total of 49,035 acres of forest area was estimated in 2024 for the USVI (59.6 percent), up slightly from 46,967 (57.2 percent) in 2014. Changes in forest cover have been within sampling errors since 2004 when the inventory was first implemented.

Forest Ownership

Most of USVI' forests are privately owned (73 percent). The remaining forests are publicly administered by the Federal Government (18 percent) or by Territorial or local government (10 percent). Territorial and local government ownership has more than doubled since the 2014 inventory. In some cases, ownership has shifted. For example, the Salt River Bay National Historical Park and Ecological Preserve changed from private to USVI government ownership.

Forest Stand Structure and Tree Species Composition

Forest structural changes suggest that stand sizes increased during the 2014–2024 period. Large diameter stands increased while medium diameter stands decreased, indicating some recruitment into larger diameter classes. Changes in small diameter stands were not notable. Small diameter stands still dominate the forests of the Virgin Islands. When looking at forest land, the number of species tallied decreased from 105 in 2014 to 98 in 2024. With the addition of the All Conditions Inventory (ACI), 111 species were tallied, indicating that the increase in total species richness is attributable to the broader range of conditions sampled in 2024.

Number of Trees, Volume, and Biomass

The 2014 inventory did not use the ACI method and only measured plots on forest land. Estimates for forest land reveal a decrease from 92.2 million trees in the USVI in 2014 to 76.9 million trees in 2024. While some increases are shown in larger diameter classes, especially in dry forests, the lower number of trees may reflect the impacts of hurricanes Irma and Maria in 2017. The ACI increased the 2024 estimate to 82.7 million trees and picked up tropical and subtropical palms.

Growth, Removals, and Mortality

From 2014 to 2024 average annual net growth (632,169) decreased by 27,550 cubic feet; a departure from past reporting, which showed increases in net growth. Average annual removals increased by 165,730 cubic feet during the same time, which is larger than previously reported. The 2024 data show average annual mortality at 404,531 cubic feet, an increase of 296,209 cubic feet from 2014. These estimates may be reflective of the 2017 hurricanes. Growth, removals, and mortality can only be reported for forest land because 2024 was the first year of the ACI.

Forest Health

Of the estimated 3,185,606 live trees ≥5 inches in diameter on forest land, 61 percent were observed to have at least one damage. This is an increase from the 2014 estimate of 21.3 percent of trees ≥5 inches diameter at breast height (d.b.h.) (3,185,605 live trees) that exhibited damage agents. Stem decay accounted for the largest proportion of all damage agents at 54 percent of all live trees. A total of 272,065 standing dead trees ≥5 inches d.b.h. were recorded in 2024 on forest land, a 63.3 percent increase from 2014. The number of standing dead trees increased slightly but not significantly with the ACI. Weather was the most cited cause of death (51 percent) for standing dead trees. That increases to 64.3 percent when looking at all dead trees, standing or down. Hurricanes Irma and Maria clearly impacted the number of dead trees.

INTRODUCTION

Forest inventories are a tool for monitoring forest resources. The fundamental objective of forest inventories is to "provide quantitative information about the forest and its resources that will allow making reasonable decisions on its destiny, use, and management." (Kershaw et al. 2017). The intent of this report is to present the results of the fourth forest inventory of the islands of the Territory of the U.S. Virgin Islands (USVI). The goal is to provide a more comprehensive view about the status of the USVI's forest stands after hurricanes Irma and María in September 2017. Along with previous reports of the Forest Inventory and Analysis (FIA) program in the USVI (Brandeis and Oswalt 2007, Brandeis and Turner 2013, Marcano-Vega and Williamson 2017, Marcano-Vega 2020), the forest data presented here reports the status and change of forest area in the USVI (St. Croix, St. John, St. Thomas), forest ownership, forest stand structure and tree species composition, number of live trees, volume of wood, amount of biomass and carbon stored, growth, removals, mortality, and forest health indicators. The remeasurement in 2024 of the same plots and trees that were measured in the first, second, and third forest inventories of 2004, 2009 and 2014 allow the FIA program to provide estimates of change and insights into the dynamics of the USVI's forests. The implementation of the All Conditions Inventory (ACI) resulted in some additional plots that contributed data to the inventory.

There are three core surveys under FIA: The Nationwide Forest Inventory (NFI), the National Woodland Owners Survey (NWOS), and National Resource Use Monitoring (NRUM). NFI is a national network of permanent plots that are remeasured every 5-10 years depending on location. Land use information is collected on all plots, with additional site and tree (live and standing dead) data collected on plots having forest land use. Additionally, information about down woody material, soils and understory vegetation can be collected on a subset of plots. NWOS collects information on private forest landowners to understand why they own the land, what they use it for, and how they plan to manage their land over time. The NRUM collects information on manufacturers that use harvested wood products for reporting on size of facilities, products that are manufactured, manufacturing capacity, and other data points. In some parts of the country, FIA additionally implements Urban Inventory, a program that monitors the Nation's urban forests, examines social dimensions of urban forests and green spaces, and estimates the industrial and nonindustrial uses of urban wood. This report deals only with the NFI.

Overview of the Virgin Islands' Forests

The first periodic inventory of the Virgin Islands' forests was completed in 2004 and was the first of its kind. Thereafter, inventories were conducted on a periodic 5-year basis with the exception of the period between 2014 and 2024. The planned periodic inventory of 2019 was cancelled due to the COVID pandemic. This report summarizes the findings of data collected as part of the Forest Inventory and Analysis (FIA) program in the USVI during inventory years spanning from 2014 to 2024; a closeout of the periodic inventory. Going forward, inventories will be panelized with a portion of plots collected every year using the ACI method (described below). The processed data summarizes 108 sample plots across the three main islands, 68 (63 percent) of which were forested (table 1). Intensification of plots has been implemented to improve the accuracy and efficiency of the FIA surveys. However, change detection over time becomes more difficult due to differences in inventory methods.

The three main islands of the USVI are administrated as one territory but they are very different historically and ecologically. St. John and St. Thomas are part of the Virgin Islands archipelago and St. Croix is not (Morgan et al. 2017). St. John and St. Thomas belong to the Puerto Rican Bank, while St. Croix is separated by the Virgin Islands Trough, resulting in a distinct biogeographic history, even though they share many tree species (Marcano-Vega



Plant community on the dry east end of St. Croix. (Courtesy photo by Micheal Morgan)

2026). All the islands have been impacted by colonial exploitation since the 15th century. Only fragments remain of the original forests due to the aggressive clearing and agricultural activities of the past (Weaver 2006). St. Croix has a fertile coastal plain where sugarcane was once cultivated. Soils in this area tend to have a limestone origin with pH above 8. St. Croix forests are mostly subtropical dry secondary growth with an abundance of the nonnative invasive white leadtree or tan-tan (*Leucaena leucocephala*), which can grow in almost pure stands (Morgan et al. 2017). There is a small percentage of forest that is considered mature secondary, occurring in the hilly northwest quadrant of the island. This is classified as subtropical moist forest in its undisturbed condition (Brandeis and Oswalt 2007). Because St. Croix is separated from the other islands by a deep marine trench, the ecology and human history differ.

St. Thomas is extremely hilly with almost no flat land. Most of the forest is classified subtropical moist with some subtropical dry forest occurring in the eastern part of the island (Morgan et al. 2017). Soils tend to be of volcanic origin. St. John is the smallest of the three islands and contains the Virgin Islands National Park (about 60 percent of the island). About 20 percent of the forested area could be considered mature secondary forest (Morgan et al. 2017). Like St. Thomas, soils tend to be of volcanic origin.

The Holdridge life zone system is used to classify forest types in the USVI. The two main plant communities are moist subtropical forest and dry subtropical forest. Holdridge uses "bio-temperature" and not mean temperature to classify life zones (Holdridge 1967) hence the "subtropical" instead of "tropical" classification. The forests of the USVI are a mosaic of types depending on the presence of watercourses, aspect, slope, soil, and past disturbances (Morgan et al. 2017). Mangrove forests do occur and have historically been abundant in places but now exist mainly as shallow coastal fringes.

Data Sources and Techniques

Study Area and Forest Associations

The FIA plots on the islands of St. Croix, St. John, and St. Thomas that were visited on the previous forest inventories were revisited and remeasured during this inventory. Bechtold and Scott (2005) and Brandeis and Oswalt (2007) can be consulted for details on FIA sampling and plot design. As with the previous forest inventories, the Holdridge life zone system (Ewel and Whitmore 1973) is used to depict forest types and present the results of this fourth inventory of the forests of the USVI.

In addition to changing to an annualized inventory, all conditions are now being included (see description below) so that measurements can be taken on all plots, not just those that qualify as forest land.

Forest Area Estimation

The FIA program defines an area as forested if it has a minimum of 10 percent canopy cover of live trees of at least 12 inches in height, or has had such tree cover previously, and is not undergoing development for a nonforest use. The minimum 10 percent canopy cover must also have a minimum area of 1 acre or be in a strip at least 120 feet wide for a continuous length of at least 363 feet to meet the acre threshold. More details on how FIA defines forest can be found in Brandeis and Oswalt (2007) and the FIA national core field guide (USDA Forest Service 2023).

As with the previous forest inventory, aerial photograph interpretation was used to assign plots to meaningful strata to reduce the variance of estimates and land area stratification estimates based on satellite imagery. Reams et al. 2005, Scott et al. 2005, and Woudenberg et al. 2010 offer information on the stratified estimation approach used by FIA.

From 2024 going forward, an ACI approach will be taken. ACI means delineation of ALL conditions, including nonforest conditions on nonforest plots. For ACI plots, nonforest conditions are delineated based on the hierarchical RESERVED STATUS, OWNER GROUP, and PRESENT NONFOREST LANDUSE variables. This will ensure that all accessible plots are sampled, regardless of whether they meet the FIA definition of forest land. Some resource metrics increase under ACI because more trees and conditions are eligible for measurement (e.g., open grown yard trees, palms). Apparent increases relative to 2014 are often coverage effects, not ecological change. For this report, assessing change over time requires looking only at forest land. However, differences in 2024 due to the ACI will be addressed per eligible section.

Field Data Collection

All the plots from the previous inventory were revisited except for a percentage that could not be relocated and remeasured, usually where the landowners denied access to the plot location or conditions were deemed hazardous. Table 1 presents the numbers of permanent sampling

Table 1—Number of plots by survey unit and land status, U.S. Virgin Islands, 2024

Survey unit	Total plots	Forest inventory		
		Forested	Nonforest	Nonsampled
	number of plots			
St. Croix	55	37	12	6
St. John	23	14	1	8
St. Thomas	30	17	6	7
All units	108	68	19	21

plots in the 2024 forest inventory by survey unit and land status. Figure 1 depicts the approximate distribution of plots. The FIA sampling and field plot designs remained basically unchanged compared to the previous forest inventories (USDA Forest Service 2023). The only differences were the implementation of the ACI, so trees on nonforested conditions were included, and the additional data recorded in 2014 under forest health was not included in 2024. As noted by Marcano-Vega (2020) on the report from the prior inventory, all previously tallied trees were relocated and remeasured, new ingrowth trees were measured and added to the inventory, and trees that died were measured if still standing, and the cause of death estimated. All trees on the plots that were removed or cut were also accounted for and their estimated removal dates recorded. Field guide version 9.3 was used in the 2024 inventory with amendments for the ACI (USDA Forest Service 2023).

Analysis and Statistical Techniques

Field data collected on the permanent forest inventory plots in the USVI is consistently processed, formatted, and stored in the National Information Management System (NIMS) and

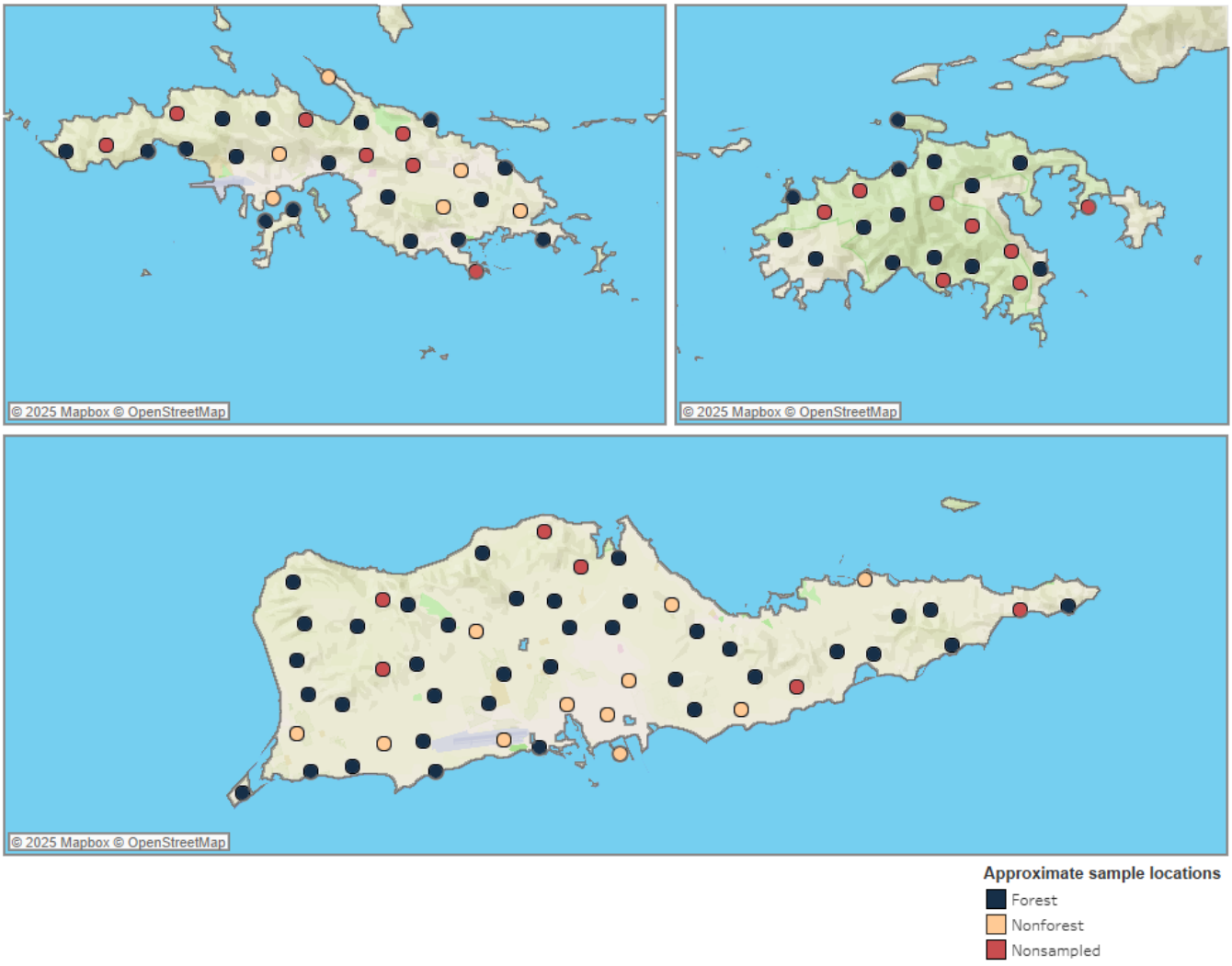


Figure 1—Relative plot locations, U.S. Virgin Islands, 2024.

the FIA Database (FIADB) (Burrill et al. 2024). Accordingly, the same methodology described in Brandeis and Turner (2013) was applied for estimating tree volume and aboveground biomass using the d.b.h. and total tree height with locally developed allometric equations. The FIA nationally consistent Component Ratio Method (CRM) was used for estimating live tree belowground biomass (Jenkins et al. 2003). CRM is employed by calculating a coarse root component based on the measured d.b.h. of trees. This coarse root component is subsequently used to estimate belowground biomass as a product of the aboveground biomass and component ratio (Heath et al. 2008, Jenkins et al. 2003). The biomass estimates were multiplied by 0.5 to obtain the carbon estimates.

