



LANDFIRE

LANDFIRE PUBLIC REFERENCE DATABASE

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LANDFIRE Reference Database (LFRDB)

LANDFIRE mapping is supported by the LANDFIRE Reference Database (LFRDB).

- The LFRDB is a vast database of geo-referenced field data describing vegetation and fuels.
- The LFRDB provides "ground-truth" data for mapping and modeling vegetation patterns and conditions and for calibrating models developed by the LANDFIRE team.



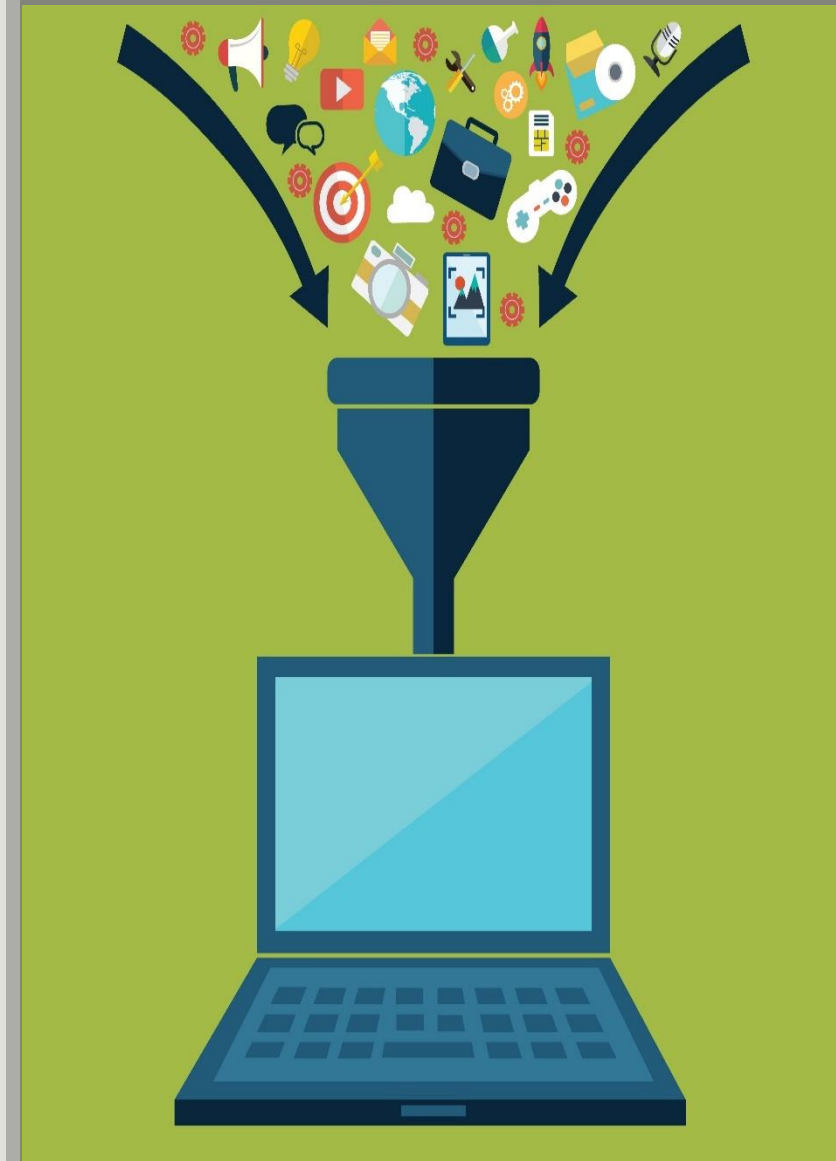
LFRDB Data Collection

Data in the LFRDB were amassed from existing data sources and data were collected through two main avenues.

- 1. LANDFIRE Data Call: LANDFIRE circulates a yearly data call letter asking for contributions of vegetation and fuel plot data.
- 2. LANDFIRE collects data through active searches of web-based data clearing houses and agency/corporate database systems.

