



**MITIGATION AND PUBLIC LANDS:
HOW GOOD BUSINESS AND GOOD RESTORATION CAN EXPEDITE
ECOSYSTEM RECOVERY THROUGH PUBLIC AND PRIVATE PARTNERSHIPS**

ALBUQUERQUE NM- NCER 2024

TODAYS AGENDA AND GOALS

- Overview

- Presentations

- Michelle Mattson, USACE Perspective
- Deblyn Mead, BLM Perspective
- George Kelly, Environmental Markets Perspective

- Let's Have a Conversation

- Encourage open dialogue
- Keep things casual
- Move toward action

LAND ACKNOWLEDGEMENT

Any conversation regarding public lands must begin by acknowledging that all public lands (federal, state, and local) has been under the stewardship of Tribal Nations and First Peoples since time immemorial. As a result of colonization, Tribal Nations and First Peoples ceded millions of acres of land to the newly established U.S. government which became the original basis for federal ownership and legal title to much of the nation's public lands. The successful management and restoration of public lands should therefore include the original stewards of the land in everything from decision making to management.

We recognize and honor the indigenous peoples, past and present, that have protected and stewarded these lands and waterways since time immemorial. The original peoples of the 24 tribes of New Mexico from the Pueblo, Navajo, and Apache Nations have deep connections to the land and have made significant contributions to the broader community of restoration. We honor the land itself and those who remain stewards of this land throughout the generations.

PUBLIC LANDS PRESENTERS AND PANEL MEMBERS



Lindsay Teunis

Restoration Program Manager
SWCA Environmental Consultants



George Kelly

Environmental Market Advisor
Earth Recovery Partner CEO



Michelle Mattson

National Mitigation Expert
USACE IWR



Dr. Jeremy Sueltenfuss

Restoration and Hydrologist
Colorado State University



Deblyn Mead

National Mitigation Specialist
Bureau of Land Management (BLM)

YOU ARE PART OF TODAY'S CONVERSATION

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WHY PUBLIC PRIVATE PARTNERSHIPS ARE NEEDED?

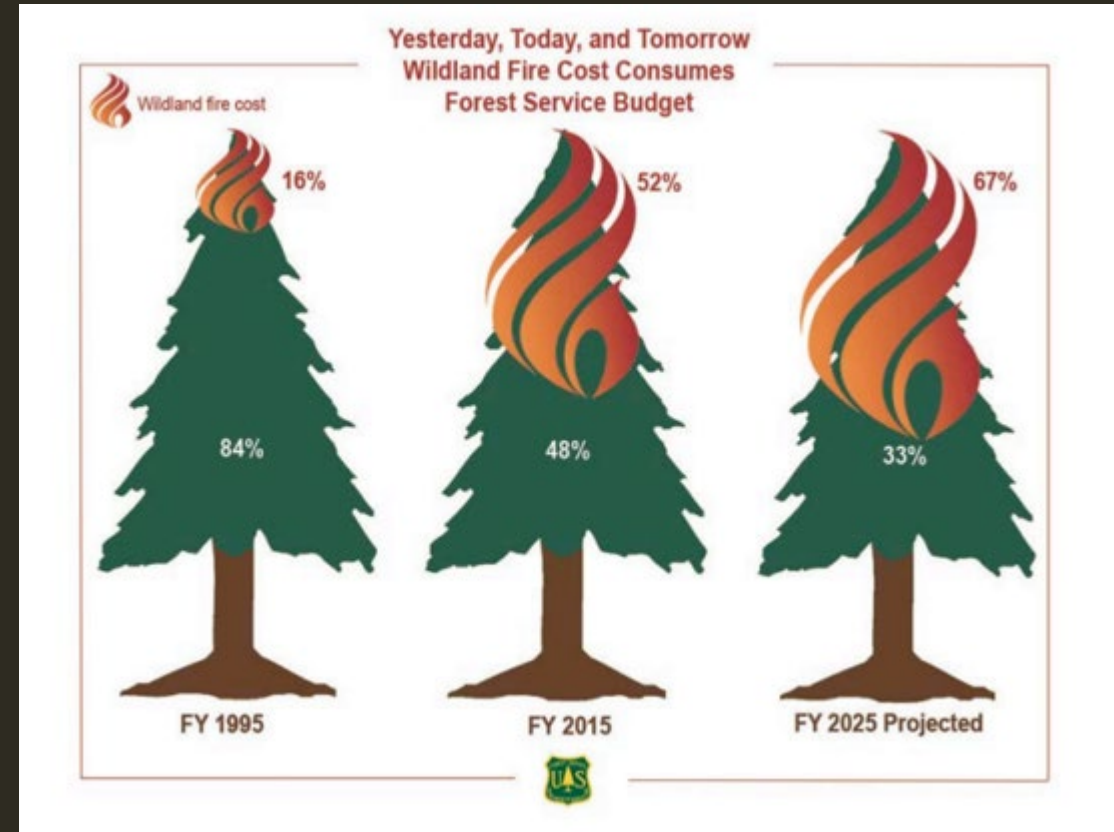
Examples

■ US Forest Service

- Annual restoration budget covers 5% of estimated need
- 58 million acres identified as “high or very high risk of severe fire” and in need of restoration

■ National Parks Service

- \$65 billion back-log for wetland restoration
- 30% (2.2 million acres) of 7.3 million acres in the lower 48, are degraded wetlands and rivers



SOME ASSUMPTIONS

- Public lands include federal, state, and local lands.
 - ...are important.
 - ...are degraded and need restoration.
 - ...are for ALL of us to take care of, including funding strategy.
 - ... have inadequate or unreliable funding to manage for baseline conditions much less restore resources.
- Impacts to resources will and are continuing.
- Regulations should be followed.
- Mitigation should always target watershed priorities.
- We are stronger together and are focused on public and private partnerships which allow everyone to do what they do best.

HERE TO SOLVE BIGGER ISSUES BECAUSE THERE IS NO TIME TO WAIT

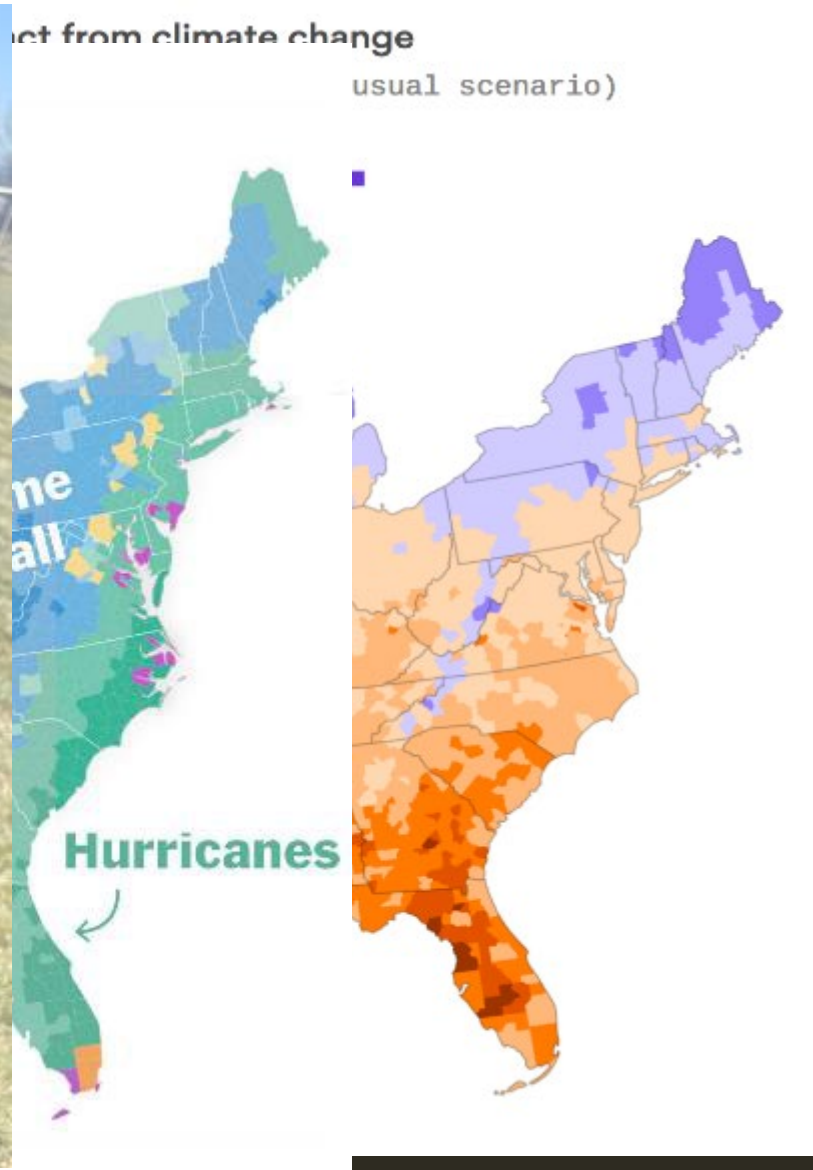


Wildfires



Extreme
and variable

**Sea level
rise**



Effect from climate change

(usual scenario)

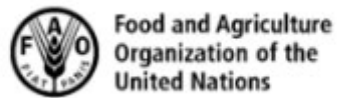
one
all

Hurricanes

WHY? BECAUSE THERE IS NO TIME TO WAIT AND THERE IS MOMENTUM

There has never been a more urgent need to revive damaged ecosystems than now.

Ecosystems support all life on Earth. The healthier our ecosystems are, the healthier the planet - and its people. The UN Decade on Ecosystem Restoration aims to prevent, halt and reverse the degradation of ecosystems on every continent and in every ocean. It can help to end poverty, combat climate change and prevent a mass extinction. It will only succeed if everyone plays a part.



- America the Beautiful
- Great American Outdoors Act
- United Nations = Decade of Restoration
- U.S. “30 by 30”
- Infrastructure Bill
- Funding Opportunities | U.S. Climate Resilience Toolkit