ACCESSING FOREST INVENTORY DATA

Data can be accessed through the FIA DataMart, EVALIDator and the FIABD-API via the Forest Inventory and Analysis database under Nationwide Forest Inventory. This report was generated using FIADB-API v2.1.5. (USDA Forest Service 2026).

Area and Composition

Land Status and Use

Forest area in the USVI has held relatively steady: 46,564 acres (2004), 45,163 acres (2009), 46,967 acres (2014), and 49,035 acres (2024) (fig. 2). In terms of the percent cover of the islands,

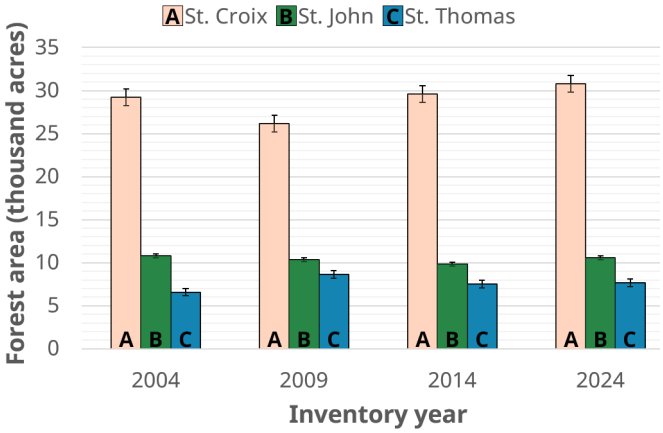


Figure 2—Forest area with sampling errors in the U.S. Virgin Islands for the 2004, 2009, 2014, and 2024 forest inventories, by island.

the dynamic has been from 56.7 percent in 2004 to 55.0 percent in 2009, to 57.2 percent in 2014, to 59.6 percent in 2024. As observed by Brandeis and Turner (2013) in previous forest inventories, the sampling errors are sufficiently large to encompass these small changes in forest cover, and it is best to state that forest cover has remained relatively stable from 2004 to 2024 on all three islands. Total forest area on St. Croix was estimated at 26,179 acres (55.3 percent forest cover) in 2009, 29,610 acres (56.1 percent forest cover) in 2014, and 30,782 acres (58.2 percent forest cover) in 2024. There were 10,343 acres of forest (85.5 percent) on St. John in 2009, 9,830 acres (81.3 percent) in 2014, and 10,594 acres (87.7 percent) in 2024. St. Thomas had 8,641 acres of forest (50.1 percent) in 2009, 7,528 acres of forest (43.6 percent) in 2014, and 7,658 acres of forest (44.4 percent) in 2024 (table 2). Although these

Table 2—Area of sampled land and water by survey unit and land status, U.S. Virgin Islands, 2024

Island	Total area	All forest	Unreserved			Reserved			Nonforest land	Census water
			Total	Timberland	Unproductive	Total	Productive	Unproductive		
	acres									
St. Croix	52,924.4	30,782.3	30,495.8	5,055.7	25,440.1	286.5	–	286.5	20,028.1	2,114.0
St. John	12,086.9	10,594.4	2,268.0	435.3	1,832.7	8,326.4	4,843.6	3,482.8	965.6	526.9
St. Thomas	17,247.4	7,658.0	7,658.0	5,368.5	2,289.5	–	–	–	9,589.4	–
All survey units	82,258.7	49,034.7	40,421.8	10,859.5	29,562.3	8,612.9	4,843.6	3,769.3	30,583.1	2,640.9

Numbers in rows and columns may not sum to totals due to rounding
– = no sample for the cell.



Development patterns on St. Thomas. (Courtesy photo by Brian Daley)

values appear to illustrate an increase in forest cover on St. Croix and St. John and a decrease on St. Thomas, the changes they represent are still within sampling errors. However, projections in housing development have estimated that around 12 percent of USVI's forest land will undergo an increase in housing density from 2000 to 2030, mainly across inland areas of northern St. Croix and patches of coastal forest in St. Thomas (Stein et al. 2014). The continuous monitoring of the FIA program so far shows a relatively stable pattern in forest cover through 2024. However, the nature of the forests has been impacted by development and two major hurricanes in 2017, which will be described in this report. Area of forest was not changed with the ACI.

Ownership

The forests on the USVI are predominately (73 percent) privately owned (fig. 3). Nevertheless, there is also an important part of the forested area managed as public forests by local and federal agencies. The percent of forested acres administered by the National Park Service showed a decrease from 19 percent in 2014 to 10 percent in 2024 in the dry forest-type group (sensu Holdridge) and increased from 26 percent in 2014 to 31 percent in 2024 in the moist forest-type group (fig. 4). Only 10 percent of the forest

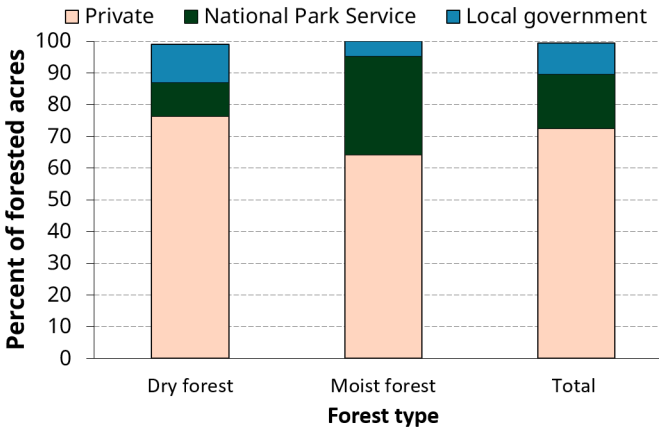


Figure 3—Percent of forested acres by forest type and ownership class in the U.S. Virgin Islands, 2024.

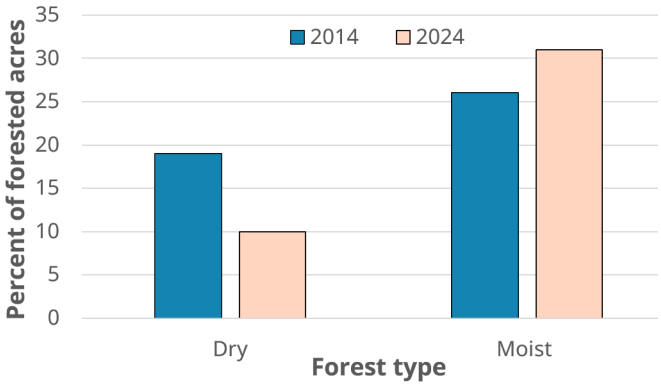


Figure 4—Percent of forested acres owned by the National Park Service by forest type in the U.S. Virgin Islands, 2014–2024.

acreage is publicly administered by the local government. Table 3 presents the area of forest land by ownership class and land status in 2024, and table 4 presents the area of forest land by forest-type group and ownership group in 2024. The categorization of forest land as reserved by the FIA program assumes that national parks, lands owned by the U.S. Fish and Wildlife Service and some land owned by local government, are spaces where the harvest of trees is restricted by law or statute (Brandeis and Turner 2013). The ACI did not affect ownership estimates.

Table 3—Area of forest land by ownership class and land status, U.S. Virgin Islands, 2024

Ownership class		All forest land	Land status					
			Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		acres						
Other Federal	National Park Service	8,326.40	–	–	–	8,326.40	4,843.60	3,482.80
	U.S. Fish and Wildlife Service	286.50	–	–	–	286.50	–	286.50
	Total	8,612.90	–	–	–	8,612.90	4,843.60	3,769.30
State and local government	State	4,874.50	4,874.50	766.60	4,108.00	–	–	–
	Local	6.20	6.20	6.20	–	–	–	–
	Total	4,880.70	4,880.70	772.70	4,108.00	–	–	–
Nonindustrial private	Corporate	9,477.60	9,477.60	2,113.80	7,363.80	–	–	–
	Conservation/natural resources organization	1,145.90	1,145.90	–	1,145.90	–	–	–
	Unincorporated local partnership/association/club	–	–	–	–	–	–	–
	Individual	24,917.70	24,917.70	7,973.10	16,944.60	–	–	–
	Total	35,541.20	35,541.20	10,086.90	25,454.30	–	–	–
All classes		49,034.70	40,421.80	10,859.60	29,562.30	8,612.90	4,843.60	3,769.30

– = no sample for the cell.
Numbers in rows and columns may not sum to totals due to rounding.

Table 4—Area of forest land by forest-type group and ownership group, U.S. Virgin Islands, 2024

Forest-type group	All ownerships	Ownership group				
		U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
	acres					
Dry forest	33,331.5	–	3,769.3	4,108.0	–	21,081.3
Moist forest	15,703.2	–	4,843.6	772.7	–	8,937.0
Total hardwood	49,034.7	–	8,612.9	4,880.7	–	30,018.4

– = no sample for the cell.
Numbers in rows and columns may not sum to totals due to rounding.

Forest Types and Distribution

Figure 5 shows the forest area by forest type (sensu Holdridge) from 2004 to 2024, exposing a slight increase in subtropical dry forest from 2009 through 2024. In the case of the subtropical moist forest, area remained relatively stable from 2004 to 2024. There were 33,332 acres of dry forest (68 percent of total forested land) and 15,703 acres of moist forest (32 percent of total forested land) in the USVI in 2024 (table 4). The ACI did not affect this estimate.

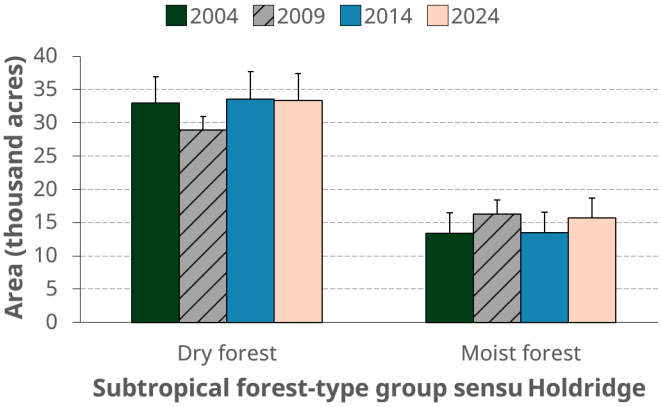


Figure 5—Area of forest by forest type across inventory years in the U.S. Virgin Islands.

Forest Stand Structure

Modifications in stand structure can be observed by categorizing forest stands according to the predominant diameter of the live trees present. Figure 6 shows changes in the percent of forested acres on forest land by stand-size class from 2004 to 2024. Nonstocked stands were those that had <10 percent tree cover, usually represented by a part of a forested plot where trees were not yet sufficiently developed to fully meet the minimum requirements. No nonstocked stands have been tallied since 2004. Small diameter stands were predominantly (at least two-thirds of the canopy cover) made up of trees <5 inches d.b.h.; medium diameter stands had canopy trees that were mostly 5 to 10 inches d.b.h.; and large diameter stands were those with their canopy predominately made up of trees ≥11.0 inches d.b.h. The dynamics in forest structure suggest that

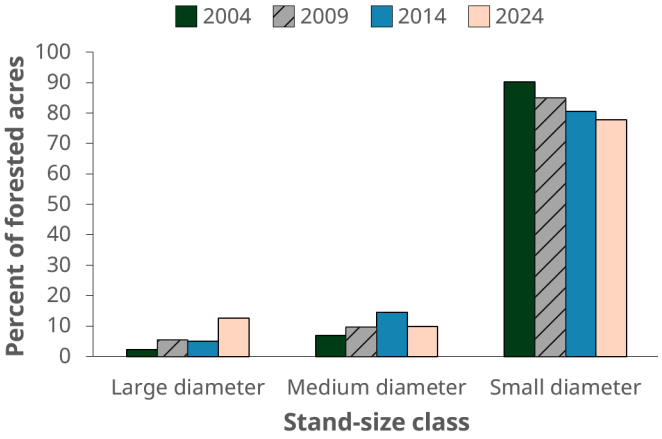


Figure 6—Percent of forested acres by stand-size class, U.S. Virgin Islands, 2024.

stand sizes increased across the USVI's landscape from 2004 to 2024 (fig. 6). An expansion from 7 percent to 10 percent of the forested acreage dominated by medium diameter stands and from 2 percent to 12 percent by large diameter stands was observed, along with a reduction from 90 percent to 78 percent of the forested area dominated by small diameter stands.

Even so, the percent of forested acreage dominated by small diameter stands in 2024 was 83 percent in dry forest and 66 percent in moist forest (fig. 7). Table 5 shows the area of forest land by forest type group and stand-size class in 2024. From 2014 to 2024 there were slight increases in the large diameter classes. Relatedly, there were

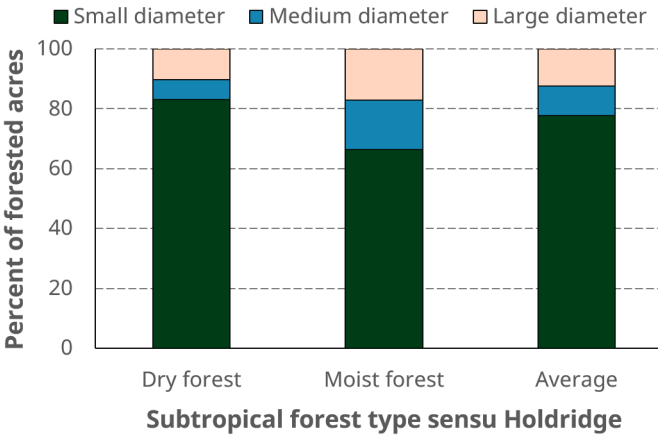


Figure 7—Percent of forested acres by forest type and diameter class, U.S. Virgin Islands, 2024.

Table 5—Area of forest land by forest-type group and stand-size class, U.S. Virgin Islands, 2024

Forest-type group	All classes	Stand-size class			
		Large diameter	Medium diameter	Small diameter	Nonstocked
	acres				
Dry forest	33,332.0	3,429.0	2,211.0	27,692.0	–
Moist forest	15,703.0	2,698.0	2,591.0	10,414.0	–
Total hardwood	49,035.0	6,127.0	4,802.0	38,106.0	–

– = no sample for the cell.
Numbers in rows and columns may not sum to totals due to rounding.

decreases in medium diameter classes. This could be an indication that, despite the 2017 hurricanes, recruitment from medium to large diameter classes is still occurring. Small diameter classes remained relatively stable and still represent the majority of forests in the USVI. The ACI increased estimates for number of live trees across diameter classes (tables 6 and 7).

Numbers of Trees, Volume, and Biomass

Number of Trees

Estimates reveal a decrease from 92.2 million trees with d.b.h. ≥1 inch in the USVI in 2014 to 76.9 million trees with d.b.h. ≥1 inch in 2024 on forest land. When compared to the 2024 ACI, numbers increased to 83 million live trees and included a small amount of tropical and subtropical palms (figured into total hardwoods). Notably, there were more trees in larger diameter classes with ACI (tables 6 and 7). This is likely due to picking up larger, open grown trees in back yards or in urbanized areas. However, standard errors are too high to extrapolate the effect on forests overall. As noted on former inventories (Brandeis and Turner 2013, Marcano-Vega 2020), there is still a pattern of large numbers of trees in smaller diameter classes with decreasing occurrence as diameters increase (fig. 8). Nevertheless, this reverse J-shaped pattern characteristic of many

Table 6—Number of live trees on forest land by species group and diameter class, U.S. Virgin Islands, 2024

Species group	Total	Diameter class (inches)														
		1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	41.0+
	million trees															
Tropical and subtropical hardwoods	76,914,613	64,123,387	9,605,620	1,757,146	678,388	386,522	140,310	115,896	19,032	19,032	9,853	16,749	12,136	11,509	12,136	6,896

Numbers in rows and columns may not sum to totals due to rounding.

