

# Maryland Protected Lands Data

## Assimilation and Standardization

### Guide

This document provides information on the assimilation and standardization of Maryland's protected lands datasets, with the goal to be included in the greater Chesapeake Bay Program Protected Land's Indicator dataset. The guide will walk through each dataset that comes from Maryland, the process of integrating it into the necessary format, what additional questions need to be asked of data providers, and the steps for integrating the disparate datasets into one final comprehensive one.

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Through the Chesapeake Conservation Partnership, Jake provides geospatial insights to the data collection and management.

## Process Guidance and Instructions:

### 1. Pull in PAD\_US Schema:

The blank Protected Areas Database of the US Schema is key to this work. This is the base format we will be adjusting all the Maryland datasets too. The Blank PAD-US 2.1 Schema as well as additional information can be found here (note there was an update of the PAD\_US dataset in September of 2020, it does not seem to have affected the schema as all 2.1 links go to PADUS2\_0 schema). Use the PADUS2\_0 Combined\_Fee\_Easement SCHEMA within the schema files folder:

### 2. <https://www.sciencebase.gov/catalog/item/5f186a2082cef313ed843257> Add 4 Fields for CBPO Use:

Four fields need to be added directly to each dataset, for Chesapeake Bay Program Office specific needs and uses. These are shown below and must be added to all datasets.

1. CBP\_Own\_Type (Text)
  - a. can be equal to 1 of the following: Federal, Local, Non-Governmental Organization, Other or Unknown, Private (Under conservation easement), or State
2. RasterOwn (Short)
  - a. RasterOwn is the value to populate the 5m raster dataset for acreage calculations toward the indicator. The value entered here shall be one of the following:
    - 1 Federal
    - 2 Joint
    - 3 Local
    - 4 Native American

- 5 Non-Governmental Organization
- 6 Private
- 7 State
- 8 Unknown

3. Property Name (Text)

- Enter the name that makes the most sense of the data. This is the field that will display on any mapping applications. (generally, Loc\_nm is also this name).
- Private = Private Landowner, give all else the name that makes the most sense with the data. Should be cleaned for proper case and consistency. E.g., not privately owned, private landowner and private landowner.

**3. Download most recent MD Protected Lands Layer:**

Maryland MHT Preservation Easements - Maryland Historical Trust Preservation Easements

Maryland Protected Lands - DNR Owned Properties and Conservation Easements

Maryland Protected Lands - Forest Conservation Act Easements

Maryland Protected Lands - MD Environmental Trust Easements

Maryland Protected Lands - MD Agricultural Land Preservation Foundation Easements

Maryland Agricultural Designations - Permanently Preserved Agricultural Lands

Maryland Protected Lands Acquisitions - Rural Legacy 2017 Acquisitions General

Maryland Protected Lands - Rural Legacy Properties

Maryland Protected Lands - Transfer Development Rights and Purchase Development Rights

Maryland Protected Lands - Local Protected Lands

Maryland Protected Lands - Private Conservation Lands

[https://drive.google.com/file/d/1\\_hpWX2\\_H9NDn47BIZst43SLXxFF\\_ISY/view?usp=sharing](https://drive.google.com/file/d/1_hpWX2_H9NDn47BIZst43SLXxFF_ISY/view?usp=sharing)

## Dataset Specific Steps

### Maryland Protected Lands - DNR Owned Properties and Conservation Easement (9/29/17)

“The Maryland Department of Natural Resources (DNR) manages over 446,000 acres of public lands and protected open space in the state. The DNR Lands data (part of Technology Toolbox

Protected Lands data set) consists of mapped information that represent those lands that are owned by the Maryland Department of Natural Resources”

Download shapefile from MD iMap:

[https://data.imap.maryland.gov/datasets/a5de633b6ebf450b94dcb08b519c3414\\_0?orderBy=LandIntere&page=5](https://data.imap.maryland.gov/datasets/a5de633b6ebf450b94dcb08b519c3414_0?orderBy=LandIntere&page=5)

1. Extract and import to GDB
2. Right click new shapefile and add to current map
3. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
4. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands - DNR Owned Properties and Conservation Easements**

Target dataset:

**MPL\_DNROPCE\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

#### Mappable Attributes to Field Guide

Schema Data Name	Attribute Field Name	Notes
<b><u>Category</u></b>	LandIntere	If LandIntere = OWN, then = Fee If LandIntere = CE, then = Easement
Mang_Name	ManagedBy	
Loc_Ds	DESIG	
Loc_Nm	DNRName	
<b><u>Source PAID</u></b>	ObjectID	
Comments	WebLink	
Property_Name	DNRName	Clean for proper case if possible.