WHY PRIVATE PUBLIC PARTNERSHIPS? BECAUSE IT IS NEEDED BY THE RESOURCES

Not All Public Lands Look Like
the Postcards



WHY PRIVATE PUBLIC PARTNERSHIPS? BECAUSE IT IS NEEDED BY THE RESOURCES

Past and Present Human Uses



Invasive Pests



Invasive Plants

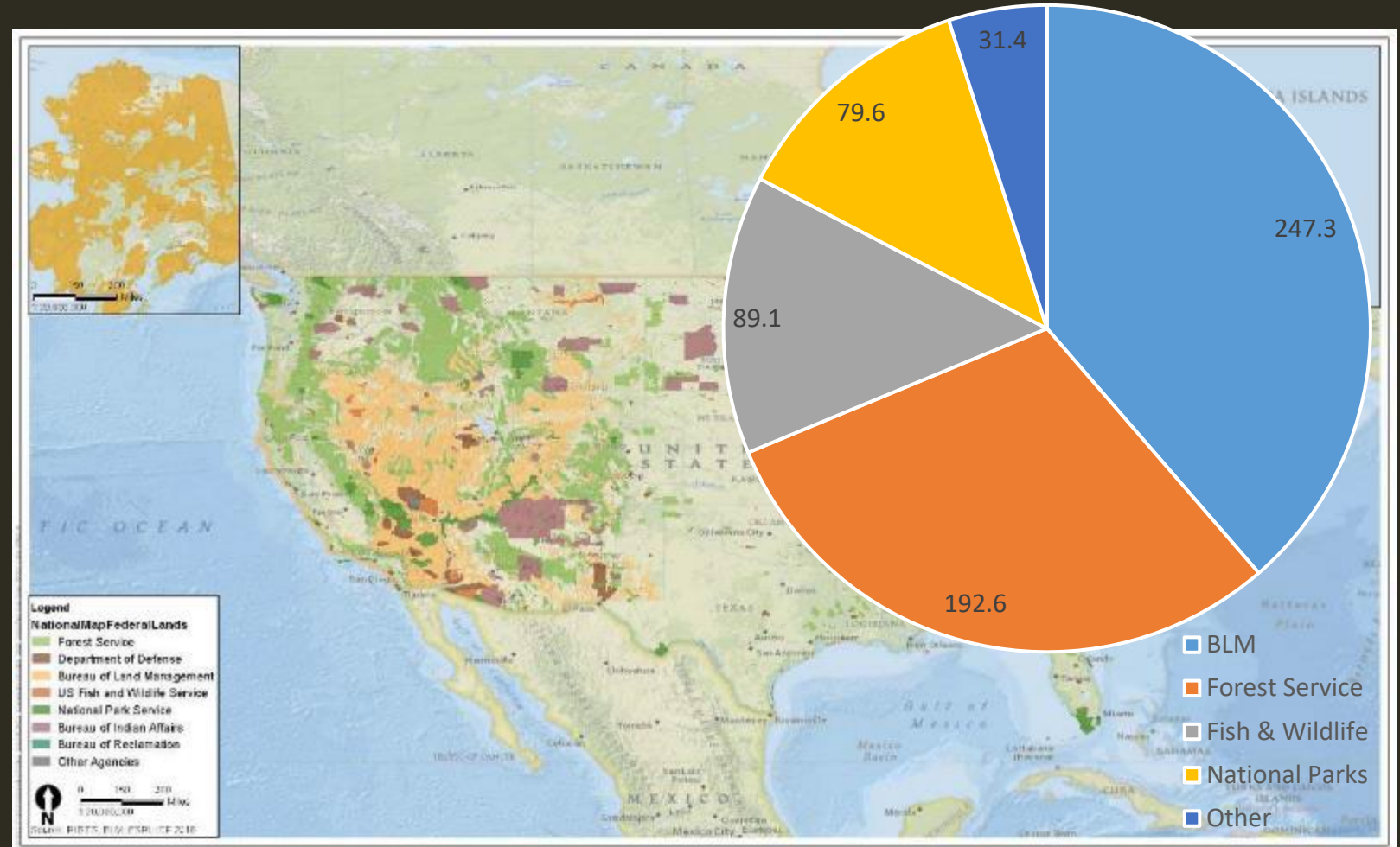


Climate Change



WHY PRIVATE PUBLIC PARTNERSHIPS? BECAUSE IT IS NEEDED BY THE RESOURCES

- US Government owns 47% of the land WEST of the Mississippi
- Only 4% of the land EAST of the Mississippi
- 640 million acres
- Watershed approach often starts on public land
- Open opportunities where private land is limited



Nationwide Federal Lands

WHY? BECAUSE IT BENEFITS EVERYONE

Land Manager	<ul style="list-style-type: none">• Higher quality resources• Mitigation for future projects• Improved stewardship• Potential public offerings, multi-use• Long term management \$\$
Project Proponent/ Banker	<ul style="list-style-type: none">• Compensatory mitigation for projects<ul style="list-style-type: none">○ Lower mitigation ratios• Revenue stream• Cost recapture• Additional opportunities
Agency	<ul style="list-style-type: none">• Higher quality resources• Compliance with regulatory objectives• Quicker permitting times• Facilitate watershed plan priorities
General Public	<ul style="list-style-type: none">• Influx of funding• Improved natural resources• Additional resources or opportunities<ul style="list-style-type: none">○ Recreation, education, water quality benefits



**Everyone gets something
from the relationship**

LONG HISTORY OF PRIVATE ENTERPRISE AND COMMERCIAL “INVESTMENT” IN THE USE OF PUBLIC LANDS

Compensatory Mitigation and

All of These Uses Have One

Thing in Common:

They Are Consumptive and/or

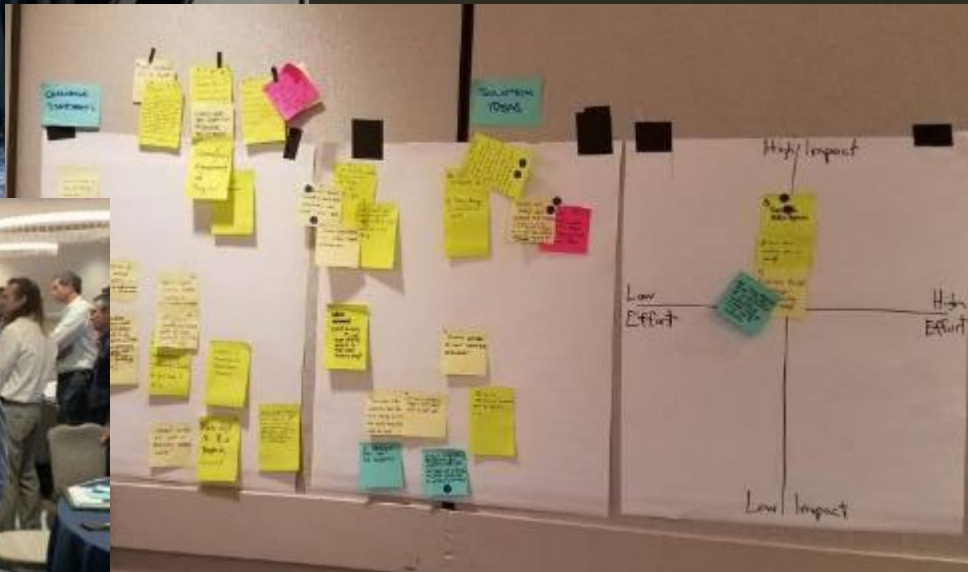
Extraction Activities

Aquatic Resources, Species, Vegetation,

Water Quality, etc...

BEGINNING OF THE LATEST HISTORY

2019 Public Lands Workshop – **Challenge** Charet



Organized brainstorming focused on identifying common perspectives and working toward group consensus. Creates buy-in and inclusion.

COMMON HURDLES/CONCERNS TERMS

- **Additionality**
- **Full/True Cost Accounting**
- **Durability**
- **Funding/Long-Term Management**

Additionality

The net-gain of natural resource values, services, and functions relative to the baseline conditions that is **demonstrably new** and would not have occurred without the mitigation activity.

Examples

Land valuation methods, perceived or actual gift of public funds, double counting, crediting, restrictions resulting from the way the public land was originally purchased



Full/True Cost

Accounting

Account for land value and ensure that cost for use of public land is offset, clearly documented and accounted for in credit cost. Avoid undermining market with “cheaper credits” and ensuring no gift of public funds.

Examples

Cost or value of land regardless of conservation status. Offset land value monetarily (i.e. lease) and/or by funding other valued public resources such as trails, amenities, etc...



Durability

The condition in which the measurable environmental benefits of the compensatory mitigation activities are sustained in values, services, and functions with **reasonable** long-term maintenance and monitoring activities.

Examples

Compatible site protection instruments, duration of commitment, public permissible and prohibited uses, financial instruments that ensure sufficient funding for long-term (“in-perpetuity”) maintenance and monitoring commitments



FOR-E-VER???

Funding/ Long-Term Management

Any exchange of funds or value between two entities along the mitigation life cycle.

Examples

Public agency restrictions, suitable endowment holders or alternative mechanisms, identifying long-term funding sources, and/or managing other risks (financial assurances, MOAs, change of public charters).



*Loving it isn't
enough, we
have to fund it?*



KEY SOLUTIONS IDENTIFIED

1.

Low Effort/Medium Impact

White paper on the findings from this exercise, and the solutions that came from it. Outline suitable approaches to overcoming these hurdles.

2.

Low Effort/Medium Impact

Highlight successful example pilot project.

3.

High Effort/High Impact

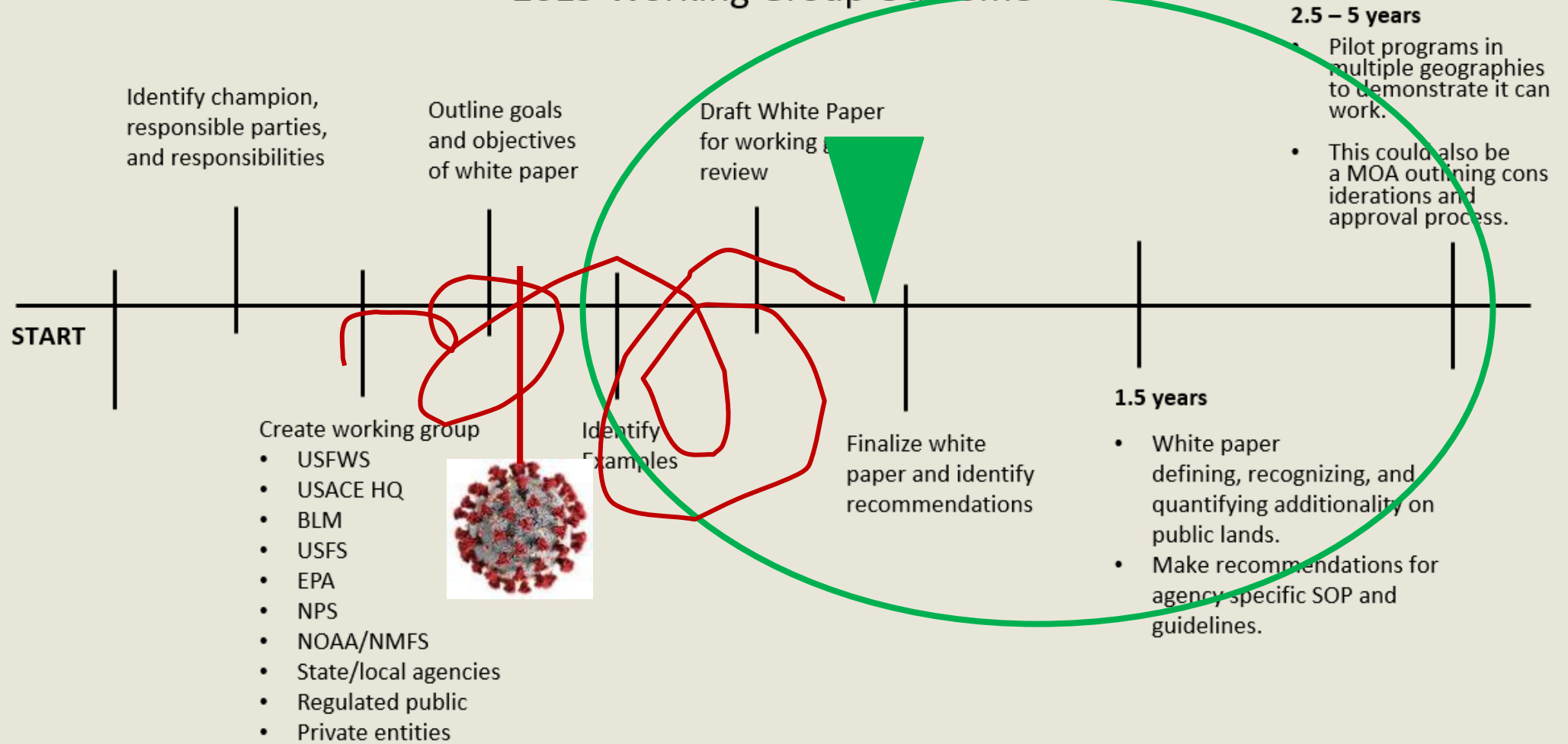
Agency specific guidance documents on how to approach mitigation on their lands. These would outline the specifics to what types of mitigation projects they would entertain and accept on their lands.

Interagency policies outlining mitigation on their lands.

MOMENTUM

Post-its to Paper

2019 Working Group Outcome



WHO HAS BEEN PARTICIPATING IN THE CONVERSATION?

State
Agencies

Federal Agencies

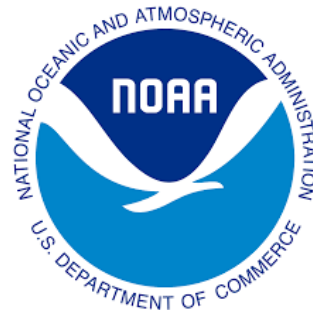
Local Water
Districts

Consultants



Local Land
Managers

Mitigation
Bankers



**US Army Corps
of Engineers®**

Academia

Land Trusts

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If interested in joining the conversation reach out to:

Lindsay Teunis,
Lindsay.Teunis@swca.com

Jeremy Sueltenfuss,
Jeremy.Sueltenfuss@colostate.edu



Overview of Corps and EPA Compensatory Mitigation Policy and Regulations

Michelle Mattson, Ecologist
U.S. Army Corps of Engineers (USACE)
Institute for Water Resources (IWR)

*Photos by USACE and USFWS
Waters and species conserved in banks or ILFs*



What is Mitigation?

