



Completing America's Inventory of Public Parks and Protected Areas

SUMMARY

Users in the general public, government, private and nonprofit sectors all need to be able to look at a map and find every park in America.

The Protected Areas Database of the U.S. (PAD-US) is the official national inventory of parks and protected lands. Mostly complete for federal and state lands, PAD-US needs to be finished for local parks and bolstered as a data system.

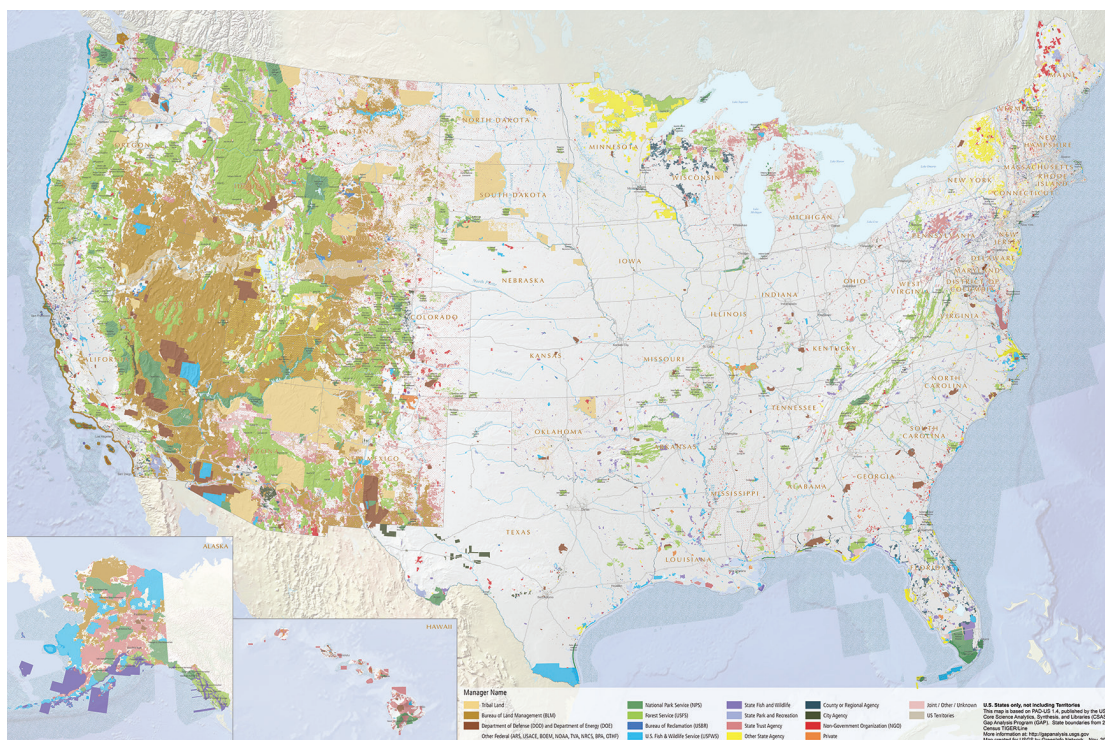
AN ACTION PLAN FOR 2016–2020

Completing PAD-US in three years is achievable thanks to a range of efforts now underway. Taking advantage of this opportunity requires an investment of \$7 million over three years — we invite your support of this initiative.

THE PROTECTED AREAS DATABASE OF THE U.S. (PAD-US)

- 3 billion acres*
- 150,000 parks/protected areas
- Over 15,000 agencies
- GIS data available to anyone
- Published by USGS

* Includes fee ownerships and overlapping designations, plus marine protected areas



KEY TERMS

PAD-US — The Protected Areas Database of the United States, the national geospatial inventory of public parks and protected areas, managed by USGS.

GIS and geospatial data — Geographic Information Systems allow geospatial data to be placed onto a virtual map, as a point (e.g., a building), a line (a trail) or a polygon (a park), each with core attributes (name, size, type, etc.). Extended attributes about any of these can be connected by linking them with their corresponding spatial objects, rather than including everything in one giant database — e.g., a spreadsheet of recreation activities can be linked to parks GIS data if they share a common parks ID number.

