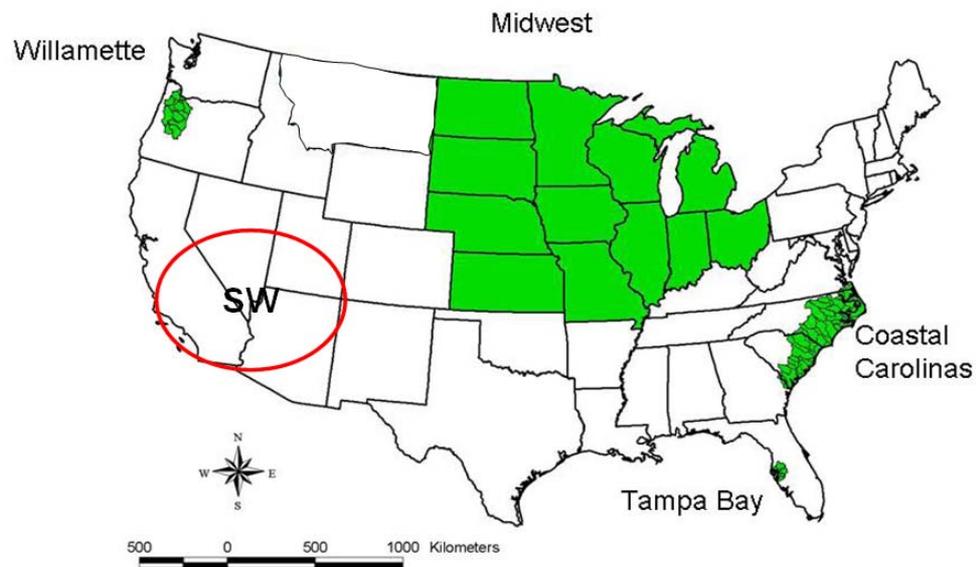


Implementation of Place Based Studies: Coordination with ESRP Themes

7/14/2009

Hal Walker

ORD NHEERL Atlantic Ecology Division



ESRP Organizational Matrix

Projects and Long term Goals →		LTG 3 Pollutant-Specific Studies: 6%	LTG 4 Ecosystem Specific Studies: 23%		LTG 5: Community Based Demonstration Projects: For National, Regional State and Local Decisions: 28%					Theme Leads
	Cross Program Themes and Research Objectives	Nitrogen (6%)	Wetlands (22%)	Coral Reefs (5%)	Willamette (11%)	Tampa Bay (4%)	Mid-West (4%)	Coastal Carolinas (8%)	Southwest (1%)	
Integration, Well-Being, Valuation, Decision Support, Outreach and Education LTG 1 9%	Ecosystem Services and Human Well-Being (3%)									Laura Jackson
	Valuation of Ecosystem Services									Wayne Munns-- Consultation Committee
	Decision Support (6%)									Ann Vega
	Outreach & Education to									Open
Inventory, Map, and Forecast Ecosystem Services at multiple scales LTG 2 31%	Landscape Characterization and Mapping (12%)	} M ³ →								Anne Neale
	Inventory and Monitoring of Services (14%)									Mike McDonald
	Modeling (5%)									Tom Fontaine-- Consultation Committee
Pollutant Specific Studies LTG 3	Nitrogen (6%)				→					Jana Compton
Eco-system Specific Studies LTG 4	Wetlands (22%)									Janet Keough
Project Area Leads	Rick Linthurst and Iris Goodman	Jana Compton	Janet Keough	Bill Fisher	David Hammer	Marc Russell	Randy Bruins/ Betsy Smith	Deborah Mangis	Nita Tallent-Halsell	Rick Linthurst and Iris Goodman
Hal Walker: Place Based Coordinator										

Implementation of Place Based Studies: Cross-Place Coordination with ESRP Themes

7/14/2009

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ORD NHEERL Atlantic Ecology Division

ESRP Themes



Place Based Projects

- o Mapping
 - o Monitoring
 - o Modeling
 - o Pollutant Specific / Nitrogen
 - o Habitat Specific / Wetlands
 - o Decision Support Framework(s)
- National, Regional, Local
 M³ / Bayesian approaches

- o Coastal Carolinas
- o Future Midwestern Landscapes
- o Southwest
- o Tampa
- o Willamette

- 1) *Current emphasis is improving coordination between Themes & Places*
- 2) *Cross Place Coordination is not another ESRP Theme or Project*
 → *We do not have separate “cross-place research” implementation plans.*

