



Food and Agriculture  
Organization of the  
United Nations

# Global Forest Resources Assessment 2020

Desk Study

**Cayman Islands**

Rome, 2020



FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. If a report is not available, the FRA Secretariat prepares a desk study using earlier reports, existing information and/or remote sensing based analysis.

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# Introduction

## Introductory text

**No report has been received from Cayman Islands. This report is the result of a desk study prepared by the FRA secretariat in Rome, which is based on the existing available information and previous FRA reports.**

Mixed evergreen-deciduous forests comprise the majority of the natural vegetation of the interior of the Cayman Islands (DaCosta-Cottam et al, 2009). The majority of the interior of the Cayman Islands is dry, however wet forested areas may occur at the intergrades between mangrove wetlands and lowland semi-deciduous forest. In these areas, seasonally flooded / saturated semi-deciduous forest establishes. Dry forests are typified by a mixture of evergreen trees (which maintain their foliage year-round) and drought-deciduous trees (which shed their leaves during dry periods). The Red Birch *Bursera simaruba* and Cabbage Tree *Guipure discolor* are usually dominant, and as fastgrowing and rapidly colonizing species they are especially abundant in forests regenerating after disturbance. Old growth forests show high biodiversity with tree species occurring at a wide range of abundances – some species being extremely sparsely distributed through the forest. Dry forest represents the most biodiverse of all terrestrial habitats in the Cayman Islands (closely followed by dry shrubland), and include the Cayman Islands' most significant assemblies of rare and endemic plants and trees, as well as a diversity of resident and migratory birds.

# 1 Forest extent, characteristics and changes

## 1a Extent of forest and other wooded land

### National data

#### Data sources

|      |                            |  |
|------|----------------------------|--|
| 2006 | <b>References</b>          | DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. (2009). Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. |
|      | <b>Methods used</b>        | Full-cover forest/vegetation maps  |
|      | <b>Additional comments</b> | Terrestrial habitat inventory for the Cayman Islands. Terrestrial habitats were defined using 2006 Quickbird imagery. Terrestrial land cover / land use maps were created using a hybrid automatic classification / manual delineation technique.  |

#### Classifications and definitions

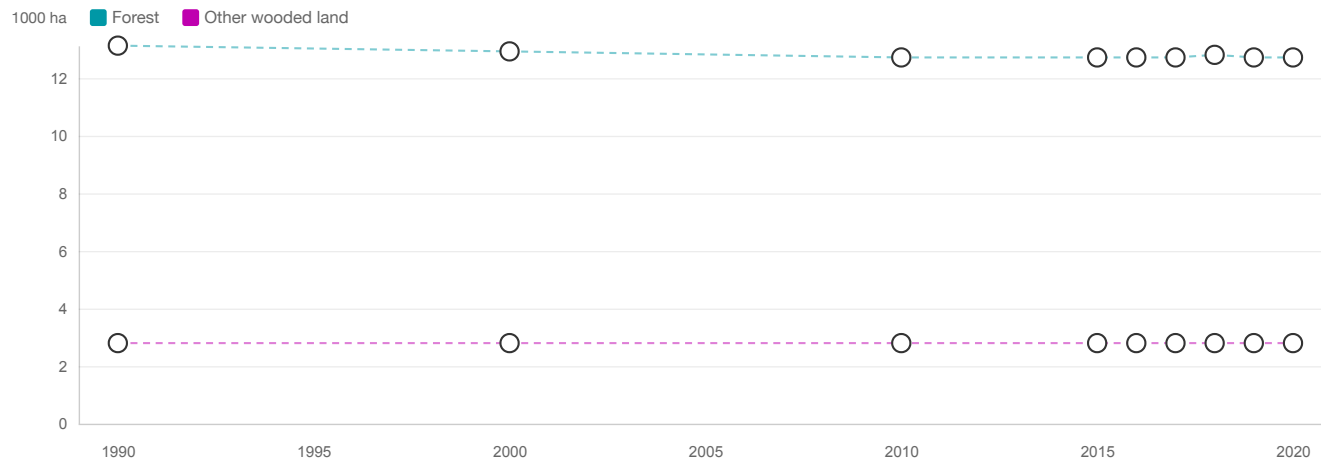
| 2006 | National class                    | Definition   |
|------|-----------------------------------|--|
|      | Salt-tolerant succulents          | In coastal areas, this may include tidal areas, or those influenced by the tide. Further inland, this habitat forms in association with temporarily flooded pastures, and moderately elevated rocky cays, often at the edges of wetlands and mangroves.  |
|      | Pools, ponds and mangrove lagoons | Natural and man-modified areas of standing permanent and temporary water and associated vegetation, including pools, ponds, ditches and flooded marl pits. This habitat category incorporates both natural areas, and manmade ditches and flooded marl pits.   |
|      | Dry shrubland                     | Class of vegetation dominated by flora which ranges in height between 0.5m and 5m. Shrubs tend to grow as separate individuals or clumps of individuals. In shrubland, the canopy cover of shrubs constitutes greater than 25% of the total canopy cover. Larger trees may be present in shrubland, however, tree canopy cover should constitute less than 25% of the total cover to distinguish the area from "woodland".   |
|      | Forest and woodland               | Class of vegetation characterized by a closed tree canopy, with interlocking crowns generally providing 60-100% cover. "Woodland", by comparison, is characterized by an open canopy, with tree crowns constituting just 25-60% cover. The canopy height of forest and woodland ranges from about 16m, down to about 4.5m in height, below which shrubland species dominate.<br>Includes:<br>- seasonally flooded /saturated semi-deciduous forest<br>- xeromorphic semi-deciduous forest<br>- dry forest and woodland |
|      | Seasonally flooded grassland      | Clearance of low-lying buttonwood wetlands results in the formation of seasonally flooded grasslands, subject to prolonged flooding during the wet season. In most areas <i>Urochloa mutica</i> and <i>Lippia nodiflora</i> dominate, however, in some unmanaged wet areas, such as the southern portion of the Salina Reserve, grassy marshlands develop. Dominated by Sawgrass <i>Cladium jamaicense</i> , these semi-natural grasslands are maintained under the influence of intermittent wildfires.               |
|      | Urban and man-modified areas      | Populated areas of the Cayman Island, and those areas of land subject to direct modification by man.   |
|      | Maritime cliffs and ironshore     | This category encompasses all consolidated rocky coastal areas between the limits of the high water mark on the seaside, and the natural continuous vegetation line on the landside.   |
|      | Mangrove                          |  |

|  |   |
|--|---|
|  | <p>“Mangrove” is a generic term, used most often to describe the “mangle” habitat and associated plant assemblages which grow in saline coastal habitats in the tropics and subtropics. “Mangrove” is also used to categorize the dominant species of trees associated with this habitat.</p> <p>Includes:</p> <ul style="list-style-type: none"> <li>- seasonally flooded mangrove shrubland/woodland</li> <li>- tidally flooded mangrove shrubland/ woodland</li> <li>- tidally flooded mangrove forest/woodland</li> </ul> |
| Invasive coastal plants- Weeping willow - Casuarina equisetifolia Needle-leaved evergreen woodland | Weeping willow (Casuarina, Beefwood, Whistling pine, Australian pine) Casuarina equisetifolia is a species of tree native to Australia.   |
| Invasive coastal plants- Beach naupaka - scaevola sericea  | Beach naupaka (Sea lettuce, Scaevola) Scaevola sericea. A genus of more than 80 species, chiefly found in Polynesia and the Australian region.  |
| Sandy beach and cobble   | The sandy beach and cobble category effectively encompasses all unconsolidated coastal sediments, between the limits of the high water mark on the seaside, and the natural continuous vegetation line on the landside.   |
| Coastal shrubland  | “Shrubland” is a class of vegetation dominated by flora which ranges in height between 0.5m and 5m. Shrubs tend to grow as separate individuals or clumps of individuals. In shrubland, the canopy cover of shrubs constitutes greater than 25% of the total canopy cover. Larger trees may be present in shrubland; however, tree canopy cover should constitute less than 25% of the total cover to distinguish the area from “woodland”.   |

