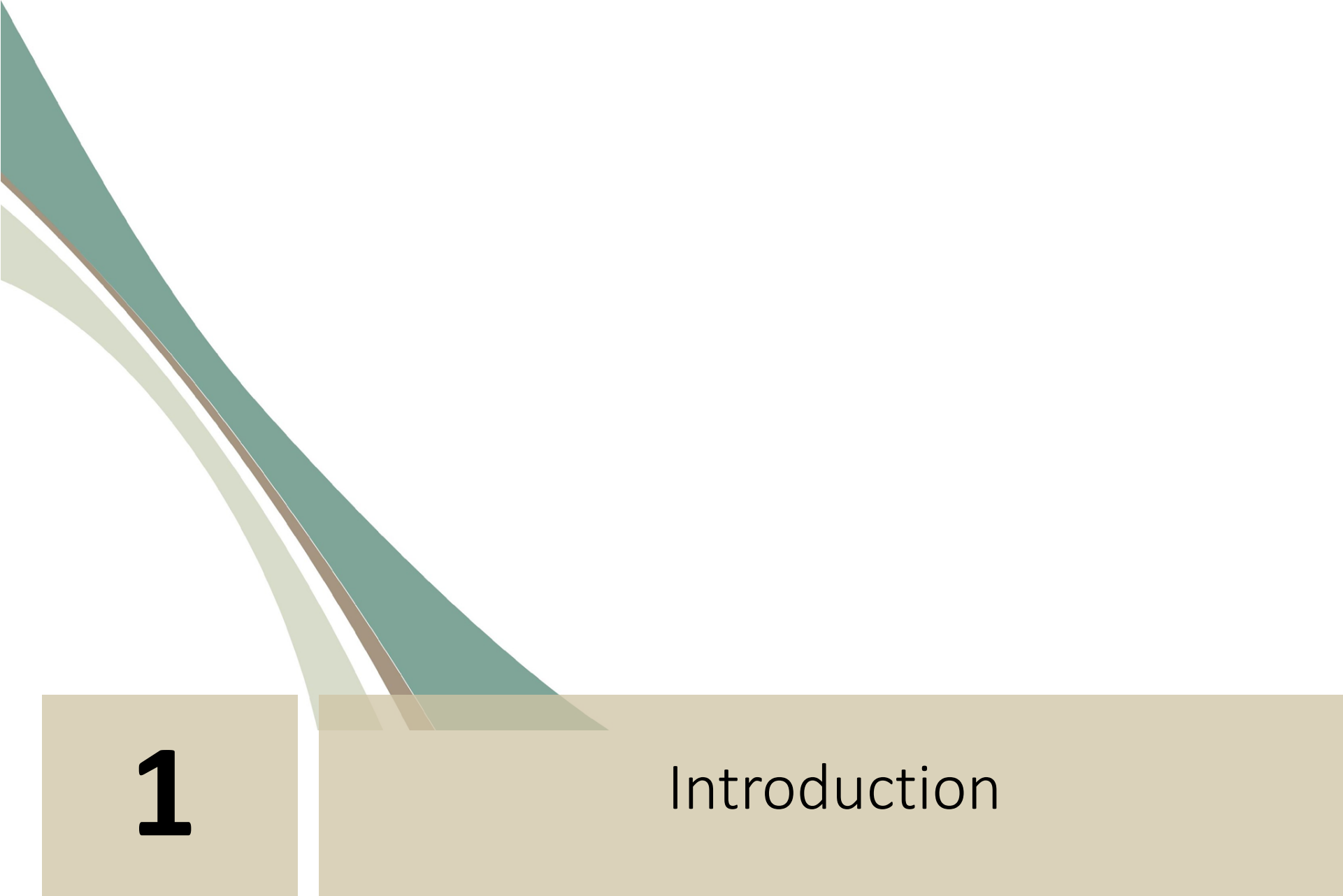




March
2022

High Resolution Images Evaluation

São Félix do Xingu - PA



1

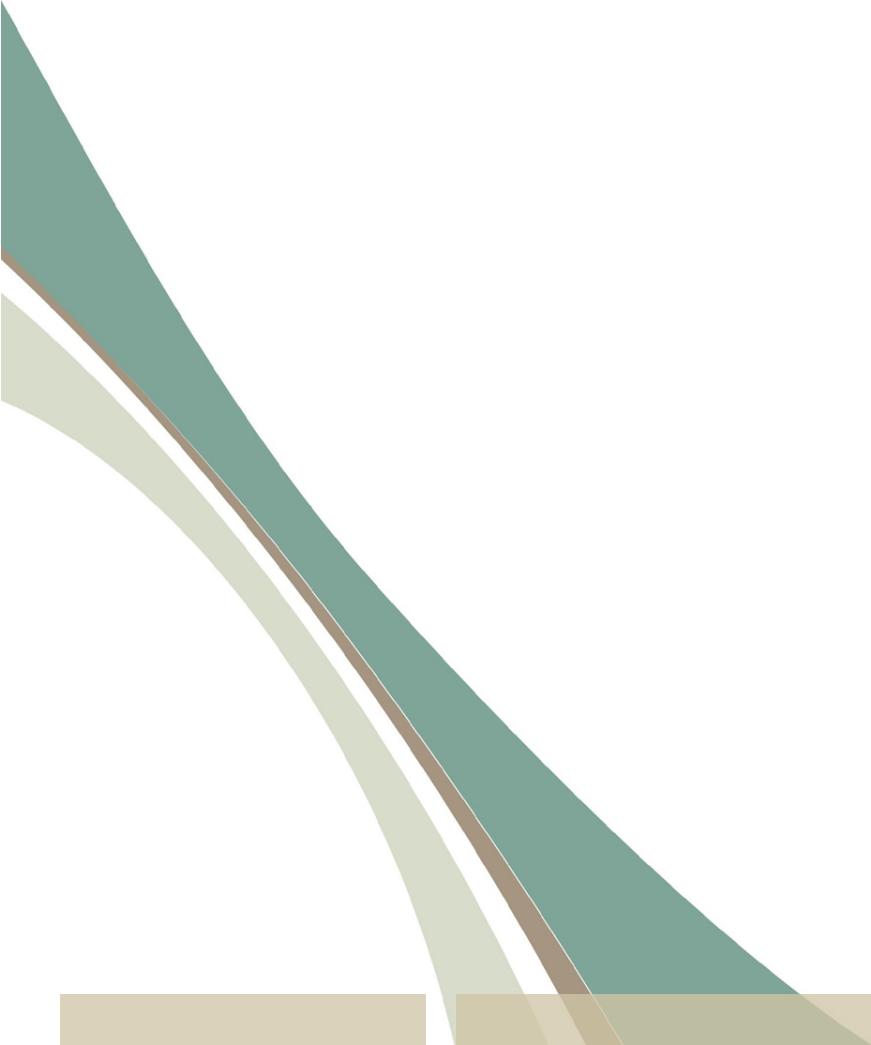
Introduction

Introduction

- Project: CAR 2.0 in the state of Pará
 - Purpose: calibrate and verify automatic analyzes for detection of environmental liabilities
 - Research area: municipality of São Félix do Xingu-PA
-

Data bases

- Images
 - Airbus Pleiades:
 - Resolution: 0,5m
 - Date: 07/2013
 - Maxar WorldView2:
 - Resolution: 0,5
 - Date: 06/2011 – 08/2012
 - PlanetScope:
 - Resolution: 3m
 - Date 07/2016 – 08/2018
- Properties
 - Secretary of environment and sustainability, Pará (SEMAS-PA)
- Land Use:
 - MapBiomass – Collection 6
 - 2013
 - Selo Verde - PA
 - PRODES pós 2008 (2009-2020)
 - MapBiomass - 2008



2

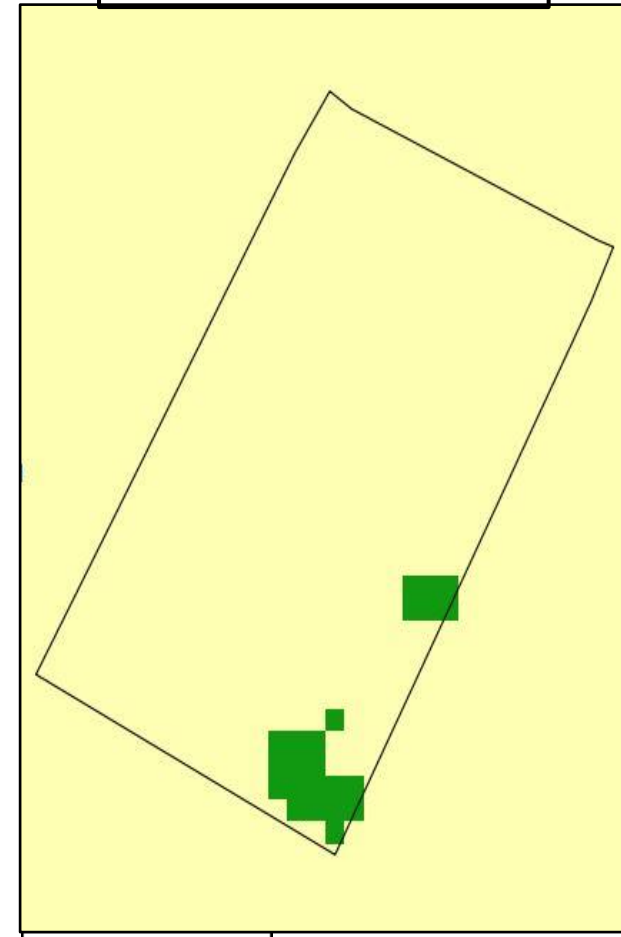
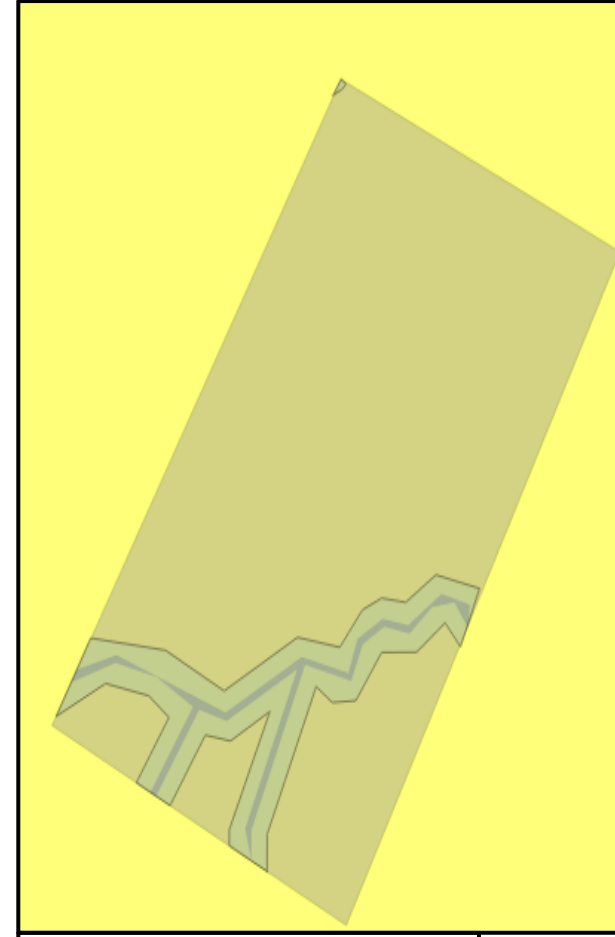
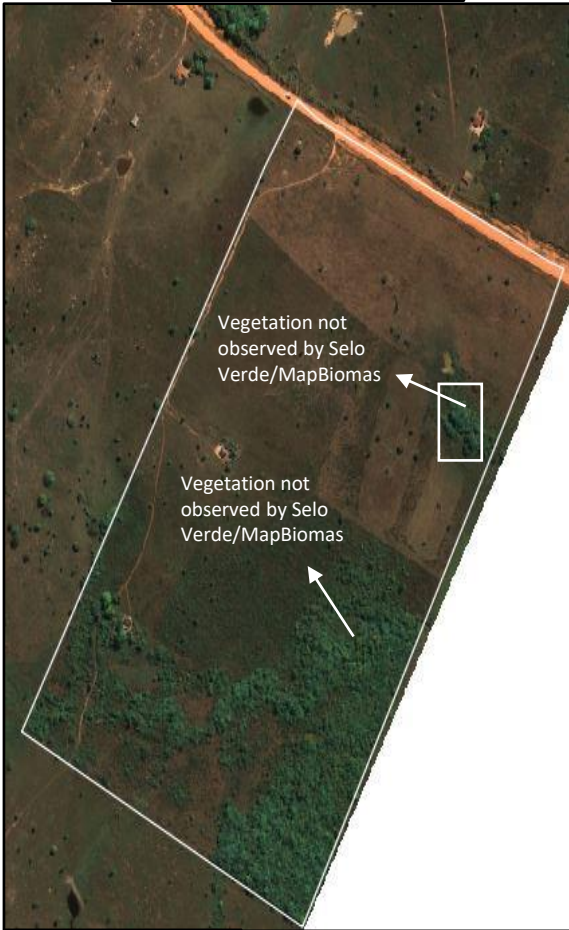
Images and Land Use Maps

Pleiades – 07/2013

WorldView – 08/2012

SeloVerde-PA

MapBiomas - 2013



Property area (ha): 46,70

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013

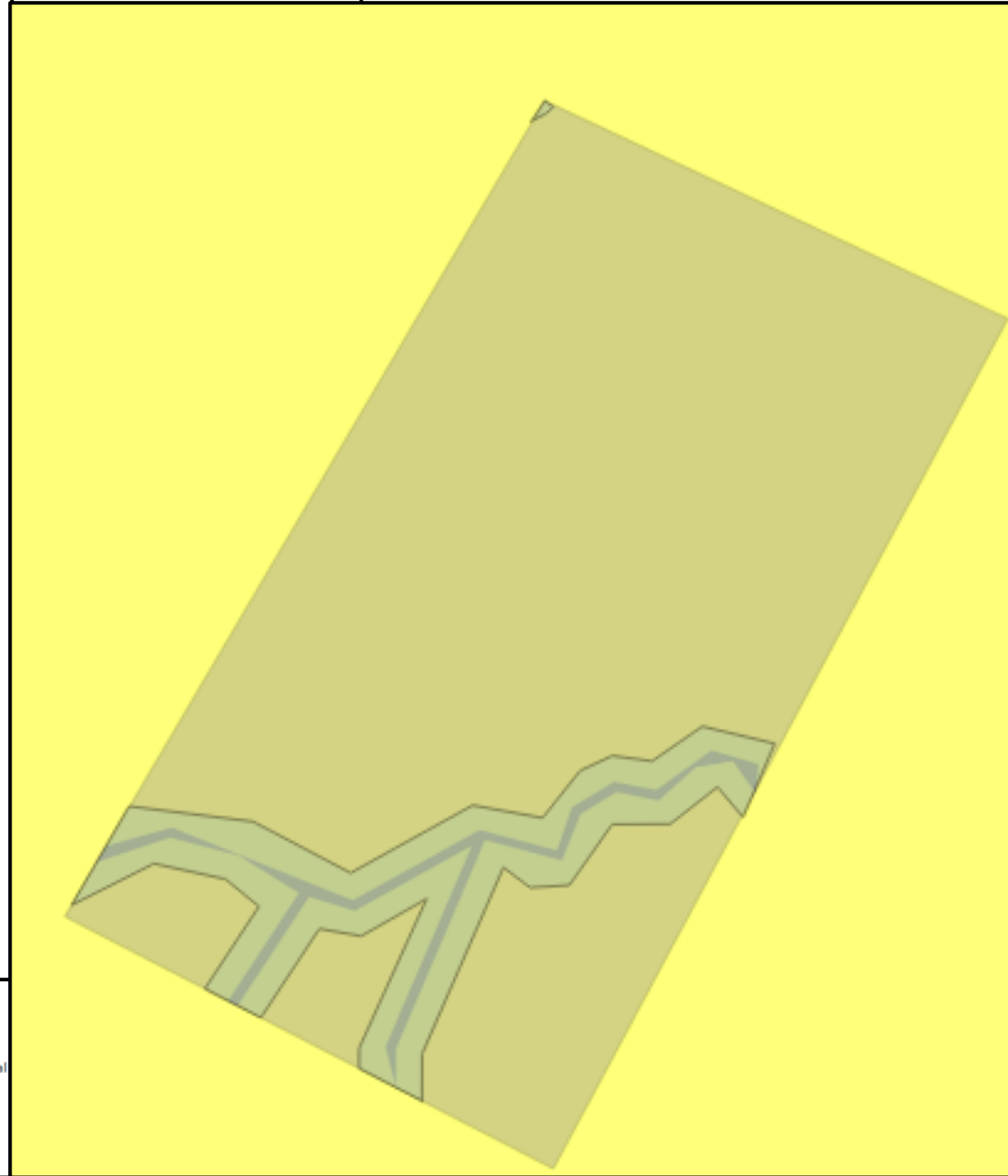


WorldView - 08/2012

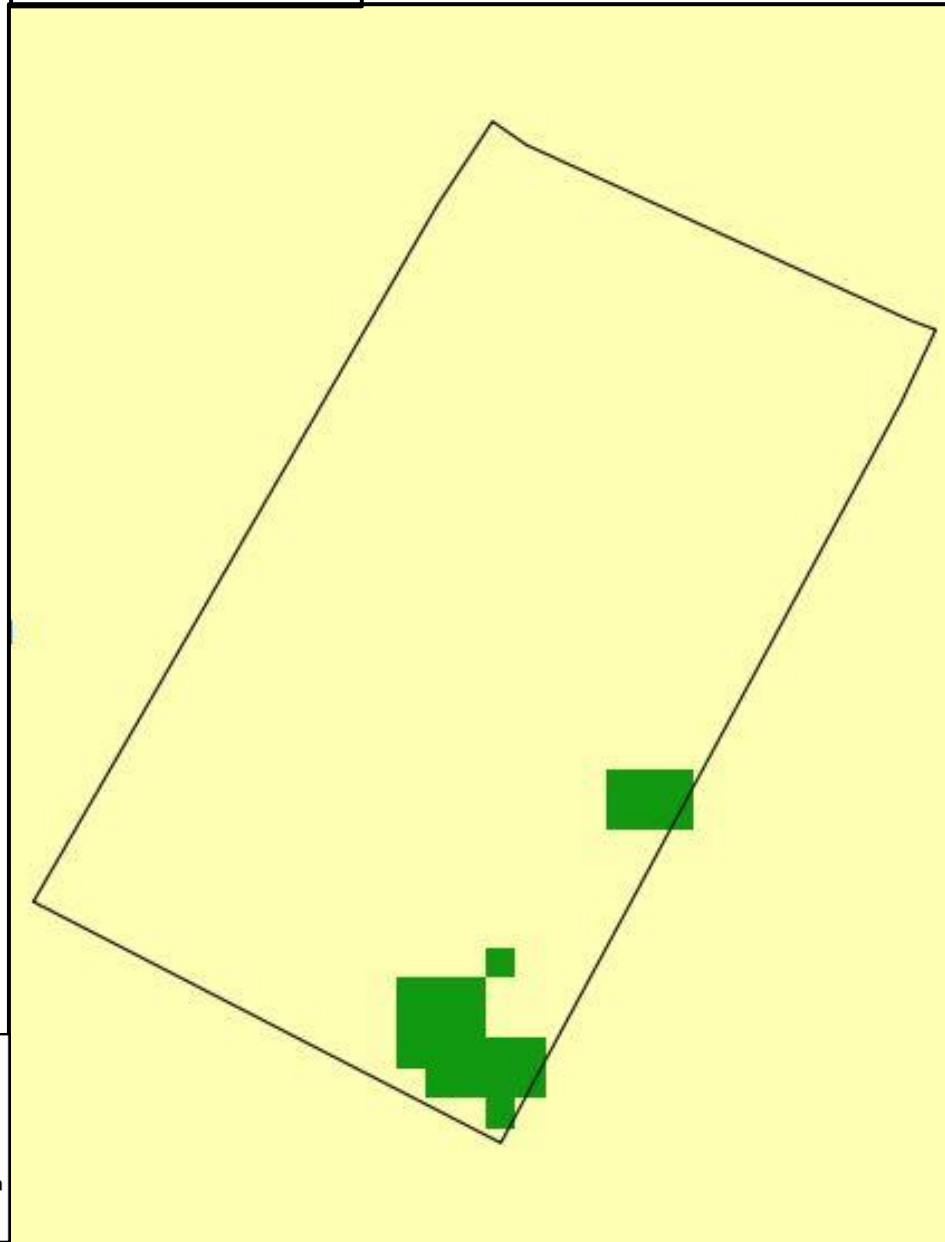
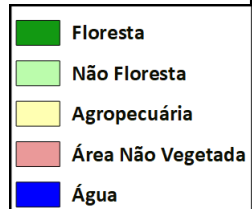