Attributes of Place based research

- o Initially PB studies were primarily “inward looking” focused on “within place” issues.
- o Alternative futures orientation common to all PB studies.
Conceptual Frameworks developed within each Place Based study.
- o Some common drivers of change among the places: e.g. landuse change / governance, regional economies. FML not dealing with climate change.
- o Some common themes (Nr, Wetlands) & ecosystem services & benefits trade-offs of concern in all the places: e.g. food & fiber production, water quality & quantity.
Need for Mapping, Monitoring, & Modeling (M³). Common regulatory issues.
- o At this point, only a few planned ecological cross-place comparisons, e.g. for Nr, Wetlands. => Which structural & functional comparisons => ES Endpoints.
- o Different biophysical, socio-economic & governance contexts among “places”.
Some very interesting economics / benefits trade-off questions among “places”.
- o Other cross-place research opportunities are being identified
 - e.g. regional comparisons of benefits trade-offs among major economic regions

Cross Place-based Research Coordination

Coordination Goals

- o Identify what should be common research issues among the place-based studies, and what should not.
What can be scaled down from national / regional scale (M³), or up from PB scales?
- o Develop common research activities (e.g. mapping spatial extent of core ecosystem services using similar methods across the places). Are there opportunities we need to consider? **Intersections between ESRP Themes: 1) Mapping, 2) Nr (slide 8), 3) Wetlands, 4) possibilities related to mapping, monitoring, modeling & valuation**
- o Find other sites nationally, e.g. at Long Term Ecological Research (LTER) sites, other agencies' sites; and explore potential synergies and cost-effective collaborations.
Nr Conceptual Framework (LTER DP 2007) & "Working Lands" Conceptual Framework (slide 11)
Exploring collaborative opportunities with other agencies (e.g. USGS's ES research).
- o Explore opportunities for ESRP to participate in Millennium Assessment Follow Up (MAFU) studies:
 - A) advancing knowledge base on ecosystem services & human well-being;
 - B) strengthening policy implementation at the country level; and
 - C) outreach / disseminate of findings and framework to relevant stakeholders.**MAFU is still getting organized. Deferred consideration of this until later.**

Cross Place Coordination Approach

- o **Approach (2009)**
 - o Monthly coordination calls among Theme Leads & PB Leads
 - o Theme “topic of the month” chosen by PB leads
 - o Follow-up action items for PB & Theme leads.
 - o Improvements in Theme research implementation plans (Mapping & Nr).
 - o New PB efforts (Coastal Carolina & Southwest learning from planning & early successes of other more mature PB efforts)

- o **Where we go next for cross place based approach (2010 and beyond)**
 - o Cross place comparisons,
e.g. Nr attenuation in stream networks, now built into Nr Imp Plan
 - o Opportunities for cross PB comparison of other services provided by stream networks, wetlands, etc.
e.g. being built into other theme research plans (e.g. wetlands)

- o EPA & States collecting information on variations in ecological conditions
e.g. from ongoing Office of Water National Aquatic Resource Surveys
useful for national assessment & regional comparisons:
lakes & reservoirs , rivers & streams, coasts, wetlands.

} Regional M³ comparisons

Place Based research approach:

Place Based Efforts are relating effects of multiple stressors on ecosystem services, at multiple scales (space and time) in multiple types of ecosystems.

Place Based Efforts are using future scenarios to characterize potential changes in these services & likely effects of human well-being. Scenarios need to be constrained to be manageable.

The value of these services could be expressed in monetary and non-monetary terms.

Given the complexities (mult- multi- multi-), what research activities should be common among the place-based studies, and what should not?

→ 1st consider the Conceptual Framework for Nr

→ 2nd consider the differences between FML and Tampa

Conceptual Framework for ESRP Pollutant Specific-Nitrogen for organizing causal pathway & research questions (modified from LTER decadal Plan 2007).

