

The Business of Wetland Mitigation Banking

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Learning Objectives

- Understanding the basic economic factors related to mitigation banking;
- Describing the business considerations that go into bank feasibility and market conditions;
- Highlighting the financial components of banking including the time and money considerations, financial pro formas and sales;
- Highlighting the business issues that confront regulator's in bank permitting using case studies.

“WHY” Business of Banking

- Mitigation Rule Sec. 332.8(d)(6)(ii)(A):
 - “service area is the watershed, ecoregion”
 - “The economic viability” of a bank “may also be considered in determining the area of a watershed”
- Economic Benefits to Agencies:
 - Reduces individual permit review time
 - Provides substantial resources to mitigation projects
- Quality of Life

Wetland Mitigation Bank

- Large, restored and/or enhanced wetland habitat formally approved by regulatory agencies to provide compensatory mitigation to third parties

Economic Benefits:

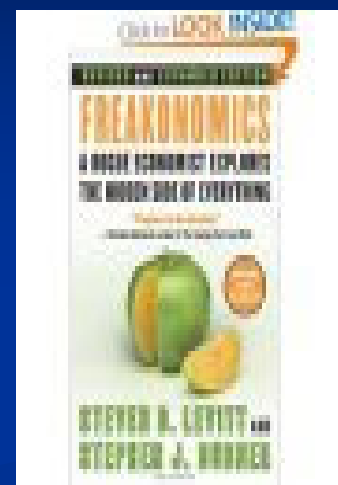
- **Lower Costs
(Economy of Scale)**
- **Reduces Mitigation
Permitting Time and
Costs**
- **Reduces Mitigation
Uncertainty
(Lower Ratios)**
- **Severance of Liability**



Actual Economic Benefits of Banking

“How can letting people pay to fill wetlands be beneficial?”

- Economic incentives to protect and restore habitat
- Economic dis-incentive to impact habitat
- Actual “real” dollar costs for impacting environment
- Private capital flowing into protecting and restoring habitat (e.g., several billion invested since first Guidance Doc. - 1995)



Economics of Banking

■ Consumer Tastes and Preferences

■ Permittee's Perspective

- Less costly
- Less time
- Reduce/Remove liability

■ Agency Perspective

- High quality mitigation
- Reduces permitting workload

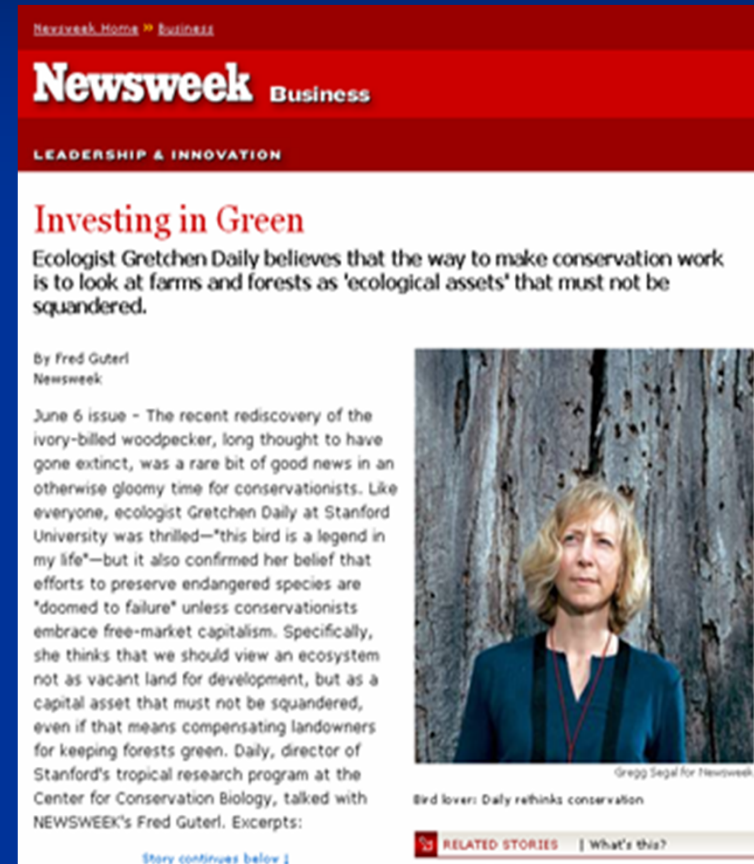
■ Bankers Perspective

- Effective return on investment and good use of resource

Mitigation Banking Business: “The Balance of Business & Biology”



Interest in Environmental Trading



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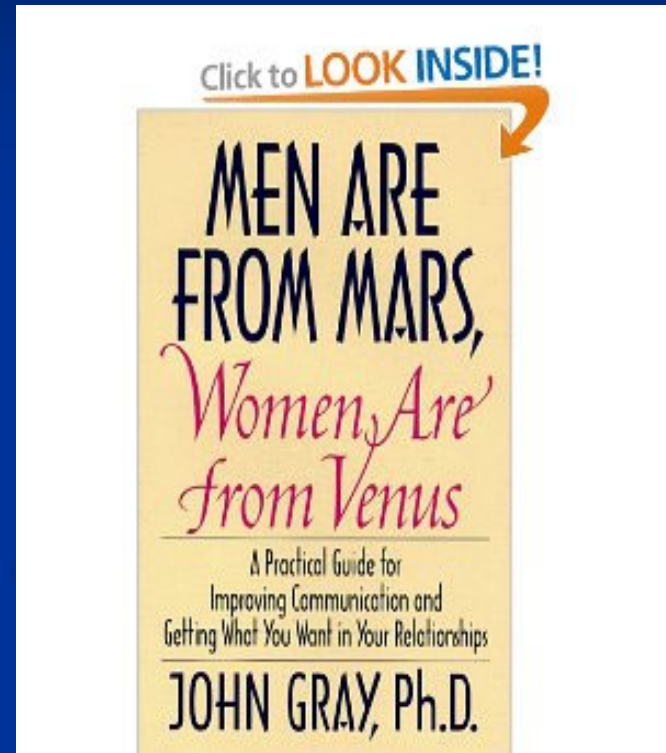


“Why should I be concerned about the environment?
I never go there.”

