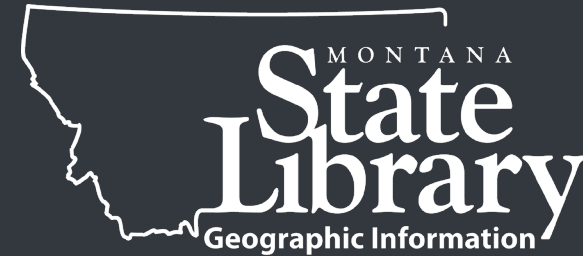# State Steward Presentation: Montana

USGS PAD-US State Data-Steward Webinar

Meghan Burns, GIS Analyst, Montana State Library

Thursday, May 5, 2022

OUTLINE

➢ Montana Spatial Data Infrastructure (MSDI) Data Layers

➢ Preparing Montana Data for PAD-US Update

➢ Lessons Learned & Future Plans

Montana Spatial Data Infrastructure (MSDI)
Data Layers

MSDI
Data Layers

- The Montana Spatial Data Infrastructure (MSDI) is made up of fifteen "framework" geographic databases vital for making maps of Montana and understanding its geography.

- Seven of the databases are federally defined framework datasets

- Each MSDI theme is created or compiled by an organization employing GIS specialists with expert knowledge of both the theme and Montana's landscape.

- These organizations take on the role of "stewardship" for the data. Stewardship activities may include direct or indirect coordination of the production, maintenance, integration, enhancement, distribution, promotion, and support for that data theme.

MSDI
Data Layers

MSDI Themes

- Administrative Boundaries
- Cadastral
- Climate
- Elevation
- Geographic Names
- Geology
- Hydrography
- Hydrologic Units

- Land Cover
- Mapping Control
- Imagery
- Soils
- Structures & Addresses
- Transportation
- Wetlands & Riparian Areas

MSDI
Data Layers

Themes related to PAD-US

Administrative Boundaries
- Managed Areas

Cadastral
- Parcels (tax)
- Conservation Easements
- Public Lands

MSDI
Data Layers

Montana Managed Areas Background

- In 1997 the Montana Natural Heritage Program (MTNHP) began integrating ownership and management data into a land stewardship mapping data system

- The goal was to manage a single, statewide digital dataset that incorporated information from both public and private entities. The project assembled information on land ownership and management, conservation easements, state and federal agencies, and land trusts

- Montana last submitted an update to PAD-US in 2011

- In 2016 the Montana State Library assumed management of the Managed Areas data layer as part of the MSDI Administrative Boundaries Theme

MSDI
Data Layers

Montana Managed Areas Management Types

Federal

USFWS
- National Wildlife Refuges
- Wilderness

USDA
- Forest Service Special Interest Management Areas
- Wilderness ALPS/WSA
- Wild and Scenic Rivers

BLM
- Outstanding Natural Areas
- Wild and Scenic Rivers
- Wilderness Areas
- Wilderness Study Areas

Tribal

Reservations
Tribal Lands

State

MT-DNRC State Forest
MTFWP
- State Parks
- Wildlife Management Areas
- Fishing Access Sites

Local

City/County Parks

Private

The Nature Conservancy (TNC) Fee Management Units

Preparing Montana
Data for the PAD-US

Preparing Montana Data

1
- Initial meeting with USGS (Roger Johnson & Mackenzie Case)
- Sent USGS: Managed Areas layer for Review
- Notes Captured in a Google Doc

2
- USGS created FME translator
- USGS provided List of Fields to Crosswalk:
  Owner Name, Manager Name, Designation Type
- Follow-up questions via email and meetings

3
- Sent USGS: final data layers with schema changes
- Received from USGS: final PAD-US layers & FME translator

Tables for Attribute Crosswalk

Designation Type	
LCA	Local Conservation Area
LP	Local Park
LREC	Local Recreation Area
NCA	Conservation Area
ND	Not Designated
NWR	National Wildlife Refuge
PCON	Private Conservation
REA	Research or Educational Area
REC	Recreation Management Area
RMA	Resource Management Area
SCA	State Conservation Area
SP	State Park
SREC	State Recreation Area
SRMA	State Resource Management Area
SW	State Wilderness

Owner Name	
CITY	City Land
CNTY	County Land
NGO	Non-Governmental Organization
OTHS	Other or Unknown State Land
PVT	Private
SDNR	State Department of Natural Resources
SFW	State Fish and Wildlife
UNK	Unknown
UNKL	Other or Unknown Local Government

