Mitigation Banking, Conservation Banking, and In-Lieu Fee Programs: Mitigation Options Using the Eco-Logical Approach

September 8, 2011

Purpose of today's presentation

- Promote the EDC initiative on the use of mitigation banking and in-lieu fee programs
- Introduce mitigation banking, in-lieu fee programs, and conservation banking
- Provide an example of a successful mitigation banking and conservation banking program

EVERY DAY COUNTS

Shorten Project Delivery:

Use of In-Lieu Fee and Mitigation Banking

In projects that will impact waters of the United States (wetlands, for example), the permitting process under Section 404 of the Clean Water Act currently constitutes a major component of the project development and delivery process. This initiative proposes expanded use of in–lieu fees and mitigation banking currently allowed under existing statute, FHWA regulations, State law and court decisions in order to save time and expedite project delivery.

How can we meet this EDC initiative?

- Utilize existing banks and ILF programs
- Develop DOT (single client) banks or ILF programs

DOT's purchase credits at existing banks or in-lieu fee programs

Advantages

- Relinquish mitigation requirement
- Saves time
- Less temporal loss of resource
- Close out construction contract

Disadvantages

- There may not be any banks or in-lieu fee programs where DOT's need credits.

DOT's setting up their own banks or in-lieu fee programs

Advantages

- The DOT establishes the price of the credits
- DOT knows where their mitigation needs are

Disadvantages

- States may not have up front/seed money to start bank or in-lieu fee
- Long term management of site
- Time to establish the bank or in-lieu fee

FHWA Policies

Regulations

- 23 CFR 777 MITIGATION OF IMPACTS TO WETLANDS AND NATURAL HABITAT

Guidance and Executive Order

- Federal-aid Eligibility for Long-Term Management Activities in Wetland and Natural Habitat Mitigation (Oct 3, 2008)
- Federal-aid Eligibility of Wetland and Natural Habitat Mitigation (March 10, 2005)
- Executive Order 11990--Protection of wetlands

Speakers today

- Steve Martin, USACE-IWR
  - Mitigation banking
  - In-Lieu Fee programs
- Deblyn Mead, USFWS
  - Conservation banking
- Brad Livingston, Oregon DOT
  - Case study on Oregon DOT's Conservation Banking program

FHWA Headquarters Contacts for Mitigation Banking, Conservation Banking, and In-Lieu Fee Programs

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Advanced Environmental Mitigation Requirements

Environmental mitigation activities are "intended to be regional in scope, and may not necessarily address potential project-level impacts."

- 23 CFR 450.104

Funding Advance Mitigation

Reimbursable Maintenance

Advance Mitigation Partnerships

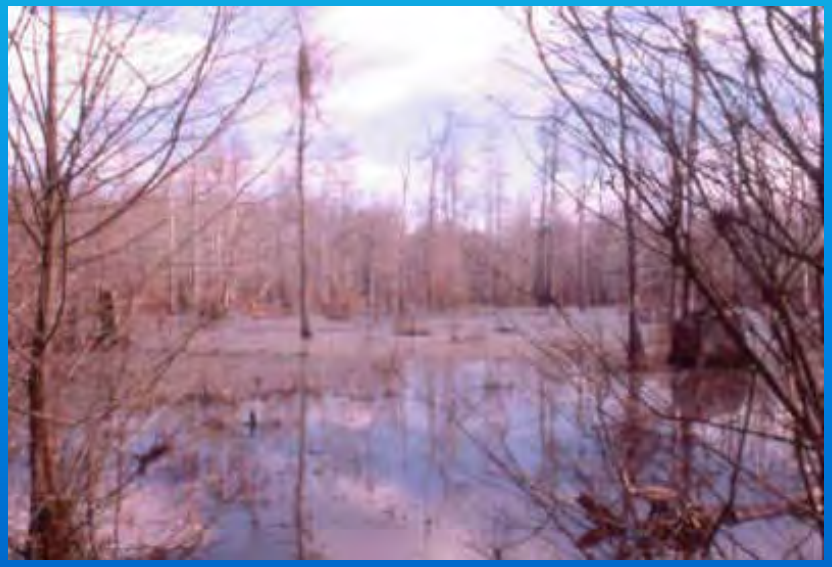
Advance Mitigation Successes

Example:

South Carolina DOT – Carolina Bays Ecosystem Initiative

Example:

Mississippi DOT – Deaton Ecological Preserve



SANDAG Multi-species Conservation Plan/ Transnet Environmental Mitigation Project

- Transnet (1/2 cent sales tax) funds transportation projects including Mitigation Project:

✓ Funding to acquire and manage habitat lands.

✓ Buy land early and bank for future mitigation needs.

✓ Up to $200 million in savings.

Mitigation Banks and In-Lieu Fee Programs

Steve Martin

Environmental Scientist

Institute for Water Resources

September 8, 2011

US Army Corps of Engineers

BUILDING STRONG®

Banks and ILFs are

- 1 or more sites where resources are restored, established, enhanced, and/or preserved to offset permitted impacts
- Governed by an instrument & overseen by an Interagency Review Team (IRT)
- 3rd Party mitigation - Sponsor assumes responsibility for the mitigation
- Permittees acquire mitigation credits

Benefits

- Reduced risk & uncertainty
- More efficient compliance
- Often greater planning and scientific effort
- May streamline permitting, by reducing effort evaluating mitigation proposal

Drawbacks

- Failure may result in substantial loss of aquatic resource function
- Migration of functions and services
- Extensive effort in instrument development & oversight

Differences Between Banks & ILFs

- **Mitigation banks:**
  - Public or private sponsor
  - Site secured & project initiated in advance of debits
  - Corps has no authority over bank expenditures
- **In-lieu fee programs:**
  - Government or non profit conservation organization
  - Fees often received before implementing project
  - Corps approves project funding

Benefits of Each

- **Banks**
  - Advance site identification
  - Credit release linked to performance
  - Compensation in advance of impacts

- ILFs
  - Mitigation when there are no banks
  - Compensation for a range of resources
  - IRT can direct site selection in a watershed approach
  - Sponsor interest in conservation

Drawbacks of Each

Mitigation Banks

- Site selection in advance of agency review
- Less likely to be developed in small or weak markets

In-lieu fee programs

- Risk of mitigation not being provided
- Temporal lag between permitted impacts and project implementation

Preference Hierarchy for Mitigation

33 CFR 332.3(b)

1. Mitigation bank credits
2. In-lieu fee program credits
3. Permittee-responsible mitigation using a watershed approach
4. On-site and/or in-kind permittee-responsible mitigation
5. Off-site and/or out-of-kind permittee-responsible mitigation