Table 7—Number of live trees on all conditions land by species group and diameter class, U.S. Virgin Islands, 2024

Species group	All classes	Diameter class (inches)														
		1.0–2.9	3.0-4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	26.0–28.9	29.0–32.9	33.0–36.9	37.0+
	trees															
Tropical and subtropical palms	115,339.8	–	85,378.0	11,509.3	9,226.3	4,613.1	4,613.1	–	–	–	–	–	–	–	–	–
Tropical and subtropical hardwoods	82,651,194.1	68,609,263.2	10,346,108.3	1,976,449.5	789,541.2	441,785.4	161,672.2	153,334.1	30,541.5	47,917.4	16,749.2	28,885.2	23,645.3	4,613.1	6,896.2	13,792.3
All species	82,766,533.9	68,609,263.2	10,431,486.3	1,987,958.8	798,767.5	446,398.5	166,285.3	153,334.1	30,541.5	47,917.4	16,749.2	28,885.2	23,645.3	4,613.1	6,896.2	13,792.3

Numbers in rows and columns may not sum to totals due to rounding.
– = no sample for the cell.

naturally regenerated, uneven-aged stands (Kershaw et al. 2017) shows a trend of increasing frequency in larger diameter classes from 2004 to 2014 (fig. 8). While there was a slight decrease in larger diameter classes in 2024, it was negligeable. This aligns with the expansion of forested area dominated by medium and large diameter stands previously discussed (see section on Forest Stand Structure) and suggests some progression in the maturity of USVI's forest stands through 2024 even though most trees are still in small diameter classes. The decrease in the number of live trees on forest land on St. Croix and St. John may reflect the effect of the two major hurricanes in 2017 (table 8). However, St. Thomas showed an increase in the 10-year period of time. The ACI added an additional 5,858,817 trees across islands (table 8). The most abundant tree by far was the nonnative, invasive white leadtree or tan-tan (*Leucaena leucocephala*). Black mampoo (*Guapira fragrans*) and bodywood (*Bourreria succulenta*) were the most abundant native trees (table 9). Of note is the ACI picked up an estimated 1,065,912.9 white mangrove trees that were not counted at all on forest land alone. A comparison of the number of

Table 8—Number of live trees by inventory year with differences due to ACI, U.S. Virgin Islands, 2014–2024

Island	Inventory year		
	2014	2024	2024 ACI
St. Croix	52,082,600	39,665,678	43,469,606
St. Thomas	14,916,768	15,235,549	16,999,299
St. John	25,201,399	22,013,387	22,304,524
Total	92,200,767	76,914,613	82,773,430

ACI = All conditions inventory.

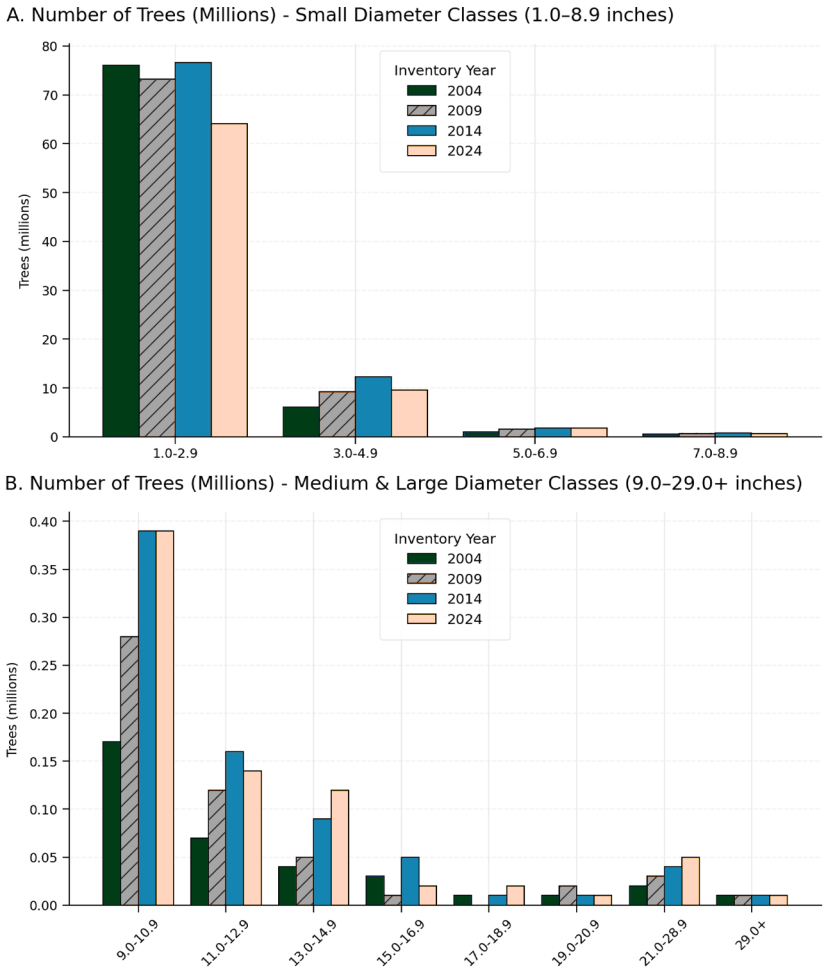


Figure 8—Number of live trees by diameter class, U.S. Virgin Islands, 2004–2024.

Table 9—Top 20 trees recorded on forest land versus ACI, U.S. Virgin Islands, 2024

Species	Number of trees	
	Forest land	ACI
White leadtree (*Leucaena leucocephala*)	15,699,050.4	17,548,833.7
Black mampoo (*Guapira fragrans*)	5,579,125.3	5,704,534.5
Bodywood (*Bourreria succulenta*)	4,440,351.6	4,449,577.9
Blackrodwood (*Eugenia biflora*)	3,046,781.7	3,046,781.7
White cinnamon (*Maytenus laevigata*)	2,701,782.2	2,701,782.2
Guavaberry (*Myrciaria floribunda*)	2,382,850.7	2,440,315.4
Red stopper (*Eugenia rhombea*)	2,371,204.8	2,371,204.8
Yellow trumpetbush (*Tecoma stans*)	2,185,817.3	2,845,842.2
Sweet acacia (*Acacia farnesiana*)	1,987,468.2	1,994,364.4
Spanish lime (*Melicoccus bijugatus*)	1,551,798.0	1,607,155.7
Wild lime (*Adelia ricinella*)	1,396,961.9	1,396,961.9
Falseteeth (*Capparis flexuosa*)	1,366,048.0	1,366,048.0
Leadwood (*Krugiodendron ferreum*)	1,362,891.0	1,362,891.0
Fustic (*Pictetia aculeata*)	1,326,300.9	1,326,300.9
Linguam (*Capparis indica*)	1,276,774.5	1,276,774.5
Spiny fiddlewood (*Citharexylum spinosum*)	1,178,913.5	1,243,838.2
Wild guave (*Guettarda scabra*)	1,151,676.2	1,151,676.2
Jamaican caper (*Capparis cynophallophora*)	1,142,410.5	1,313,166.5
Puckhout (*Coccoloba microstachya*)	1,103,048.6	1,103,048.6
Red rodwood (*Myrcia citrifolia*)	984,527.3	984,527.3

ACI = All conditions inventory.
The ACI picked up an estimated 1,065,912.9 of white mangrove, which was absent from the forest land estimates.

seedlings on forest land vs. ACI showed that the ACI method broadened the sampling scope of the forest inventory somewhat (table 10).

From 2014 to 2024, there was a significant increase in standing dead trees ≥5 inches d.b.h. on forest land. In 2014, there were 166,587 total standing dead trees. Of those, spineless wattle (*Acacia muricata*) was the most tallied. Of note, the cause of death "weather" was not recorded in 2014 for standing dead trees. Weather related mortality was recorded for nonstanding (down) trees in 2014, particularly in a plot with white mangrove.

In 2024, the total number of standing dead trees ≥5 inches d.b.h. on forest land was 272,065, representing a 63.3 percent increase relative to 2014. Spineless wattle was the most commonly tallied standing dead tree and weather was the most common cause of death (table 11). The sharp increase in standing dead trees strongly suggests the influence of the 2017 hurricanes. Table 12 shows that the number of standing dead trees increased only very slightly with the ACI.



Kapok tree (*Ceiba pentandra*) buttress roots. (Courtesy photo by Michael Morgan)

Table 10—Comparison of number of seedlings on forest land vs. all conditions, top 20 occurring species, U.S. Virgin Islands, 2024

Inventory method	Species	Number of seedlings
Forest land	White leadtree (*Leucaena leucocephala*)	50,287,243
	Black mampoo (*Guapira fragrans*)	15,180,685
	Bodywood (*Bourreria succulenta*)	11,394,034
	Linguam (*Capparis indica*)	11,261,485
	Birdcherry (*Eugenia monticola*)	9,931,498
	Blackrodwood (*Eugenia biflora*)	8,841,310
	Spanish lime (*Melicoccus bijugatus*)	8,786,365
	White indigoberry (*Randia aculeata*)	8,732,356
	Ratwood (*Erythroxylum rotundifolium*)	4,444,858
	Caper (*Capparis baducca*)	4,184,829
	Nectandra coriacea (*Nectandra coriacea*)	3,661,470
	Red stopper (*Eugenia rhombea*)	3,594,355
	Falseteeth (*Capparis flexuosa*)	3,232,101
	Coccothrinax barbadensis (*Coccothrinax barbadensis*)	3,171,962
	Guyanese wild coffee (*Casearia guianensis*)	2,691,189
	Croton flavens (*Croton flavens*)	2,684,994
	Rockmyrtle (*Eugenia procera*)	2,305,206
	Privet stopper (*Eugenia ligustrina*)	2,299,986
	Guavaberry (*Myrciaria floribunda*)	2,232,847
	Red rodwood (*Myrcia citrifolia*)	2,030,613
	Total	160,949,386.00

Table 10—Comparison of number of seedlings on forest land vs. all conditions, top 20 occurring species, U.S. Virgin Islands, 2024 (continued)

Inventory method	Species	Number of seedlings
All conditions	White leadtree (*Leucaena leucocephala*)	60,897,447
	Black mampoo (*Guapira fragrans*)	15,582,938
	Linguam (*Capparis indica*)	12,373,037
	Bodywood (*Bourreria succulenta*)	11,451,499
	Birdcherry (*Eugenia monticola*)	9,931,498
	Blackrodwood (*Eugenia biflora*)	9,186,098
	Spanish lime (*Melicoccus bijugatus*)	8,843,830
	White indigoberry (*Randia aculeata*)	8,789,821
	Ratwood (*Erythroxylum rotundifolium*)	4,595,161
	Caper (*Capparis baducca*)	4,242,294
	Red stopper (*Eugenia rhombea*)	3,939,143
	Nectandra coriacea (*Nectandra coriacea*)	3,661,470
	Falseteeth (*Capparis flexuosa*)	3,404,495
	Coccothrinax barbadensis (*Coccothrinax barbadensis*)	3,229,427
	Guyanese wild coffee (*Casearia guianensis*)	2,691,189
	Croton flavens (*Croton flavens*)	2,684,994
	Rockmyrtle (*Eugenia procera*)	2,305,206
	Privet stopper (*Eugenia ligustrina*)	2,299,986
	Guavaberry (*Myrciaria floribunda*)	2,290,312
	Jamaican caper (*Capparis cynophallophora*)	2,249,048
	Total	174,648,893

Table 11—Species of standing dead trees ≥5 inches d.b.h. (number) on forest land by cause of death, U.S. Virgin Islands, 2024

Species	Weather	Vegetation	Not available	Total
Spineless wattle (*Acacia muricata*)	–	–	52,399	52,399
Bodywood (*Bourreria succulenta*)	30,813	9,853	–	40,666
Woman's tongue (*Albizia lebbeck*)	34,481	–	–	34,481
Sweet acacia (*Acacia farnesiana*)	27,585	–	–	27,585
Leadwood (*Krugiodendron ferreum*)	14,466	5,240	–	19,706
Spanish lime (*Melicoccus bijugatus*)	9,226	4,613	–	13,839
White cinnamon (*Maytenus laevigata*)	–	–	10,480	10,480
Stinkwood (*Piscidia carthagenensis*)	10,480	–	–	10,480
Black mampoo (*Guapira fragrans*)	4,613	–	5,240	9,853
Puckhout (*Coccoloba microstachya*)	4,613	–	4,613	9,226
West Indian mahogany (*Swietenia mahagoni*)	–	6,896	–	6,896
Golden shower (*Cassia fistula*)	6,896	–	–	6,896
Bridgotree (*Chionanthus compactus*)	–	5,240	–	5,240
Spanish elm (*Cordia alliodora*)	–	–	5,240	5,240
Red rodwood (*Myrcia citrifolia*)	–	5,240	–	5,240
Unknown dead hardwood (*Tree broadleaf*)	4,613	–	–	4,613
Spiny fiddlewood (*Citharexylum spinosum*)	4,613	–	–	4,613
White cedar (*Tabebuia heterophylla*)	–	4,613	–	4,613
Total	152,399	41,695	77,972	272,065

– = no sample for the cell.
Sampling error percent (Confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.



The calm waters and mangrove forest of Salt River Bay, St. Croix, where Christopher Columbus first made contact with Native Carib and Arawak people in 1493. (Courtesy photo by Brian Daley)

Table 12—Species of standing dead trees ≥5 inches d.b.h. (number) ACI by cause of death, U.S. Virgin Islands, 2024

Species	Weather	Vegetation	Not available	Grand total
Spineless wattle (*Acacia muricata*)	0	0	52,399	52,399
Bodywood (*Bourreria succulenta*)	30,813	9,853	0	40,666
Woman's tongue (*Albizia lebbeck*)	34,481	0	0	34,481
Sweet acacia (*Acacia farnesiana*)	27,585	0	0	27,585
Leadwood (*Krugiodendron ferreum*)	14,466	5,240	0	19,706
Spanish lime (*Melicoccus bijugatus*)	9,226	4,613	0	13,839
White cinnamon (*Maytenus laevigata*)	0	0	10,480	10,480
Stinkwood (*Piscidia carthagenensis*)	10,480	0	0	10,480
Black mampoo (*Guapira fragrans*)	4,613	0	5,240	9,853
Puckhout (*Coccoloba microstachya*)	4,613	0	4,613	9,226
West Indian mahogany (*Swietenia mahagoni*)	0	6,896	0	6,896
White mangrove (*Laguncularia racemosa*)	6,896	0	0	6,896
Golden shower (*Cassia fistula*)	6,896	0	0	6,896
Bridgotree (*Chionanthus compactus*)	0	5,240	0	5,240
Spanish elm (*Cordia alliodora*)	0	0	5,240	5,240
Red rodwood (*Myrcia citrifolia*)	0	5,240	0	5,240
Chinaberrytree (*Melia azedarach*)	0	0	4,613	4,613
unknown dead hardwood (*Tree broadleaf*)	4,613	0	0	4,613
Spiny fiddlewood (*Citharexylum spinosum*)	4,613	0	0	4,613
White cedar (*Tabebuia heterophylla*)	0	4,613	0	4,613
Total	159,296	41,695	82,585	283,577

Sampling error percent (confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.
ACI = All conditions inventory.