PA-1507300-C1DB8894634E4AFDBDD99CF12CE387BA

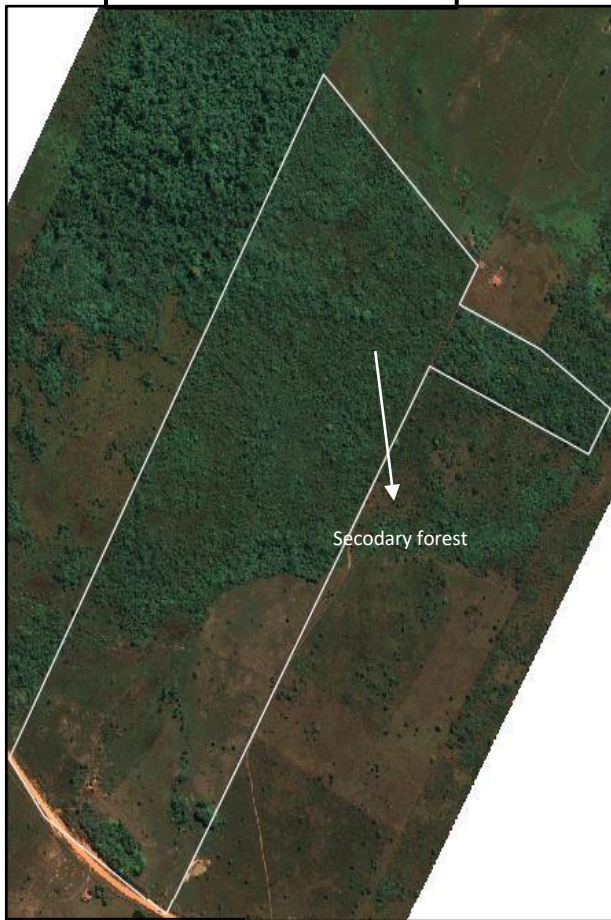
SeloVerde-PA



MapBiomias



Pleiades – 07/2013

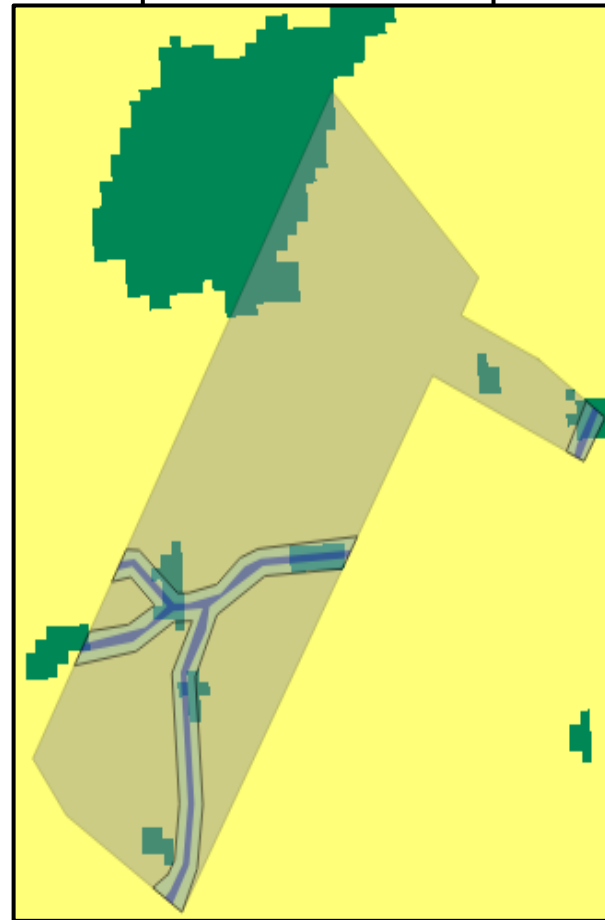


Property area
(ha): 86,68

WorldView – 08/2012

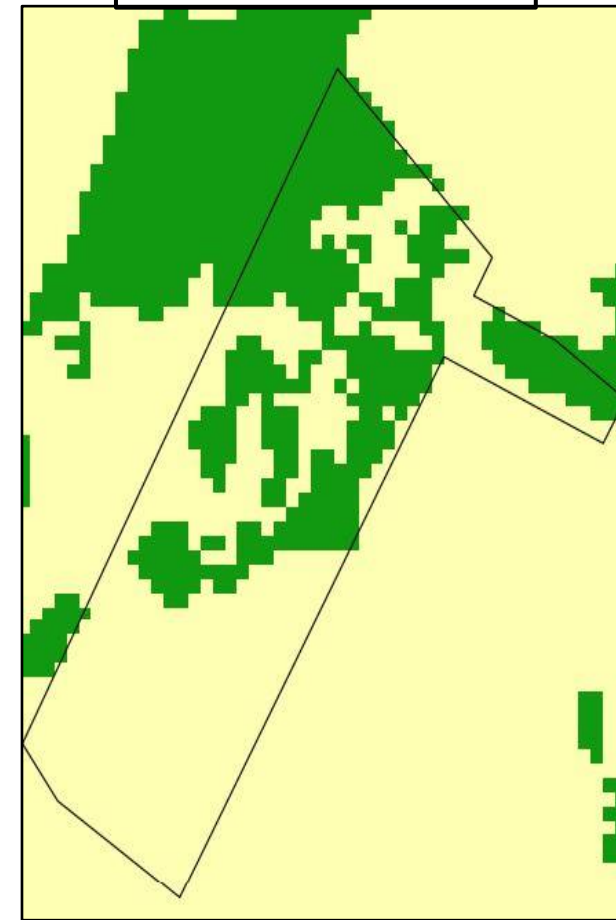


SeloVerde-PA



- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

MapBiomas - 2013

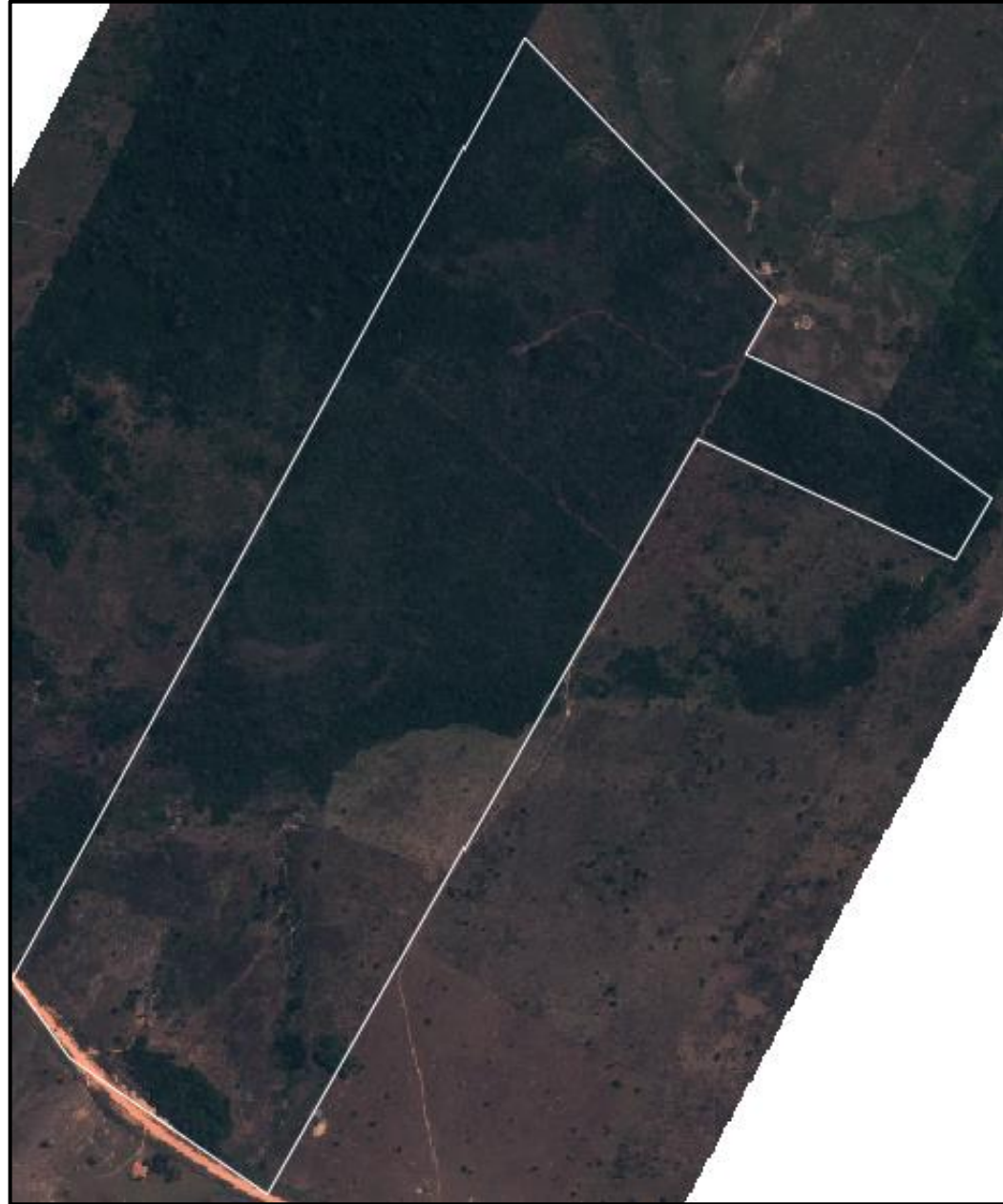


- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013

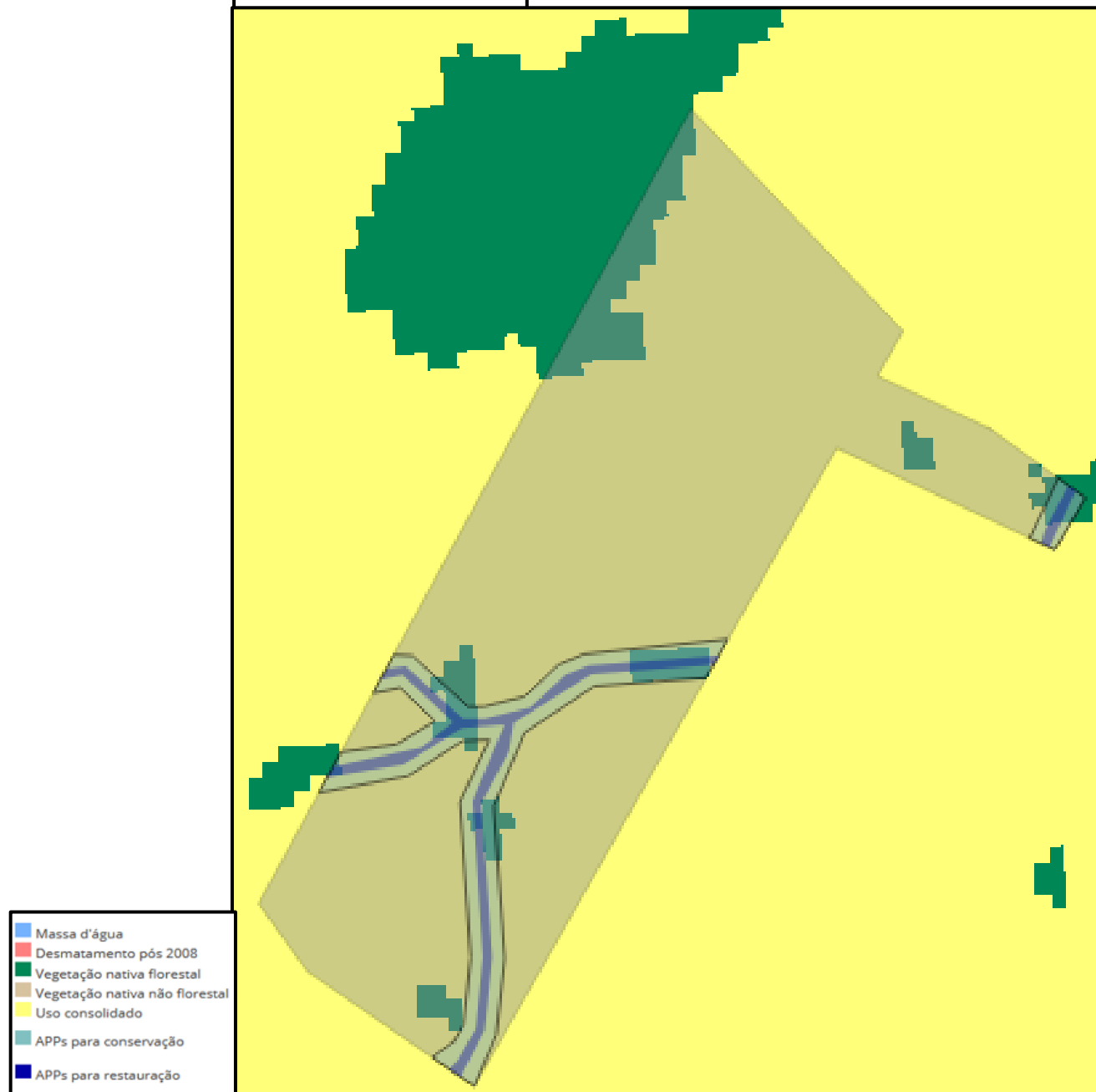


WorldView - 08/2012



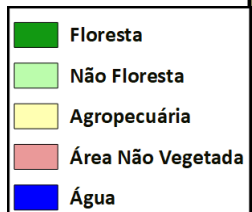
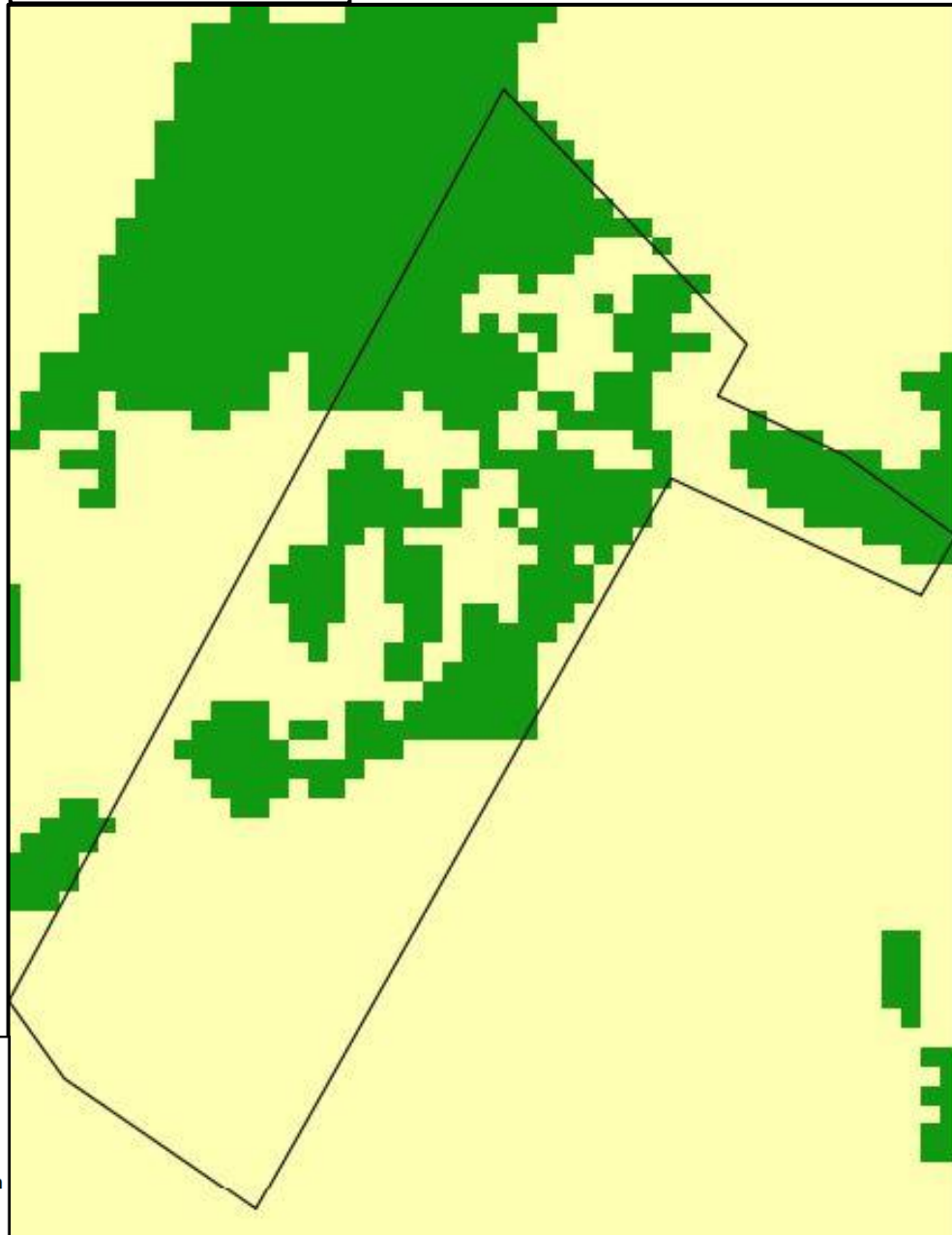
PA-1507300-6C462C360F25482D8242107218E8930C

SeloVerde-PA



PA-1507300-6C462C360F25482D8242107218E8930C

MapBiomias

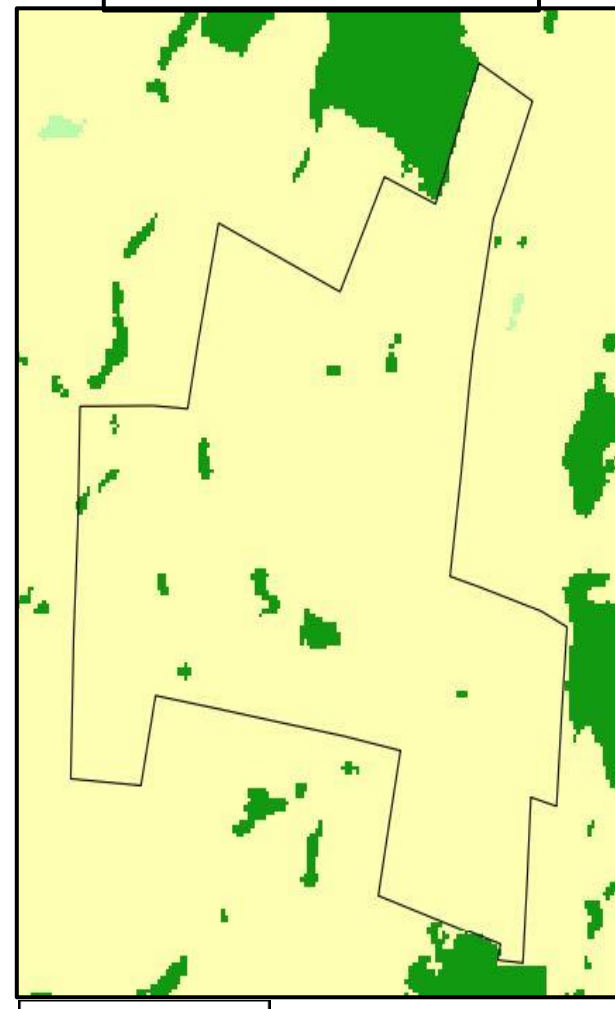
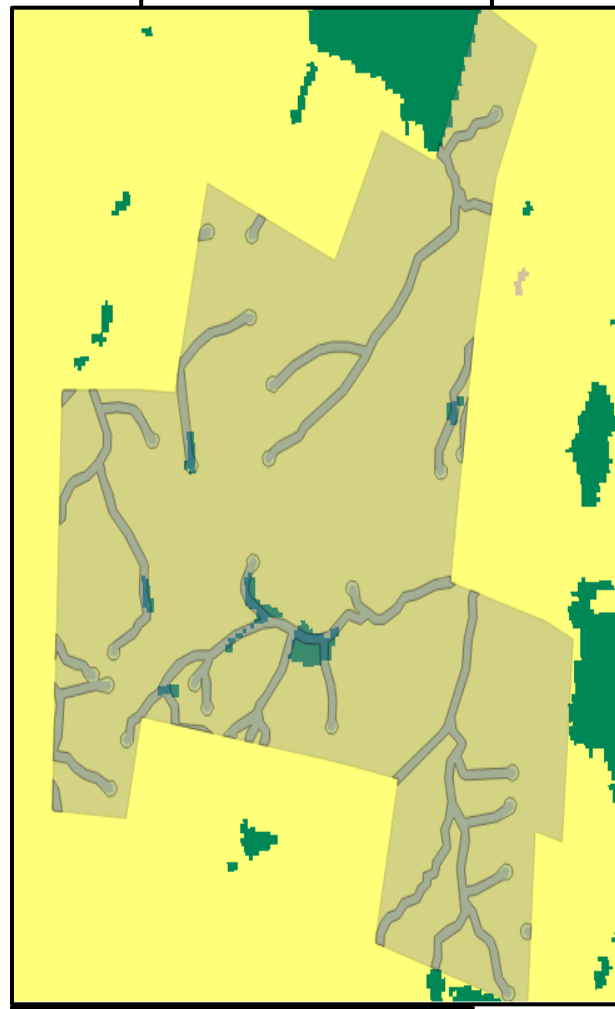
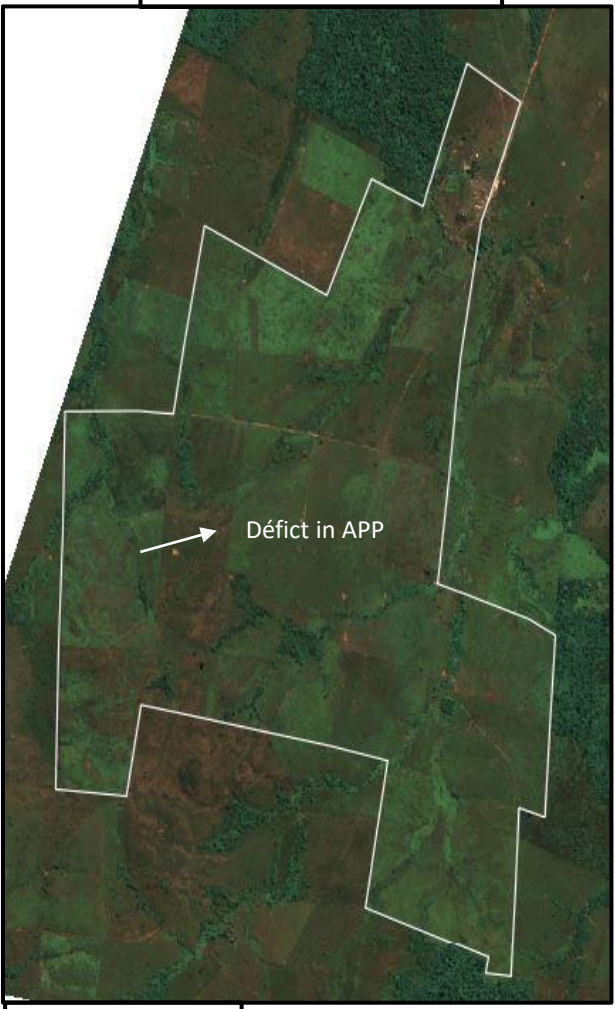