NEPA – Mitigation is the sequence of:

- **Avoiding** impacts
- **Minimizing** impacts and if necessary
- **Compensating for unavoidable losses** of resources

EPA/Corps Mitigation Rule(2008) - Compensatory mitigation is achieved through **restoration, establishment, enhancement, or preservation*** of aquatic resources to offset permitted impacts

COMPENSATORY MITIGATION can be provided for Corps' permits through:

- **Mitigation banks**
- **In-lieu Fee (ILF) programs**
- **Permittee-responsible mitigation (PRM)**





What is a Mitigation Bank or ILF Program?

One or more sites

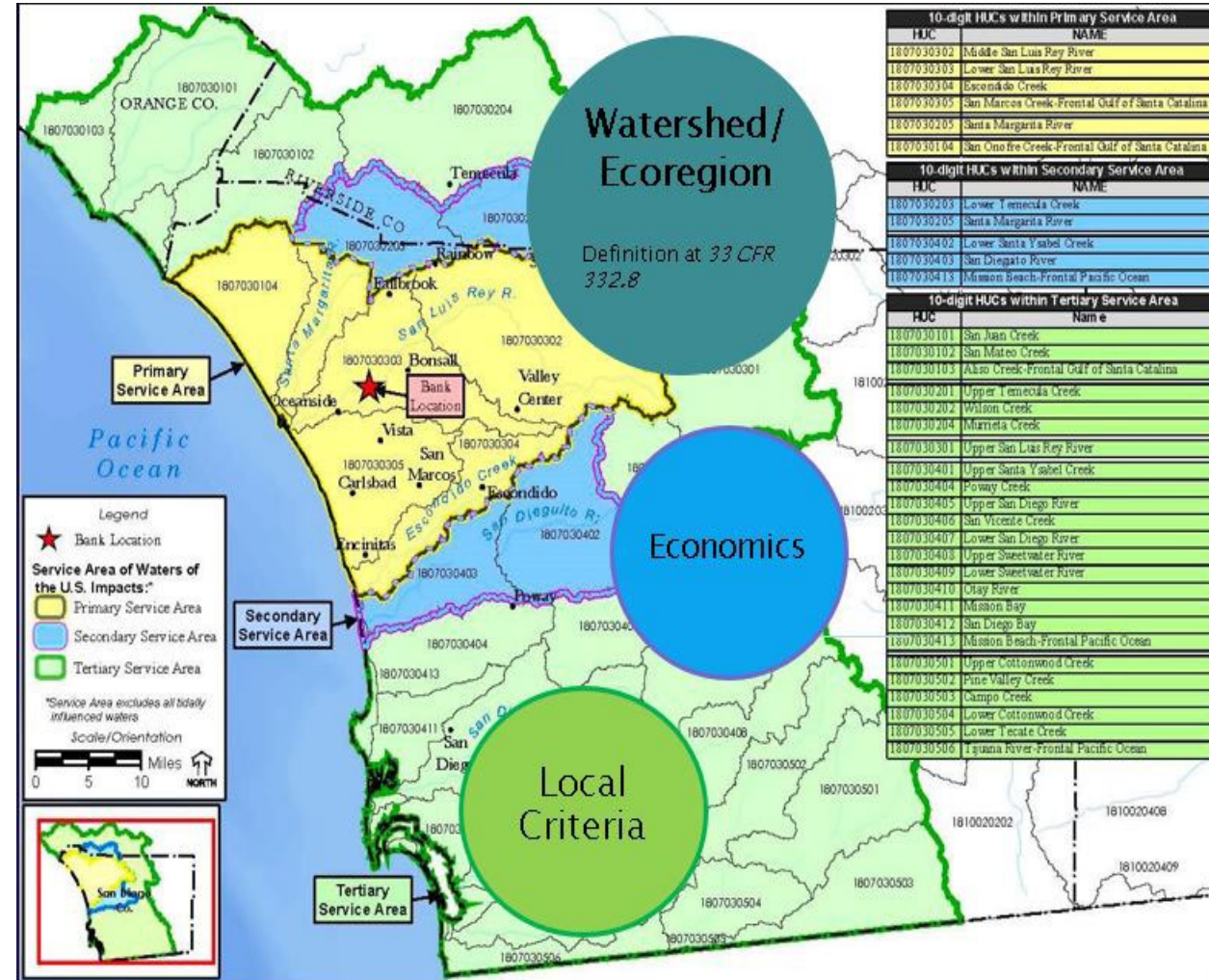
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...to provide **compensatory mitigation** for authorized impacts

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Operation of the bank or ILF program is governed by an **instrument**





Preference Hierarchy for Compensation

Mitigation bank credits

In-lieu fee program credits

Permittee-responsible mitigation under a watershed approach

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- Consider what is “environmentally preferable”
 - (33 CFR 332.3(a)(1) and 230.93 (b))
- Consider likelihood of success, risk, uncertainty, and temporal loss



Benefits of Third-party Mitigation

Overall

- Greater planning and scientific effort
- Reduced risk & uncertainty
- Reduced permitting time - reducing effort evaluating mitigation proposals under PRM
- More efficient compliance

Mitigation Banks

- Advance site identification, instrument, site protection, and financial assurances prior to use
- Compensation in advance of impacts (typically)
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- Credit releases approved by Agencies

ILFs

- Mitigation when no banks are available (small impacts/resources)
- Instrument and site selection approach (Compensation Planning Framework) approved prior to use
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Type and Location of Mitigation

Within same watershed as impact AND where most likely to replace lost functions = Watershed Approach:

A general framework for better compensatory mitigation site selection

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Relation to Other Programs

- Mitigation may be sited on public or private lands (332.3(a)(3))
- May also satisfy requirements of other Federal, State, Tribal, or local programs
 - Must provide appropriate compensation to offset 404 impacts
 - No “double dipping”
- Federally funded projects (e.g., WRP, Partners for Wildlife) may not generate compensation credits
 - “Supplemental” projects



Kimball Island Mitigation Bank, Sacramento County, CA. – a joint Conservation-Wetland Mitigation Bank

(332.3(a) and (j) / 230.93(a) and (j))

MB and ILF Instrument Content

(332.8(d)(6))

Modules 38.2 - 38.4;

3rd Party Mitigation Documentation



Mitigation Bank

Service Area

Accounting procedures

Provision stating legal liability

Default and closure provisions

Reporting protocols

“Other information deemed necessary by DE”

Mitigation plans addressing the 12 required elements

Credit release schedule

ILF

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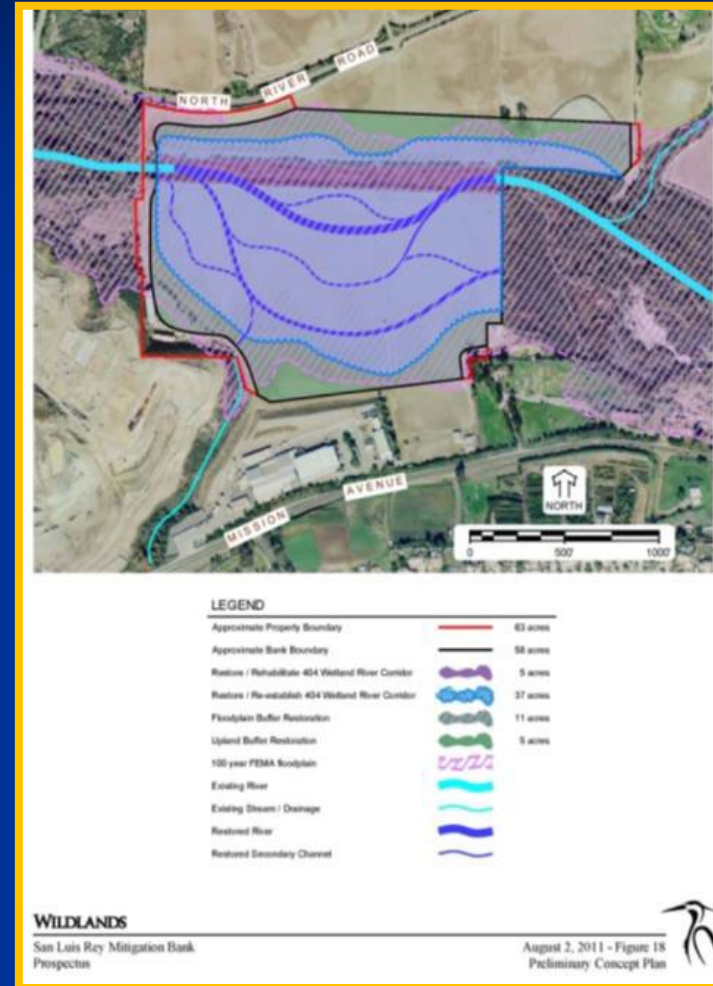
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Method for determining fees and credits

Description of in-lieu fee program account

Mitigation Plan Requirements *332.4(c)*

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8. Performance Standards
9. Monitoring Requirements
10. Long-Term Management Plan
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12. Financial Assurances

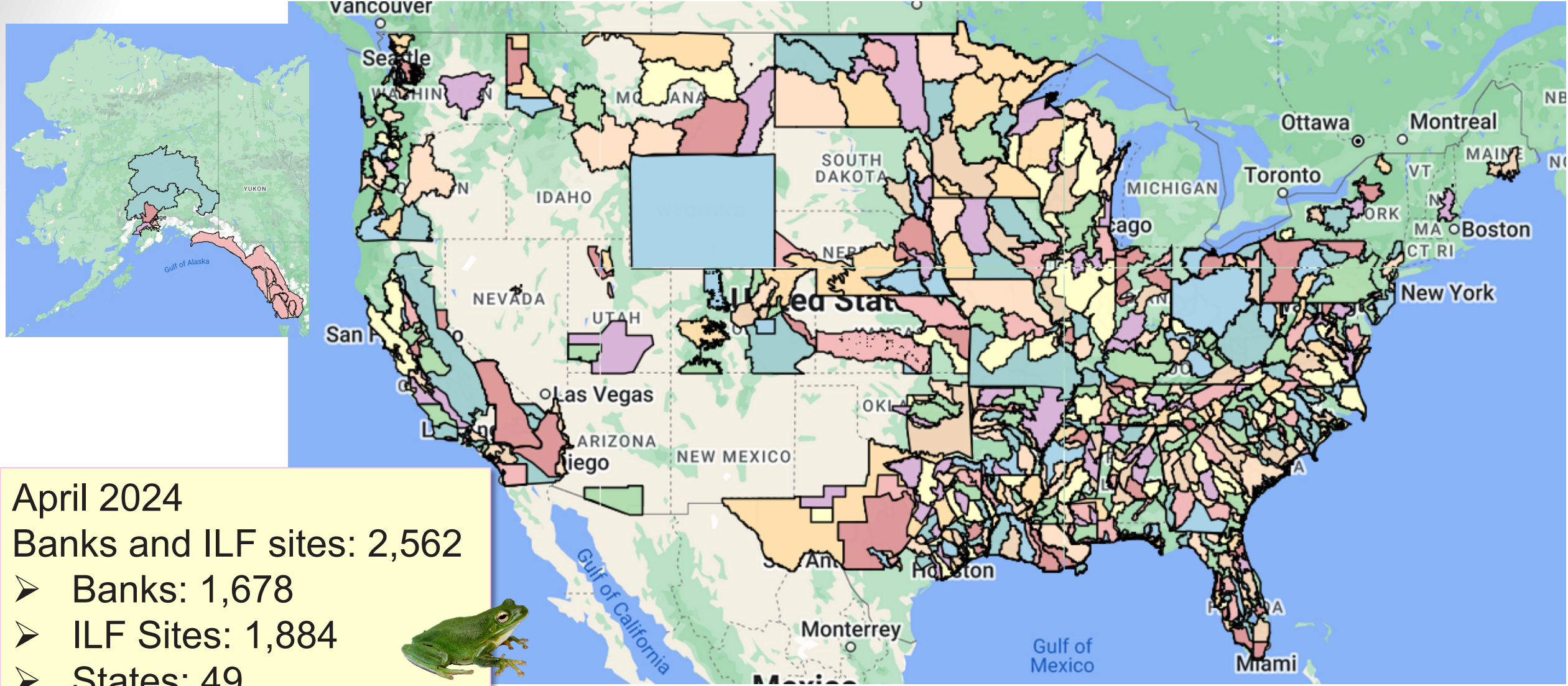


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332.8(j) & (k)



