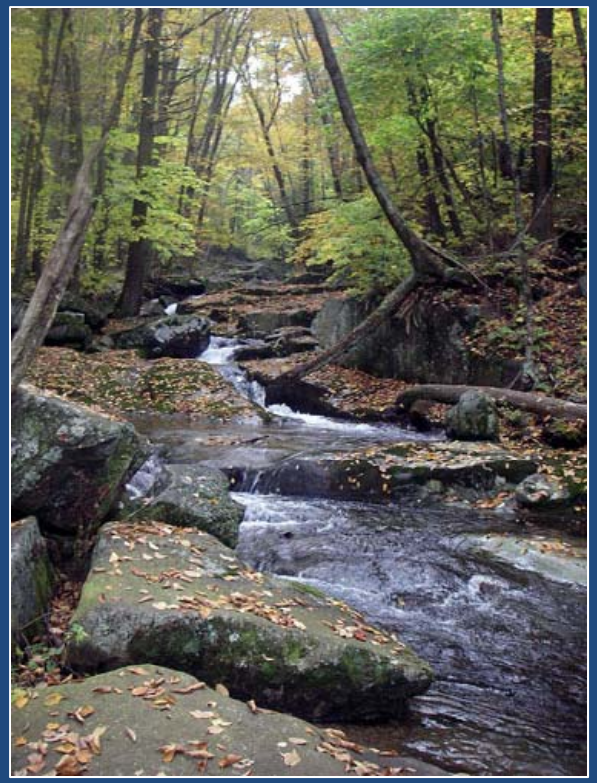
Corps/EPA Compensatory Mitigation Rule:
Complex Issues



Regulatory Branch
U.S. Army Corps of Engineers

Office of Wetlands, Oceans and Watersheds
U.S. Environmental Protection Agency

April 2011

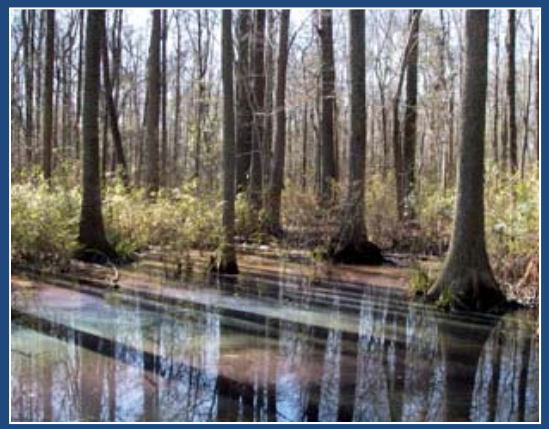
Topics

- Watershed Approach
- Service areas for third party mitigation
- Financial assurances
- Long-term management
- Adaptive management

Objective:

Ensure mitigation projects provide important functions including:

- Creating & buffering reserves
- Establishing corridors
- Provide habitat for rare, threatened, or endangered species
- Water quality improvement
- Carbon sequestration
- Flood storage, etc.



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

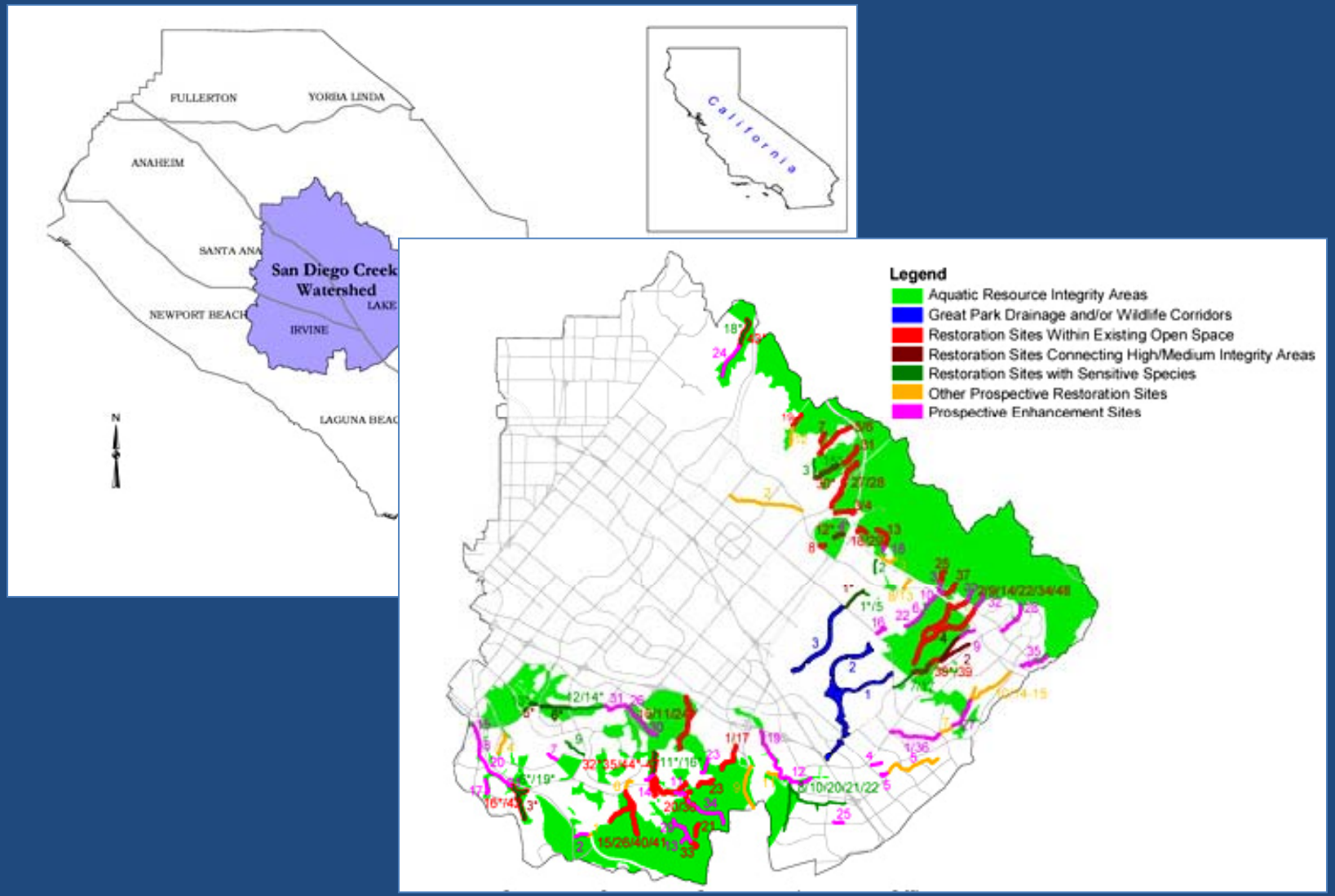
Definition of Watershed Plan

"…plan developed in consultation with relevant stakeholders, for aquatic resource restoration, establishment, enhancement, and preservation."

- Addresses aquatic resource conditions, stakeholder interests, and land uses.
- May also identify priority sites
- Examples include SAMPS, AdId programs, and wetland management plans.