Pleiades – 07/2013

WorldView-06/2011

SeloVerde-PA

MapBiomias - 2013



Property area
(ha): 1195,48

Pleiades – 07/2013

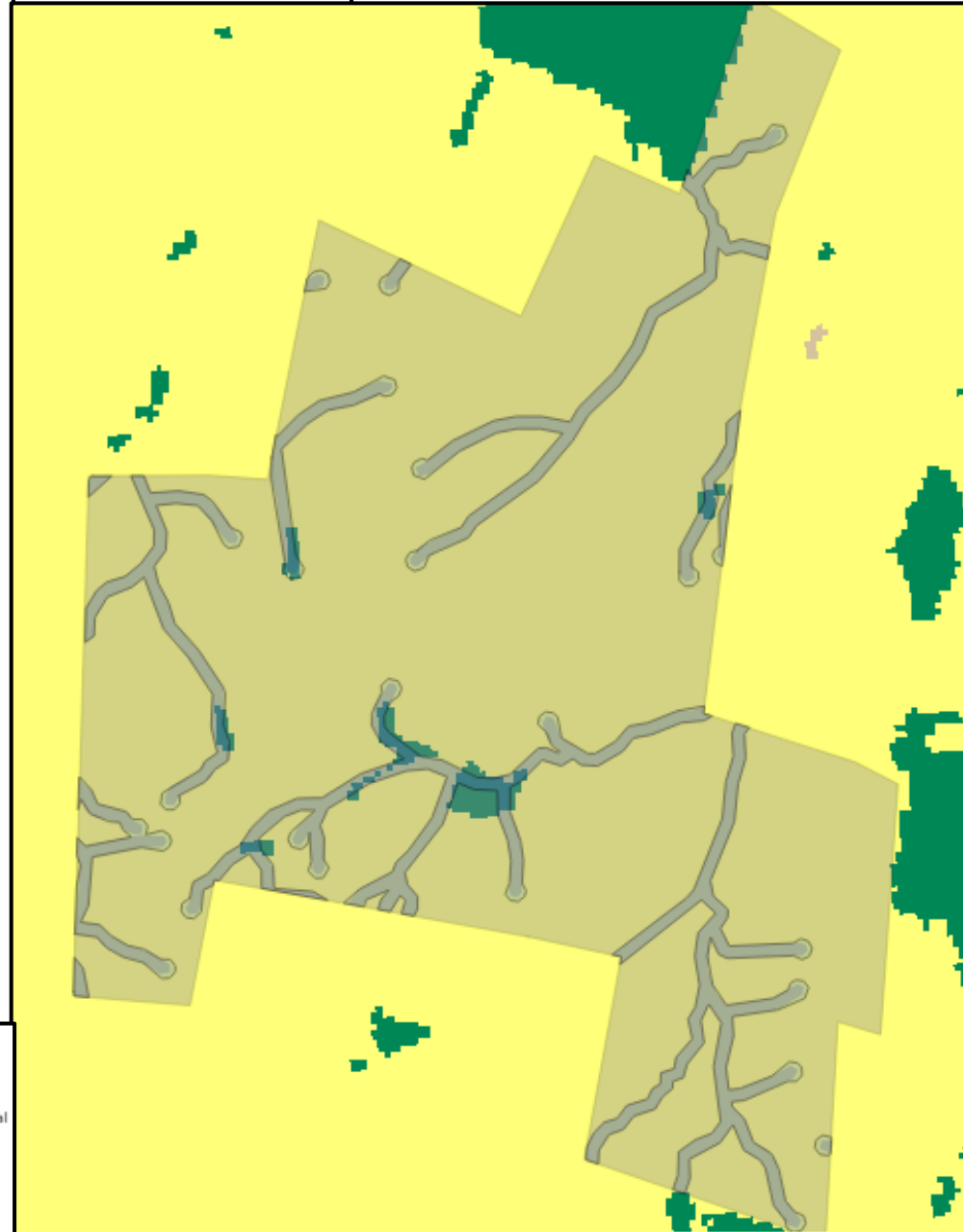
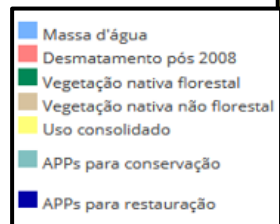


WorldView - 06/2011

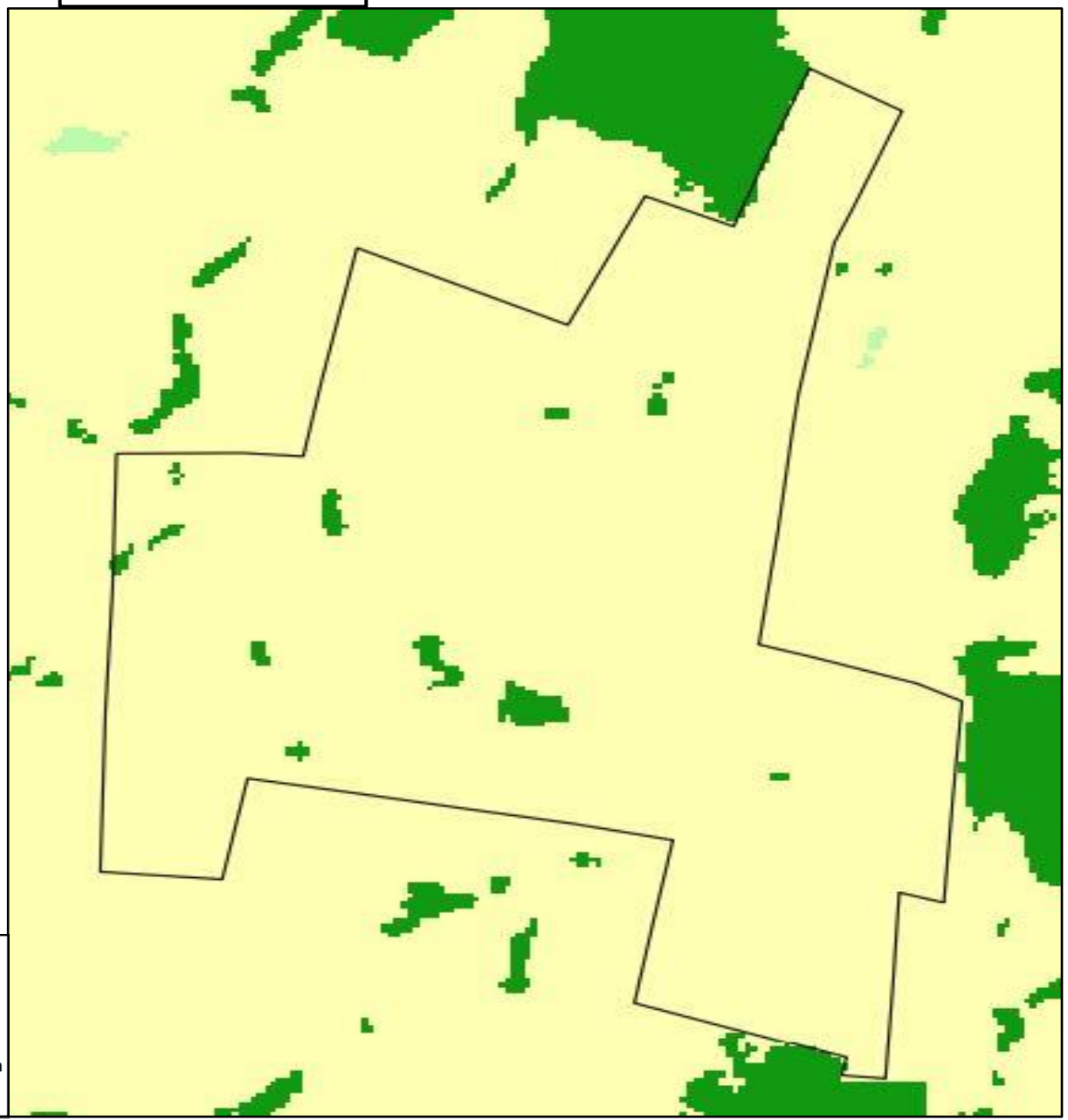


PA-1507300-8A365A1388F440FEBD6FB521A66D4CD0

SeloVerde-PA



MapBiomass



- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

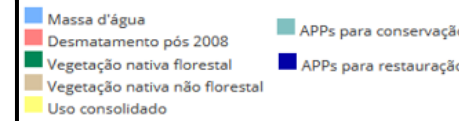
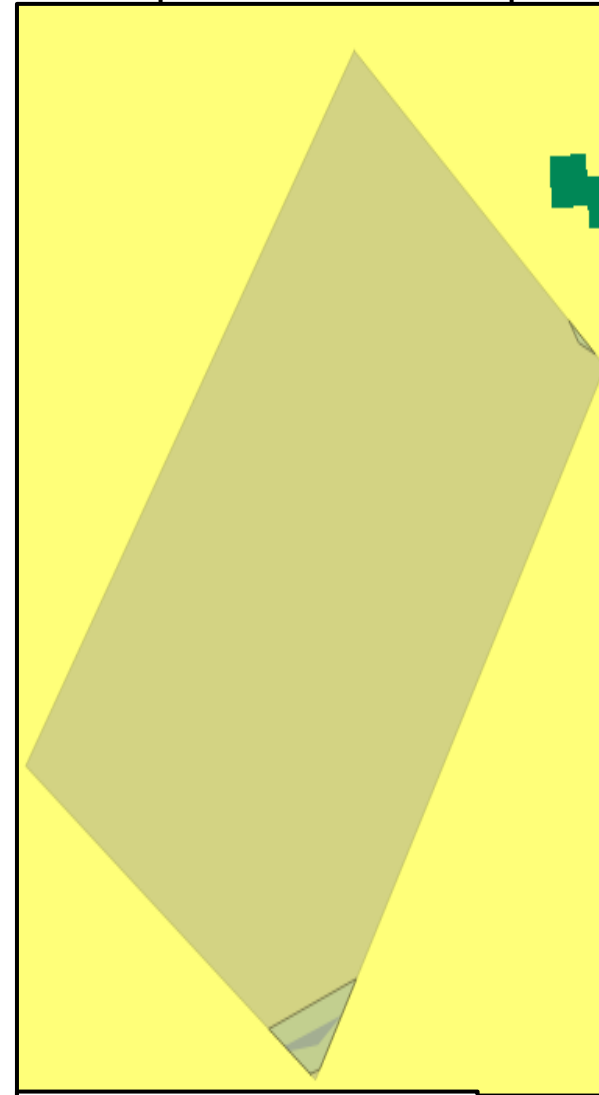
Pleiades – 07/2013



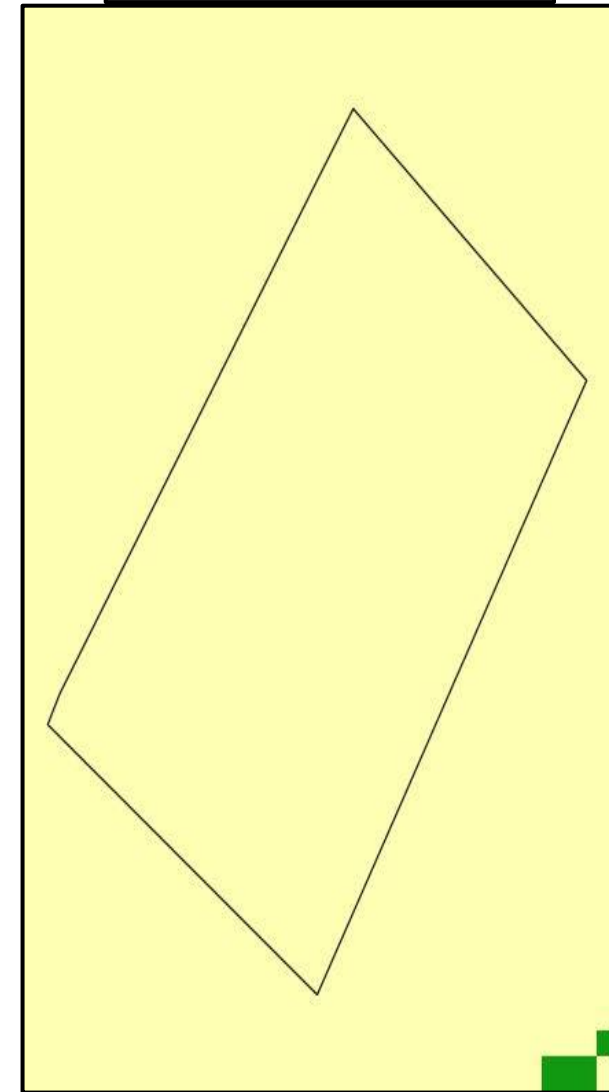
WorldView-08/2012



SeloVerde-PA



MapBiomias - 2013



Property area
(ha): 46,32

Pleiades – 07/2013

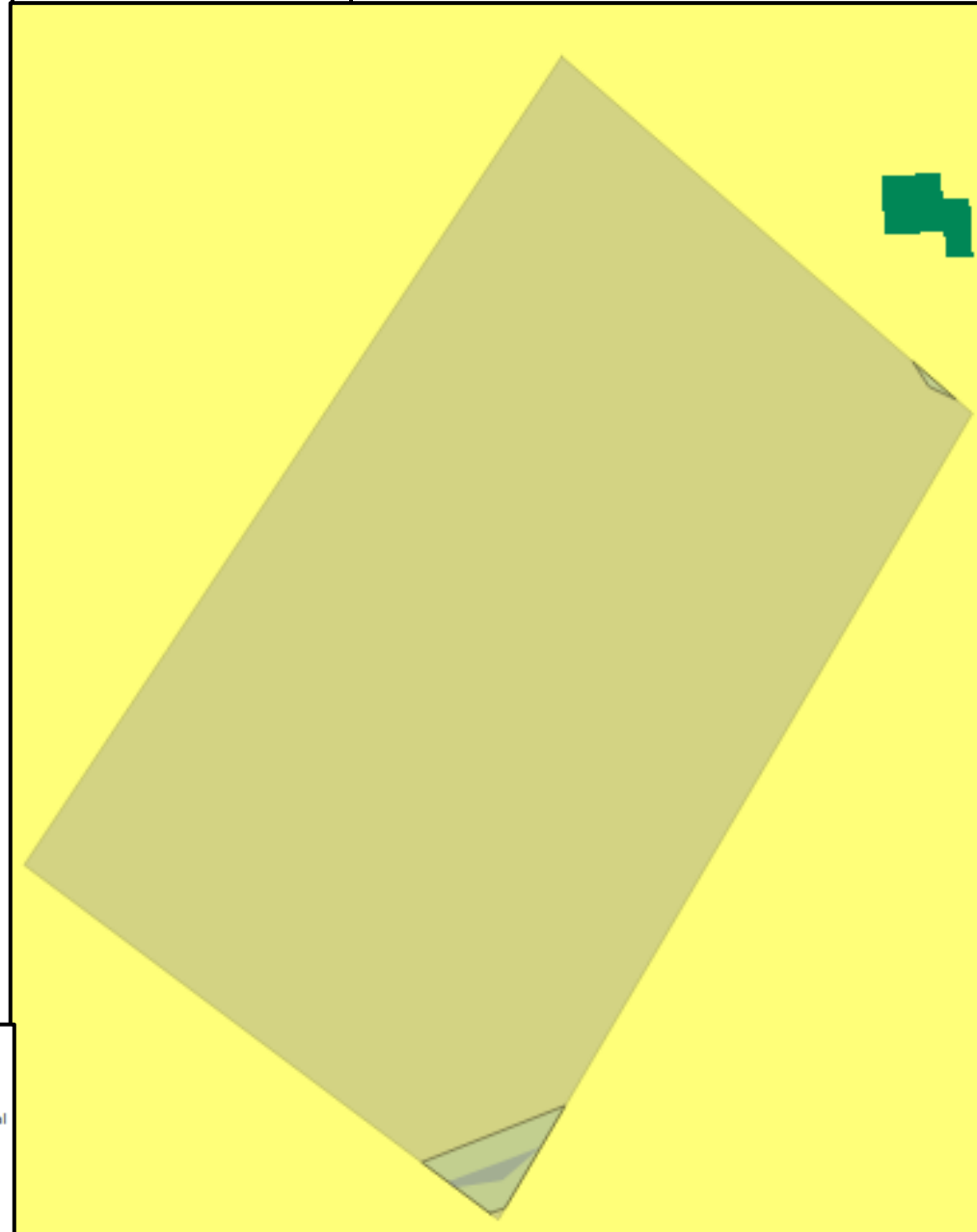
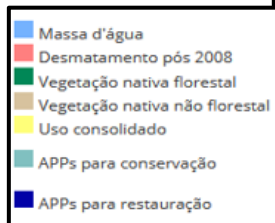


WorldView - 08/2012



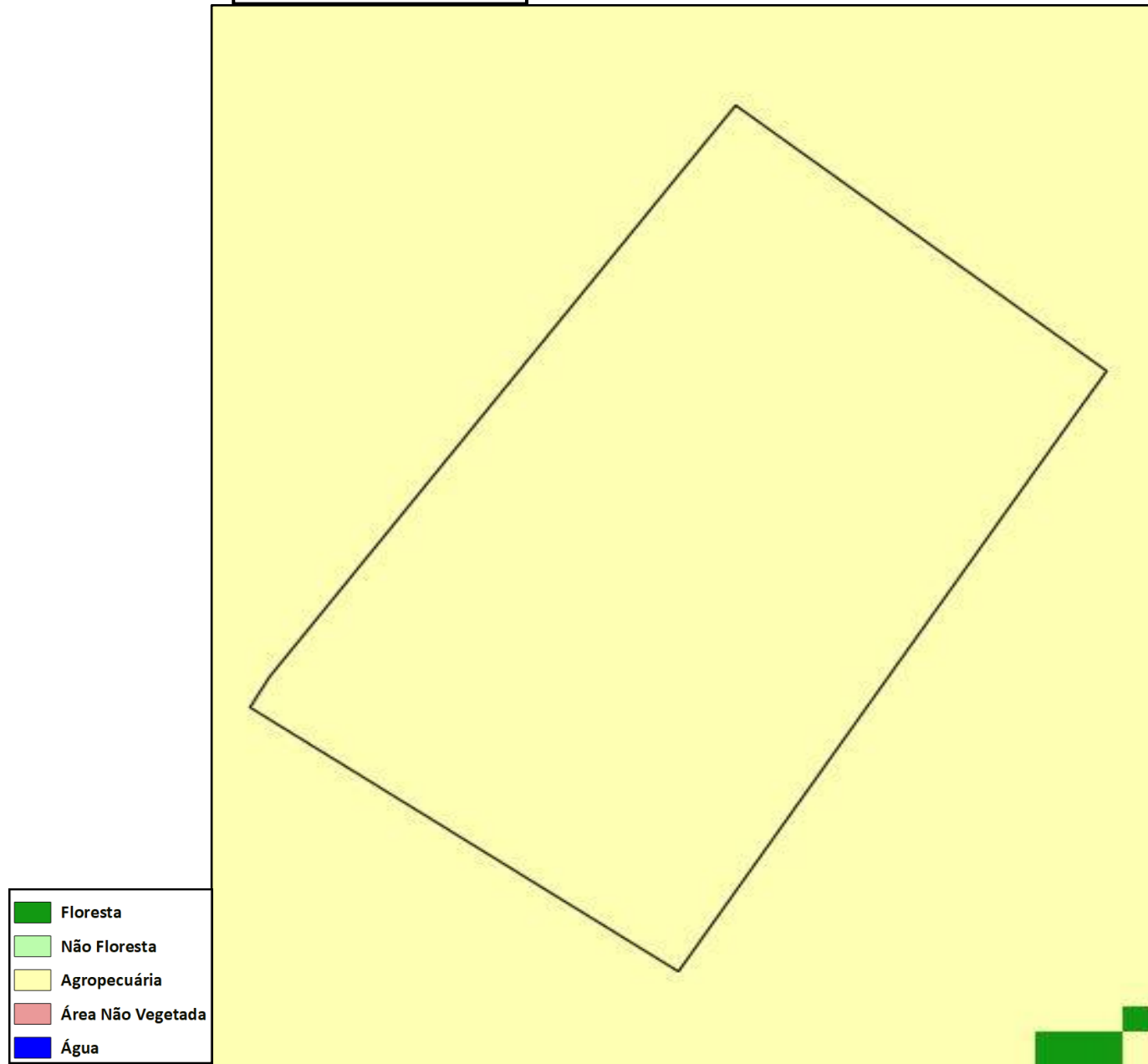
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SeloVerde-PA