Mitigation Bank & ILF Site Service Areas

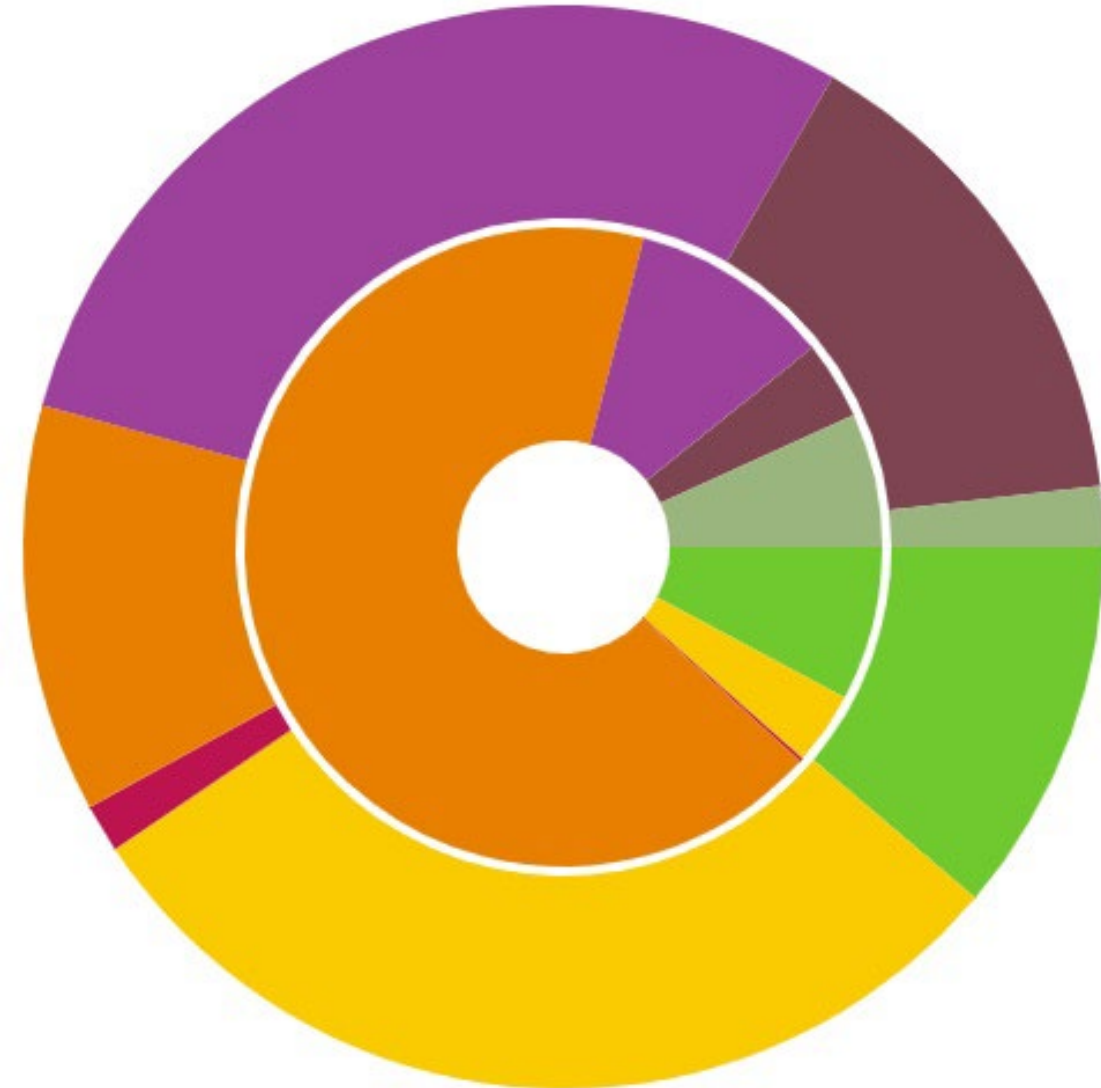


April 2024
Banks and ILF sites: 2,562
➤ Banks: 1,678
➤ ILF Sites: 1,884
➤ States: 49





Wetland Mitigation Type As % Of Acreage



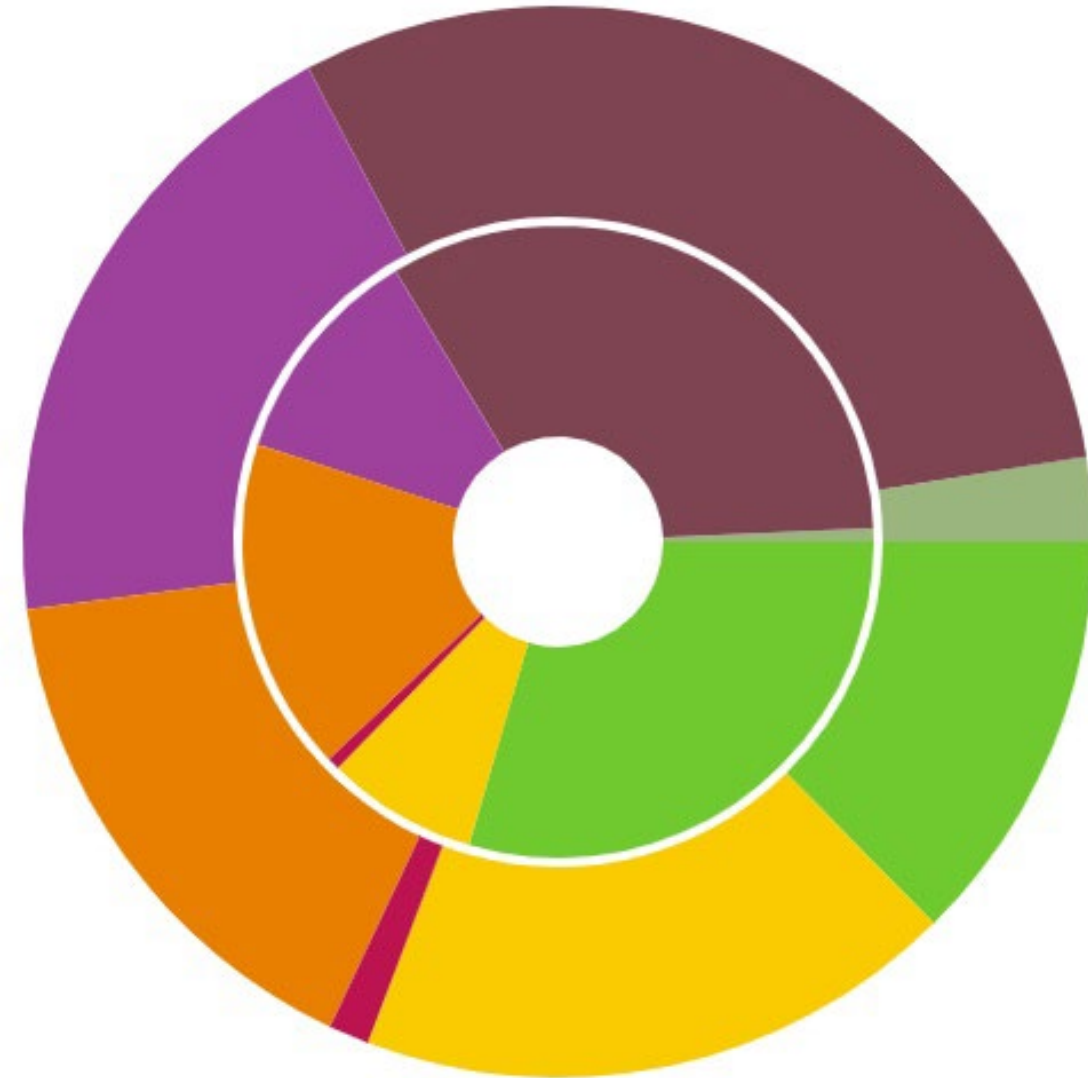
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Inner ring: ILF sites

Wetland Mitigation	Bank Acres (outer ring)		ILF Site Acres (inner ring)	
Preservation	69,102	12%	40,071	67%
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Rehabilitation	84,631	15%	2,363	4%
Uplands (Buffer)	10,255	2%	4,037	7%
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Stream Mitigation Type As % of Linear ft



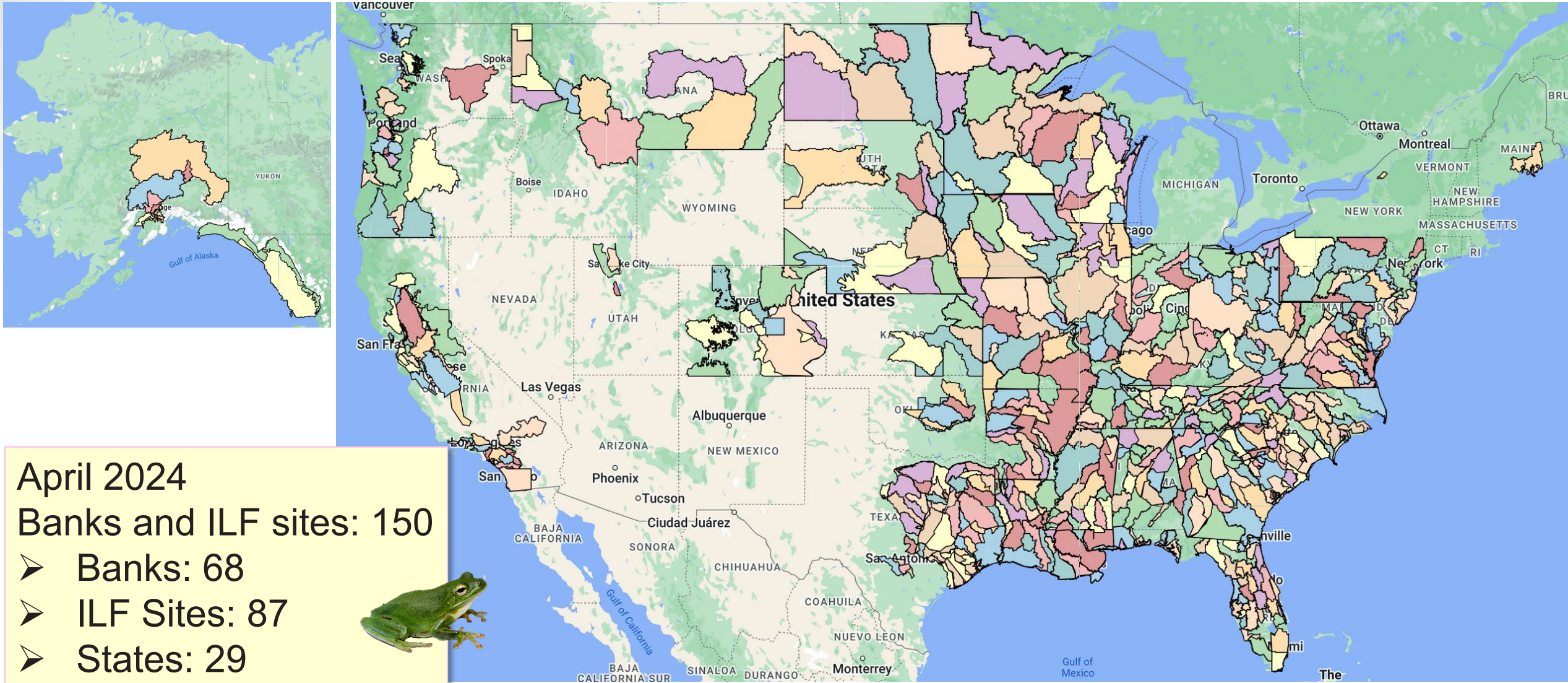
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Mitigation Bank & ILF Site Service Areas for all sites on Public Lands



