

Strategic Habitat Conservation

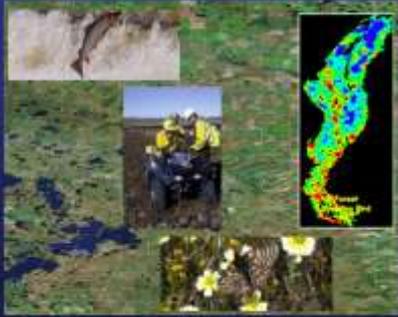
An Introduction to the Service's Conservation Business Model

Gulf Coastal Plains & Ozarks LCC Workshop
March 2010



Strategic Habitat Conservation

Final Report of the
National Ecological
Assessment Team



July 2006

...a conservation approach that seeks to define, design, and deliver landscapes that support and sustainable populations of fish and wildlife and the ecological processes on which they depend.

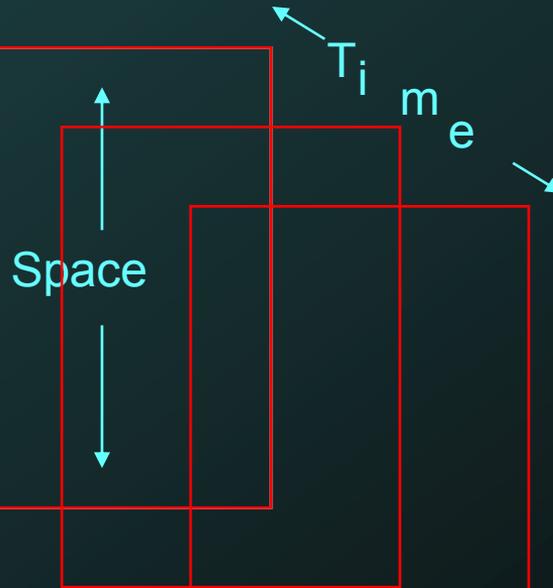
Requires:

Science

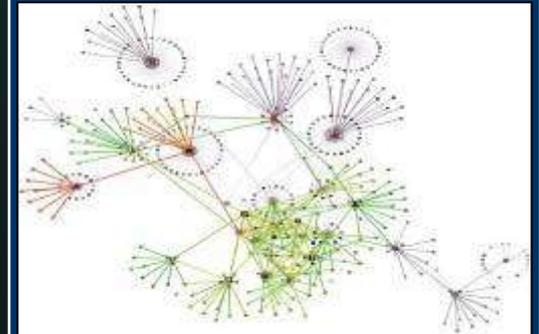


Multi-Scale

Interdependence



Landscape Conservation
Cooperative
(Conservation-Science
Network)



What is SHC?

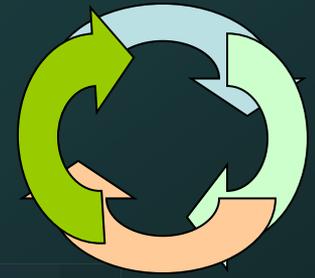
- a science-based approach to conservation focused on providing landscapes capable of sustaining trust species populations at objective levels.



- This approach is founded on an adaptive, iterative process of biological **planning**, conservation **design**, conservation **delivery**, **monitoring & research**.

- In spite of the name “Strategic Habitat Conservation,” SHC is not just about habitat. SHC is intended to provide a **strategic framework** for Service conservation actions that address both habitat and non-habitat limiting factors (NOT Climate Change only).

Why now?



- An increasing awareness of the importance of landscape context to 'site scale' function
- More science-intensive approaches to planning
 - ✓ Model-based
 - ✓ Spatially explicit
 - ✓ Predictive
 - ✓ Monitoring and Research for Decision Making
- An ever-increasing emphasis on biological accountability and socially viable solutions



Setting clear objectives, then systematically figuring out how to achieve them most efficiently using our own resources and by working with partners, and routinely evaluating our progress.

Being Strategic !

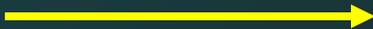
Everything else is details, but these three features are exceptionally important:

- explicit objectives
- models that describe the system
- accountability

How is this approach different?