Protected areas — All public parks and open space areas that are publicly owned by governments or nonprofits or otherwise secured and managed for their open space uses (includes private lands with conservation easements, and marine protected areas),

including conservation of biodiversity, recreation, farming and forestry, water supply/quality, hazard prevention, scenic protection and many more. Protected areas are polygon GIS data.

Protected areas vs. public parks — In this report the term “public parks and protected areas” includes all types of lands, from small urban parks to large national parks and other reserves. PAD-US includes the full spectrum of such lands.

Parks vs. landscaping — Very small parks (e.g., under 5,000 square feet) exist, but sometimes these sites can just be landscaping (e.g., small traffic circles). PAD-US tries to avoid landscaping areas but relies on agencies to define these differences and seeks to accommodate their judgments.

Recreation facilities, activities, amenities — Usually represented as either attributes of protected area polygons or as points within those park polygons, these are supplemental data sets that can link to the protected areas inventory.

Management areas, designations — Some protected areas also have overlaying management designations, such as Wilderness Area. Designations can cover part or all of a protected area and are important for evaluating lands, but they are different than ownership.

GAP Status — A ranking system from USGS defining how well a protected area is managed for preserving biodiversity — GAP 1 and 2 are highest; GAP 3 allows multiple uses including logging and mining; GAP 4 has no known mandate for biodiversity protection.

About this Report This document is a summary of a larger report of the same title published in November 2016 and supported in part through an interagency agreement with the Centers for Disease Control and Prevention (U.S. Department of Health and Human Services) and the National Park Service (U.S. Department of the Interior). It was developed for the U.S. Geological Survey's Gap Analysis Program, with assistance from GreenInfo Network and the Great Basin Cooperative Ecosystem Studies Unit at Boise State University.

A National Inventory Benefits Us All

OUR VISION is a single, continuously-updated geospatial database that allows users to find exact boundaries and essential attribute information for every public park and other protected area in the United States.

This complete national inventory allows us to:

- Give every individual or family the ability to know what parks and recreation opportunities are nearby, to strengthen community life and promote healthier living
- Support businesses and data users to aid tourism and other economic development, recreation-focused web application development, and other activities
- Improve the effectiveness of wildfire management, flood prevention, adaptation to changes in climate, programs to steward protection of biodiversity, and other public policy issues
- Plan best options for energy facility and transmission siting, ensuring efficient resource use and mitigation of impacts, and conservation of habitat resources

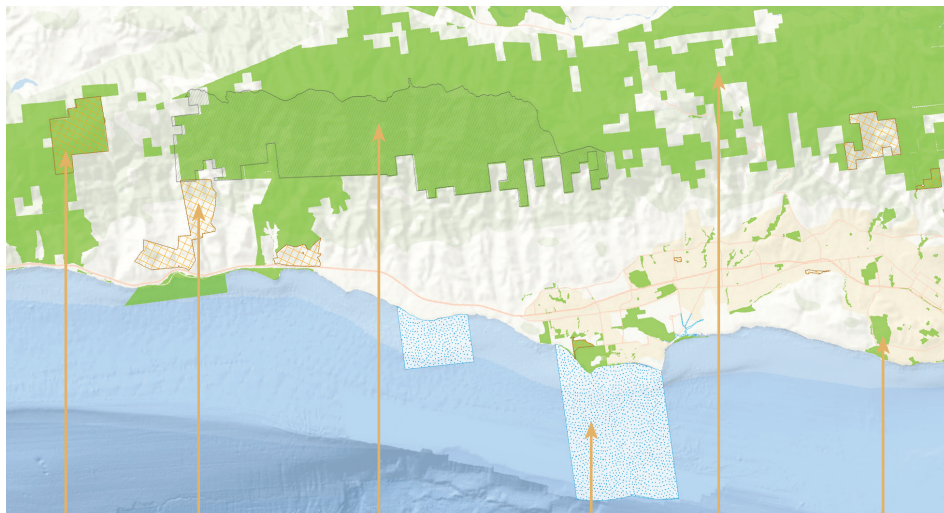
A complete inventory supports economic and other policy goals at all levels. Parks, hunting and other uses of protected areas are important contributors to GDP and job creation, as are ecological services from these lands (water quality, etc.). States and metropolitan regional agencies use such data for roads, greenways and other infrastructure planning, as well as programming natural resource expenditures. Cities, counties and special districts provide recreation and planning services, and need complete inventories of the park and open space resources in and around their jurisdictions.