Acceptable Watershed Plans often entail

1. Watershed delineation (aka, determine scope)
2. Aquatic resource identification
   - Current
   - Historic
3. Aquatic resource characterization
   - IBI, HGM, or other intensive data collection
   - Landscape level assessment
4. Development of restoration objectives and priorities
5. Identification of potential restoration sites

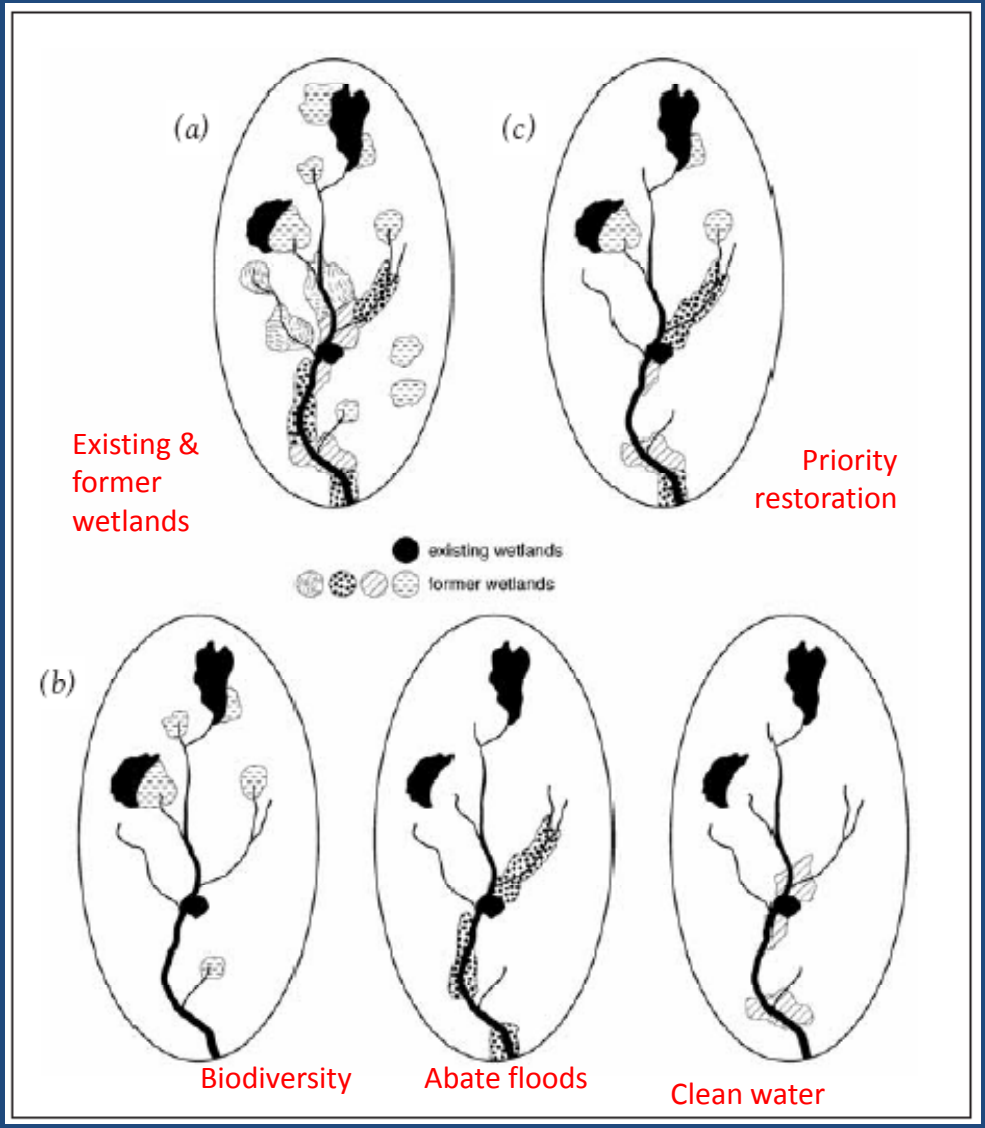

FULLERTON
YORBA LINDA
ANAHEIM
SANTA ANA
San Diego Creek
Watershed
LAKE
NEWPORT BEACH
IRVINE
LAGUNA BEAC
N
California
Legend
Aquatic Resource Integrity Areas
Great Park Drainage and/or Wildlife Corridors
Restoration Sites Within Existing Open Space
Restoration Sites Connecting High/Medium Integrity Areas
Restoration Sites with Sensitive Species
Other Prospective Restoration Sites
Prospective Enhancement Sites

Definition of Watershed Approach

"…an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed."

- Considers **watershed needs**
- Uses **landscape perspective** to identify types and locations of projects to benefit watershed and offset losses.
- Considers:
  - Landscape scale
  - Historic and potential aquatic resource conditions
  - Past and projected aquatic resource impacts in the watershed
  - Environmental needs/problems
  - Terrestrial connections between aquatic resources

Function-Based Approach



a) Historical wetlands

b) Restoring habitat functions (left)

Restoring flood control functions (center)

Restoring water quality functions (right)

c) All restoration sites

Watershed Approaches

Qualitative

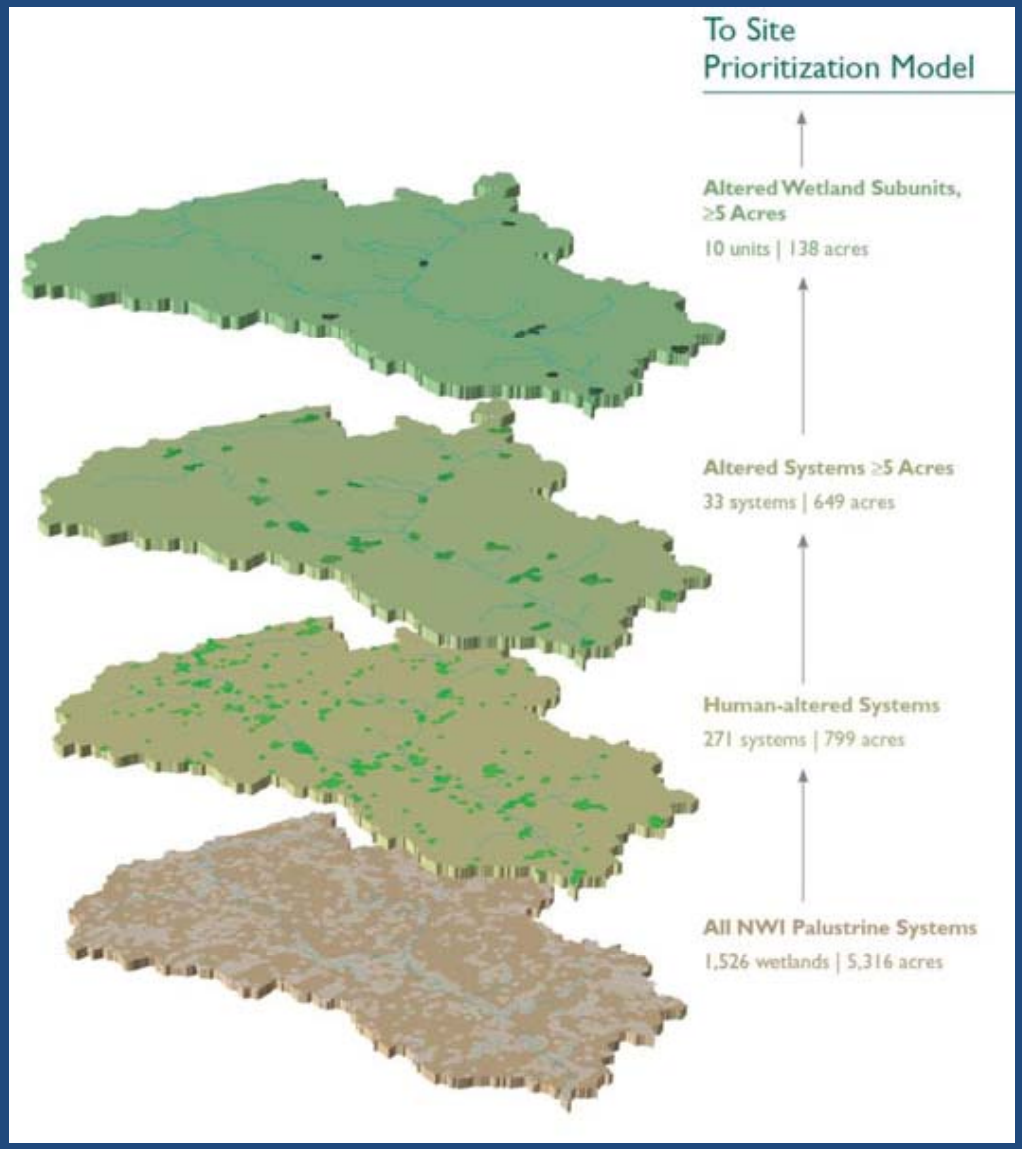
VA Offsite Mitigation Location Guidelines

Western WA - Selecting Mitigation Sites Using Watershed Approach

Quantitative/Geospatial

MD Water Resources Registry

Sunrise River, MN



New Hampshire ILF Program - Merrimack River Watershed

Site must be > 5 ac

Consider:

- Ecological integrity
- Significant habitat
- Flood flow control potential
- Groundwater use potential
- Water quality functions
- Sustainability
- Landscape position

Service Areas

"…watershed, ecoregion, physiographic province, and/or other geographic area within which the mitigation bank or in-lieu fee program is authorized to provide compensatory mitigation ..."