“Regulators Are From Mars, Bankers Are From Venus”

- Regulators say: “This is a great place for wetlands restoration”
- Banker hears: “This is a great place for a wetlands bank”

“A good site does NOT mean it is a good mitigation bank site, demand for credits is necessary”



Two Primary Sources of Demand for Mitigation:



- Section 404 of the Clean Water Act
- The Federal Endangered Species Act

Other Sources of Demand:

- Coastal Zone Management Act
- State Water Quality Regulations
- State Endangered Species Laws
- NEPA/State Environmental Quality Acts
- Local agency policies and ordinances
- Natural Resources Damages (NRD)
- Voluntary Markets (“the next frontier”)

Determining Demand

- Regulatory Environment
- Ecological Conditions
- Market Demand



Regulatory Environment

- Regional Ecological Conditions
 - Wetlands
 - Types of wetlands (seasonal, tidal, stream)
- Regulatory Implementation
 - “No Net Loss”
 - ESA Implementation
 - Enforcement Actions (support regulations/demand)
- Regulatory Consistency
 - Consistency in program implementation over time
 - Level playing field with other forms of mitigation

Site Conditions

- Credit Types
 - Wetland types
 - Methodologies to determine credit values
- Service Area
 - Watershed area (e.g., size of HU's, penalty or ratio factors for outside watershed sales)
 - Threats from changes in wetland or species rules and regulations (e.g., listings/de-listings)

Market Demand

- Historical Permit Data
 - Corps permit data (PN's/permit decisions)
 - State/Local permits
- Future Growth Projections
 - Regional plans and maps
 - State/Local economic development plans
- Service Area
- Interview Target User
 - Public agencies (DOT, flood, utilities)
 - Private entities (development, energy)
- Other: Competition and Pricing

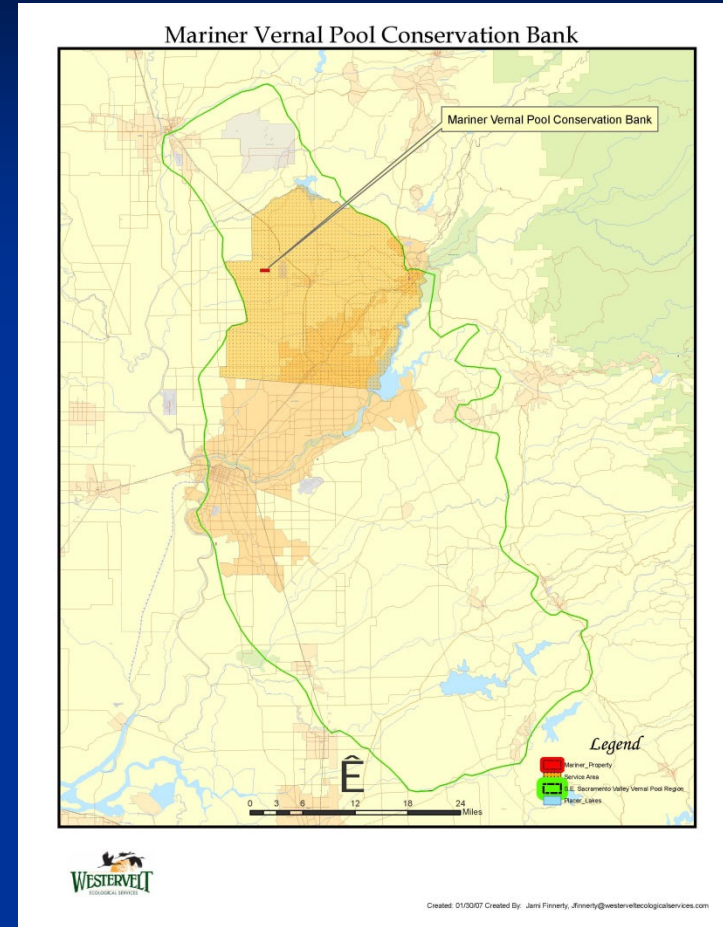
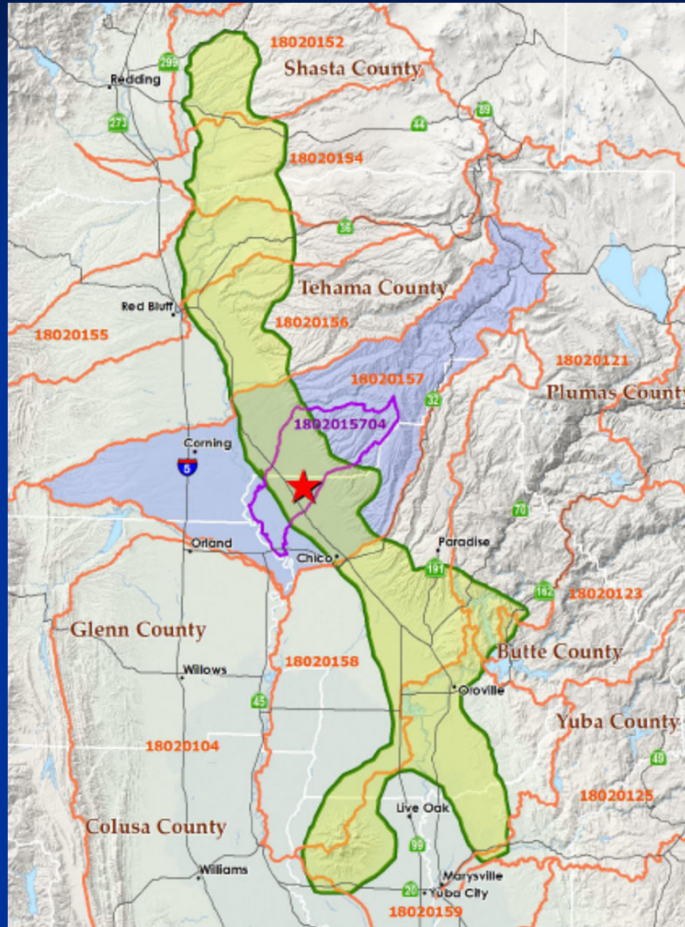
Service Area Axiom

Max Service Area

=

Greatest Potential for Sales

Service Area Considerations



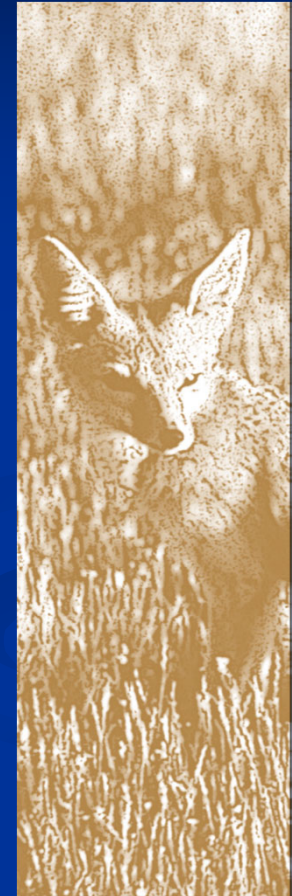
RESULT: Smaller service areas due to smaller watersheds, critical habitat designations, and political boundaries can result in smaller wetland banks.