Attributes that have to be manually input

Attribute Name	Manual Input	Notes
<b><u>Own Type</u></b>	State	This is from Maryland DNR
<b><u>Own Name</u></b>		Official PAD format is only for direct data providers to PAD, if the data provider has PAD format and includes this standardized field, in the correct format, we carry it forward, otherwise leave blank.
<b><u>Loc Own</u></b>	Maryland Department of Natural Resources	If easement, then Private Landowner
Mang_Type		
Des_Tp		
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	
<b><u>Agg Src</u></b>	Maryland Protected Lands - DNR Owned Properties and Conservation Easements	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/a5de633b6ebf450b94dcb08b519c3414_0">https://data.imap.maryland.gov/datasets/a5de633b6ebf450b94dcb08b519c3414_0</a>	
<b><u>Src Date</u></b>	2017/09/21	PAD_US 2.0 format YYYY/MM/DD
<b><u>GIS Acres</u></b>		Fill with Calculate Geometry
WDPA_Cd		
<b><u>Access</u></b>		
Access_Src		
Access_Dt		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNCtSRC		
IUCNCtDt		
<b><u>Date Est</u></b>		
<b><u>EsmtHldr</u></b>	Maryland Department of Natural Resources	

<b><u>EHoldTyp</u></b>	STAT	Easement held by State Agency
CBP_Own_Type	State	If easement then Private (under conservation easement)
RasterOwn	7	If PVT then 6

## Maryland Protected Lands - Forest Conservation Act Easements

1. "The Forest Conservation Act of 1991 requires units of local government with planning and zoning authority to establish and implement local forest conservation programs, and provides for the Department of Natural Resources (DNR) administration of forest conservation requirements. While DNR holds the easement on this lands the programs are administered at the local level. Download from website:  
[https://data.imap.maryland.gov/datasets/16c99455af424ae699c670473e35d2fa\\_3](https://data.imap.maryland.gov/datasets/16c99455af424ae699c670473e35d2fa_3)
2. Extract and import to GDB
3. Right click new shapefile and add to current map
4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands- Forest Conservation Act Easement**

Target dataset:

**MPL\_FCAE\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

### Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
Loc_Nm	Name	
<b><u>GIS Acres</u></b>	Acres	
<b><u>Source PAID</u></b>	OBJECTID	
<b><u>Date Est</u></b>	Date	Needs to be coded to only take the yyyy, as it includes m/dd/yyyy, time

Attributes that have to be manually input

Schema Layer	Fill in	Notes
<b><u>Category</u></b>	Easement	
<b><u>Own Type</u></b>	Private	
<b><u>Own Name</u></b>	Private Landowner	
<b><u>Loc Own</u></b>	Privately Owned	
Mang_Type		
Mang_Name		
Loc_Mang		
Des_Tp		
Loc_Ds	"Type:" [Type]	Capture the type field in the note by creating the word "Type:" then the value of that field
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	All of these easements are from iMap MD
<b><u>Agg Src</u></b>	Maryland Protected Lands- Forest Conservation Act Easement	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/16c99455af424ae699c670473e35d2fa_3">https://data.imap.maryland.gov/datasets/16c99455af424ae699c670473e35d2fa_3</a>	
<b><u>Src Date</u></b>	06/05/2018	From metadata
WDPA_Cd		
<b><u>Access</u></b>		
Access_Src		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNcSrc		
IUCNcDt		
Comments		

<b><u>EsmtHldr</u></b>	Maryland Department of Natural Resources	All of these easements are DNR owned, as stated in the descriptive text for the layer on iMap
<b><u>EHoldTyp</u></b>	STAT	All of these easements are MD DNR owned, as stated in the descriptive text for the layer on iMap
Property_Name	Private Landowner	Property_Name = Own_Name
CBP_Own_Type	Private (under conservation easement)	
RasterOwn	6	

## Maryland Protected Lands – MD Environmental Trust Easements

“The Maryland Environmental Trust (MET) is a statewide local land trust governed by a citizen Board of Trustees. Since its creation by the General Assembly in 1967, MET’s main goal is the preservation of open land, such as farmland, forest land, and significant natural resources. The primary tool for doing this is the conservation easement, a voluntary agreement between a landowner and the MET Board of Trustees.”