This inventory also helps each us to have more access to our public lands — to walk or hike on them, camp, or just to ride or drive through them to wonder at nature. Parks have widespread public support all over America, and better information deepens the great value we get from these lands.

These benefits can only be realized if we have a single national database of every public park and protected area, developed in a coordinated state and federal process. Now the official inventory of these lands, the Protected Areas Database of the U.S. (PAD-US) can be completed through the plan presented in this report.



What is PAD-US?



Easement over fee land Easement over private land Designation (roadless area, wilderness, etc) Marine-protected area Fee-owned land (national forest, etc) Fee-owned land (city parks)

The Protected Areas Database of the U.S. (PAD-US) is a spatial (GIS) database covering over three billion acres, owned and managed by thousands of agencies, nonprofits, and land trusts. PAD-US was established in 2008 and is managed by the USGS Gap Analysis Program (GAP).

A single official national database of all parks and protected areas is vital — while individual agencies of course maintain their own data, aggregating all their information requires investment in a single data management system, to ensure the widest range of users can apply it to their needs. As of 2016, PAD-US is the official national inventory of these lands.

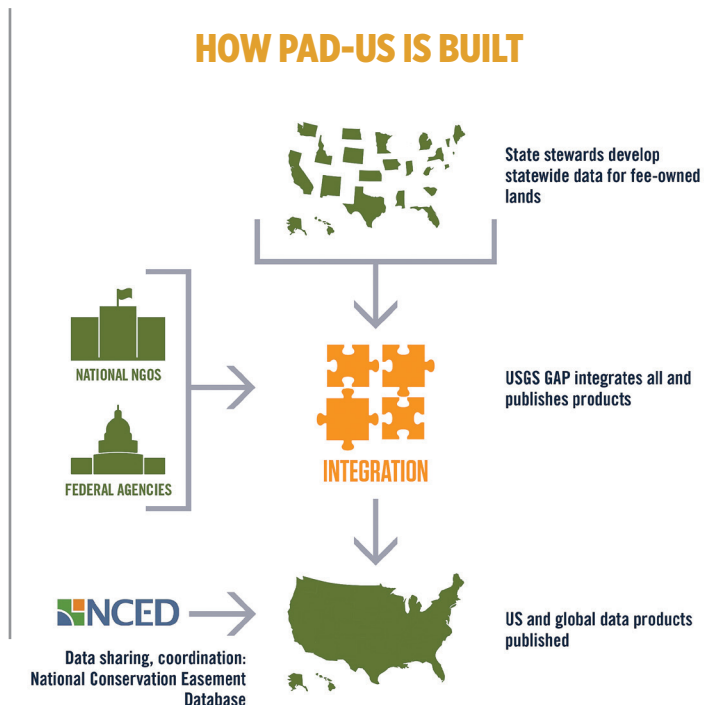
Over 200,000 park/protected area units are currently tracked in PAD-US, covering sites ranging from huge Wilderness Areas to small pocket parks in urban neighborhoods. Each unit includes managing/owning agency name, acres, designation and other core attributes. PAD-US also includes conservation easement data from the National Conservation Easement Database (NCED), and NOAA-defined Marine Protected Areas.

State Stewards Crucial to the design of PAD-US is decentralized data gathering by state data stewards — these can be state agencies, universities or nonprofits. It is the goal of PAD-US to have effective stewards in each state feeding into the national database. State inventories are sometimes enhanced or assisted with the work of nonprofits such as the Trust for Public Land, Ducks Unlimited, The Nature Conservancy and the National Recreation and Park Association.

Federal Lands Working Group All federal land managing and several other agencies have now agreed upon protocols for sharing federal lands data directly with PAD-US. This group is a recognized part of the Federal Geographic Data Committee (FGDC) and is coordinated by USGS GAP. The work of the group has improved both PAD-US Data Standards and the quality of internal agency data sets.

The published PAD-US data product is also used by the World Conservation Monitoring Center as the U.S. element in its World Database of Protected Areas.

HOW PAD-US IS BUILT



With a Completed PAD-US, We Can . . .