**Original data and reclassification**

| 2006 | Classifications and definitions  |                | FRA classes |                   |            |
|------|--|----------------|-------------|-------------------|------------|
|      | Class  | Area (1000 ha) | Forest      | Other wooded land | Other land |
|      | Salt-tolerant succulents   | 0.01           | 0.00 %      | 0.00 %            | 100.00 %   |
|      | Pools, ponds and mangrove lagoons  | 0.65           | 0.00 %      | 0.00 %            | 100.00 %   |
|      | Dry shrubland  | 2.32           | 0.00 %      | 100.00 %          | 0.00 %     |
|      | Forest and woodland  | 5.66           | 100.00 %    | 0.00 %            | 0.00 %     |
|      | Seasonally flooded grassland   | 0.07           | 0.00 %      | 0.00 %            | 100.00 %   |
|      | Urban and man-modified areas   | 0.07           | 0.00 %      | 0.00 %            | 100.00 %   |
|      | Maritime cliffs and ironshore  | 0.15           | 0.00 %      | 0.00 %            | 100.00 %   |
|      | Mangrove   | 7.01           | 100.00 %    | 0.00 %            | 0.00 %     |
|      | Invasive coastal plants- Weeping willow - Casuarina equisetifolia Needle-leaved evergreen woodland | 0.14           | 100.00 %    | 0.00 %            | 0.00 %     |
|      |  |                |             |                   |            |

|  |   |              |              |             |             |
|--|---|--------------|--------------|-------------|-------------|
|  | Invasive coastal plants- Beach naupaka - scaevola sericea | 0.00         | 0.00 %       | 0.00 %      | 100.00 %    |
|  | Sandy beach and cobble                                    | 0.09         | 0.00 %       | 0.00 %      | 100.00 %    |
|  | Coastal shrubland   | 0.48         | 0.00 %       | 100.00 %    | 0.00 %      |
|  | <b>Total</b>  | <b>16.65</b> | <b>12.81</b> | <b>2.80</b> | <b>1.04</b> |





| FRA categories             | Area (1000 ha) |              |              |              |              |              |              |              |              |
|----------------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                            | 1990           | 2000         | 2010         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         |
| Forest (a)                 | 13.13          | 12.93        | 12.72        | 12.72        | 12.72        | 12.72        | 12.81        | 12.72        | 12.72        |
| Other wooded land (a)      | 2.80           | 2.80         | 2.80         | 2.80         | 2.80         | 2.80         | 2.80         | 2.80         | 2.80         |
| <b>Other land (c-a-b)</b>  | <b>8.07</b>    | <b>8.27</b>  | <b>8.48</b>  | <b>8.48</b>  | <b>8.48</b>  | <b>8.48</b>  | <b>8.39</b>  | <b>8.48</b>  | <b>8.48</b>  |
| <b>Total land area (c)</b> | <b>24.00</b>   | <b>24.00</b> | <b>24.00</b> | <b>24.00</b> | <b>24.00</b> | <b>24.00</b> | <b>24.00</b> | <b>24.00</b> | <b>24.00</b> |

The FAOSTAT land area figure for the year 2015 is used for all reference years

| Climatic domain | % of forest area 2015 | Override value |
|-----------------|-----------------------|----------------|
| Boreal          |                       | 0.00           |
| Temperate       |                       | 0.00           |
| Sub-tropical    |                       | 0.00           |
| Tropical        |                       | 100.00         |

## Comments

- There are slight difference with FRA 2015 as coastal woody vegetation classes have been added. Also, other wooded land classes (shrublands) have been taken into consideration.
- For the **changes estimates**, a remote sensing study of forest cover change has been undertaken by FRA Secretariat based on a sample of 81 hexagons of around 40 ha. The sampling was stratified according to 4 change classes: no change, no forest / no change, forest / big forest change / small forest change. It covers all country area (27 thousand ha) including inland water.

The results provide the following change estimates (in percentage and in ha, for the all period considered):

| Deforestation 2000-2010 | Deforestation 2010-2018 | Forest area gain 2000-2010 | Forest area gain 2010-2018 |
|-------------------------|-------------------------|----------------------------|----------------------------|
| 0.79%                   | 0.11%                   | 0%                         | 0%                         |
| 216.33 ha               | 30.90 ha                | -                          | -                          |

It should be noted that the confidence intervals are quite high ) so further analysis with higher sampling intensity should be done.

A yearly change of 22 ha has been applied before 2010, and no change was applied after 2010.

For other wooded lands, the area is considered constant in the absence of any change analysis on this category.

## 1b Forest characteristics

### National data

#### Data sources

|      |                            |  |
|------|----------------------------|--|
| 2006 | <b>References</b>          | DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. (2009). Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. |
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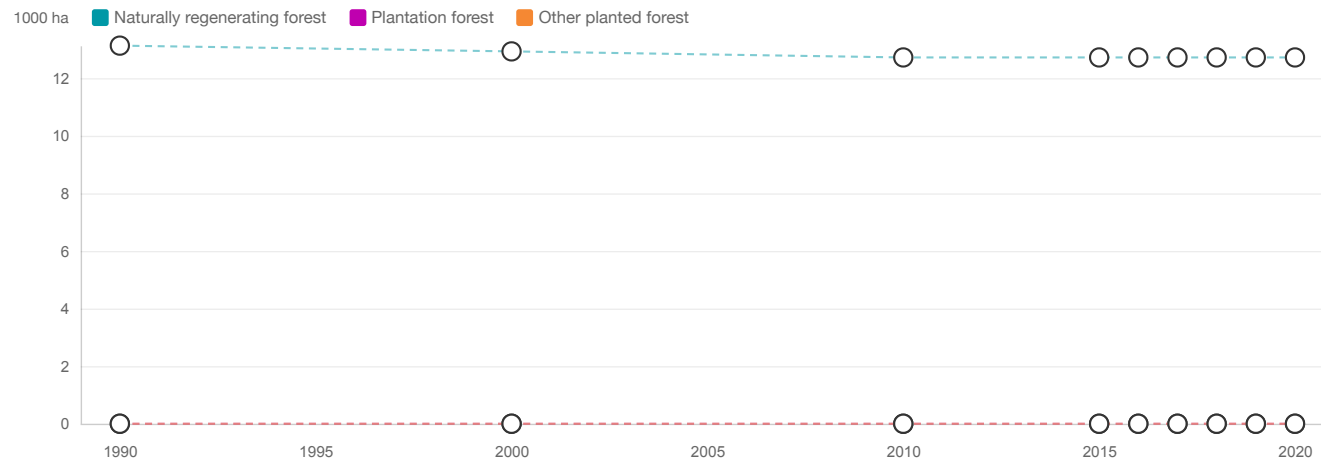
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| 2006 | National class                    | Definition   |
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|      | Maritime cliffs and ironshore     | This category encompasses all consolidated rocky coastal areas between the limits of the high water mark on the seaside, and the natural continuous vegetation line on the landside.   |
|      | Mangrove                          |  |

