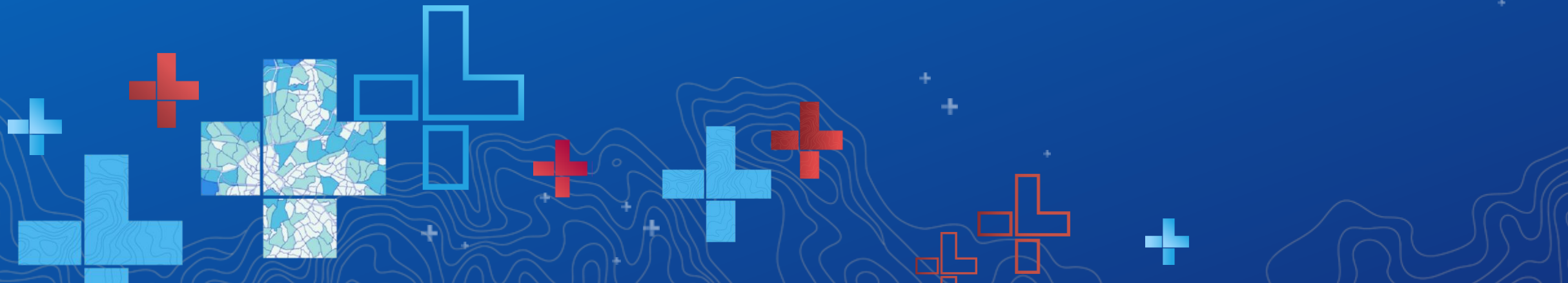
An Assessment of Ecosystems in Global Protected Areas

Regan Smyth and Lori Scott, Nature Serve

Kae Yamane and Kelly Proctor, Open Space Institute

Adam Jenkins & Dan Pisut – Esri

2020 ESRI FEDERAL GIS CONFERENCE | WASHINGTON, D.C.



Collect, Curate, Crunch, Communicate

Digital Impact Storytelling

Data to Decisions: A Cloud GIS Strategy

Regan Smyth, Lori Scott
Esri FedGIS

February 12, 2020

Biodiversity at Risk

NatureServe

NatureServe Network

- Non-governmental organizations
- Academic institutions
- Governmental organizations
- Museums & herbaria

Other Data Sources

- Citizen science
- Remotely sensed observations

What/How/Where

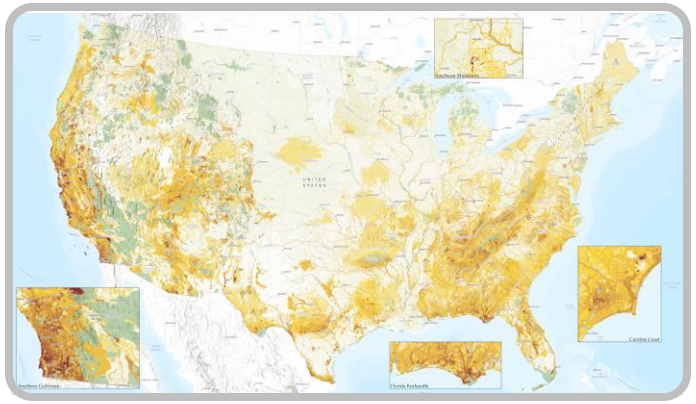
DATA and INFORMATION

TOOLS

ANALYSIS and INTEGRATION

Land-Use Decision-Makers

- Environmental activists
- Private sector
- Inter-governmental organizations and conventions
- Multilateral funding organizations
- Governmental organizations
- Civil society



COLLECT → CURATE → CRUNCH → COMMUNICATE

Best Available Biodiversity Data	Best Available Science and Analysis	Best Decisions for Biodiversity

NatureServe Network:	NatureServe HQ:	Impact:
1,000 People, $100,000,000 Budget	55 People, $8,000,000 budget	Billions of People, Trillions of Dollars

COLLECT

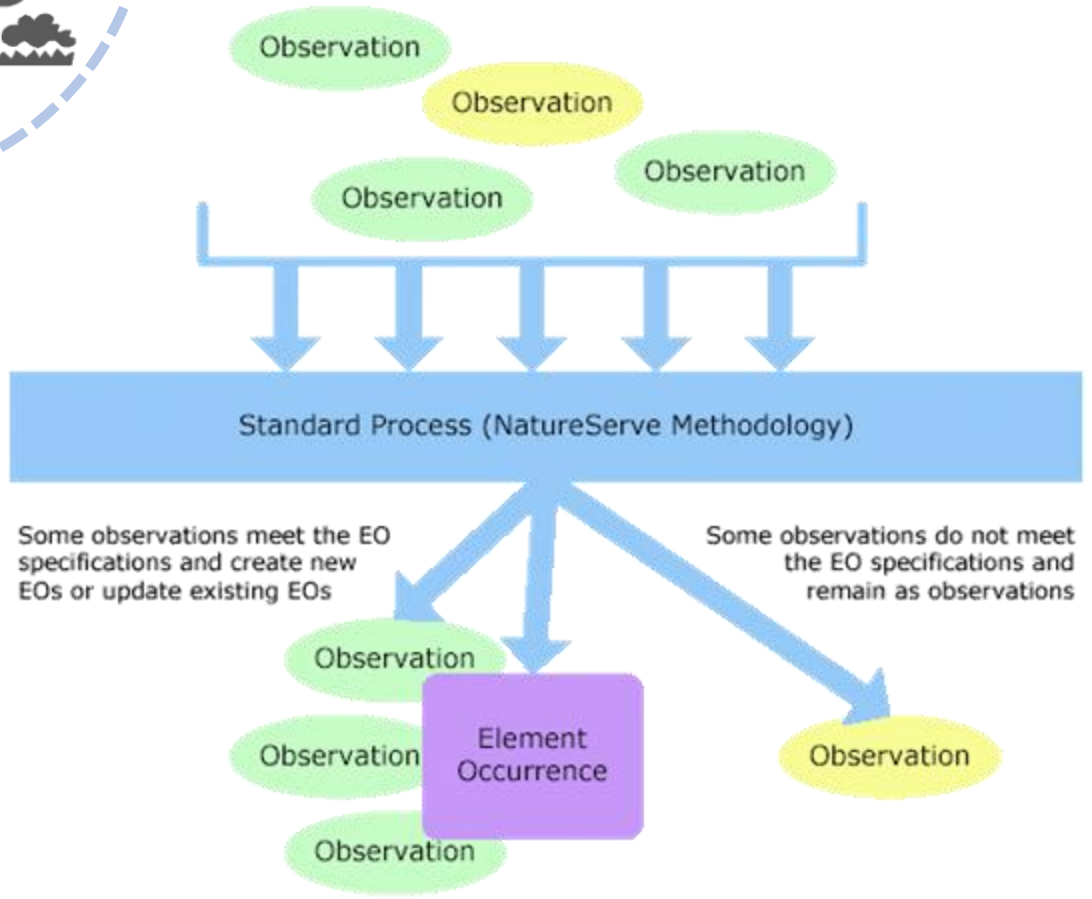
Biodiversity data that answers 3 key questions:

- *what is it?*
- *where is it?*
- *how is it doing?*

The NatureServe Network includes more than 100 independent organizations in 23 countries across the Americas