1. **Help Americans** find every type of outdoor recreation opportunity, near and far from home, whether with a smart phone, a printed guide, or through web and social media.
2. **Support local economic development** through improved parks information that helps build tourism businesses, supports outdoor recreation suppliers and guides, aids local real estate agents, and provides other job opportunities.
3. **Protect biodiversity** by focusing programs to conserve plant and wildlife species in particular regions before they become threatened or endangered.
4. **Improve public health** by enabling policy makers and researchers to learn more about parks and people nationally and in local areas, and to design programs that encourage active living to address obesity and other challenges, including the development of park prescriptions (ParkRx) and other approaches.
5. **Ensure sound development** of road, energy and other infrastructure by providing analysis of the most appropriate sites and conservation mitigations.

There are many other uses of PAD-US data — managing wildfire response, planning local parks, creating metropolitan land use plans, reducing the impacts of flooding and other natural disasters, defining areas that are deficient in neighborhood parks, ensuring military bases have compatible surrounding areas, assessing progress in relation to global targets for conservation, and more. More examples of PAD-US uses are at www.ProtectedLands.net.

CURRENT FEDERAL USES FOR PAD-US

Elements of PAD-US are submitted to the World Database of Protected Areas and the North American Environmental Atlas (CEC.org), and support the North American Bird Conservation Initiative and the North American Intergovernmental Wilderness Committee for Wilderness and Protected Area Conservation (NAWPA).

PAD-US is integrated into products for the: USGS National Map, Census development procedures, Federal Recreation Council/Recreation.gov, National Wildfire Coordinating Group, NPS Inventory and Monitoring program, USFS Recreation and Protected Land Resources Report, EPA EnviroAtlas and other programs.

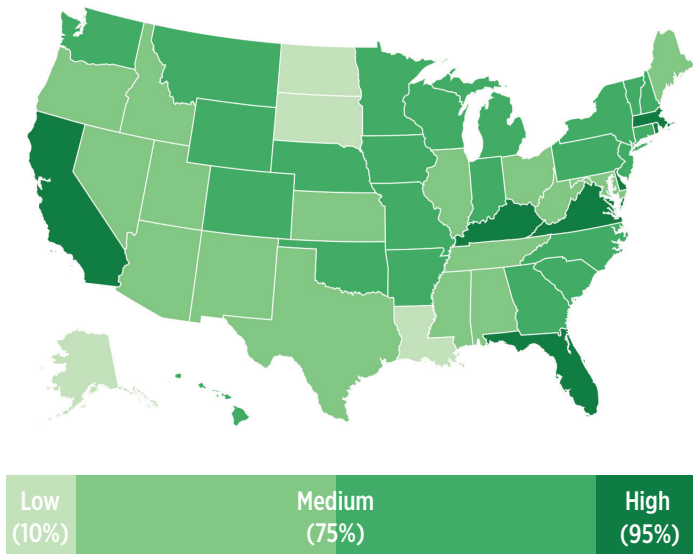
PAD-US also supports a wide range of conservation science applications, analysis and research at federal and state levels.

PAD-US data was used by USGS to develop a continental biodiversity assessment for the NAWPA Committee in 2016

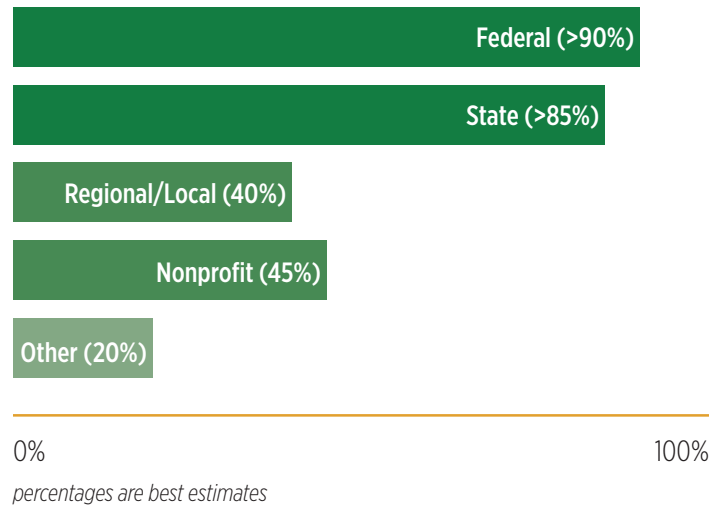


What's the Status of PAD-US?

OVERALL COMPLETION LEVELS BY STATE



COMPLETION BY AGENCY LEVEL



What Challenges Remain?