1. Download from website:  
[https://data.imap.maryland.gov/datasets/4a6a516aebcc4992ab1164bf5171c277\\_2](https://data.imap.maryland.gov/datasets/4a6a516aebcc4992ab1164bf5171c277_2)
2. Extract and import to GDB
3. Right click new shapefile and add to current map
4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands- MD Environmental Trust Easements**

Target dataset:

**MPL\_METE\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
Loc_Nm	Easement #	
<b><u>GIS Acres</u></b>	METAcrees	
<b><u>Source PAID</u></b>	OBJECTID	



Attributes that have to be manually input

Schema Layer	Fill in	Notes
<b><u>Category</u></b>	Easement	All of these are easements, as shown by the title
<b><u>Own Type</u></b>	PVT	
Own_Nm		
<b><u>Loc Own</u></b>	Privately Owned	
Mang_Type		
Mang_Name		
Loc_Mang		
Des_Tp		
Loc_Ds		
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	
<b><u>Agg Src</u></b>	MD Environmental Trust Easements	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/4a6a516aebcc4992ab1164bf5171c277_2">https://data.imap.maryland.gov/datasets/4a6a516aebcc4992ab1164bf5171c277_2</a>	
<b><u>Src Date</u></b>	2019/02/01	
WDPA_Cd		
<b><u>Access</u></b>		
Access_Src		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNcSrc		
IUCNcDt		
<b><u>Date Est</u></b>		

Comments	“Easement Coholder” + space [Coholder Organization]	
<b><u>EsmtHldr</u></b>	Maryland Environmental Trust	All of these easements are from iMap MD
<b><u>EHoldTyp</u></b>	NGO	MET is a land trust
Property_Name	Private Landowner	
CBP_Own_Type	Private (under conservation easement)	
RasterOwn	6	

## Maryland Protected Lands - MD Agricultural Land Preservation Foundation Easements

“The Maryland Agricultural Land Preservation Foundation (MALPF), housed within the Maryland Department of Agriculture (MDA), protects agricultural lands through the use of perpetual easements. MALPF’s primary purpose is to preserve productive agricultural land and woodland to provide for the continuing production of food and fiber for the citizens of Maryland. This is accomplished by landowners voluntarily applying to sell an easement on their property through a competitive State-wide application process.”

1. Download from website:  
[https://data.imap.maryland.gov/datasets/fe11b829c9a0477b8a370c063b05e29e\\_4](https://data.imap.maryland.gov/datasets/fe11b829c9a0477b8a370c063b05e29e_4)
2. Extract and import to GDB
3. Right click new shapefile and add to current map
4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands- MD Agricultural Land Preservation Foundation Easements**

Target dataset:

**MPL\_MAPLFE\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
<b><u>Category</u></b>	Category	
<b><u>Own Type</u></b>	Own_Type	
<b><u>Own Name</u></b>	Own_Name	
<b><u>Loc Own</u></b>	Loc_Own	
<b><u>Loc Nm</u></b>	Unit_Nm	
<b><u>State Nm</u></b>	State	
<b><u>Agg Src</u></b>	Agg_Src	
<b><u>GIS Acres</u></b>	GIS_Acres	
<b><u>Source PAID</u></b>	Unique_ID	
<b><u>Access</u></b>	Access	
<b><u>Date Est</u></b>	Date_Est	
Comments	Weblink	
<b><u>EsmtHldr</u></b>	EsmtHldr	
<b><u>EHoldTyp</u></b>	EHoldTyp	

Attributes that have to be manually input

Schema Layer	Fill in	Notes
Mang_Type		
Mang_Name		
Loc_Mang		
Des_Tp		
Loc_Ds		
<b><u>Unit Nm</u></b>		
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/fe11b829c9a0477b8a370c063b05e29e_4">https://data.imap.maryland.gov/datasets/fe11b829c9a0477b8a370c063b05e29e_4</a>	
<b><u>Src Date</u></b>	2018/03/30	
WDPA_Cd		
Access_Src		
Access_Dt		
GAP_Sts		

GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNcSrc		
IUCNcDt		
Property_Name	Private Landowner	
CBP_Own_Type	Private (under conservation easement)	
RasterOwn	6	

## Maryland Archived Agricultural Designations – Archived Permanently Preserved Agricultural Lands

“This layer contains lands that have been forever restricted from development on prime farmland and woodland.”