Manager Name	
CITY	City Land
CNTY	County Land
NGO	Non-Governmental Organization
OTHS	Other or Unknown State Land
PVT	Private
SDNR	State Department of Natural Resources
SFW	State Fish and Wildlife
SPR	State Park and Recreation
TRIB	American Indian Lands
UNK	Unknown
UNKL	Other or Unknown Local Government

Preparing Montana Data

Managed Areas

- Last update published in November 2021

- PAD-US Update only includes State, Local, and Privately managed lands

- Added PAD-US Fields:
  - Manager Name
  - Designation Type
  - Owner Name = Unknown

Managed Areas: Many Fields were able to be cross-walked without any changes... Unit_Nm, Loc_Nm, Acres, Source_UID/PAID, and Source Date

MontanaManagedAreas_StatePrivateLocal

SHAPE *	MA_ID	MANAME	MANAGER	MA_TYPE	INSTTYPE	INST	UNITTYPE	ACRES	DataSource	SourceDate	
Polygon	888	Alkali Creek Fishing Access Site	Montana Fish, Wildlife & Parks, Region 6	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	1.753906	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	889	Bailey Reservoir Fishing Access Site	Montana Fish, Wildlife & Parks, Region 6	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	106.653593	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	890	Black Bridge Fishing Access Site	Montana Fish, Wildlife & Parks, Region 7	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	79.395898	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	891	Bull Pasture Fishing Access Site	Montana Fish, Wildlife & Parks, Region 4	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	1.207031	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	892	Bundy Bridge Fishing Access Site	Montana Fish, Wildlife & Parks, Region 5	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	1.049607	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	894	Clarks Fork of the Yellowstone Fishing Access Site	Montana Fish, Wildlife & Parks, Region 5	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	176.645433	MTFWP	8/25/2017	https://myfwp.mt.gov/1
Polygon	895	Cottonwood Grove Fishing Access Site	Montana Fish, Wildlife & Parks, Region 4	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	4.034891	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	896	Damselfly Fishing Access Site	Montana Fish, Wildlife & Parks, Region 3	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	2.276339	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	897	Grannis Fishing Access Site	Montana Fish, Wildlife & Parks, Region 3	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	0.984689	MTFWP	9/21/2021	https://myfwp.mt.gov/1
Polygon	898	Harlowton Fishing Access Site	Montana Fish, Wildlife & Parks, Region 5	SFPFS	State	Montana Fish, Wildlife & Parks	Fishing Access Site	0.691935	MTFWP	9/21/2021	https://myfwp.mt.gov/1

1 ▶ (0 out of 517 Selected)

MT_PADUS3_1Fee

Mang_Type	Mang_Name	Loc_Mang	Des_Tp	Loc_Ds	Unit_Nm	Loc_Nm	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 6	SOTH	Fishing Access Site	Alkali Creek Fishing Access Site	Alkali Creek Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 6	SOTH	Fishing Access Site	Bailey Reservoir Fishing Access Site	Bailey Reservoir Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 7	SOTH	Fishing Access Site	Black Bridge Fishing Access Site	Black Bridge Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 4	SOTH	Fishing Access Site	Bull Pasture Fishing Access Site	Bull Pasture Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 5	SOTH	Fishing Access Site	Bundy Bridge Fishing Access Site	Bundy Bridge Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 5	SOTH	Fishing Access Site	Clarks Fork of the Yellowstone Fishing Access Site	Clarks Fork of the Yellowstone Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 4	SOTH	Fishing Access Site	Cottonwood Grove Fishing Access Site	Cottonwood Grove Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 3	SOTH	Fishing Access Site	Damselfly Fishing Access Site	Damselfly Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 3	SOTH	Fishing Access Site	Grannis Fishing Access Site	Grannis Fishing Access Site	
STAT	SFW	Montana Fish, Wildlife & Parks, Region 5	SOTH	Fishing Access Site	Harlowton Fishing Access Site	Harlowton Fishing Access Site	