Watershed Approach to Mitigation

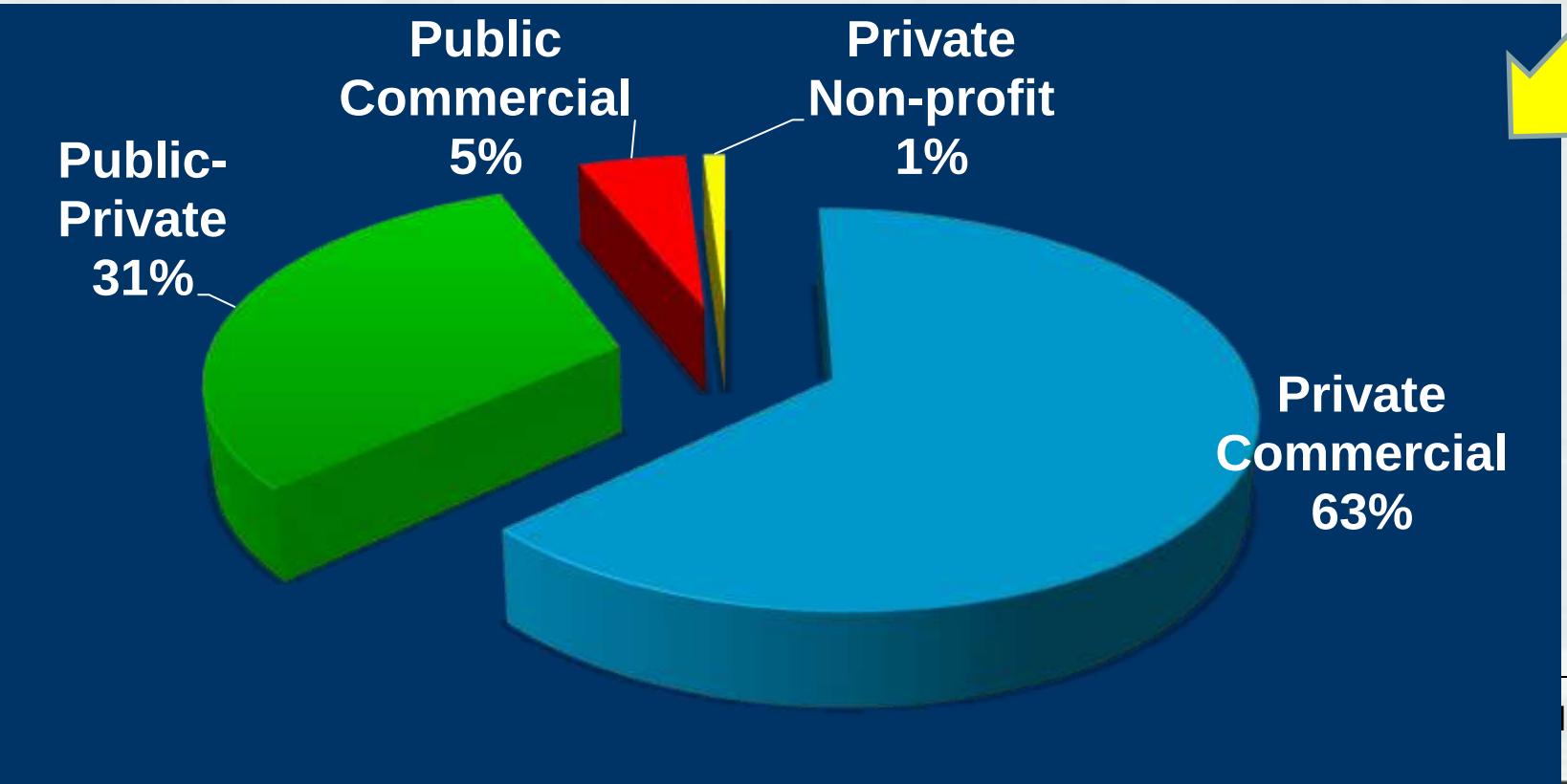
33 CFR 332.3(c)

- Existing watershed plans
- Without suitable plan, use available information on condition and needs
- Consider landscape position and sustainability
- Provide suite of functions
- Level of information and analysis commensurate with impacts

Distribution of bank sites

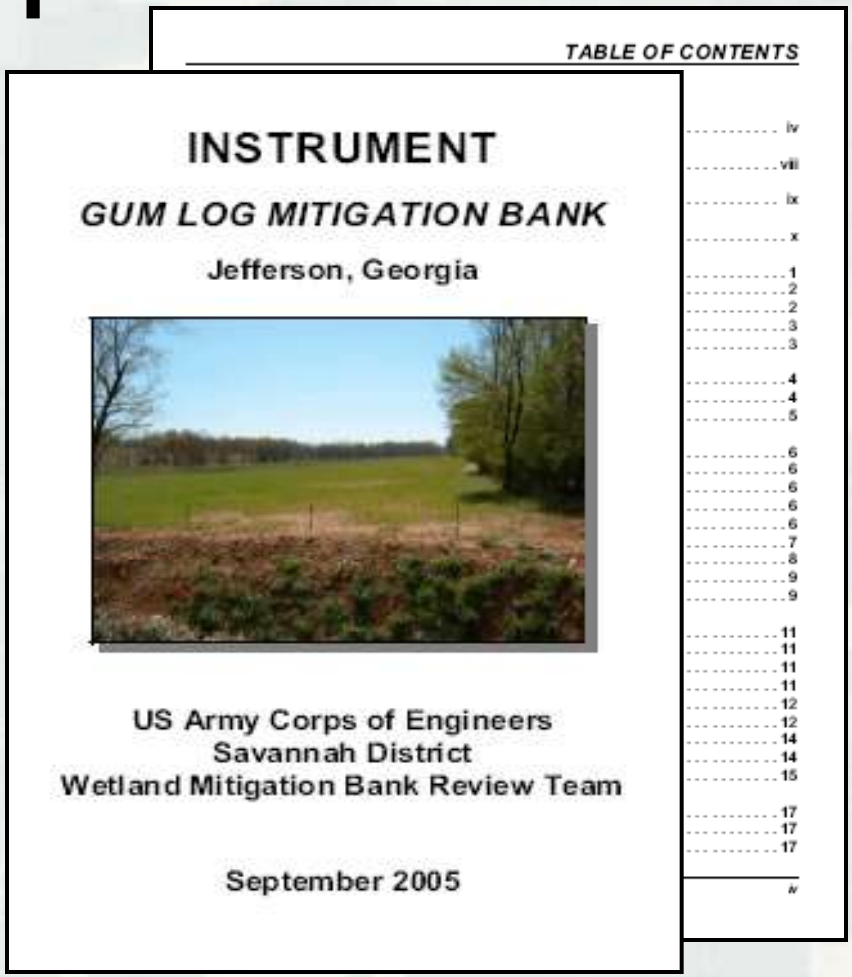
Bank Sponsorship

Sponsor	% of sites	% of area
Single user	19	14
Commercial	81	86



Instrument Development Process

- Draft prospectus
- Prospectus & Public Notice
- Draft instrument
- Final instrument



3rd party mitigation instruments include:

- Service area(s)
- Accounting procedures
- Sponsor assumption of mitigation responsibility
- Default and closure provisions
- Reporting protocols
- Other information deemed necessary