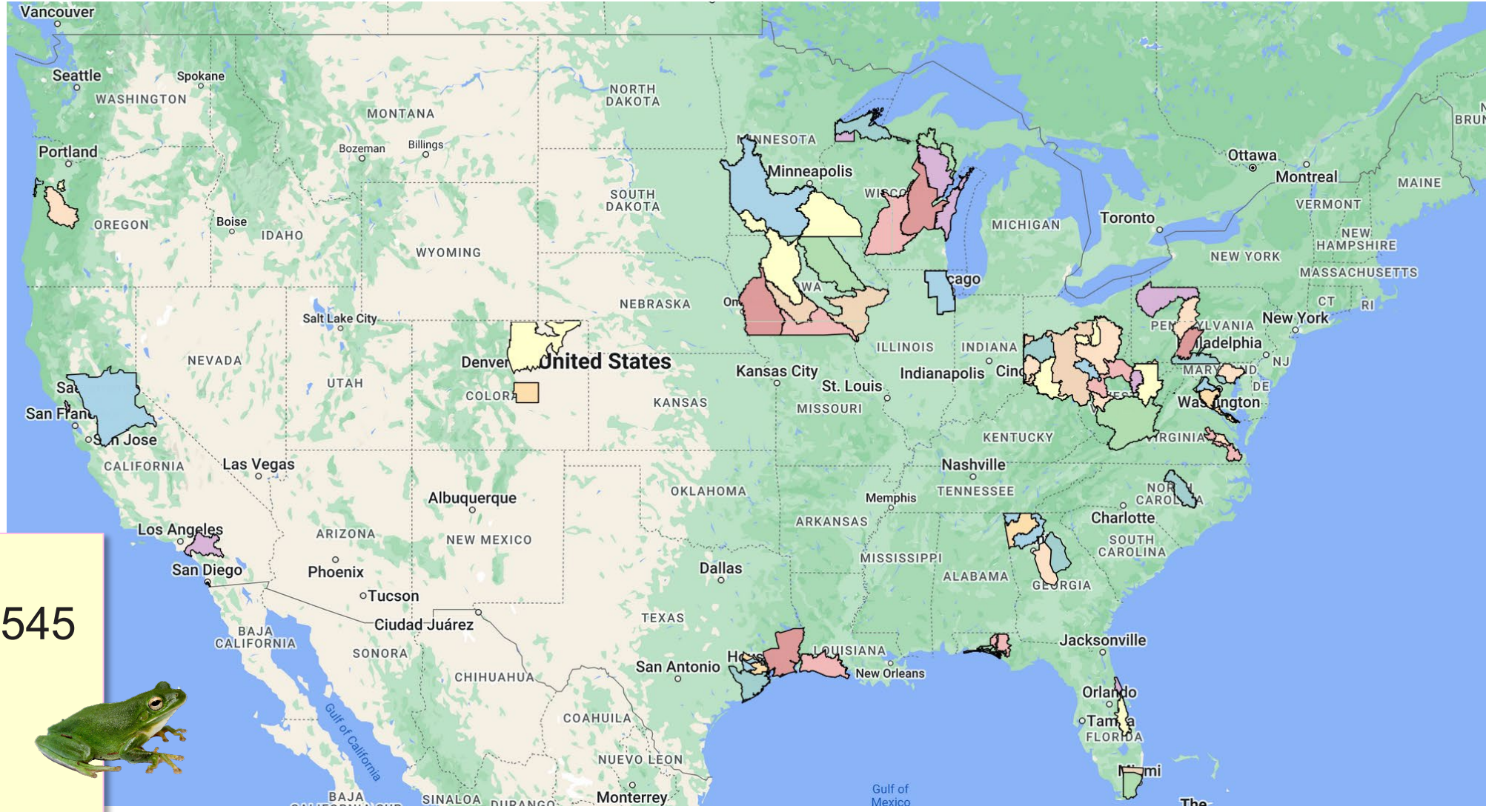
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Source: RIBITS, accessed 16 April 2024



Mitigation Bank & ILF Site Service Areas for USACE sites on Public Lands



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 Banks and ILFs: 1,545
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 ➤ ILF Sites: 0
 ➤ States: 45





IF YOU HAVE QUESTIONS

Corps IWR: Michelle Mattson

- Michelle.L.Mattson@usace.army.mil

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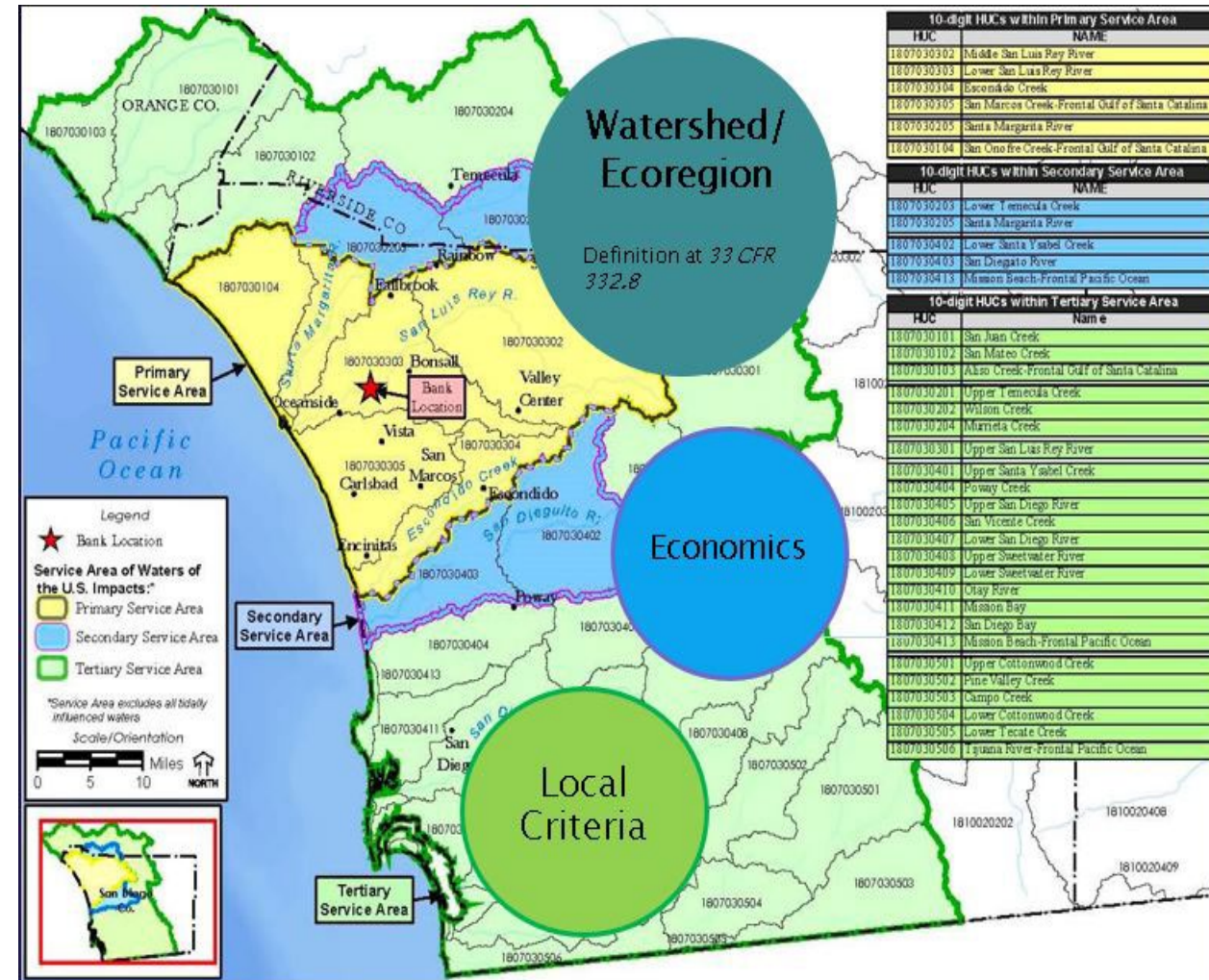
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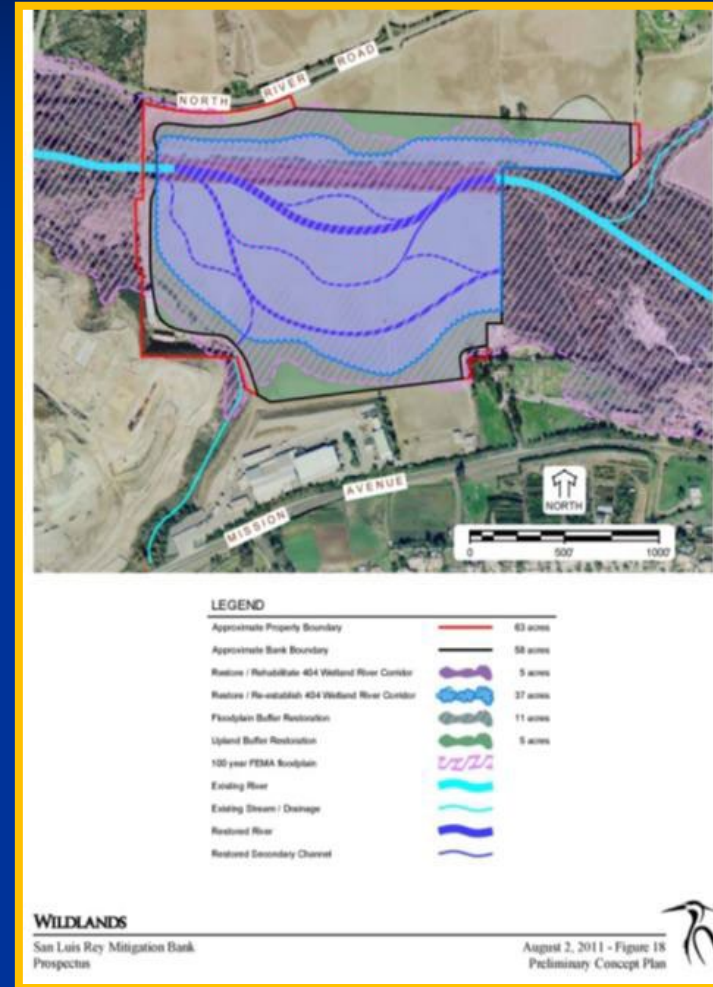
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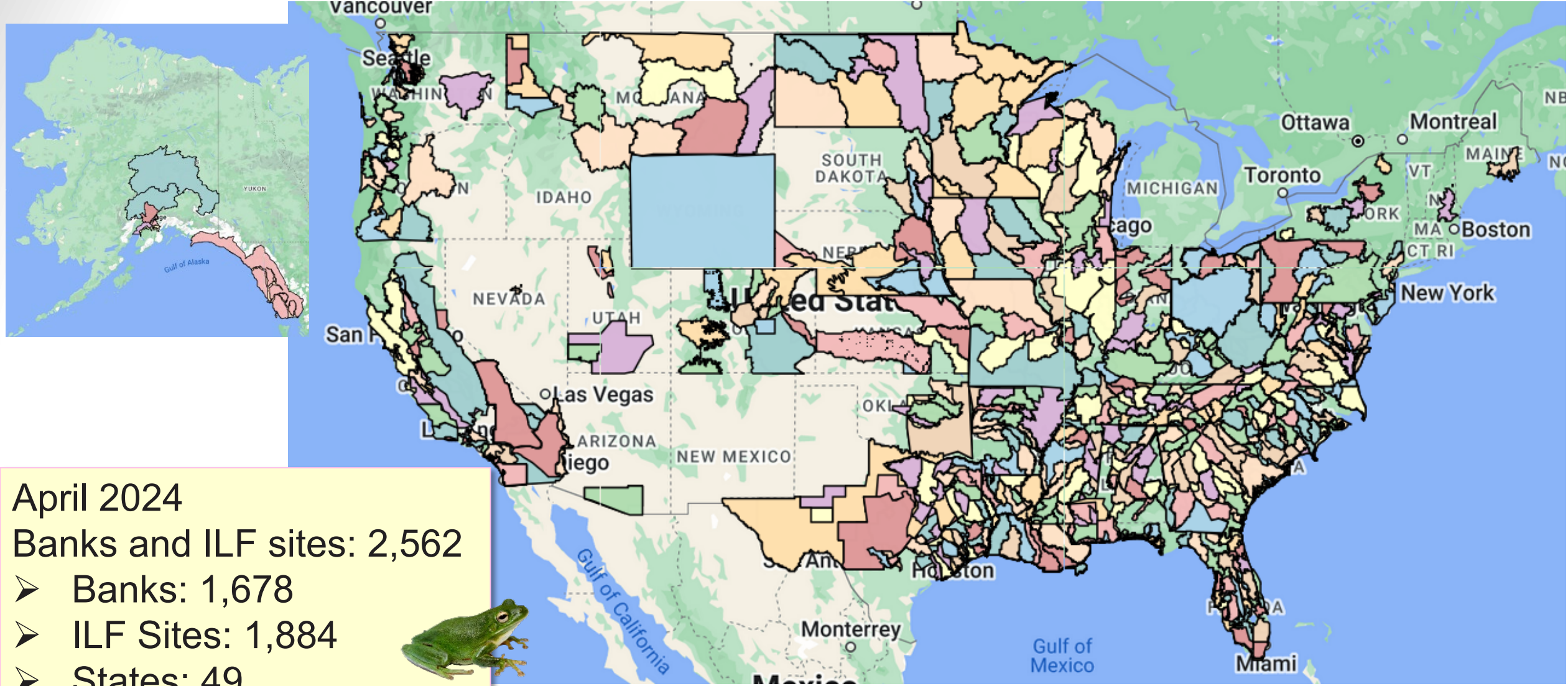