More information on the LANDFIRE Data Call can be found on the LANDFIRE Website:

https://landfire.gov/participate_refdata.php



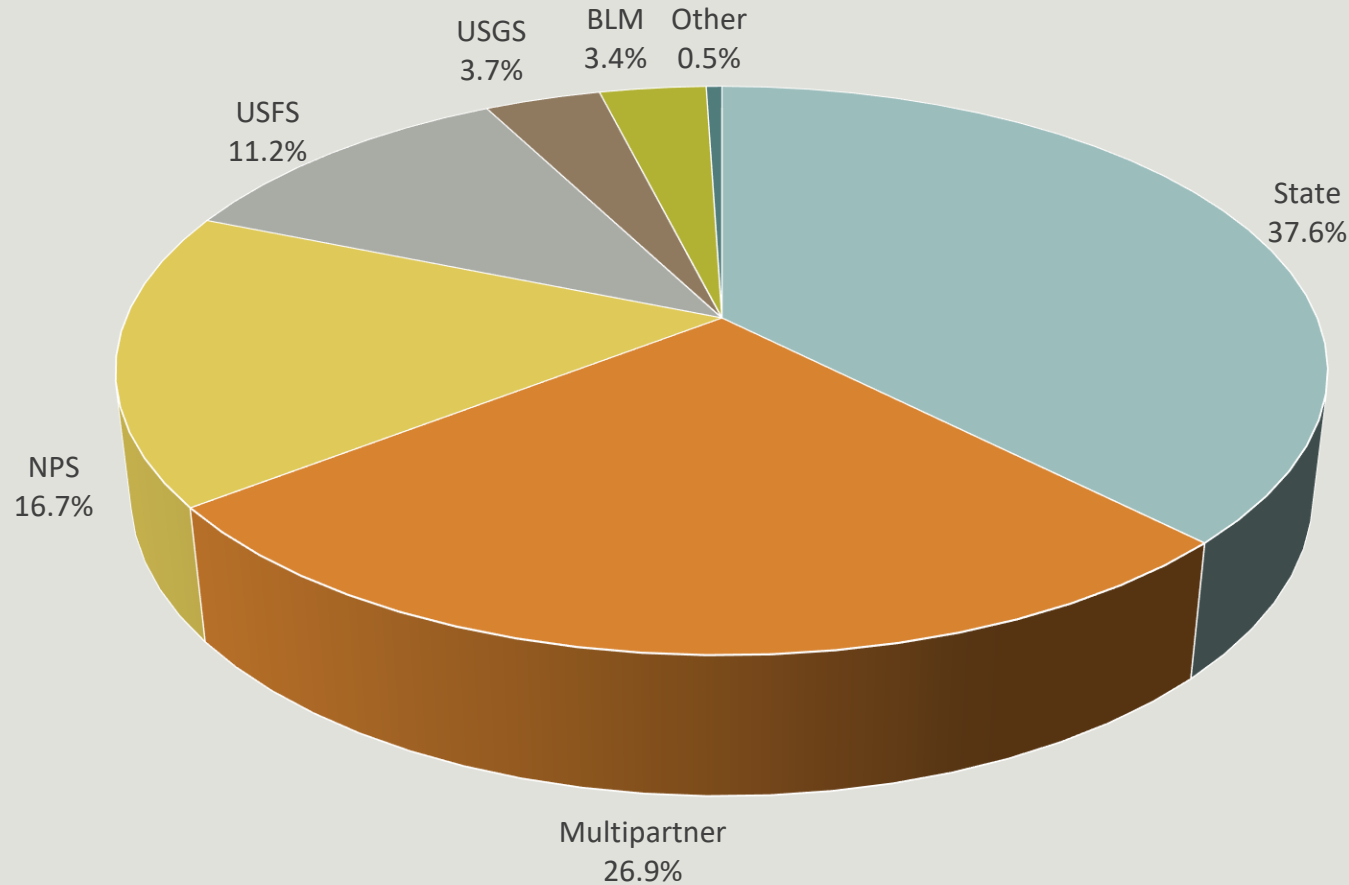
LANDFIRE Public LFRDB

- The LANDFIRE Public LFRDB includes a subset of the full suite of field-referenced data that was used in the production of LANDFIRE National and Remap Program deliverables.
- According to agreements between LANDFIRE and its data contributors, certain proprietary or otherwise sensitive data have been removed to create this publicly available version of the database.
- The public LFRDB contains a total of 539,373 plots from 487 different sources.
- Some of the major sources of data in the public LFRDB include:
 - State Inventory Data
 - USFS Vegetation and Fuel Plot Data
 - USGS National Gap Analysis Program (GAP)
 - NPS Inventory and Monitoring (I&M)