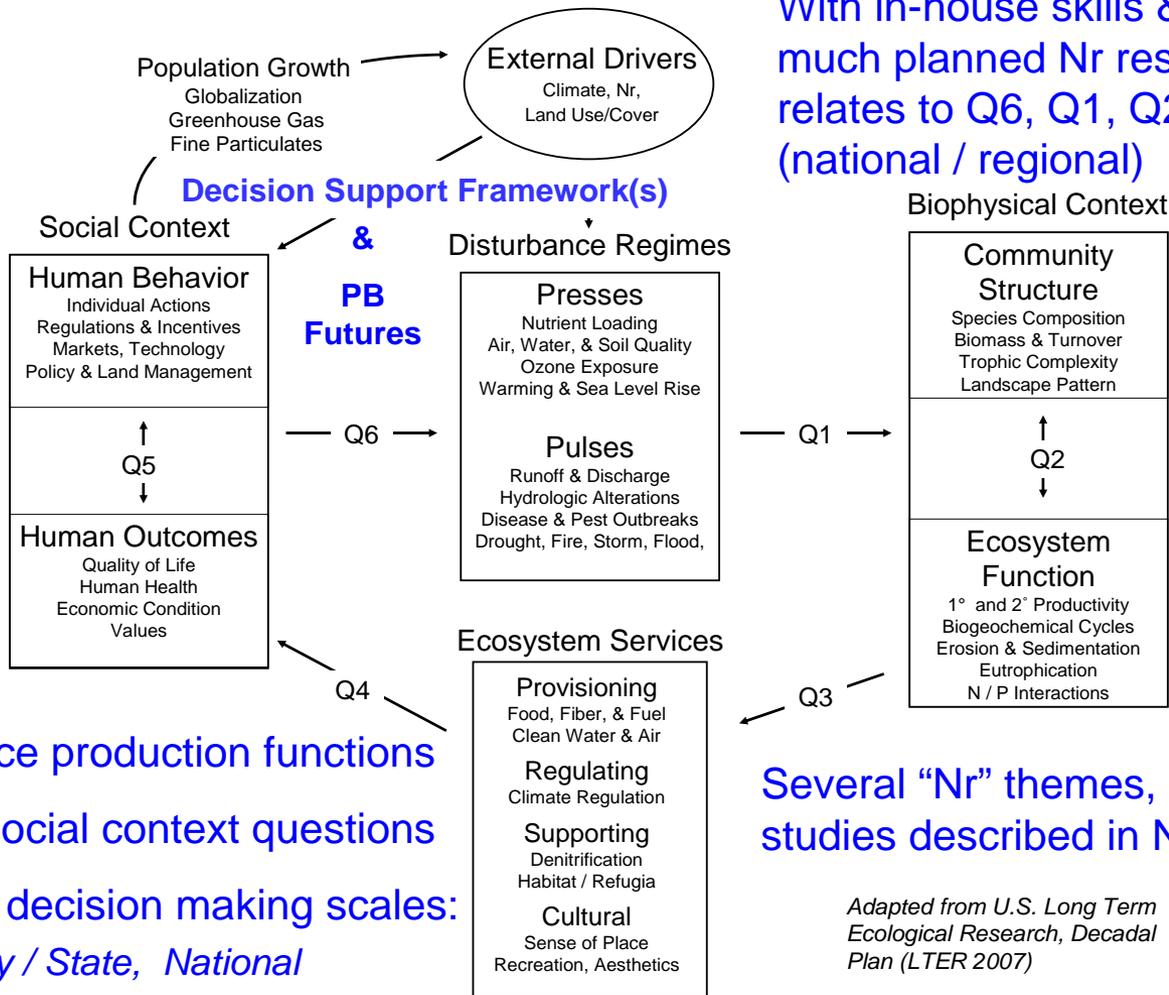
Expert Hires:
For PB studies, can help us build capacity to address economic and social context questions



PB efforts can get at:

- Q3 Ecosystem service production functions
- Q4 Connections to social context questions
- Q5 Futures oriented decision making scales:

8 Individual, County / State, National

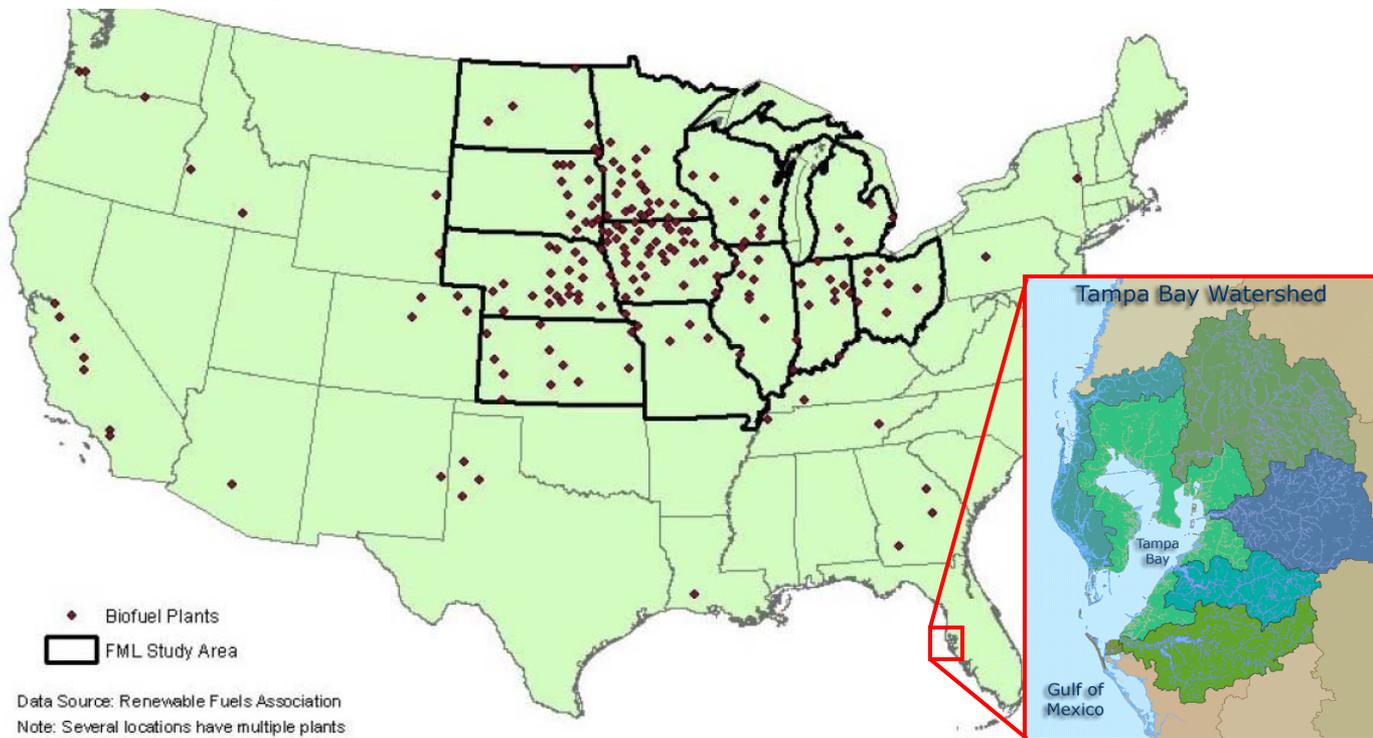


With in-house skills & capacity, much planned Nr research relates to Q6, Q1, Q2, & Q3 (national / regional)

Several "Nr" themes, & regional case studies described in Nr Imp. Plan

Adapted from U.S. Long Term Ecological Research, Decadal Plan (LTER 2007)

Comparing and contrasting two PB studies: FML (largest) & Tampa (smallest)



PB and other ESRP research can contribute to different MAFU components:

Drivers of Change: Landuse (e.g. biofuels, sprawl), Nr, etc.
PB Consequences Differ: Different biophysical and social contexts
Decision Making Scales: Individual, County / State, & National Policy

- A) advancing knowledge base on ecosystem services & human well-being;
 - B) strengthening policy implementation at the national level; and
 - C) outreach / disseminate of findings and framework to relevant stakeholders
- All PB Research involves A) & C). Some may strengthen national policy