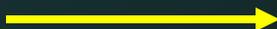
Program-based  Resource-based
(through programs)

Agency-specific  Collaborative

Opportunity-driven  Science-driven/
Strategic

Site-oriented  Population and
Landscape-oriented

Planning-averse  Planning-intense

Monitoring & Evaluation
optional  Monitoring & Evaluation
Evaluation needed

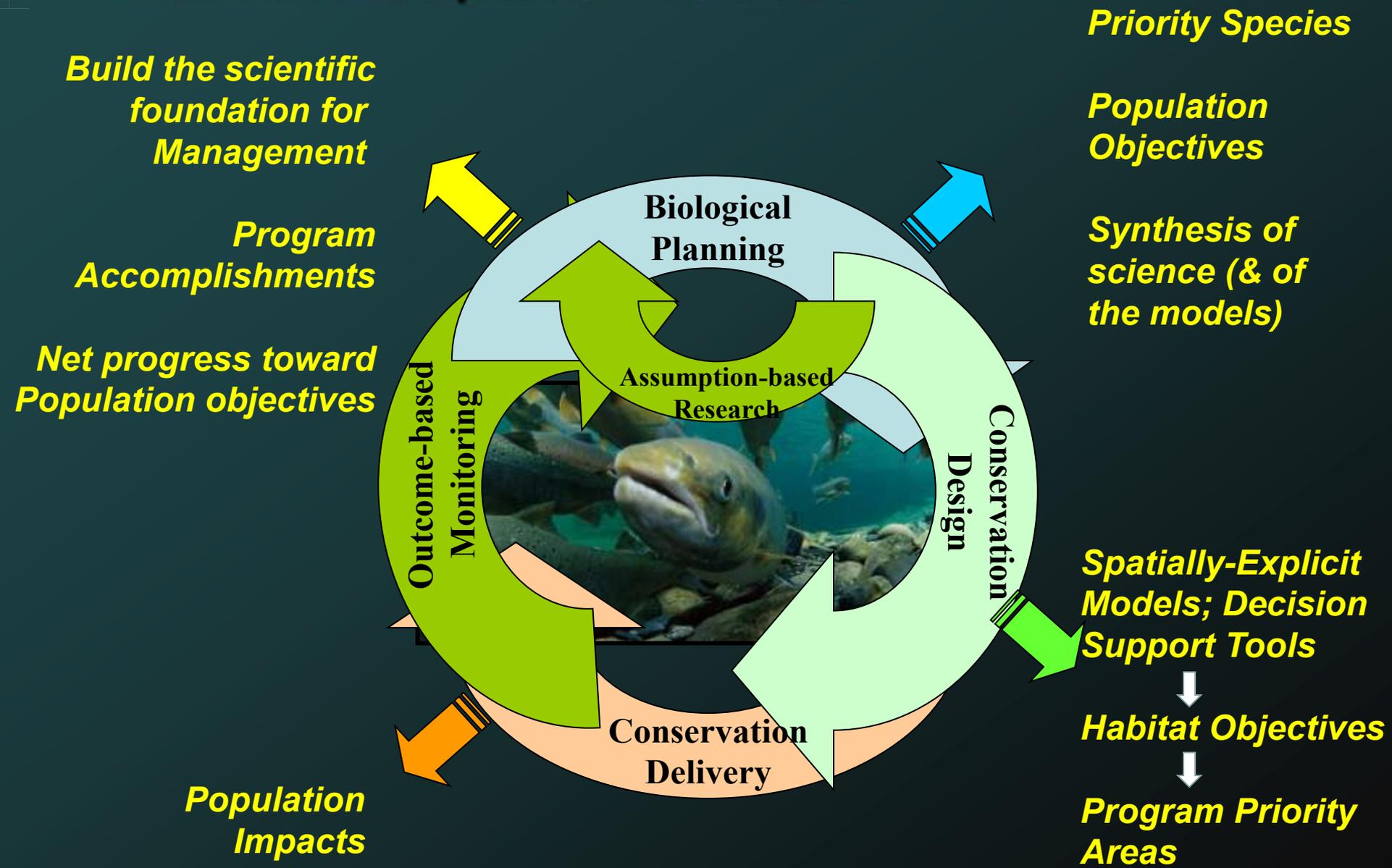
Management actions  Management actions are
goals based on resource goals

In SHC, management actions derive from population/ecological goals;

i.e. mgt actions (acres and miles) are no longer the goal, they are means to the goal



The Basic SHC Framework is an Iterative, 5-Element Adaptive Process



PLANNING & DESIGN:

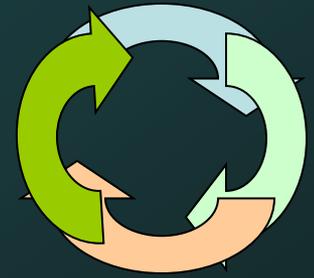
Why focus on populations?