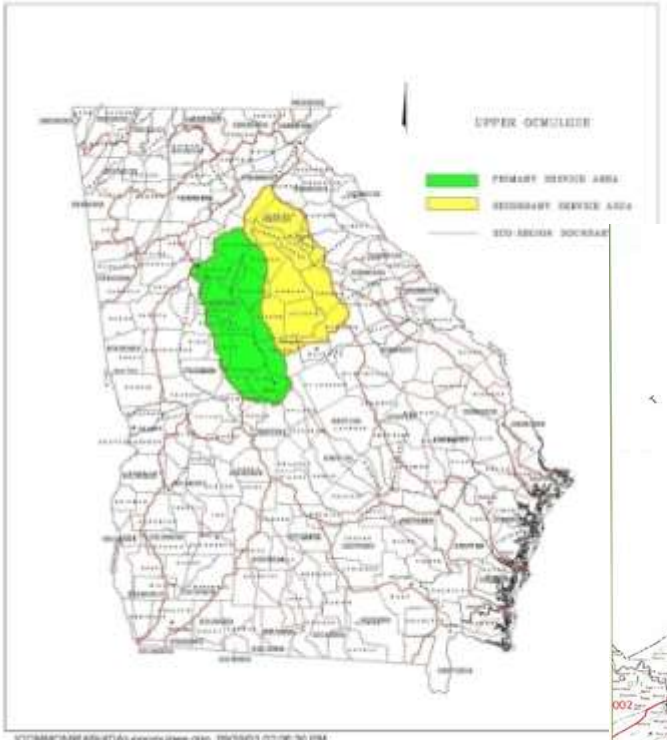
Service areas

Geographic area served by bank or ILF

- Based on watershed, ecoregion, physiographic province, or other suitable geographic area
- One or more 8-digit HUCs
- May consider economic viability
- Basis for service area location & extent must be documented in the instrument


USGS 8-DIGIT CATALOGING UNITS- NORTH CAROLINA
NEW
ROANOKE
CHOWAN
PASQUOTANK
WATAUGA
FRENCH BROAD
LITTLE TENNESSEE
BROAD
HIWASSEE
SAVANNAH
CATAWBA
YADKIN
TAR-PAMLICO
NEUSE
WHITE OAK
LUMBER
CAPE FEAR


DIXON
DAKOTA
THURSTON
CUMING
BURT
107
DODGE
WASHINGTON
106
DOUGLAS
SAUNDERS
SARPY
Legend
106 Nebraska and Kansas Loess Drift Hills
107 Iowa and Missouri Deep Loess Hills
Wetland Mitigation Bank Service Area
Platte-Missouri River Natural Resources District


UPPER OCMULGEE
PRIMARY SERVICE AREA
SECONDARY SERVICE AREA


Service Area
Bank Site
ROCKINGHAM
HIGHLAND
MADISON
GREENE
ORANGE
ALBEMARLE
BATH
ALLEGHANY
ROCKBRIDGE
NELSON
LUVANNA
AMHERST
BOTETOURT
BUCKINGHAM
APPOMATTOX
BEDFORD
CAMPBELL
PRINCE EDWARD
MONTGOMERY
FRANKLIN
CHARLOTTE
LUNENBURG
02070001
02070005
02080103
02080202
02080203
02080201
03010101

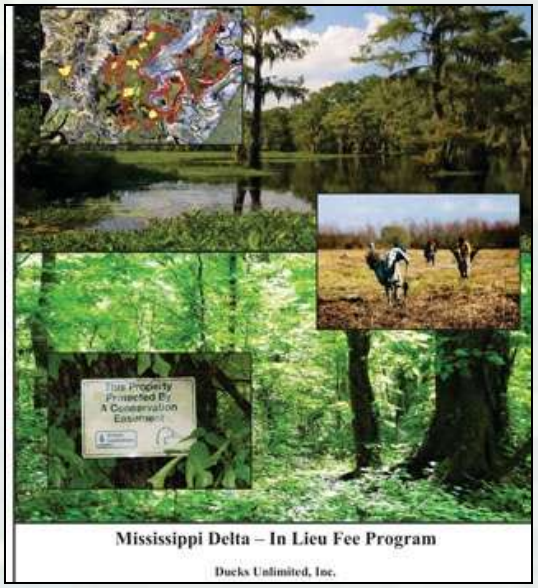

Madison County Mitigation Ban
Service Area (for County Entities Only !)
HDR
Exhibit A -
Service Are
Macoupin
Montgomery
Jersey
Brighton
Grafton
Godfrey
Alton
Bethalto
Wood River
Madison
St Charles
Weldon Spring
St Louis
Chesterfield
Granite City
Troy
Highland
Bond
Greenville
Clinton
Carlyle
St Clair
Belleville
Eureka
Madison County Mitigation Bank
0 5 10 15 20 25 Miles

Credit Release Schedule Example

- Mobile Wet Pine Flats
  - 20% Initial Release
  - 15% Hydrologic restoration
  - 15% 2nd incremental release
  - 15% 3rd Incremental release
  - 15% 4th Incremental Release
  - 20% Final Release (approx Year 10)

Additional requirements for In-lieu fee programs

- Description of ILF program account
- Compensation planning framework
- Advance credits, by service area
- Advance credit fee schedule, by service area
- Method for determining fees and credits



Mississippi Delta – In Lieu Fee Program

Ducks Unlimited, Inc.

Compensation Planning Framework includes:

- Service area (watershed-based)
- Analysis of historic aquatic resource loss & current condition
- Threats to aquatic resources & how they are addressed
- Aquatic resource goals & objectives
- Prioritize mitigation projects
- Use of preservation
- Description of stakeholder involvement
- Long-term protection and management
- Evaluation and reporting

NC EEP Fee Schedule

Fee Category	Unit	Fee per Unit - Higher Fee HU	Fee per Unit - Lower Fee HU
Riparian Buffer	Sq.ft	$0.96	$0.96
Stream	Lin.ft	$344	$260
Non-riparian wetland	Acre	$45,752	$23,528
Riparian wetland	Acre	$63,414	$35,853
Coastal wetland	Acre	$155,998	$155,998

ILF Program Advance Credits

- Cap on advance credits specified in instrument
- Advance credits available once instrument approved
- As projects produce *released* credits, *advance* credits are fulfilled & available again

ILF project implementation

- Land acquisition and improvements must be initiated by ***3rd growing season*** after first advance credit is acquired

More information

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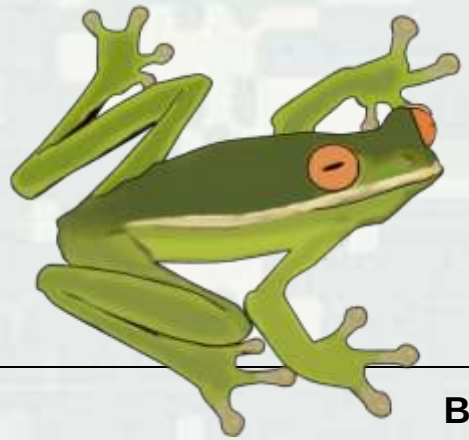
Corps Regulatory Program
http://www.usace.army.mil/CECW/Pages/cecwo_reg.aspx

Regulatory In-lieu fee & Bank Information Tracking System
http://ribits.usace.army.mil



Conservation Banking:

A market-based incentive program for conserving species & habitat

Endangered Species Program

Today's Discussion. . .

- What are conservation banks?
- How do conservation banks differ from mitigation banks?
- Why establish conservation banks?
- When and where to establish conservation banks?
- How the program works –
  - Service areas
  - Credits & Debits
  - Combination conservation-mitigation banks (ESA+CWA)
- Conservation banking considerations – FHWA and DOTs

What is a conservation bank?

A site or suite of sites containing natural resource values that are conserved and managed in perpetuity for specified endangered, threatened, or other at-risk species and used to offset impacts occurring elsewhere to the same type of resource (e.g., species)

Off-site and In-kind

Conservation banking is not . . .

a substitute for avoidance and on-site minimization of effects on listed species or other sensitive resources and is only for use with projects that would otherwise be permitted.

Banking does not facilitate development of habitat.