(33 CFR 332.8/40 CFR 230.98)

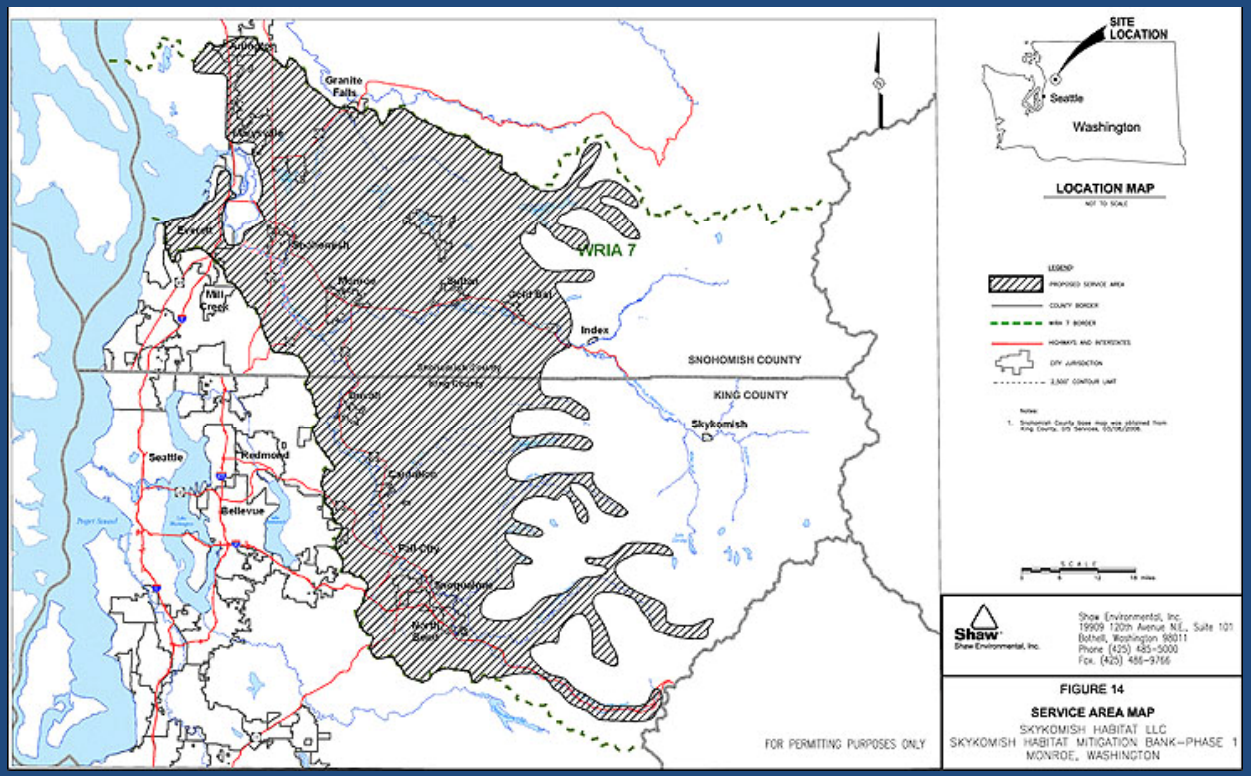
Service Areas

Some Approaches

- Watersheds (or Hydrologic Units)
- Landform regions & ecoregions
- Ecological distribution
- Administrative boundaries
- Combinations
- Primary & Secondary service areas

Scale:

"…sized to ensure that the aquatic resources provided will effectively compensate for adverse environmental impacts across the entire service area."



Considerations

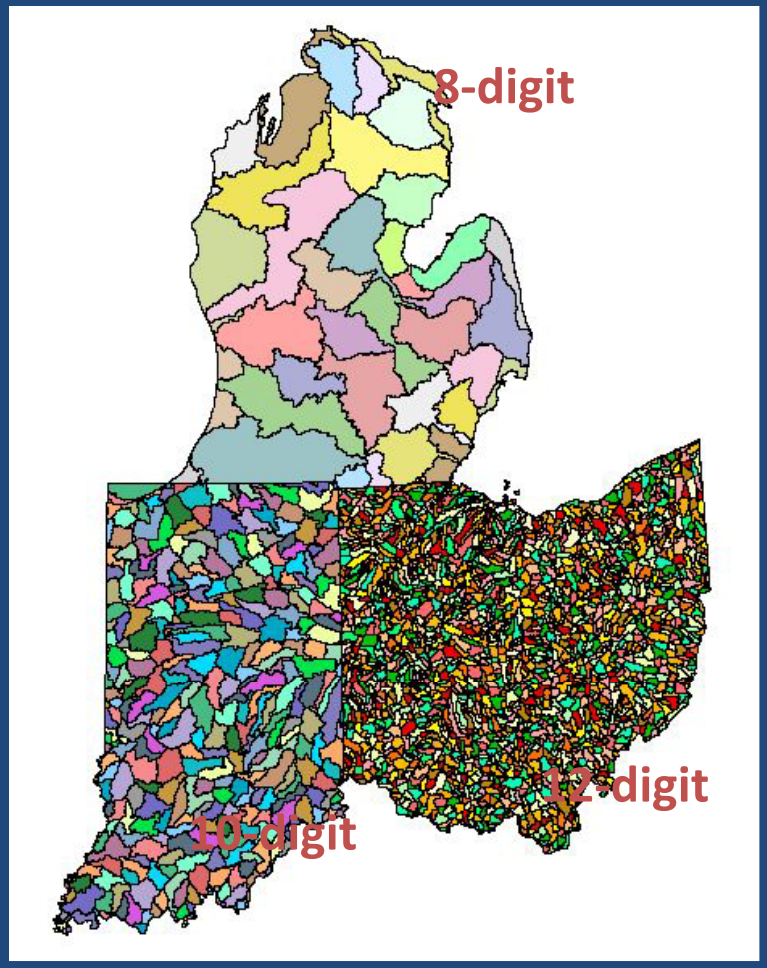
- "… locally-developed standards and criteria..."
- "…economic viability … may also be considered in determining the size of the service areas."
- "…basis for determining service area must be documented in writing and referenced in the mitigation banking instrument."

Watershed

- "…a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean."

33 CFR 332.2

“Watershed” & “geographic area” have no set scale.