In 2024 on forest land, there were an estimated 190 million live seedlings recorded (n=2,791) (table 13). The seedling sample revealed 86 species, and white leadtree (*Leucaena leucocephala*) represents 26 percent of the total number of seedlings, about three times more than any other species. This estimate for total seedlings is up 33.9 percent from the 2014 estimate of 145 million, and up a lesser 10 percent from the 2009 estimate of 177 million live seedlings. The ACI increased the overall number of seedlings to 207,525,333 and captured 92 species, reflecting the inclusion of additional land conditions.

Table 13—Number of live seedlings on forest land, U.S. Virgin Islands, 2024

Species common name	Species scientific name	Total	Percentage
		millions	
Total		190,249,245	100.00
White leadtree	*Leucaena leucocephala*	50,287,243	26.43
Black mampoo	*Guapira fragrans*	15,180,685	7.98
Bodywood	*Bourreria succulenta*	11,394,034	5.99
Linguam	*Capparis indica*	11,261,485	5.92
Birdcherry	*Eugenia monticola*	9,931,498	5.22
Blackrodwood	*Eugenia biflora*	8,841,310	4.65
Spanish lime	*Melicoccus bijugatus*	8,786,365	4.62

Table 13—Number of live seedlings on forest land, U.S. Virgin Islands, 2024 (continued)

Species common name	Species scientific name	Total	Percentage
		millions	
White indigoberry	*Randia aculeata*	8,732,356	4.59
Ratwood	*Erythroxylum rotundifolium*	4,444,858	2.34
Caper	*Capparis baducca*	4,184,829	2.20
Nectandra coriacea	*Nectandra coriacea*	3,661,470	1.92
Red stopper	*Eugenia rhombea*	3,594,355	1.89
Falseteeth	*Capparis flexuosa*	3,232,101	1.70
Coccothrinax barbadensis	*Coccothrinax barbadensis*	3,171,962	1.67
Guyanese wild coffee	*Casearia guianensis*	2,691,189	1.41
Croton flavens	*Croton flavens*	2,684,994	1.41
Rockmyrtle	*Eugenia procera*	2,305,206	1.21
Privet stopper	*Eugenia ligustrina*	2,299,986	1.21
Guavaberry	*Myrciaria floribunda*	2,232,847	1.17
Red rodwood	*Myrcia citrifolia*	2,030,613	1.07
Wild marrow	*Croton astroites*	1,841,085	0.97
Jamaican caper	*Capparis cynophallophora*	1,822,158	0.96
Doncella	*Byrsonima spicata*	1,792,938	0.94
Yellow trumpetbush	*Tecoma stans*	1,451,426	0.76
Sea torchwood	*Amyris elemifera*	1,394,072	0.73
Leadwood	*Krugiodendron ferreum*	1,231,684	0.65
Sessileleaf stopper	*Eugenia sessiliflora*	1,149,294	0.60
Guayabilla	*Samyda dodecandra*	1,129,748	0.59
Gumbo limbo	*Bursera simaruba*	1,079,743	0.57
Saltwood	*Neea buxifolia*	1,031,334	0.54
Spineless wattle	*Acacia muricata*	908,945	0.48
False coffee	*Faramea occidentalis*	908,945	0.48
Wild honeytree	*Casearia decandra*	829,143	0.44
Wild lime	*Adelia ricinella*	814,511	0.43
Broadleaf caper	*Capparis hastata*	781,064	0.41

Table 13—Number of live seedlings on forest land, U.S. Virgin Islands, 2024 (continued)

Species common name	Species scientific name	Total	Percentage
		millions	
Puckhout	*Coccoloba microstachya*	704,496	0.37
Spiny fiddlewood	*Citharexylum spinosum*	573,297	0.30
Lathberry	*Eugenia cordata*	519,397	0.27
Crackopen	*Casearia sylvestris*	512,268	0.27
West Indian mahogany	*Swietenia mahagoni*	512,268	0.27
Sweet acacia	*Acacia farnesiana*	491,815	0.26
Florida boxwood	*Schaefferia frutescens*	485,993	0.26
Neem	*Azadirachta indica*	450,908	0.24
Caribbean princewood	*Exostema caribaeum*	426,890	0.22
Water mampoo	*Pisonia subcordata*	395,081	0.21
Ratapple	*Morisonia americana*	389,548	0.20
Sacky sac bean	*Inga laurina*	344,788	0.18
Marbletree	*Cassine xylocarpa*	337,617	0.18
Guayabota de sierra	*Eugenia borinquensis*	324,623	0.17
Nosegaytree	*Plumeria alba*	309,703	0.16
Wild guave	*Guettarda scabra*	294,783	0.15
Royen's tree cactus	*Pilosocereus royenii*	285,685	0.15
Gregorywood	*Bucida buceras*	257,772	0.14
Seagrape	*Coccoloba uvifera*	256,134	0.13
Stinkwood	*Piscidia carthagenensis*	237,319	0.12
Palo de hierro	*Ixora ferrea*	229,859	0.12
White cinnamon	*Maytenus laevigata*	194,774	0.10
False mastic	*Sideroxylon foetidissimum*	172,394	0.09
Tall albizia	*Albizia procera*	170,756	0.09
Guadeloupe marlberry	*Ardisia obovata*	170,756	0.09
Catclaw blackbead	*Pithecellobium unguis-cati*	170,756	0.09

Table 13—Number of live seedlings on forest land, U.S. Virgin Islands, 2024 (continued)

Species common name	Species scientific name	Total	Percentage
		millions	
Christmas cherry	*Eugenia pseudopsidium*	142,843	0.08
Lathberry	*Eugenia cordata sintenisii*	129,849	0.07
Divi divi	*Caesalpinia coriaria*	114,929	0.06
Common calabash tree	*Crescentia cujete*	114,929	0.06
Soursop	*Annona muricata*	85,378	0.04
Mullein nightshade	*Solanum donianum*	85,378	0.04
Rufous false cocaine	*Erythroxylum rufum*	85,378	0.04
Punchberry	*Myrcia splendens*	85,378	0.04
Woman's tongue	*Albizia lebbeck*	85,378	0.04
Caribbean mayten	*Maytenus cymosa*	85,378	0.04
Poison ash	*Comocladia dodonaea*	64,925	0.03
Greenheart	*Colubrina arborescens*	64,925	0.03
Cordobancillo	*Rondeletia inermis*	64,925	0.03
Bayrumtree	*Pimenta racemosa*	64,925	0.03
Burn nose	*Daphnopsis americana*	64,925	0.03
Porknut	*Acacia macracantha*	57,465	0.03
Juniper berry	*Citharexylum caudatum*	57,465	0.03
Bastard hogberry	*Margaritaria nobilis*	57,465	0.03
Papaya	*Carica papaya*	57,465	0.03
Bastardcedar	*Guazuma ulmifolia*	57,465	0.03
Hammock velvetseed	*Guettarda elliptica*	57,465	0.03
Abey amarillo	*Ouratea littoralis*	57,465	0.03
White cedar	*Tabebuia heterophylla*	57,465	0.03
Jamaican nettletree	*Trema micrantha*	57,465	0.03
Broomstick	*Trichilia hirta*	57,465	0.03

Tree Volume

The observed increase in the number of trees and forested area dominated by medium- and large-diameter stands corresponded to an increase in merchantable wood volume. Specifically, volume rose from 6,981,464 cubic feet in 2009, to 9,880,860 cubic feet in 2014, and reached 10,130,992 cubic feet in 2024 (fig. 9). The ACI did not influence this estimate. Tables 14, 15, 16, and 17 present the estimated net merchantable bole wood volume for live trees with d.b.h ≥5 inches by ownership class and land status, forest type group and stand-size class, species group and ownership group, and species group and diameter class, respectively.

Of the total estimated net merchantable bole wood volume on all conditions in 2024, 18.5 million cubic feet (74 percent) is on unreserved, nonindustrial private land (table 14) within a context where it has been assessed that a relatively high percent of the private forest land in the islands have high stewardship potential (Hilgemann and Morgan 2021). Even though table 17 shows that 44 percent of the available

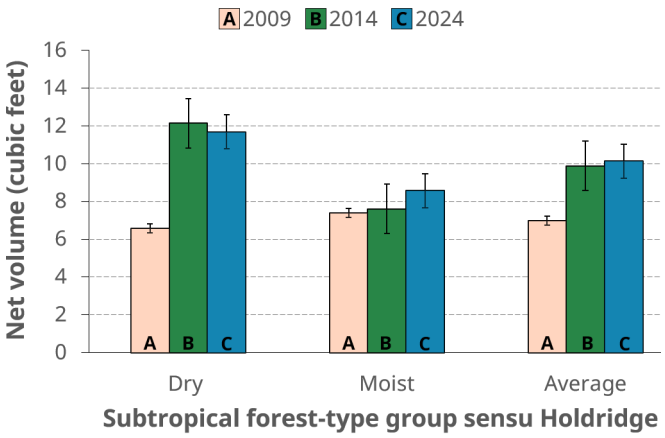


Figure 9—Net merchantable bole wood volume of live trees (timber species at least 5 inches d.b.h.), in million cubic feet, on forest land, U.S. Virgin Islands.

Table 14—Net merchantable bole wood volume of live trees (timber species ≥5 inches d.b.h.) on all conditions land by ownership class and land status, U.S. Virgin Islands, 2024 [1]

Ownership class		ACI	Land status					
			Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		cubic feet						
Other Federal	National Park Service	5,132,253.0	–	–	–	5,132,253.0	4,028,600.8	1,103,652.2
	U.S. Fish and Wildlife Service	10,681.5	–	–	–	10,681.5	-	10,681.5
	Total	5,142,934.5	–	–	–	5,142,934.5	4,028,600.8	1,114,333.7
State and local government	State	860,296.6	860,296.6	492,520.8	367,775.8	–	–	–
	Local	550,533.3	550,533.3	550,533.3	–	–	–	–
	Total	1,410,829.9	1,410,829.9	1,043,054.1	367,775.8	–	–	–
Nonindustrial private	Corporate	2,372,681.7	2,372,681.7	923,919.8	1,448,761.9	–	–	–
	Unincorporated local partnership/association/club	564,636.2	564,636.2	564,636.2	–	–	–	–
	Individual	15,545,527.9	15,545,527.9	6,791,072.0	8,754,455.9	–	–	–
	Total	18,482,845.8	18,482,845.8	8,279,627.9	10,203,217.8	–	–	–
All classes		25,036,610.2	19,893,675.7	9,322,682.0	10,570,993.7	5,142,934.5	4,028,600.8	1,114,333.7

ACI = All conditions inventory.
– = no sample for the cell.
Numbers in rows and columns may not sum to totals due to rounding.
[1] Excludes rotten, missing, and form cull defects volume.

Table 15—Net merchantable bole wood volume of live trees (timber species ≥5 inches d.b.h.) on all conditions by forest-type group and stand-size class, U.S. Virgin Islands, 2024 [1]

Forest-type group	Stand-size class				
	All classes	Large diameter	Medium diameter	Small diameter	Not available
	cubic feet				
Dry forest	11,685,327.4	4,637,372.2	1,297,035.1	5,750,920.0	–
Moist forest	8,576,656.6	4,389,333.7	1,842,807.1	2,344,515.7	–
Other or unknown	–	–	–	–	4,774,626.2
Total	25,036,610.2	9,026,705.9	3,139,842.3	8,095,435.8	4,774,626.2

– = no sample for the cell or a value of >0.0 but <0.05.
Numbers in rows and columns may not sum to totals due to rounding.
[1] Excludes rotten, missing, and form cull defects volume.

merchantable wood was found in trees with less than the typical 11-inch d.b.h. considered for sawtimber, the wood that is available has potential for wooden crafts done by local artisans. Awareness of these non-sawtimber merchantable opportunities can open options for the development of sustainable wood production on private forest land, to support a tradition of recognized local wood artists that display their creations and promote the art of woodworking at organized exhibits (Morris 2022). It is worth noting that the ACI accounted for 851,091 cubic

Table 16—Net merchantable bole wood volume of live trees (timber species ≥5 inches d.b.h.) on all conditions land by species group and ownership group, U.S. Virgin Islands, 2024 [1]

Species group	All ownerships	Ownership group				
		U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
	cubic feet					
Tropical and subtropical palms	69,544.8	–	–	36,437.3	–	–
Tropical and subtropical hardwoods	24,967,065.4	–	5,142,934.5	1,374,392.6	–	12,521,181.3
All species	25,036,610.2	–	5,142,934.5	1,410,829.9	–	12,521,181.3

Numbers in rows and columns may not sum to totals due to rounding.
– = no sample for the cell or a value of >0.0 but <0.05.
[1] Excludes rotten, missing, and form cull defects volume.

Table 17—Net merchantable bole wood volume of live trees (timber species ≥5 inches d.b.h.) on all conditions land by species group and diameter class, U.S. Virgin Islands, 2024 [1]

Species group	All classes	Diameter class (inches)												
		5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
	cubic feet													
Tropical and subtropical palms	69,544.8	–	33,107.5	17,507.1	18,930.2	–	–	–	–	–	–	–	–	–
Tropical and subtropical hardwoods	24,967,065.4	4,212,922.3	3,620,934.6	3,165,060.5	2,024,839.2	3,092,456.9	915,363.7	1,312,645.6	591,009.0	1,922,188.5	1,788,225.2	474,698.4	723,663.2	1,123,058.3
All species	25,036,610.2	4,212,922.3	3,654,042.1	3,182,567.5	2,043,769.4	3,092,456.9	915,363.7	1,312,645.6	591,009.0	1,922,188.5	1,788,225.2	474,698.4	723,663.2	1,123,058.3

Numbers in rows and columns may not sum to totals due to rounding.
– = no sample for the cell or a value of >0.0 but <0.05.
[1] Excludes rotten, missing, and form cull defects volume.

feet of trees <11 inches d.b.h. and so has added valuable information to the inventory.

Sound bole wood volume of live trees increased from 20,097,332 cubic feet in 2014 to 21,360,999 cubic feet in 2024 on forest land. The ACI did slightly add to that number, estimating 26,258,457 cubic feet in 2024 (table 18). Because ACI includes both forest and nonforest conditions, the differences in estimates relative to FIA forest land reflect differences in population coverage, not necessarily improved accuracy. However, it captured more information for estimates particularly on land owned by State and local governments and nonindustrial private landowners and included more species groups including tropical and subtropical palms, which may be more reflective of the nature of land use in the islands.

Table 18—Sound bole wood volume of live trees (timber species ≥5 inches d.b.h.), in cubic feet, by inventory year and inventory method, U.S. Virgin Islands, 2014–2024

Inventory year and method	Wood volume
	cubic feet
U.S. Virgin Islands 2024 forest land	20,097,332
U.S. Virgin Islands 2024 ACI	21,360,999
U.S. Virgin Islands 2014 forest land	26,258,457

ACI = All conditions inventory.

Tree Biomass and Carbon

The FIA program provides a central linkage between future projections for climate in the Caribbean and its potential effects on ecosystem services by documenting the dynamics of live-tree biomass and carbon accumulation. As described in the Analysis and Statistical Techniques section,

locally developed allometric equations were used to estimate the values of aboveground biomass presented in this report. The CRM method was used to estimate belowground biomass. Considering the region's vulnerability to climate variability, it is important to maintain a record of associated effects for the development of suitable mitigation/adaptation strategies and action plans (Taylor et al. 2012).

The aboveground biomass of live trees (at least 1 inch d.b.h/d.r.c.) in dry short tons on forest land was 1,592,026 in 2014. In 2024, there was some decrease (1,339,214) in aboveground biomass of live trees (table 19). The ACI increased the number in 2024 to 1,577,509, closer to the 2014 estimate. Total carbon, in short tons, on forest land was 853,997 tons in 2014 and 751,862 tons in 2024 but with the ACI, 2024 increased to 878,265 tons (fig. 10).