CURATE

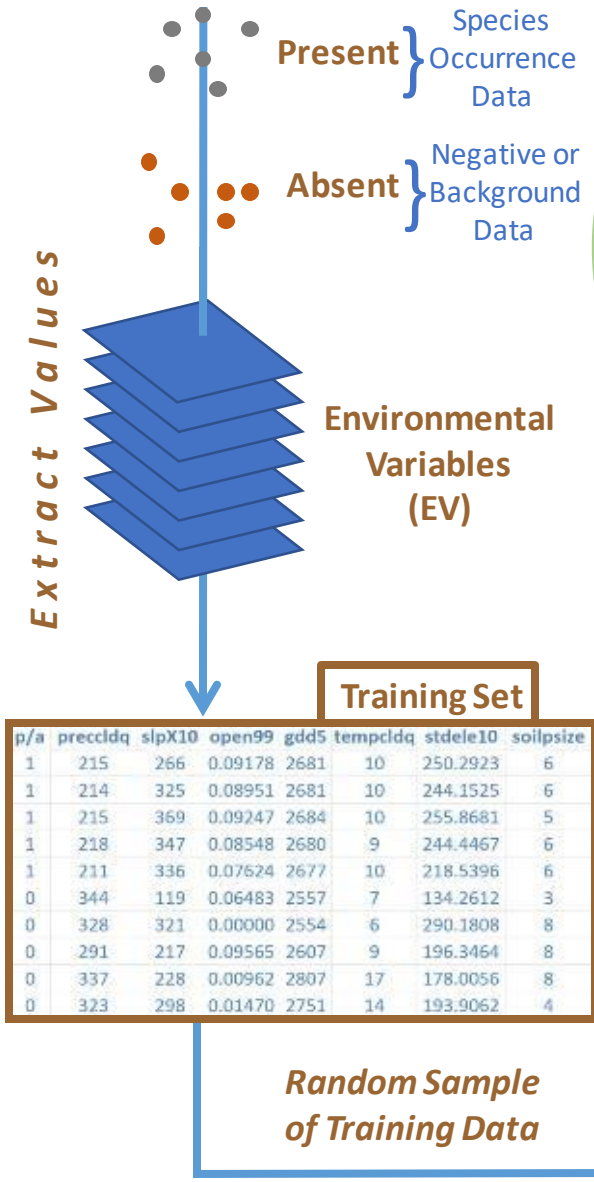
- Unique dataset based on a unified taxonomy
- Field-verified locations of rare species and ecosystems, mapped with high precision
- Collected and curated using standard methods from authoritative partners
- Our decision-quality maps are scientific, objective and credible

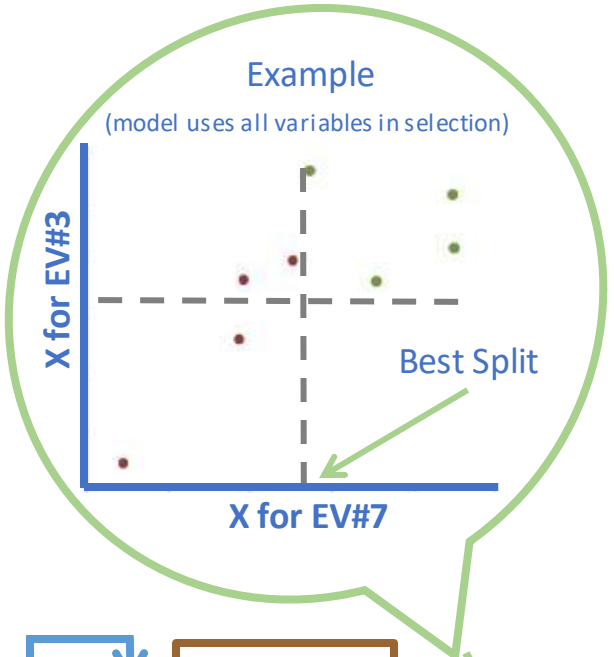


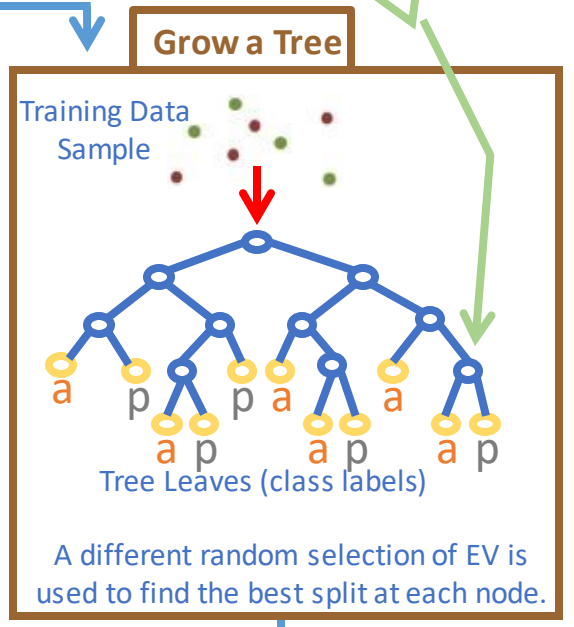
CRUNCH

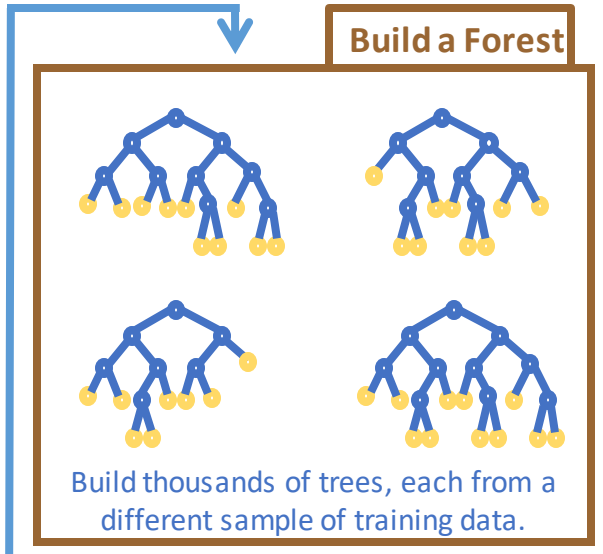
Collaborative modeling computing environment