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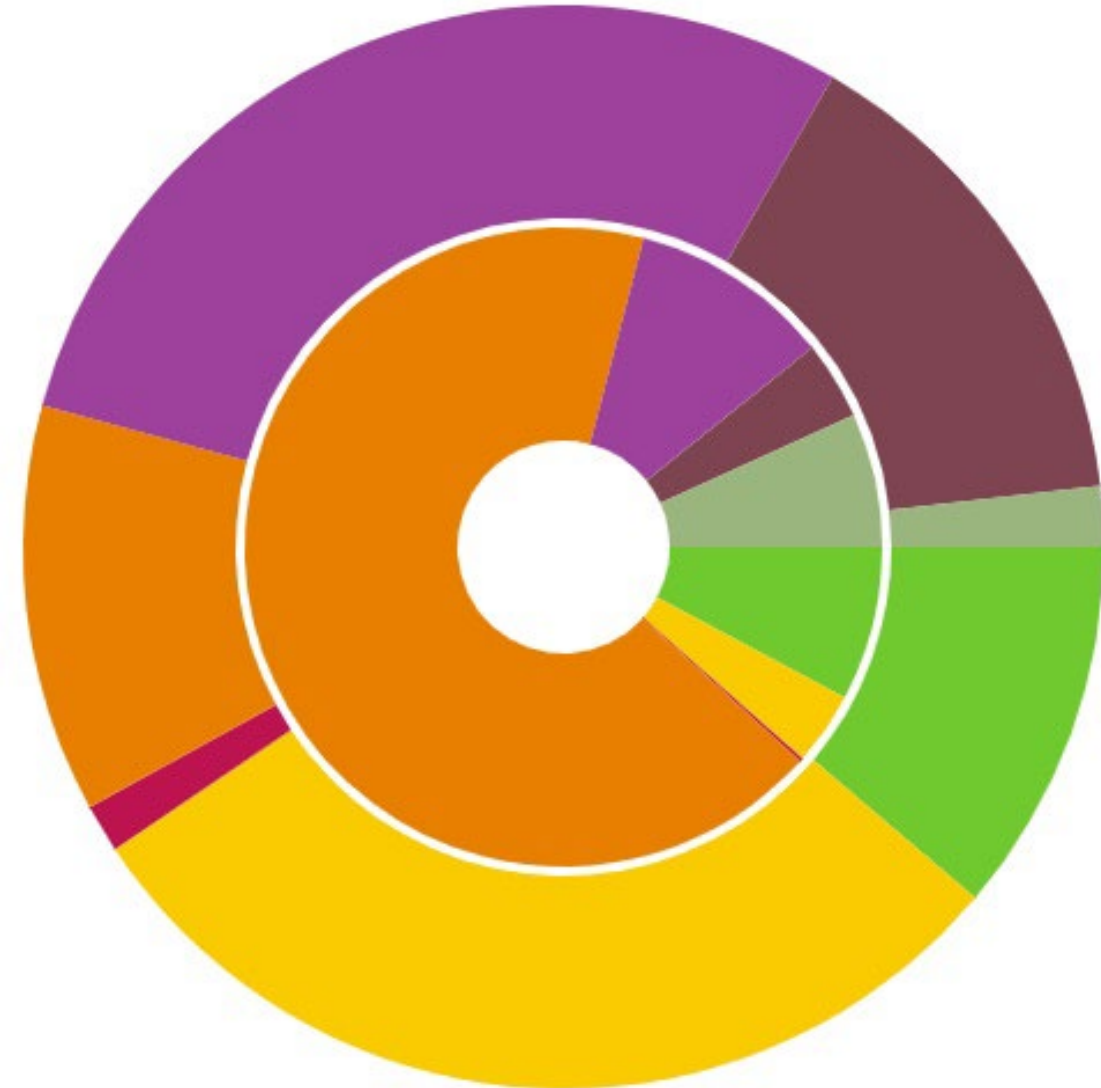


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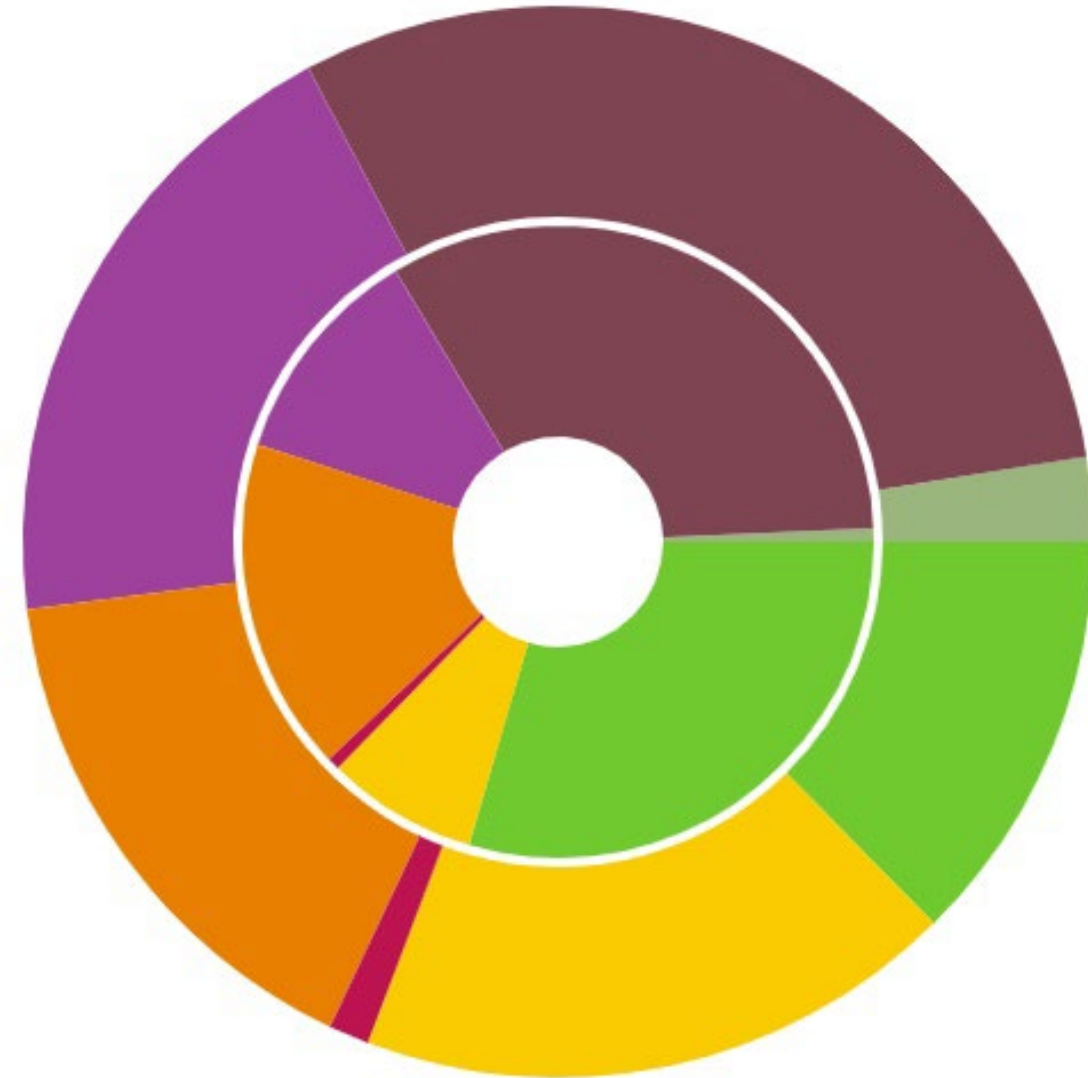
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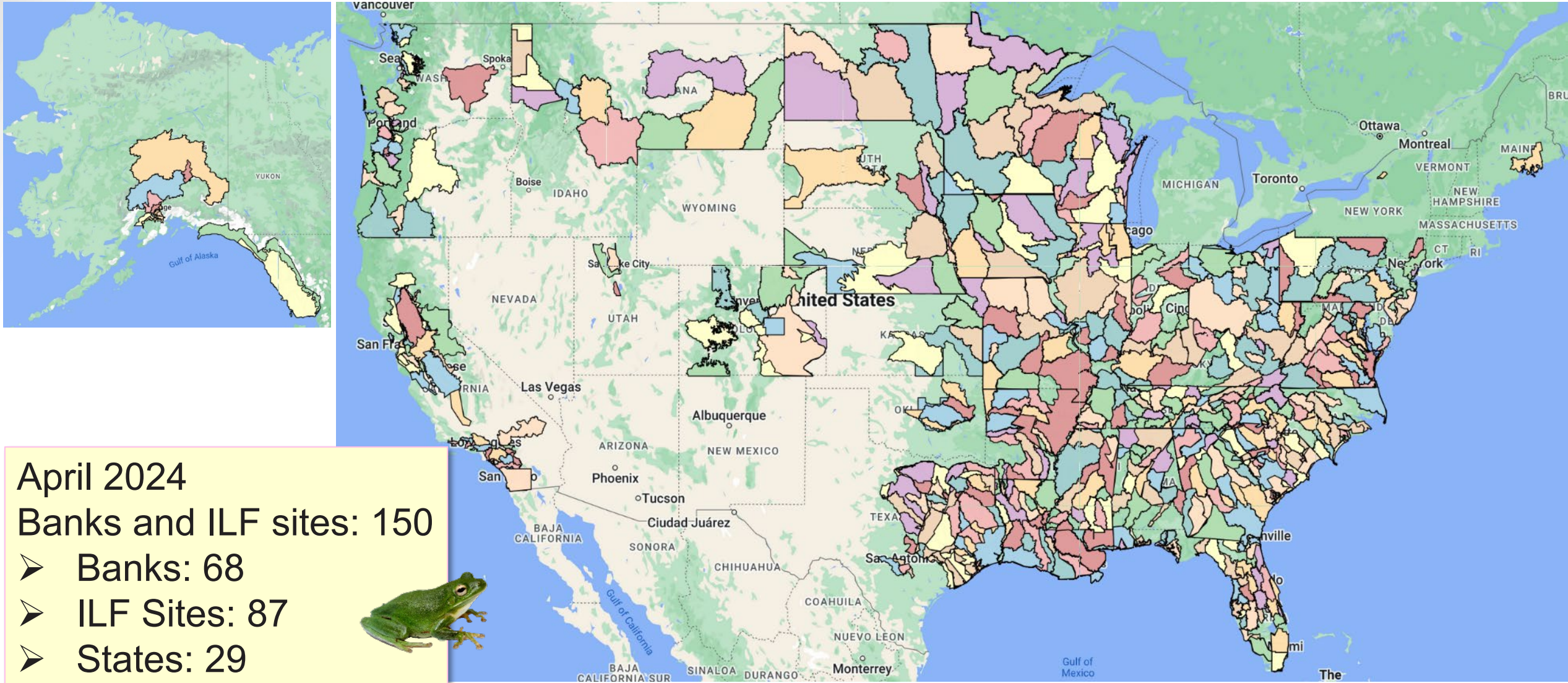
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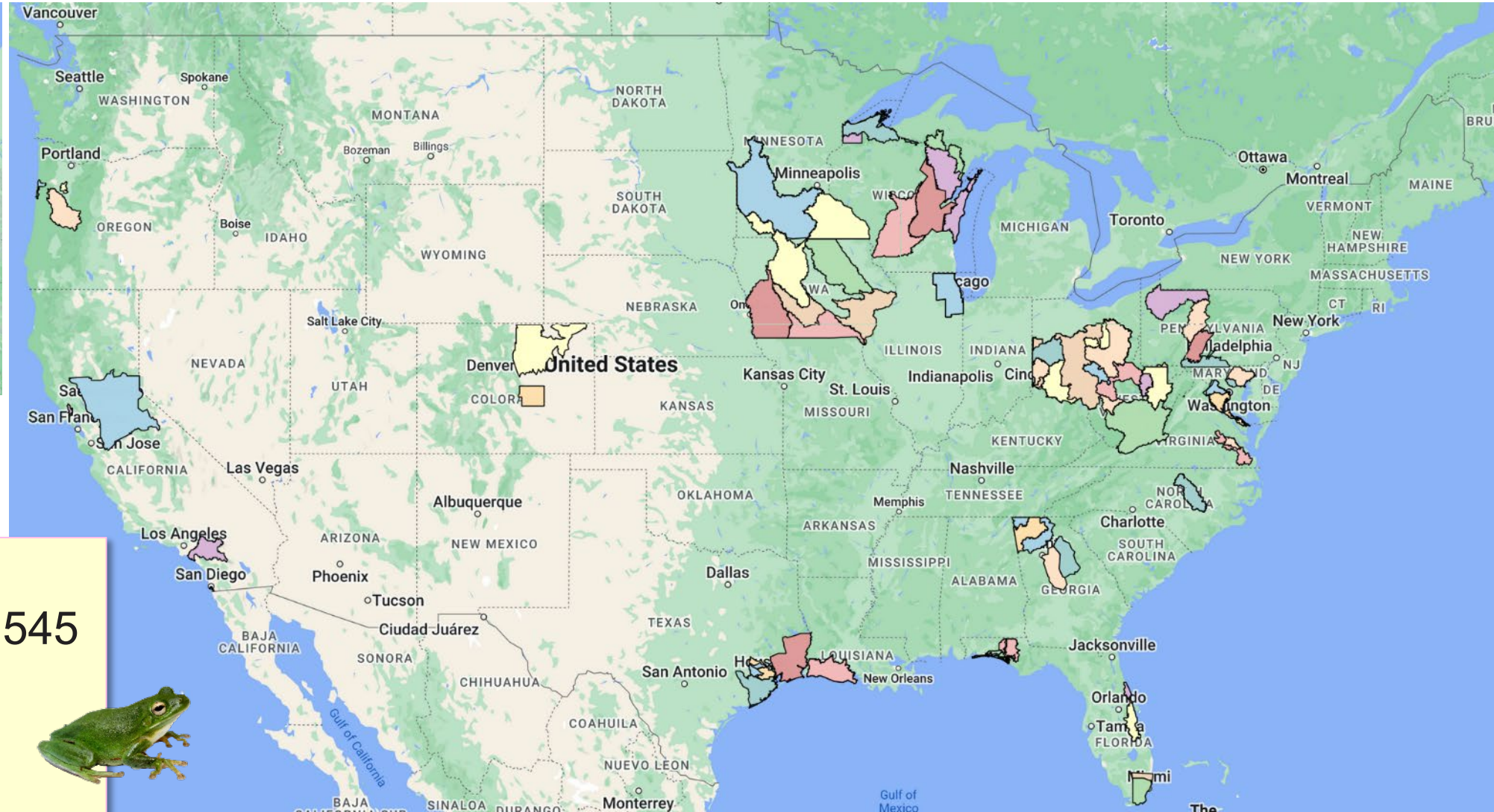
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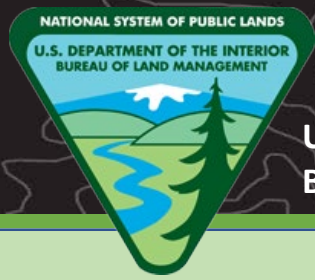
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**U.S. Department of the Interior
Bureau of Land Management**