Purpose and Goals

- Provide an economically effective process that provides project proponents with options to offset unavoidable adverse impacts to listed and other at-risk species
- Aid in recovery of listed species
- Aid in preventing future listing of other at-risk species
- Reduce the Service's ESA sections 7(a)(2) and 10(a)(1)(B) workload

Purpose and Goals

- Conservation banking should result in a net species conservation benefit
- Conservation banking should contribute to Service and partners regional conservation planning efforts including:
  - Landscape/ecosystem scale plans (take advantage of/get involved with Landscape Conservation Cooperatives)
  - Consider climate change model projections when selecting bank sites
  - Consider both green and grey infrastructure

Legal Authorities

- Endangered Species Act
  - Section 7 – Interagency Cooperation
    - 7(a)(1) – carry out programs for the conservation of listed species
    - 7(a)(2) – consult on listed species
    - 7(a)(4) – conference on proposed species
  - Section 10(a)(1)(B) – Habitat Conservation Plan
  - Section 2 – provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved…

Legal Authorities

- Fish and Wildlife Coordination Act
- National Environmental Policy Act
- USFWS Conservation Banking Guidance
- other statutes, regulations and policies

Why establish conservation banks?

San Joaquin Kit Fox
Photo: Heather Bell

Conservation banks vs. individual, on-site mitigation

- Avoid piecemeal mitigation and small indefensible “avoidance areas”
- Contribute to existing and planned community conservation strategies (e.g., Habitat Conservation Plans, State Wildlife Action Plans)
- Streamline the permit process for all

Conservation banks vs. individual, on-site mitigation

- Better Assurances
  - Real Estate (perpetual conservation easement)
  - Management & Monitoring (long-term management plan, with measurable monitoring criteria and thresholds for action, remediation process)
  - Financial (non-wasting endowment to fund implementation of the management plan, operation & maintenance at the bank)
- Greatly reduces agency time spent tracking compliance and monitoring mitigation sites
- Reduces the need for enforcement actions

How the program works—

Conservation banking is optional & used in conjunction with:

- Individual consultations
- Programmatic consultations
- Conferences
- HCPs

Gopher Tortoise
Photo: Randy Browning

Service Areas

- A service area is the geographic area within which credit trading occurs for a particular conservation bank
  - service areas are determined by USFWS
  - service areas are biologically justifiable areas based on species recovery units, watersheds, species population structures, or other ecological considerations
- A bank may have more than one service area when multiple credit types are available

Credit Determination Methodology

- Should be based on species conservation strategy/framework; focus on species recovery
- Methodology should work in conjunction with adverse effects determinations at impact sites
- Ranges from simple to complex—keep it as simple as possible at the bank user-end
- Credit methodologies can be used to encourage landowner participation in targeted areas

Credit Determination Methodologies

- X acres = 1 credit
- 1 mating pair of individuals = 1 credit
- 1 relocated individual = 1 credit
- Specific methodology in which the credit score is based on multiple criteria; some of which may be weighted
- Multiple habitats with species overlaps that generate different credit values per acre for different species
- Existing/restored/enhanced habitat with different credit values
- Combination of CWA and ESA credits

Combination ESA-CWA Banks

Benefits:

- Better serve regulated public where aquatic resources and endangered species overlap
- More holistic approach to stewardship
- Typically larger sites with multiple habitat types
- Better use of agency resources
- Potential to reduce agency efforts tracking compliance and monitoring mitigation sites

Drawbacks:

- Generally a longer approval time
- Crediting metrics can be complicated

Bank Establishment Process

Mitigation Banking

- Prospectus
- Public review & comment
- Mitigation Bank Instrument (MBI, BEI)
  - Development Plan
  - Management Plan
  - Conservation Easement
  - Bank Closure Plan
- IRT review
- Agency approval

Conservation Banking

- Proposal (Prospectus)
- Conservation Bank Agreement (CBA, CBEI)
  - Development/Resto-ration Plan (if needed)
  - Management Plan
  - Conservation Easement
  - Bank Closure Plan
- CBRT review
- Agency approval

How long does it take to establish a conservation bank?

- It depends on a number of things, including:
  - Experience of bank sponsor and previous history with banking
  - Completeness of prospectus
  - Complexity of bank
  - Level of adherence to FWS banking templates and guidance
  - FWS workload
  - DOI Solicitor workload
- The range: 3 months to 7 years

What about establishing single client banks for DOT use only?

Valley Elderberry Longhorn Beetle
Photo: Theresa Sinicrope Talley

Single client banks vs. use of private banks — advantages of each…

Establish own DOT-use only banks

- Credits readily available once bank is established and fully funded
- Control credit cost

Use private banks

- Transfer of liability for success of mitigation
- DOT has no responsibility for success of bank site
- Greater service area opportunities (generally)
- More credit types available (generally)
- No bank start-up costs for DOT

Questions?

- **USFWS Conservation Banking web page**
- http://www.fws.gov/endangered/landowners/conservation-banking.html

- **Deblyn Mead**
- U.S. Fish and Wildlife Service
- National Conservation Banking Coordinator
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- 703-358-1898

ODOT's Mitigation and Conservation Banking Program Case Study:

Whetstone Vernal Pool Mitigation and Conservation Bank

Presented by Brad Livingston, Wetlands Program Coordinator
Eco-Logical Webinar, September 8, 2011
503-986-3062
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Bank Development Fundamentals:

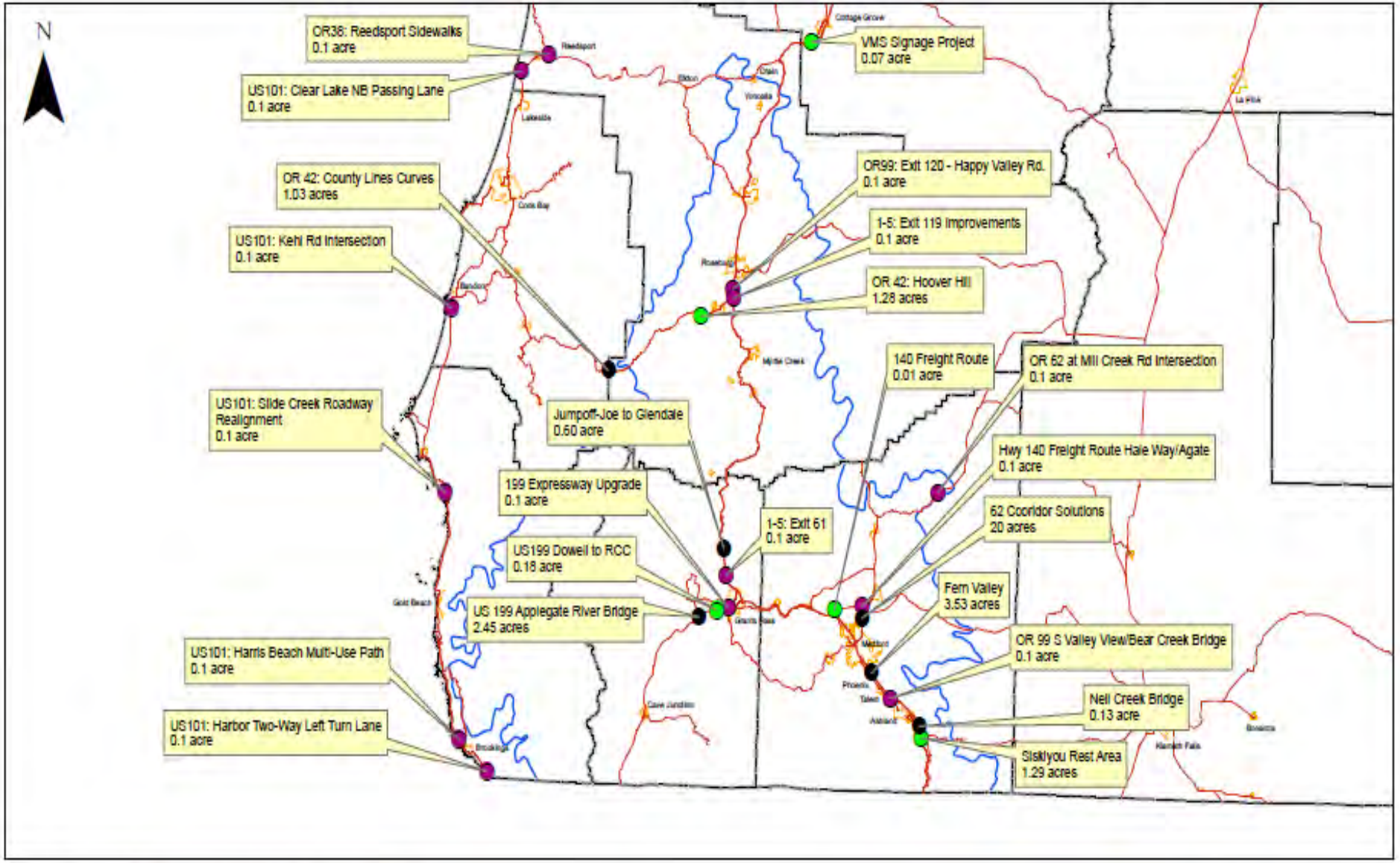
1. Eco-Logical-integrated transportation and conservation planning
2. Needs Assessment/Market Analysis
3. Scope and Scale: Watershed or Ecoregion
4. Site selection consistent with Stewards goals

Planning Horizon

- 20 years *ideally*, FHWA
  - Population and transportation growth projections
  - Development trends
- ODOT constraints:
  - Uncertainty with projects beyond STIP planning
  - Uncertainty with project $ allocation
  - Limited to highway needs, not a broker

Needs Assessment

- Retrospective data and long term projections
- ODOT Project Delivery Structure
- Stakeholder Involvement
- Geographic extent
  - Klamath Mountains Ecoregion (KME)
  - I-5 CORRIDOR



OREGON DEPARTMENT OF TRANSPORTATION

Region 3 Mitigation Needs Assessment

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Map Features

- Already Debited from VPMB
- Current Projects
- Future Projects
- VPMB Service Area
- County
- City Limit
- Highway

SCALE

0 5 10 20 30 40 Miles

0 5 10 20 30 40 Kilometers

08/04/2010

Service Area Rationale

- Sliver impact to roadside resources over broad geographic area
- On-site within Right of Way may not be appropriate, generally
  - Perpetual disturbance
  - Future improvements
  - Conflicts with maintenance requirements
- Stormwater facilities on-site

Klamath Mountains Ecoregion (KME)

- Geographically Distinct
- Recognized Ecological Boundary with Diverse Geology and Climates
- Botanical Treasures, Floristic Crossroads
  - Approx. 4,000 Plant Species in OR
  - Approx. 2,000 Plant Species in KME*
  - Approx. 500 Endemic Species* (*ODF 2001)

*“Vernal Pool Complex (VPC) Preservation is essential to preserve biological integrity on a landscape scale”**

- Ecoregion priority
- Rarity and support of endemics
- Development pressure
- Regulatory issues
- Difficulty replacing
- Biocomplexity

*(*ENVIRONMENTAL SCIENCE ASSOCIATES, 2007)*

A testament to VPC biocomplexity: Dumontia oregonensis

“three ephemeral ponds near Medford, Ore., have yielded a once-in-a-century taxonomic surprise: a new species of water flea that represents an entirely new family - a missing link of sorts - of water fleas”