Market Demand

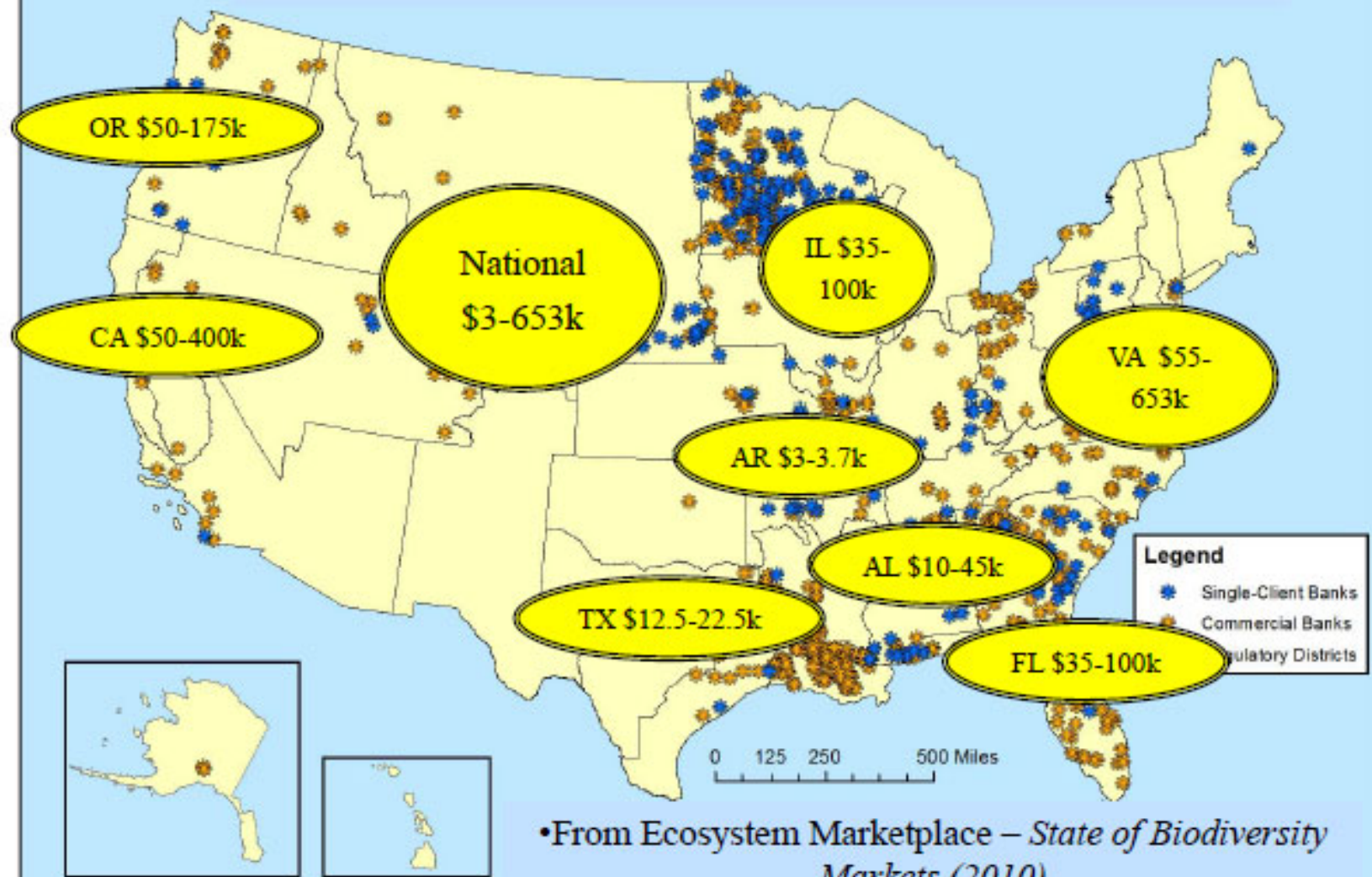
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Market Demand: Competition

- Permit Responsible Mitigation
 - Consulting Firms
 - Non-profits
 - Large Developer Self-Mitigation
- Other Mitigation Bankers (RIBITS)
 - Private
 - Public and non-profits
- In-Lieu Fees/Habitat Conservation Plans (RIBITS)
 - Government
 - Non-Profits

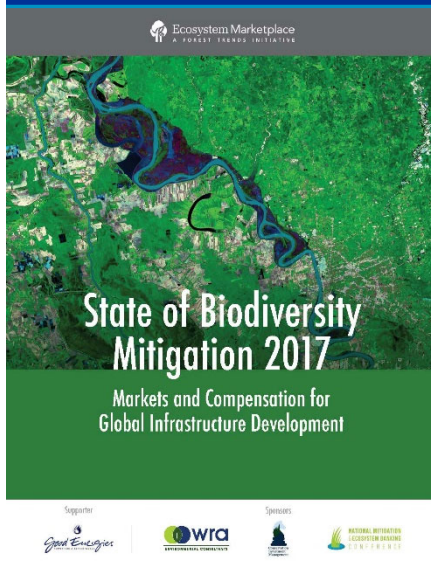


Wetlands Credit Pricing



Financial aspects of mitigation banking*

Aquatic Resources Compensatory Mitigation program in U.S. (wetland and stream credits) is largest banking market in the world (an estimated \$3.25 billion in bank credit transactions in 2016)



Credit type	Average credit price per acre
wetlands (Georgia)	\$142,000
bottomland hardwood (Louisiana)	\$40,000
wetlands (Arkansas)	\$91,200
freshwater marsh (Louisiana)	\$45,000
fresh wet meadow (Minnesota)	\$29,400
palustrine emergent wetland (Florida)	\$690,000
non-riparian wetlands (North Carolina)	\$38,900
palustrine forested wetlands (Florida)	\$923,400
shallow marsh (Minnesota)	\$40,300