- PAD-US and NCED (easements) programs lack a strong **financial base**
- PADUS is **missing local and metropolitan** protected areas in many states, and **easement** data is not yet complete
- The process of updating **federal lands** is not efficient enough
- The **spatial data technology** used in PAD-US limits what users can do with the data
- A number of states do not have a reliable **data steward** or need support for existing stewards
- Current PAD-US **data** has technical issues in some regions, and use of **common data standards** is incomplete
- Users of PAD-US do not have sufficient **technical support**

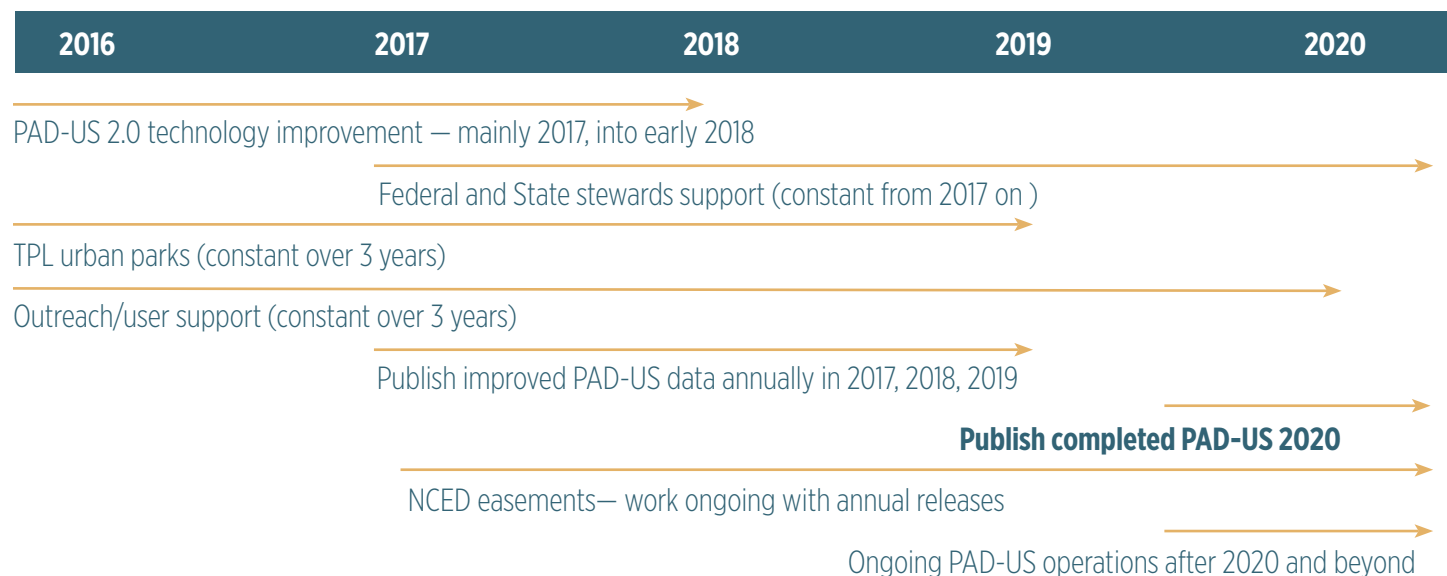
10 Steps to Complete PAD-US by 2020

1. **Anchor** PAD-US as the national framework for protected areas inventories and maintain its current operations, in addition to undertaking new initiatives
2. **Extend** the efforts of the FGDC National Boundaries Group/ Federal Lands Working Group to better integrate federal agency land data into PAD-US
3. **Build** the capacity of state steward organizations to complete and maintain state inventories, including public and foundation funding of this work, as well as incentives in related programs — such as close coordination with the LWCF state assistance program
4. **Collaborate** with the Trust for Public Land’s ParkServe project on improving local and regional park data in urban areas, while also involving/supporting state steward organizations
5. **Improve** PAD-US attribute consistency and coverage, and geometric accuracy
6. **Design and implement** a next-generation technology approach that will enable greatly improve data analysis and reporting, and make PAD-US more efficient to use generally
7. **Launch** core outreach initiatives for users in: public health, conservation and climate adaptation, wildfire management, multi-jurisdictional collaboratives, commercial mapping companies and application developers, and RIDB/Recreation.gov, among others
8. **Educate** PAD-US current and potential users about the availability and best uses of PAD-US data
9. **Expand** the PAD-US partnership framework to support and encourage PAD-US development, including public, private and academic interests
10. **Support** NCED process for developmental and ongoing work on conservation easements

BUDGET

\$7 million over three years, of which approximately \$2.75 million is secured; ongoing minimum budget estimated at \$1 million annually. Potential sources include federal agencies, states, foundations and other private philanthropy, outdoor recreation associations, and other sources.