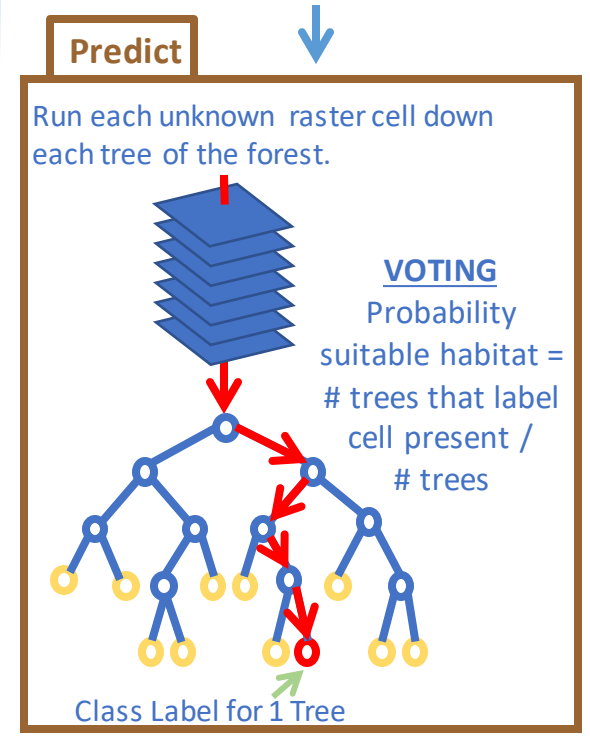
ArcGIS Online

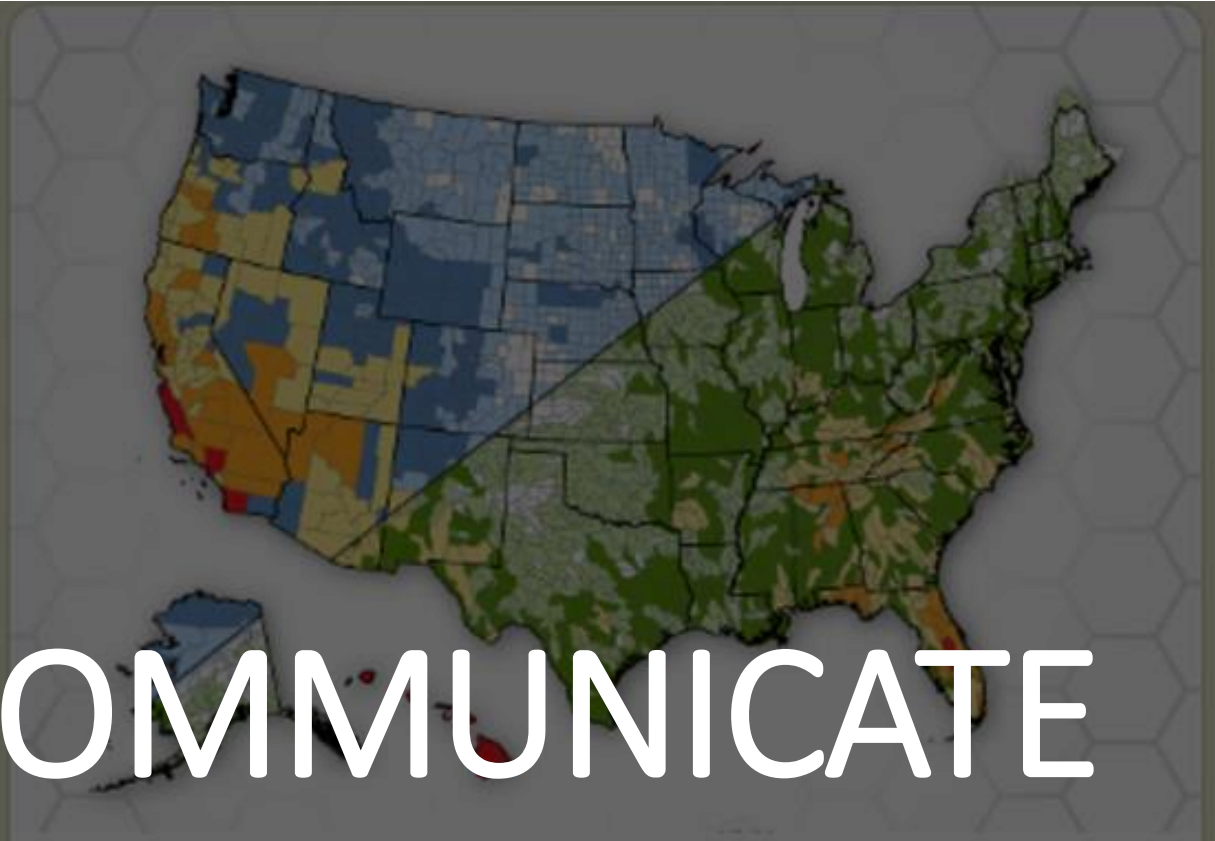












COMMUNICATE

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NatureServe Open Data

NatureServe believes that having the highest quality scientific data is essential when it comes to protecting the planets' species – that knowing is half the battle.

Explore

Advancing Colla

The NatureServe Network u
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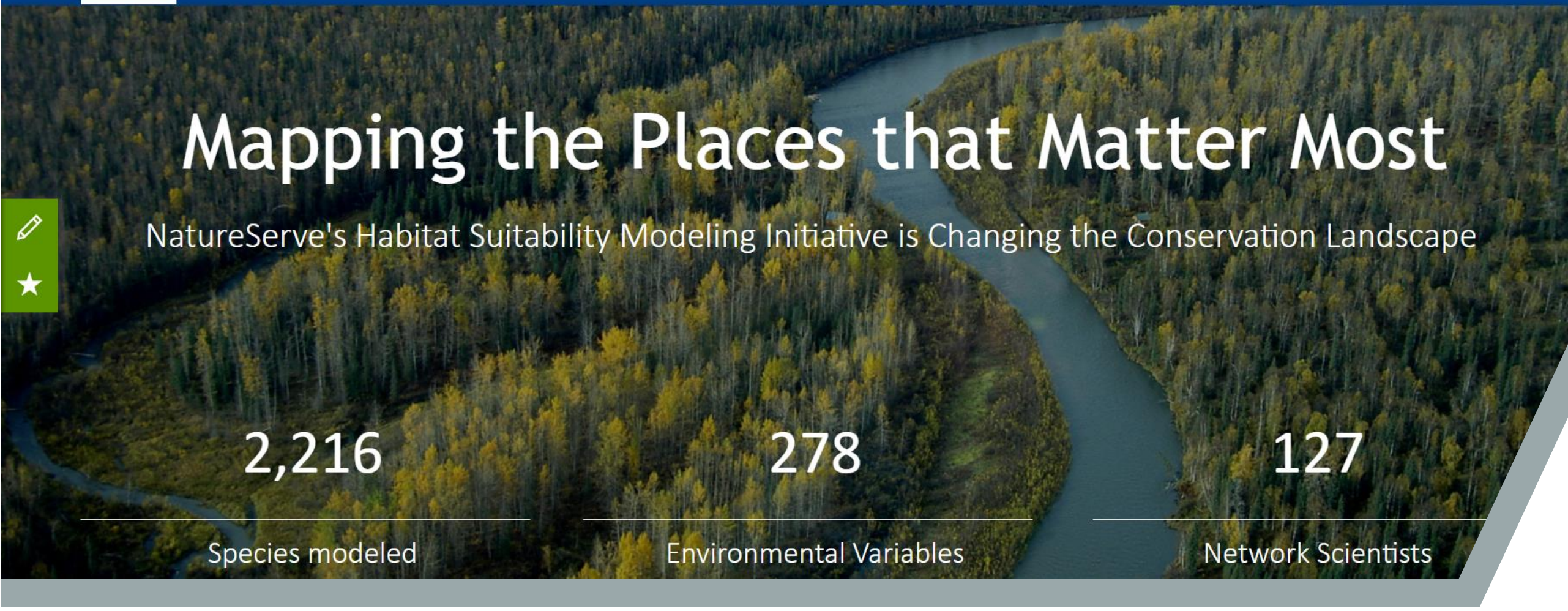
NatureServe Habitat Suitability Modeling

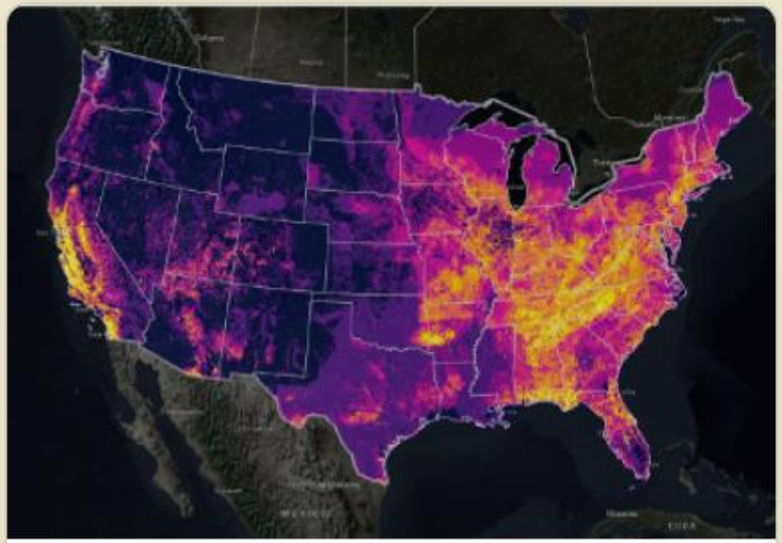
NatureServe
Connecting Science With Conservation



Mapping the Places that Matter Most

NatureServe's Habitat Suitability Modeling Initiative is Changing the Conservation Landscape

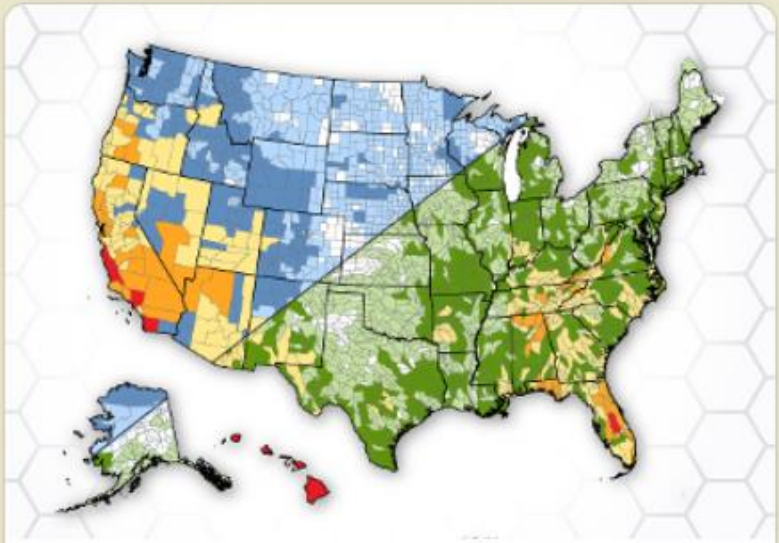
2,216	278	127
Species modeled	Environmental Variables	Network Scientists



Map of Biodiversity Importance

View the Map of Biodiversity Importance, a portfolio of maps that identify critical areas for species conservation in the contiguous United States.

Explore



NatureServe Open Data

NatureServe believes that having the highest quality scientific data is essential when it comes to protecting the planets' species – that knowing is half the battle.