Live-tree carbon (tons per acre) on forest land for dry forests was 12.1 in 2009, 17.1 in 2014, and 12.5 in 2024. Moist forest showed less change with 18.5, 20.5, and 19.6, respectively. The ACI contributed an additional 3.8 tons of total carbon on "other or unknown" land uses.

As shown by the changes of total carbon (tons per acre) by forest type (2009–2024, fig. 11), there was a decrease in carbon, in contrast to the slight increase in volume described earlier, especially in dry forests. This is a ratio estimate by acre and so will differ from total dry short tons (reported previously). The reason for this shift toward less carbon per acre in 2024 is unknown. However,

Table 19—Aboveground biomass of live trees (≥1 inch d.b.h./d.r.c), in dry short tons by inventory year and inventory method, U.S. Virgin Islands, 2014–2024

Inventory year	Biomass live trees
U.S. Virgin Islands 2024	1,592,026
U.S. Virgin Islands 2024 ACI	1,339,214
U.S. Virgin Islands 2014	1,577,509

ACI = All conditions inventory.

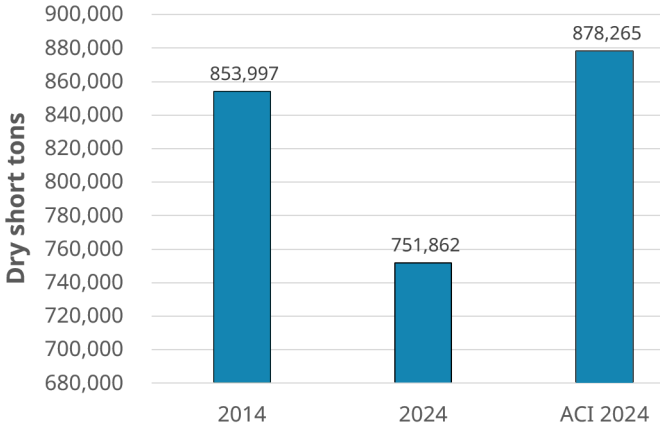


Figure 10—Total carbon, in dry short tons, by inventory year and inventory method, U.S. Virgin Islands, 2014–2024.

we may surmise that because merchantable wood is estimated for trees with d.b.h. ≥5 inches, while total carbon includes trees with d.b.h. <5 inches, volume could have increased during the 2014–2024 period, especially if large and medium-sized trees had survived previous hurricanes (which seems to be the case), while carbon might not have increased due to the loss of small trees or slow recruitment after hurricanes. The overall decrease in live-tree carbon from 2014 to 2024 is primarily due to fewer small diameter trees. Additionally, some small trees could have exceeded the 5-inch d.b.h. threshold during the 10-year period, thus increasing the estimated volume. The ACI seems to have added some larger diameter trees as well in other land types (figs. 11, 12).

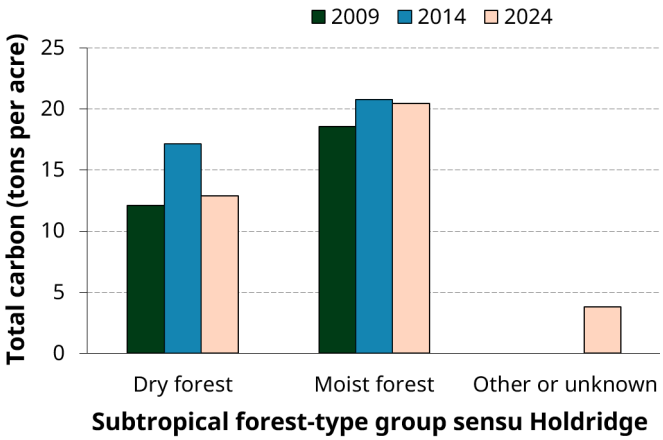


Figure 11—Total carbon (above and belowground), of live stems ≥1 inch d.b.h., by forest type on all conditions, U.S. Virgin Islands, 2024.

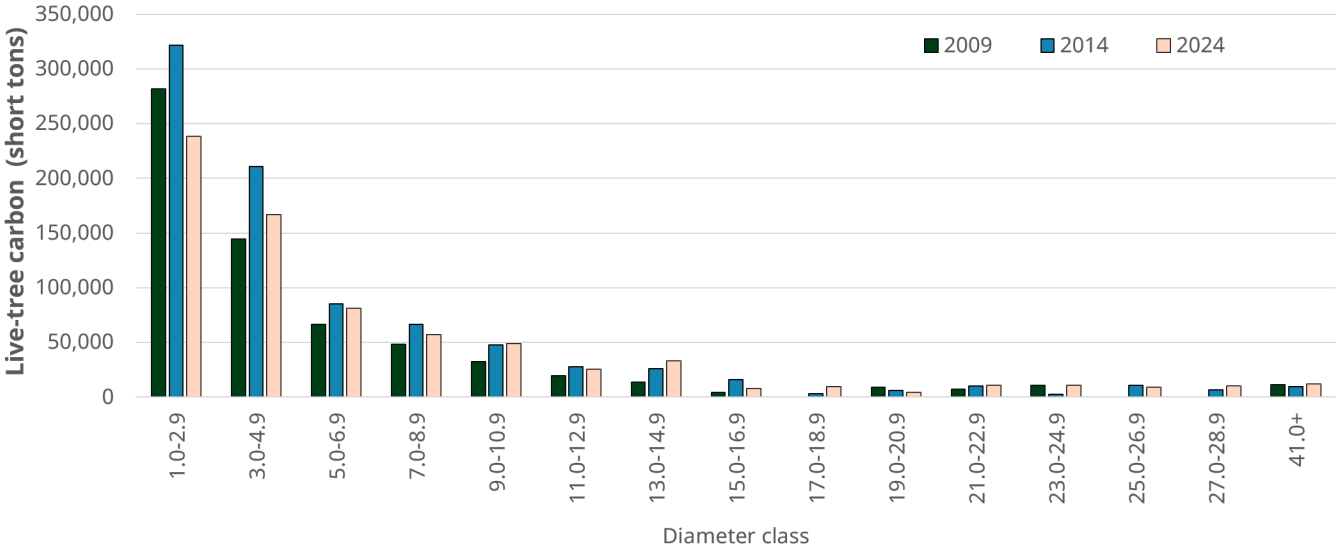


Figure 12—Aboveground and belowground carbon in live trees, in short tons, on forest land by diameter class.

Trends in Tree Growth, Removals, and Mortality

The remeasurement of trees in the permanent inventory plots on the islands of St. Croix, St. John, and St. Thomas allows for estimations of annual growth, annual mortality, and annual removal of stems with d.b.h. ≥5 inches by unit of volume (cubic feet). In the past, this activity involved measuring each tree in the plots after a period of 5 years (e.g., 2009–2014) with the exemption of circumstances in which 1) the area of the inventory plot was in the process of reverting to forest land, 2) there was forest previously but the area was cleared and put into a nonforest land use, 3) the original forested plot could not be relocated and a new plot had to be installed in its place, or 4) access to the plot was not allowed by the landowner during the period of the inventory. The 2019 cycle was skipped due to the COVID-19 pandemic. In 2024, the plots were remeasured using the ACI method. However, estimates for growth, and mortality can only be applied to forest land because 2024 was the first year for ACI.

While estimations of mortality are calculated according to the trees that died of natural causes and remained in the forest, removals are estimated according to the trees felled and left in the forest or cut due to deforestation and conversion to some nonforest land use (e.g., agriculture, residential development). Therefore, removed trees are not included in the estimates of mortality and vice versa. Values of average annual gross growth, annual mortality, and annual removals of live trees are shown in tables 20–23.

Average annual gross growth increased from 768,041 cubic feet in 2014 to 1,036,700 cubic feet in 2024. Average annual mortality was estimated

Table 20—Average annual gross growth, mortality and removals of sound bole wood volume of trees (timber species at ≥5 inches d.b.h.), in cubic feet, on forest land, U.S. Virgin Islands, 2014–2024

Inventory year	Gross growth	Mortality	Removals
U.S. Virgin Islands 2014	768,041	108,322	36,607
U.S. Virgin Islands 2024	1,036,700	404,531	202,337
Difference	268,659	296,209	165,730

Table 21—Average annual gross growth of sound bole wood volume of trees (timber species ≥5 inches d.b.h.), in cubic feet, on forest land by forest type and inventory year, U.S. Virgin Islands, 2014–2024

Inventory year	Total	Dry forest	Moist forest	Other or Unknown
U.S. Virgin Islands 2014	768,041	488,745	279,296	–
U.S. Virgin Islands 2024	1,036,700	674,776	361,924	–
Difference	268,659	186,031	82,628	–

– = no sample for the cell.

at 404,531 cubic feet, up significantly from 2014 (108,322 cubic feet), and an additional 202,337 cubic feet per year was lost to removals, up from 36,607 cubic feet per year in 2014 (table 20). These numbers further substantiate the impact of the 2017 hurricanes. Around 65 percent of the growth in volume was within dry forest stands in 2024 (table 21). It is worth noting that gross growth only captures total growth without considering losses. Average annual net growth may be a better estimate for change comparison (e.g., annual net growth 2014 = 659,719 vs. 2024 = 632,169). Notably, when looking at mortality across inventory years, 2017 stands out, showing 75 percent mortality (of the grand total) due to weather. This reflects the intensity of the 2017 hurricanes (table 24).

Table 22—Average annual mortality of sound bole wood volume of trees (timber species ≥5 inches d.b.h.) by ownership class and land status, U.S. Virgin Islands, 2024

Ownership class [1]		Timberland	Forest land
		cubic feet	
Other Federal	National Park Service	–	108,435.0
	U.S. Fish and Wildlife Service	–	–
	Total	–	108,435.0
State and local government	State	21,540.1	21,540.1
	Local	–	–
	Total	21,540.1	21,540.1
Nonindustrial private	Corporate	31,481.4	56,461.6
	Conservation/natural resources organization	–	–
	Unincorporated partnership/ association/club	–	–
	Individual	137,937.6	218,094.7
	Total	169,419.0	274,556.3
All classes		190,959.0	404,531.3

Numbers in rows and columns may not sum to totals due to rounding.
– = no sample for the cell, and 0.0 = a value of >0.0 but <0.05.
[1] Based on past conditions.

Table 23—Average annual removals of sound bole wood volume of trees (timber species ≥5 inches d.b.h.) by ownership class and land status, U.S. Virgin Islands, 2024

Ownership group [1]		Timberland	Forest land
		cubic feet	
Other Federal	National Park Service	–	–
	U.S. Fish and Wildlife Service	–	2,099.0
	Total	–	2,099.0
State and local government	State	–	–
	Local	–	–
	Total	–	–
Nonindustrial private	Corporate	1,796.2	129,849.5
	Conservation/natural resources organization	–	–
	Unincorporated partnership/ association/club	–	–
	Individual	7,897.7	70,388.7
	Total	9,693.9	200,238.2
All groups		9,693.9	202,337.2

Numbers in rows and columns may not sum to totals due to rounding.
– = no sample for the cell.
[1] Based on past conditions.

Table 24—Annual mortality of sound bole wood volume of trees (timber species ≥5 inches d.b.h.) in cubic feet on forest land by cause of death and mortality year, U.S. Virgin Islands, 2017–2024

Mortality year	Weather	Vegetation	Grand total	Percent of grand total
2017	301,251.2	–	301,251.2	74.5
2018	2,418.6	–	2,418.6	0.6
2019	4,107.1	3,216.7	7,323.8	1.8
2020	2,287.0	13,361.2	15,648.2	3.9
2021	–	10,446.3	10,446.3	2.6
2022	2,750.8	17,424.0	20,174.9	5.0
2023	–	29,694.3	29,694.3	7.3
2024	–	17,574.0	17,574.0	4.3
Grand total	312,814.7	91,716.6	404,531.3	100

– = no sample for the cell.

The naturalized species genip or Spanish lime (*Melicoccus bijugatus*) contributed the highest amount of growth mainly in dry forest stands, adding around 34.6 percent cubic feet to the average annual net growth of sound bole wood volume of trees on forest land. This is up from the 20.9 percent reported in 2014. Genip has been part of the flora of the insular Caribbean for centuries and may have been brought to some islands in pre-Columbian times (Francis 1992). As a popular edible fruit in the USVI, it is commonly sold on roadsides as a nontimber forest product (Chamberlain et al. 2018, VInow 1999–2019), suggesting that humans are major dispersers along with birds and bats (Francis 1992). Noting that volume is estimated in trees with d.b.h. ≥5 inches, the total number of genip with at least that minimum diameter has increased over the years (fig. 13).

Disturbance and Forest Health

Tree Damage Agents

Of the estimated 3,185,606 live trees ≥5 inches d.b.h. on forest land, 61 percent (1,937,526) were observed to have at least one type of damage. This is an increase from the 2014 estimate of 21.3 percent of trees ≥5 d.b.h. showing any signs of damage. Stem decay accounted for the largest proportion of all damage agents at 32 percent of all live trees ≥5 inches. Stem decay accounted for 53 percent of any agent recorded, close to the same as the estimated 59.5 percent in 2014 (Marcano-Vega 2020), of all damage effects found in all live trees on forest land in the USVI in 2024. Heart rot was next and accounted for 20 percent of all damage agents on trees ≥5 inches (table 25).

Of all damages recorded, 62 percent occurred on St. Croix with an estimated 1,186,138 live trees ≥5 inches with any damage recorded, accounting for about 37 percent of all live trees in the USVI for 2024. St. Thomas was next with an estimated 447,474 trees with any damage recorded (22 percent) and St. John had an estimated 303,913 (16 percent) of live trees. On St. Croix, stem decay accounted for 49 percent of all damages recorded there. Heart rot was second with 22 percent. On

Table 25—Tree damage numbers recorded on forest land by island, U.S. Virgin Islands, 2024

Damage agent	Number of trees	Percent of total	Percent of all agents
Boring insects	84,373	3	4
Root/butt diseases	273,254	9	14
Heart rot	385,304	12	20
Stem decay	1,023,340	32	53
Decline complexes/ dieback/wilts	5,240	0	0
Wind	156,788	5	8
Human activities	4,613	0	0
Imbedded objects	4,613	0	0
Total	1,937,526	61	100

Sampling error percent (Confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.

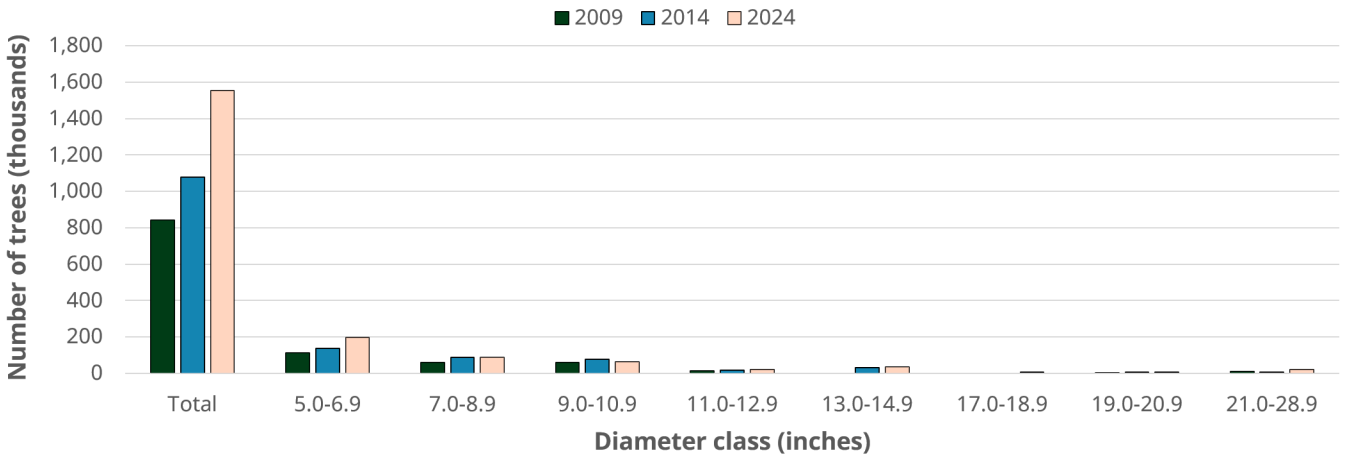


Figure 13—Total number of live genip trees by diameter class and inventory year (no trees recorded for diameter class 15.0-16.9).