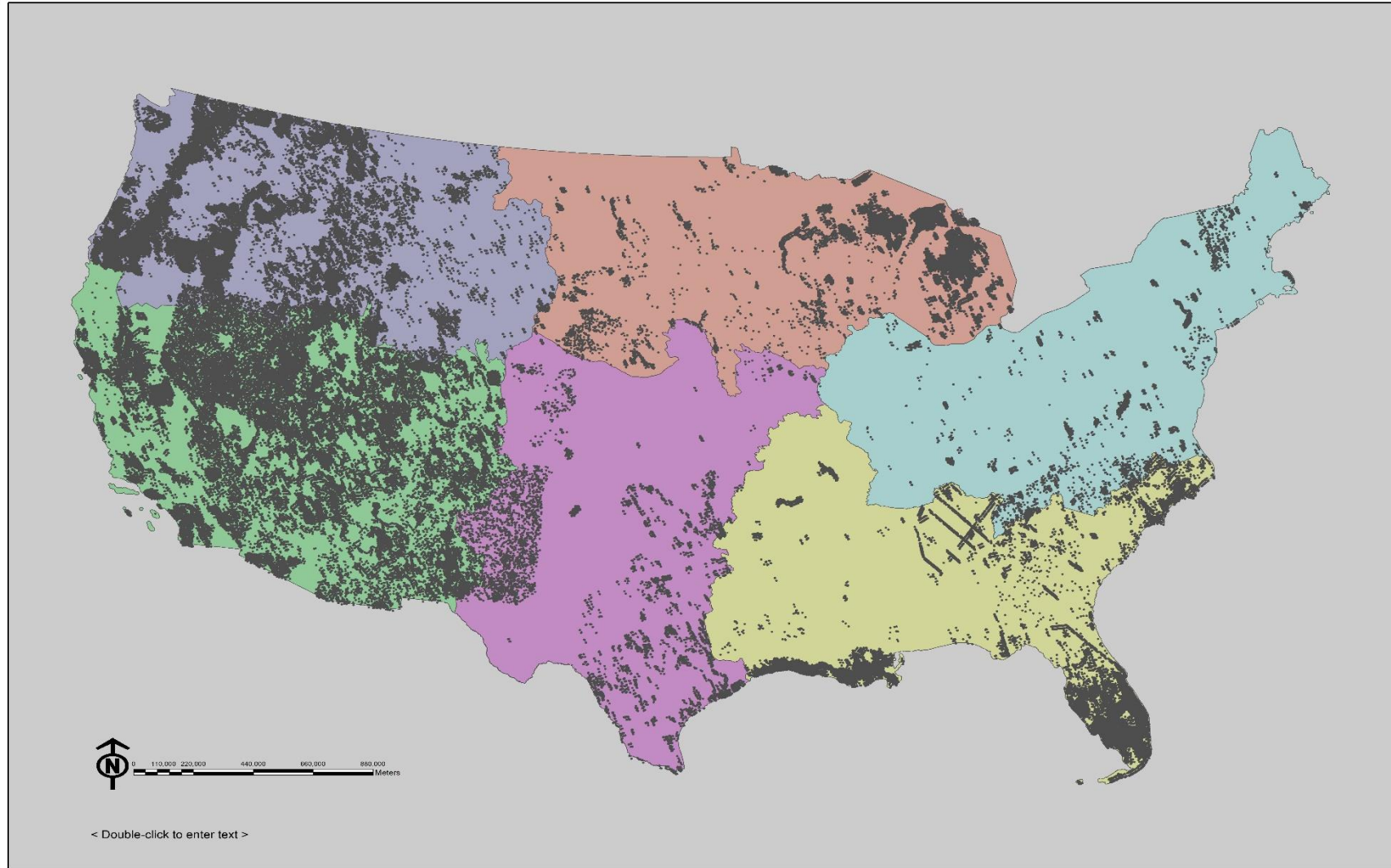
Public Data by Agency

Percent of all Public LFRDB plots accredited to the different agencies



CONUS Public Plot Distribution

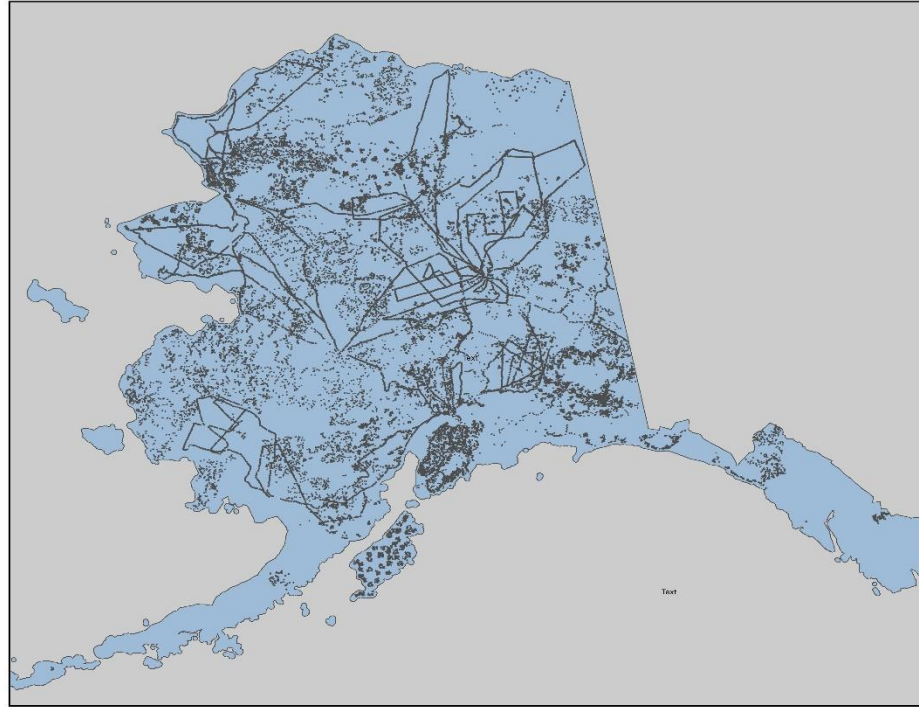
CONUS Public LFRDB Plot Locations



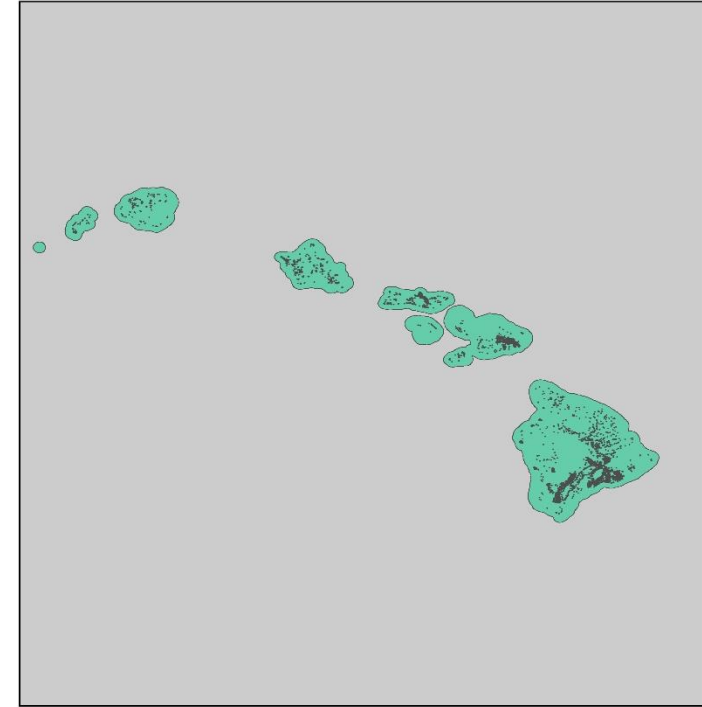
OCONUS Public Plot Distribution

OCONUS Public LFRDB Plot Locations

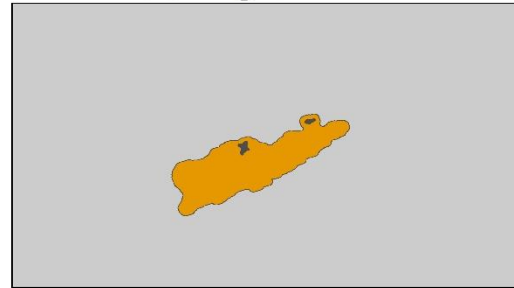
Alaska



Hawaii



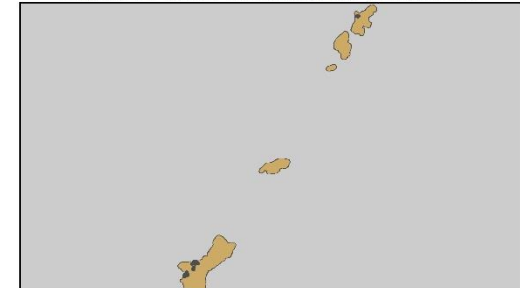
US Virgin Island



America Samoa



Guam and Mariana Islands



Data Conversion

- Data submissions vary widely in sampling design and format and the data were collected for many different purposes and projects.
- Data are summarized and reformatted as needed so the data can be brought into the LFRDB standardized format.
- Throughout all steps of the conversion process data are checked information and/or spatial errors.
- All plant species names are converted to NRCS Symbols and Scientific Names circa December 2013.