Why compensation for impacts to ecological resources on public lands is important & how the restoration business community contributes to ecosystem resilience

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BLM spends an estimated \$200 million on restoration annually

- **Remaining restoration needs exceed available funding and capacity. Examples:**

1. Over 80 million acres of priority wildfire reduction treatments are needed;
2. More than half of all BLM-managed streams and rivers in the continental U.S. are considered degraded and have lost more than one-third of their aquatic insect diversity;
3. Non-native invasive grass cover in the Great Basin has increased eight-fold since 1990 and now dominates approximately one-fifth of all public and private rangelands.

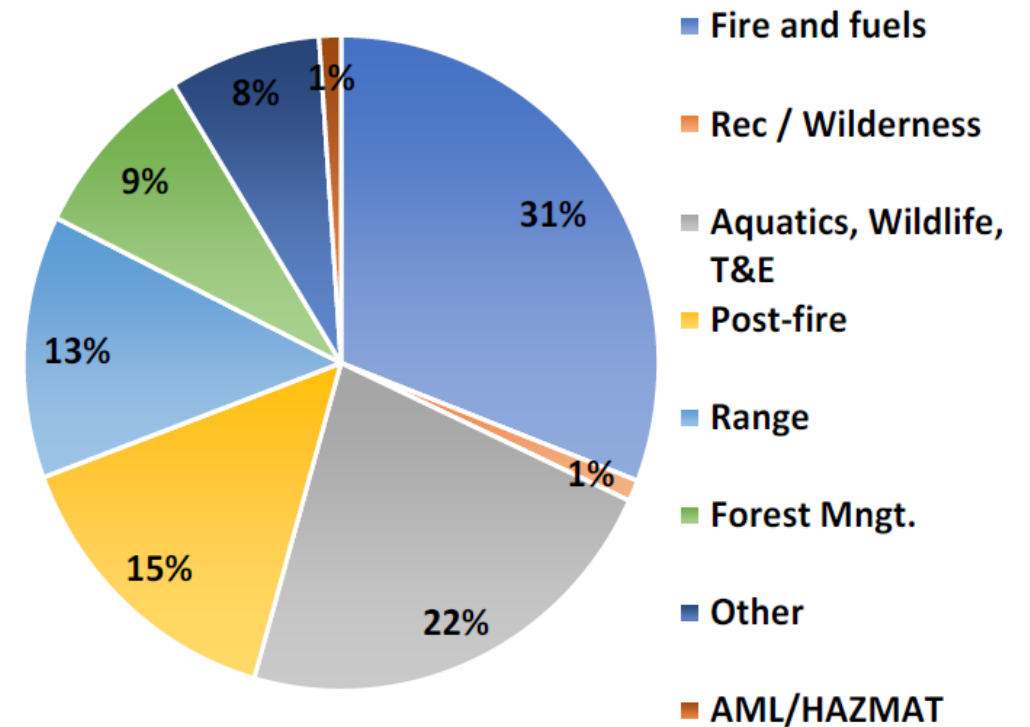


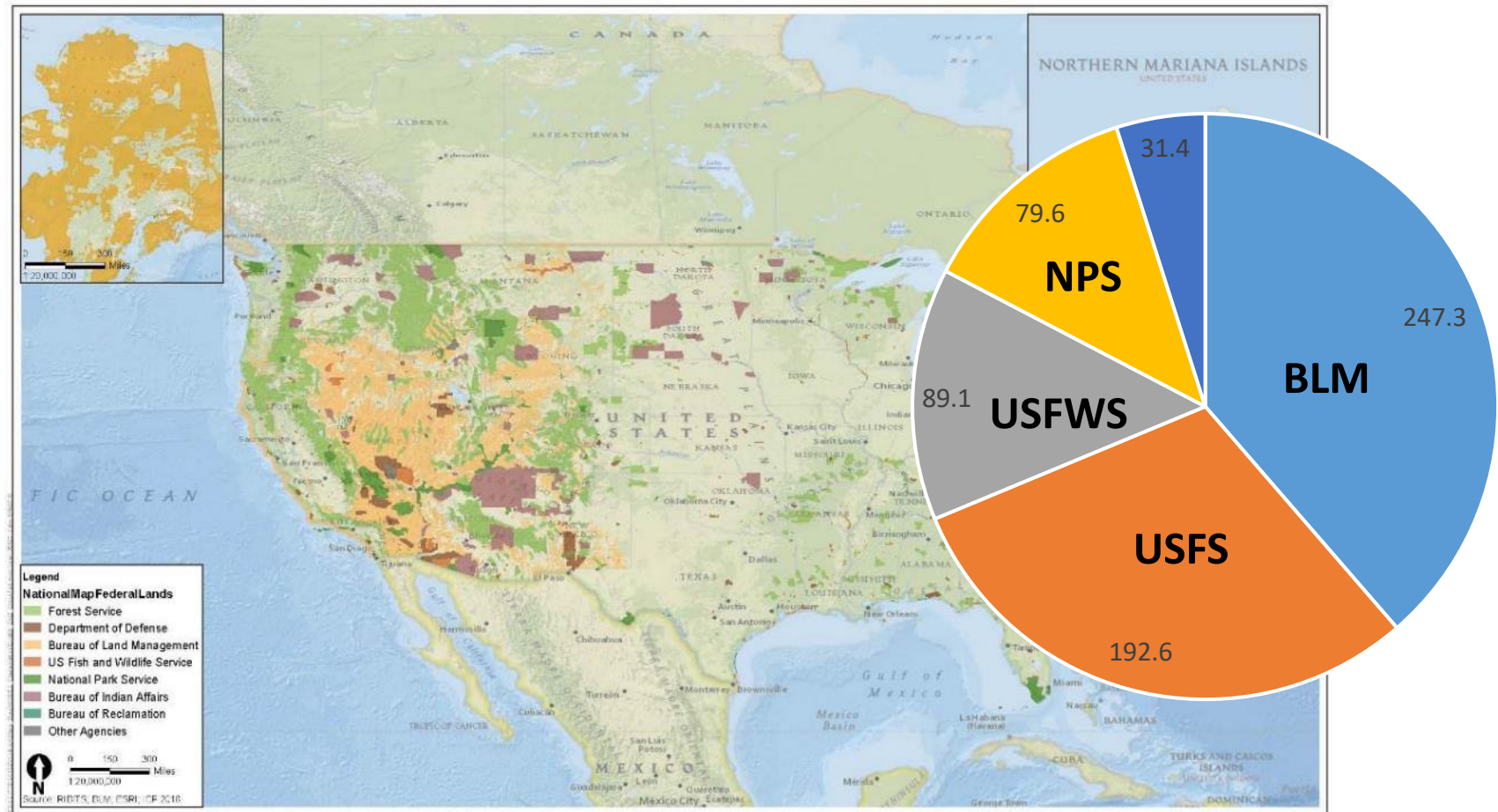
Figure 1. BLM program contributions to the more than \$200 million spent annually on ecological restoration.



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Why is compensation needed to offset impacts on public lands?