Hydrologic Units

2-digit *Regions* (22)
avg - 177,560 sq. miles

4-digit *Subregions* (222)
avg - 16,800 sq. miles

6-digit *Basins* (379)
avg - 10,596 sq. miles

8-digit *Subbasins* (2,267)
avg - 703 sq. miles

10-digit *Watersheds* (est. 22,000)
avg - 40,000 - 250,000 acres

12-digit *Subwatersheds* (est. 160,000)
avg - 10,000 - 40,000 acres

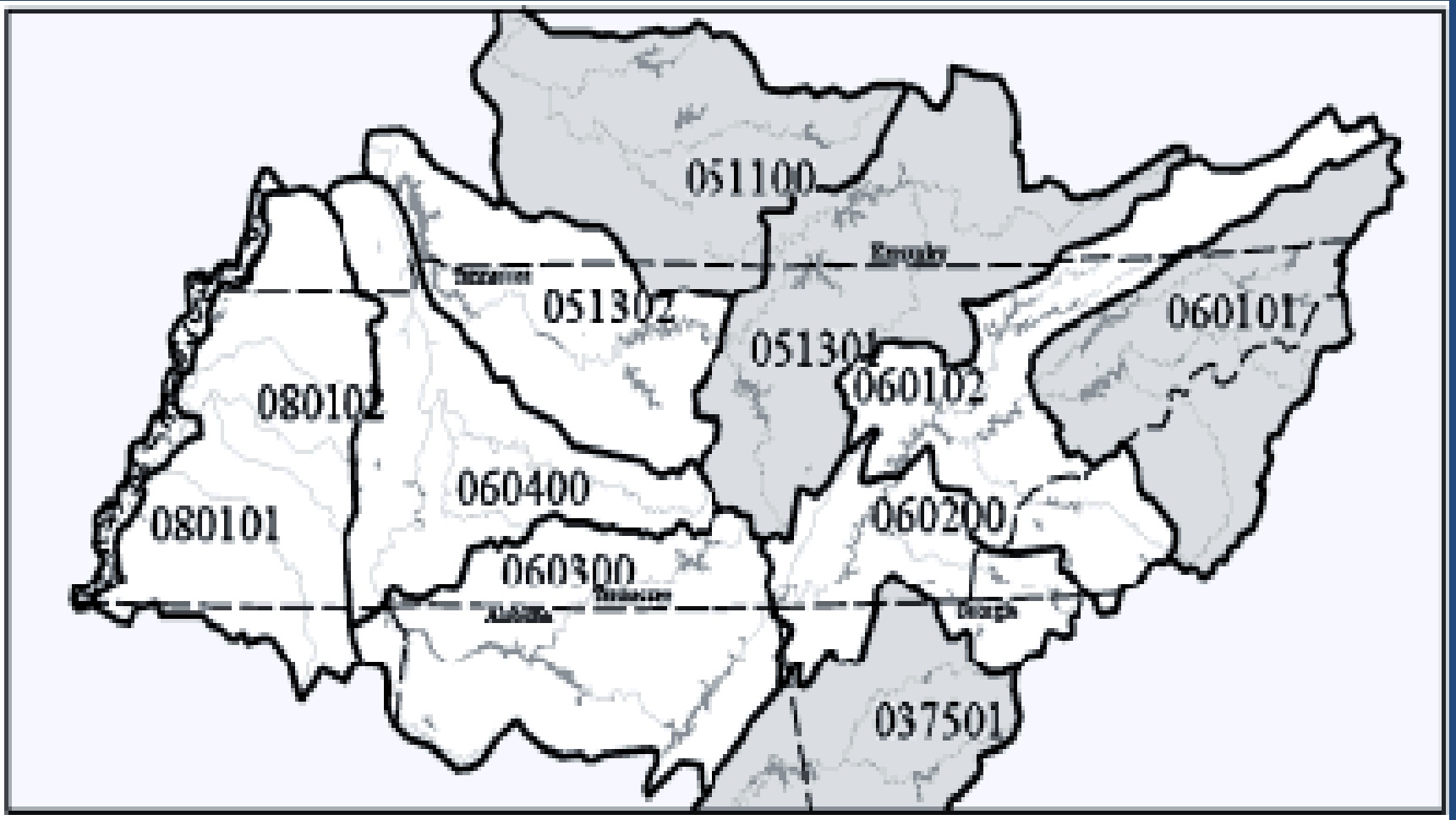
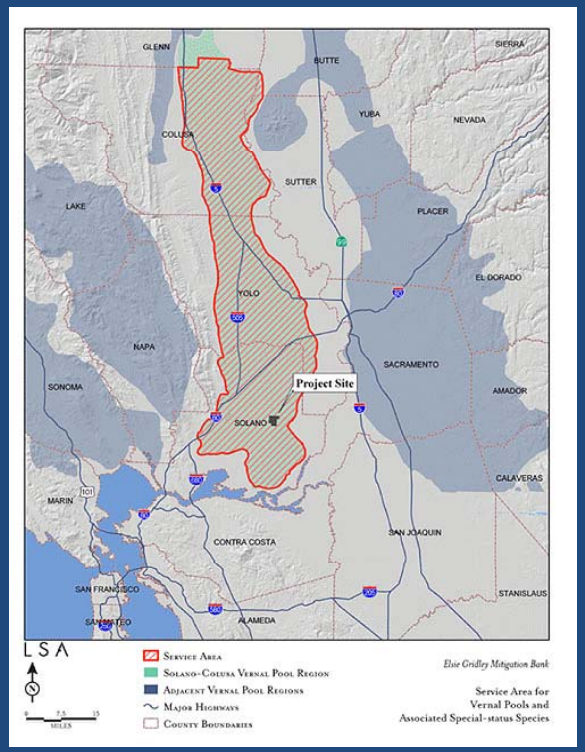
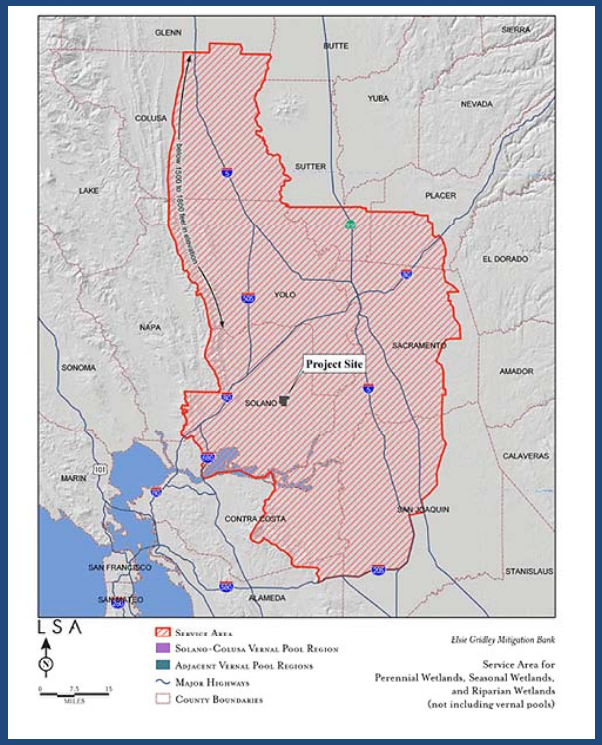
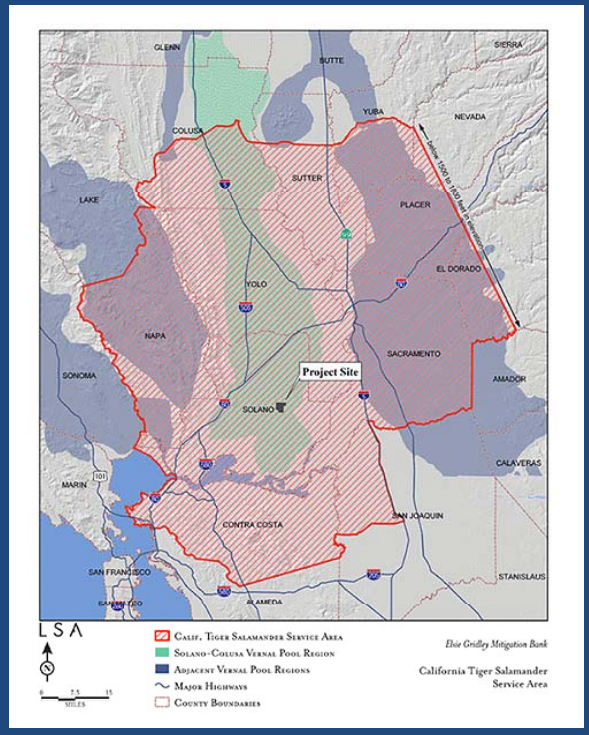

051100
051302
051301
060101
080102
060102
060400
080101
060200
060300
037501
True watershed
Hydrologic units
Major streams
051302 Accounting unit code
Miles