1 ▶ (0 out of 27109 Selected)
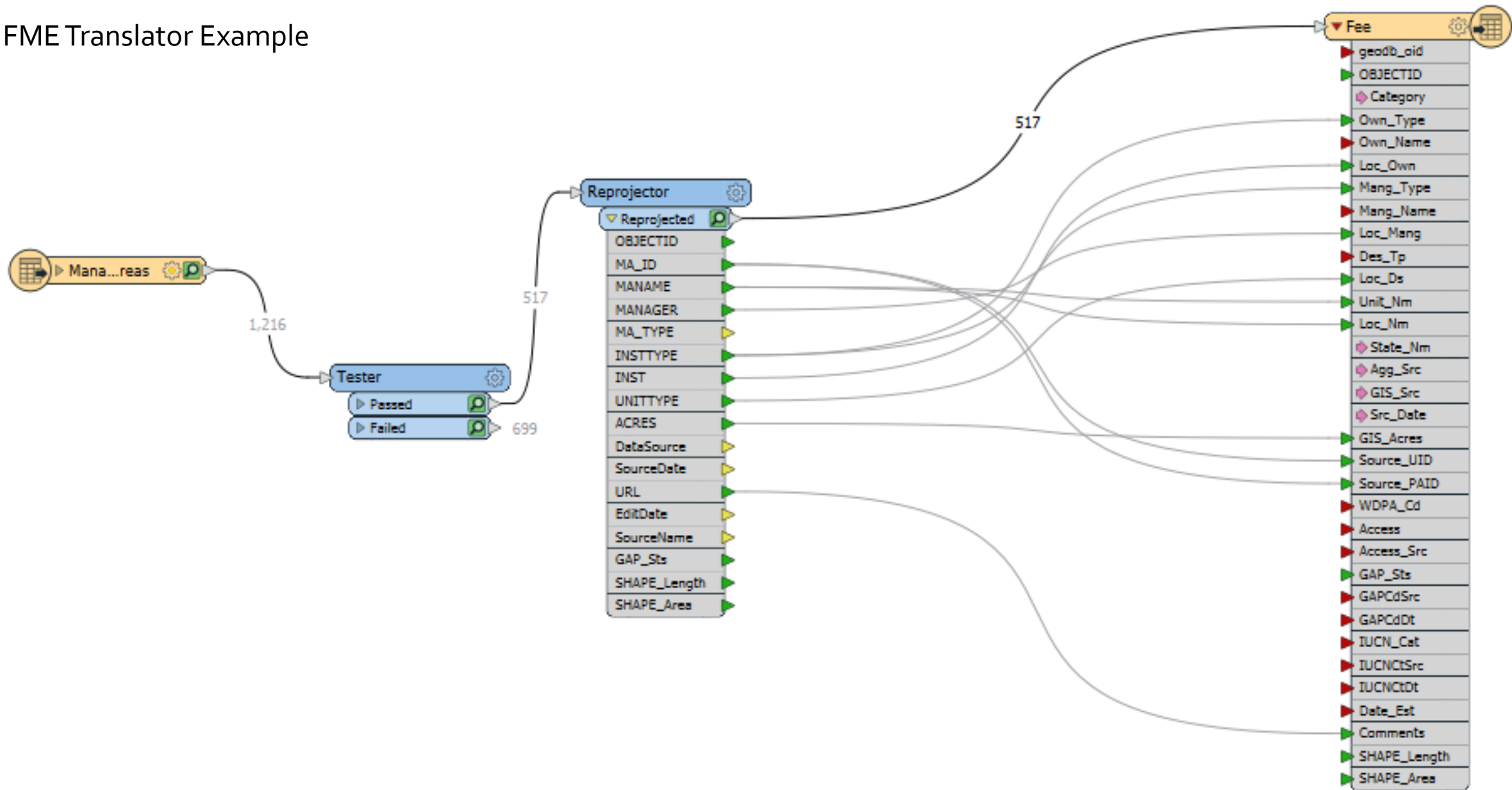
Preparing Montana Data

Public Lands

- Updated/Published As Needed
- PAD-US Update only includes State and Locally owned lands
- Our layer has Only Two Fields: Owner, Acres
- Added PAD-US Fields:
  - Owner Name
  - Designation Type
  - Manager Name = Unknown