PA-1507300-45B3D6DC764D4A83A066951D64DE2C80

MapBiomias

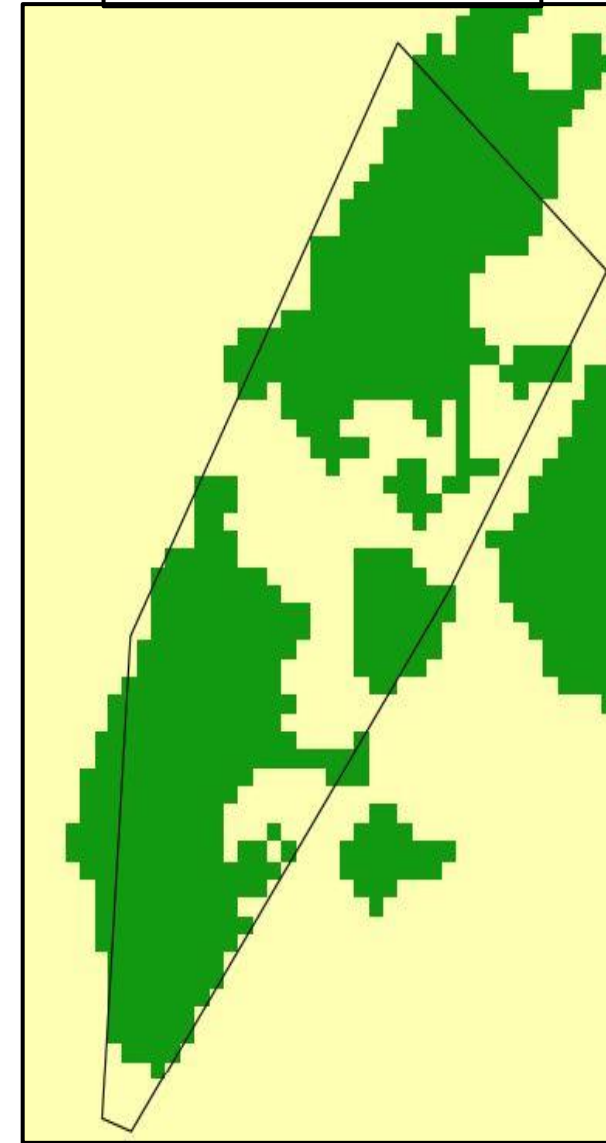
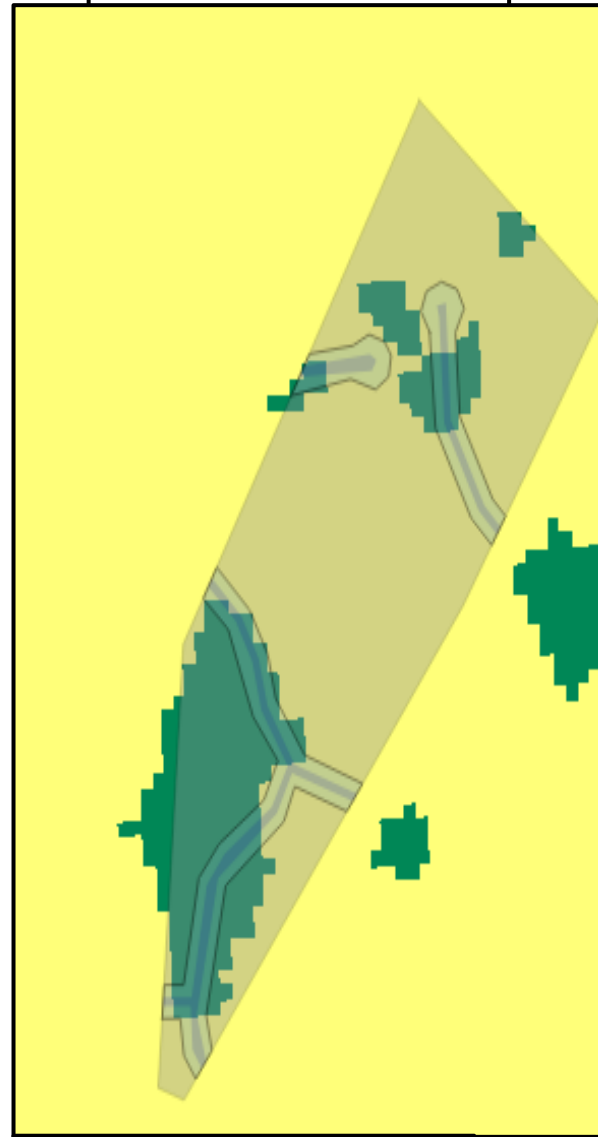


Pleiades – 07/2013

WorldView – 06/2011

SeloVerde-PA

MapBiomass - 2013



Property area
(ha): 75,68

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013



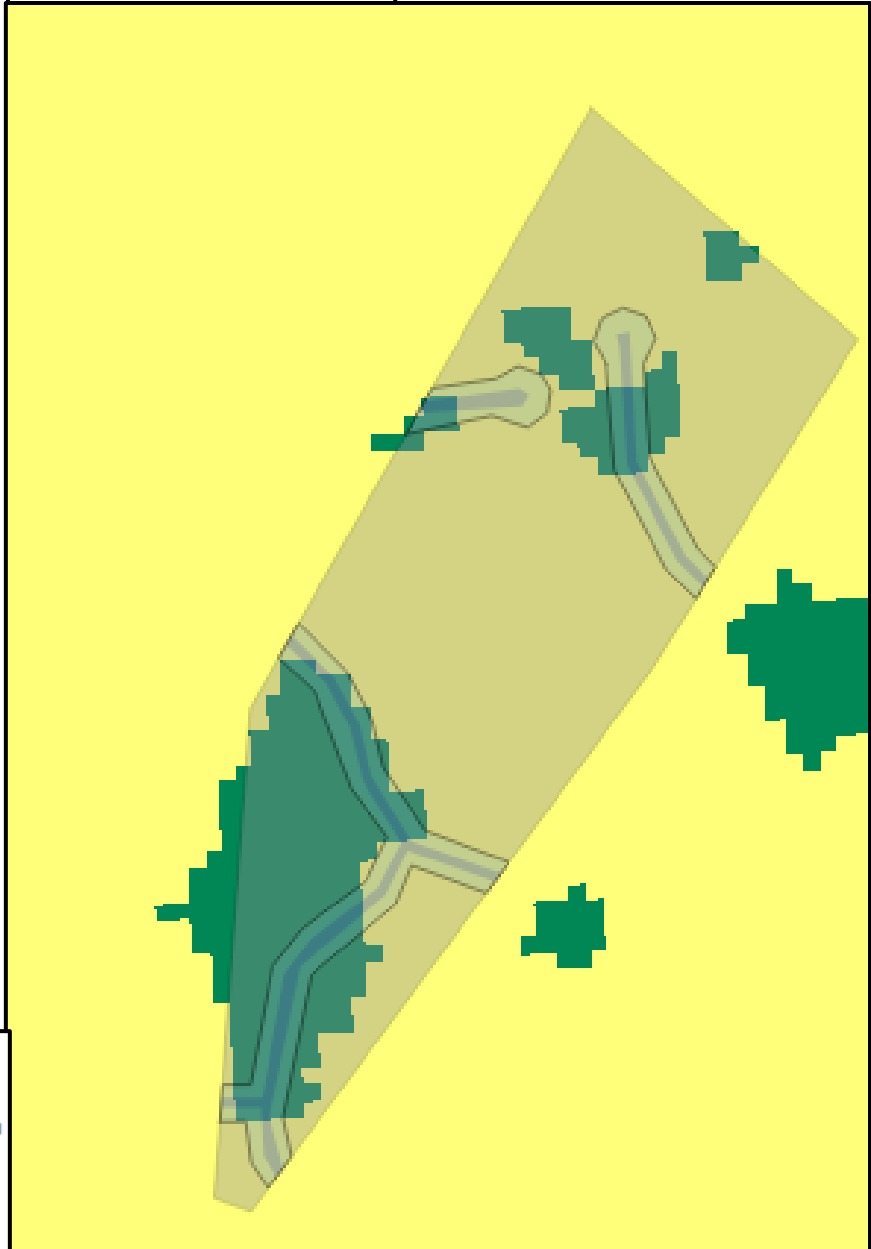
WorldView - 06/2011



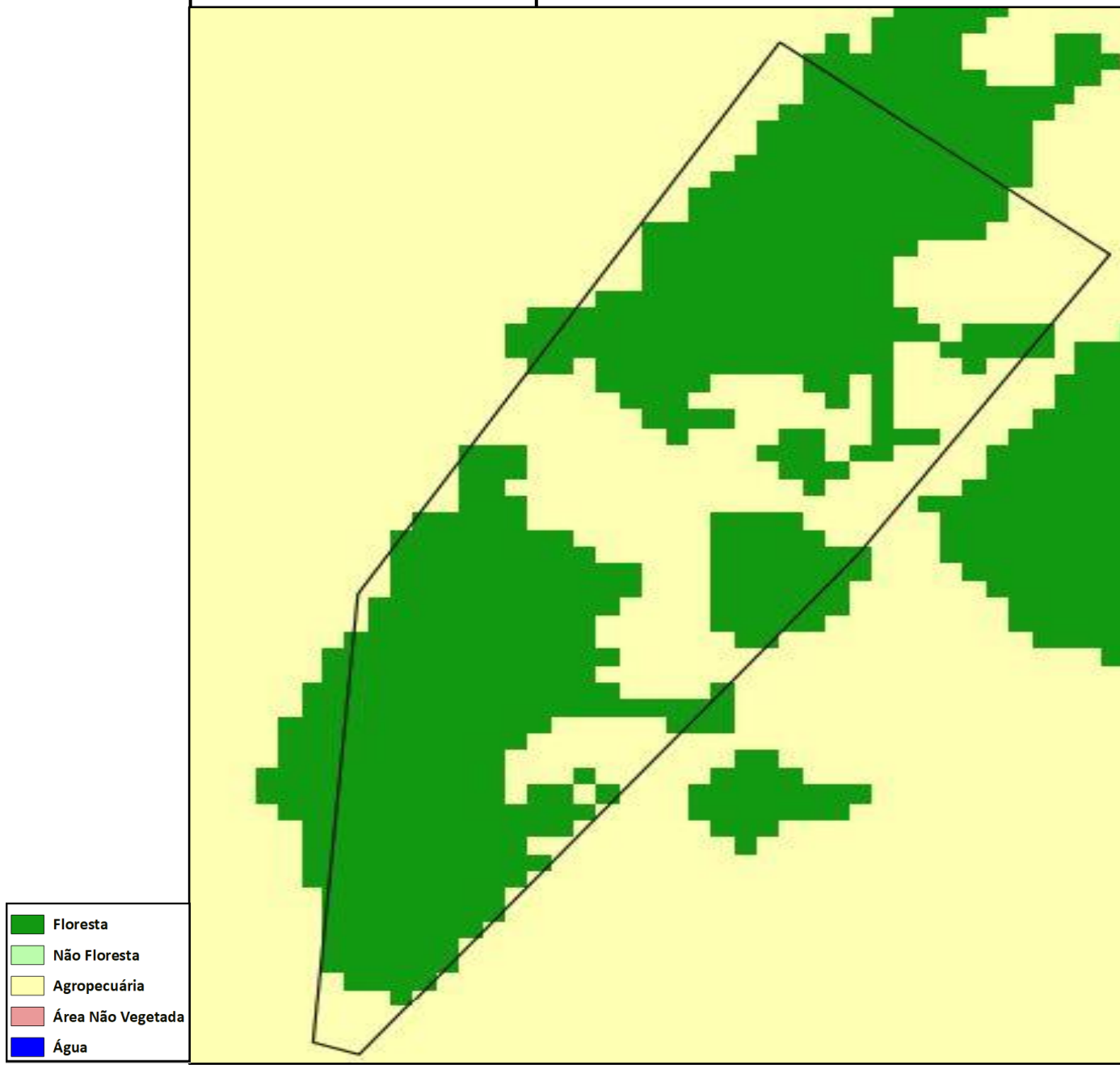
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SeloVerde-PA

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração



MapBiomias



Pleiades – 07/2013

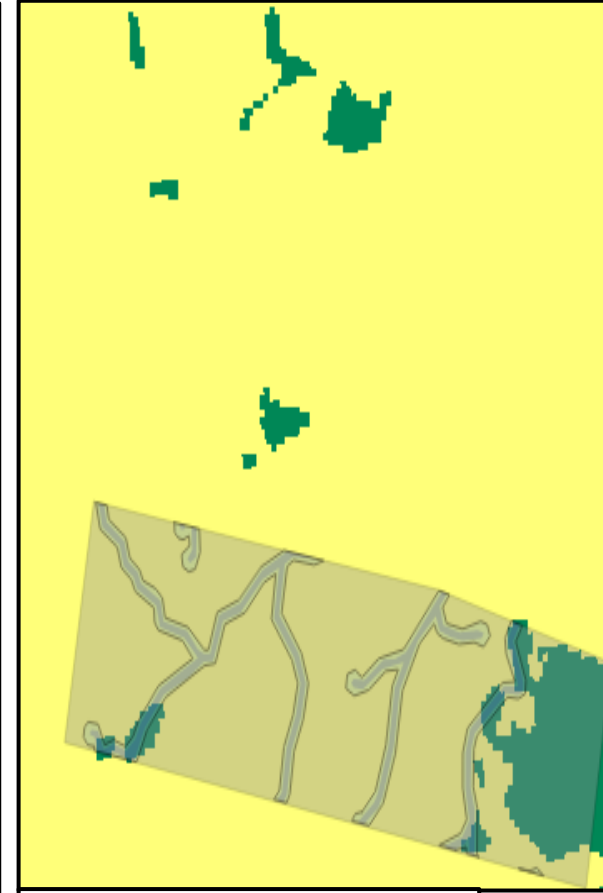


Property area
(ha): 281,30

WorldView – 06/2011

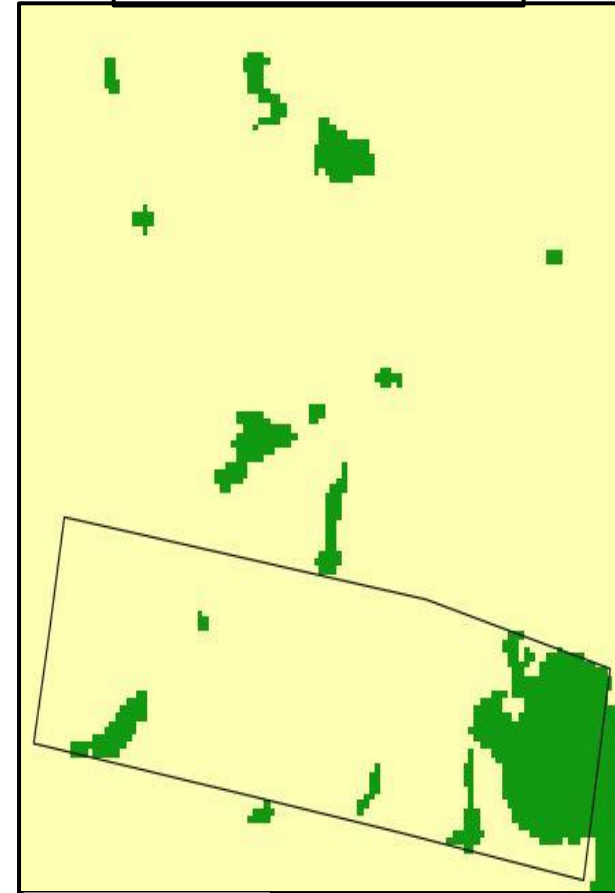


SeloVerde-PA



- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

MapBiomás - 2013



- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013

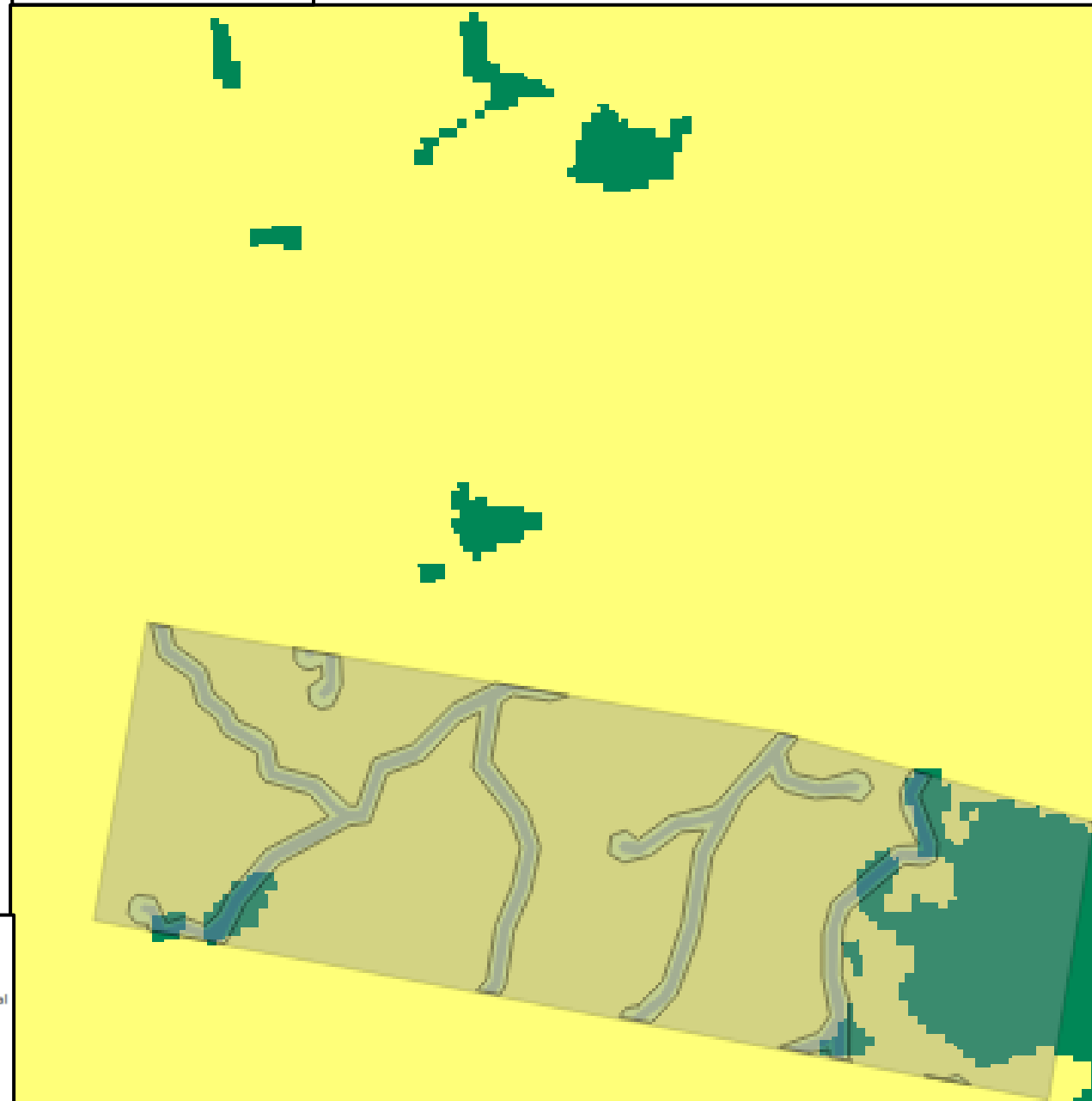


WorldView - 06/2011



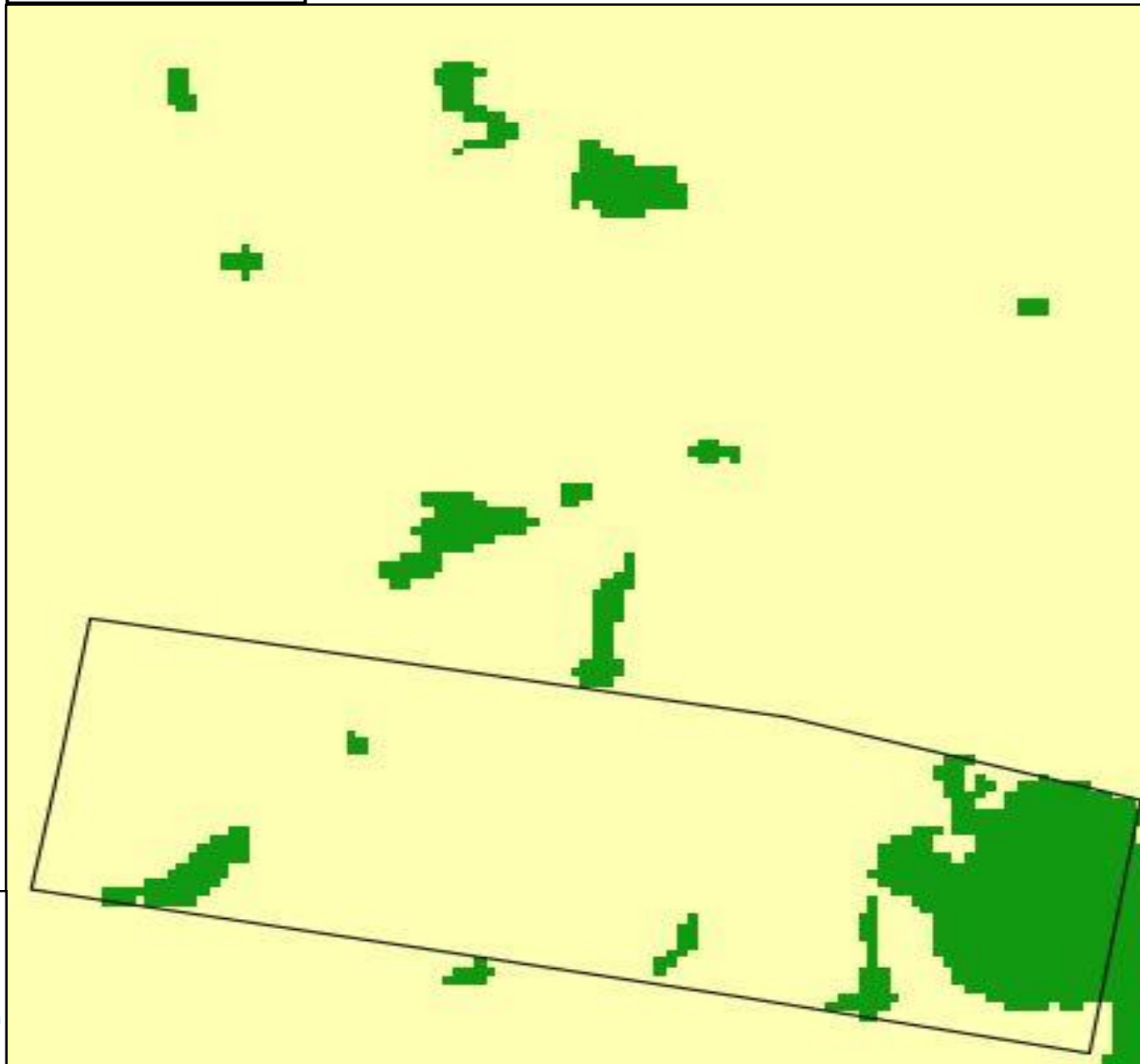
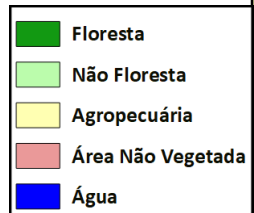
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SeloVerde-PA



- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

MapBiomias



Pleiades – 07/2013

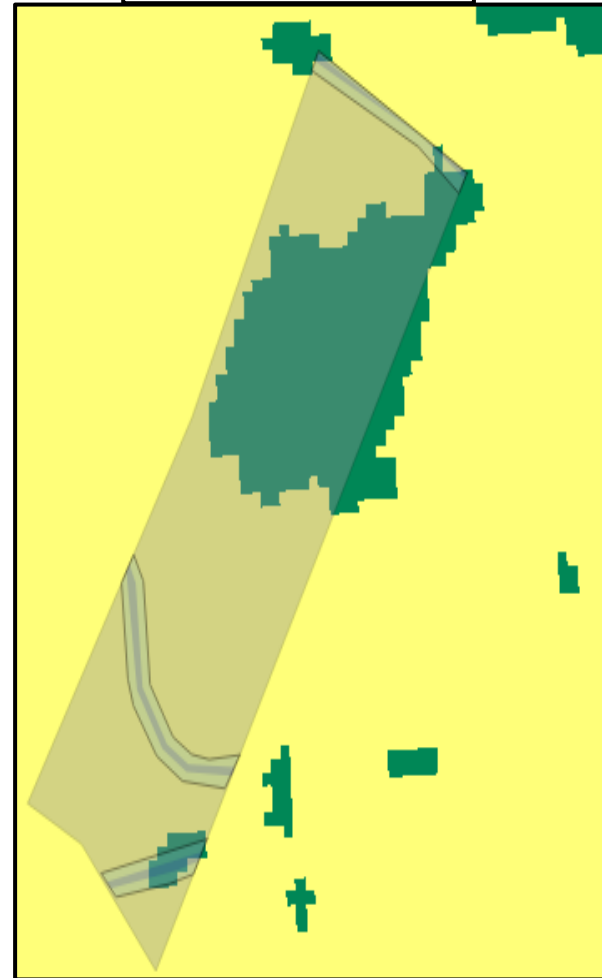


Property area
(ha): 83

WorldView – 08/2012

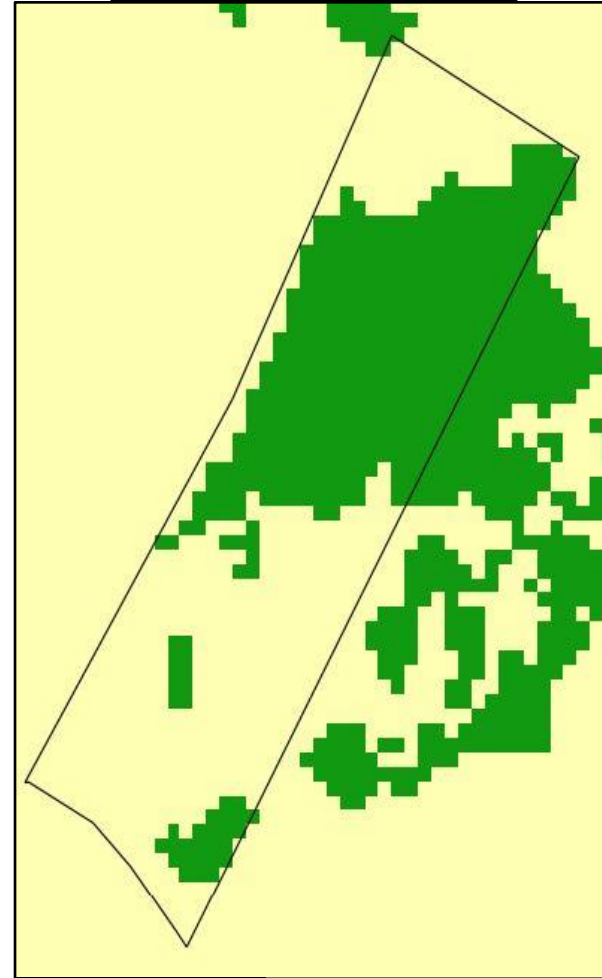


SeloVerde-PA



- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

MapBiomás - 2013



- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

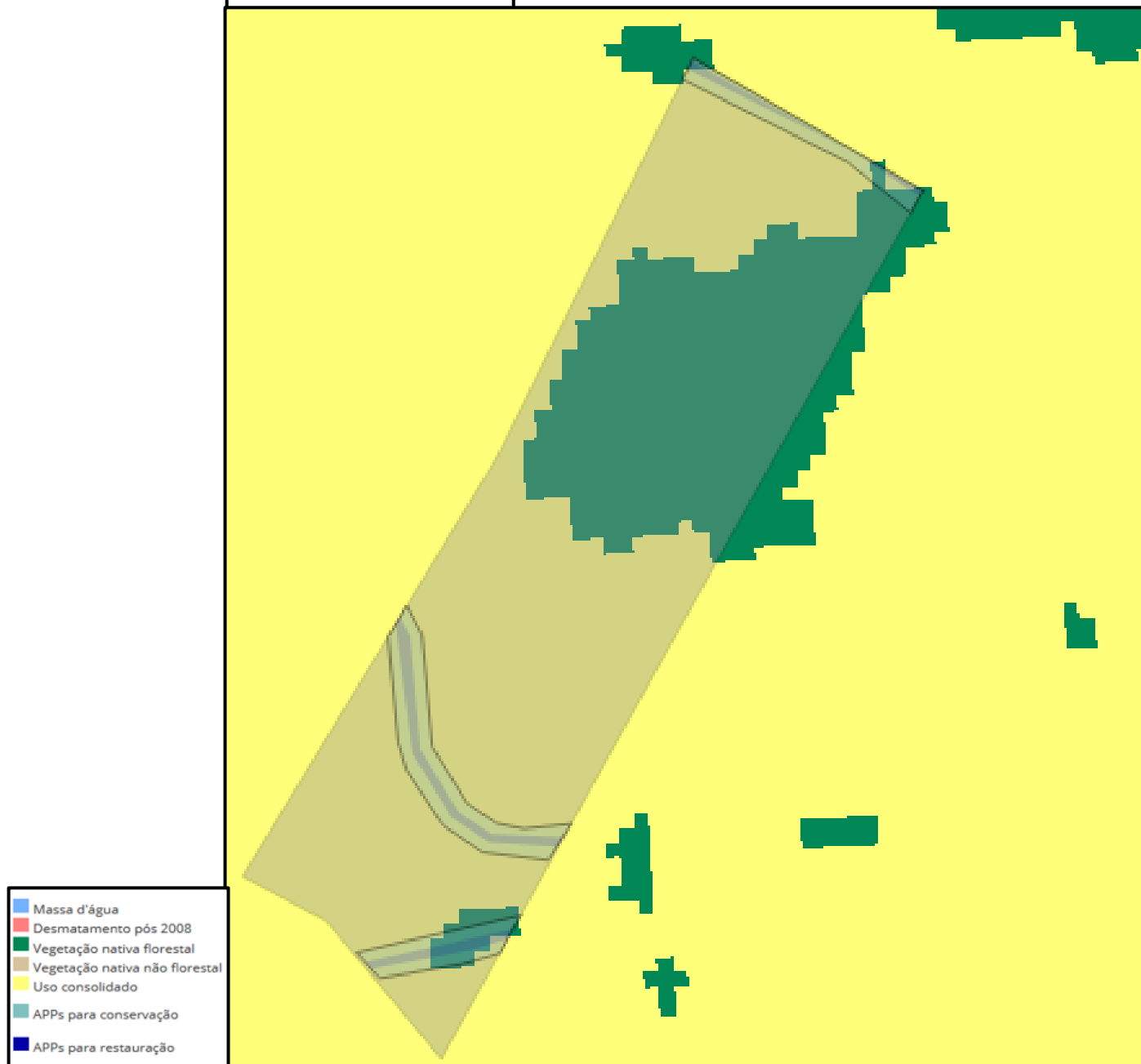
BaseMap - Pleiades








WorldView - 08/2012

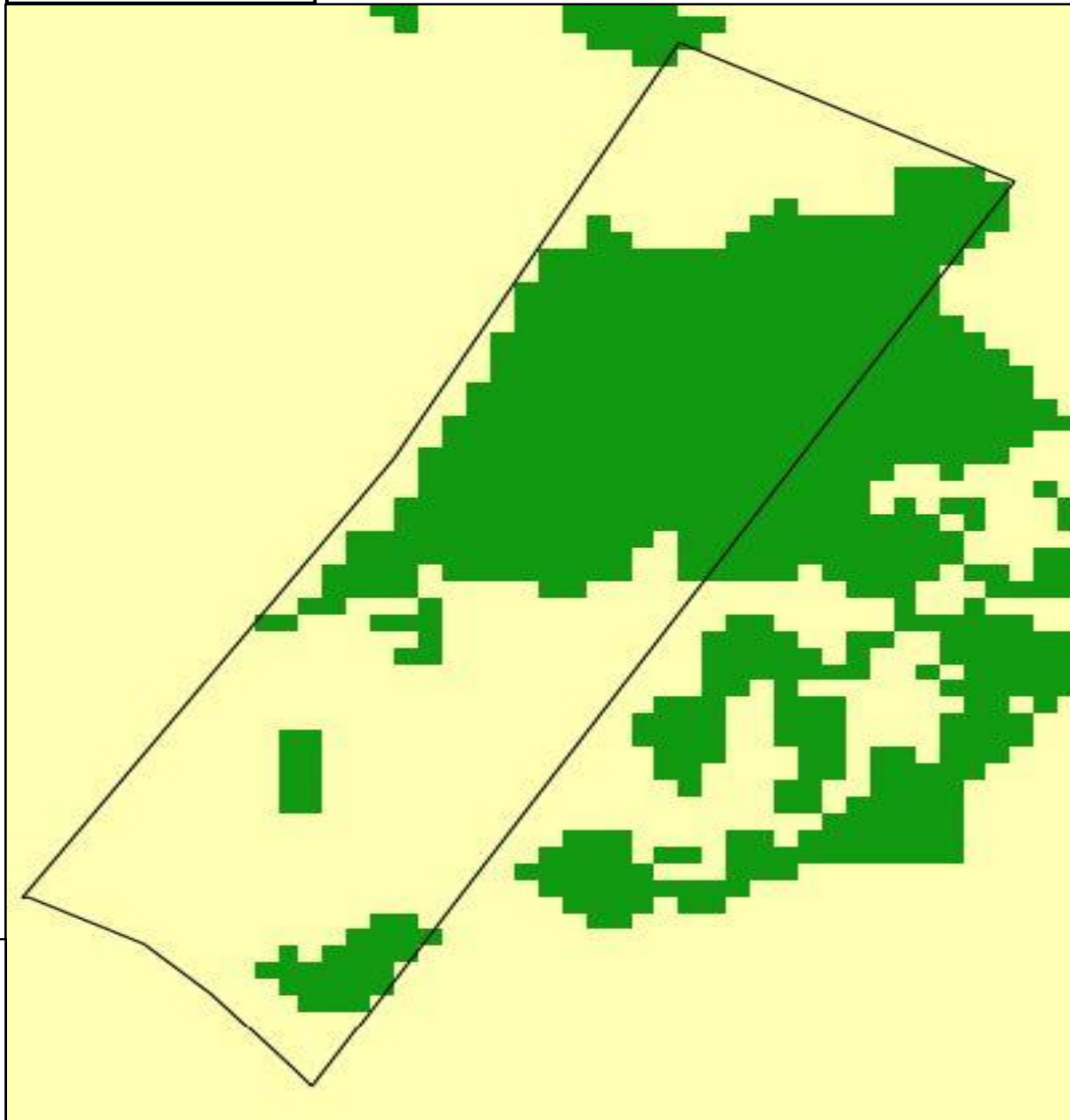


MapBiomias



MapBiomias

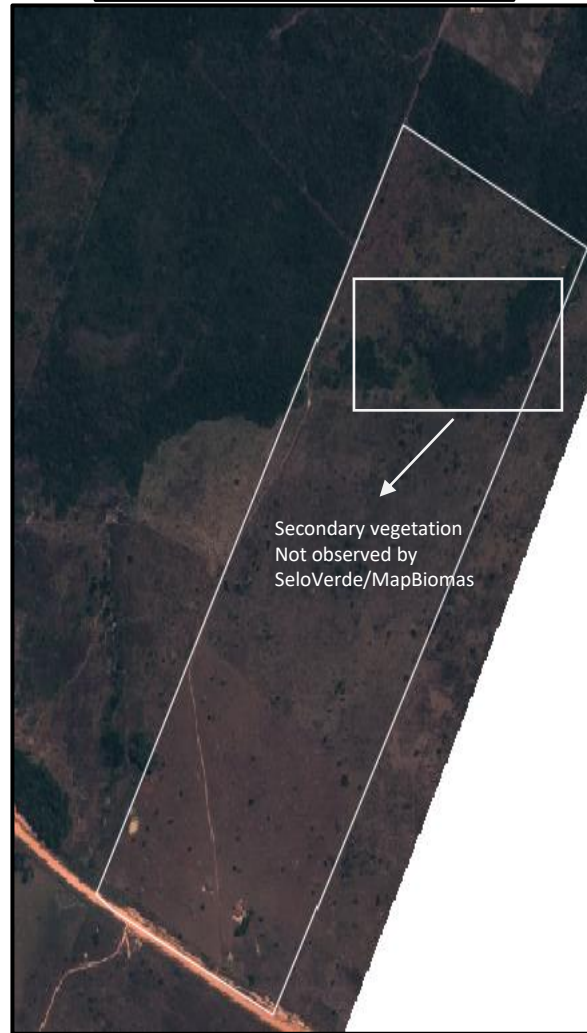
-  Floresta
-  Não Floresta
-  Agropecuária
-  Área Não Vegetada
-  Água