SCHEDULE



Learn More, Get the Full Report

To contact the authors and to download the full PAD-US report summarized here, visit: <http://gapanalysis.usgs.gov/padus> or www.protectedlands.net/vision

PAD-US Data Contributors, Users and Supporters

NATIONAL CONSERVATION EASEMENT DATABASE

Ducks Unlimited, Trust for Public Land, others

FEDERAL AGENCIES

Department of the Interior, Bureau of Land Management, National Park Service, Fish & Wildlife Service, Bureau of Indian Affairs, USGS (GAP, National Map, other), Bureau of Reclamation, Federal Recreation Council; USDA Forest Service and Natural Resources Conservation Service; Department of Commerce NOAA, Census Bureau; Department of Defense including Army Corps of Engineers; Centers for Disease Control; Environmental Protection Agency; Departments of Homeland Security, Transportation, Energy; Federal Geographic Data Committee

Programs/initiatives include LWCF, SCORPs, SWAPs, LCCs, America's Great Outdoors, Recreation.gov,

STATE AGENCIES

State departments of: Parks & Recreation (SCORP/LWCF roles), Forestry, Lands, Fish & Wildlife/Game and State Heritage programs, Environmental Quality/Protection, Transportation, others

REGIONAL, COUNTY, AND LOCAL AGENCIES

Regional park, recreation, open space districts/authorities; county park departments, city park and recreation departments; joint powers agencies (3,000 counties, 25,000+ cities/towns, 10,000+ special recreation districts)

NONPROFITS

State and local land trusts (1,500+) and other state/local environmental and conservation groups

National conservation and environmental groups: The Nature Conservancy, Trust for Public Land (ParkServe, Conservation Almanac, ParkScore, LandVote), Ducks Unlimited, Wilderness Society, Audubon Society, NatureServe/Landscape America, National Geographic, Conservation Biology Institute, Defenders of Wildlife, National Parks Foundation, others

PRIVATE

Mitigation banks and other such businesses

INTERNATIONAL BODIES

International Union for the Conservation of Nature (IUCN), World Database on Protected Areas; Commission for Environmental Cooperation, North American Intergovernmental Committee on Cooperation for Wilderness and Protected Areas Conservation (NAWPA)

NATIONAL PROFESSIONAL ASSOCIATIONS

National Recreation and Park Association, Land Trust Alliance, City Parks Alliance, National Association of State Outdoor Recreation Liaison Officers/NASORLO, National Parks Foundation, Association of Fish & Wildlife Agencies, State Park Directors Association, others

ACADEMIC INSTITUTIONS

State universities and colleges managing Natural Heritage Programs, others with research and teaching programs involving land resources, recreation and conservation

PHILANTHROPIES

Foundations and other funders of land conservation, stewardship and engagement

HEALTH CARE ORGANIZATIONS

Medical delivery organizations and hospitals, research and support organizations including American Public Health Association, Changelab Solutions, American Heart Association, others including Parks Rx program (NPS, Institute at the Golden Gate)

RECREATION/OUTDOOR ACCESS GROUPS

YMCAs, Boy Scouts, Girl Scouts, Outdoor Alliance for Kids, Children in Nature Network, International Mountain Bike Association, American Fitness Inventory, Latino Outdoors, Outdoor Afro, others

OUTDOOR BUSINESSES

Recreation Equipment, Inc. and many other retailers; Outdoor Alliance, Outdoor Industry Association, Grassroots Outdoor Alliance, Conservation Alliance, many outdoor magazines and media sites

INTERACTIVE/DIGITAL CONTENT AND APPLICATION PUBLISHERS

Esri, Open Street Map, Code for America; Google, Apple, Bing, Uber/Here, CartoDB, Mapbox, Strava, All Trails, Trailhead Labs, and many more