Preparing Montana Data

Conservation Easements

- Updated/Published Monthly

- Original Fields: Easement Holder, Easement Date

- Easements: EaseDate = Date_Est

- Added PAD-US Fields:
    - Manager Name (from Easement Holder)
    - Owner Name (from Parcel layer)
    - Designation Type = Conservation Easement
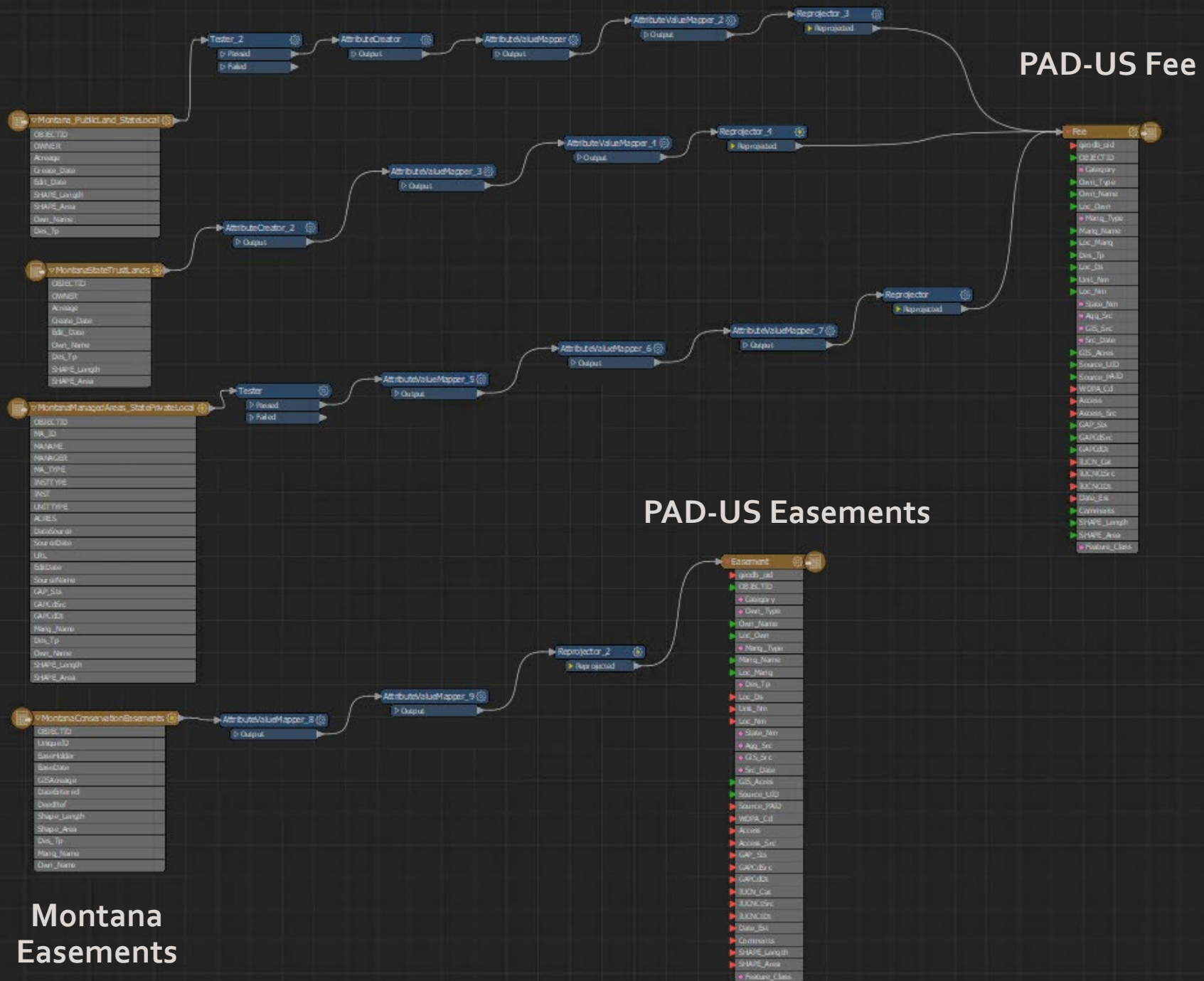
FME Translator Example