|  |  |  |
|--|--|--|
|  |  | <p>“Mangrove” is a generic term, used most often to describe the “mangle” habitat and associated plant assemblages which grow in saline coastal habitats in the tropics and subtropics. “Mangrove” is also used to categorize the dominant species of trees associated with this habitat.</p> <p>Includes:</p> <ul style="list-style-type: none"> <li>- seasonnaly flooded mangrove shrubland/woodland</li> <li>- tidally flooded mngrove shrubland/ woodland</li> <li>- tidally flooded mangrove forest/woodland</li> </ul> |
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**Original data and reclassification**

|      | Classifications and definitions  |                | FRA classes                   |                   |                      |
|------|--|----------------|-------------------------------|-------------------|----------------------|
|      | Class  | Area (1000 ha) | Naturally regenerating forest | Plantation forest | Other planted forest |
| 2006 | Forest and woodland  | 5.66           | 100.00 %                      | 0.00 %            | 0.00 %               |
|      | Mangrove   | 7.01           | 100.00 %                      | 0.00 %            | 0.00 %               |
|      | Invasive coastal plants- Weeping willow - Casuarina equisetifolia Needle-leaved evergreen woodland | 0.14           | 100.00 %                      | 0.00 %            | 0.00 %               |
|      | <b>Total</b>   | <b>12.81</b>   | <b>12.81</b>                  | <b>0.00</b>       | <b>0.00</b>          |



| FRA categories                    | Forest area (1000 ha) |              |              |              |              |              |              |              |              |              |
|-----------------------------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                   | 1990                  | 2000         | 2010         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         |              |
| Naturally regenerating forest (a) | 13.13                 | 12.93        | 12.72        | 12.72        | 12.72        | 12.72        | 12.72        | 12.72        | 12.72        | 12.72        |
| <b>Planted forest (b)</b>         | <b>0.00</b>           | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  | <b>0.00</b>  |
| Plantation forest                 | 0.00                  | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         |
| ...of which introduced species    | 0.00                  | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         |
| Other planted forest              | 0.00                  | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         |
| <b>Total (a+b)</b>                | <b>13.13</b>          | <b>12.93</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> |
| <b>Total forest area</b>          | <b>13.13</b>          | <b>12.93</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> | <b>12.81</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> |

### Comments

There is no planted forest in Cayman islands.

## 1c Primary forest and special forest categories

### National Data

#### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)          | Reference year | Methods                         | Comments   |
|--|----------------------|----------------|---------------------------------|--|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. (2009). Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Mangrove area        | 2006           | Wall-to-wall vegetation mapping |  |
| Jurn, K., Lavalée, J., King L., 2018. Environmental destruction in the new economy: Offshore finance and mangrove forest clearance in Grand Cayman. Elsevier (available on <a href="https://www.sciencedirect.com/science/article/pii/S001671851830321X">https://www.sciencedirect.com/science/article/pii/S001671851830321X</a> )   | Mangrove area change | 2005-2013      | Partial Wall-to-wall mapping    | Remote sensing and spatial analysis to document past and project future trends of mangrove clearance |

#### National classification and definitions

-

#### Original data

##### Mangroves :

- 2006 data from [Cayman Islands National Biodiversity Action plan \(2009\)](#):

| Habitat Status 2006 Mangrove                     | Total area (ac) |             |               | Area outside protected areas / buffers (ac) |             |               | % Habitat protected |             |             |
|--|-----------------|-------------|---------------|---|-------------|---------------|---------------------|-------------|-------------|
|  | GC              | CB          | LC            | GC  | CB          | LC            | GC                  | CB          | LC          |
| Seasonally flooded mangrove shrubland / woodland | 697.3           | 12.4        | 691.9         | 639.7                                       | 12.3        | 665.9         | 8.26                | 0.48        | 3.76        |
| Seasonally flooded mangrove forest / woodland    | 13609.7         | 23.5        | 465           | 12211.1                                     | 23.5        | 455.4         | 10.28               | 0.26        | 2.06        |
| Tidally flooded mangrove shrubland / woodland    | 462.5           | 0           | 0             | 68.5  | x           | x             | 85.2                | x           | x           |
| Tidally flooded mangrove forest / woodland       | 1339.9          | 0           | 19            | 302   | x           | 19            | 77.46               | x           | 0           |
| <b>TOTAL</b>                                     | <b>16109.5</b>  | <b>35.9</b> | <b>1175.9</b> | <b>13221.3</b>                              | <b>35.8</b> | <b>1140.3</b> | <b>17.93</b>        | <b>0.33</b> | <b>3.03</b> |
| <b>Total (acre)</b>                              | 17321.3         |             |               | 14397.4                                     |             |               | 21.29               |             |             |
| <b>Total (ha)</b>                                | 7,010           |             |               | 5,826                                       |             |               | 9                   |             |             |

GC = Grand Cayman / CB = Cayman Brac / LC = Little Cayman

- Recently published comparative maps and analysis by Jurn et al (2018) showing how much important natural habitat, such as wetlands and mangroves, has been lost on Grand Cayman over the last four decades show that 69% of all wetlands, including mangroves and sedge marsh, on the western end of Grand Cayman has been lost to development. The analysis shows a loss of approximately 27.9% of mangrove wetlands present in 1965 as of 2013 (7072.7 ha versus 9809.8 ha) on Grand Cayman. This includes all wetland habitats including non mangroves area. For mangrove wetland only, the estimates are as follows:

| Year  | 2006   | 2013   |
|---|--------|--------|
| <b>Mangrove Wetland Only (Grand Cayman)</b> | 6773.6 | 6564.9 |

### Analysis and processing of national data

#### Estimation and forecasting

**Mangroves:**

- Mangrove area from the national biodiversity action plan (2009) is considered for 2006 (7010)
- Mangrove area change estimates is calculated from Jurn et al (2018) using mangrove wetland only estimates for 2006 and 2013 for the mangroves of Grand Cayman. The rate of change is  $(6564.9 - 6773.6)/(2013 - 2006) = -29.8$  ha /year

Estimates of mangrove area (the values underlined are from the original data source, the others are extra or interpolations using change estimates):

| Year                               | 1990 | 2000 | <u>2006</u> | 2010 | 2015 | 2020 |
|------------------------------------|------|------|-------------|------|------|------|
| Mangrove area (ha)                 | 7487 | 7189 | <u>7010</u> | 6890 | 6741 | 6592 |
| Mangrove area (10 <sup>3</sup> ha) | 7.49 | 7.19 | <u>7.01</u> | 6.89 | 6.74 | 6.59 |

**Primary forest:** the area of primary forest is not available (left empty) .

**Temporarily unstocked and/or recently regenerated:** no area estimate is not available (left empty).

**Rubber wood and bamboo** are not reported in the islands: the value is 0.

**Reclassification into FRA 2020 categories**

-

| FRA categories                                    | Area (1000 ha) |      |      |      |      |
|---|----------------|------|------|------|------|
|   | 1990           | 2000 | 2010 | 2015 | 2020 |
| Primary forest                                    |                |      |      |      |      |
| Temporarily unstocked and/or recently regenerated |                |      |      |      |      |
| Bamboos   | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| Mangroves   | 7.49           | 7.19 | 6.89 | 6.74 | 6.59 |
| Rubber wood                                       | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |

### Comments

In the Cayman Islands, “**mangrove trees**” comprise four species: Black mangrove *Avicennia germinans*, White mangrove *Laguncularia racemosa*, Red mangrove *Rhizophora mangle*, and Buttonwood *Conocarpus erectus*. A tolerance for wet and salty conditions is a typifying feature of all four; however, their specific tolerances are markedly different. Red mangrove is the pioneering species, and typically constitutes the entirety of the seaward fringe of mangrove forest. Buttonwood, by comparison, occupies the opposite extreme of this range, preferring the driest and least saline environments of the four mangrove species. Mangroves are strongly in decline. They are currently affected by different factors including erosion of buffer zones, roads construction, quarrying, the development practice of filling low-lying wetland with spoil gained from excavation of associated canal systems, residential development, natural cycles, inappropriate construction of sea defences, invasive species such as *Casuarina equisetifolia*, climate change, marine pollution, laying of pipelines and cables.



