

FOREST INVENTORY & ANALYSIS

Pacific Northwest Research Station



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United States
Department of
Agriculture



Pacific Northwest
Research Station



Forest Service



Forest Inventory
& Analysis

Forest Inventory and Analysis

The Pacific Northwest Research Station's Forest Inventory and Analysis (PNW-FIA) program is part of a national inventory effort within the research branch of the USDA Forest Service.

Four FIA programs across the country conduct forest inventories in all 50 states and the Pacific Islands.



Every 5 years, an extensive analysis of the Nation's resources is completed by combining inventory data from all FIA Programs in the United States. Land area, live and dead tree volume, and aboveground biomass are some of the topics addressed in the analysis and summary report.

Here in the West, PNW-FIA conducts resource inventories in the forests of Alaska, California, Oregon, Washington, Hawaii, and the Pacific Islands. These inventories collect detailed measurements on many ecosystem attributes. Inventory data are analyzed to assess current conditions, evaluate how forests have changed over time, and predict future conditions.

We also use geographic information system (GIS) and remote sensing techniques to produce a wide variety of map products for display, analysis, and research. ■



PNW-FIA's Role

The PNW-FIA Program has inventoried the Pacific Coast States since the 1930s. The initial focus was to estimate the extent, volume, and condition of live trees as a source of marketable timber available for harvest.

Over the years, our mission has expanded to address the information needed by our diverse customers. Today, PNW-FIA samples all land ownerships and collects data on live and dead

trees, understory vegetation, down woody material, lichens, and damage caused by factors such as insects, diseases, and ozone.



Resource managers, scientists, and investors are some of the people who use our inventory data. Although timber is still important, we now have the data to assess the condition of wildlife habitats, plant diversity, fuels and potential fire hazard, mortality caused by insects or disease, biomass, carbon storage, forest health, and general characteristics of western forest ecosystems. ■



FIA Inventory Design

Three Sampling Phases

Nationally, FIA collects a common set of data by using techniques and methods that are consistent across the country. This core data set can be enhanced at the regional, state, or local level to address special interests and projects.

The national core program consists of three phases:

Phase 1 uses remote sensing imagery or aerial photography to classify land as forest or non-forest and to identify landscape patterns such as fragmentation or urbanization.



Phase 2 consists of permanently established field plots distributed across each state at a sample intensity of about one plot per 6,000 acres. In the West, one-tenth of these plots are sampled each year and a full inventory cycle is completed in a decade. Phase 2 plots consist of a cluster of four subplots spread out over about 2.5 acres. The majority of FIA data is collected on these plots.



Phase 3 is designed to assess forest health by sampling a subset (one-sixteenth) of Phase 2 plots. Plots are visited only during the growing season. Examples of data collected in Phase 3 include ozone injury on bioindicator species, lichen community abundance and diversity, soil attributes, crown condition, down woody material, and the identification and extent of all plant species. ■

***Example of how aerial photography
can be used to detect
land use change over time***



A 1976 aerial photo showing land on the forest-urban interface. A PNW-FIA field plot is located in the forested area, providing data about the status of forest resources at this location.



A 1994 aerial photo: same location as above. The plot has been surrounded by the expanding urban area. FIA summarizes shifts in land use and ownership by using Phase 1 and Phase 2 data.

Mission

To collect, compile, summarize, and make available high-quality and comprehensive forest inventory data and to provide interpretations of and produce research findings from that data.

Staff

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FIA TEAMS IN PORTLAND (Oregon, Washington, California, Hawaii, and Pacific Islands)

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Products

Information collected by PNW-FIA is available to the public in a variety of formats:

- Databases and documentation
- Publications
- Customized data summaries
- Special analyses
- Fact sheets on inventory and research topics
- Presentations
- Posters
- GIS maps and spatial data
- Web site

Types of FIA Publications

Summaries of forest resources (with statistics) for individual states or other geographic units (such as a national forest)

Summaries and analyses of data (with statistics) collected on individual species or forest types such as western juniper or California hardwoods

Summaries and analyses of data (with statistics) for individual forest health indicators such as lichen communities, ozone injury, or down woody material

Publications reporting on research (using FIA data) in the following areas:

- Characterizing disturbance in the context of the historical range of variability
- Social and economic connections to forest ecosystems
- Development or support of various models and decisionmaking tools
- Development of new inventory techniques or comparisons between different techniques

Contact Information

To request data, publications, or other information:

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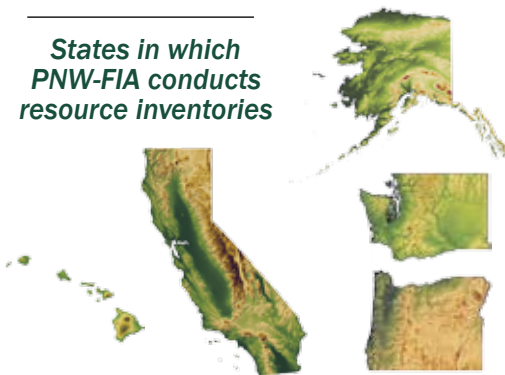
Please visit our Web site for more information:

<http://www.fs.fed.us/pnw/fia/>

For information about the national FIA program,
please visit the national Web site:

<http://www.fia.fs.fed.us>

***States in which
PNW-FIA conducts
resource inventories***



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