Market Pricing

- Cost of Production
 - Land, permitting, design/build, maintenance, monitoring
- Competition
- Price alternatives
 - Permit responsible mitigation
 - In-Lieu Fees
- Price elasticity – “What will the market bear”
- Price Increases (e.g., inflation or other market good)

Alternative Mitigation Cost Model

- Don't assume mitigation bank prices as general market value
- What does it cost to implement the mitigation project?
- Retail vs. Wholesale Pricing

Alternative Project Models:					PROJECT COSTS
Project Size/Costs:	Acres/Credits (\$)	Acres/Credits (\$)	Acres/Credits (\$)	Acres/Credits (\$)	Acres/Credits (\$)
Acres	1	5	10	20	100
Land Costs (\$10K - <10; \$8K - 10-20; \$6K - 100+ Ac.)	10,000	50,000	80,000	160,000	600,000
Site Identification/Assessment /Permitting	5,000	5,000	7,500	10,000	12,500
Biological Monitoring	3,000	3,000	5,000	5,000	10,000
Conservation Easement	10,000	10,000	10,000	15,000	40,000
Stewardship	15,000	15,000	15,000	20,000	60,000
Subtotal	43,000	83,000	117,500	210,000	722,500
Per Acre/Credit:	43,000	16,600	11,750	10,500	7,225

Market Demand: Pricing

- Cost of Production
 - Land, permitting, design/build, maintenance, monitoring
- Competition
- Price alternatives
 - Permit responsible mitigation
 - In-Lieu Fees
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Mitigation Banks Create Market Value



= \$



= \$

Financial Proforma



- Sales forecasts
- Land allocation costs
- Construction costs
- Maintenance and monitoring costs
- Land improvement costs
- General/administrative expenses
- Endowment fund allocations

Mitigation Bank Proforma

Bank Type: Tidal/Seasonal Wetland Mitigation Bank

Size of Site: 125 acres

Cost/Acre: \$30,000

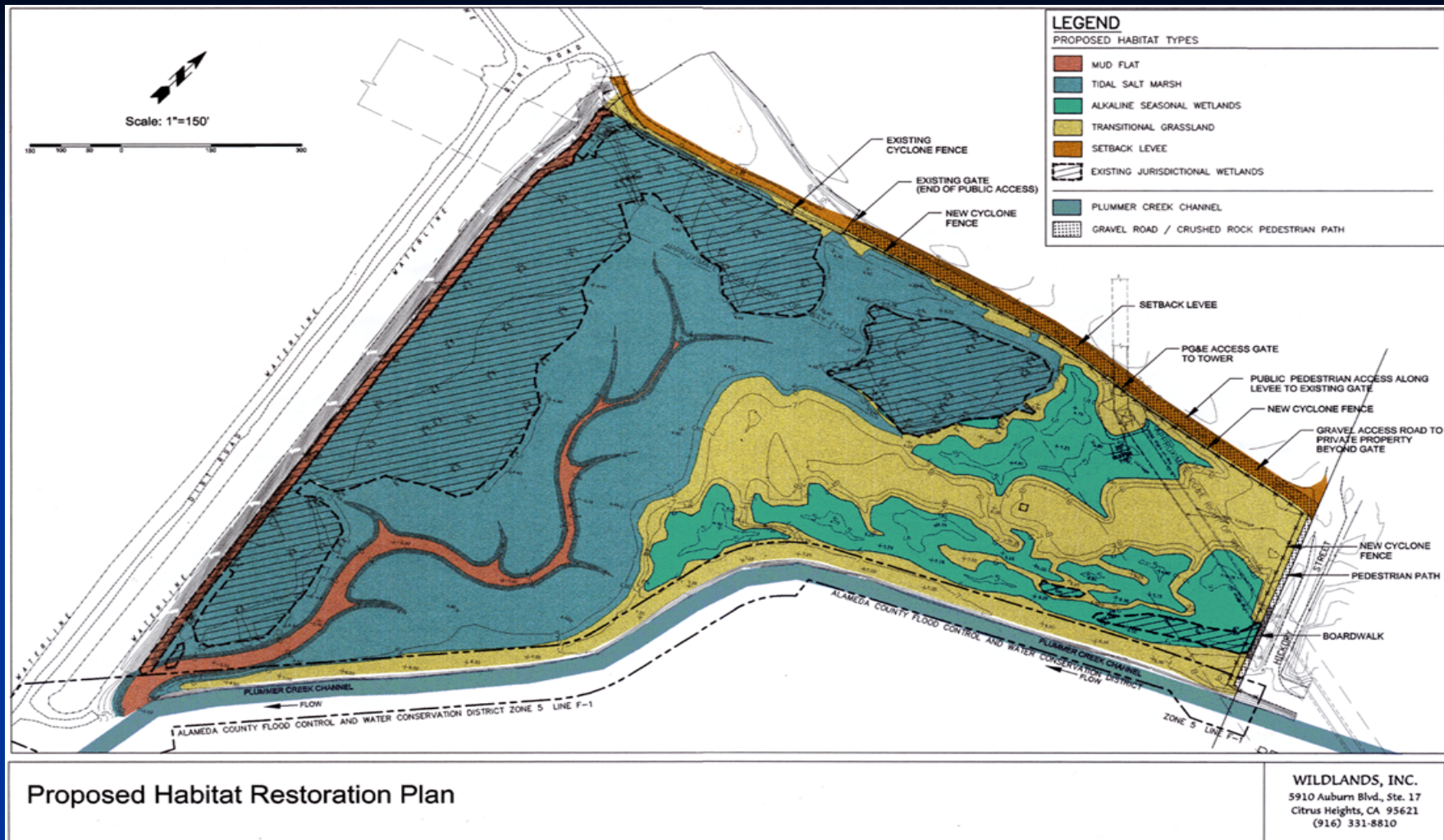
Seasonal Wetland Enhancement/Rehabilitation Credits: 25
(50 acres * .5 credits/acre)

Seasonal Wetland Restoration/Reestablishment Credits: 50
(50 acres * 1 credit/acre)

Total Credits: 75

Price per Credit: \$150,000

Years: 5



Solid Blue/Green – Restoration/Reestablishment;
Cross hatch: Blue – Enhancement/Rehabilitation;
Brown: Upland

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Price per Credit: \$150,000
Sale Years: 5

[illegible]