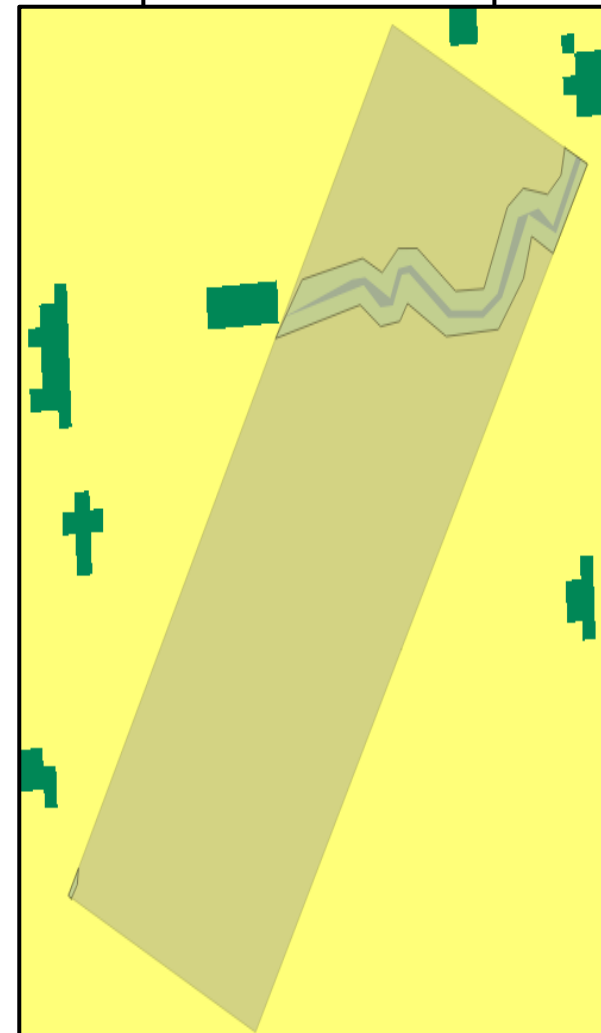
Pleiades – 07/2013



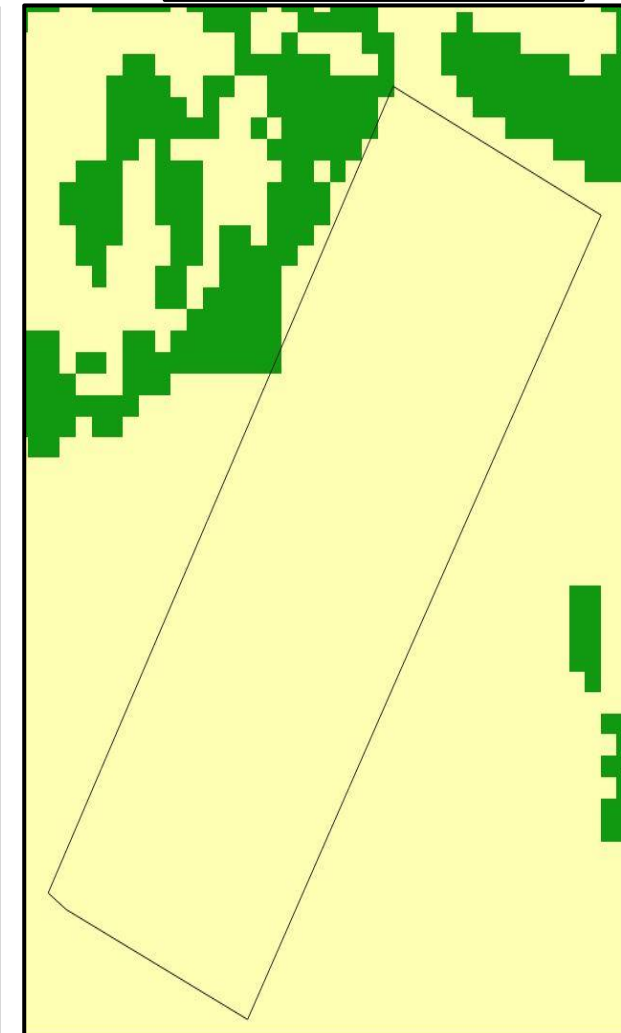
WorldView – 08/2012



SeloVerde-PA



MapBiomias - 2013



Property area
(ha): 54,86

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013

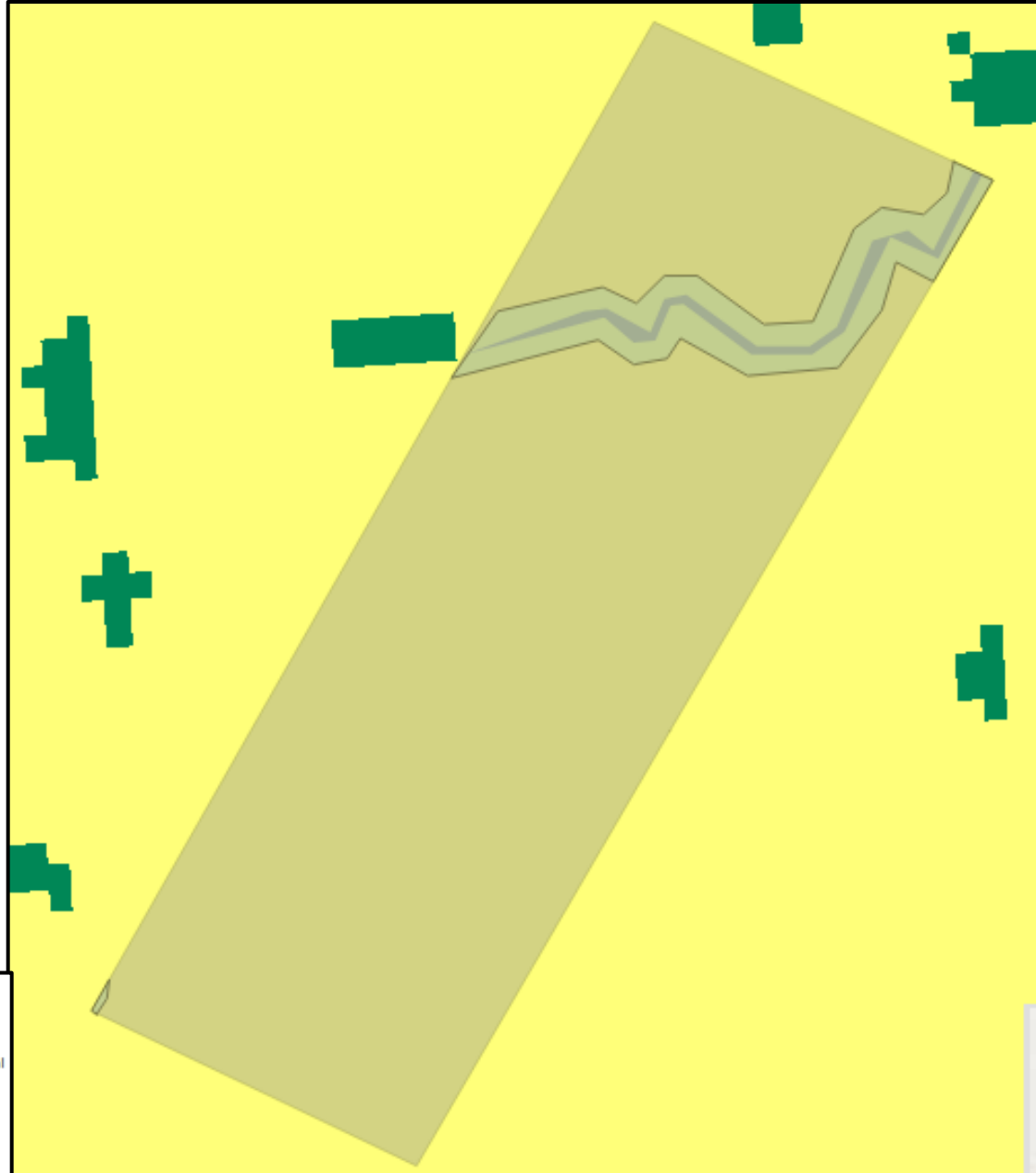


WorldView - 08/2012

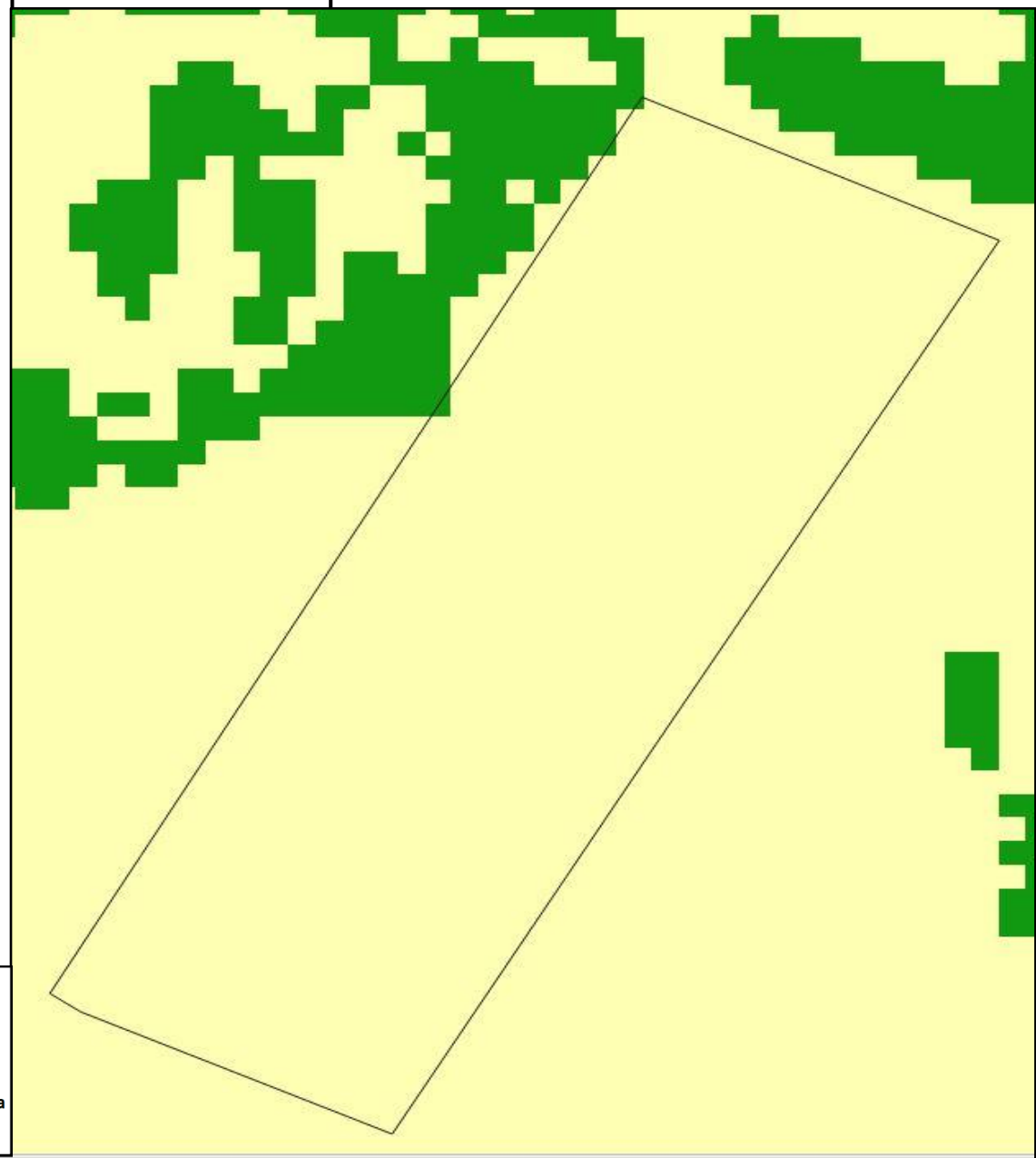


MapBiomias

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração



MapBiomass



- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013

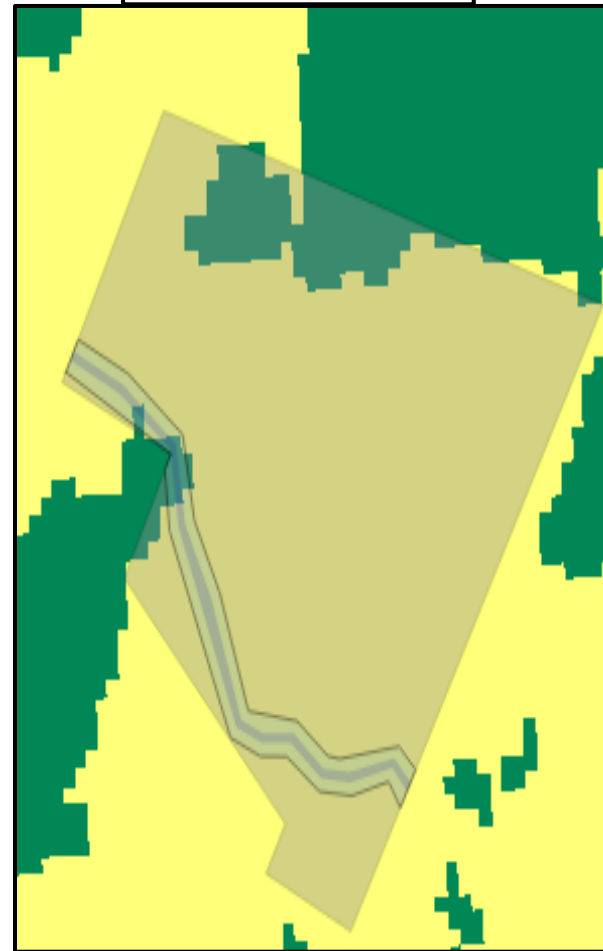


Property area
(ha): 87,86

WorldView – 08/2012

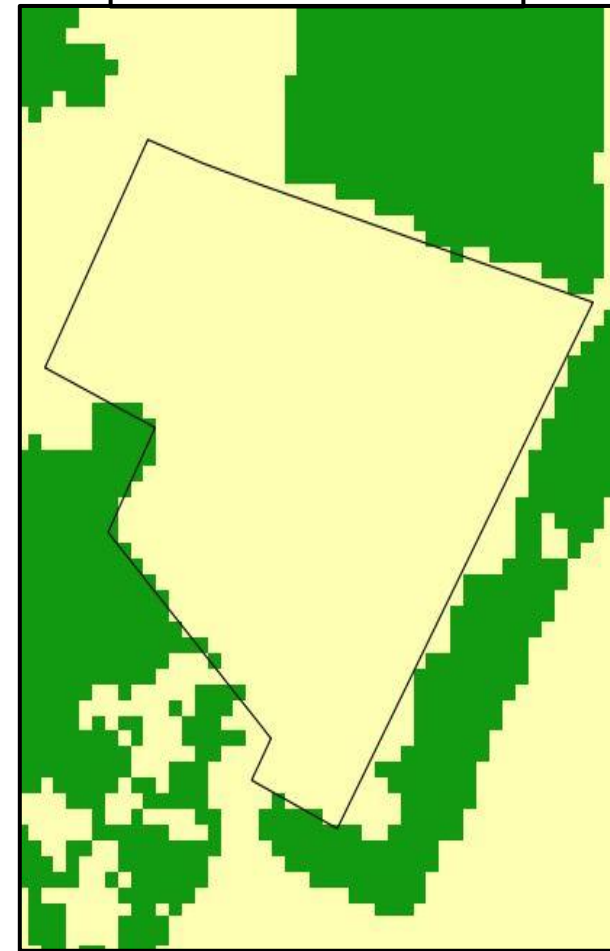


SeloVerde-PA



- | | |
|----------------------------------|-------------------------|
| ■ Massa d'água | ■ APPs para conservação |
| ■ Desmatamento pós 2008 | ■ APPs para restauração |
| ■ Vegetação nativa florestal | |
| ■ Vegetação nativa não florestal | |
| ■ Uso consolidado | |

MapBiomass - 2013



- | |
|---------------------|
| ■ Floresta |
| ■ Não Floresta |
| ■ Agropecuária |
| ■ Área Não Vegetada |
| ■ Água |

BaseMap - Pleiades

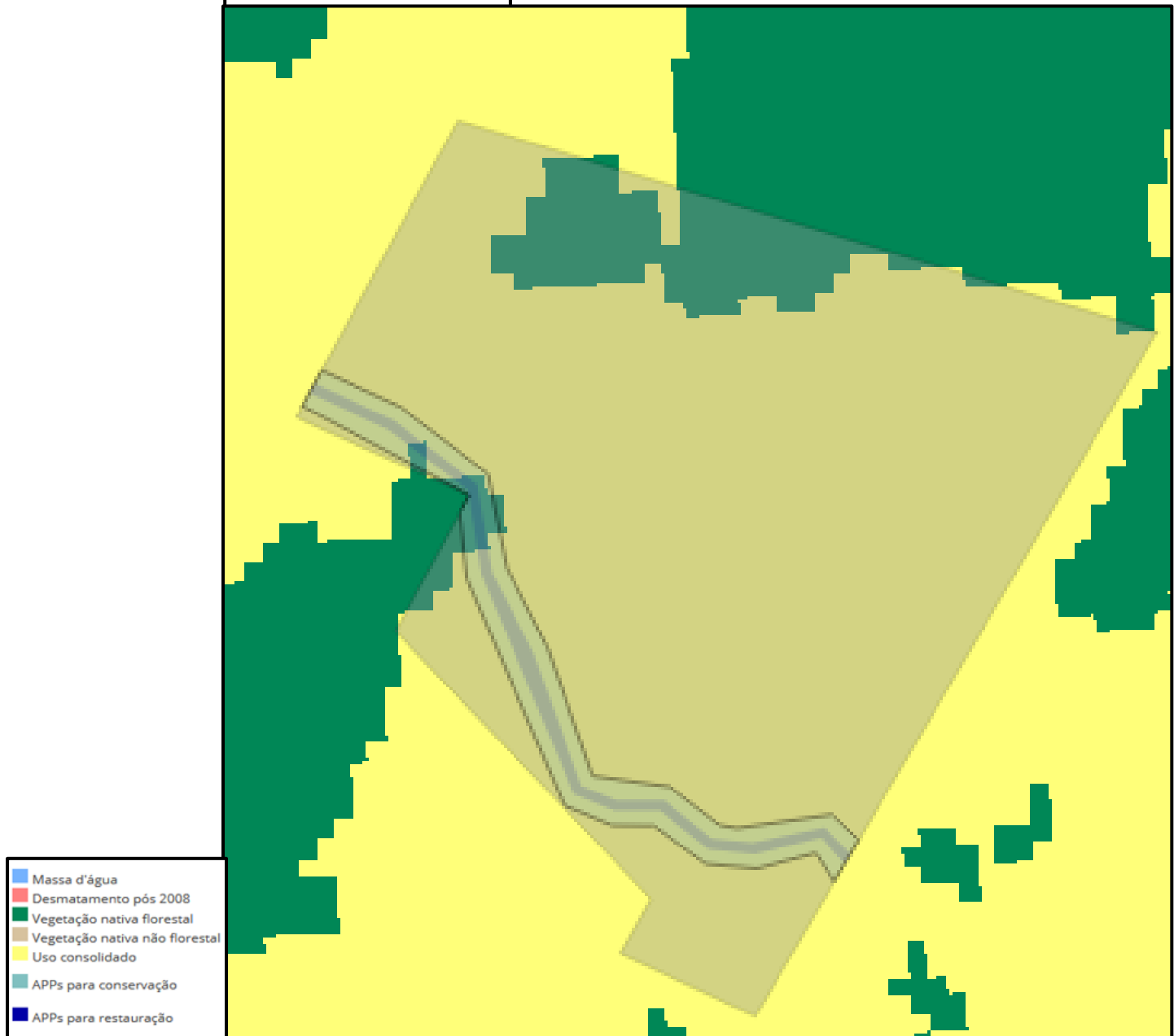


WorldView - 08/2012

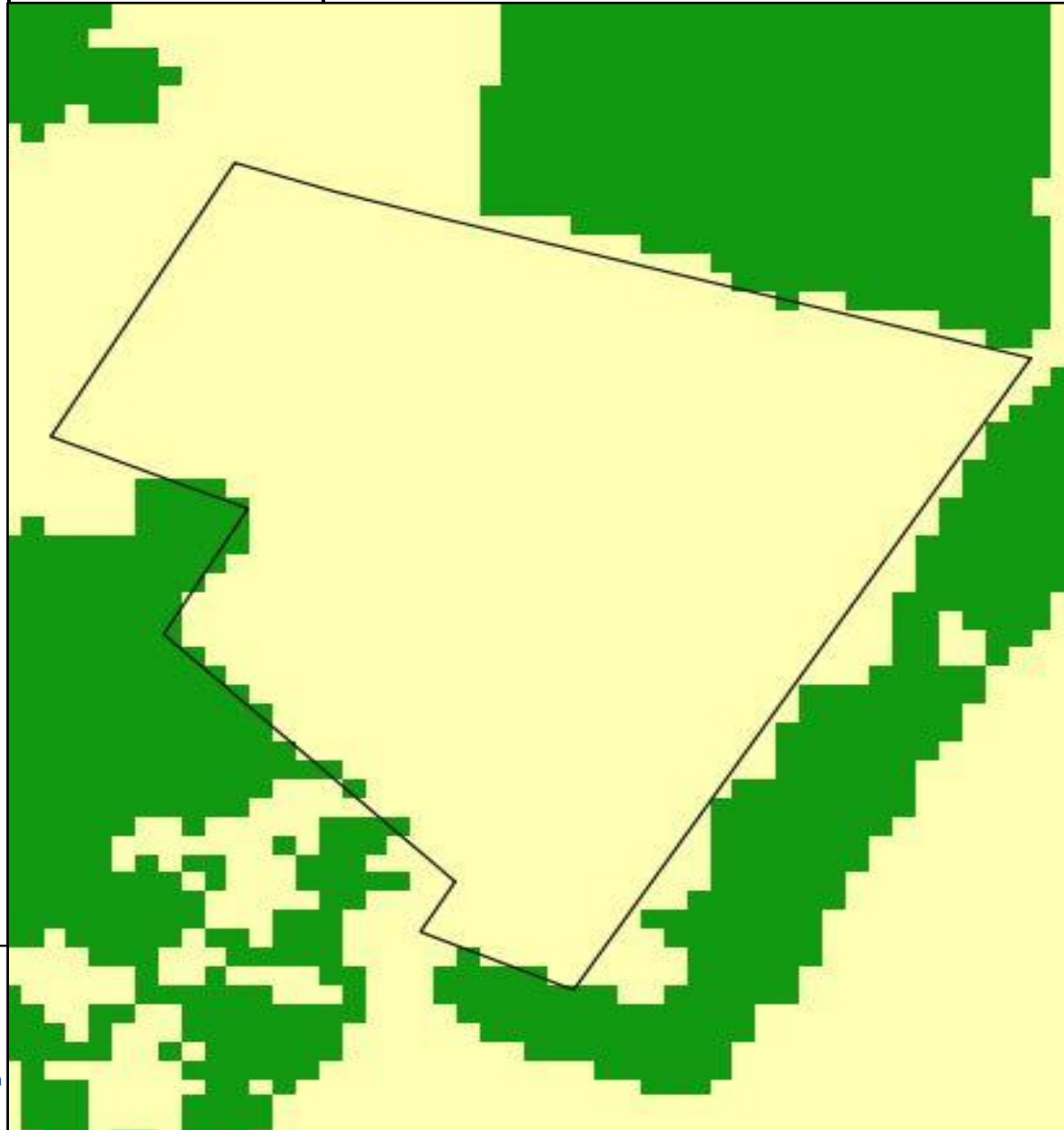
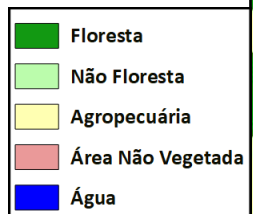