- Once all data are converted into a like format, the data are compiled, and information can easily be queried and summarized

Plot Labeling

- LANDFIRE attributes plots in the LFRDB with both Ecological Systems and NVC Group labels so they can be used to inform Existing Vegetation Type mapping and modeling.
- Plots that have vegetation data are candidates for labeling.
 - Plots that have a list of species with percent cover measurements can be labeled using the Auto-Key program.
 - Plots that only have an existing vegetation cover type labels can potentially be crosswalked to Ecological System and NVC Group.

EventID	SciName	Lifeform	LFabsCov	LFrelCov
P04000022463NJOMU12004160	Umbellularia californica	T	50	62.5
P04000022463NJOMU12004160	Toxicodendron diversilobum	S	3	85.71
P04000022463NJOMU12004160	Quercus agrifolia	T	30	37.5
P04000022463NJOMU12004160	Polystichum munitum	F	1	15.38
P04000022463NJOMU12004160	Perideridia kelloggii	F	0.5	7.69
P04000022463NJOMU12004160	Lonicera hispidula var. vacillans	S	0.5	14.28
P04000022463NJOMU12004160	Dryopteris arguta	F	2	30.77
P04000022463NJOMU12004160	Carduus pycnocephalus	F	3	46.15



Auto-Key Program

- The Auto-Key program is a python-based program that compares lifeform and species cover information on a plot to sequence table criteria to determine what Ecological System or NVC Group should be assigned to each plot.
- There are different sequence tables for different Auto-Key regions across the country so they can be tailored to vegetation types and species that occur in different geographic regions.
- The auto-key provides a consistent, repeatable method for attributing plots with vegetation types based on floristic composition.
- For LANDFIRE Remap, NatureServe updated and improved the sequence tables for Ecological Systems, and they developed new sequence tables for ruderal/disturbed systems and for NVC Groups.
- 254,729 Public LFRDB plots were run through the Auto-Key Program.