1. Download from website:  
[https://data.imap.maryland.gov/datasets/fecbf3e8da1c4f0abb05afcb9735b98c\\_0](https://data.imap.maryland.gov/datasets/fecbf3e8da1c4f0abb05afcb9735b98c_0)
2. Extract and import to GDB
3. Right click new shapefile and add to current map
4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Archived Agricultural Designations- Archived Permanently Preserved Agricultural Lands**

Target dataset:

**MPL\_PPAL\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

### Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
Loc_Ds	ProtType	
Loc_Nm	EASE_NUM_N	
<b><u>GIS Acres</u></b>	ACRES	

<b><u>Source PAID</u></b>	OBJECTID	
<b><u>Date Est</u></b>	SOLD_DATE	Check for yyyy
Comments	Comment	
<b><u>EsmtHldr</u></b>	EASE_HOLDE	

Attributes that have to be manually input

Schema Layer	Fill in	Notes
Category	Easement	
<b><u>Own Type</u></b>	Private	
<b><u>Own Name</u></b>	Private Landowner	
<b><u>Loc Own</u></b>	Privately Owned	
Mang_Type		
Mang_Name		
Loc_Mang		
Des_Tp		
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	
<b><u>Agg Src</u></b>	Maryland Archived Agricultural Designations - Archived Permanently Preserved Agricultural Lands	
<b><u>GIS Src</u></b>	<a href="https://archive.geodata.md.gov/imap/rest/services/Agriculture/MD_ArchivedAgriculturalDesignations/FeatureServer/0/query?outFields=*&amp;where=1%3D1">https://archive.geodata.md.gov/imap/rest/services/Agriculture/MD_ArchivedAgriculturalDesignations/FeatureServer/0/query?outFields=*&amp;where=1%3D1</a>	
<b><u>Src Date</u></b>	2017/06/01	
WDPA_Cd		
<b><u>Access</u></b>		

Access_Src		
Access_Dt		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNCtSrc		
IUCNCtDt		
<b><u>EHoldTyp</u></b>	Private	
Property_Name	Private Landowner	
CBP_Own_Type	Private (under conservation easement)	
RasterOwn	6	

## Maryland Protected Lands – Rural Legacy Properties

“In 1997, the Maryland General Assembly approved the Rural Legacy Program as a major component of Governor Glendening's Smart Growth and Neighborhood Conservation Initiative. The purpose of the Rural Legacy Program is to protect Maryland's best remaining rural landscapes and natural areas through the purchase of land or conservation easements. Funds are awarded by grants to sponsors to purchase fee simple interests or easements on property within a Rural Legacy Area. This file consists of properties that have been protected using Rural Legacy funds.”

1. Download from website:  
<https://data.imap.maryland.gov/datasets/adf0a66d6426404696f1663208b0f9601>
2. Extract and import to GDB
3. Right click new shapefile and add to current map
4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands- Rural Legacy Properties**

Target dataset:

**MPL\_RLP\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

### Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
Loc_Nm	RLArea	
<b><u>GIS Acres</u></b>	Acres	
<b><u>Source PAID</u></b>	GIS Object ID	
Comments	WebLink	

### Attributes that have to be manually input

Schema Layer	Fill in	Notes
<b><u>Category</u></b>	Easement	We assumed "easement" in past datasets* assumed again for the purpose of this project.
<b><u>Own Type</u></b>	Private	
<b><u>Own Name</u></b>	Private Landowner	
<b><u>Loc Own</u></b>	Privately Owned	
Mang_Type		
Mang_Name		
<b><u>Loc Mang</u></b>		
Des_Tp		
Loc_Ds		
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	
<b><u>Agg Src</u></b>	Maryland Rural Legacy Properties	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/adf0a66d6426404696f1663208b0f9601">https://data.imap.maryland.gov/datasets/adf0a66d6426404696f1663208b0f9601</a>	
<b><u>Src Date</u></b>	2018/01/23	
<b><u>WDPA Cd</u></b>		
<b><u>Access</u></b>		
Access_Src		