# 1d Annual forest expansion, deforestation and net change

## National Data

### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)   | Reference year          | Methods                    | Comments  |
|--|---------------|-------------------------|----------------------------|---|
| FAO. 2019. FRA remote sensing survey of forest cover change for 2000-2010 and 2010-2018 on Cayman Islands. (unpublished)   | Deforestation | 2000-2010/<br>2010-2008 | Sample based forest change | Remote sensing study of forest cover change has been undertaken by FRA Secretariat based on a sample of 81 hexagons of around 40 ha each. The sampling was stratified according to 4 change classes: no change, no forest / no change, forest / big forest change / small forest change. It covers all country area (27 thousand ha), including inland water. |
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. |               | 2006                    | Decription of habitat      | Provide information on Current Factors Affecting <i>Forest and woodland</i>   |

### National classification and definitions

-

### Original data

The FRA remote sensing survey results provide the following change estimates made on Cayman islands:

| Deforestation 2000-2010 | Deforestation 2010-2018 | Forest area gain 2000-2010 | Forest area gain 2010-2018 |
|-------------------------|-------------------------|----------------------------|----------------------------|
| 0.79%                   | 0.11%                   | 0%                         | 0%                         |
| 216.33 ha               | 30.90 ha                | -                          | -                          |

## Analysis and processing of national data

### Estimation and forecasting

Data from the remote sensing survey for Cayman island have been applied. It should be noted that the confidence interval are quite high (115%) so further analysis with higher sampling intensity should be done, but the negative trends confirm what is reported in the national biodiversity action plan (2009).

A yearly change of 22 ha has been applied before 2010, and no change was applied after 2010.

For other wooded lands, the area is considered constant in the absence of any change analysis on those lands.

In the National Biodiversity Action plan (2009), it is indicated that in some cases, traditional farm and grasslands have now been abandoned, and are reverting back to forest and woodland, however for the most part they quickly revert to dense stands of the potentially undesirable or invasive species or are alternately replaced by urban development.

### Reclassification into FRA 2020 categories

-

| FRA categories                | Area (1000 ha/year) |              |             |             |
|-------------------------------|---------------------|--------------|-------------|-------------|
|                               | 1990-2000           | 2000-2010    | 2010-2015   | 2015-2020   |
| Forest expansion (a)          | 0.00                | 0.00         | 0.00        | 0.00        |
| ...of which afforestation     |                     |              |             |             |
| ...of which natural expansion |                     |              |             |             |
| Deforestation (b)             | 0.02                | 0.02         | 0.00        | 0.00        |
| Forest area net change (a-b)  | <b>-0.02</b>        | <b>-0.02</b> | <b>0.00</b> | <b>0.00</b> |

### Comments

The national biodiversity action plan (2009) indicates that forest and woodland are becoming increasingly fragmented and disturbed by the colonisation of invasive species, such as Red birch. Significant tracts of dry forest have been also cleared in the past 30 years for residential development as well as for agricultural development. Dry forest has been subject to significant fire damage, in the most part arising from fires for agricultural clearance getting out of control.

# 1e Annual reforestation

## National Data

### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)   | Reference year          | Methods                    | Comments  |
|--|---------------|-------------------------|----------------------------|---|
| FAO. 2019. FRA remote sensing survey of forest cover change for 2000-2010 and 2010-2018 on Cayman Islands. (unpublished)   | Deforestation | 2000-2010/<br>2010-2008 | Sample based forest change | Remote sensing study of forest cover change has been undertaken by FRA Secretariat based on a sample of 81 hexagons of around 40 ha each. The sampling was stratified according to 4 change classes: no change, no forest / no change, forest / big forest change / small forest change. It covers all country area (27 thousand ha), including inland water. |
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. |               | 2006                    | Decription of habitat      | Provide information on Current Factors Affecting <i>Forest and woodland</i>   |

### National classification and definitions

-

### Original data

See [Table 1c](#).

## Analysis and processing of national data

### Estimation and forecasting

There is no evidence of reforestation in Cayman islands.

### Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha/year) |           |           |           |
|----------------|---------------------|-----------|-----------|-----------|
|                | 1990-2000           | 2000-2010 | 2010-2015 | 2015-2020 |
| Reforestation  | 0.00                | 0.00      | 0.00      | 0.00      |

**Comments**

## **1f Other land with tree cover**

### **National Data**

**Data sources + type of data source eg NFI, etc**

-

**National classification and definitions**

-

**Original data**

-

### **Analysis and processing of national data**

**Estimation and forecasting**

-

**Reclassification into FRA 2020 categories**

-

| FRA categories                     | Area (1000 ha) |             |             |             |             |
|------------------------------------|----------------|-------------|-------------|-------------|-------------|
|                                    | 1990           | 2000        | 2010        | 2015        | 2020        |
| Palms (a)                          |                |             |             |             |             |
| Tree orchards (b)                  |                |             |             |             |             |
| Agroforestry (c)                   |                |             |             |             |             |
| Trees in urban settings (d)        |                |             |             |             |             |
| Other (specify in comments)<br>(e) |                |             |             |             |             |
| <b>Total (a+b+c+d+e)</b>           | –              | –           | –           | –           | –           |
| Other land area                    | <b>8.07</b>    | <b>8.27</b> | <b>8.48</b> | <b>8.48</b> | <b>8.48</b> |

### Comments

No data available.

## **2 Forest growing stock, biomass and carbon**

### **2a Growing stock**

#### **National Data**

**Data sources + type of data source eg NFI, etc**

-

**National classification and definitions**

-

**Original data**

-

#### **Analysis and processing of national data**

**Estimation and forecasting**

-

**Reclassification into FRA 2020 categories**

-

| FRA categories                   | Growing stock m <sup>3</sup> /ha (over bark) |      |      |      |      |      |      |      |      |
|----------------------------------|--|------|------|------|------|------|------|------|------|
|                                  | 1990   | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Naturally regenerating forest    |  |      |      |      |      |      |      |      |      |
| Planted forest                   |  |      |      |      |      |      |      |      |      |
| ...of which plantation forest    |  |      |      |      |      |      |      |      |      |
| ...of which other planted forest |  |      |      |      |      |      |      |      |      |
| Forest                           |  |      |      |      |      |      |      |      |      |
| Other wooded land                |  |      |      |      |      |      |      |      |      |

| FRA categories                   | Total growing stock (million m <sup>3</sup> over bark) |      |      |      |      |      |      |      |      |
|----------------------------------|--|------|------|------|------|------|------|------|------|
|                                  | 1990   | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Naturally regenerating forest    |  |      |      |      |      |      |      |      |      |
| Planted forest                   |  |      |      |      |      |      |      |      |      |
| ...of which plantation forest    |  |      |      |      |      |      |      |      |      |
| ...of which other planted forest |  |      |      |      |      |      |      |      |      |
| Forest                           |  |      |      |      |      |      |      |      |      |
| Other wooded land                |  |      |      |      |      |      |      |      |      |

**Comments**

There is no inventory data to estimate growing stock.