PA-1507300-F143144FDF004BE08C5C0B0F5C6054BE

SeloVerde-PA



MapBiomias

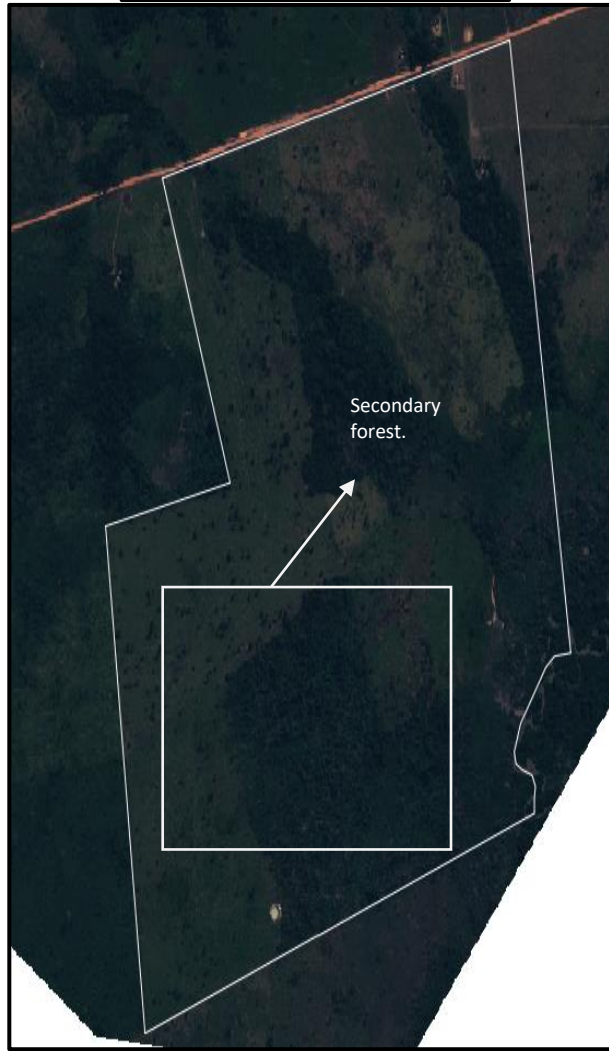


Pleiades – 07/2013

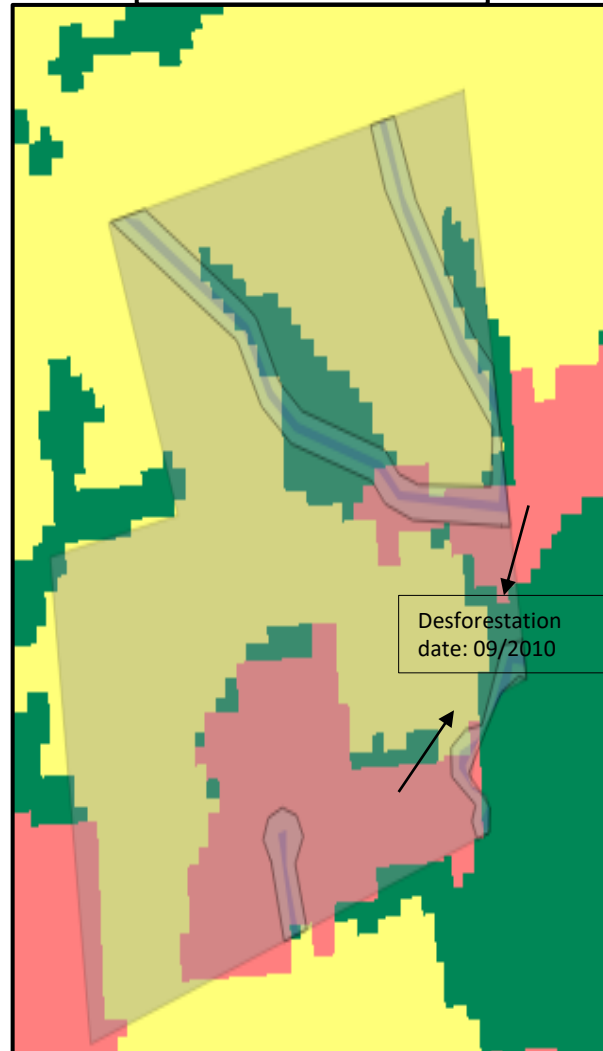


Property area
(ha): 127,43

WorldView – 06/2011

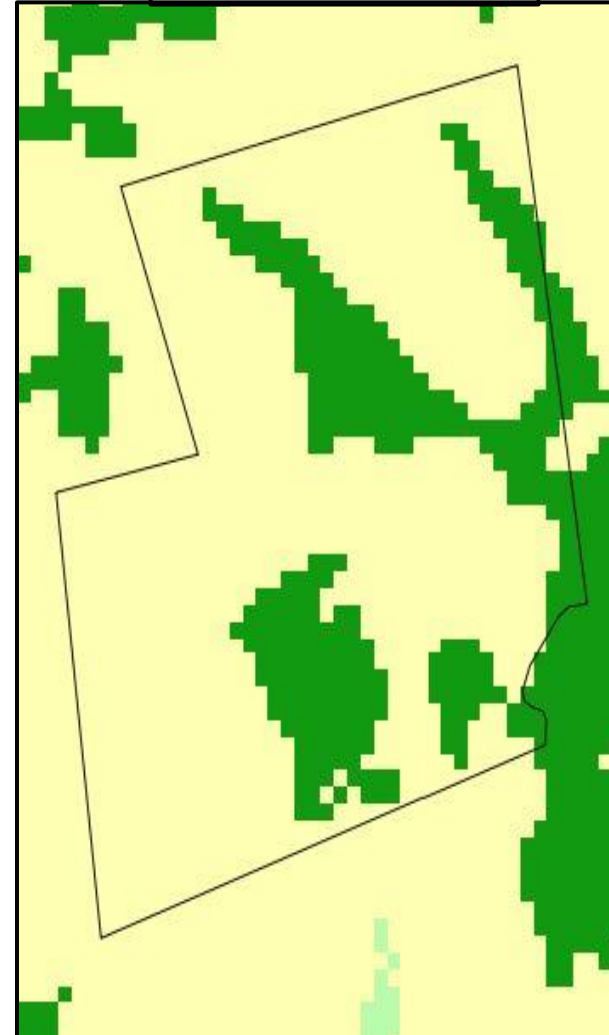


SeloVerde-PA



- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

MapBiomass - 2013



- Floresta
- Não Floresta
- Agropecuária
- Área Não Vegetada
- Água

Pleiades – 07/2013



Property area
(ha): 127,43

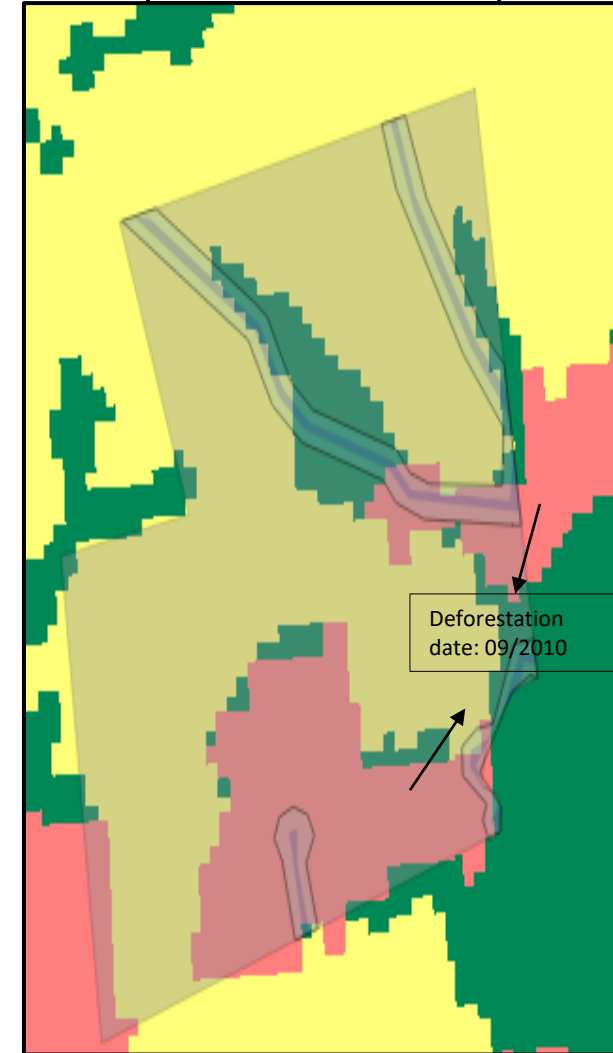
WorldView – 06/2011



PlanetScope – 07/2016



SeloVerde-PA



- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

Pleiades – 07/2013



WorldView - 06/2011

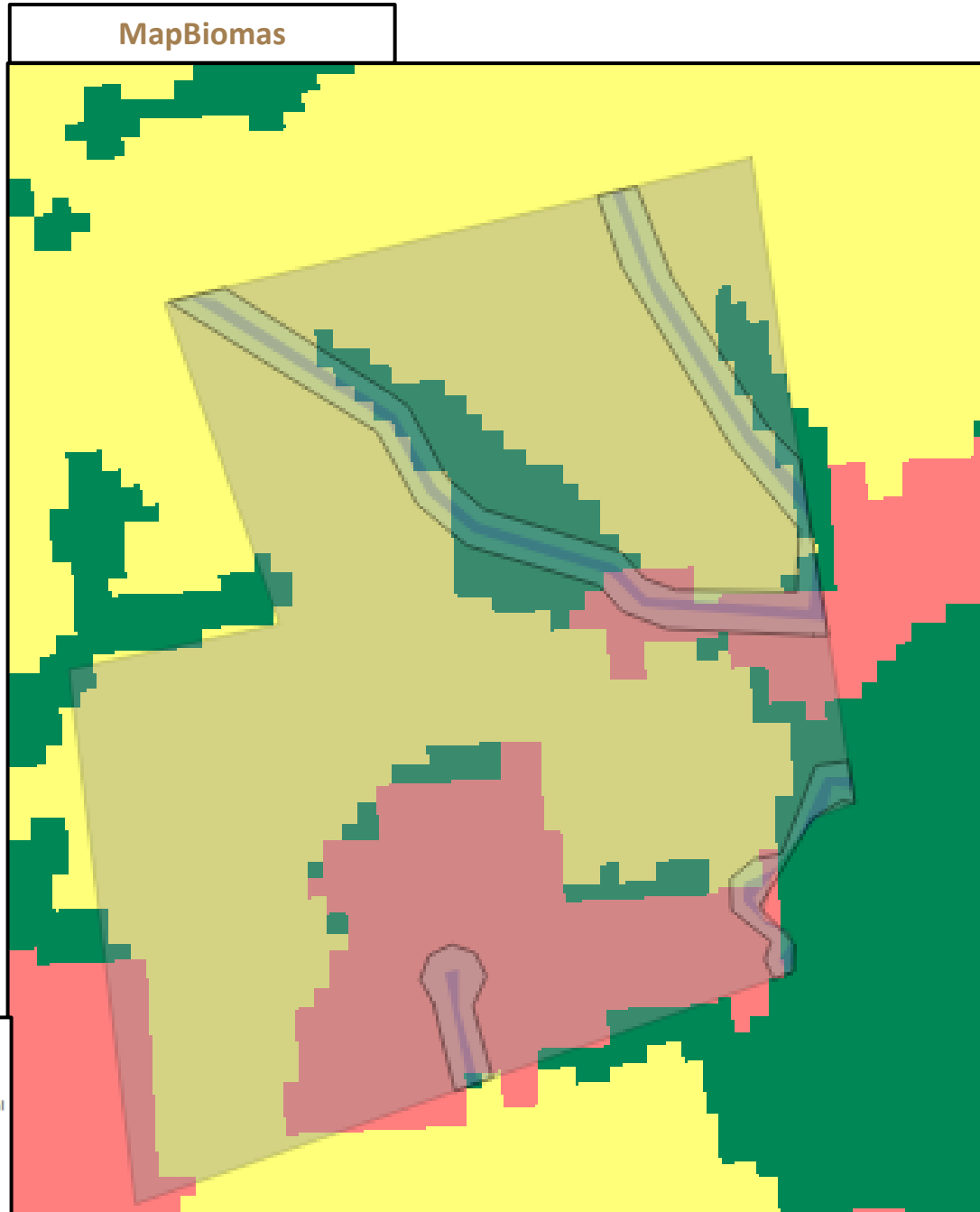


PlanetScope - 07/2016








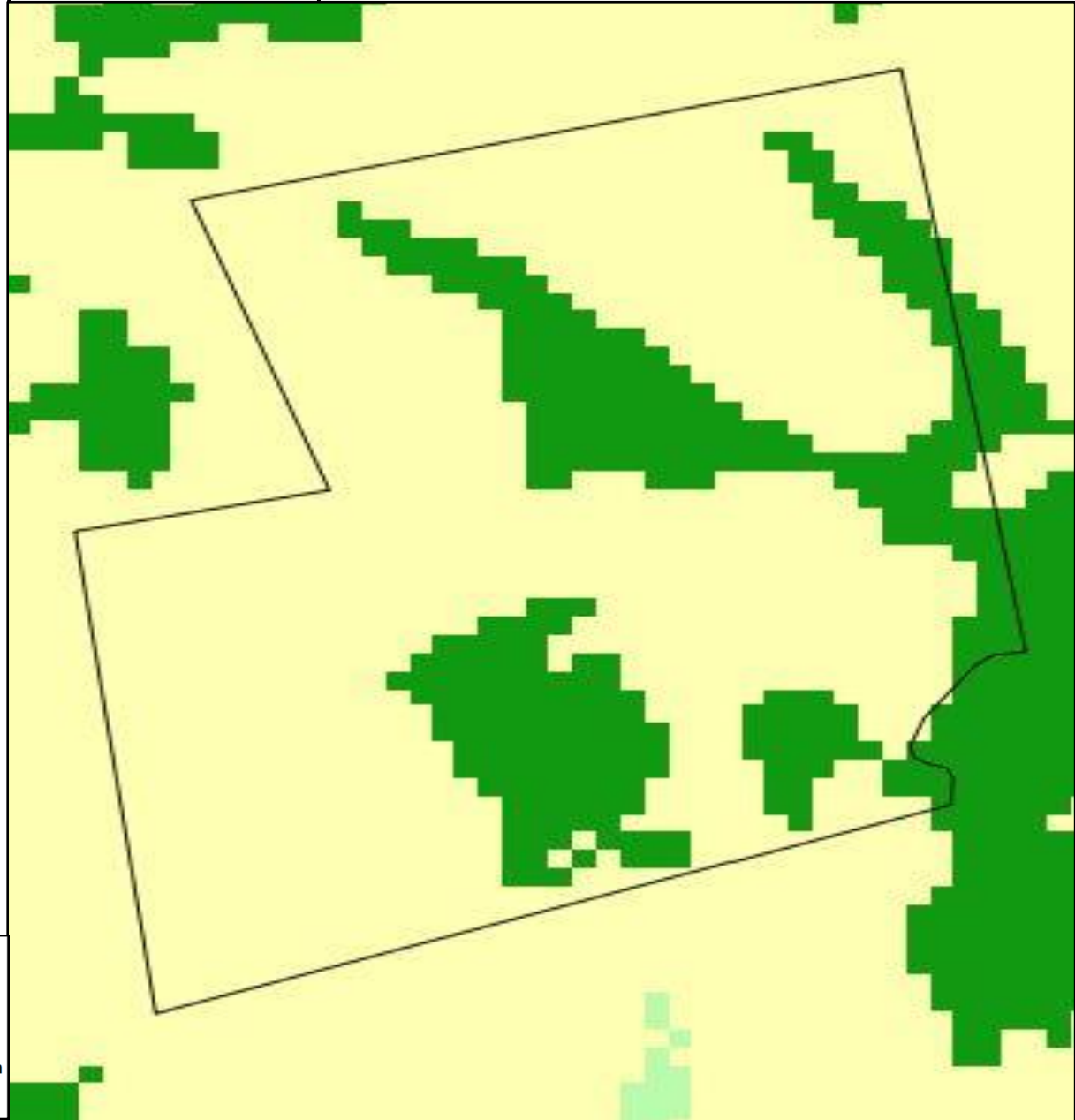
MapBiomias

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração

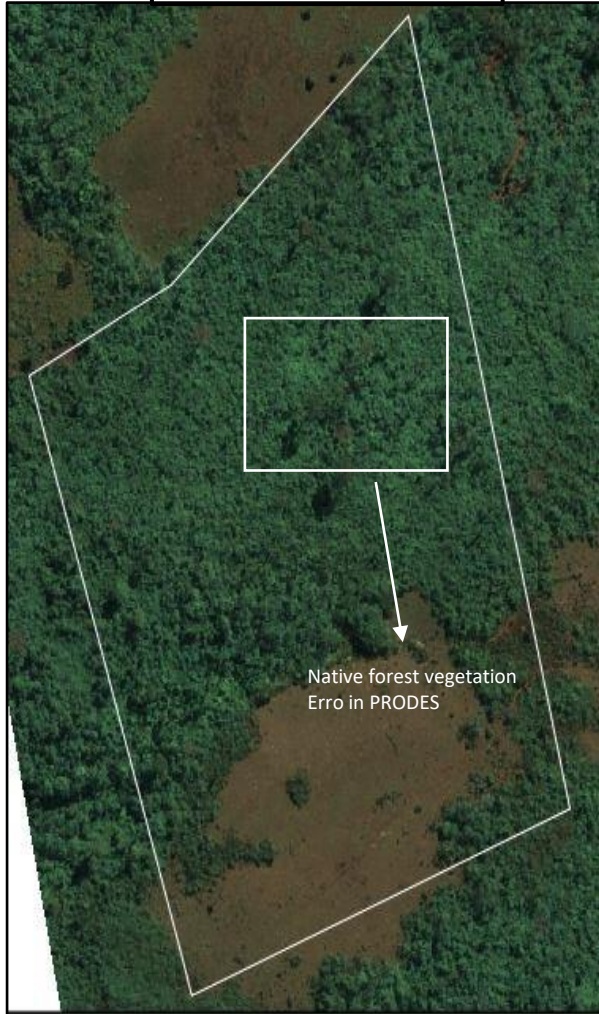


MapBiomias

-  Floresta
-  Não Floresta
-  Agropecuária
-  Área Não Vegetada
-  Água

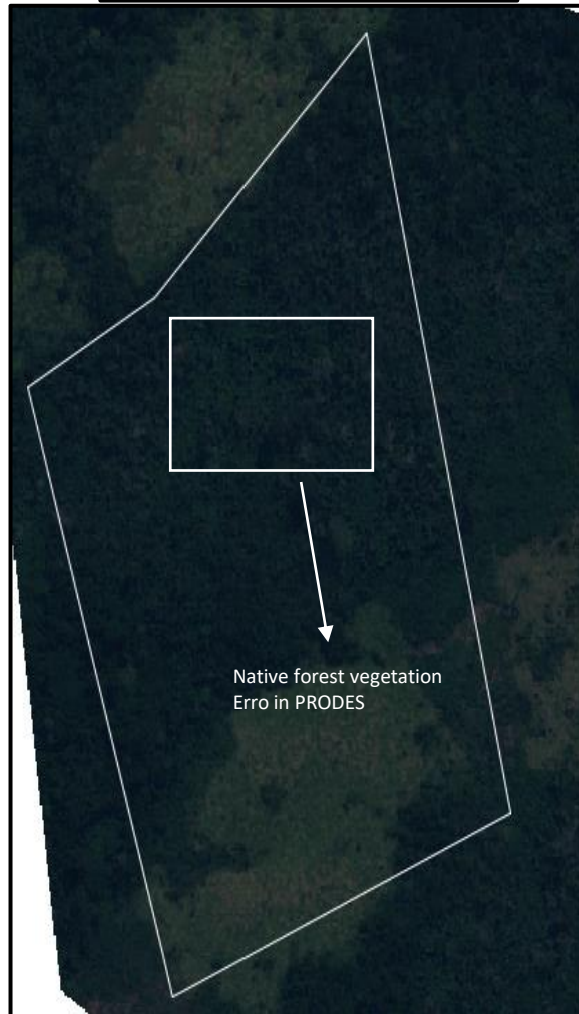


Pleiades – 07/2013

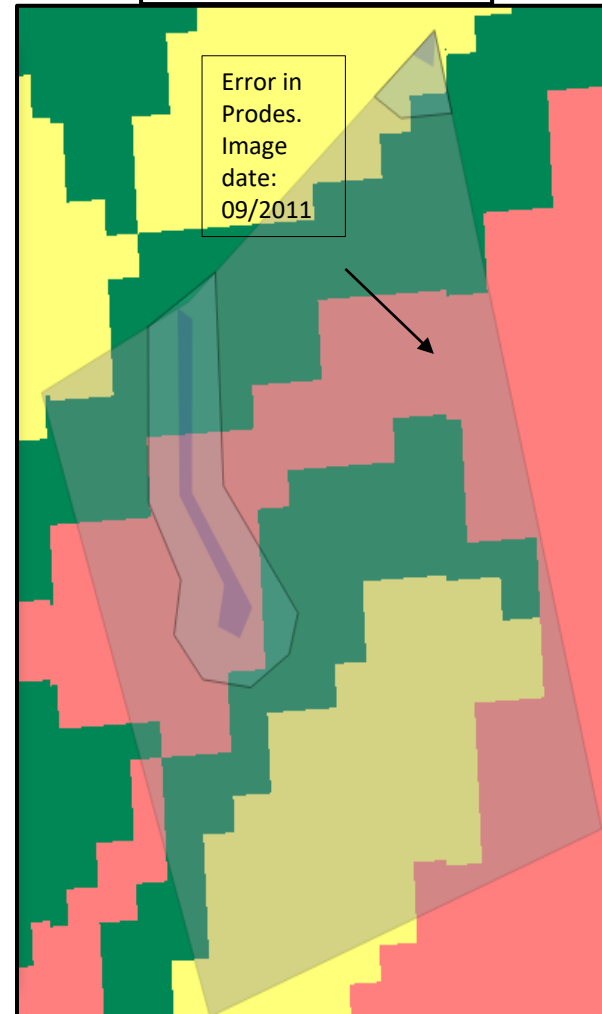


Property area
(ha): 17,19

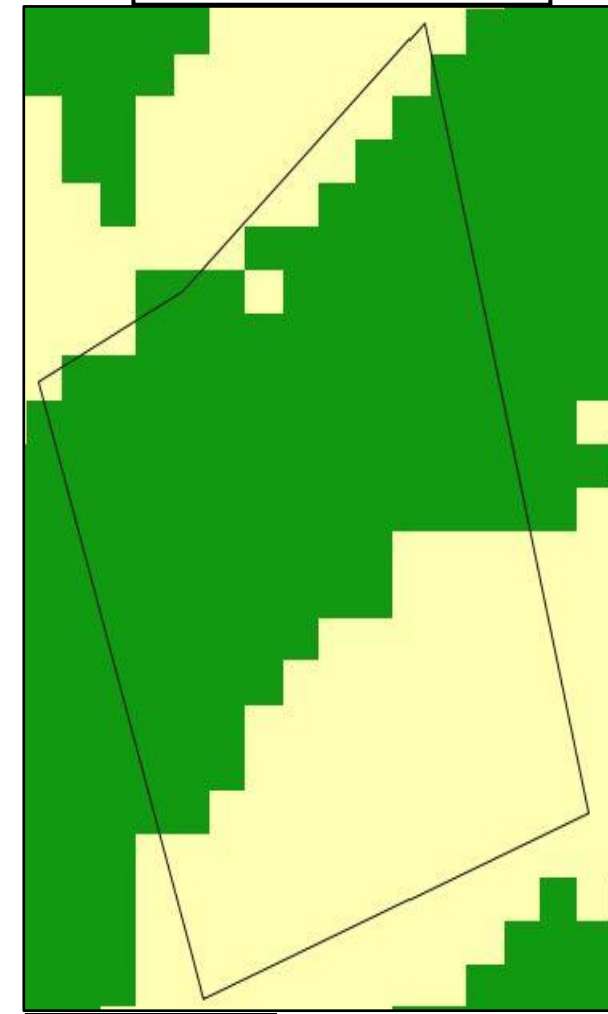
WorldView – 06/2011



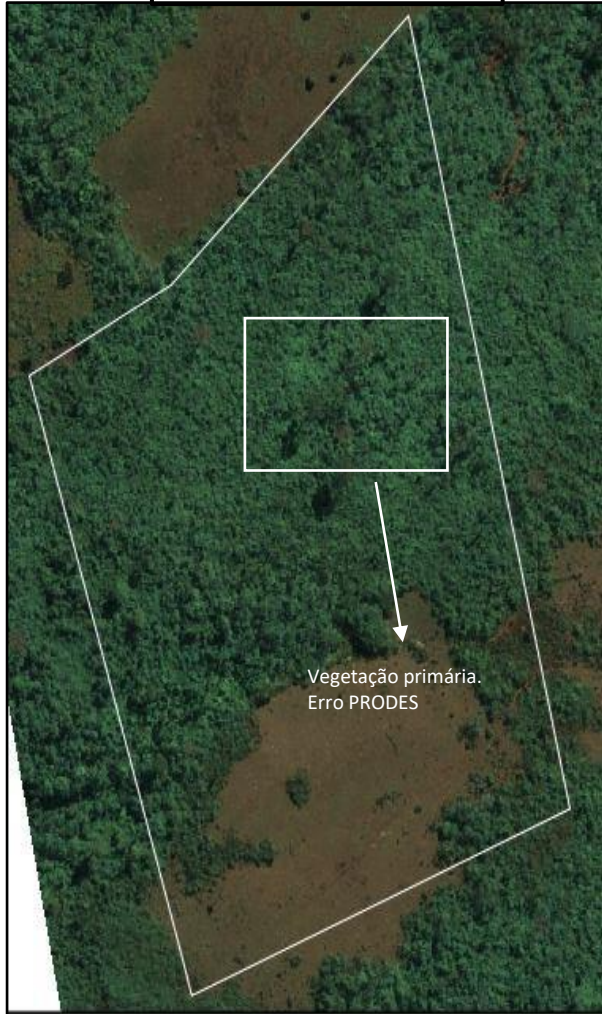
SeloVerde-PA



MapBiomass - 2013



Pleiades – 07/2013



Property area
(ha): 17,19

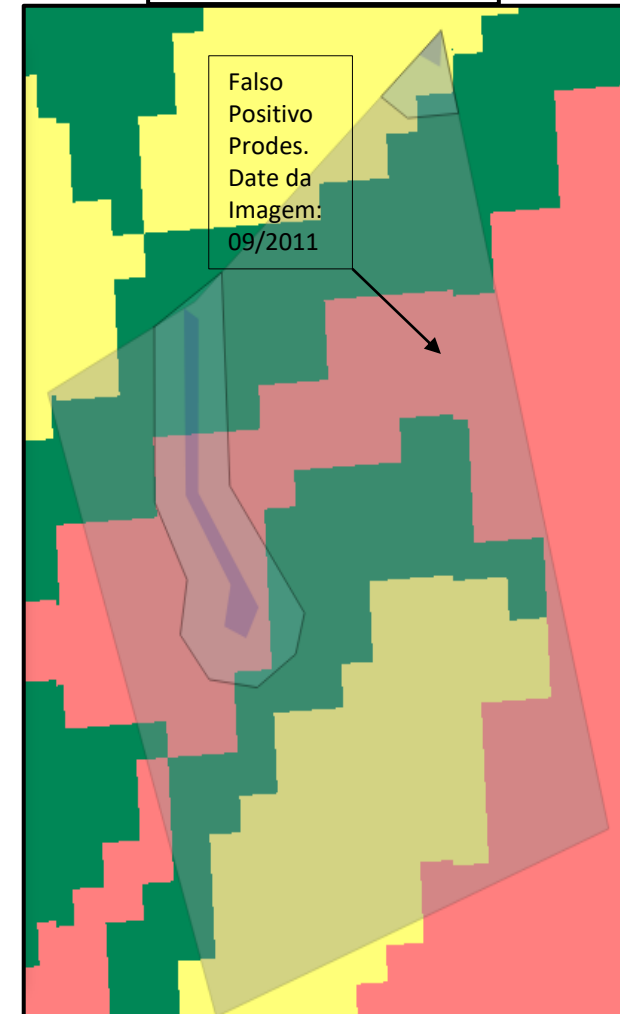
WorldView – 06/2011



PlanetScope – 06/2018



SeloVerde-PA



Pleiades – 07/2013



WorldView - 06/2011

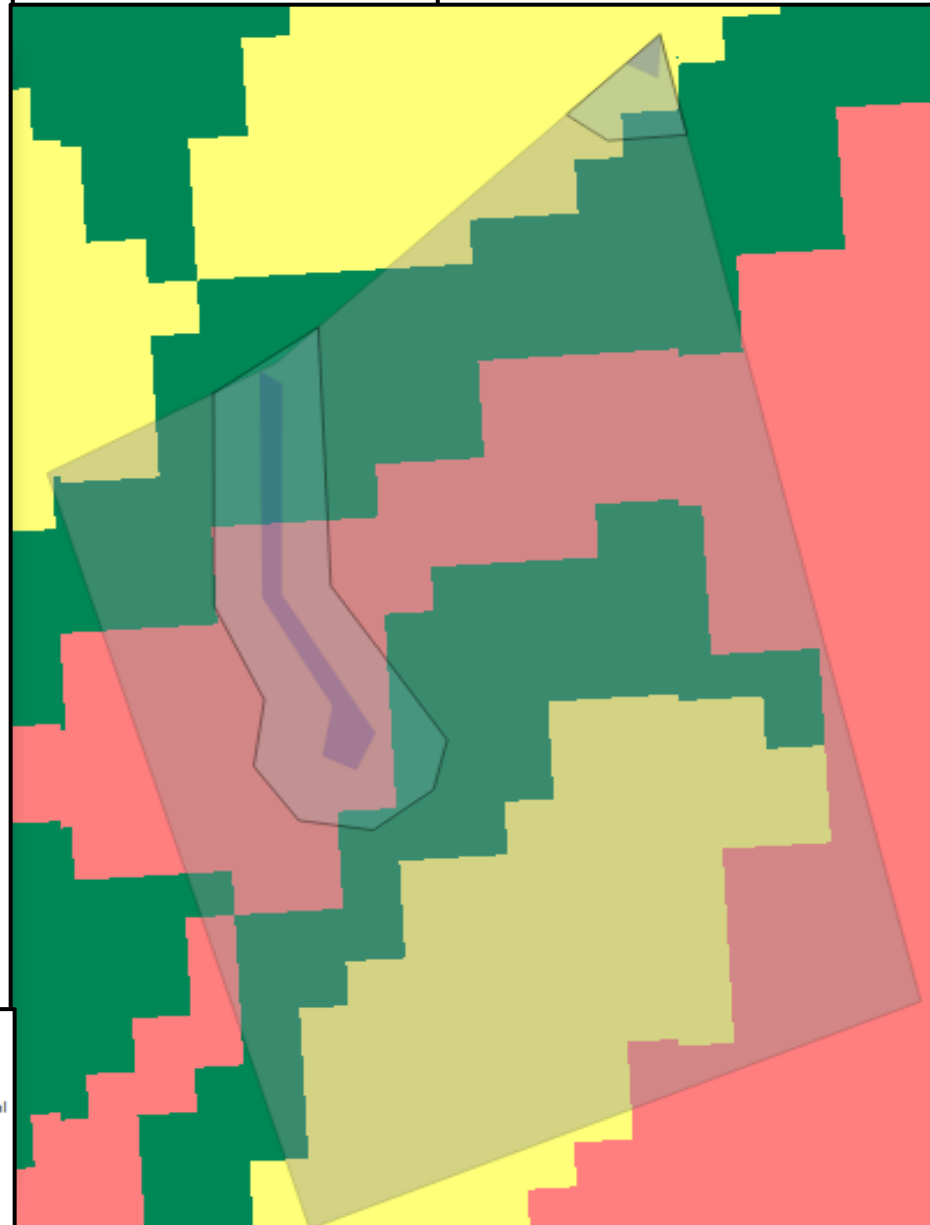
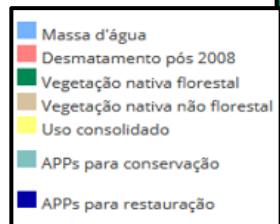


PlanetScope – 06/2018



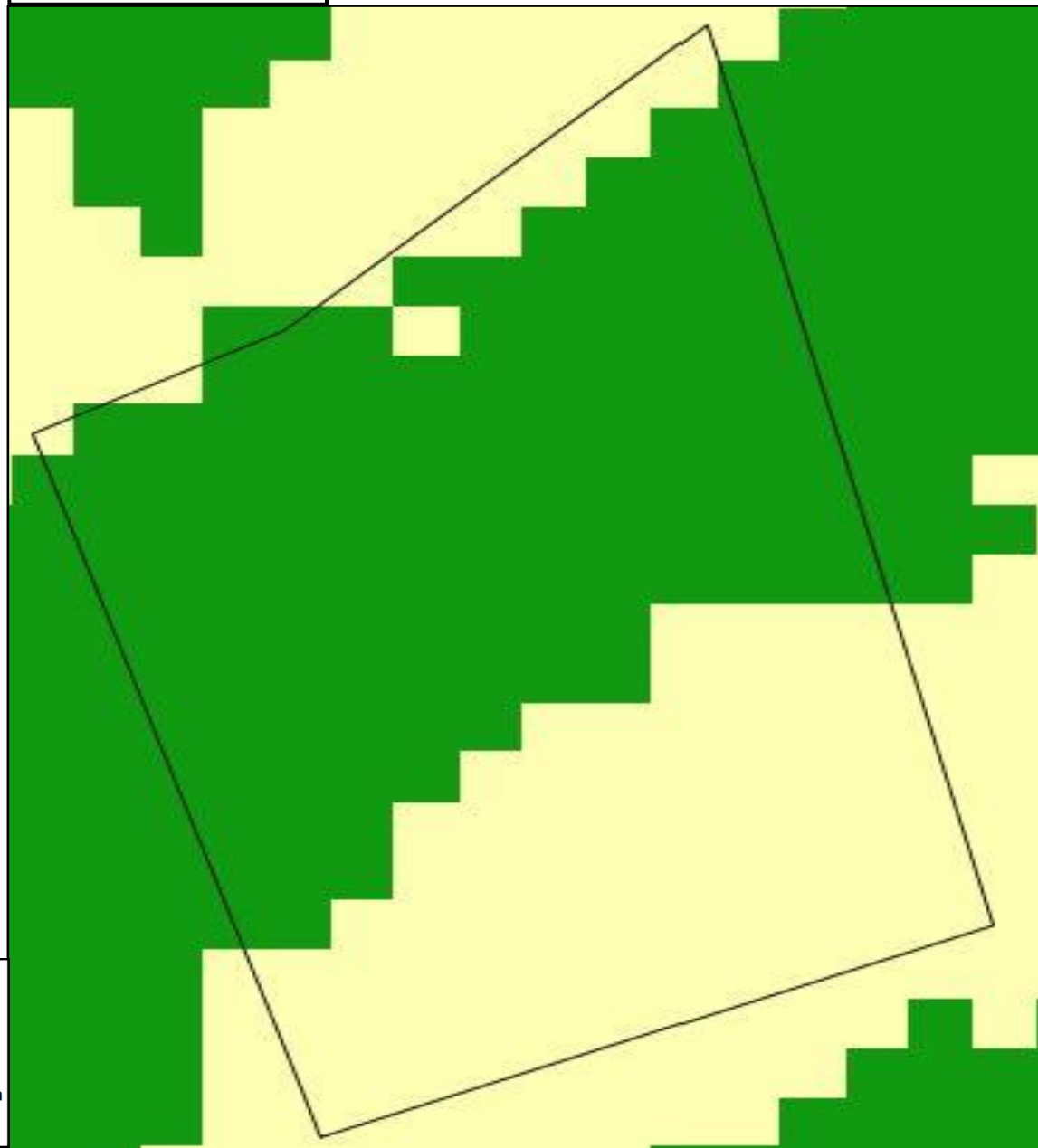