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	Development Year 1	Development Year 2	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	(all numbers are in thousands of dollars)							
Sales								
Tidal/Seasonal Wetland Enhancement (25 credits @ \$150,000/credit)	0	0	750	750	750	750	750	3,750
Tidal/Seasonal Wetland Restoration (50 credits @ \$150,000/credit)	0	0	1,500	1,500	1,500	1,500	1,500	7,500
Total Sales	0	0	2,250	2,250	2,250	2,250	2,250	11,250
Cost of Sales								
Marketing (6%)	0	0	135	135	135	135	135	675
Endowment (\$5,000 / credit)	0	0	75	75	75	75	75	375
Total Cost of Sales	0	0	210	210	210	210	210	1,050
Net Sales	0	0	2,040	2,040	2,040	2,040	2,040	10,200
Cost of Goods Sold								
Construction Expense		1,250	0	0	0	0	0	1,250
Land (125 acres @ \$30,000/acre)	500	3,250	0	0	0	0	0	3,750
Maintenance Expense	0	0	35	25	25	25	25	135
Monitoring Expense	0	0	25	25	25	25	25	125
Total Cost of Goods Sold	500	4,500	60	50	50	50	50	5,260
Gross Profit	(500)	(4,500)	1,980	1,990	1,990	1,990	1,990	4,940

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General and Administrative Expenses								
Legal and Accounting	20	10	10	10	10	10	10	80
Permitting Expenses	200	100	0	0	0	0	0	300
Insurance Expense	0	0	2	2	2	2	2	10.0
Taxes	0	0	5	5	5	5	5	25
Total General and Administrative	220	110	17.00	17.00	17.00	17.00	17.00	415.0
Net Profit Before Taxes	(720)	(4,610)	1,963	1,973	1,973	1,973	1,973	4,525.0

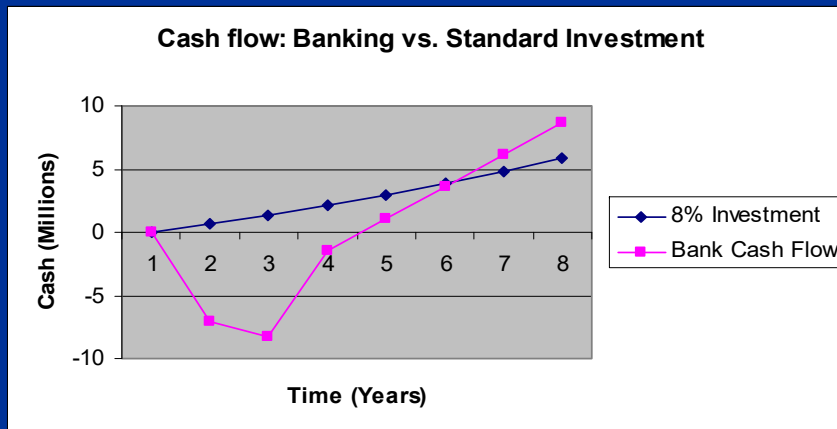
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Net Profit Before Taxes	(720)	(4,610)	1,963	1,973	1,973	1,973	1,973	4,525.0
Year to Date (BT)	(720)	(4,610)	1,963	1,973	1,973	1,973	1,973	
Balance Forward (BT)	0	(720)	(5,330)	(3,367)	(1,394)	579	2,552	
Total Profit (BT)	(720)	(5,330)	(3,367)	(1,394)	579	2,552	4,525	

Financial Considerations of Banking

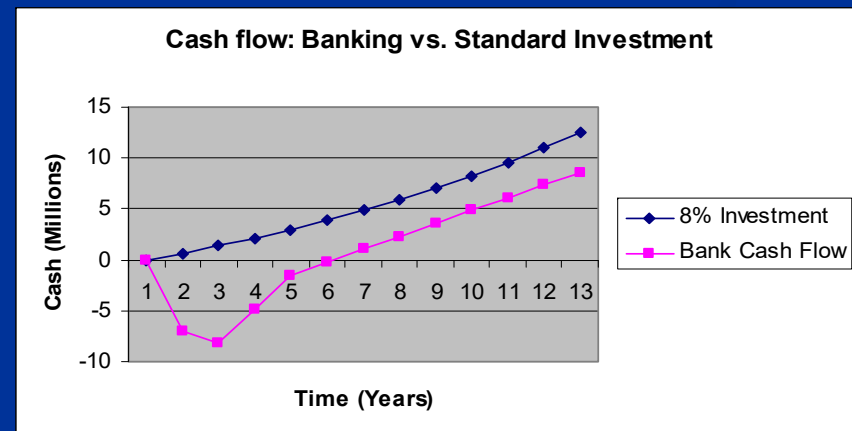
- Time and Money
 - Example: Gross = 11.25 mil; Net = 4.52 mil;
 - 7 years = \$646 K Net per yr. (IRR = 23.2%)
 - 12 years = \$377 K Net per yr. (IRR = 12.6%)
 - SP 500 Historic Ave (8% return) = 426 K
- Carrying Costs (e.g. \$5.33 mil in the “RED” for 2 yrs.)
- Costs of Money
 - interest rate @ 10% = 533,000 per yr.);
 - “bank loan on swamp land”
 - interest charged on money
- Tax Considerations: Ordinary Income vs Capital Gains