Figure 2

Ecological distribution



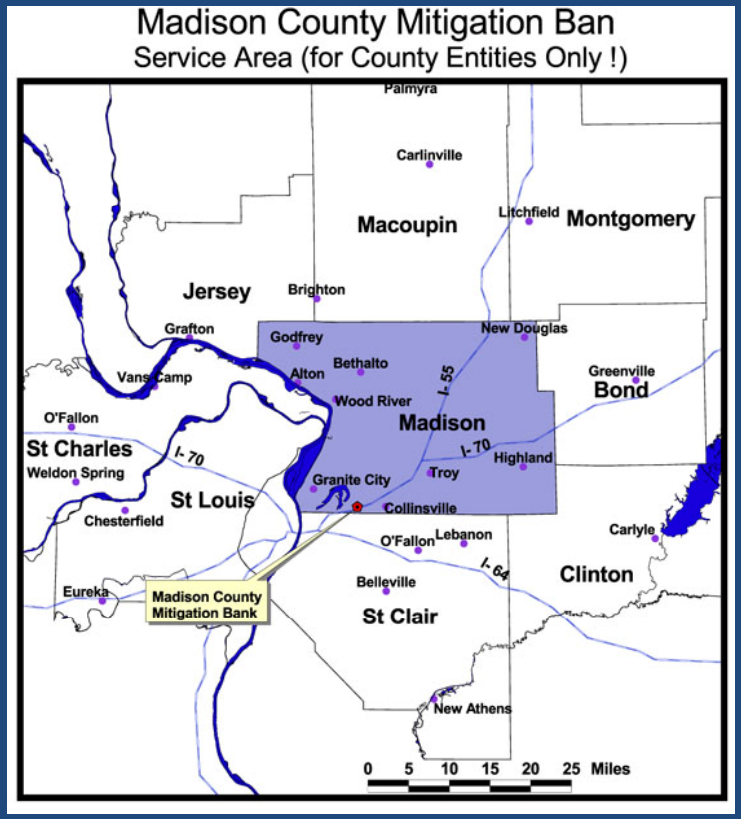




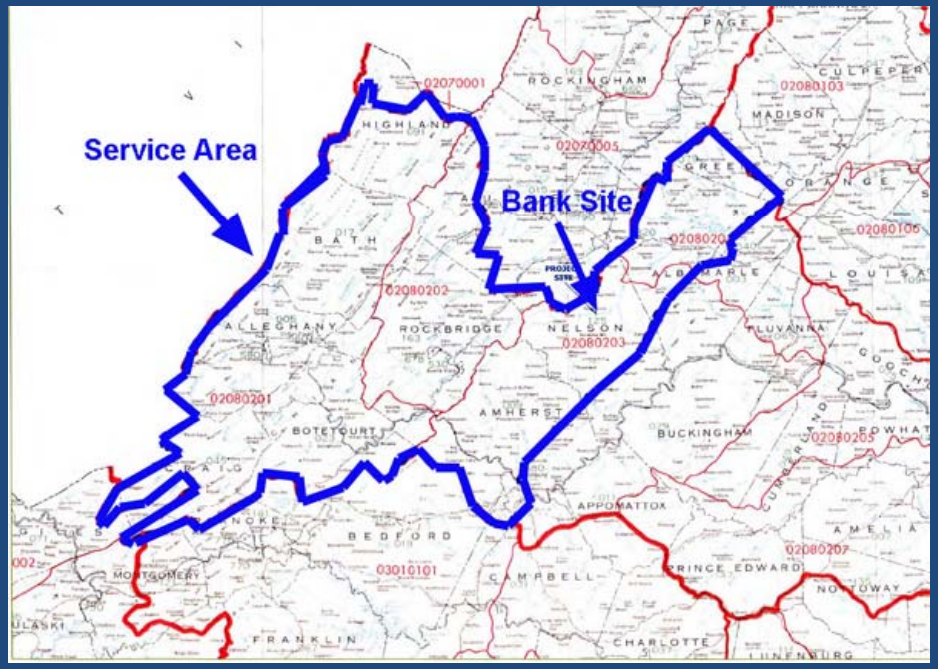
Administrative boundaries

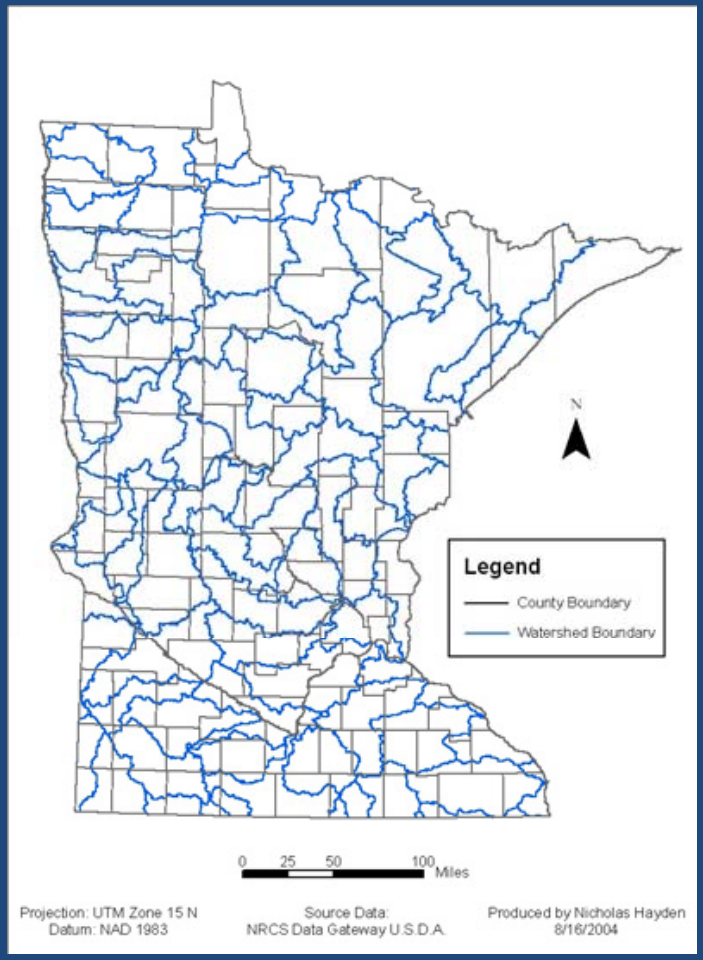
Political boundaries

- Within same state
- Within same locality
- Within same installation



Combinations





Financial Assurances

Why Financial Assurances for Mitigation?

- Organizations can fail or walk away
- Source of funds to correct or replace unsuccessful mitigation
- Allows sale of mitigation credits before full mitigation project success is demonstrated
- Allows issuance of permits using permittee-responsible mitigation before mitigation project success is demonstrated

Requirement for Financial Assurances

"…shall require sufficient financial assurances to ensure a high level of confidence that the mitigation project will be successfully completed, in accordance with applicable performance standards."

33 CFR 332.3(n)(1)

Financial Assurances

- Posted prior to commencing permitted activity
- Mitigation Banks
  To secure initial release of credits
- ILF Programs
  - Source of funds to cover remedial actions on sites
  - Funded through credit price or setting aside additional funds
- Alternative mechanisms:
  - Formal commitment by government or public authority
  - State or other agency requirements
  - Permit special condition (PRM)

When can Assurances be Released?