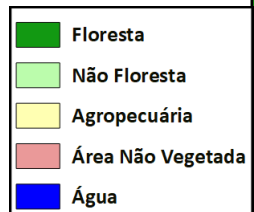
PA-1507300-09648842461A423C95A5672673421E73

SeloVerde-PA



PA-1507300-09648842461A423C95A5672673421E73

MapBiomias



Pleiades – 07/2013

WorldView – 06/2011

SeloVerde-PA

MapBiomás - 2013

Deforested área in recuperation

Deforested área in recuperation

Desforestation date:
09/2010

Property area
(ha): 44,29



Pleiades – 07/2013

WorldView – 06/2011

PlanetScope – 07/2016

SeloVerde-PA

Deforested área in recuperation

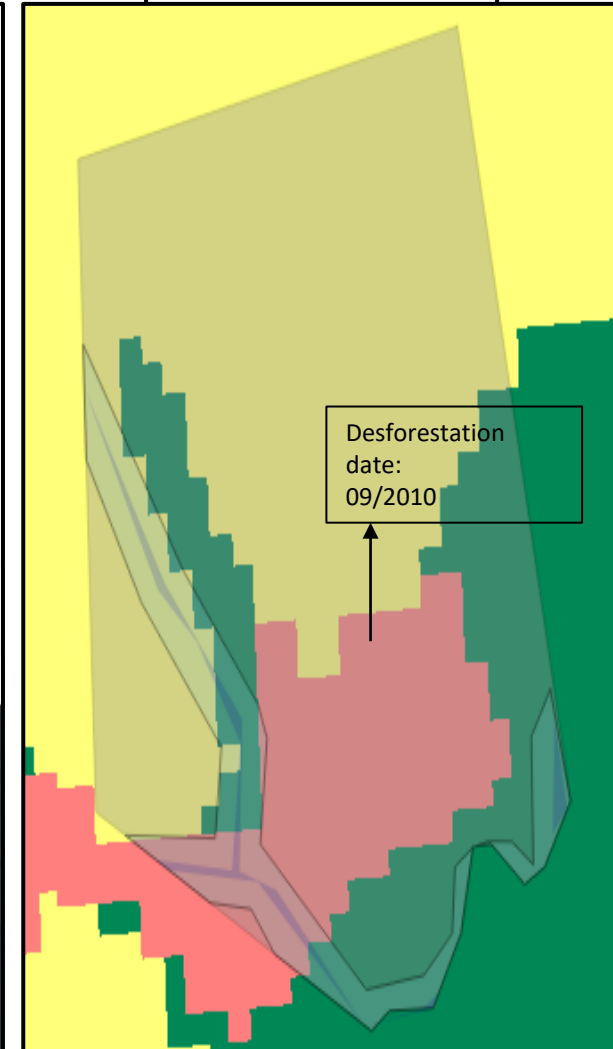
Deforested área

Secondary forest

Deforestation date:
09/2010

Property area
(ha): 44,29

- Massa d'água
- Desmatamento pós 2008
- Vegetação nativa florestal
- Vegetação nativa não florestal
- Uso consolidado
- APPs para conservação
- APPs para restauração



Pleiades – 07/2013



WorldView – 06/2011

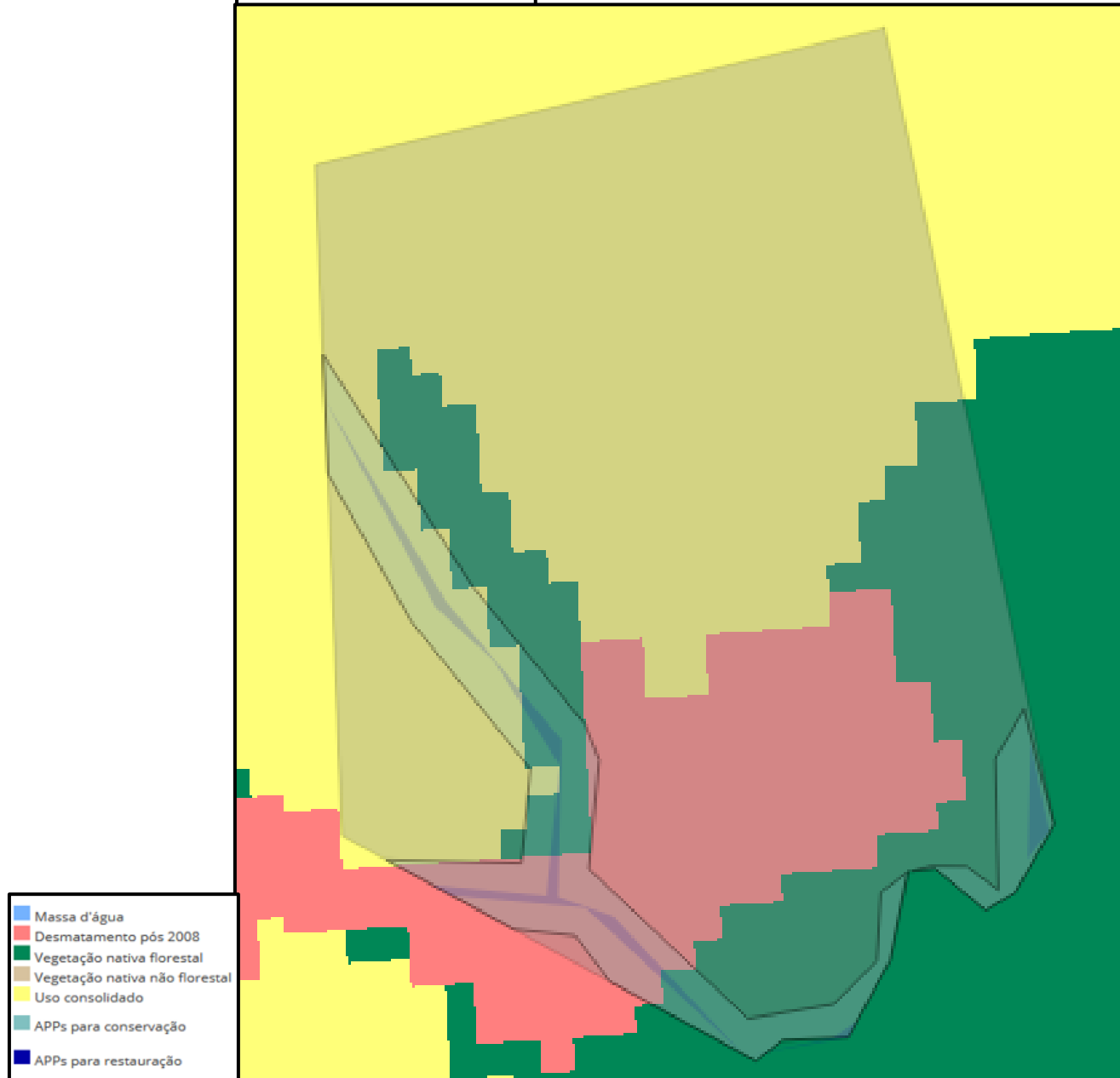


PlanetScope - 07/2016



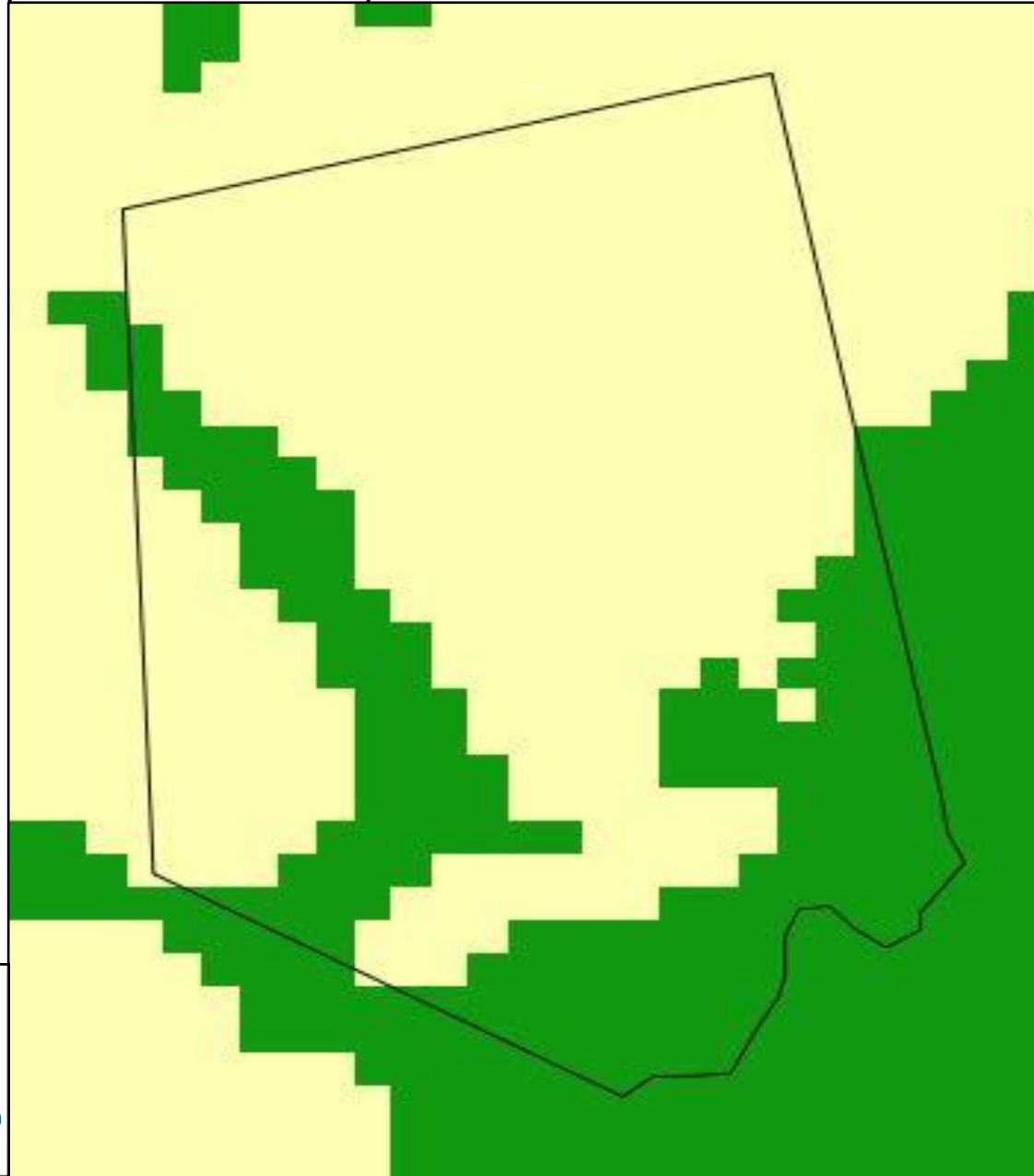
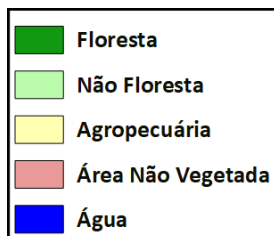
PA-1507300-3A61AF74BC054EC38B33D93905ED7017

SeloVerde-PA



PA-1507300-3A61AF74BC054EC38B33D93905ED7017

MapBiomias



Findings

- Occurrence of PRODES false positives in areas of secondary vegetation or in recovery.
 - slide 60 - PA-1507300-3A61AF74BC054EC38B33D93905ED7017
 - Slide 55 - PA-1507300-09648842461A423C95A5672673421E73
 - Slide 50 - PA-1507300-0DD3379E417E483EA6D8F98D87E4DB10
- In areas classified as agricultural by MapBiomas, it is possible to observe the presence of vegetation in both images. It also includes app areas.
 - slide 5- PA-1507300-4D6C713B87EF4A6291CDAB5DD2201C7B
 - Slide 40 - PA-1507300-EDB0C1183FF24F6EB1C305B3CE64428F