Financial Considerations

Cash Flow – Credits sell out in 5 Years Post-permitting



Cash Flow – Credits sell out in 10 Years Post-permitting

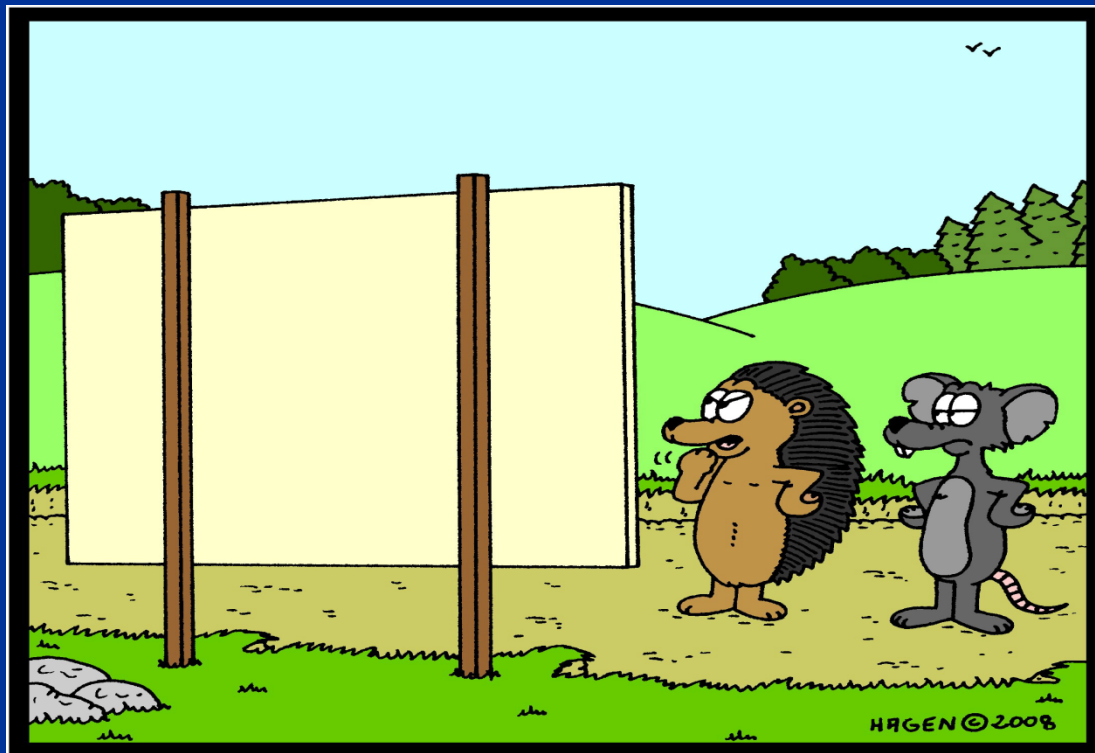


Business Issues Facing Landowners

- Sell Land
 - Fee title
 - Conservation easement
 - Tax considerations (e.g., ordinary income vs. capital gains, 1031 exchange)
- Establish a Bank
 - Project Costs: Capital Expenditures and Operating Expenses
 - Determining actual credit demand
 - Timing of revenues
 - Business Risk: “De-value land asset with no guarantee of return”

Proforma Cautionary Tales

“If something seems too good to be true then....”



Hmmm, this is too good to be true:
I can smell a rat...

Bad Proforma Example

- Actual Project Specifics:

- Rural area near urban area

- 400 total acres

- 320 total credits

- Wetlands/species credits

- *Following table categories summarized
for presentation purposes only*

Bad Proforma Example

	2009	2010	2011	2012	2013	2014	2015-2020	Total
Estimated Credit Price	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000		
REVENUES	53,333,333	53,333,333	53,333,333	53,333,333	53,333,333	53,333,333		319,999,998
Operating Reserve/Perpetual Maint. Fund	(5,333,333)	(5,333,333)	(5,333,333)	(5,333,333)	(5,333,333)	(5,333,333)	0	(31,999,998)
							0	
TOTAL REVENUES	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	0	288,000,000
EXPENSES	70,000	20,000	0	0	0	0	0	
Engineering/Permitting	212,500	55,000	45,000	45,000	45,000	45,000	0	
Maintenance	30,000	30,000	30,000	30,000	30,000	30,000	0	
Legal/Accounting/Insurance	50,000	30,000	30,000	25,000	17,000	17,000	0	
Implementation	112,524	222,524	90,524	12,524	12,524	12,524	0	
Marketing Budget	30,000	20,000	20,000	20,000	20,000	0	0	110,000
Gen/Admin Expense	75,000	40,000	40,000	40,000	40,000	40,000	200,000	675,000
							0	
TOTAL EXPENSES	985,048	755,048	451,048	285,048	269,048	249,048	540,620	2,815,884
							0	
NET P (L)	47,014,952	47,244,952	47,548,952	47,714,952	47,730,952	47,750,952	(540,620)	283,924,472

Sales Documentation

- Contracts
 - Bill of Sales
- “Triangular
Transaction:
Buyer-Seller-
Agency

BILL OF SALE

Contract # _____ *[Bank Sales Number]*

Service File # 1-1- _____

[Other Agency file number]

In consideration of \$ _____, receipt of which is hereby acknowledged, *Westervelt Ecological Services* does hereby bargain, sell and transfer to _____ (Project Applicant), _____ credits in the *Burke Ranch Conservation Bank* in Solano County, California, developed, and approved by the U. S. Fish and Wildlife Service.

Westervelt Ecological Services represents and warrants that it has good title to the credits, has good right to sell the same, and that they are free and clear of all claims, liens, or encumbrances.

Westervelt Ecological Services covenants and agrees with the buyer to warrant and defend the sale of the credits hereinbefore described against all and every person and persons whomsoever lawfully claiming or to claim the same.

DATED: _____

Westervelt Ecological Services/Burke Ranch Conservation Bank

By: _____

Sales Documentation

- Contracts
- Sales Log for Regulatory Agencies

CREDIT SALES LEDGER
Mariner Conservation Bank, Placer County, CA
Current Ledger Submittal - 3/11/2008

Bank Activity	Service Permit #	Client	Project Name	Date	Credit Release	Credit Sales	Remaining Credits Available	Date Ledger Submitted
CBA 100% Credit Release - Vernal Pool Preservation (VPFS only)				2/21/2007	25.63		25.63	
Sale # 001	1-1-04-F-0119 & 1-1-06-F-0071	Caltrans	HWY 65 Bypass	2/21/2007		(14.00)	11.63	3/29/2007
Sale # 002	1-1-07-F-0294	Pacific Building Inc	Meadowlands	9/13/2007		(0.39)	11.24	10/2/2007
	N/A	Mariner Bank	Credit Adjustment	9/28/2007		(0.52)	10.72	10/2/2007
Sale # 003	1-1-05-F-0309	City of Lincoln	South Regional Sewer	10/29/2007		(4.74)	5.98	11/16/2007
Sale # 004	1-1-06-F-0244	City of Lincoln	Moore Rd. Sewer	10/29/2007		(2.59)	3.39	11/16/2007
Sale # 005	1-1-04-F-0684	Highway 65 Storage	Highway 65 Storage	2/15/2008		(3.39)	(0.00)	3/11/2008
						-	-	
TOTALS					25.63	(25.63)	0.00	

Sales Considerations

- Sales Policies
 - Set policies for structure of sales
 - Volume discounts
 - Set prices or vary by client
- Sale Reservations or Deposits
 - Amounts and timelines
 - Refundable/Nonrefundable
- Pre-Sales
 - How to handle sales in a hot market or for large turnkey
- Credit Resale Policy
 - What happens if client doesn't use credits



STRIFE

AS LONG AS WE HAVE EACH OTHER, WE'LL NEVER RUN OUT OF PROBLEMS.