- US Government manages 640 million acres or public lands
- BLM manages 247 million of those acres for multiple use
- **BLM manages 13.5 million acres in New Mexico (17% of NM)**
- **Multiple use includes uses that adversely impact many resources**





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Restoration vs Compensation

Restoration is the process of restoring ecological functions, services, and values to areas on the landscape that have been degraded, damaged, fragmented or destroyed.

Restoration results in a **GAIN** in functions, services, and values.

Compensation is the process of offsetting the adverse impacts to resources of an action by replacing or providing substitute resources or environments. Compensation often involves restoration, generally offsite.

Compensation, at a minimum, should result in **NO NET LOSS** of functions, services, and values.

★ Both efforts involve activities that protect, improve, or enhance ecosystem health and resilience. ★

However, to maintain the “gain” or prevent “no net loss” from becoming a loss, durability is key. Durability depends on resource, administrative, and financial considerations.



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Why are restoration and compensation needed on BLM managed lands?

Restoration needs are largely due to:

- Wildfires, drought, invasive species, biodiversity loss, and climate change which is exacerbating some of these impacts, are all affecting ecosystem resilience
- Unmitigated impacts from past authorized and unauthorized land uses (e.g., abandon mines, abandon and orphan oil & gas wells, illegal roads and trails) for which there is no longer a responsible party

Compensation needs are and will be the result of:

- Future land use authorizations that will impact important resources on public lands and will require compensatory mitigation (usually restoration).



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FLPMA – enacted in 1976 (43 U.S.C. 1701 et seq)

Multiple use means “...a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.”

43 U.S.C. 1702(c)

Sustained yield means “the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.”

43 U.S.C. 1702(h)



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Authorities—FLPMA, NEPA, ESA, CWA, NHPA,



“BLM has a responsibility under FLPMA to manage the public lands for multiple use and sustained yield, except where otherwise provided by law. The effective use of mitigation allows the BLM to support a wide variety of resources and land uses across the landscape. Mitigation of the impacts from land uses ensures that the varied resources of the public’s land continue to provide values, services, and functions. Mitigation is what sustains the public’s land for present and future generations.”

BLM Mitigation Handbook (H-1794-1)



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Durability

- Landscape-scale approach to mitigation
- BLM has a general preference for **compensatory mitigation outcomes in advance of the impacts** of a public land use **(Why? To reduce risk!)**
- Mitigation that is durable (three types):
 - Resource Considerations – compensatory mitigation sites achieve and maintain their required outcomes
 - Administrative Considerations – restricting incompatible uses on mitigation sites
 - Financial Considerations – ensuring financing is sufficient to maintain, monitor, and adaptively manage compensation sites for the duration of the impacts from the public land use



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How the business restoration community contributes

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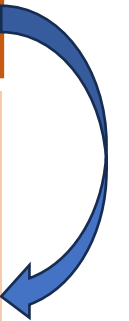
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How the business restoration community contributes to ecosystem health and resilience:

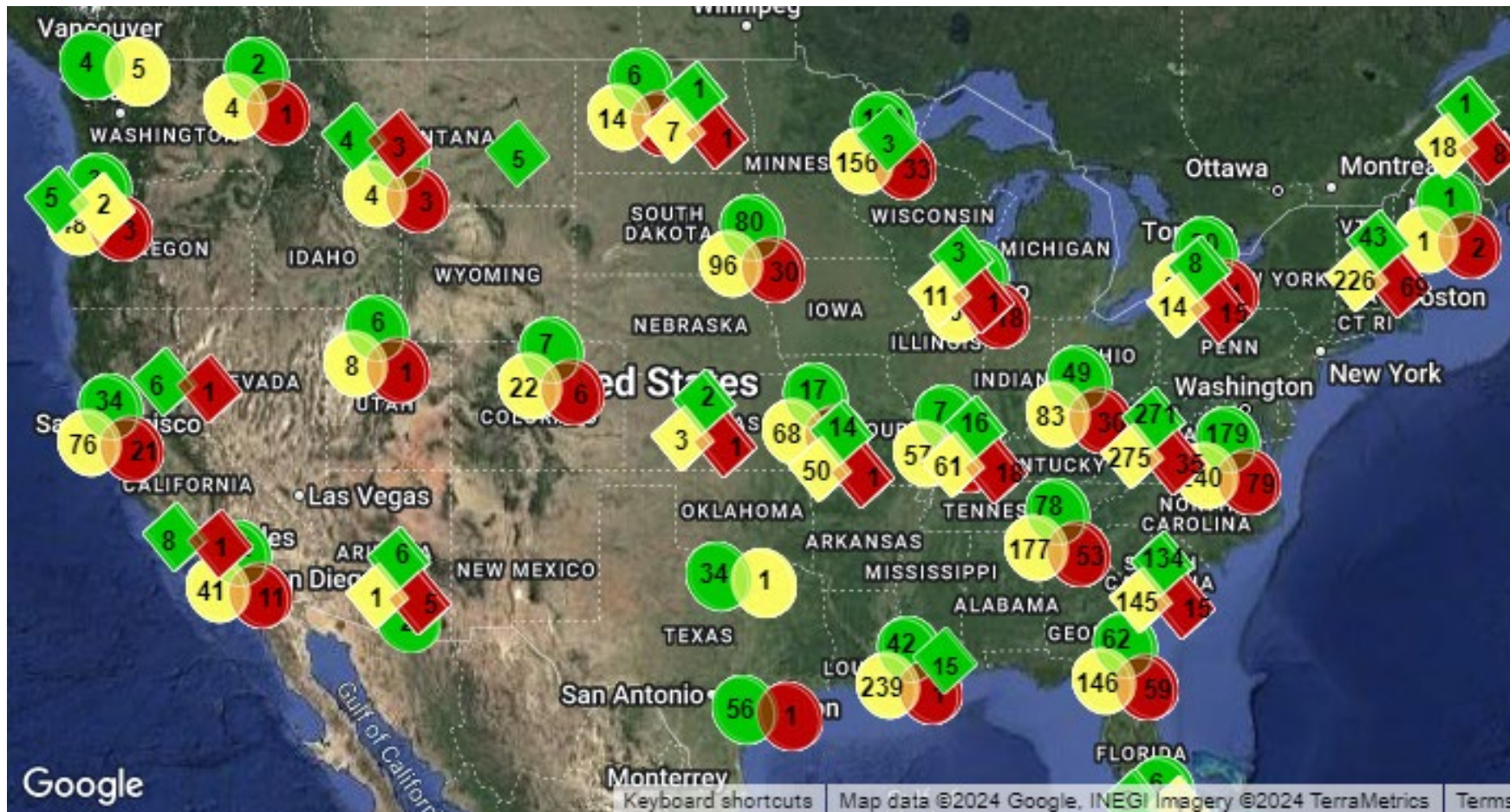
- Provides compensation through developing restoration projects to offset residual impacts to important, scarce, or sensitive resources and those protected by law (e.g., jurisdictional wetlands under the Clean Water Act or listed species under the Endangered Species Act)
- Develops mitigation or conservation banks which provide compensation (usually in the form of restoration) in advance of impacts, thereby reducing the risks associated with offsets.





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Mitigation and Conservation Banks in the US



Total of 4,516
banks and in-lieu
fee sites in the US

4 States and DC
without banks or
in-lieu fee program
sites:

- DC
- Hawaii
- Michigan
- New Mexico
- Rhode Island

Data Source: RIBITS,
April 12, 2024



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Endangered & Threatened Species Occurring in NM

Taxonomic Group	Endangered	Threatened	Experimental Population
Ferns	0	1	
Flowering Plants	7	9	
Clams, Crustaceans, Snails	9	0	
Insects	1	1	
Fishes	10	5	
Amphibians	1	1	
Reptiles	0	3	
Birds	1	4	1
Mammals	5	1	1
Total Number of Species	34	25	2

List does not include non-listed or state protected species or all BLM special status species.

Questions?

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EARTH RECOVERY
PARTNERS

*mobilizing others to solve
the world's environmental issues*



ENVIRONMENTAL MARKET OPPORTUNITIES ON PUBLIC LANDS

NCER

04-15-24

George Kelly | April 17, 2024

EARTH RECOVERY PARTNERS

- 25 years in Ecosystem Markets - EBX and RES
- Active in negotiation of Federal Mitigation Rule on behalf of the NMBA
- Now, at Earth Recovery Partners-mobilize others to solve the world's environmental problems
- Focus on Environmental Markets, Nature-based Solutions and Technology that supports
- Work-Strategic Partnership, Hub for Capital and Incubation
- Appointed by EPA Secretary to be member of the EPA Financial Advisory Board-2020
- Representative-Blue Oyster Environmental, Nature Metrics, Ecotone, Montauk, Restoration Bioproducts, State Land Board, Large-scale oil company, William Penn, Water Scarcity Challenge

EVOLVING STATUS OF MITIGATION ON PUBLIC LANDS VERSUS PRIVATE LANDS

- Should not subsidize land contribution to compete against private lands/true cost accounting
- Must meet additionality for most markets/restoration and conservation should not already be planned
- Need to cover land tenure and stewardship requirements of markets
- Need to address cumbersome permitting (sometimes require NEPA review)
- Need to cognizant of bias of sister permitting agencies towards credits from public lands
- Clarity of role of public landowner-lessor, easement, developer,

ENVIRONMENTAL MARKETS

- **COMPLIANCE**
- Clean Water Act-wetland and stream
- Endangered Species Act-species mitigation
- Water Quality and Quantity
- Stormwater Trading
- **VOLUNTARY**
- Carbon
- Biodiversity
- Water Footprint
- **FUNDING PROGRAMS**
- Public-Resilience, IRA, and BIL
- Private

FEDERAL INITIATIVES

- **SEC Climate Disclosure Rules**-Paused and in litigation
- **US Executive Order for US Government to be Carbon Neutral by 2050**
- **Social Cost of Carbon** and 45q for tax credits Carbon Capture Utilization and Storage and Direct Air Capture
- **US Executive Order on 30% Conservation by 2030 (30x30)**
- **Flood Mitigation and FEMA Hazardous Mitigation using Nature-Based Solutions Managed Retreat**
- **White House Nature-Based Solutions Roadmap**-November 8, 2022
- **Natural Capital Accounting**- Joint Statement with Australia- Account for large and biodiverse spatial areas with sizable and diverse land and water interests, coordinate across multiple states and territories, and incorporate diverse cultures, including Indigenous Peoples/Recognizes that nature and natural resources are capital assets that are critical for economic growth and prosperity, and that their inclusion in economic planning is imperative for addressing 21st century economic challenges
 - **Greenhouse Gas and Reduction Fund-\$27 b / Climate Pollution Reduction Act -\$6b**
 - **New Endangered Species Act rules on Section 7 and 10**

ENVIRONMENTAL MARKETS DYNAMICS

- Concepts-offsets, trading, incentive-based, performance-based and private and public payments for ecosystem services
- Application of funding and financing criteria
- Size of Markets
- Pricing and Funding
- Multiple Delivery Mechanisms
- Market Evolution

TYPES OF PUBLIC LANDS

- Federal-US Forest Service, BLM, ACOE, US Fish and Wildlife-Wildlife Refuges, National Parks, Military, BOR, private lands adjacent to public lands
- Tribal lands
- State- DNRs, State Land Boards, State Parks, Subsurface Marine
- Local-County and Municipal Parks and Recreation Lands

ENVIRONMENTAL ASSET MANAGEMENT FOR LAND MANAGERS

- Recognition of natural resources as assets
- Proactive approach to assessing and managing these assets
- Prioritization
- Management strategy tied to type of assets
- Identify role of agency in assessing and managing-active, passive, principal, outsource
- Communication initiative-web, maps

FINANCIAL STRUCTURES FOR PUBLIC OWNERS

- Dependent on legal authorities and desired role
- Lease
- Easement sale
- Joint Venture
- Principal in eco-asset development

THANK YOU



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Now Let's Talk

**MITIGATION AND PUBLIC LANDS:
HOW GOOD BUSINESS AND GOOD RESTORATION CAN EXPEDITE
ECOSYSTEM RECOVERY THROUGH PUBLIC AND PRIVATE PARTNERSHIPS**

ALBUQUERQUE NM- NCER 2024