- Devitt 2004

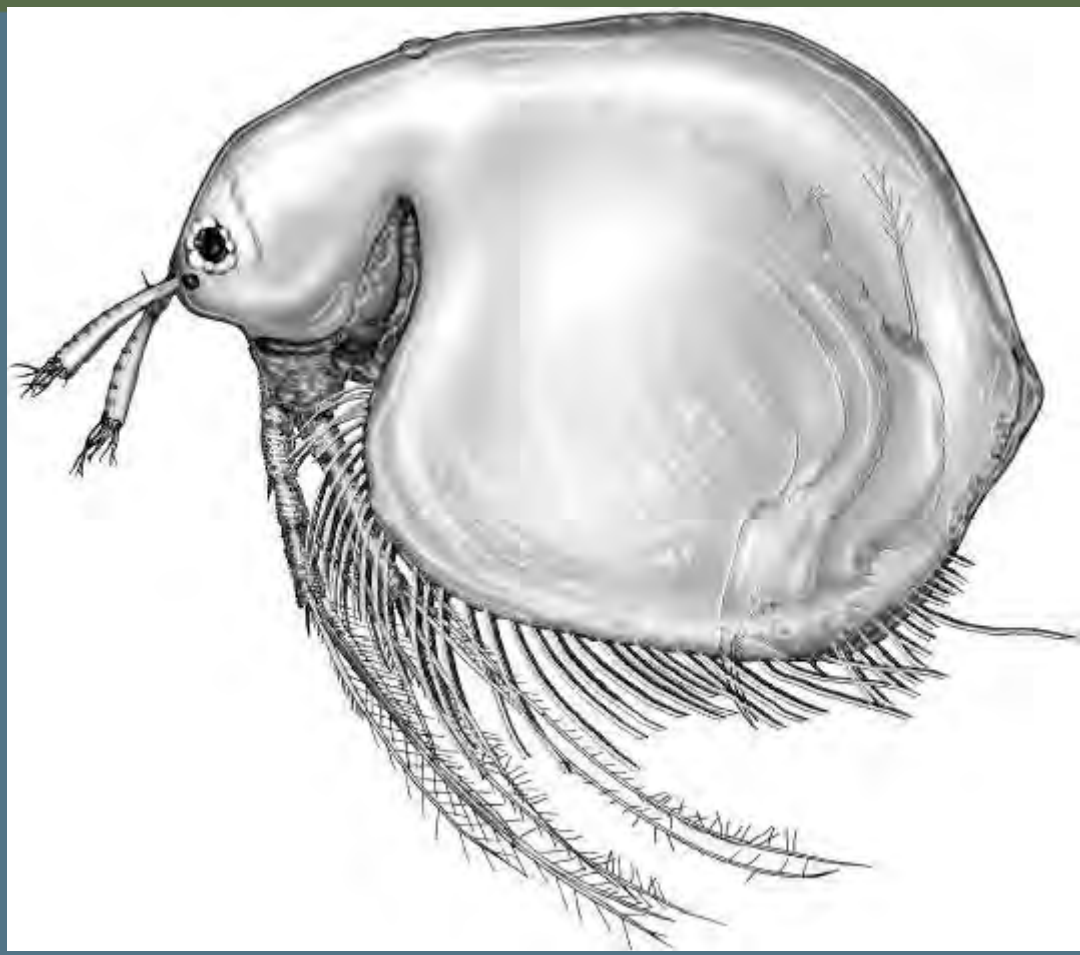
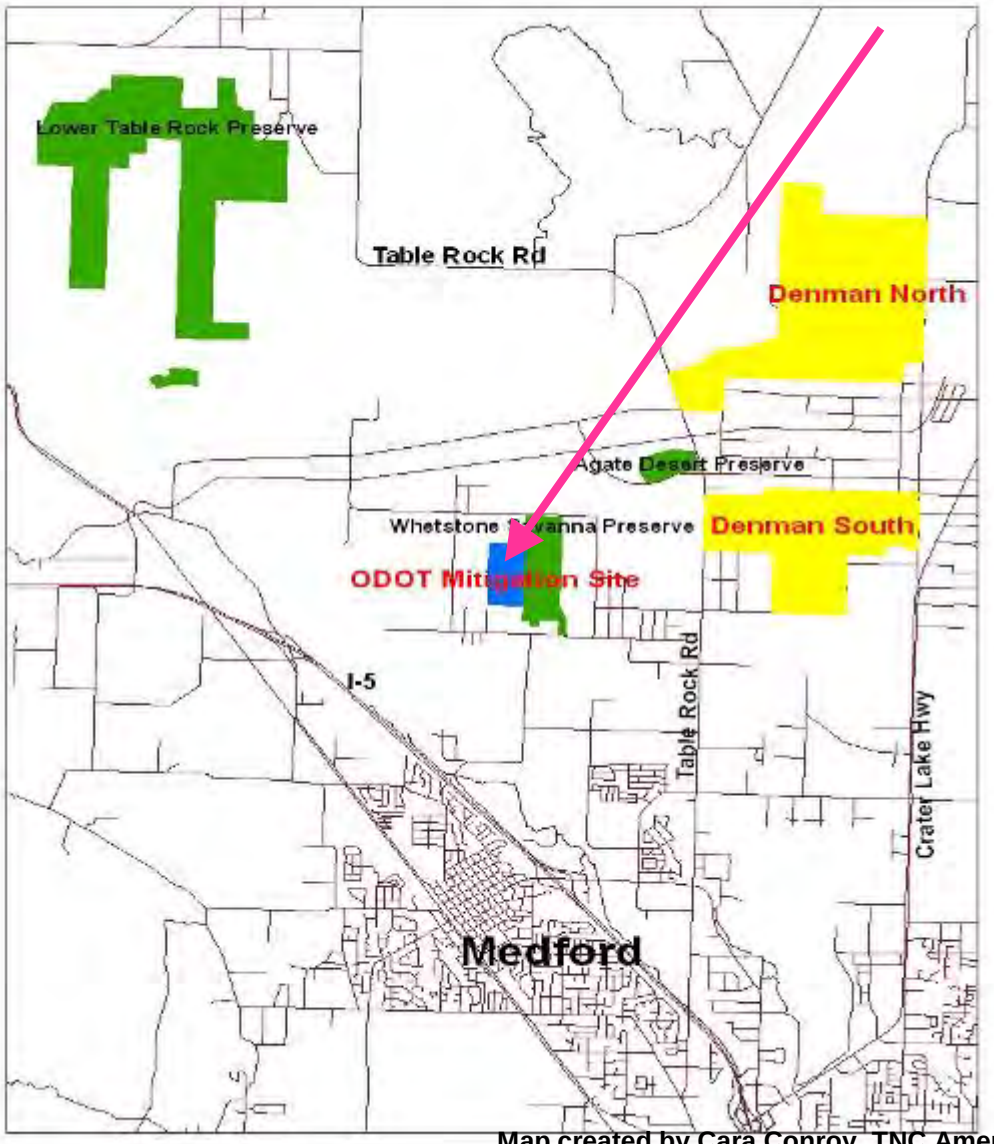


Illustration: Kandis Elliot

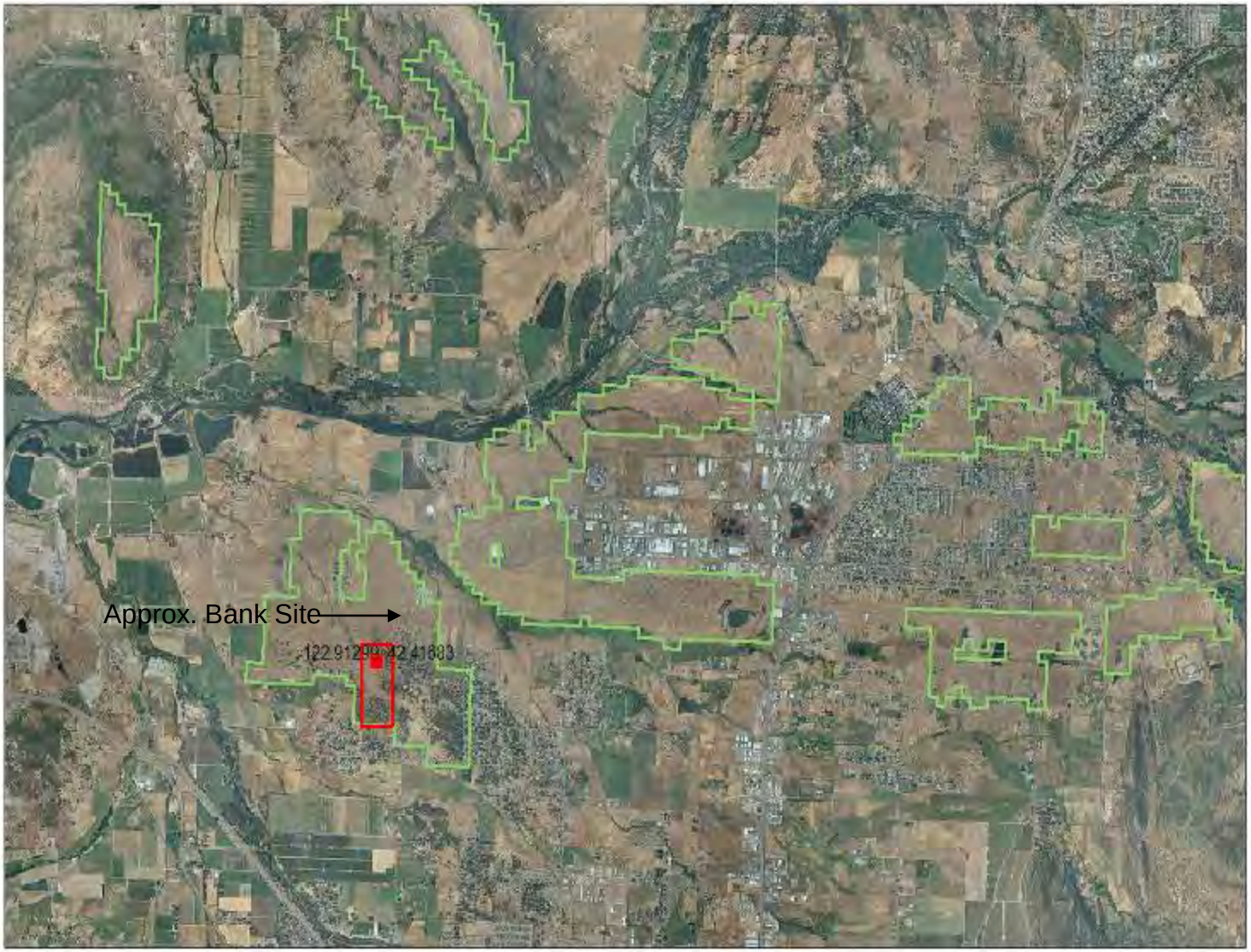
Site Selection Due Diligence

- Focus on rare habitats &/or watershed priorities
- Research wildlife action plans, rare species habitats, wildlife connectivity and adjoining land uses
- Collaborate with resource agencies early
- Collaborate with potential stewards early