Business Issues Facing Regulators

- **How much information is appropriate at the Prospectus stage**
 - Issue:
 - More information at the Prospectus stage, the better able to determine project viability (e.g., verified delineation)
 - Requiring more information upfront can substantially increase costs
 - Approaches:
 - Important to agree on key components: ecological viability, size of service area and methodology for determining credits
 - “Just say NO!!!”

Business Issues Facing Regulators

- Business viability of mitigation site related to amount of credits or “I need more credits to make the site work”
 - Issue:
 - Number of credits will determine ability to create bank
 - Some high ecological sites may not yield a lot of credits
 - Approaches:
 - Create more wetlands than landscape dictates (See example)
 - Establish protocol or ratio that recognizes higher ecological values (e.g., size of site, number of species, watershed criteria)

Wetland Creation – “Too Many Pools”



Business Issues Facing Regulators

- **Business viability of mitigation site related to amount of credits or “I need more credits to make the site work”**

- Issue:

- Number of credits will determine ability to create bank
- Some high ecological sites may not yield a lot of credits

- Approaches:

- Create more wetlands than landscape dictates (See example)
- Establish protocol or ratio that recognizes higher ecological values (e.g., size of site, number of species, watershed criteria)

Business Issues Facing Regulators

■ Affect of credit release on bank finances

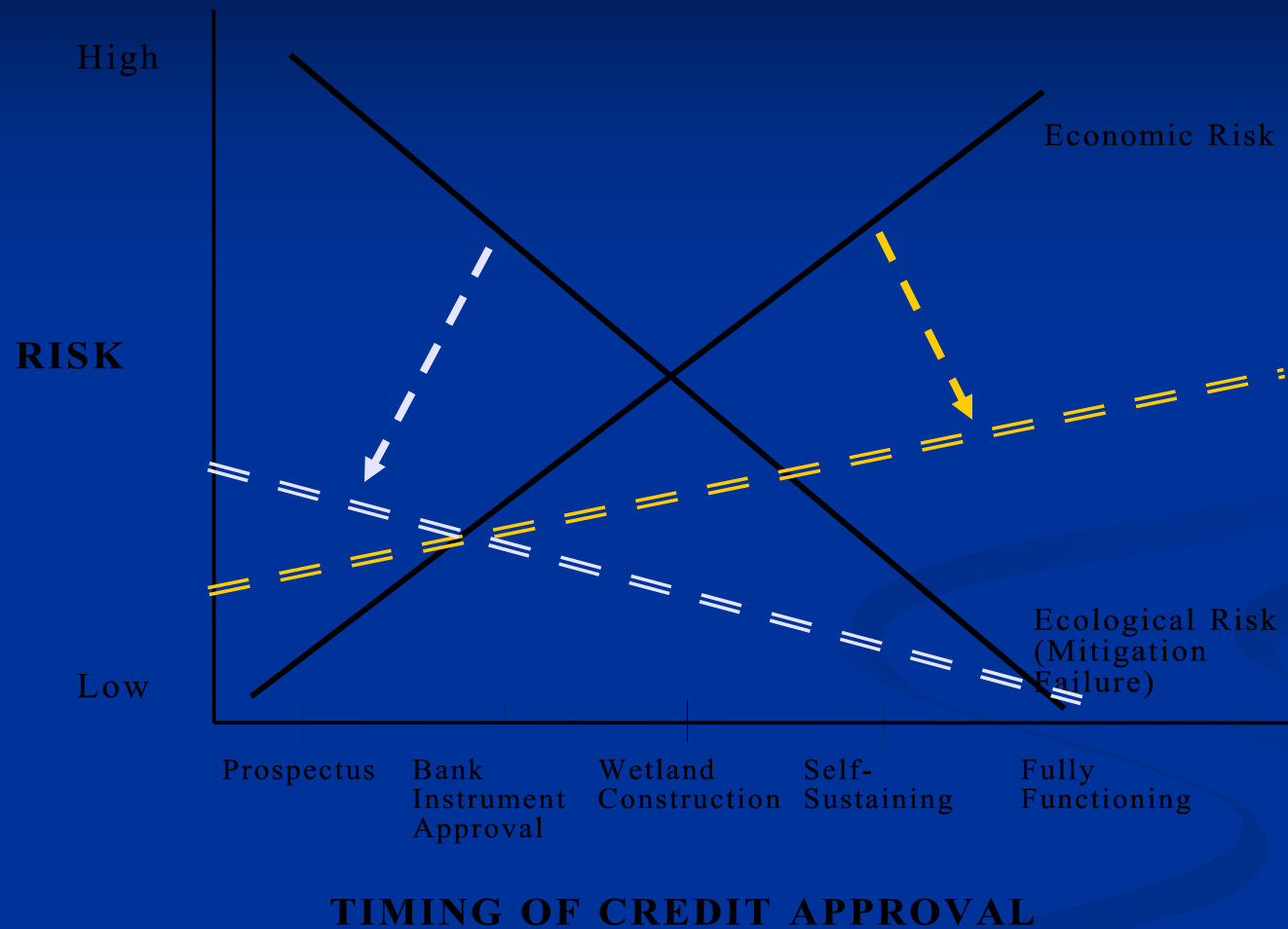
■ Issue:

- Many habitats takes year to establish function and values (e.g., hardwoods, etc.)
- Longer, phased credit releases reduces ability to obtain revenues
- Longer sales reduces value and project profitability

■ Approaches:

- Increase amount of financial assurances (see slide)
- Require additional bonding for increased credit release

Financial versus ecological risk



Courtesy of Len Shabman 2007

Business Issues Facing Regulators

■ Affect of credit release on bank finances

■ Issue:

- Many habitats takes year to establish function and values (e.g., hardwoods, etc.)
- Longer, phased credit releases reduces ability to obtain revenues
- Longer sales reduces value and project profitability

■ Approaches:

- Increase amount of financial assurances (see slide)
- Require additional bonding for increased credit release
- Status quo

Business Issues Facing Regulators

- What is the appropriate service area consideration to apply, watershed or eco-regions (or “other factors”)?