Explore

Advancing Collaborative Science

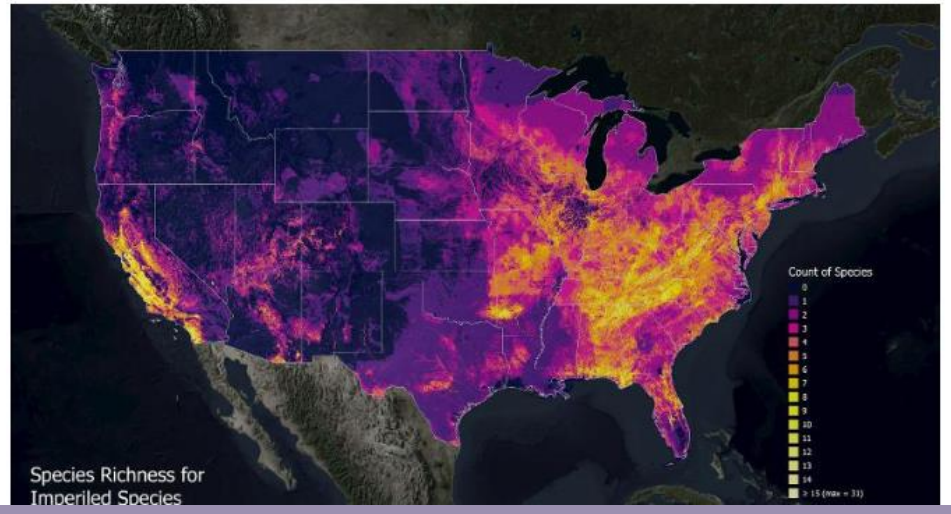
The NatureServe Network uses collaborative science to model suitable habitat for imperiled species.

Explore

NatureServe Habitat Suitability Modeling

NatureServe
Connecting Science With Conservation

The Map of Biodiversity Importance

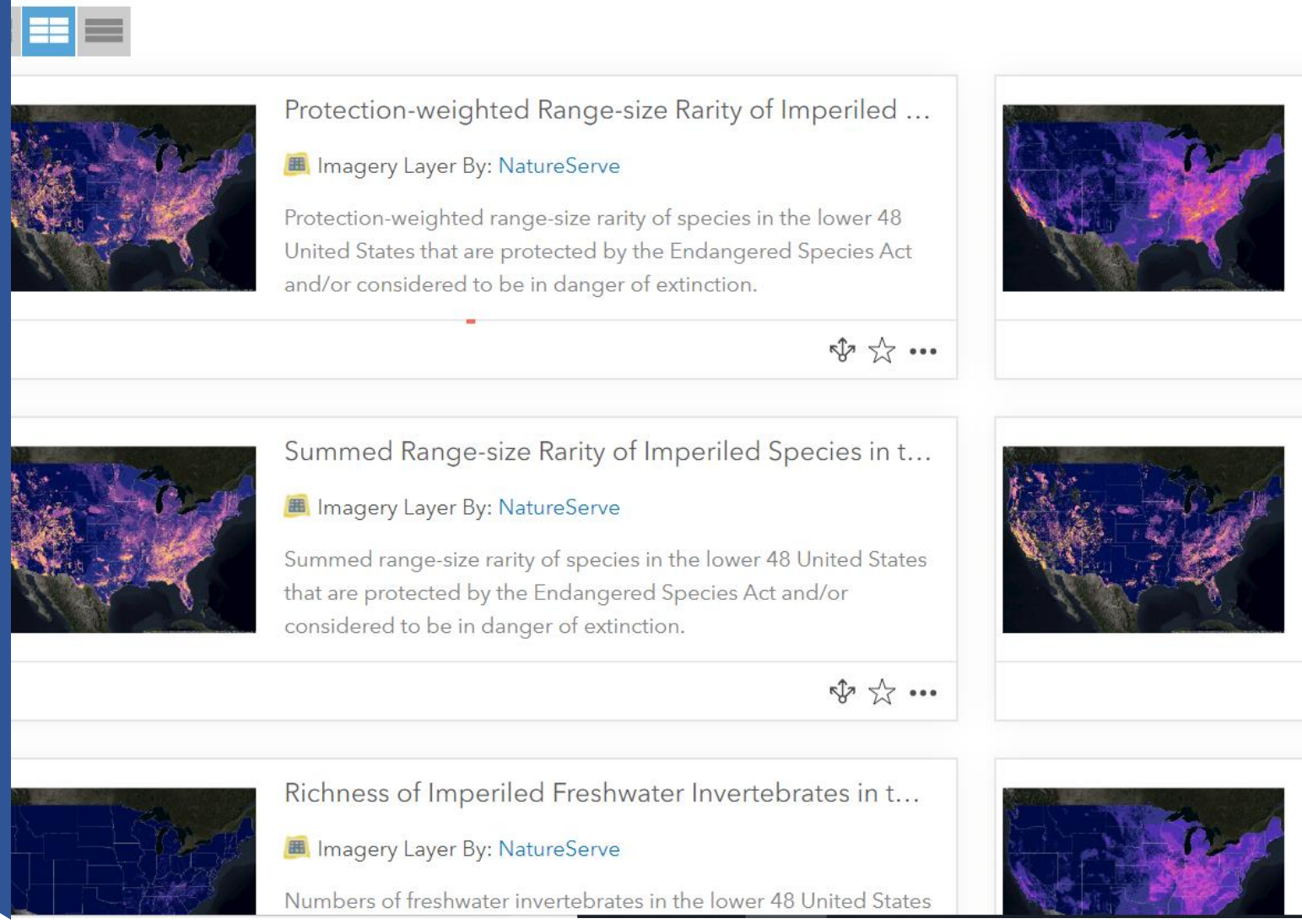


What is the Map of Biodiversity Importance?

Through a landmark collaboration, NatureServe has released a portfolio of maps that identify critical areas for species conservation in the contiguous United States. With support from Esri, The Nature Conservancy, and Microsoft's AI for Earth program, NatureServe and its network of member programs have created a comprehensive set of habitat models for imperiled species. Analyzed in conjunction with protected area boundaries, these data support mapping areas of high biodiversity importance—an invaluable input to guide effective conservation decision-making and reduce regulatory conflict.

To learn more about the project, contact Regan Smyth at Regan_Smyth@natureserve.org or Healy Hamilton at Healy_Hamilton@natureserve.org.

ArcGIS Living Atlas of the World



Explore the latest Mobi StoryMaps

Learn more about our recipe for habitat suitability modeling and the top 10 surprising things that we learned

MoBI Top 10

Surprising findings from NatureServe's Map of Biodiversity Importance initiative

A Recipe for Better Biodiversity Mapping

NatureServe Open Data

The Gold Standard for Biodiversity Information

NatureServe believes that having the highest quality scientific data is absolutely essential when it comes to protecting the planet's species. Along with our network partners, we develop and manage the most comprehensive data for over 100,000 species and ecosystems, answering fundamental questions about what exists, where it is found, and how it is doing.

Here you can explore some of our open spatial data sets and online applications. For more information on how to access biodiversity location data, please contact us at productsandservices@natureserve.org.

Find Data

Search for Data

Explore NatureServe Data

Environmental Condition

Ecosystem Distribution

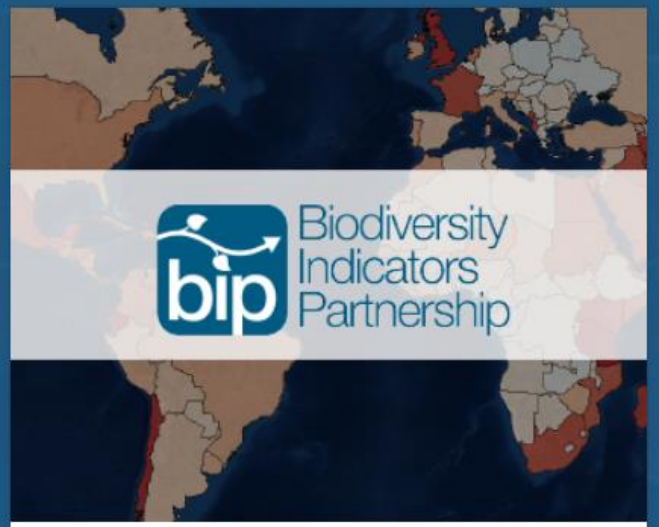
Species Distribution

Conservation Priorities

NatureServe Explorer

Authoritative information on 100,000 species and ecosystems at your fingertips.