ODOT Bank Site Attributes



Map created by Cara Conroy, TNC AmeriCorps volunteer



Legend

Vernalpool

jackson2005.sid

RGB

Red: Band_1

Green: Band_2

Blue: Band_3

OREGON DEPARTMENT OF TRANSPORTATION

ODOT Vernal Pool Bank

CH Perspective

0 750 1,500 3,000 4,500 6,000 7,500

Feet

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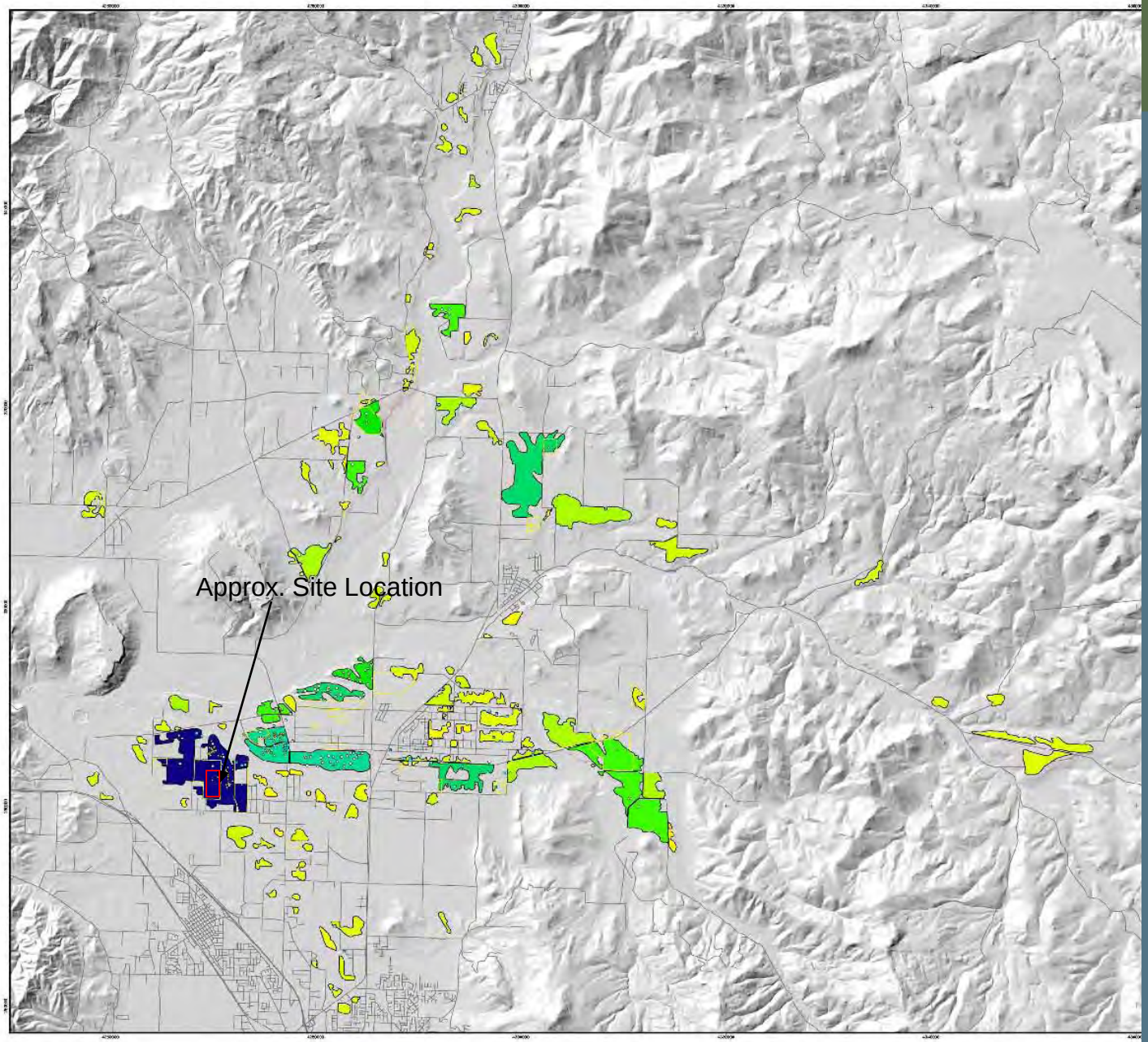
File

Date

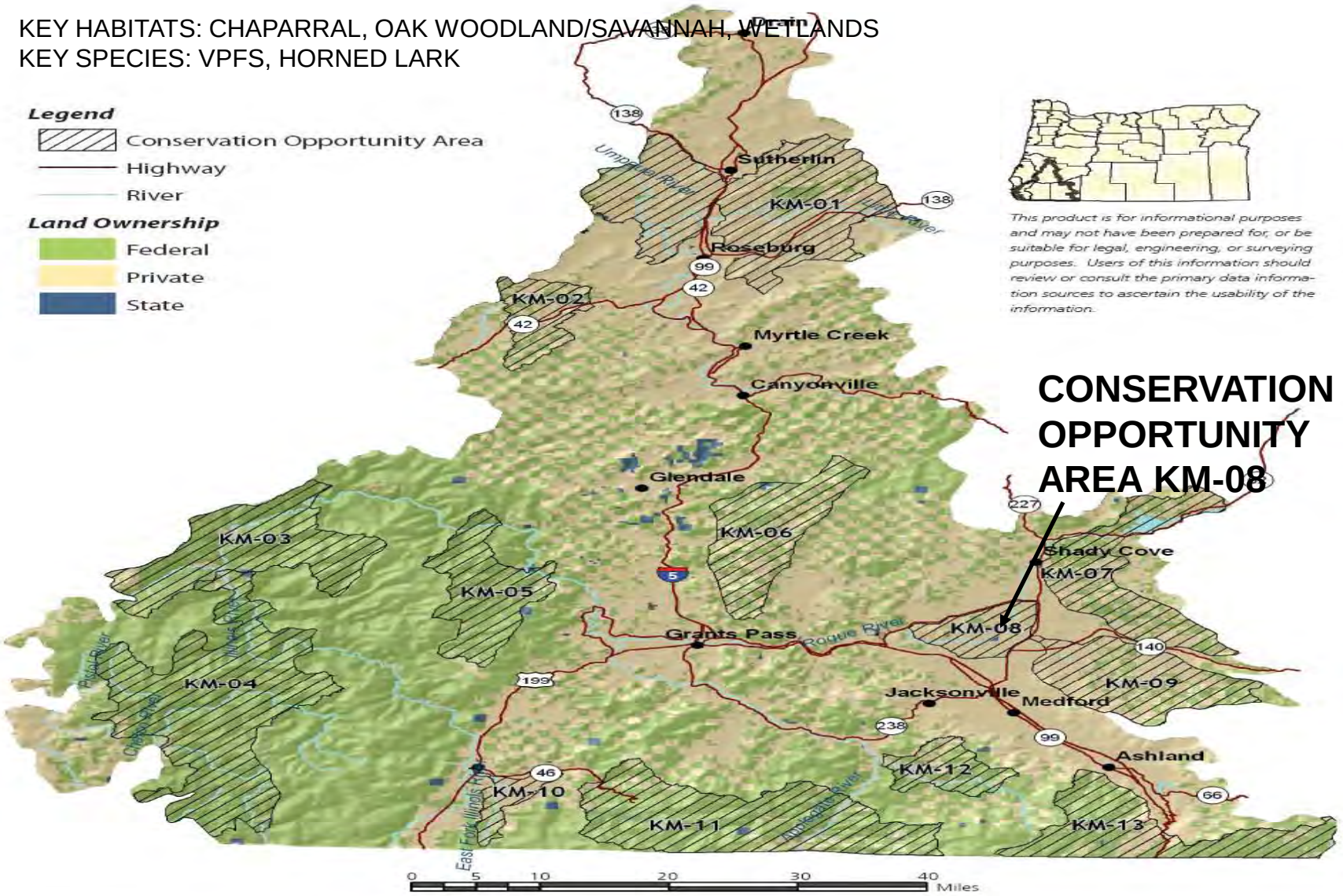
Figure 6: Vernal Pool Distribution and Assessment