- Phased out as project determined to be successful
  - Instrument or plan must specify the conditions under which assurances may be released
  - Assurances can be phased-out as project milestones or interim performance standards are met
- Corps MUST receive notice at least 120 days prior to any termination or revocation *[332.3(n)(5)]*

The Amount of Financial Assurances must:

- Be determined in consultation with IRT and responsible party
- Reflect:
  - Size and complexity of project
  - Degree of completion of project
  - Likelihood of success
  - Past performance of project sponsor
  - Other factors that the Corps deems appropriate

Amount of Financial Assurances

- Based on full cost of providing mitigation
- Whether ON-SITE or OFF-SITE
- Could include costs of:
  - Land
  - Planning, design, and engineering
  - Construction & planting
  - Monitoring & maintenance
  - Reasonably foreseeable remedial work
  - Contingencies
  - Legal & administrative

ON-SITE Replacement

ONLY if there are no concerns regarding:

- Quality of the site & surrounding landscape
- Site ownership/access issues
- Willingness of suitable third-party to complete work at the site

Determining Assurance Amounts for ON-SITE Replacement

- Cost to implement work & meet performance standards
- Sponsor or permittee provides component cost estimates
- Other sources that can be used to verify estimates include:
  - Corps in-house engineering estimates
  - Current Bank or ILF rates in same service area
  - Contractor estimates

Determining Assurance Amounts for OFF-SITE Replacement

- Cost of compensation at alternate site by a third party
- Components: **LAND COSTS**, design, implementation, management, etc.
- Sources: Based on estimates for comparable mitigation projects in the area

Forms of Assurances

- Performance bonds
- Letters of credit
- Escrow accounts
- Casualty insurance
- Legislative appropriations
- Other appropriate instruments, subject to approval by Chairs

Performance bond

- Contract between sponsor & surety
- Surety guarantees performance or payment of penal sum
- Sponsor pays approx 2 - 5 % of penal sum to surety & enters into an indemnity agreement with surety that includes collateral
- Issues: Limited availability, collateral, limits on coverage, potential for performance disputes, duration

Letters of Credit

- Financial institution (Bank) extends credit / guarantees payment for the sponsor's obligations
- Sponsor pays 0.5 – 1.5% of letter amount to issuer and enters into loan agreement with Bank
- Issues: Limited availability, collateral, provides funds NOT performance, duration

Cash in Escrow

- Sponsor deposits entire amount of assurance into an escrow account
- Corps directs disbursement through escrow agent based upon specified conditions.
- Issues: Cost; provides funds but not performance

Casualty insurance

- Insurance policy specifying conditions for payment
- Contract between sponsor & insurer for claims made against the policy up to specified limit
- Sponsor pays one-time premium of 5-10% of cap and agrees to 100% deductible of insurer costs

Casualty Insurance cont.

- Only Corps can make a claim
- Trigger is Corps determination of default.
- Insurer will satisfy a claim in any way directed:
  - Payment to a designee;
  - Implement replacement mitigation
  - Purchase credits from bank or ILF
- Issues: Untested

Standby trust agreement

- Independent third party with fiduciary responsibility to the beneficiary
- Corps cannot be the direct beneficiary
- Relationship established through a valid but unfunded agreement
- Enduring
- When assurances called, funds are paid into Standby Trust

Long-Term Management of Mitigation Projects

Why Long-Term Management (LTM)?

- Mitigation should be *self-sustaining* but management *may be needed* to meet objectives
- Ensure sustainable mitigation *after* performance standards are met

LTM of Mitigation Projects

(33 CFR 332.7(d))

- If LTM is required

  Permit or instrument must:

  – Identify responsible party
    - May allow for future transfer of LTM responsibilities with DE approval
    - Default manager
    - Consider qualifications

  – Address financing required for LTM

LTM Plan Requirements Cont.

- LTM plans include:
  - Description of LTM needs
  - Annual cost estimates for LTM needs, and
  - Funding mechanism to meet needs
- Funding mechanisms:
  - Non-wasting endowments, trusts, contractual arrangements with future responsible parties
    - If Long-Term Manager is a government agency must provide plan for LTM financing
  - Provisions to address inflation & other contingencies

Timing and Financing

- Permittee-Responsible Mitigation - funding mechanisms approved *in advance of* impact *(332.(7)(d)(4))*
- Banks/ILF programs - timing of transfer of LTM & funding must be spelled out in instrument (or site-specific plan) *(332.8(u))*
- Financing approaches include:
  - Lump sum payment to fund endowment
  - Linked to credit sales – timing of sales & contribution to endowment (Banks/ILFs only)
  - Annual payments (public entity)

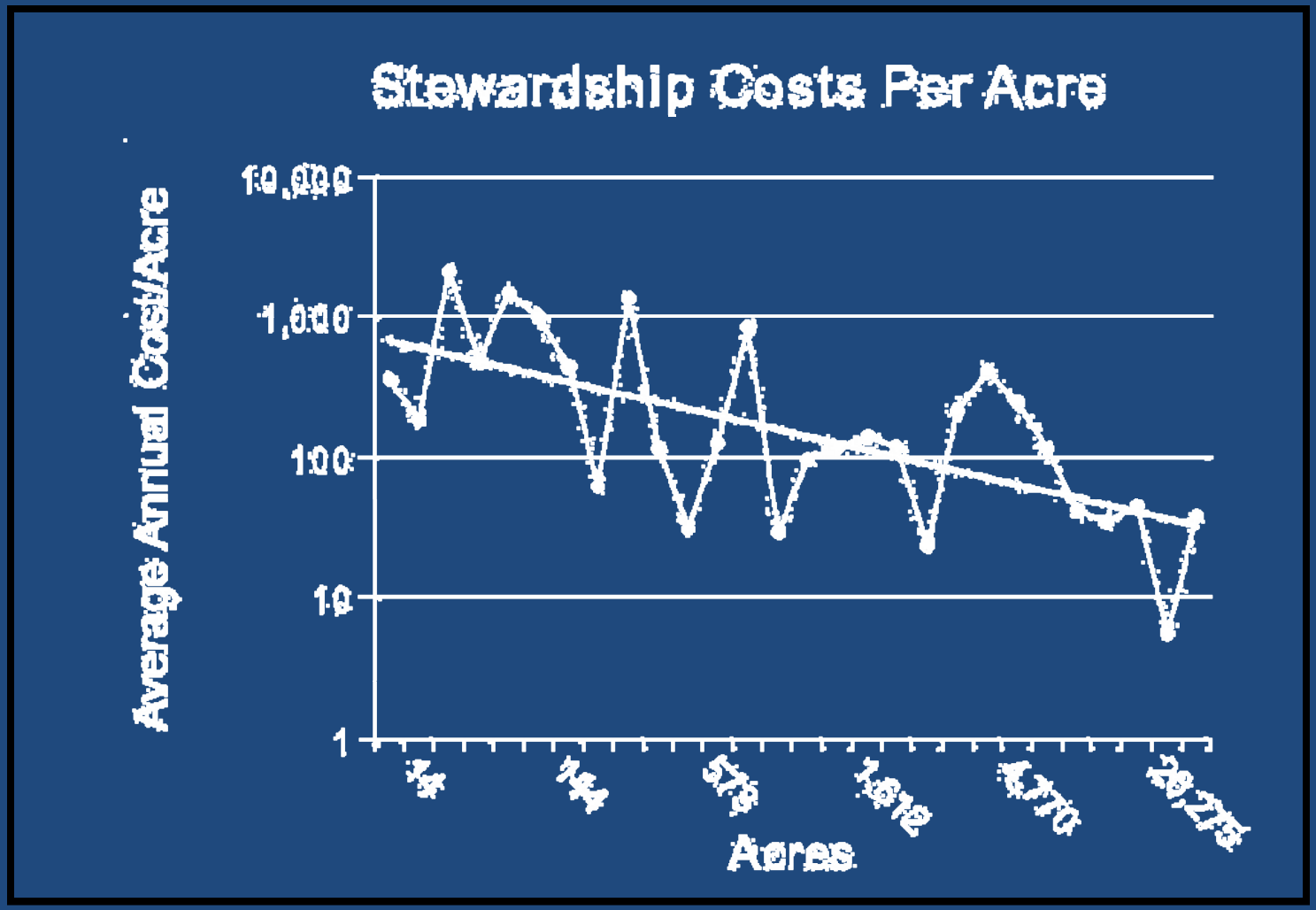
Examples of LTM Activities

- Fencing
- Signage
- Maintain structures
- Inventories
- Inspection
- Species management
- Protect from encroachment
- Prescribed fire