- Issue:

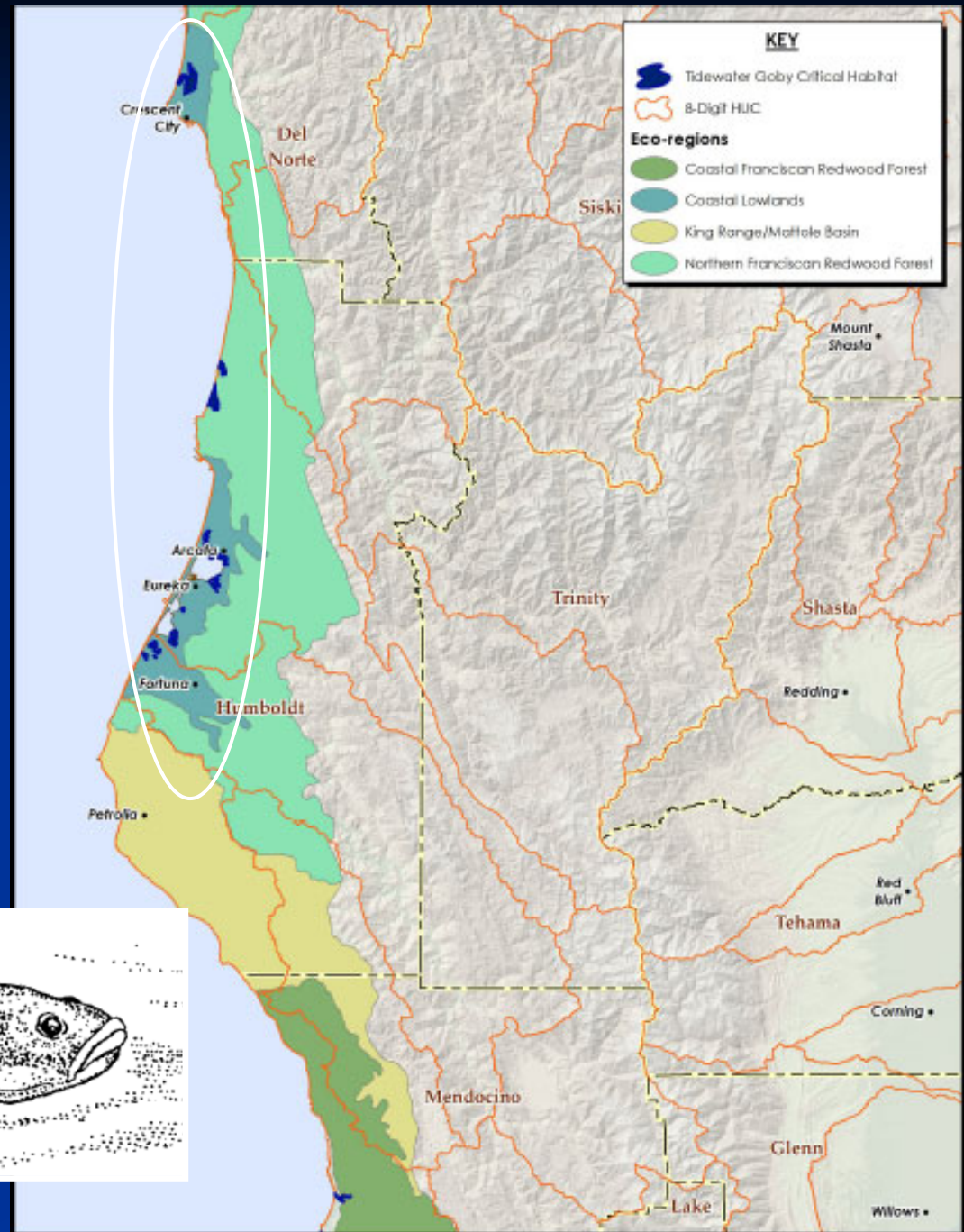
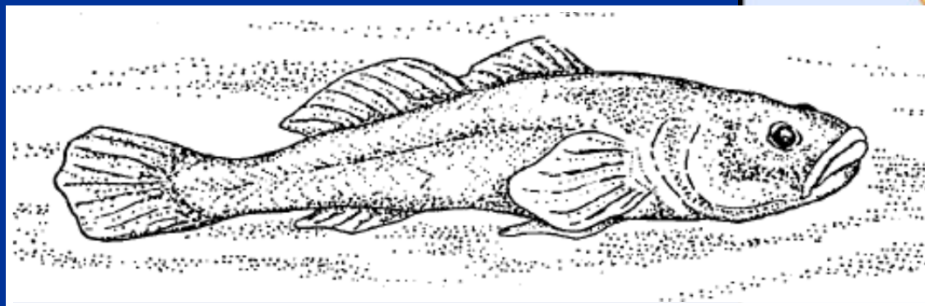
- Strict adherence to watersheds for service area may leave out other important ecological or regulatory considerations
- Mitigation rule actually allows for considerations other than watersheds

- Approaches:

- Develop a watershed unit that is most appropriate for your region
- Allow consideration of ecoregions or other factors (332.8(d)(6)(ii)(A))
- Maintain a strict watershed approach, but allow penalty or ratios for impacts outside of the watershed

Coastal Example:

Tidal habitat with
species vs
watershed
approach



Business Issues Facing Regulators

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- Approaches:

- Develop a watershed unit that is most appropriate for your region
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Business Issues Facing Regulators

■ Timing of project specific mitigation (PRM) vs. mitigation bank credit release

■ Issue:

- 100% mitigation release for Permit Responsible Mitigation vs. phased release for mitigation banks
- Mitigation banks may not have enough credits released to satisfy mitigation needs

■ Approaches:

- Require higher ratios for projects vs. banks
- Allow project specific (w/ higher ratios) at bank site if identified upfront or in bank instrument
- Require funds for “contracted purchase” of credits to be placed in escrow pending release of credits

Business Issues Facing Regulators: cont.

- Allowance of “outside” watershed or core area sales
 - Issues:
 - Mitigation Rule calls watershed approach to mitigation
 - Watershed HUC may be too small to support bank size
 - Approaches:
 - Increase the size of the watershed area
 - Allow mitigation from adjacent watershed with similar ecological standards
 - Allow mitigation from outside of watershed with higher ratio/ penalty factors

Necessary Regulatory Conditions

- Mitigation banking requires demand for credits to be successful (“no mitigation, no need for banks”);
- Consider the economics/business, but always do what’s best for the environment/biology;
- Consistency is the key to a well working wetlands banking market;
- Level playing field between all forms of mitigation is necessary to ensure sustainable program (other forms of mitigation with less standards and less costs will ALWAYS prevail);

“Questions”