## **2b Growing stock composition**

### **National Data**

**Data sources + type of data source eg NFI, etc**

-

**National classification and definitions**

-

**Original data**

-

### **Analysis and processing of national data**

**Estimation and forecasting**

-

**Reclassification into FRA 2020 categories**

-

| FRA categories                                 | Scientific name | Common name | Growing stock in forest (million m <sup>3</sup> over bark) |      |      |      |      |
|--|-----------------|-------------|--|------|------|------|------|
|  |                 |             | 1990   | 2000 | 2010 | 2015 | 2020 |
| <b>Native tree species</b>                     |                 |             |  |      |      |      |      |
| #1 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #2 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #3 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #4 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #5 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #6 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #7 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #8 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #9 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #10 Ranked in terms of volume                  |                 |             |  |      |      |      |      |
| <b>Remaining native tree species</b>           |                 |             |  |      |      |      |      |
| <b>Total volume of native tree species</b>     |                 |             | -  | -    | -    | -    |      |
| <b>Introduced tree species</b>                 |                 |             |  |      |      |      |      |
| #1 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #2 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #3 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #4 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| #5 Ranked in terms of volume                   |                 |             |  |      |      |      |      |
| <b>Remaining introduced tree species</b>       |                 |             |  |      |      |      |      |
| <b>Total volume of introduced tree species</b> |                 |             | -  | -    | -    | -    |      |
| <b>Total growing stock</b>                     |                 |             | -  | -    | -    | -    |      |

**Comments**

There is no inventory data to estimate growing stock.

## **2c Biomass stock**

### **National Data**

**Data sources + type of data source eg NFI, etc**

-

**National classification and definitions**

-

**Original data**

-

### **Analysis and processing of national data**

**Estimation and forecasting**

-

**Reclassification into FRA 2020 categories**

-

| FRA categories       | Forest biomass (tonnes/ha) |      |      |      |      |      |      |      |      |
|----------------------|----------------------------|------|------|------|------|------|------|------|------|
|                      | 1990                       | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Above-ground biomass |                            |      |      |      |      |      |      |      |      |
| Below-ground biomass |                            |      |      |      |      |      |      |      |      |
| Dead wood            |                            |      |      |      |      |      |      |      |      |

**Comments**

There is no inventory data to estimate growing stock.

## 2d Carbon stock

### National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

### Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories                 | Forest carbon (tonnes/ha) |      |      |      |      |      |      |      |      |
|--------------------------------|---------------------------|------|------|------|------|------|------|------|------|
|                                | 1990                      | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Carbon in above-ground biomass |                           |      |      |      |      |      |      |      |      |
| Carbon in below-ground biomass |                           |      |      |      |      |      |      |      |      |
| Carbon in dead wood            |                           |      |      |      |      |      |      |      |      |
| Carbon in litter               |                           |      |      |      |      |      |      |      |      |
| Soil carbon                    |                           |      |      |      |      |      |      |      |      |

|   |  |
|---|--|
| <b>Soil depth (cm) used for soil carbon estimates</b> |  |
|---|--|

**Comments**

There is no inventory data to estimate growing stock.

## 3 Forest designation and management

### 3a Designated management objective

#### National Data

##### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)                  | Reference year | Methods                 | Comments   |
|--|------------------------------|----------------|-------------------------|--|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Forest area under protection | 2006           | Description of habitats |  |
| UNEP-WCMC. 2019. Protected Area Profile for Cayman Islands from the World Database of Protected Areas, July 2019. Available at: <a href="http://www.protectedplanet.net">www.protectedplanet.net</a>   | List of protected area       | July 2019      |                         | Used to update the forest area under protection after 2009 |

#### National classification and definitions

See [Table 1a](#), 2006 data point for definition of vegetation classes.

#### Original data

##### Protected area:

In [Da Costa et al \(2009, Cayman Islands National Biodiversity Action Plan 2009\)](#) the area within protected areas and buffers in 2006 by forest classes is given as follows:

| Mangrove   | Total area (ac) |             |               | Area within protected areas / buffers (ac) |            |             | Area outside protected areas / buffers (ac) |             |               | % Habitat protected |            |          |
|--|-----------------|-------------|---------------|--|------------|-------------|---|-------------|---------------|---------------------|------------|----------|
|  | GC              | CB          | LC            | GC   | CB         | LC          | GC  | CB          | LC            | GC                  | CB         | LC       |
| Seasonally flooded mangrove shrubland / woodland | 697.3           | 12.4        | 691.9         | 57.6                                       | 0.1        | 26          | 639.7                                       | 12.3        | 665.9         | 8.26                | 0.48       | 3.76     |
| Seasonally flooded mangrove forest / woodland    | 13609.7         | 23.5        | 465           | 1398.6                                     | 0.1        | 9.6         | 12211.1                                     | 23.5        | 455.4         | 10.28               | 0.26       | 2.06     |
| Tidally flooded mangrove shrubland / woodland    | 462.5           | 0           | 0             | 394  | x          | x           | 68.5  | x           | x             | 85.2                | x          | x        |
| Tidally flooded mangrove forest / woodland       | 1339.9          | 0           | 19            | 1037.9                                     | x          | 0           | 302   | x           | 19            | 77.46               | x          | 0        |
| <b>TOTAL</b>                                     | <b>16109.5</b>  | <b>35.9</b> | <b>1175.9</b> | <b>2888.2</b>                              | <b>0.1</b> | <b>35.6</b> | <b>13221.3</b>                              | <b>35.8</b> | <b>1140.3</b> | <b>18</b>           | <b>0.3</b> | <b>3</b> |
| <b>Total (acre)</b>                              | 17,321          |             |               | 2,924                                      |            |             | 14,397                                      |             |               | 17%                 |            |          |
| <b>Total (ha)</b>                                | 7,010           |             |               | 1,183                                      |            |             | 5,826                                       |             |               | 17%                 |            |          |

| Forest and woodland                                  | Total area (ac) |             |               | Area within protected areas (ac) |              |             | Area outside protected areas (ac) |               |               | % Habitat protected |            |            |
|--|-----------------|-------------|---------------|----------------------------------|--------------|-------------|-----------------------------------|---------------|---------------|---------------------|------------|------------|
|  | GC              | CB          | LC            | GC                               | CB           | LC          | GC                                | CB            | LC            | GC                  | CB         | LC         |
| Seasonally flooded / saturated semi deciduous forest | 163.3           | 0           | 0             | 59.1                             | x            | x           | 104.2                             | x             | x             | 36.2                | x          | x          |
| Xeromorphic semideciduous forest                     | 0               | 4530        | 0             | x                                | 261.7        | x           | x                                 | 4268.3        | x             | x                   | 5.8        | x          |
| Dry forest and woodland                              | 7363.6          | 0           | 1930.8        | 490.8                            | x            | 71.4        | 6872.7                            | x             | 1859.5        | 6.7                 | x          | 3.7        |
| <b>TOTAL</b>   | <b>7526.9</b>   | <b>4530</b> | <b>1930.8</b> | <b>549.9</b>                     | <b>261.7</b> | <b>71.4</b> | <b>6977</b>                       | <b>4268.3</b> | <b>1859.5</b> | <b>7.3</b>          | <b>5.8</b> | <b>3.7</b> |
| <b>Total (acre)</b>                                  | 13,988          |             |               | 883                              |              |             | 13,105                            |               |               | 6%                  |            |            |



| Total (ha)   | 5,661           |       |     | 357                              |    |    | 5,303                             |       |     | 6%                  |     |     |
|--|-----------------|-------|-----|----------------------------------|----|----|-----------------------------------|-------|-----|---------------------|-----|-----|
| Habitat Status 2006 Invasive coastal plants  | Total area (ac) |       |     | Area within protected areas (ac) |    |    | Area outside protected areas (ac) |       |     | % Habitat protected |     |     |
|  | GC              | CB    | LC  | GC                               | CB | LC | GC                                | CB    | LC  | GC                  | CB  | LC  |
| Weeping willow -Casuarina equisetifolia Needle-leaved evergreen woodland II.A.3.C.a. | 320.11          | 12.55 | 7.7 | 0.1                              | 0  | 0  | 320.01                            | 12.55 | 7.7 | 0.03                | 0.0 | 0.0 |
| <b>Total (acre)</b>  | 340             |       |     | 0.1                              |    |    | 340                               |       |     | 0.03%               |     |     |
| <b>Total (ha)</b>  | 138             |       |     | 0                                |    |    | 138                               |       |     | 0.03%               |     |     |