What you will see in subsequent presentations

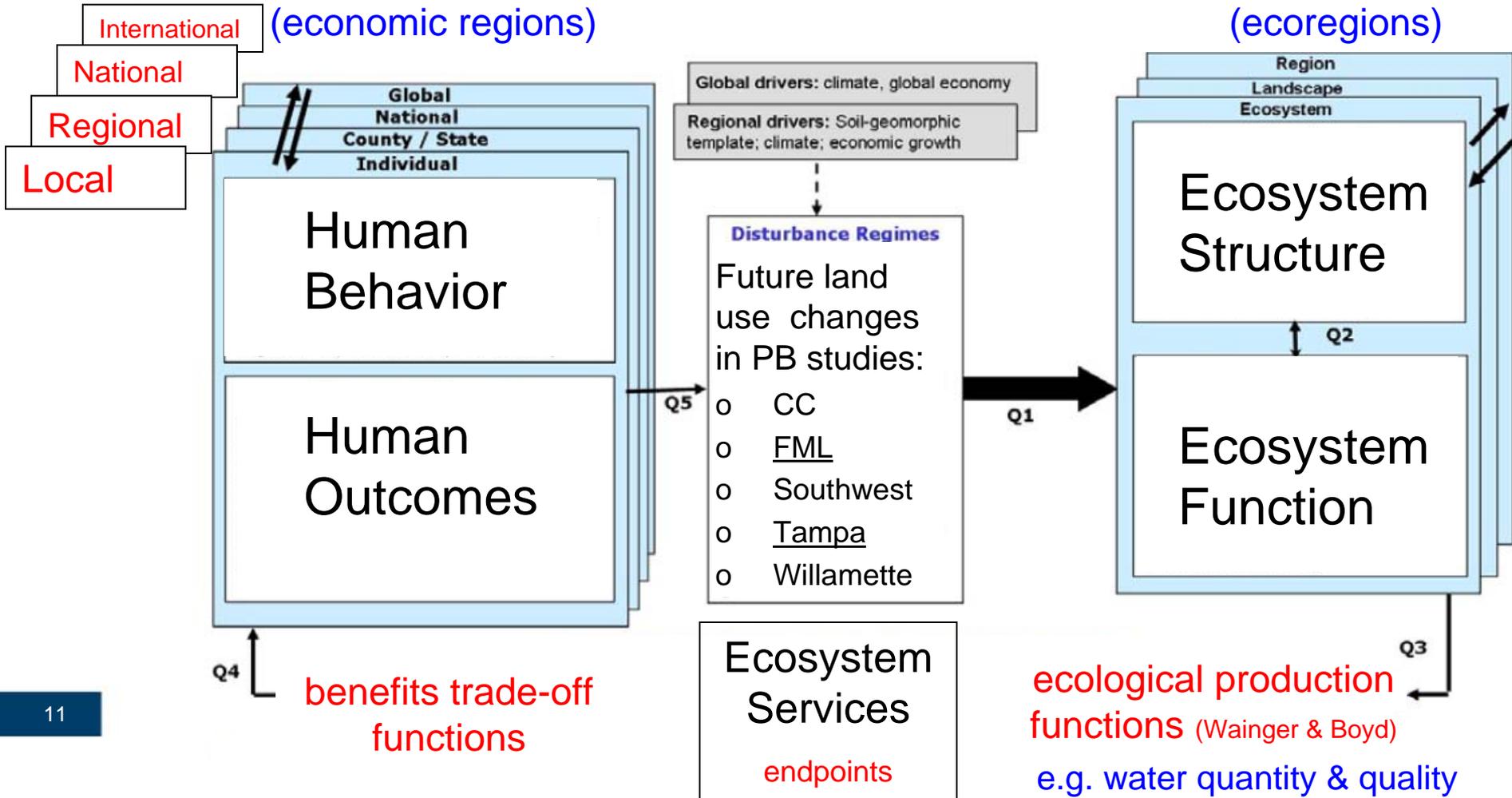
- o PB research: Future Midwestern Landscapes (FML)
- o PB research: Tampa (*scaling up from plot and lot level*)
- o Major differences in biophysical and social contexts
- o Major differences in issues of concern
- o Major differences in spatial scales & research approaches (M^3)
- o Somewhat different conceptual frameworks and approaches needed to address different research questions, and different decisions

Comparability?

How to think about cross-place / cross-regional comparisons at a range of biophysical and social context scales

ILTER Conceptual Framework for organizing causal pathway questions related to social and biophysical contexts in management of “working lands” (ILTER DP 2007)

Regional comparisons: benefit trade-offs & ecosystem service production functions (economic regions) (ecoregions)



Expected impacts of Place based research

- o Short Term
 - o Substantial progress within each PB effort (FMP & Tampa examples)
 - o More coordination among PB efforts and ESRP Themes
 - o PB estimation of a variety of ecological production functions
 - o Benefit trade-off analyses within the “places”
 - o Improved decision making within the “places”
 - o Some results may be compared among places (e.g. Mapping, Nr, Wetlands).
 - o PB links to regulatory (air, water) and non-regulatory decision making related to wetlands mitigation banking, and landuse, e.g:agricultural practices (FML), and landuse planning (Tampa)
 - o Some PB findings will be relevant for improving national policy implementation
- o Long-Term
 - o Additional association & interaction with other agencies & NGOs
 - o Opportunities for cross-place / cross-regional comparisons (e.g. for Nr using regional SPARROW, and NEWS models), coupled to Bayesian approaches to relate nutrient fluxes to ecosystem production functions and benefits trade-offs.
 - o Association with international ecosystems service research, e.g. MAFU studies