Cover Type	Ecological System	NVC Group
Pinus contorta / Carex geyeri Forest	Rocky Mountain Lodgepole Pine Forest	Rocky Mountain Lodgepole Pine Forest & Woodland



Crosswalk Plot Labeling

- Plots that only have a vegetation cover type labels are candidates for crosswalking to Ecological System and NVC Group.
- Plots must have a detailed enough cover type label to be successfully crosswalked.
- NatureServe used their expertise to crosswalk these cover type labels to Ecological Systems and NVC Groups where possible
- NatureServe crosswalked 221,690 plots in the Public LFRDB

Public LFRDB Format

- The public LFRDB data was spilt into 9 different geographical areas and the data are in Access databases.
- There are 6 geographical areas for CONUS: NW, SW, NC, SC, NE, and SE.
- There are 3 geographical areas for OCONUS: Alaska, Hawaii, and Insular areas.
- In each database there are 11 data tables that characterize vegetation and fuels that are present within each plot and 5 predictor tables that contain data that were extracted from ancillary layers and used as predictor data for mapping.
- The EventID is the unique identifier in all the data and predictor tables, and it can be used to hook up the tables and query out specific subsets of data.

Data Tables

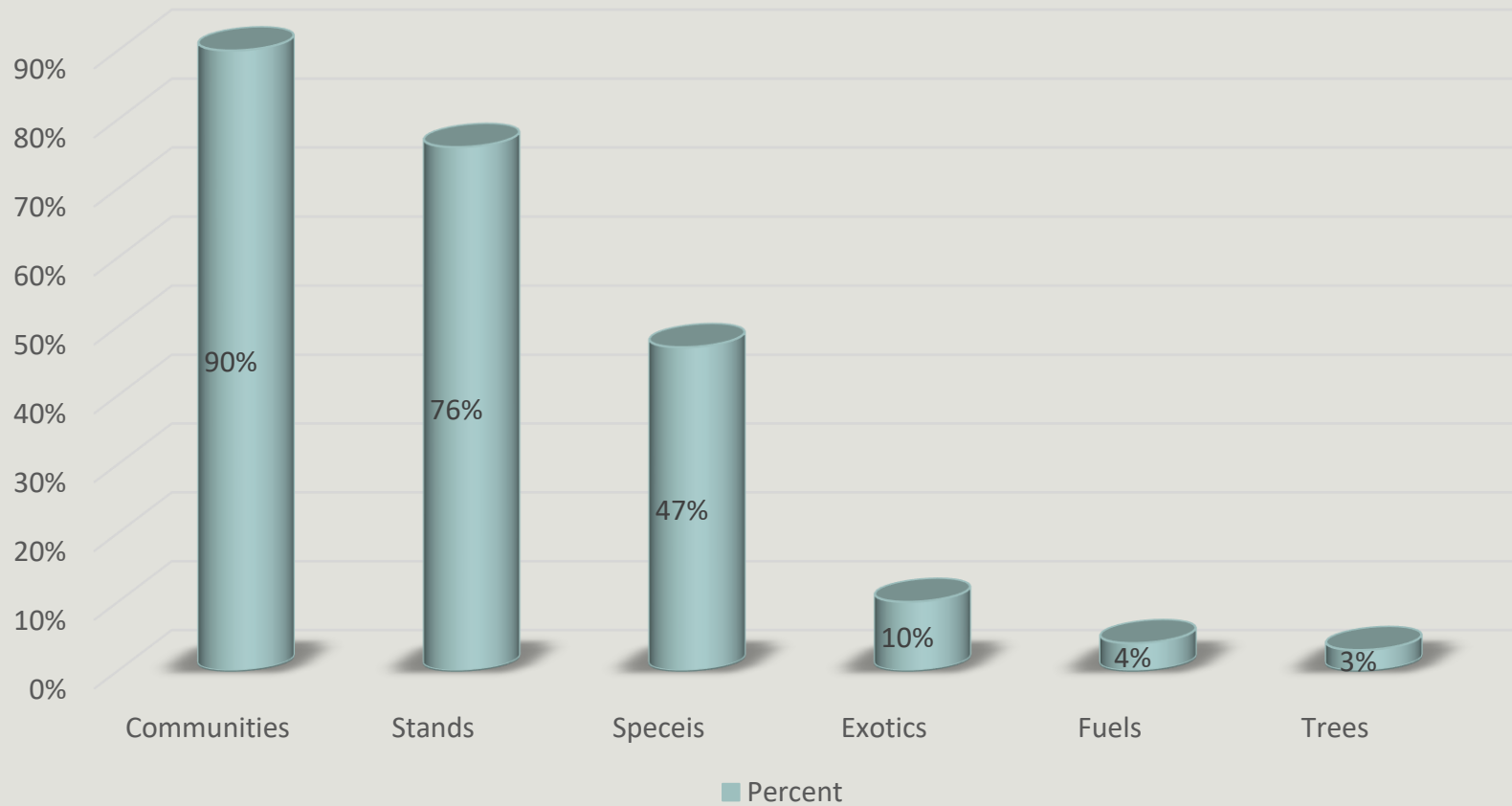
Data tables (dt) characterize vegetation and fuels that are present within a plot. LANDFIRE has compiled data from many different sources and sampling designs. Not all plots will have all the attributes listed in the data tables.