St. Thomas, stem decay accounted for 75 percent of all damages recorded and wind was second at 14 percent. On St. John, stem decay made up 41 percent of all damages recorded, and heart rot was second at 34 percent (table 26).

Disturbances

Disturbances can be recorded up to three times for the same area as described in the Forest Inventory and Analysis Database (FIADB) User Guides (version 9.4) (USDA Forest Service 2024). A disturbance code identifies any major disturbance within the past 5 years (or since the previous measurement) that affected at least 1 acre and caused at least 25 percent tree damage or mortality. Up to three disturbances can be recorded in order of importance, along with the year each occurred.

In comparison to the previous inventories of 2009 and 2014, disturbances increased in 2024. Notably two categories, weather damage and wind, did not show up in the inventory in 2009 or 2014 at all, likely because they did not meet FIA thresholds to be considered a disturbance (see below). In 2024, those numbers are important (see below).

Table 26—Percent of damage on forest land by island and damage agent, U.S. Virgin Islands, 2024

Island	Damage agent	Number of trees	Percent of all damages	Total percent
St. Croix	Total	1,186,138	100	62
	Boring insects	34,481	3	3
	Root/Butt diseases	234,469	20	20
	Heart rot	262,054	22	20
	Stem decay	579,277	49	44
	Wind	75,858	6	6
St. John	Total	303,913	100	16
	Boring insects	31,439	10	3
	Root/Butt diseases	15,720	5	2
	Heart rot	104,798	34	10
	Stem decay	125,757	41	12
	Decline complexes/dieback/wilts	5,240	7	2
	Wind	20,960	0	0
St. Thomas	Total	447,474	100	22
	Boring insects	18,453	4	2
	Root/Butt diseases	23,066	3	5
	Heart rot	18,453	4	2
	Stem decay	318,306	75	39
	Wind	59,971	14	7
	Human activities	4,613	1	1
	Imbedded objects	4,613	1	1
Grand Total		1,937,526		100

Sampling error percent (confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.
Some colums may not total 100 percent due to rounding.



Rough cut logs of a freshly felled mahogany tree (*Swetenia mahohanii*). (Courtesy photo by Brian Daley)

Correspondingly, the "no visible disturbance" category decreased from 44,750 acres in 2014 to 17,304 acres in 2024 (table 27). We can infer that this increase is due to the 2017 hurricanes. Of the 49,036 forest acres, 35,740 are estimated to have shown at least one disturbance in 2024 (table 28). In the 2024 inventory wind (includes hurricanes and tornados) had affected an estimated 14,373 acres. Weather damage was recorded on an estimated 13,113 acres and finally human-caused damage was recorded on an estimated 8,255 acres (table 28).

The ACI revealed similar proportions of disturbance, but the additional measurements on the nonforested conditions increased the estimates slightly. Wind damage appeared on

Table 27—Area of forest land in acres by disturbance type and inventory year, U.S. Virgin Islands, 2009–2024

Disturbance type	Total	Inventory year		
		2009	2014	2024
No visible disturbance	102,318	40,265	44,750	17,304
Domestic animal/livestock (includes grazing)	1,320	1,320	0	0
Weather damage	13,113	0	0	13,113
Wind (includes hurricane, tornado)	14,373	0	0	14,373
Flooding (weather induced)	562	0	562	0
Human-caused damage	9,478	3,577	1,655	8,255
Total forested acres	141,165	45,163	46,967	53,045

Sampling error percent (confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.

Table 28—Disturbance type by number of acres and percent total on forest land, U.S. Virgin Islands, 2024

Disturbance type	Number of acres	Percent of total forested acres
Weather damage	13,113	37
Wind (includes hurricane, tornado)	14,373	40
Human-caused damage	8,255	23
Total disturbance acres	35,740	100

Sampling error percent (confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.
Totals may fluxuate slightly due to rounding.

14,713 acres. Weather increased to 14,256 acres and human-caused disturbance increased to 9,308 acres (table 29). It is worth noting that weather is a general category that includes wind. Why it was recorded separately in the 2024 inventory is unknown, but overall, it tells us that there was a large-scale weather event, i.e. the two hurricanes of 2017. Weather was not reported at all in 2014. This does not mean weather-related impacts did not occur. As previously stated, in FIA, a disturbance requires a larger-scale event that affects 25 percent of all trees in a stand, 50 percent of a single species. In 2014, for example, some weather-related mortality occurred (e.g., cause of death of some white mangrove), but it did not meet these thresholds to qualify as a disturbance.

Table 29—Disturbance type by number of acres and percent total on all conditions, U.S. Virgin Islands, 2024

Disturbance type	Number of acres	Percent of total ACI acres
Weather damage	14,256	37
Wind (includes hurricane, tornado)	14,713	38
Human-caused damage	9,308	24
Total disturbance acres	38,277	100

ACI = All conditions inventory.
Sampling error percent (confidence level 68 percent): for 95 percent confidence level multiply SE percentage by 1.96.
Totals may fluxuate slightly due to rounding.

CONCLUSIONS

The aim of this report has been to provide a rich set of relevant data concerning the dynamics of the forest stands of the USVI from 2014 to 2024, following the overview provided by Marcano and Williamson (2017) and the 2020 report (Marcano-Vega 2020). The information presented in those works serves as a baseline for the interpretation of changes that resulted in the 10-year period between 2014 and 2024. The COVID pandemic delayed the inventory scheduled for 2019. The periodic close out was implemented in 2024 and the ACI method was employed. Going forward, the inventory will be ACI and will be panelized.

Forest area and ownership remained relatively stable. There were small shifts to larger diameter classes which could be attributed to the ACI picking up larger open-grown trees on land that didn't qualify as forest land. However, due to the small sample sizes, care should be employed when interpreting these results. The overwhelming stand size of Virgin Island forests are still in small diameter classes. There were slightly fewer tree species and numbers tallied in 2024 with lower net growth, higher mortality, and higher removals indicating the impact of hurricanes Irma and Maria in 2017. The large number of standing dead trees recorded and disturbances (weather and wind) support this conclusion. Virgin Islands forests are recovering, as shown by rising sound bole wood volume estimates and more trees moving into larger diameter classes. The continuing inventory will allow us to monitor the rate and extent of this. Going forward, we hope to serve as a source for informed decisions regarding the welfare of Virgin Islanders, as we continue expanding our insight about the successional patterns, ecosystem services, and resilience portrayed by the forests of the USVI.

LITERATURE CITED

Bechtold, W.A.; Scott, C.T. 2005. The forest inventory and analysis plot design. In: Bechtold, W.A.; Patterson, P.L., eds. The enhanced Forest Inventory and Analysis program—National sampling design and estimation procedures. Gen. Tech. Rep. SRS-80. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station: 37–52.

Brandeis, T.J.; Oswalt, S.N. 2007. The Status of U.S. Virgin Islands' forests, 2004. Resour. Bull. SRS–122. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 61 p. https://doi.org/10.2737/SRS-RB-122.

Brandeis, T.J.; Turner, J.A. 2013. U.S. Virgin Islands' Forests, 2009. Resour. Bull. SRS–196. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 56 p. https://doi.org/10.2737/SRS-RB-196.

Burrill, E.A.; DiTommaso, A.M.; Turner, J.A. [et al.]. 2024. The Forest Inventory and Analysis Database, FIADB user guides, volume database description (version 9.2), nationwide forest inventory (NFI). U.S. Department of Agriculture, Forest Service. 1,042 p. https://usfs-public.app.box.com/v/FIA-FIADB-UserGuides/file/1537435976666. [Date accessed: 18 September 2026].

Chamberlain, J.L.; Davis, J.; Duguid, M. [et al.]. 2018. Nontimber forest products and production. In: Chamberlain, J.L.; Emery, M.R.; Patel-Weynand, T., eds. Assessment of nontimber forest products in the United States under changing conditions. Gen. Tech. Rep. SRS–232. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station: 9–57. https://doi.org/10.2737/SRS-GTR-232.

Ewel, J.J.; Whitmore, J.L. 1973. The ecological life zones of Puerto Rico and the U.S. Virgin Islands. Research Paper ITF-18. U.S. Department of Agriculture, Forest Service, Institute of Tropical Forestry. 72 p.

Francis, J.K. 1992. *Melicoccus bijugatus* Jacq. Quenepa. Sapindaceae. Soapberry family. SO-ITF-SM; 48. New Orleans: U.S. Department of Agriculture, Forest Service, Southern Forest Experiment Station, Institute of Tropical Forestry. 4 p.

Heath, L.S.; Hansen, M.H.; Smith, J.E. [et al.]. 2008. Investigation into calculating tree biomass and carbon in the FIABD using a biomass expansion factor approach. In: McWilliams, W.; Moisen, G.; Czaplewski, R., comps. Forest Inventory and Analysis (FIA) Symposium 2008; October 21-23, 2008; Park City, UT. Proc. RMRS-P-56CD. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 26 p.

Hilgemann, L.; Morgan, M. 2021. U.S. Virgin Islands Forest Resource Assessment and Strategies: a comprehensive analysis for forest-related conditions, trends, and opportunities. Kingshill, VI: VI Department of Agriculture. 107 p.

Holdridge, L.R. 1967. Life zone ecology. Revised edition. San José, Costa Rica: Tropical Science Center. 206 p.

Jenkins, J.C.; Chojnacky, D.C.; Heath, L.S.; Birdsey, R.A. 2003. National-scale biomass estimators for United States tree species. Forest Science. 49: 12–35. https://doi.org/10.1093/forestscience/49.1.12.

Kershaw, J.A, Jr.; Ducey, M.J.; Beers, T.W.; Husch, B. 2017. Forest Mensuration. Chichester, UK; Hoboken, NJ: John Wiley & Sons, Ltd. 613 p. https://doi.org/10.1002/9781118902028.

Little, E.L.; Woodbury, R.O.; Wadsworth, E.H. 1974. Trees of Puerto Rico and the Virgin Islands. Agric. Handb. 449. Washington, DC: U.S. Department of Agriculture, Forest Service. 1,024 p.

Marcano-Vega, H. 2026. Personal communication. Research Biologist, International Institute of Tropical Forestry, Jardín Botánico Sur, 1201 Calle Ceiba, San Juan, PR 00926, humfredo.marcano@usda.gov.

Marcano-Vega, H. 2020. U.S. Virgin Islands' Forests, 2014. Resour. Bull. SRS-227. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 54 p. https://doi.org/10.2737/SRS-RB-227.

Marcano-Vega, H.; Williamson, J.R. 2017. Forests of U.S. Virgin Islands, 2014. Resource Update FS–144. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 4 p.

Morgan, M.; Daley, B.; Hilgemann, L.; Zimmerman, T.W. 2017. A reforestation profile of the U.S. Virgin Islands. Tree Planters' Notes. 60(2): 4–18.

Morris, A. 2022. Woodworking expo features works of art from fallen trees. The Virgin Islands Daily News. 06 December; https://www.virginislandsdailynews.com/news/woodworking-expo-features-works-of-art-from-fallen-trees/article_99ed76e6-1843-5273-b559-b8c4ae169e8e.html. [Date accessed: 27 August 2026].

Reams, G.A.; Smith, W.D.; Hansen, M.H. [et al.]. 2005. The forest inventory and analysis sampling frame. In: Bechtold, W.A.; Patterson, P.L., eds. The enhanced Forest Inventory and Analysis program–national sampling design and estimation procedures. Gen. Tech. Rep. SRS-80. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 85 p.

Schomaker, M.E.; Zarnoch, S.J.; Bechtold, W.A. [et al.]. 2007. Crown-condition classification: a guide to data collection and analysis. Gen. Tech. Rep. SRS-102. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 78 p. https://doi.org/10.2737/SRS-GTR-102.

Scott, C. T.; Bechtold, W.A.; Reams, G.A. [et al.]. 2005. Sample-based estimators used by the Forest Inventory and Analysis National Information Management System. In: Bechtold, W.A.; Patterson, P.L., eds. The enhanced Forest Inventory and Analysis program–National sampling design and estimation procedures. Gen. Tech. Rep. SRS-80. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 85 p.

Stein, S.M.; Carr, M.A.; Liknes, G.C.; Comas, S.J. 2014. Islands on the edge: housing development and other threats to America's Pacific and Caribbean Island forests: a Forests on the Edge report. Gen. Tech. Rep. NRS-137. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 55 p. https://doi.org/10.2737/NRS-GTR-137.

Taylor, M.A.; Stephenson, T.S.; Chen, A.A.; Stephenson, K.A. 2012. Climate change and the Caribbean: review and response. Caribbean Studies. 40(2): 169–200. https://doi.org/10.1353/crb.2012.0020.

U.S. Department of Agriculture, Forest Service [USDA Forest Service]. 2014. Nonforest Land. Forest Inventory and Analysis glossary. Washington, DC: U.S. Department of Agriculture, Forest Service. 28 p.

U.S. Department of Agriculture, Forest Service [USDA Forest Service]. 2025. Forest Inventory and Analysis program. https://research.fs.usda.gov/programs/fia. [Date accessed: 20 August 2026].

U.S. Department of Agriculture, Forest Service [USDA Forest Service]. 2026. FIA DataMart, EVALIDator and the FIABD-AP. https://research.fs.usda.gov/programs/fia#data-and-tools. [Date accessed: 24 September 2026].

U.S. Department of Agriculture, Forest Service [USDA Forest Service]. 2024. Forest Inventory and Analysis Database: FIADB User Guides (Version 9.4, December 2024). U.S. Department of Agriculture, Forest Service. 1,016 p.

U.S. Department of Agriculture, Forest Service [USDA Forest Service]. 2023. Forest inventory and analysis national core field guide. Volume I: field data collection procedures for phase 2 plots. Version 9.3. Arlington, VA: U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis Program. 525 p.

VInow. 1999-2019. The Virgin Islands Best Guide: Local fruit—genips. https://www.vinow.com/blog/nature/local-fruit-genips/. [Date accessed: May 2019].

Weaver, P.L. 2006. Estate Thomas Experimental Forest, St Croix, U.S. Virgin Islands: research history and potential. General Technical Report IITF-30. San Juan, PR: U.S. Department of Agriculture, Forest Service, International Institute of Tropical Forestry. 62 p.

Woodall, C.; Williams, M.S. 2005. Sampling protocol, estimation and analysis procedures for down woody materials indicator of the FIA program. Gen. Tech. Rep. NC–256. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 47 p. https://doi.org/10.2737/NC-GTR-256.

Woudenberg, S.W.; Conkling, B.L.; O'Connell, B.M. [et al.]. 2010. The Forest Inventory and Analysis database: Database description and user's manual version 4.0 for phase 2. Gen. Tech. Rep. RMRS-GTR-245. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 336 p. https://doi.org/10.2737/RMRS-GTR-245.

GLOSSARY

All-live tree—All living trees. All size classes, all tree classes, and both saw-log and nonsaw-log species are included. See FIA tree species list in the field manual.

Average annual mortality—Average annual volume of trees ≥5.0 inches diameter at breast height that died from natural causes during the intersurvey period, excluding those removed by harvesting, cultural operations, land clearing or changes in land use.