Klamath Mountains Ecoregion
Conservation Opportunity Areas

NOTE: Taken directly from The Oregon Conservation Strategy, prepared by ODFW, February 2006

KEY HABITATS: CHAPARRAL, OAK WOODLAND/SAVANNAH, WETLANDS
KEY SPECIES: VPFS, HORNED LARK



CONSERVATION OPPORTUNITY AREA KM-08

The Nature Conservancy's (Steward) Role

Ecological Assessment:

- Habitat condition past and present
- Performance standard baseline
- Impact of historic disturbances
- Status of current threats
- Status of key management species
- Long Term Steward

Photo: Kyle Strauss

Performance Standards: *Vernal pool habitat*

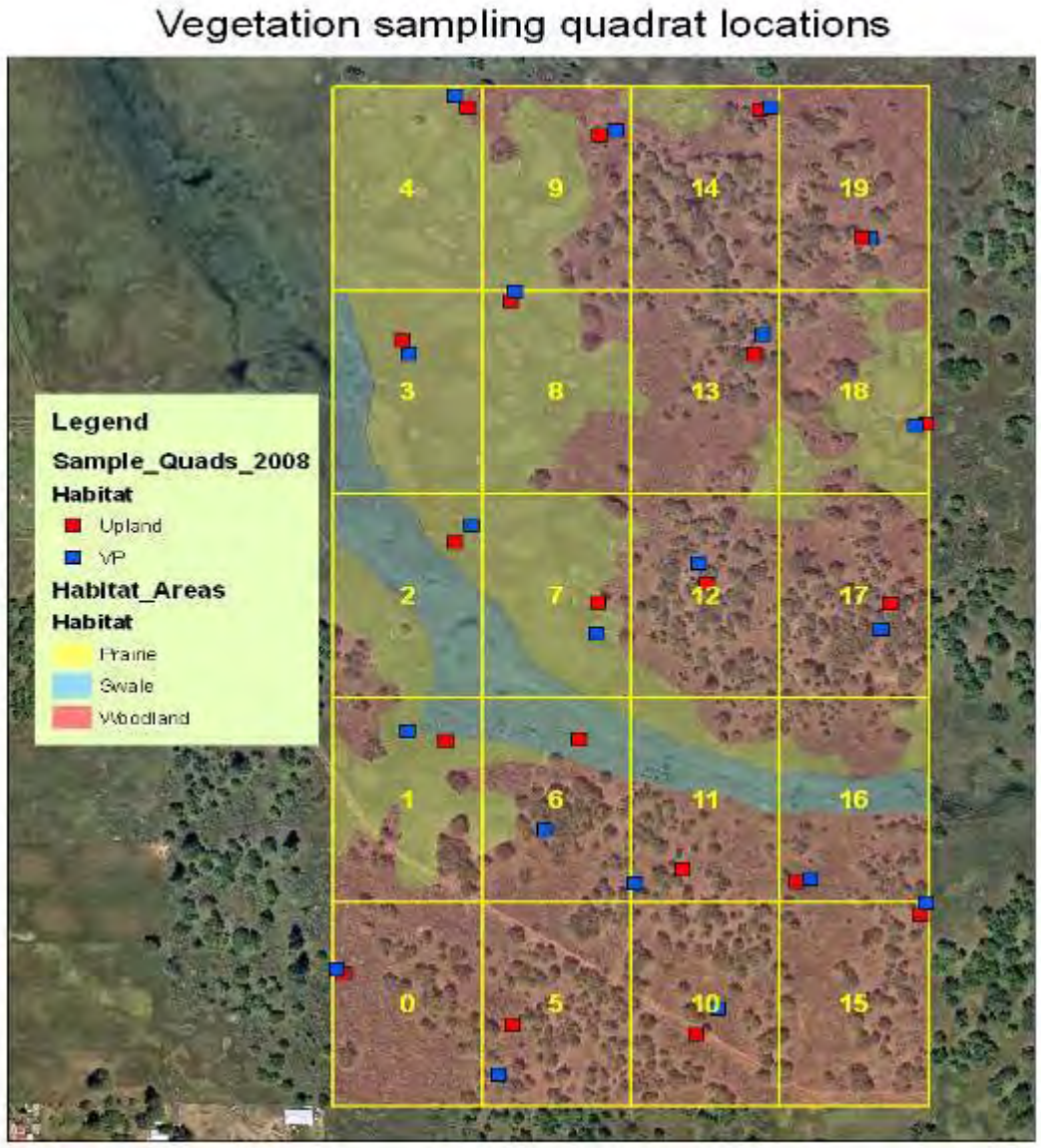
VERNAL POOL VEGETATION			
TARGET	***Standard***	***Condition (90% CI)***	***Performance***
absolute cover of exposed substrate	< 75%	4.35% (± 1.81)	Meets
key native vernal pool species	≥ 15	24 species	Meets
relative invasive cover	≤ 15%	18.13% (± 6.12)	Probably Not
relative native cover	> 70%	50.10% (± 9.35)	No

Performance Standards: *Endangered species*

LISTED SPECIES			
TARGET	***Standard***	***Condition (90% CI)[1]***	***Performance***
LIFLGR plants	> 200	289 LIFLGR counted	Meets
LOCO plants	> 200	No LOCO found at site	Not present
BRLY pool occupancy	> 40%	12.08% occupancy	No
BRLY shrimp relative to baseline	≥ 95%	No baseline	In process…

Vegetation sampling for performance standards:

- *¼ meter² quadrats*
- *20 vernal pool*
- *20 upland*



Accounting

- State revolving fund reimbursed by projects
- Credit receipts submitted with permits
- Credit ledger maintained
- Annual reporting

Challenges

- Scope, Scale and Priorities
- Regulatory Flexibility
- Service Areas
- Project Schedule and timelines
- Conservation Banking

Lessons Learned

- Engage Steward, Agencies early
- Define milestones
- Document decisions
- Acknowledge risk
- Keep credit/debit procedures simple
- Select sustainable site

-FIN-

QUESTIONS?

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