Final FME Snapshot
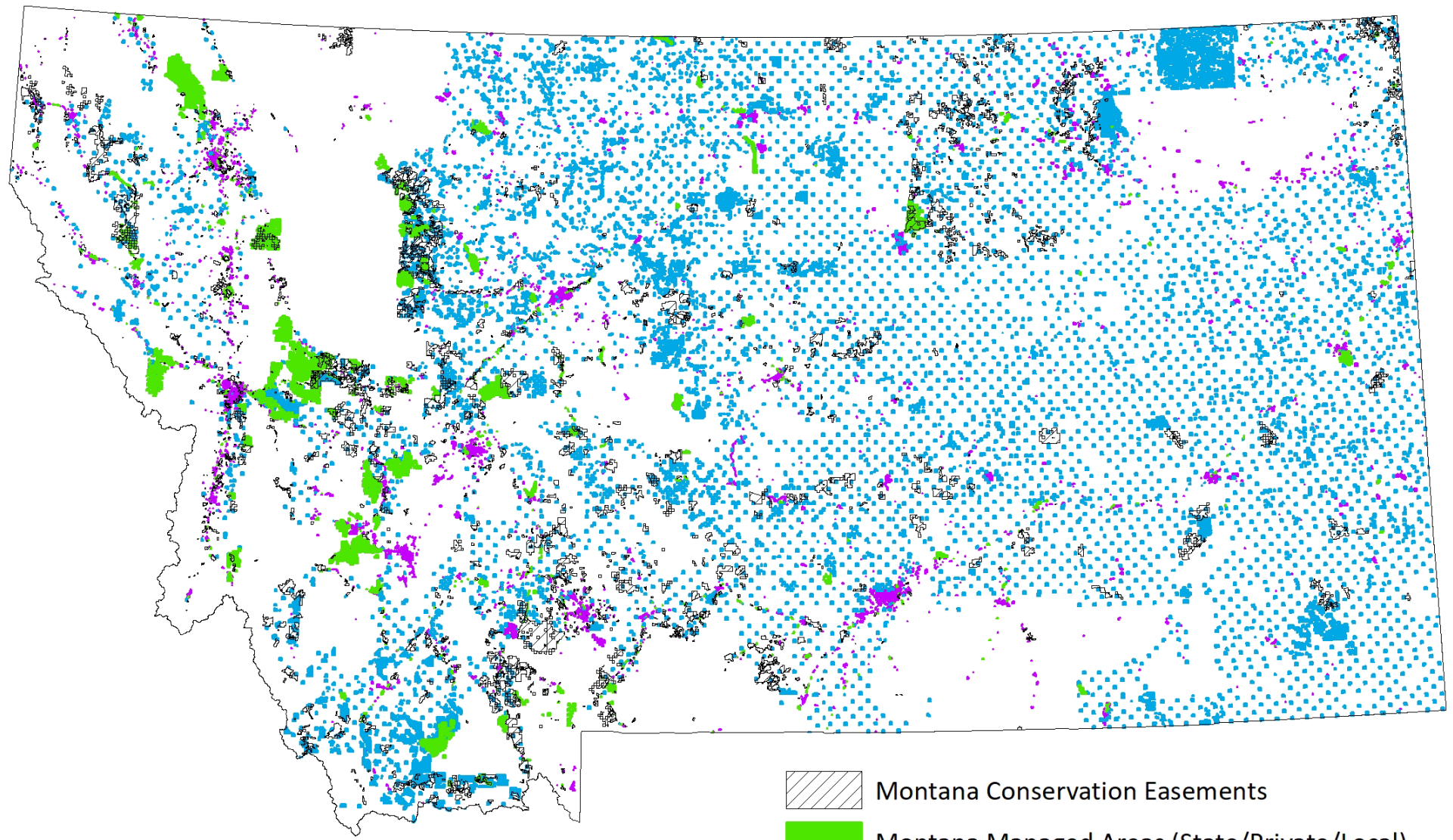
PAD-US Fee

All other State/Local
Public Lands

Montana Trust Lands

Montana
Managed Areas

PAD-US Easements

Montana
Easements

Montana Conservation Easements

Montana Managed Areas (State/Private/Local)

Montana State Trust Lands

Montana Public Land (State/Local)

Lessons Learned & Future Plans

Lessons Learned & Future Plans

- Maintain same Owner Name, Manager Name, and Designation Type that was used in previous PAD-US update

- Permanently add PAD-US fields and domains to Montana Managed Areas layer making it easier for next update (Manager Name, Owner Name, Designation Type)

- Add more city/county parks to Managed Areas (currently only two in database)

- FME proved to be an excellent tool to crosswalk between Montana's three layers and PAD-US

- FME translator built and can easily be used again for future updates

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https://msl.mt.gov/GIS/Boundaries