July 2020



# MINISTRY OF FORESTY AND RESEARCH HIGH CONSERVATION VALUE AREA SPECIFICATION AND MANAGEMENT MANUAL

Version: 1.2

## HCV 1-3 probability maps: Methodology in Solomon Island

## 1. Overview

This report provides indicators and the methodology for developing HCV 1, HCV 2, HCV 3 probability maps. Proposed places where these HCVs may exist are separately identified by using each indicators mentioned later. A proposed methodology is also provided for how the HCV 1-3 maps can be overlaid to produce an HCV 1–3 probability map. These draft indicators are based on the existing RSPO document: HCV 1-3 probability maps: methodology and consultation (HCV\_SH\_7\_mapping\_methods.pdf).

The basic steps for developing the maps are as follows:

- 1. Define indicators for HCV 1-3
- 2. Collect data
- 3. Develop draft probability maps for HCV 1-3, and conduct accuracy testing
- 4. Refine probability maps for HCV 1-3
- 5. Combine HCV 1, 2 and 3 maps into draft combined HCV 1-3 probability map
- 6. Final revision of all maps. Final outputs will be a methods document and shapefile/raster maps of: HCV 1-3 probability

## 2. Methodology

## Indicators

Firstly, indicators are set up and converted to each Indicator Map, then these maps are merged into the Probability Maps for each HCV.

## Probability of HCV 1 presence

- 1. The presence of a recognized biodiversity priority area
- 2. A designation by national authorities, or by reputable conservation organizations
- 3. The presence of natural habitat in good condition

## Probability of HCV 2 presence

- 1. Existing landscape-level designations (e.g. Ramsar sites, National parks, Sanctuaries, etc.)
- 2. Areas with low levels of overall disturbance and high connectivity
- 3. Large, undisturbed landscape-level (Intact Forest Landscapes) forests comes from the World Resources Institute
- 4. Other forests matching criteria (with an area of at least 5000 km<sup>2</sup> etc.)

## Probability of HCV 3 presence

- 1. In regions where many natural ecosystems or habitats have been eliminated, and others have been heavily impacted by development, remaining natural ecosystems of reasonable quality are likely to be HCV 3.
- 2. Where ecosystem proxies indicate the presence of RTE ecosystems, even if these are inaccessible or have not been confirmed on the ground.

## Dataset

## High probability of HCV 1-3 presence

Natural Forest Patched >=1,000ha (plus an additional 50m buffer)	Hansen Treecover
	Hansen Lossyear
	Create treecover2018 from above
	data
Protected Areas (plus a 50m buffer)	World Database on Protected
	Areas(WDPA)
Intact Forest Landscape (IFL) (plus a 50m buffer)	Intact Forest Landscape

## Medium probability of HCV 1-3 presence

50m to 500m buffer around natural forest patches $>1,000$ ha	Treecover2018
Swamp ecosystems	TROP-
	SUBTROP_WetlandV2_2016_CIFOR
50m to 1km buffer around PAs	World Database on Protected
	Areas(WDPA)
50m to 1km buffer around IFLs	Intact Forest Landscape
Natural forest patches of 50-1,000ha	Treecover2018

## Low probability of HCV 1-3 presence

All remaining areas, consisting of existing agriculture,	Remaining areas
scrubland/degraded natural areas and natural forest patches ${ extsf{<}50}$ ha	

#### Methods

High probability of HCV1-3 presence

#### **Treecover2018 creation**

1. Open Hansen Treecover map and merge these.



#### Parameter are like below

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• When you fail merge, use temporal file and save.

Merge Lossyear as well

2. Clip out Treecove2000 with Lossyear

Reclass Lossyear to (0,1)

\*Make sure to open with QGIS with GRASS



QGIS Desktop 3.10.2 with GRASS 7.8.2



Reclass rules text 0 = 1 1 thru 18 = 0

Make this as a temporary file

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#### 3. Calculate treecover2018

#### Open Raster calculator



Parameters are like a right image treecover2000\*lossyear =treecover2018 (the end of 2018)

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Reclass treecover2018 to (0,1) Percentage indicates crown cover rate. Classify this like below 0-89% =0 90-100=1

Save this as:	
Treecover2018	reclass

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\*From now on, it is better to clip raster to each province to avoid processing into failure.



4. Polygonize trecover2018\_reclass.

\*It takes time so that it is preferable to leave processing overnight.

After this, Dissolve with DN(1, 0) 1 = 90% and over, 0 = under 90% If geometery error occur when you process, Use "Fix geometries" or "generate 0m buffer"to fix

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Then, select DN=1 from polygonized treecover2018\_reclass by filter.

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## Change the coordinate system to UTM57S

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Calculate area with field calculator

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		Use unfiltered layer			
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Provider specific filter expression					
"ares2" >= 10000000					

Then Select area >=1000ha using filter>Query Builder

And save this as "treecover2018\_reclass\_selected1000ha"

5. Generate 50m buffer with "Buffer"



Parameters are below:

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6. Open IFL and guad\_admin. Clip out IFL by Guadalcanal area



Save file with UTM57S

7. Change project coordination to UTM57S



- 8. Generate 50m buffer
- 9. Generate 50m buffer with PA in same way

10. Merge "treecover2018\_reclass\_selected1000ha" and IFL and WP as High area.



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11. Open Field Calculator and add field. Parameters are like below:

12. Dissolve with number 1

## Medium probability of HCV1-3 presence

- 1. Open generated "treecover2018\_reclass\_selected1000ha"
- 2. Create 500m buffer and save this.
- 3. Select "code20: mangrove area" from WetlandV2
- 4. Select over 50ha to 1000ha area using original "treecover2018\_reclass"
- 5. Create 1km buffer with IFL and PA
- 6. Merge and Dissolve these area with number 2

### Probability of HCV1-3 presence

- 1. Put attribute number 3 on admin boundary (as Low)
- 2. Union High and Medium and admin boundary (as Low)
- 3. Clip out this map with admin boundary
- 4. Color Map with number 1(High), 2(Medium), 3(Low)