Average annual removals—Average annual volume of trees ≥5.0 inches diameter at breast height removed from the inventory by harvesting, cultural operations (such as timber-stand improvement), land clearing, or changes in land use during the intersurvey period.

Average net annual growth—Average annual net change in volume of trees ≥5.0 inches diameter at breast height/diameter at root collar without taking into account losses from cutting during the intersurvey period.

Basal area—The cross-sectional area of a tree at breast height or of all the trees in a stand, usually expressed in square feet per tree or square feet per acre.

Biomass—Total aboveground biomass is estimated using allometric equations and is defined as the aboveground weight of wood and bark in live trees ≥1.0-inch diameter at breast height from the ground to the tip of the tree, excluding all foliage (leaves, buds, fruit, and limbs <0.5 inch in diameter). Biomass is expressed as oven-dry weight and the units are short tons (2,000 pounds, or 0.9072 metric tons).

Additionally, biomass in the merchantable stem is estimated regionally, where the main and merchantable stems are defined as follows:

Main stem—The central portion of the tree extending from the ground level to the tip for timber species. For timber species trees that fork, the main stem refers to the fork that would yield the most merchantable volume.

Merchantable stem—That portion of the main stem of a timber species tree from a 1-foot stump to a minimum 4-inch top diameter inside or outside bark depending on species.

Nationally aboveground and belowground biomass is estimated from each tree's sound volume using a Component Ratio Method that is consistently applied in all FIA regions (Heath et al. 2008).

Gross aboveground biomass—Total tree biomass excluding foliage and roots with no deductions made for rotten, missing, or broken-top cubic-foot cull.

Net aboveground biomass—Gross aboveground biomass minus deductions for missing cull, broken-top, and a reduction for a proportion of rotten cull for live or standing dead trees ≥5.0 inches d.b.h (rotten cull will have a factor to reduce specific gravity separately from sound wood). Live and standing dead trees 1.0–4.9 inches only have deductions for broken-top cull. Additional deductions are made for dead trees ≥1.0 inch using decay class.

Belowground biomass—Coarse roots only.

Further, the total net aboveground biomass estimated using the Component Ratio Method is divided into the following components:

Top—That portion of the main stem of a timber species tree above the 4-inch top.

Branches—All the branches of a timber species tree excluding the main stem.

Bole—See: Merchantable stem.

Stump—That portion of timber species below 1-foot to ground level.

Bole—Trunk or main stem of a tree. (See: Main stem)

Census water—See: Land use.

Codominant tree—See: Crown class.

Components of change—Volume increment and decrement values that explain the change in inventory between two points in time. Components of change are usually expressed in terms of growing-stock or all-live merchantable volume. These components can be expressed as average annual values by dividing the component by the number of years in the measurement cycle.

FIA inventories are designed to measure net change over time, as well as the individual components of change that constitute net change (e.g., growth, removals, mortality). Change estimates are computed for two sequential measurements of each inventory panel. Upon remeasurement, a new initial inventory is established for remeasurement at the next scheduled inventory. As such, computation of change components is not intended to span more than one inventory cycle. Rather, the change estimation process is repeated cycle by cycle. This simplifies field protocols and ensures that change estimation is based on short and relatively constant time intervals (e.g., 5 years).

FIA recognizes the following components of change as prescribed core variables; they usually are expressed in terms of growing-stock or all-live volume, where *t* is the initial inventory of a measurement cycle, and *t* +1 is the terminal inventory (Scott et al. 2005):

Cut—The volume of trees cut between time *t* and time *t* +1. The estimate is based on tree size at the midpoint of the measurement interval (includes cut growth). Tree size at the midpoint is modeled from tree size at time *t*. Trees felled or killed in conjunction with a harvest or silvicultural operation (whether they are utilized or not) are included, but trees on land diverted from forest to nonforest (diversions) are excluded.

Cut growth—The growth of cut trees between time *t* and the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t*. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold prior to being cut.

Diversion—The volume of trees on land diverted from forest to nonforest (or, for some analyses, this may also include land diverted to reserved forest land and other forest land), whether utilized or not, between time *t* and time *t* +1. The estimate is based on tree size at the midpoint of the measurement interval (includes diversion growth). Tree size at the midpoint is modeled from tree size at time *t*.

Diversion growth—The growth of diversion trees from time *t* to the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t*. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold prior to diversion.

Growth on ingrowth—The growth on trees between the time they grow across the minimum diameter at breast height/diameter at root collar threshold and time *t* +1.

Ingrowth—The volume of trees at the time that they grow across the minimum diameter at breast height/diameter at root collar threshold between time *t* and time *t* +1. The estimate is based on the size of trees at the diameter at breast height threshold which is 1.0 inch for all-live trees and 5.0 inches for growing-stock trees. This term also includes trees that subsequently die (i.e., ingrowth mortality), are cut (i.e., ingrowth, cut), or diverted to nonforest (i.e., ingrowth diversion); as well as trees that achieve the minimum threshold after an area reverts to a forest land use (i.e., reversion ingrowth).

Mortality—The volume of trees that die from natural causes between time *t* and time *t* +1, excluding that removed by harvesting,

cultural operations, land clearing or changes in land use. The estimate is based on tree size at the midpoint of the measurement interval (includes mortality growth). Tree size at the midpoint is modeled from tree size at time *t*.

Mortality growth—The growth of trees that died from human or natural causes between time *t* and the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t*. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold prior to mortality.

Reversion—The volume of trees on land that reverts from a nonforest land use to a forest land use (or, for some analyses, land that reverts from any source to timberland) between time *t* and time *t* +1. The estimate is based on tree size at the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t* +1.

Reversion growth—The growth of reversion trees from the midpoint of the measurement interval to time *t* +1. Tree size at the midpoint is modeled from tree size at time *t* +1. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold after reversion.

Survivor growth—The growth on trees tallied at time *t* that survive until time *t* +1.

Condition class—The combination of discrete landscape and forest attributes that identify, define, and stratify the area associated with a plot. Examples of such attributes include condition status, forest type, stand origin, stand size, owner group, reserve status, and stand density (USDA Forest Service 2023).

Crown—The part of a tree or woody plant bearing live branches or foliage (Schomaker et al. 2007, USDA Forest Service 2023).

Crown class—A classification of trees based on dominance in relation to adjacent trees in the stand as indicated by crown development and amount of light received from above and the sides (Schomaker et al. 2007, USDA Forest Service 2023). Crown classes recognized by Forest Inventory and Analysis include:

Dominant—Trees with crown extending above the general level of the crown canopy and receiving full light from above and partly from the sides. These trees are taller than the average trees in the stand and their crowns are well developed, but they could be somewhat crowded on the sides. Also, trees whose crowns have received full light from above and from all sides during early development and most of their life. Their crown form or shape appears to be free of influence from neighboring trees (USDA Forest Service 2023).

Codominant—Trees with crowns at the general level of the crown canopy. Crowns receive full light from above but little direct sunlight penetrates their sides. Usually they have medium-sized crowns and are somewhat crowded from the sides. In stagnated stands, codominant trees have small-sized crowns and are crowded on the sides.

Intermediate—Trees that are shorter than dominants and co-dominant, but their crowns extend into the canopy of codominant and dominant trees. They receive little direct light from above and none from the sides. As a result, intermediate trees usually have small crowns and are very crowded from the sides.

Open grown—Trees with crowns that received full light from above and from all sides throughout most of its life, particularly during its early developmental period.

Overtopped—Trees with crowns entirely below the general level of the crown canopy that receive no direct sunlight either from above or the sides.

Crown dieback—Recent mortality of branches with fine twigs, which begins at the terminal portion of a branch and proceeds toward the trunk. Dieback is only considered when it occurs in the upper and outer portions of the tree. Dead branches in the lower live crown are not considered as part of crown dieback, unless there is continuous dieback from the upper and outer crown down to those branches (Schomaker et al. 2007, USDA Forest Service 2023).

Cull—Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect. Cull is further categorized as the following:

Broken-top cubic-foot cull—The broken-top proportion of a timber species tree's merchantable portion from the break to the actual or projected 4-inch top diameter outside bark, or to where the central stem forks, where all forks are <4.0 inches diameter. For trees 1.0–4.9 inches diameter this is the proportion of the main stem missing due to a broken-top.

Form board-foot cull—The part of the tree's saw-log portion that is sound but not usable for sawn wood products due to sweep, crook, forking, or other physical culls.

Missing cubic-foot cull—The proportion of a tree's merchantable portion that is missing or absent. Does not include any cull deductions above actual length for broken-top timber trees. Does include cull deductions above actual length for broken-top woodland species. Trees with diameter at breast height/diameter at root collar <5.0 inches have a null value in this field.

Percent board-foot cull—Percentage of sound and unsound board-foot volume, to the nearest 1 percent.

Rotten cubic-foot cull—The proportion of a tree's merchantable portion that is in a decayed state. Does not include any cull deductions above actual length for broken-top timber trees. Does include cull deductions above actual length for broken-top woodland species. Trees <5.0 inches diameter at breast height have a null value in this field.

Rotten/missing cull—The part of the tree's merchantable portion that is decayed or absent due to other factors.

Total board-foot cull—The proportion of a timber species tree's saw-log portion that is rotten, missing, or sound but not useable for sawn wood products due to sweep, crook, forking, or other physical defects (form board-foot cull). Non-sawlog species <11.0 inches diameter at breast height have a null value in this field.

Cull tree—Live trees that are unsuitable for the production of some roundwood products, now or prospectively. Cull trees can include those with decay (rotten cull) or poor form, limbiness, or splits (rough cull). Rough cull is suitable for pulpwood and other fiber products.

Cut—See: Components of change.

Cutting type—This category of stand treatment indicates the type of cutting that has occurred on the condition. See: Treatment.

Decay class—Qualitative assessment of stage of decay (5 classes) of coarse woody debris based on visual assessments of color of wood, presence/absence of twigs and branches, texture of rotten portions, and structural integrity (Woodall and Williams 2005).

Diameter at breast height (d.b.h.)—The diameter for tree stem, located at 4.5 feet above the ground (breast height) on the uphill side of a tree. The point of diameter measurement may vary on abnormally formed trees.

Diameter class—A classification of trees based on diameter outside bark, measured at breast height (diameter at breast height) above the ground. Note: Diameter classes are commonly in 2-inch increments. Each class provides a range of values with the class name being the approximate midpoint. For example, the 6-inch class includes trees 5.0 through 6.9 inches diameter at breast height.

Diameter inside bark (d.i.b.) — Diameter measured at any point on a tree or log that excludes the bark.

Diameter outside bark (d.o.b.)—Diameter measured at any point on a tree or log that includes the bark.

Disturbance—Natural or human-caused disruption that is at least 1.0 acre in size and results in mortality and/or effect to 25 percent of all trees in a stand or 50 percent of an individual species' count or, in the case when the disturbance does not initially affect tree growth or health (e.g., grazing, browsing, flooding, etc.), affects 25 percent of the soil surface or understory vegetation. For initial forest plot establishment the disturbance must be within the last 5 years. For remeasured plots only those disturbances that have occurred since the previous inventory are recognized.

Diversion—See: Components of change.

Dominant tree—See: Crown class.

Double sampling for stratification—A sampling method whereby a large sample of plots are stratified in Phase 1, then a subsample is measured for all attributes in Phase 2. When the strata are homogeneous with respect to the attribute, then the estimators are more accurate versus simple random sampling (Bechtold and Scott 2005).

Dry weight—The oven-dry weight of biomass.

Fixed-radius plot—A circular sampled area with a specified radius in which all trees of a given size, shrubs, or other items are tallied.

Forest land—Land that is at least 10 percent stocked by forest trees of any size, or land formerly having such tree cover, and is not currently developed for a nonforest use. The minimum area for classification as forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams and other bodies of water, or natural clearings in forested areas shall be classified as forest, if <120 feet in width or 1.0 acre in size. Forest land is divided into timberland, reserved forest land, and other forest land (such as woodland; USDA Forest Service 2023).

Forest type—A classification of forest land based upon site characteristics and the tree species that forms the plurality of live-tree stocking. A forest-type classification for a field location indicates the predominant site characteristics and live-tree species cover for the field location.

Forest-type group—A combination of forest types that share closely associated species or site requirements. For the U.S. Virgin Islands, the following are used by the FIA program:

Subtropical dry forest—Found in areas with about 24 to 44 inches (600 to 1100 mm) of annual precipitation. Some of the native tree species that are common in subtropical dry forest in the U.S. Virgin Islands are gumbo limbo [*Bursera simaruba* (L.) Sarg.], bodywood (*Bourreria succulenta* Jacq.), Jamaican caper (*Capparis cynophallophora* L.), black mampoo [*Guapira fragrans* (Dum. Cours.)], and water mampoo (*Pisonia subcordata* Sw.). The more heavily-disturbed dry forest areas have numerous, smaller stemmed tan-tan [*Leucaena leucocephala* (Lam.) deWit], Jamaican nettletree [*Trema micrantha* (L.) Blume] and

spineless wattle [*Acacia muricata* (L.) Britton & Rose] individuals.

Subtropical moist forest—Found in areas with about 40 to 88 inches (1000 to 2200 mm) of annual precipitation. Some of the many natural indicator species of subtropical moist forest in the U.S. Virgin Islands include the dog almond [*Andira inermis* (W. Wright) Kunth ex DC.], black mampoo [*Guapira fragrans* (Dum.-Cours.) Little], yellow mombin (*Spondias mombin* L.), gre gre (*Bucida buceras* L.), sandbox tree (*Hura crepitans* L.), kapoktree [*Ceiba pentandra* (L.) Gaertn.], cigar box cedar (*Cedrela odorata* L.), bayrumtree (*Pimenta racemosa* var. racemosa), royal palm (*Roystonea borinquena* O.F. Cook) (on St. Croix only), stinkingtoe (*Hymanaea courbaril* L.), pumpwood (*Cecropia schreberiana* Miq.), and white cedar [*Tabebuia heterophylla* (DC.) Britt.]. While subtropical moist forests have some of the same introduced species found in subtropical dry forest, genip (*Melicoccus bijugatus* Jacq.) is also commonly found.

Mangrove forest—Mangrove forests comprised of Rhizophora mangle L., *Avicennia nitidia* Jacq., *Laguncularia racemosa* (L.) Gaertn. f., and *Conocarpus erectus* L. are found along the coastlines and estuaries.

Nonstocked stands—Stands with <10 percent stocking or canopy coverage of live trees.

Gross aboveground biomass—See: Biomass.

Gross board-foot volume—See: Volume.

Gross cubic-foot volume—See: Volume.

Ingrowth tree—See: Components of change.

Intermediate tree—See: Crown class.

Land—The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains.

Land cover—The dominant vegetation or other kind of material that covers the land surface. A given land cover may have many land uses.

Land use—The purpose of human activity on the land; it is usually, but not always, related to land cover.

Regional present land use categories are as follows:

Accessible timber land—Land that is within the population of interest, is accessible, is on a subplot that can be occupied at subplot center, can safely be visited, and meets the criteria for forest land (see forest land).

Accessible other forest land—Land that meets the definition of accessible forest land, but is incapable of producing 20 cubic feet per acre per year of industrial wood under natural conditions because of adverse site conditions. Adverse conditions include sterile soils, dry climate, poor drainage, high elevation, steepness and soil rockiness.

Agricultural land—Land managed for crops, pasture, or other agricultural use. The area must be at least 1.0 acre in size and 120 feet wide (with the exception of windbreak/shelterbelt, which has no minimum width). This land use includes cropland, pasture (improved through cultural practices), idle farmland, orchard, maintained wildlife opening, and windbreak/shelterbelt.