GC = Grand Cayman / CB = Cayman Brac / LC = Little Cayman

Since 2006, a number of terrestrial protected area have been created ([UNEP-WCMC, 2019](#)):

| NAME                | DESIG_TYPE | IUCN_CAT | AREA (km2)  | STATUS     | STATUS_YR (year of establishment) |
|---------------------|------------|----------|-------------|------------|-----------------------------------|
| Mahogany Estates    | National   | II       | 0.001457485 | Designated | 2011                              |
| The Marshes         | National   | II       | 0.040359932 | Designated | 2014                              |
| Blue Iguana Reserve | National   | II       | 0.328924372 | Designated | 2010                              |
| Currently Unnamed   | National   | II       | 0.002924528 | Designated | 2014                              |
| Iguana Nesting Site | National   | II       | 0.010397667 | Designated | 2012                              |
| Salt Rocks Land     | National   | II       | 0.098743087 | Designated | 2010                              |
| Sparrowhawk Hill    | National   | II       | 0.332847332 | Designated | 2013                              |

## Analysis and processing of national data

### Estimation and forecasting

**Conservation of biodiversity:** the area of forest within protected areas in 2006 from [Cayman Islands National Biodiversity Action Plan \(2009\)](#) is taken into consideration. Most of the protected areas with forest were established between 1990 and 2000, so the area in 1990 is approximated to zero.

| Forest                             | Total area |      |      | Area within protected areas |     |     | Area outside protected areas |      |      | % Habitat protected |     |     |
|------------------------------------|------------|------|------|-----------------------------|-----|-----|------------------------------|------|------|---------------------|-----|-----|
|                                    | GC         | CB   | LC   | GC                          | CB  | LC  | GC                           | CB   | LC   | GC                  | CB  | LC  |
| Total all forest classes (acres/%) | 23956      | 4578 | 3114 | 3438                        | 262 | 107 | 20518                        | 4317 | 3008 | 14.4                | 5.7 | 3.4 |
| <b>Total (acre)</b>                | 31,649     |      |      | 3,807                       |     |     | 27,842                       |      |      | 12%                 |     |     |
| <b>Total (ha)</b>                  | 12,808     |      |      | 1,541                       |     |     | 11,267                       |      |      | 12%                 |     |     |

From the protected area established after 2006, looking at satellite imagery, the only one with significant amount of forest is Sparrowhawk Hill (33 ha) which is added for 2015 and 2020, so the total is 1574 ha.

However this analysis could not be done and the area is considered constant.

Forests have also **social functions:** they provides recreational services, for local walkers, birdwatchers and overseas visitors interested in the natural environment.

### Reclassification into FRA 2020 categories

-

**Primary designated management objective**

| FRA 2020 categories              | Forest area (1000 ha) |              |              |              |              |
|----------------------------------|-----------------------|--------------|--------------|--------------|--------------|
|                                  | 1990                  | 2000         | 2010         | 2015         | 2020         |
| Production (a)                   | 0.00                  | 0.00         | 0.00         | 0.00         | 0.00         |
| Protection of soil and water (b) |                       |              |              |              |              |
| Conservation of biodiversity (c) | 0.00                  | 1.54         | 1.54         | 1.57         | 1.57         |
| Social Services (d)              |                       |              |              |              |              |
| Multiple use (e)                 |                       |              |              |              |              |
| Other (specify in comments) (f)  |                       |              |              |              |              |
| None/unknown (g)                 | 13.13                 | 11.39        | 11.18        | 11.15        | 11.15        |
| <b>Total forest area</b>         | <b>13.13</b>          | <b>12.93</b> | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> |

**Total area with designated management objective**

| FRA 2020 categories          | Forest area (1000 ha) |      |      |      |      |
|------------------------------|-----------------------|------|------|------|------|
|                              | 1990                  | 2000 | 2010 | 2015 | 2020 |
| Production                   |                       |      |      |      |      |
| Protection of soil and water |                       |      |      |      |      |
| Conservation of biodiversity |                       |      |      |      |      |
| Social Services              |                       |      |      |      |      |
| Other (specify in comments)  |                       |      |      |      |      |

**Comments**

## 3b Forest area within protected areas and forest area with long-term management plans

### National Data

#### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)                  | Reference year | Methods                 | Comments   |
|--|------------------------------|----------------|-------------------------|--|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Forest area under protection | 2006           | Description of habitats |  |
| UNEP-WCMC. 2019. Protected Area Profile for Cayman Islands from the World Database of Protected Areas, July 2019. Available at: <a href="http://www.protectedplanet.net">www.protectedplanet.net</a>   | List of protected area       | July 2019      |                         | Used to update the forest area under protection after 2009 |

#### National classification and definitions

-

#### Original data

Forest in protected area: See Table 3a.

### Analysis and processing of national data

#### Estimation and forecasting

Forest in protected area: See Table 3a. The area under protected area has probably increased since 2010 as new terrestrial protected areas where created.

Forest area with long-term forest management plan: All area is covered by the Cayman Islands National Biodiversity Action Plan 2009, so after 2010 all forest area is considered as covered by a management plan.

#### Reclassification into FRA 2020 categories

-

| FRA categories                                    | Area (1000 ha) |      |       |       |       |       |       |       |       |
|---|----------------|------|-------|-------|-------|-------|-------|-------|-------|
|   | 1990           | 2000 | 2010  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
| Forest area within protected areas                | 1.54           | 1.54 | 1.54  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  |
| Forest area with long-term forest management plan | 0.00           | 0.00 | 12.72 | 12.72 | 12.72 | 12.72 | 12.72 | 12.72 | 12.72 |
| ...of which in protected areas                    | 0.00           | 0.00 | 1.54  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  |

**Comments**

## 4 Forest ownership and management rights

### 4a Forest ownership

#### National Data

##### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)                          | Reference year | Methods                 | Comments                                  |
|--|--------------------------------------|----------------|-------------------------|---|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Ownership                            | 2006           | Description of habitats |   |
| UNEP-WCMC. 2019. Protected Area Profile for Cayman Islands from the World Database of Protected Areas, July 2019. Available at: <a href="http://www.protectedplanet.net">www.protectedplanet.net</a>   | List of protected area and Ownership | July 2019      |                         | Provides the ownership of protected areas |

#### National classification and definitions

-

#### Original data

The Database of UNEP-WCMC on protected area provides information on their ownership. The following table extracts from the database the protected areas with forests:

| Name of the protected area | DESIG_TYPE | IUCN_CAT | AREA in Km <sup>2</sup> | STATUS     | STATUS_YR | OWN_TYPE                 | MANG_AUTH                             |
|----------------------------|------------|----------|-------------------------|------------|-----------|--------------------------|---------------------------------------|
| Q.E. II Botanic Park       | National   | II       | 0.247570773             | Designated | 1990      | Joint ownership          | Park Steering Committee               |
| Central Mangrove Wetland   | National   | II       | 0.576255291             | Designated | 1997      | Non-profit organisations | National Trust for the Cayman Islands |
| Booby Pond Nature Reserve  | National   | II       | 0.092943774             | Designated | 1995      | Non-profit organisations | National Trust for the Cayman Islands |
| Brac Parrot Reserve        | National   | II       | 0.000322975             | Designated | 1991      | Non-profit organisations | National Trust for the Cayman Islands |
| Mastic Reserve             | National   | II       | 0.02235065              | Designated | 1992      | Non-profit organisations | National Trust for the Cayman Islands |
| Sparrowhawk Hill           | National   | II       | 0.332847332             | Designated | 2013      | Non-profit organisations | National Trust for the Cayman Islands |

### Analysis and processing of national data

#### Estimation and forecasting

The protected areas are mainly own by the national Trust for the Cayman Islands. The forest area in protected areas (as indicated in table 3b) is put in the category Private ownership (a)...of which owned by private business entities and institutions. The ownership for the remaining forest area is unknown.