View



BIP Dashboard

NatureServe powers the new dashboard for the Biodiversity Indicators Partnership.

View

Environmental Review Tool

Environmental review and planning that can be customized to meet agency-specific needs.

View

NatureServe EXPLORER

Search | About the Data | About Us | Contact Us | Help

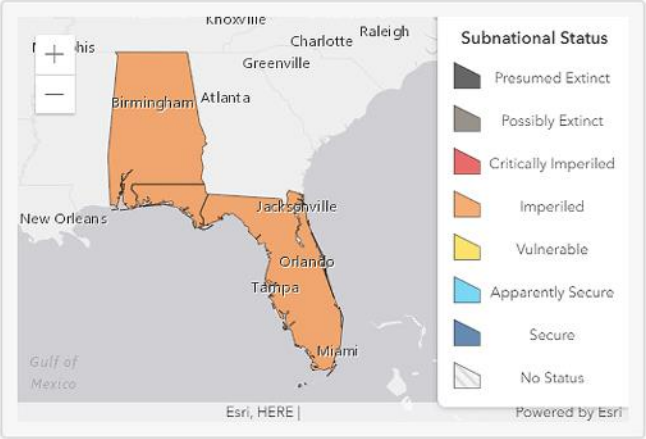
Select...

Graptemys ernsti

Escambia Map Turtle

New Search

GX	GH	G1	G2	G3	G4	G5	No Status Rank
Presumed Extinct	Possibly Extinct	Critically Imperiled	Imperiled	Vulnerable	Apparently Secure	Secure	



Classification

Scientific Name: *Graptemys ernsti* Lovich and McCoy, 1992

Other Common Names: None

Kingdom: Animalia
Phylum: Craniata
Class: Chelonia
Order: Testudines
Family: Emydidae
Genus: Graptemys

Contents

NatureServe: Conservation Tools

Custom Solutions for Better Conservation Outcomes

NatureServe
Connecting Science With Conservation

Overview of Tools | Benefits | Tool Locator | Nuts & Bolts | Let's get started!

Arizona | Kentucky | Louisiana | Missouri | Nebraska | New Mexico | North Carolina | Pennsylvania ERT | Pennsylvania COA | South Dakota | Virginia | Sample Reports

Virginia

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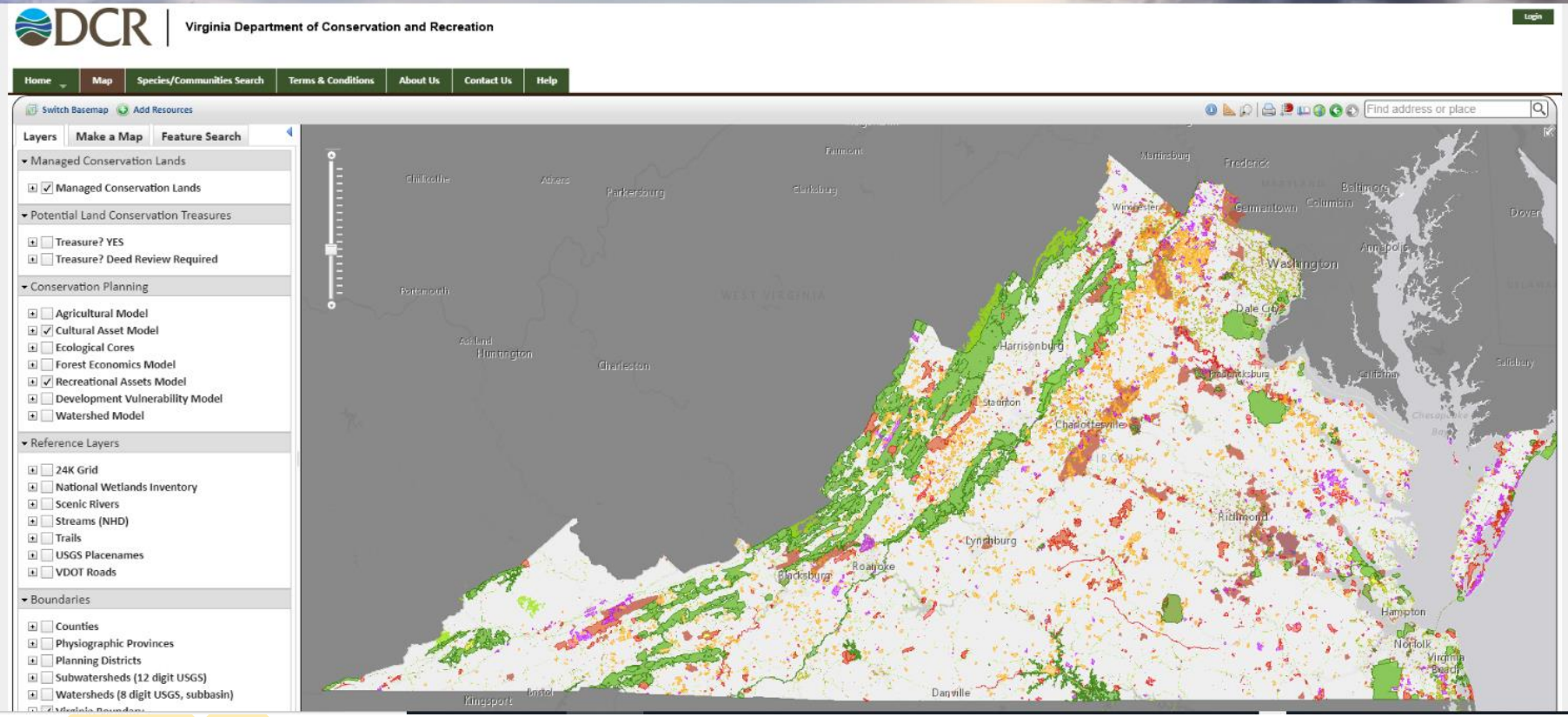


Environmental Review Tools

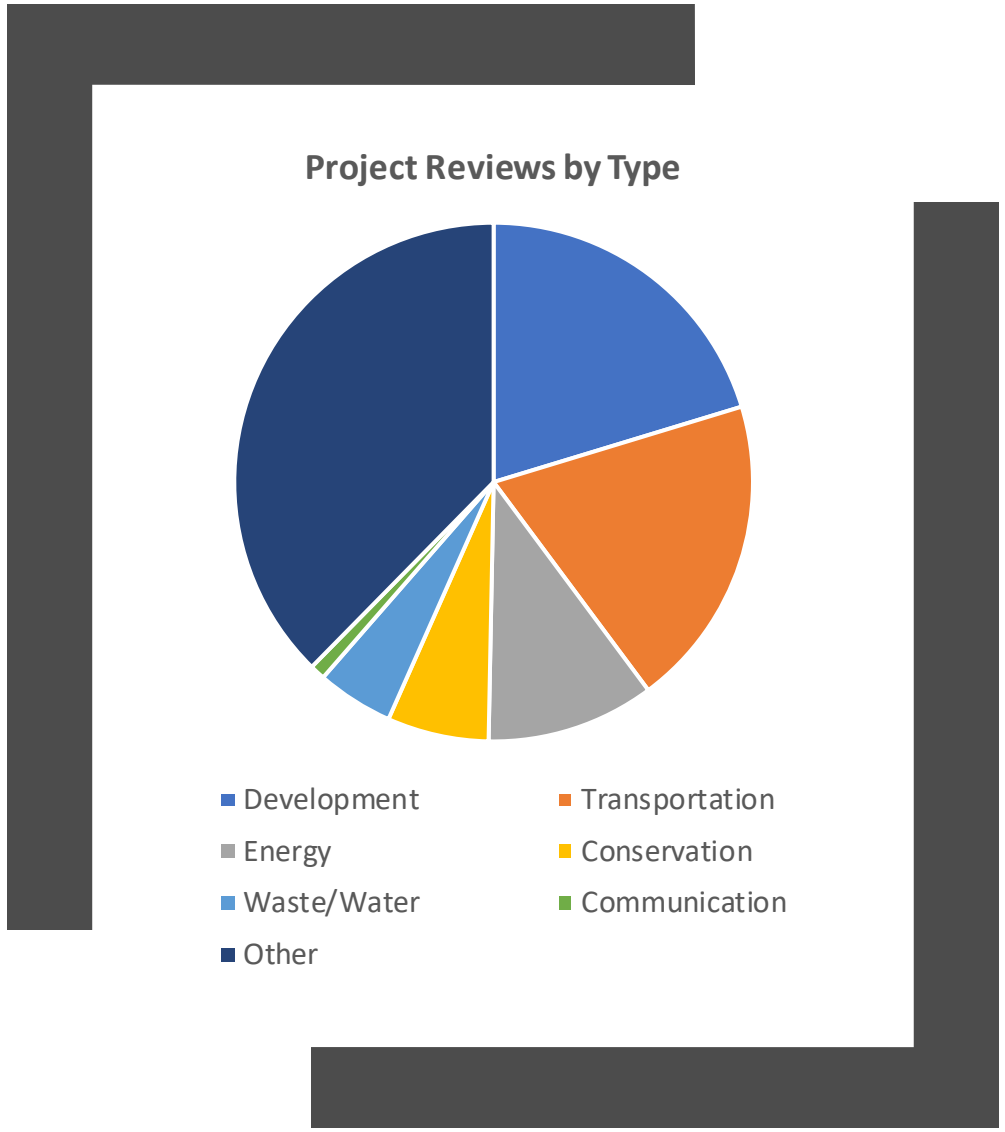
STREAMLINE PLANNING AND PERMITTING PROCESSES, SAVE THOUSANDS OF HOURS OF STAFF TIME