Elements of a LTM Plan

- Background conditions
- Characterize site
- Permit/instrument requirements
- Management goals & objectives
- Management strategies & tasks
- Reporting
- Contingencies
- Legal provisions
- Funding

What Does LTM Cost? (answer: it depends)



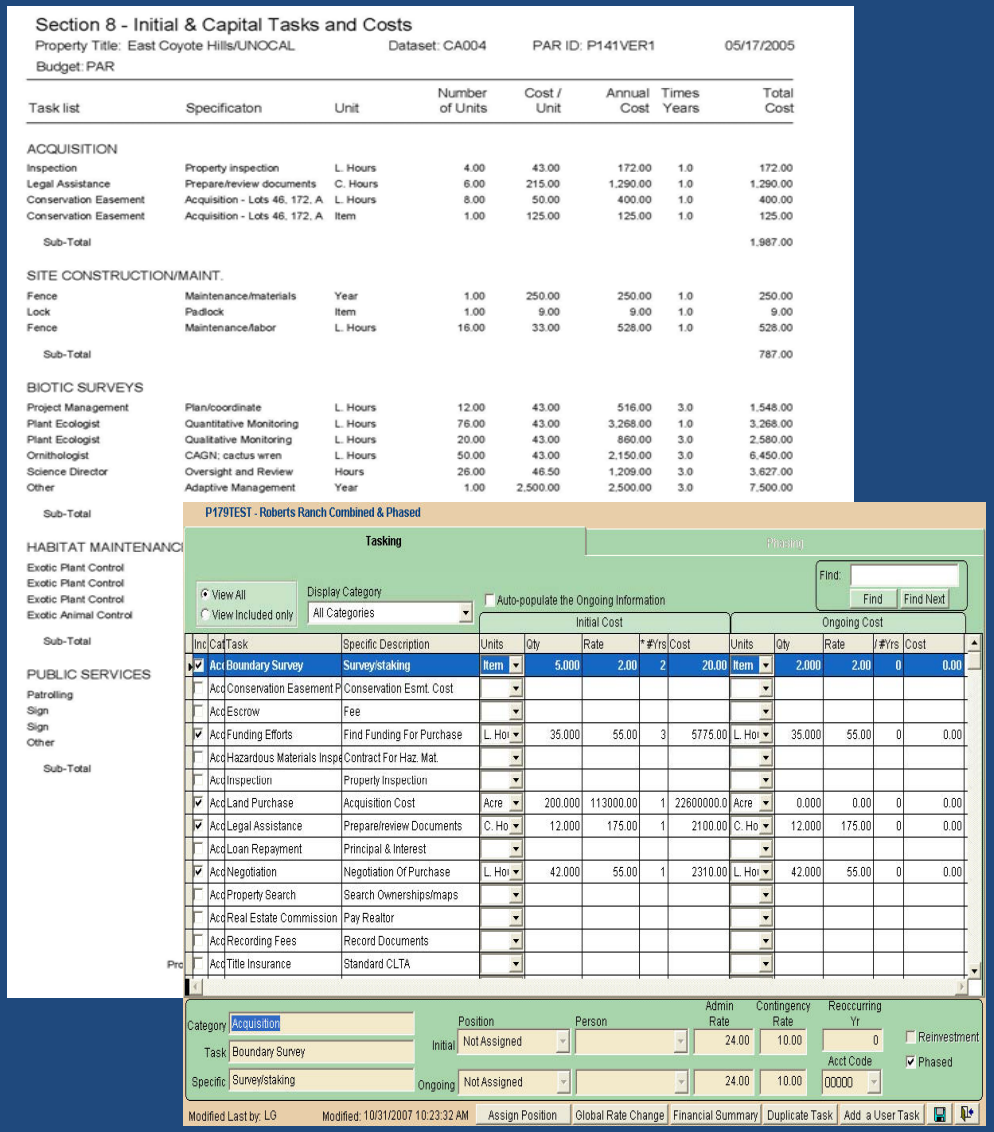
Center for Natural Lands Management evaluated LTM costs at 28 sites in Arizona, California, and New Mexico (2004)

Determining Funding Amount

Key elements to look for:

- Itemized analysis of required tasks
- Funding strategies
- Inflation rates
- Capitalization rates

Itemized analysis



Section 8 - Initial & Capital Tasks and Costs

Property Title: East Coyote Hills/UNOCAL Dataset: CA004 PAR ID: P141VER1 05/17/2005

Budget: PAR

Task list	Specificaton	Unit	Number of Units	Cost / Unit	Annual Cost	Times Years	Total Cost
ACQUISITION							
Inspection	Property inspection	L. Hours	4.00	43.00	172.00	1.0	172.00
Legal Assistance	Prepare/review documents	C. Hours	6.00	215.00	1,290.00	1.0	1,290.00
Conservation Easement	Acquisition - Lots 46, 172, A	L. Hours	8.00	50.00	400.00	1.0	400.00
Conservation Easement	Acquisition - Lots 46, 172, A	Item	1.00	125.00	125.00	1.0	125.00
Sub-Total							1,987.00
SITE CONSTRUCTION/MAINT.							
Fence	Maintenance/materials	Year	1.00	250.00	250.00	1.0	250.00
Lock	Padlock	Item	1.00	9.00	9.00	1.0	9.00
Fence	Maintenance/labor	L. Hours	16.00	33.00	528.00	1.0	528.00
Sub-Total							787.00
BIOTIC SURVEYS							
Project Management	Plan/coordinate	L. Hours	12.00	43.00	516.00	3.0	1,548.00
Plant Ecologist	Quantitative Monitoring	L. Hours	76.00	43.00	3,268.00	1.0	3,268.00
Plant Ecologist	Qualitative Monitoring	L. Hours	20.00	43.00	860.00	3.0	2,580.00
Ornithologist	CAGN; cactus wren	L. Hours	50.00	43.00	2,150.00	3.0	6,450.00
Science Director	Oversight and Review	Hours	26.00	46.50	1,209.00	3.0	3,627.00
Other	Adaptive Management	Year	1.00	2,500.00	2,500.00	3.0	7,500.00
Sub-Total							
HABITAT MAINTENANC							
Exotic Plant Control							
Exotic Plant Control							
Exotic Plant Control							
Exotic Animal Control							
Sub-Total							
PUBLIC SERVICES							
Patrolling							
Sign							
Sign							
Other							
Sub-Total							

P179TEST - Roberts Ranch Combined & Phased

Tasking | Phasing

View All / View Included only Display Category: All Categories Auto-populate the Ongoing Information Find: Find Next

Inc	Cat	Task	Specific Description	Initial Cost Units	Qty	Rate	#Yrs	Cost	Ongoing Cost Units	Qty	Rate	#Yrs	Cost
☑	Acq	Boundary Survey	Survey/staking	Item	5.000	2.00	2	20.00	Item	2.000	2.00	0	0.00
☐	Acq	Conservation Easement P	Conservation Esmt. Cost										
☐	Acq	Escrow	Fee										
☑	Acq	Funding Efforts	Find Funding For Purchase	L. Hou	35.000	55.00	3	5775.00	L. Hou	35.000	55.00	0	0.00
☐	Acq	Hazardous Materials Inspe	Contract For Haz. Mat.										
☐	Acq	Inspection	Property Inspection										
☑	Acq	Land Purchase	Acquisition Cost	Acre	200.000	113000.00	1	22600000.0	Acre	0.000	0.00	0	0.00
☑	Acq	Legal Assistance	Prepare/review Documents	C. Ho	12.000	175.00	1	2100.00	C. Ho	12.000	175.00	0	0.00
☐	Acq	Loan Repayment	Principal & Interest										
☑	Acq	Negotiation	Negotiation Of Purchase	L. Hou	42.000	55.00	1	2310.00	L. Hou	42.000	55.00	0	0.00
☐	Acq	Property Search	Search Ownerships/maps										
☐	Acq	Real Estate Commission	Pay Realtor										
☐	Acq	Recording Fees	Record Documents										
☐	Acq	Title Insurance	Standard CLTA										