- **dtPoints** – contains plot location information.
- **dtVisits** – contains basic sampling information.
- **dtCommunities** – contains data describing the plant community present within the plot. Cover type labels can be found in this table.
- **dtStands** – contains plot level lifeform cover and height data.
- **dtSpecies** - lists the plant species reported on the plot along with their percent cover. Species height data is also included where available.
- **dtTrees** – contains data describing individual trees measurements.
- **dtSeedlings** - contains counts of tree seedlings.
- **dtExotics** – contains cover estimates or presence data for exotic plants on plots not included in the dtSpecies table. These are plots that only contain information on exotic plant species, non-exotic species were not inventoried.
- **dtFBInputs** – contains fuel data relevant to fire-behavior modeling.
- **dtFEInputs** – contains fuel data relevant to fire-effects modeling.
- **dtSiteChanges** – contains data describing disturbances and treatments as reported in the source data.



Data Types

Percent of public plots with information about each main data type



Predictor Tables

Predictor tables (pt) contain data that were extracted from ancillary layers and used as predictor data for mapping. As such, different sets of predictor data were used for different regions. Not all plots will have all the attributes listed in the predictor tables

- **ptEcoregions** - data extracted from relevant ecoregional coverages and other geographical information.
- **ptGradients** - scaled integer data extracted from the LANDFIRE biophysical gradient layers and soils data extracted from various soil layers.
- **ptImagery** - scaled integer data extracted from imagery relevant to the characterization of existing vegetation for LANDFIRE 2016 Remap (LF 2.0.0).
- **ptLFProducts** - data extracted from the LANDFIRE Disturbance products 1999-2016 and LANDFIRE 2016 Remap (LF 2.0.0) Existing Vegetation Type (EVT) and National Vegetation Classification (NVC) products.
- **ptTerrain** - data extracted from the digital elevation model (DEM), its derivatives, and other terrain or topographic position layer.



Download the Public LFRDB

The public LFRDB is available for download on the LANDFIRE website: <https://landfire.gov/lfrdb.php>

Download LANDFIRE Remap (LF 2.0.0) LFRDB

Select your GeoArea of interest from the list below to download the LF Remap Public version of the LF Reference Database.

Users of this database and the data included herein must understand and conform to the [specific conditions and limitations](#).

[Alaska](#)

[Hawaii](#)

[Insular Areas](#)

[Southwest](#)

[South Central](#)

[Southeast](#)

[Northeast](#)

[North Central](#)

[Northwest](#)