REDUCE THE IMPACT OF PROJECTS ON THREATENED AND ENDANGERED SPECIES

SUPPORT IMPLEMENTATION OF STATE WILDLIFE ACTION PLANS

PROVIDE SELF-SERVICE CONSERVATION PLANNING TOOLS

RECOVER ADMINISTRATIVE COSTS THROUGH OPTIONAL CREDIT CARD PAYMENT FOR ISSUED PROJECT RECEIPTS

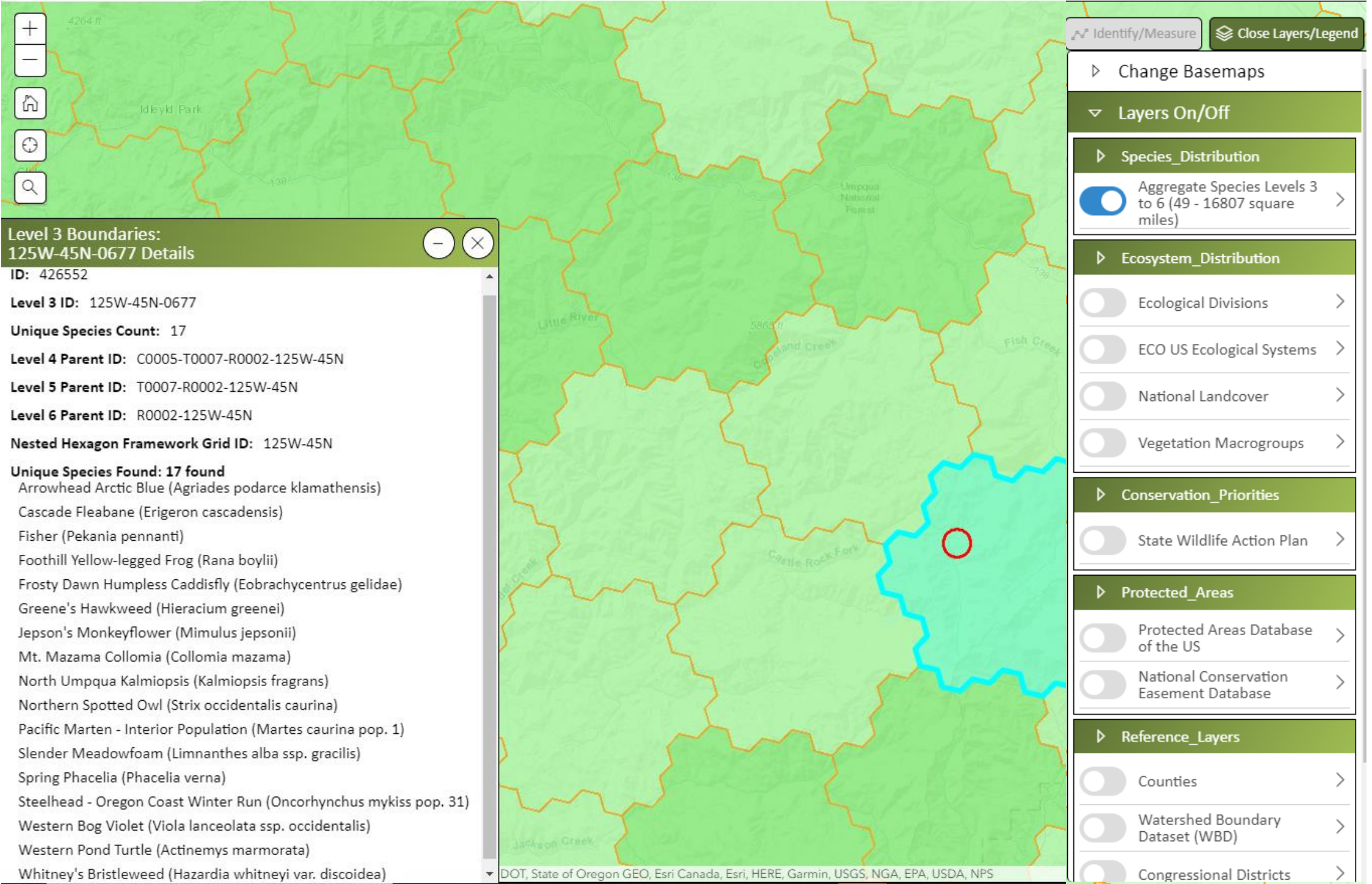


Reduce Conflicts Protect Biodiversity

Combined usage from 9 state tools:

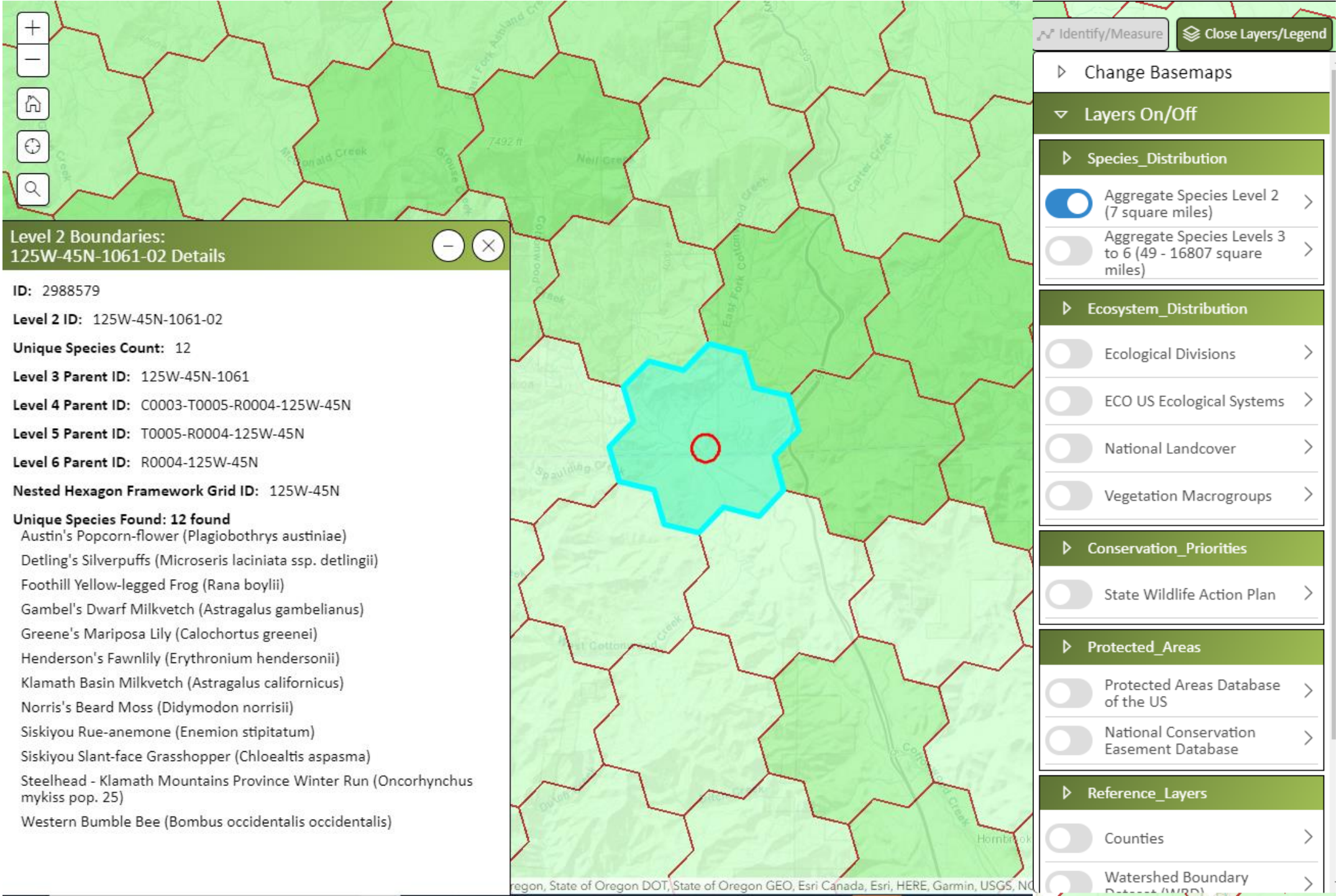
- 42,000 projects submitted in the last year
- Over 132,000 projects submitted since 2013
- For most states, over 70% of projects result in no conflict, or return voluntary conservation/avoidance measures