Category: Acquisition Task: Boundary Survey Specific: Survey/staking

	Position	Person	Admin Rate	Contingency Rate	Reoccurring Yr
Initial	Not Assigned		24.00	10.00	0
Ongoing	Not Assigned		24.00	10.00	Acct Code 00000

☐ Reinvestment ☑ Phased

Modified Last by: LG Modified: 10/31/2007 10:23:32 AM Assign Position | Global Rate Change | Financial Summary | Duplicate Task | Add a User Task

- ID management tasks
  - Frequency
- Assign expected costs
- Provides justification for LTM funding

Inflation

$50.00 in 1950
had the same
buying power as
$456.89 in 2011

1970 Price Index

Gasoline	$0.36/gallon
Median Income	$8,734/yr
Median Rent	$108/month
Median Home	$17,000
Bread	$0.24/loaf
Harvard Tuition	$2,600/yr

Buying Power of an Endowment After Inflation

Using only the spread between investment returns and inflation for management

Using all income for management

Return on Investment
– Inflation
Capitalization Rate

If 8.5% Rate of Return
-4% Inflation rate
Then 4.5% Cap Rate

Capitalization Rate (used to determine needed funding)

Estimating the Amount to Invest

Need $10,000/year for management
Capitalization Rate = 4.5 %

10,000/.045
Amount needed = $222,222

Effect of Capitalization Rates

Annual Budget	Cap. rate	Endowment
$10,000	1.0%	$1,000,000
$10,000	2.0%	$500,000
$10,000	4.5%	$222,222
$10,000	10%	$100,000

Example – A Bank in CA

- 775 ac
- 2 T/E spp & wetland restoration
- Tasks: monitoring, surveys, fire, grazing, invasive controls, debris removal, signage, fencing
- Annual management costs = $27K
- Cap rate of 4.5%
- Endowment amount = $600K

  or $775/ac

Example – A Bank in VA

- 1000 ac
- 748 wetland credits
- Tasks: inspection, maintain water control structure, stand improvement, invasives,
- Annual management costs = $5K
- Cap rate 4% & endowment = $125K

Questions to ask of LTM plans

- Are management tasks defined?
- Are allowed or proposed uses compatible with resources?
- Are Long-term funding requirements identified?
- How will obligations be funded?
- What inflation rate was considered?
- Is the capitalization rate realistic?

Adaptive management

Adaptive management

Addresses :

- Contingencies
- Unforeseen circumstances
  - Changes in site conditions
  - Changes in responsible parties

Learn from success & failure

Ensure sustainability

Steps of Adaptive Management

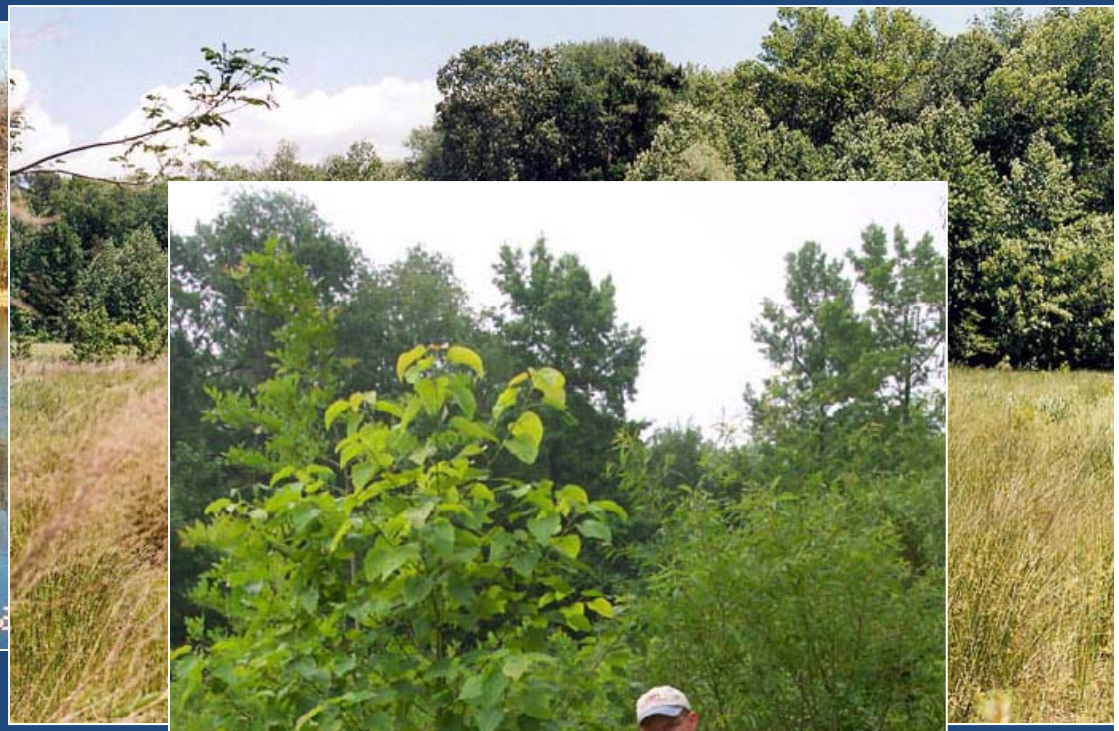
- Plan, including contingencies
- Monitor site
- Analyze outcomes
- Incorporate results into future actions

Adaptive Management

- Corps may require measures to address
  - Project implementation
  - Project management
  - Performance measures:
    - Address deficiencies
    - Reflect changes in management strategies & objectives
    - Address natural disasters
  - Monitoring

1997

2004



2005

Federal Agency Roles and Responsibilities

Clean Water Act Section 404
Compensatory Mitigation Decisions

April 2011
Lexington, KY

Corps' Responsibilities

- Determining appropriate amount and type of compensatory mitigation
- Making public interest review decisions
- Conducting 404(b)(1) Guidelines analyses
- Approving mitigation plans
- Approval/disapproval of third-party mitigation instruments
- Oversight of third-party mitigation

EPA/FWS/NOAA Roles in Mitigation Decisions

- Comment on public notices
- Participate on IRTs
- Elevate issues regarding Bank/ILF proposals under DR process in rule
- Elevate issues under CWA 404(q) process
- [EPA – only] Prohibit disposal sites (CWA §404(c))

1992 404(q) MOAs

- Corps responsibilities:
  - Acts as project manager in the evaluation of permit applications
  - Requesting and evaluating information concerning all permit applications
- Corps makes final determinations of:
  - Compliance with Corps regulations (e.g., public interest review)
  - Compliance with the 404(b)(1) Guidelines

EPA/FWS/NOAA Section 404(q)1992 MOAs

- Candidates for individual case elevation must meet 2 criteria for initiation of 404(q) elevation procedures
  - The project must involve an Aquatic Resource of National Importance (ARNI)
  - The project must result in (or have the potential to result in) substantial and unacceptable adverse impacts on an ARNI (after considering mitigation)

Interagency Review Teams

- Agency participation
  - Corps
  - U.S. EPA
  - U.S. Fish and Wildlife Service
  - NOAA Fisheries
  - Natural Resources Conservation Service
  - Other Federal agencies
  - Tribal, state, and local regulatory and resource agencies

Interagency Review Teams

- Purpose: review documentation for establishment and management of Mitigation Bank and In-Lieu Fee program
  - prospectus, instruments, mitigation plans, monitoring reports, credit release requests, instrument/plan modifications
- Chair: Corps
- If third-party mitigation is used to satisfy another federal, tribal, state, or local program, that agency may serve as co-chair
- District Engineer will seek to resolve issues via consensus based approach, while meeting the decision-making time frames in the Rule
  - Also, formal dispute resolution process in rule

IRT Training Course

http://www.conservationfund.org/irt_mitigation_training