#### Reclassification into FRA 2020 categories

-

| FRA categories  | Forest area (1000 ha) |              |              |              |
|---|-----------------------|--------------|--------------|--------------|
|   | 1990                  | 2000         | 2010         | 2015         |
| Private ownership (a)   | 1.54                  | 1.54         | 1.57         | 1.57         |
| ...of which owned by individuals                                | 0.00                  | 0.00         | 0.00         | 0.00         |
| ...of which owned by private business entities and institutions | 1.54                  | 1.54         | 1.57         | 1.57         |
| ...of which owned by local, tribal and indigenous communities   | 0.00                  | 0.00         | 0.00         | 0.00         |
| Public ownership (b)  |                       |              |              |              |
| Unknown/other (specify in comments) (c)                         | -                     | -            | -            | -            |
| <b>Total forest area</b>  | <b>13.13</b>          | <b>12.93</b> | <b>12.72</b> | <b>12.72</b> |

## Comments

## **4b Holder of management rights of public forests**

### **National Data**

**Data sources + type of data source eg NFI, etc**

-

**National classification and definitions**

-

**Original data**

-

### **Analysis and processing of national data**

**Estimation and forecasting**

-

**Reclassification into FRA 2020 categories**

-

| FRA categories                                 | Forest area (1000 ha) |      |      |      |
|--|-----------------------|------|------|------|
|  | 1990                  | 2000 | 2010 | 2015 |
| Public Administration (a)                      |                       |      |      |      |
| Individuals (b)                                |                       |      |      |      |
| Private business entities and institutions (c) |                       |      |      |      |
| Local, tribal and indigenous communities (d)   |                       |      |      |      |
| Unknown/other (specify in comments) (e)        | -                     | -    | -    | -    |
| Total public ownership                         | -                     | -    | -    | -    |

### Comments

No information available.



## 5 Forest disturbances

### 5a Disturbances

#### National Data

##### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)                  | Reference year | Methods                | Comments  |
|--|------------------------------|----------------|------------------------|---|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Forest area under protection | 2006           | Description of habitat | Provide information on Current Factors Affecting <i>Forest and woodland</i> |

#### National classification and definitions

-

#### Original data

From Cayman Islands National Biodiversity Action Plan 2009) ([Da Costa et al, 2009](#)), current among factors affecting forest and woodland there are fragmentation, invasive species, storm damage and fires.

#### Analysis and processing of national data

##### Estimation and forecasting

There are no quantitative data on disturbances.

##### Reclassification into FRA 2020 categories

-

| FRA categories                  | Area (1000 ha) |      |      |      |      |      |              |      |      |      |              |      |      |      |      |              |              |              |
|---------------------------------|----------------|------|------|------|------|------|--------------|------|------|------|--------------|------|------|------|------|--------------|--------------|--------------|
|                                 | 2000           | 2001 | 2002 | 2003 | 2004 | 2005 | 2006         | 2007 | 2008 | 2009 | 2010         | 2011 | 2012 | 2013 | 2014 | 2015         | 2016         | 2017         |
| Insects (a)                     |                |      |      |      |      |      |              |      |      |      |              |      |      |      |      |              |              |              |
| Diseases (b)                    |                |      |      |      |      |      |              |      |      |      |              |      |      |      |      |              |              |              |
| Severe weather events (c)       |                |      |      |      |      |      |              |      |      |      |              |      |      |      |      |              |              |              |
| Other (specify in comments) (d) |                |      |      |      |      |      |              |      |      |      |              |      |      |      |      |              |              |              |
| <b>Total (a+b+c+d)</b>          | -              | -    | -    | -    | -    | -    | -            | -    | -    | -    | -            | -    | -    | -    | -    | -            | -            | -            |
| Total forest area               | <b>12.93</b>   | -    | -    | -    | -    | -    | <b>12.81</b> | -    | -    | -    | <b>12.72</b> | -    | -    | -    | -    | <b>12.72</b> | <b>12.72</b> | <b>12.72</b> |

### Comments

No data available.

## 5b Area affected by fire

### National Data

#### Data sources + type of data source eg NFI, etc

FRA 2020 geospatial tools

#### National classification and definitions

-

#### Original data

The geospatial tool developed by FRA to estimate burnt area was used. It provides the following statistics:

| Year | Total burned area (ha) | Forest burned area (ha) |
|------|------------------------|-------------------------|
| 2000 | 0                      | 0                       |
| 2001 | 14                     | 4                       |
| 2002 | 3                      | 3                       |
| 2003 | 0                      | 0                       |
| 2004 | 0                      | 0                       |
| 2005 | 0                      | 0                       |
| 2006 | 0                      | 0                       |
| 2007 | 0                      | 0                       |
| 2008 | 2                      | 2                       |
| 2009 | 32                     | 3                       |
| 2010 | 2                      | 0                       |
| 2011 | 0                      | 0                       |
| 2012 | 14                     | 0                       |
| 2013 | 0                      | 0                       |
| 2014 | 0                      | 0                       |
| 2015 | 0                      | 0                       |
| 2016 | 0                      | 0                       |

### Analysis and processing of national data

#### Estimation and forecasting

In absence of other data, the statistics provided by FRA geospatial tools for burnt area was used as estimates, in the absence of other reported statistics on the land area affected by fire.

#### Reclassification into FRA 2020 categories

-

| FRA categories                   | Area (1000 ha) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------------------|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                  | 2000           | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Total land area affected by fire | 0.00           | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |      |
| ...of which on forest            | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |      |

### Comments

Most of the burnt areas estimated are below the number of digit (less than 10 ha).

## 5c Degraded forest

|  |   |    |
|--|---|----|
| <b>Does your country monitor area of degraded forest</b> |   | No |
| If "yes"   | What is the national definition of "Degraded forest"? |    |
|  | Describe the monitoring process and results           |    |

### Comments

## 6 Forest policy and legislation

### 6a Policies, Legislation and national platform for stakeholder participation in forest policy

#### National Data

##### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)                    | Reference year | Methods                | Comments  |
|--|--------------------------------|----------------|------------------------|---|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Strategy for forest management | 2006           | Description of habitat |   |
| The National Conservation Law, 2013. (Available on <a href="http://www.gov.ky/portal/pls/portal/docs/1/12326595.PDF">http://www.gov.ky/portal/pls/portal/docs/1/12326595.PDF</a> )   | Law                            |                |                        | Law to promote and secure biological diversity and the sustainable use of natural resources in the Cayman Islands |

#### National classification and definitions

-

#### Original data

The Cayman Islands National Biodiversity Action Plan 2009 is a strategic document supporting Sustainable forest management.