Expanding this service nationwide in 2020

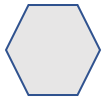


Free Tier
(no subscription)

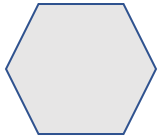
49 mile^2



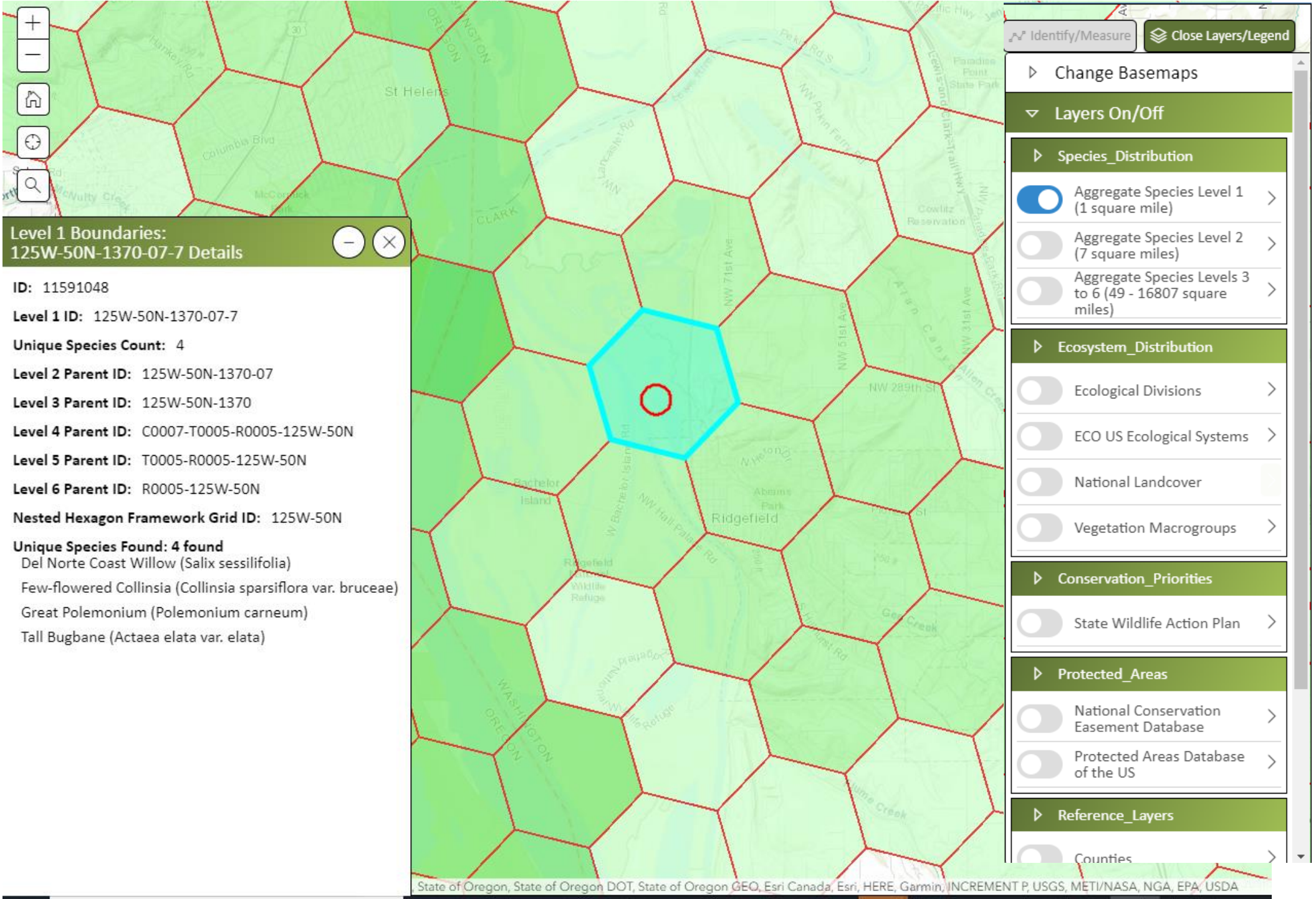
Tier 1 Subscription Access:



7 mile^2



49 mile^2

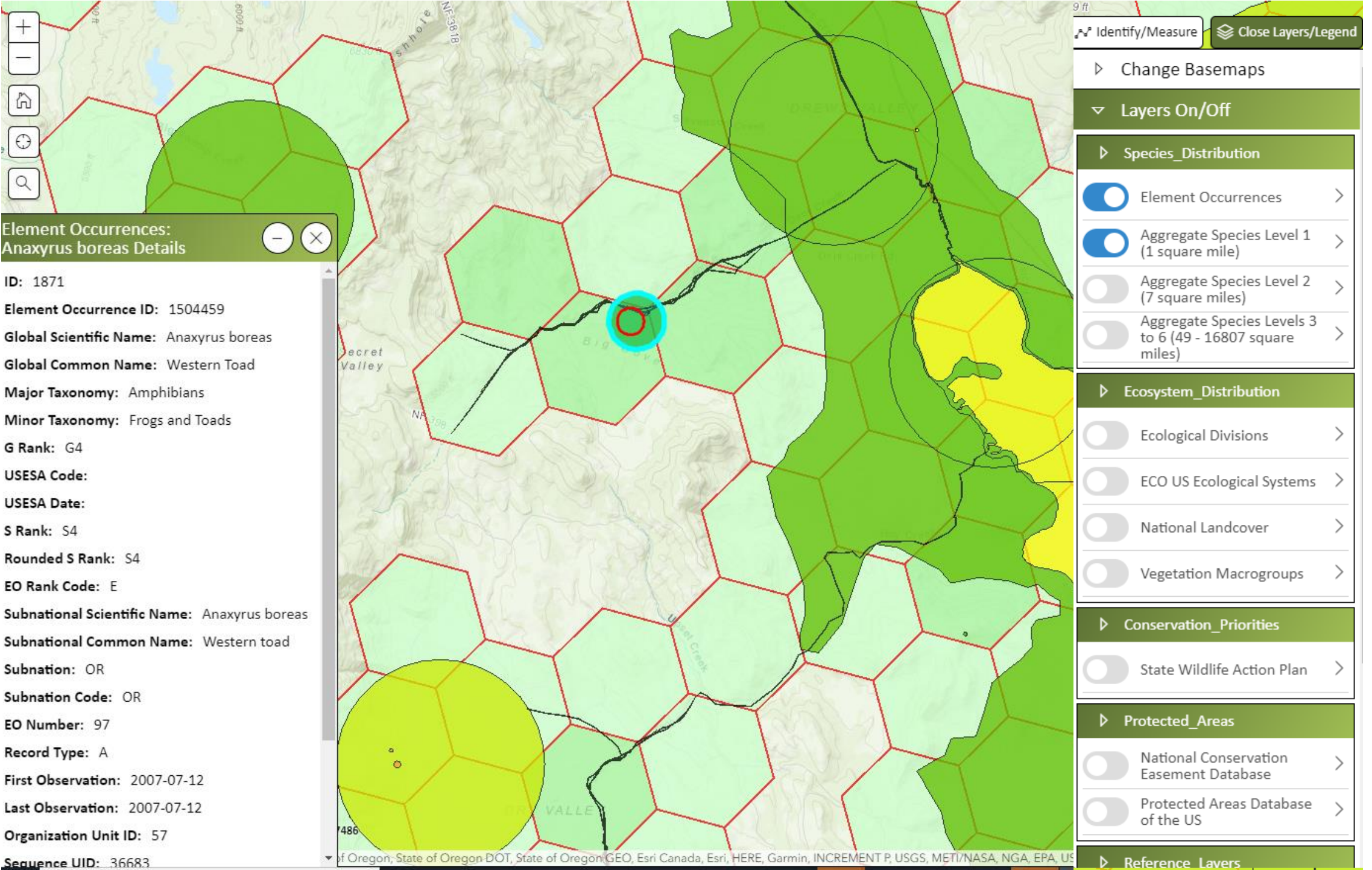


Tier 2 Subscription Access:

1 mile^2

7 mile^2

49 mile^2



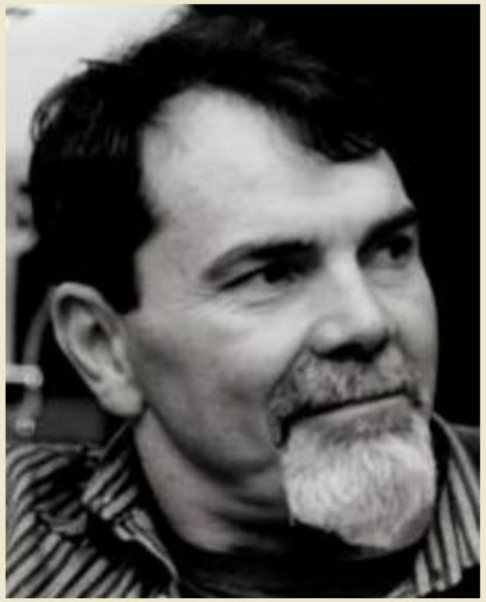
Tier 3 Subscription Access:

Precise

1 mile^2

7 mile^2

49 mile^2



Todd Jones-Farrand

"Working with NatureServe will help us address the need for more precise species distribution data. This information will give us a greater understanding of the conservation value of current Southeast landscapes and allow us to plan for change more holistically. NatureServe has built the collaborative modeling infrastructure we need. This, with their large network of data providers & species experts, makes them indispensable partners in the quest for precision conservation action."

Todd Jones-Farrand, U.S. Fish and Wildlife Service

Partner with Us

Biodiversity Without Boundaries

Register Now!

April 19-22, 2020 • Richmond, VA

Lori_Scott@NatureServe.org
Regan_Smyth@NatureServe.org

About OSI

The Open Space Institute protects scenic, natural and historic landscapes to provide public enjoyment, conserve habitat and working lands, and sustain communities from Canada to Florida.

OPEN SPACE INSTITUTE

How we do it:

We've helped save millions of acres and increased access to the great outdoors through:

- Direct land acquisition
- Funding
- Research
- Advocacy
- Grassroots Engagement
- Park improvement projects

OPEN SPACE INSTITUTE

Saving the Shawangunks

A Story of the Effort to Protect the Shawangunk Ridge

By The Open Space Institute

OPEN SPACE INSTITUTE

Print Your Certificate of Attendance

Print Stations Located in 150 Concourse Lobby

Tuesday

12:30 pm – 6:30 pm
Expo
Hall B

5:15 pm – 6:30 pm
Expo Social
Hall B

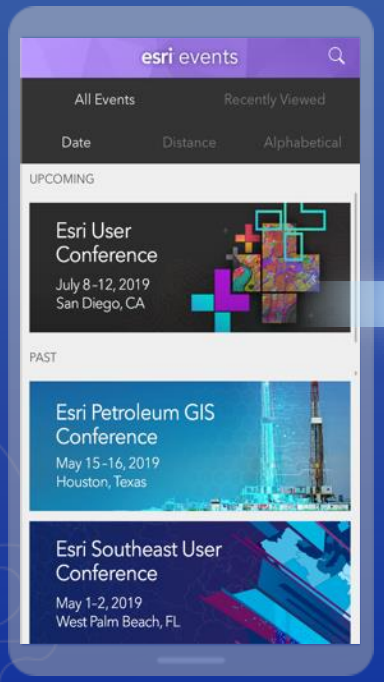
Wednesday

10:45 am – 5:15 pm
Expo
Hall B

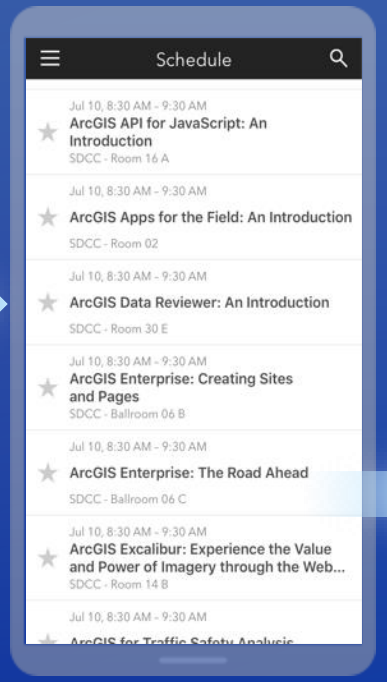
6:30 pm – 9:30 pm
Networking Reception
Smithsonian National Museum of Natural History

Please Share Your Feedback in the App

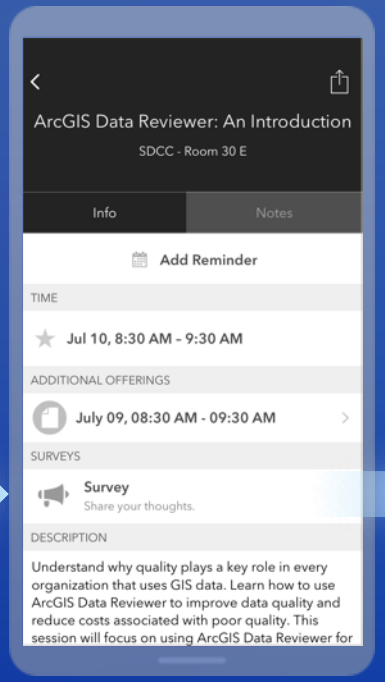
Download the Esri Events app and find your event



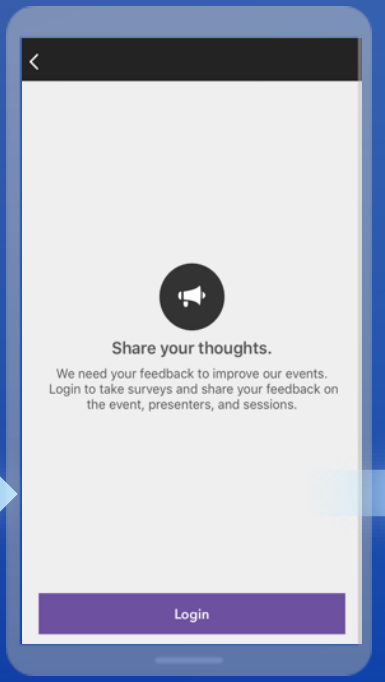
Select the session you attended



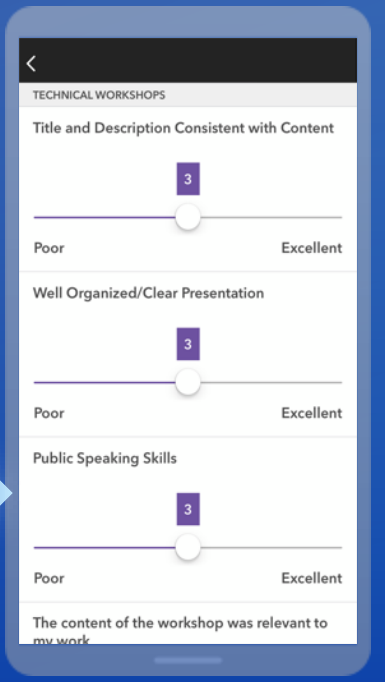
Scroll down to "Survey"



Log in to access the survey



Complete the survey and select "Submit"




esri
THE
SCIENCE
OF
WHERE