Access_Dt		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNCtSrc		
IUCNCtDt		
<b><u>Date Est</u></b>		
EsmtHldr	Rural Legacy Program	
<b><u>EHoldTyp</u></b>	State	
Property_Name	Private Landowner	(assumed private, checking with data provider)
CBP_Own_Type	Private (under conservation easement)	(assumed private, checking with data provider)
RasterOwn	6	

## Maryland Protected Lands – Transfer Development Rights and Purchase Development Rights

“Transfer of Development Rights (TDR) and Purchase of Development Rights (PDR) are two tools used to protect lands from development. "Transfer of Development Rights (TDR) is a voluntary, incentive-based program that allows landowners to sell development rights from their land to a developer or other interested party who then can use these rights to increase the density of development at another designated location. While the seller of development rights still owns the land and can continue using it, an easement is placed on the property that prevents further development.” Download from website:

[https://data.imap.maryland.gov/datasets/524e46dfb56b46729c23dcffae5c1587\\_9](https://data.imap.maryland.gov/datasets/524e46dfb56b46729c23dcffae5c1587_9)

1. Extract and import to GDB
2. Right click new shapefile and add to current map



3. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
4. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands-** Transfer Development Rights and Purchase Development Rights

Target dataset:

**MPL\_TDRPDR\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

#### Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
Loc_Mang	WebLink	
Loc_Ds	ProtType	
Loc_Nm	EaseNum	
<b><u>GIS Acres</u></b>	GISAcres	
<b><u>Source PAID</u></b>	OBJECTID	
<u>Comments</u>	Comment	
<b><u>EsmthHldr</u></b>	EaseHold	

#### Attributes that have to be manually input

Schema Layer	Fill in	Notes
<b><u>Category</u></b>	Easement	
<b><u>Own Type</u></b>	Private	
<b><u>Own Name</u></b>		
<b><u>Loc Own</u></b>		
Mang_Type		
Mang_Name		
<u>Loc Mang</u>		
<u>Des Tp</u>		
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	

<b><u>Agg Src</u></b>	Maryland Protected Lands- Transfer Development Rights and Purchase Development Rights	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/524e46dfb56b46729c23dcffae5c1587_9">https://data.imap.maryland.gov/datasets/524e46dfb56b46729c23dcffae5c1587_9</a>	
<b><u>Src Date</u></b>	2015/12/09	
<b><u>WDPA Cd</u></b>		
<b><u>Access</u></b>		
Access_Src		
Access_Dt		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNctSrc		
IUCNctDt		
<b><u>Date Est</u></b>		
EHoldTyp		
Property_Name	Private Landowner	
CBP_Own_Type	Private (under conservation easement)	
RasterOwn	6	

## Maryland Protected Lands – Local Protected Lands

“This data illustrates parcels subject to some type of preservation easement as well as properties owned by federal, state, and local governments. In addition, properties owned by local land trusts and private conservation organizations such as The Nature Conservancy are included. Conversation easements include easements from the Maryland Agricultural Land Preservation Foundation (MALPF), Rural Legacy, Forest Legacy, Maryland Environmental Trust (MET), county and state purchases of development rights, transfers of development rights, open

space from homeowner’s associations, local open space requirements, and private conservation easements.”