In January 2014 the National Conservation Law was enacted by the Legislative Assembly of the Cayman Islands.

| Indicate the existence of   | Boolean (Yes/No) |              |
|---|------------------|--------------|
|   | National         | Sub-national |
| Policies supporting SFM   | Yes              | No           |
| Legislations and regulations supporting SFM   | Yes              | No           |
| Platform that promotes or allows for stakeholder participation in forest policy development | No               | No           |
| Traceability system(s) for wood products  | No               | No           |

## Comments

## 6b Area of permanent forest estate

### National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-



| FRA 2020 categories             | Forest area (1000 ha) |      |      |      |      |      |
|---------------------------------|-----------------------|------|------|------|------|------|
|                                 | Applicable?           | 1990 | 2000 | 2010 | 2015 | 2020 |
| Area of permanent forest estate |                       |      |      |      |      |      |

**Comments**

No data available.

## 7 Employment, education and NWFP

### 7a Employment in forestry and logging

#### National Data

##### Data sources + type of data source eg NFI, etc

| Sources  | Variable(s)                  | Reference year | Methods                | Comments  |
|--|------------------------------|----------------|------------------------|---|
| DaCosta-Cottam, M., Olynik, J., Blumenthal, J., Godbeer, K.D., Gibb, J., Bothwell, J., Burton, F.J., Bradley, P.E., Band, A., Austin, T., Bush, P., Johnson, B.J., Hurlston, L., Bishop, L., McCoy, C., Parsons, G., Kirkconnell, J., Halford, S. and Ebanks-Petrie, G. 2009. Cayman Islands National Biodiversity Action Plan 2009. Cayman Islands Government. Department of Environment. | Forest area under protection | 2006           | Description of habitat | Provide information on Current Factors Affecting <i>Forest and woodland</i> |

#### National classification and definitions

-

#### Original data

- **Local guides are employed** to escort visitors on forest trails, on both Grand Cayman (by the *National Trust for the Cayman Islands*), and on Cayman Brac (by the *Department of Tourism*) (Da Costa et al, 2009). No quantitative data available.

| FRA 2020 categories                                    | Full-time equivalents (1000 FTE) |        |      |       |        |      |       |        |      |       |        |      |
|--|----------------------------------|--------|------|-------|--------|------|-------|--------|------|-------|--------|------|
|  | 1990                             |        |      | 2000  |        |      | 2010  |        |      | 2015  |        |      |
|  | Total                            | Female | Male | Total | Female | Male | Total | Female | Male | Total | Female | Male |
| Employment in forestry and logging                     |                                  |        |      |       |        |      |       |        |      |       |        |      |
| ...of which silviculture and other forestry activities |                                  |        |      |       |        |      |       |        |      |       |        |      |
| ...of which logging                                    |                                  |        |      |       |        |      |       |        |      |       |        |      |
| ...of which gathering of non wood forest products      |                                  |        |      |       |        |      |       |        |      |       |        |      |
| ...of which support services to forestry               |                                  |        |      |       |        |      |       |        |      |       |        |      |

**Comments**

No data available

## 7b Graduation of students in forest-related education

### National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

| FRA 2020 categories              | Number of graduated students |        |      |       |        |      |       |        |      |       |        |      |
|----------------------------------|------------------------------|--------|------|-------|--------|------|-------|--------|------|-------|--------|------|
|                                  | 1990                         |        |      | 2000  |        |      | 2010  |        |      | 2015  |        |      |
|                                  | Total                        | Female | Male | Total | Female | Male | Total | Female | Male | Total | Female | Male |
| Doctoral degree                  |                              |        |      |       |        |      |       |        |      |       |        |      |
| Master's degree                  |                              |        |      |       |        |      |       |        |      |       |        |      |
| Bachelor's degree                |                              |        |      |       |        |      |       |        |      |       |        |      |
| Technician certificate / diploma |                              |        |      |       |        |      |       |        |      |       |        |      |
| Total                            |                              |        |      |       |        |      |       |        |      |       |        |      |

**Comments**

No data available.

## 7c Non wood forest products removals and value 2015

### National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

|                                  | Name of NWFP product | Key species | Quantity | Unit | Value (1000 local currency) | NWFP category |
|----------------------------------|----------------------|-------------|----------|------|-----------------------------|---------------|
| #1                               |                      |             |          |      |                             |               |
| #2                               |                      |             |          |      |                             |               |
| #3                               |                      |             |          |      |                             |               |
| #4                               |                      |             |          |      |                             |               |
| #5                               |                      |             |          |      |                             |               |
| #6                               |                      |             |          |      |                             |               |
| #7                               |                      |             |          |      |                             |               |
| #8                               |                      |             |          |      |                             |               |
| #9                               |                      |             |          |      |                             |               |
| #10                              |                      |             |          |      |                             |               |
| <b>All other plant products</b>  |                      |             |          |      |                             |               |
| <b>All other animal products</b> |                      |             |          |      |                             |               |
| <b>Total</b>                     |                      |             |          |      | -                           |               |

|                         |  |
|-------------------------|--|
| <b>Name of currency</b> |  |
|-------------------------|--|

**Comments**

No data available on non wood forest products.

## 8 Sustainable Development Goal 15

### 8a Sustainable Development Goal 15

#### SDG Indicator 15.1.1 Forest area as proportion of total land area 2015

| Indicator   | Percent |       |       |       |       |       |       |       |
|---|---------|-------|-------|-------|-------|-------|-------|-------|
|   | 2000    | 2010  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
| Forest area as proportion of total land area 2015 | 53.88   | 53.00 | 53.00 | 53.00 | 53.00 | 53.38 | 53.00 | 53.00 |

|                            |  |
|----------------------------|--|
| Name of agency responsible |  |
|----------------------------|--|

#### SDG Indicator 15.2.1 Progress towards sustainable forest management

| Sub-Indicator 1                    | Percent   |           |           |           |           |           |           |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                    | 2000-2010 | 2010-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
| Forest area annual net change rate | -0.16     | 0.00      | 0.00      | 0.00      | 0.70      | -0.71     | 0.00      |

|                            |  |
|----------------------------|--|
| Name of agency responsible |  |
|----------------------------|--|

| Sub-Indicator 2                      | Forest biomass (tonnes/ha) |      |      |      |      |      |      |      |
|--------------------------------------|----------------------------|------|------|------|------|------|------|------|
|                                      | 2000                       | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Above-ground biomass stock in forest | -                          | -    | -    | -    | -    | -    | -    | -    |

|                            |  |
|----------------------------|--|
| Name of agency responsible |  |
|----------------------------|--|



| Sub-Indicator 3  | Percent (2015 forest area baseline) |       |       |       |       |       |       |       |
|--|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|
|  | 2000                                | 2010  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
| Proportion of forest area located within legally established protected areas | 12.11                               | 12.11 | 12.34 | 12.34 | 12.34 | 12.34 | 12.34 | 12.34 |

|                            |  |
|----------------------------|--|
| Name of agency responsible |  |
|----------------------------|--|

| Sub-Indicator 4  | Percent (2015 forest area baseline) |        |        |        |        |        |        |        |
|--|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|
|  | 2000                                | 2010   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
| Proportion of forest area under long-term forest management plan | 0.00                                | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

|                            |  |
|----------------------------|--|
| Name of agency responsible |  |
|----------------------------|--|

| Sub-Indicator 5  | Forest area (1000 ha) |      |      |      |      |      |      |      |
|--|-----------------------|------|------|------|------|------|------|------|
|  | 2000                  | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Forest area under independently verified forest management certification schemes | 0.00                  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -    | -    |