Rangeland—Land primarily composed of grasses, forbs, or shrubs. This includes lands vegetated naturally or artificially to provide a plant cover managed like native vegetation and does not meet the definition of pasture. The area must be at least 1.0 acre in size and 120 feet wide.

Developed—Land used primarily by humans for purposes other than forestry or agriculture. This land use includes cultural (business, industrial/commercial, residential,

and other places of intense human activity), rights-of-way (improved roads, railway, power lines, maintained canal), recreation (parks, skiing, golf courses), and mining.

Other—Land parcels >1.0 acre in size and >120.0 feet wide, which do not fall into one of the uses described above. Examples include undeveloped beaches, barren land (rock, sand), marshes, bogs, ice, and snow. This land use includes non-vegetated, wetland, and beach.

Census water—Rivers and streams that are >200 feet wide and bodies of water >4.5 acres in size.

Noncensus water—Rivers, streams and other bodies of water that do not meet the requirements for census water.

Nonsampled—Not sampled due to denied access, hazardous conditions, being outside the United States or other reasons.

Large-diameter trees—Trees ≥11.0 inches diameter at breast height. These trees were called sawtimber-sized trees in prior surveys. See: Stand-size class.

Life zone—The Holdridge life zone model defines ecological life zones using mean annual precipitation and mean annual biotemperature (Ewel and Whitmore 1973, Holdridge 1967). The forested life zones found on the U.S. Virgin Islands are subtropical dry forest and subtropical moist forest.

Log—Eight foot (2.4 m) or longer tree segment suitable for processing into lumber, veneer, or other wood products.

Main stem—The central portion of the tree extending from the ground level to the tip. For timber species trees that fork, the main stem follows the fork that would yield the most merchantable volume.

Medium-diameter tree—Tree species 5.0 to 10.9 inches diameter at breast height These trees were called poletimber-sized trees in prior surveys. See: Stand-size class.

Merchantable portion—The portion of the main stem of a timber species tree from a 1-foot stump to a minimum 4-inch top diameter inside or outside bark depending on species.

Microplot—A circular, fixed-radius plot with a radius of 6.8 feet (0.003 acre) that is used to sample trees <5.0 inches diameter at breast height, as well as other vegetation. Point center is 90 degrees and 12 feet offset from point center of each subplot (Bechtold and Scott 2005).

Missing cubic-foot cull—See: Cull.

Mortality—See: Components of change.

National forest land—See: Ownership.

Net aboveground biomass—See: Biomass.

Net board-foot volume—See: Volume.

Net cubic-foot volume—See: Volume.

Noncensus water—See: Land use.

Nonforest land—Land that does not support or has never supported, forests, and lands formerly forested where use for timber management is precluded by development for other uses. Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining rights-of-way, power line clearings of any width, and noncensus water. If intermingled in forest areas, unimproved roads and nonforest strips must be >120 feet wide, and clearings, etc., >1.0 acre in size, to qualify as nonforest land (USDA Forest Service 2014).

Nonindustrial private forest land—See: Ownership.

Open grown trees—See: Crown class.

Other forest land—Forest land other than timberland and reserved forest land. It includes available and reserved forest land that is incapable of producing 20 cubic feet per acre per year of wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other public land—See: Ownership.

Other removals—The volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use, resulting in the removal of the trees from timberland.

Overstory canopy zone—Average live crown height for all trees in a forest. The bottom of the overstory canopy zone is the average height of the live crown bases. The top of the overstory canopy zone is the average height of the live crown tops.

Overtopped—See: Crown class.

Ownership—A legal entity having control of a parcel or group of parcels of land. An ownership may be an individual; a combination of persons; a legal entity such as corporation, partnership, club, or trust; or a public agency.

National forest land—Federal land that has been legally designated as national forests or purchase units, and other land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

Forest industry land—An ownership class of private lands owned by a company or an individual(s) operating a primary wood-processing plant.

Nonindustrial private forest (NIPF) land—Privately owned land excluding forest industry land.

Corporate—Owned by corporations, including incorporated farm ownerships.

Individual—All lands owned by individuals, including farm operators.

Other public—An ownership class that includes all public lands except national forests

Miscellaneous Federal land—Federal land other than national forests.

State, county, and municipal land—Land owned by States, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Phase 1 (P1)—Forest Inventory and Analysis activities related to remote-sensing, the primary purpose of which is to label plots and obtain stratum weights for population estimates (Bechtold and Scott 2005).

Phase 2 (P2)—Forest Inventory and Analysis activities conducted on the network of ground plots. The primary purpose is to obtain field data that enable classification and summarization of area, tree, and other attributes associated with forest land uses (Bechtold and Scott 2005).

Phase 3 (P3)—A subset of Phase 2 plots where additional attributes related to forest health are measured (Bechtold and Scott 2005).

Plantation—Stands that currently show evidence of being planted or artificially seeded.

Poletimber-sized tree—Tree species 5.0 to 10.9 inches diameter at breast height. Now referred to as medium-diameter trees.

Private land—See: Ownership.

Reserved forest land—Forest land where management for the production of wood products is prohibited through statute or administrative designation. Examples include national forest wilderness areas and national parks and monuments.

Reversion—Land that reverts from a nonforest land use to a forest land use. See components of change.

Rotten cubic-foot cull—See: Cull.

Rotten cull—See: Tree class.

Rotten/missing cull—See: Cull.

Rotten trees—Live timber species (excludes non-sawlog species) that do not contain at least one 12-foot saw log or two noncontiguous 8-foot merchantable logs now or prospectively primarily because of rotten cull. Less than 1/3 of its gross board-foot volume meets size, soundness, and grade requirements and <1/2 of the total board-foot cull is due to form board-foot cull.

Rough cull—See: Tree class.

Sampling error—The standard error of the mean expressed as a percentage. This percentage format allows the application of confidence intervals to the population values (the most common values presented in FIA reports). Most FIA sampling errors are presented at the 0.6827 level but the 0.95 level can easily be obtained by multiplying the sampling error by 1.96, or higher appropriate *t*-value if n is <120.

Sapling—Live trees 1.0 to 4.9 inches diameter at breast height (USDA Forest Service 2023).

Sawtimber-sized trees—Tree species ≥11.0 inches diameter at breast height. Now referred to as large diameter trees.

Seedling—Live trees <1.0-inch diameter at breast height that are ≥12 inches in height.

Small-diameter trees—Trees 1.0 to 4.9 inches in diameter at breast height. These were called sapling-seedling sized trees in prior surveys. See: Stand-size class.

Species group—A collection of species used for reporting purposes.

Stand—Vegetation or a group of plants occupying a specific area and sufficiently uniform in species composition, age arrangement, structure, and condition as to be distinguished from the vegetation on adjoining areas.

Stand origin—A classification of forest stands describing their means of origin.

Planted—Planted or artificially seeded.

Natural—No evidence of artificial regeneration.

Standing dead tree—A dead tree ≥5.0 inches diameter at breast height that has a bole which has an unbroken actual length of at least 4.5 feet, and lean <45 degrees from vertical as measured from the base of the tree to 4.5 feet.

Stand-size class—A classification of forest land based on the diameter-class distribution of live trees in the stand. See definitions of large-, medium-, and small-diameter trees.

Large-diameter stands—Stands at least 10 percent stocked with live trees, with one-half or more of total stocking in large- and medium-diameter trees, and with large-diameter tree stocking at least equal to medium-diameter tree stocking.

Medium-diameter stands—Stands at least 10 percent stocked with live trees, with one-half or more of total stocking in medium- and large-diameter trees, and with medium-diameter tree stocking exceeding large-diameter tree stocking.

Small-diameter stands—Stands at least 10 percent stocked with live trees, in which small-diameter trees account for more than one-half of total stocking.

Nonstocked stands—Stands <10 percent stocked with live trees.

State, county, and municipal land—See: Ownership.

Stratification—A statistical tool used to reduce the variance of the attributes of interest by partitioning the population into homogenous strata. It may also involve partitioning a highly variable but small portion of the population.

Subplot—A circular area with a fixed horizontal radius of 24.0 feet (1/24 acre), primarily used to sample trees ≥5.0 inches at diameter at breast height (Bechtold and Scott 2005).

Survivor growth—See: Components of change.

Survivor tree—A sample tree alive at both the current and previous inventories.

Total length—The total length of the tree, recorded to the nearest 1.0 foot from ground level to the tip of the apical meristem. Trees growing on a slope are measured on the uphill side of the tree. If the tree has a broken or missing top, the total length is estimated to what the length would be if there were no missing or broken top. Forked trees are treated the same as unforked trees (USDA Forest Service 2023).

Total tree biomass—See: Biomass.

Treatment—Forestry treatments are a form of human disturbance. The term treatment further implies that a silvicultural application has been prescribed. This does not include occasional stumps of unknown origin or sparse removals for firewood, or other miscellaneous purposes. The area affected by any treatment must be at least 1.0 acre in size.

None—No observable treatment.

Cutting—The removal of trees from a stand. SRS-FIA categories are the following:

Clearcut harvest—The removal of the majority of the merchantable trees in a stand; residual stand stocking is under 50 percent.

Partial harvest—Removal primarily consisting of highest quality trees. Residual consists of lower quality trees because of high grading or selection harvest (e.g., uneven aged, group selection, high grading, species selection).

Seed-tree/shelterwood harvest—Crop trees are harvested leaving seed source trees either in a shelterwood or seed tree. Also includes the final harvest of the seed trees.

Commercial thinning—The removal of trees (usually of medium-diameter) from medium-diameter stands leaving sufficient stocking of growing-stock trees to feature in future stand development. Also included are thinning in large-diameter stands where medium-diameter trees have been removed to improve quality of those trees featured in a final harvest.

Timber stand improvement (cut trees only)—The cleaning, release, or other stand improvement involving noncommercial cutting applied to an immature stand that leaves sufficient stocking.

Salvage cutting—The harvesting of dead or damaged trees or of trees in danger of being killed by insects, disease, flooding, or other factors in order to save their economic value.

Site preparation—Clearing, slash burning, chopping, disking, bedding, or other practices clearly intended to prepare a site for either natural or artificial regeneration.

Artificial regeneration—Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present resulted from planting or direct seeding.

Natural regeneration—Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present (of any size) were established through the growth of existing trees or natural seeding or sprouting.

Other silvicultural treatment—The use of fertilizers, herbicides, girdling, pruning, or other activities designed to improve the commercial value of the residual stand, or chaining, which is a practice used on woodlands to encourage wildlife forage.

Tree—A woody perennial plant, typically large, with a single well-defined stem carrying a more or less definite crown; sometimes defined as attaining a minimum diameter of 3 inches and a minimum height of 15 feet at maturity. For FIA, any plant on the tree list in the current field manual is measured as a tree (USDA Forest Service 2023).

Uncompacted live crown ratio—The length of a tree that supports live foliage relative to actual tree length. The ratio is determined by dividing the live crown length by the actual tree length, then multiplying by 100 and expressing the ratio as a percentage (Schomaker et al. 2007, USDA Forest Service 2023).

Volume—A measure of the solid content of the tree stem used to measure wood quantity.

Gross board-foot volume—Total board-foot volume of wood inside bark without deductions for total board-foot cull.

Gross cubic-foot volume—Total cubic-foot volume of wood inside bark without deductions for rotten, missing, or broken-top cull.

Net board-foot volume—Gross board-foot volume minus deductions for total board-foot cull.

Net cubic-foot volume—Gross cubic-foot volume minus deductions for rotten, missing, and broken-top cull.

APPENDIX—RELIABILITY OF DATA

Resulting sampling errors are offered here as calculated from the standard error of the mean and expressed as a percentage for forest land acreage, numbers of live trees, aboveground biomass, and all live tree volume (table A1). This percentage format allows the application of confidence intervals to the population values (the most common values presented in FIA reports). Most FIA sampling errors are presented at the 0.6827 level but the 0.95 level can easily be obtained by multiplying the sampling error by 1.96 or higher, appropriate t-value if the sample size n is <120.

Sampling error is associated with the natural and expected deviation of the sample from the true population mean. This deviation is susceptible to a mathematical evaluation of the probability of error. Sampling errors for State totals are based on one standard deviation. That is, there is a 68.27-percent probability that the confidence interval given for each sample estimate will cover the true population mean.

The size of the sampling error generally increases as the size of the area examined decreases. Also, as area or volume totals are stratified by forest type, species, diameter class, ownership, or other subunits, the sampling error may increase and be greatest for the smallest divisions. However, there may be instances where a smaller component does not have a proportionately larger sampling error. This can happen when the post-defined strata are more homogeneous than the larger strata, thereby having a smaller variance. For specific post-defined strata the sampling error is available from online retrievals using the USDA Forest Service EVALIDator On-line FIA database query tool or can be calculated using the following formula:

$$SE_s = SE_t \frac{\sqrt{X_t}}{\sqrt{X_s}}$$

where

SE_s = sampling error for subdivision of territory total

SE_t = sampling error for territory total

X_s = sum of values for the variable of interest (area or volume) for subdivision of Territory

X_t = total area or volume for Territory

For example, the sampling error for the estimate of subtropical dry forest acreage, (33,331 acres) would be calculated based on the total forested acreage in the U.S. Virgin Islands (49,035 acres) and its associated sampling error (7.95 percent):

$$SEs = 7.95 \left[\frac{\sqrt{49{,}035}}{\sqrt{33{,}331}}\right] = 9.64$$

Thus, the sampling error is 9.64 percent, and the resulting 67-percent confidence interval for subtropical dry forest acreage would be 33,331 acres ± 3,214 acres.

Sampling errors obtained by this method are only approximations of reliability because this process assumes constant variance across all subdivisions of totals. The resulting errors derived by this approximation method should be considered very liberal, i.e. it usually produces sampling errors much better than those derived by the actual random sampling formula. Users are free to use more conservative variance estimators based on their specific applications.

Table A1—Sampling error, at one standard error, of the estimates of forest land area, number of trees, aboveground live biomass, and all-live volume, U.S. Virgin Islands, 2024

Item		Sample estimate	Confidence interval (+/-)	Sampling error
				percent
Forest land (acres)		49,035	3,898	8
Number of trees		76,914,613.00	8,552,905	11
Aboveground live biomass (tons)		1,339,214	152,670	11
All-live volume (cubic feet)	**Inventory**	21,360,999	4,336,283	20
	Net annual growth	632,169	177,007	28
	Annual mortality	404,531	101,942	25
	Annual removals	202,337	132,733	66

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This report summarizes the findings of data collected as part of the Forest Inventory and Analysis (FIA) program in the U.S. Virgin Islands (USVI) using data collected during inventory years spanning 2014 to 2024. The year 2024 was the first year the All Conditions Inventory (ACI) was employed and notable differences from traditional forest land inventory are highlighted in this report. The ACI yielded more information than measuring forest land alone. It has promise in island inventories where urban trees, fruit trees, yard trees, and other land conditions not defined as forest are important. As of 2024, forest land covers 59.6 percent of the USVI and is relatively stable, as changes in forest cover have been within sampling errors since 2004 when the inventory was first implemented. The data in this report are based on 108 field plots across the USVI, mainly on St. Croix, St. John, and St. Thomas. Dry tropical forests dominate the islands, with a lesser amount of moist forest occurring on all three islands. The majority of trees fall into the smaller diameter classes, although there is some indication that forests are growing into larger classes slowly. The effects of hurricanes Irma and Maria in 2017 were apparent and that is discussed in detail in this report. Development pressure, strong storms, and nonnative species all impact the USVI's forests and will continue to be a threat going forward. The forest inventory is an important tool to measure these effects over time.

KEYWORDS: Caribbean, FIA program, forest health, forest inventory, all conditions inventory, tropical forests, U.S. Virgin Islands.

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