1. Download from website:  
[https://data.imap.maryland.gov/datasets/77c20913139d4534b1aa5c72f18d1cde\\_5](https://data.imap.maryland.gov/datasets/77c20913139d4534b1aa5c72f18d1cde_5)
2. Extract and import to GDB
3. Right click new shapefile and add to current map
4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands- Local Protected Lands**

Target dataset:

**MPL\_LPL\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

#### Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
Loc_Nm	Name	
<b><u>Source PAID</u></b>	GIS Object ID	
<u>Property Name</u>	Name	

#### Attributes that have to be manually input

Schema Layer	Fill in	Notes
<b><u>Category</u></b>	Fee	
<b><u>Own Type</u></b>	Local	
<b><u>Own Name</u></b>	Local Government	
<b><u>Loc Own</u></b>		
<u>Mang Type</u>		
<u>Mang Name</u>		
<u>Loc Mang</u>		
Des_Tp		
Loc_Ds		

<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	
<b><u>Agg Src</u></b>	Maryland Protected Lands- Local Protected Lands	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/77c20913139d4534b1aa5c72f18d1cde_5">https://data.imap.maryland.gov/datasets/77c20913139d4534b1aa5c72f18d1cde_5</a>	
<b><u>Src Date</u></b>	2014/05/01	
<b><u>GIS Acres</u></b>		
WDPA_Cd		
<b><u>Access</u></b>		
Access_Src		
Access_Dt		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNCtSrc		
IUCNCtDt		
<b><u>Date Est</u></b>		
<b><u>Comments</u></b>		
<b><u>EsmtHldr</u></b>		
<b><u>EHoldTyp</u></b>		
CBP_Own_Type	Local	
RasterOwn	3	

## Maryland Protected Lands – Private Conservation Lands

“The Private Conservation data layer is a collection of properties that are protected from development by a Private Conservation group or society either through ownership or conservation easement.”

1. Download from website:  
[https://data.imap.maryland.gov/datasets/8e7dc14259cb407bb88e2d29312e3395\\_7](https://data.imap.maryland.gov/datasets/8e7dc14259cb407bb88e2d29312e3395_7)
2. Extract and import to GDB
3. Right click new shapefile and add to current map

4. Create specific version of PAD\_US schema to correlate with this dataset and place this in GDB
5. Use append tool to append MD dataset to data-specific PAD\_US Schema

Input dataset:

**Maryland Protected Lands- Private Conservation Lands**

Target dataset:

**MPL\_PCL\_Schema**

Schema Type:

**-Use the Field Map to reconcile schema differences**

#### Mappable Attributes to Field Guide

Schema Layer	Data Layer	Notes
<b><u>Own Name</u></b>	PRI_CON_GP	
<b><u>Loc Own</u></b>	OWNER	
Loc_Nm	AREA_NAME	
<b><u>Source PAID</u></b>	OBJECTID	
Comments	WebLink	
<b><u>EsmtHldr</u></b>	PRI_CON_GP	
Property_Name	AREA_NAME	

#### Attributes that have to be manually input

Schema Layer	Fill in	Notes
<b><u>Category</u></b>	Fee	Can be Fee or Easement (data does not provide enough information to discern which)
<b><u>Own Type</u></b>	Non-Governmental Organization	
<b><u>Mang Type</u></b>		
<b><u>Mang Name</u></b>		
<b><u>Loc Mang</u></b>		
<b><u>Des Tp</u></b>		
<b><u>Loc Ds</u></b>		
<b><u>Unit Nm</u></b>		
<b><u>State Nm</u></b>	Maryland	

<b><u>Agg Src</u></b>	Maryland Protected Lands- Private Conservation Lands	
<b><u>GIS Src</u></b>	<a href="https://data.imap.maryland.gov/datasets/8e7dc14259cb407bb88e2d29312e3395_7">https://data.imap.maryland.gov/datasets/8e7dc14259cb407bb88e2d29312e3395_7</a>	
<b><u>Src Date</u></b>	2014/05/01	
<b><u>GIS Acres</u></b>		
WDPA_Cd		
<b><u>Access</u></b>		
Access_Src		
Access_Dt		
GAP_Sts		
GAPCdSrc		
GAPCdDt		
IUCN_Cat		
IUCNCtSrc		
IUCNCtDt		
<b><u>Date Est</u></b>		
<b><u>EsmtHdr</u></b>		
<b><u>EHoldTyp</u></b>		
CBP_Own_Type	Non-Governmental Organization	
RasterOwn	5	

## Toolbox for Assimilation Process

Once the Maryland Protected Lands Data Assimilation Walkthrough was passed, the team at NatureServe developed toolboxes to replicate this process in a Python environment. This resulted in a set of three toolboxes, with the first two directly creating a finalized dataset for each data source and the third working to remove duplicate layers from that dataset. Here is a brief breakdown of each toolbox:

Toolbox one: Create gdb from shapefile, feature class or feature layer

1. Create gdb based on PADUS\_2\_0 Schema.
2. Create feature class from input data set (shapefile, feature class, or feature layer)

3. If a PADUS\_2\_0\_MASTER.gdb does not already exist, create it.
4. Verify that Input\_fields in .csv are actually in the input fc and if not end the script, providing a message with the offending Input\_field.
5. Add CBP specific fields, including CBP\_FC to include name of data set to PADUS2\_0Combined schema.
6. To new gdb, add crosswalk\_csv and input feature class, provided via feature layer (URL) or shapefile.
7. According to crosswalk.csv, rename, add, calculate fields to match PADUS2\_0Combined schema
8. Copy data from input feature class to PADUS2\_0Combined fc
9. Populate CBP\_FC field within input feature class name so can easily delete records if necessary

**Toolbox two:** Append to Master PADUS2\_0Combined

Append data from PADUS2\_0Combined feature class (input\_file) to PADUS2\_0Combined feature class (master\_file) in the PADUS\_2\_0\_MASTER.gdb.

**Toolbox three:** Delete Rows from Master PADUS2\_0 Combined

Removes rows from the MASTER PADUS2\_0Combined feature class according to the name of the input data set, as automatically recorded within the CBP\_FC field.

These toolboxes can be found here:

<https://drive.google.com/file/d/1TtdZQz93ltmHfNq8lqVsga1QSI44Y4y0/view?usp=sharing>

## Documentation for Owner Type and LC Calculations Processes

### Acreage by Land Owner Type

- Rasterize by land owner type using Polygon to Raster tool to get rid of any overlapping boundaries
  - **Input features:** Final Maryland Protected Lands Dataset
  - **Value Field:** Own\_Type
  - **Output Raster Dataset:** Maryland Protected Lands by Owner
  - **Cell assignment type:** cell center
  - **Priority field:** GIS\_Acres
  - **Cell size:** 5
- Once this raster is completed, we can use it to document acreage by cell size
- Reproject raster to UTM 18 to confirm cell size as one meter using **Project Raster**
  - **Input Raster:** Maryland Protected Lands by Owner
  - **Output Raster Dataset:** Maryland Protected Lands by Owner Projected
  - **Output Coordinate System:** USGS Albers Equal Area Conic
- Export table from raster with **Table to Table** tool
  - **Input Rows:** Maryland Protected Lands by Owner Projected

- **Output Name:** Maryland Protected Lands by Owner Table
- Add field for acreage with **Add Field** tool
  - **Input Table:** Maryland Protected Lands by Owner Table
  - **Field Name:** Acreage
  - **Field Type:** Double
- Calculate field for Acreage with **Calculate Field** tool (Count\*25)/ 0.000247105
  - **Input Table:** Maryland Protected Lands by Owner Table
  - **Field Name:** Acreage
- **Expression** (Count\*25)/ 0.000247105
- Finally, export this table to Excel for ease of use using **Table to Excel**
  - **Input table:** Maryland Protected Lands by Owner Table
  - **Output Excel File:** Maryland Protected Lands by Owner

### **Acreage by Land Cover Type**

- Extract by mask land cover to dissolved protected lands using the **Extract by Mask** tool
  - Input raster:** Maryland Land Cover
  - Input raster or feature mask data:** Final Maryland Protected Lands Dataset
  - Output raster:** Maryland Protected Lands by LC
- Export table from raster with **Table to Table** tool
  - **Input Rows:** Maryland Protected Lands by LC
  - **Output Name:** Maryland Protected Lands by LC Table
- Add field for acreage with **Add Field** tool
  - **Input Table:** Maryland Protected Lands by LC Table
  - **Field Name:** Acreage
  - **Field Type:** Double
- Calculate field for Acreage with **Calculate Field** tool "Count" / 0.000247105
  - **Input Table:** Maryland Protected Lands by LC Table
  - **Field Name:** Acreage
  - **Expression:** !Count! / 0.000247105
- Finally, export this table to Excel for ease of use using **Table to Excel**
  - **Input table:** Maryland Protected Lands by LC Table
  - **Output Excel File:** Maryland Protected Lands by LC