**Population status is a measurable index to
ecosystem integrity and health
AND
it reflects our mission**

**Habitat management is an essential tool in conserving
populations of many (but not all) species.**

**The Service is mandated to conserve populations.
We are also empowered to maintain healthy ecosystem.**

Models that describe the system

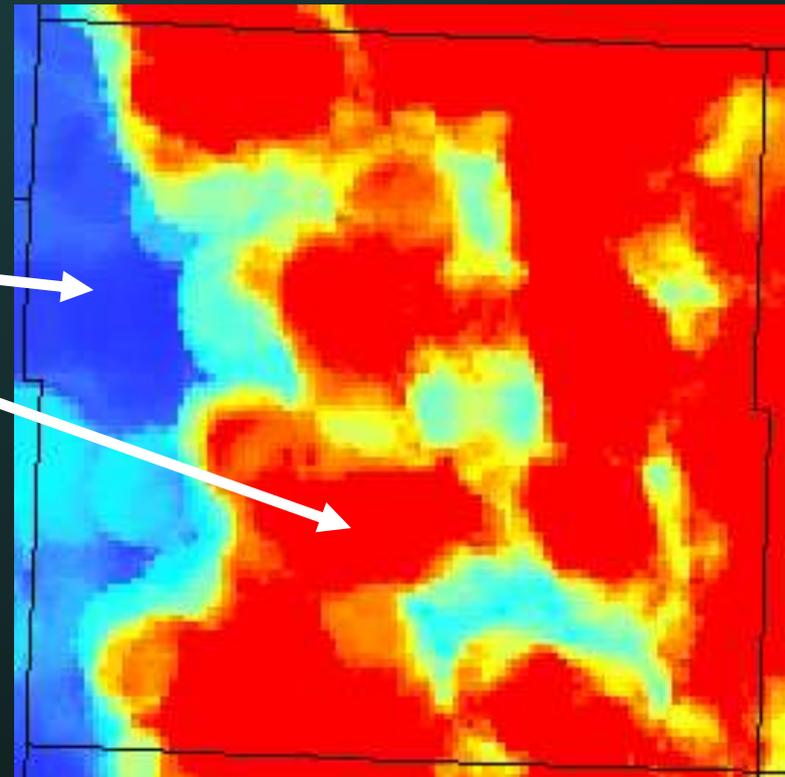


STRATEGIC conservation is predicated on idea that different landscapes have different potentials to affect populations and that managers are willing and able to prioritize their actions.

Breeding duck pair density,
Grant County, MN

2 pair/mi²

40 pair/mi²



40 pairs / 2 pairs = a 20 fold increase in management efficiency if mgt. costs at the two sites are equal.



Models are designed to
incorporate uncertainty
“All models are wrong ...
in a manner that is ...
... but some are useful.”

- Transparent

- G.E.P. Box

- Testable

- Refinable

= **Accountable** .

...what the system “needs to look like...”

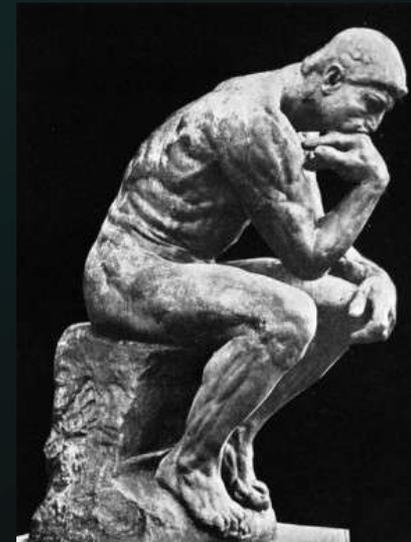
Challenges to being STRATEGIC

- Fostering a culture of strategic conservation and a renewed emphasis on science.
- Nurturing the emerging capacity for Biological Planning and Conservation Design.
- Employees uncertain
INITIATIVE ALERT !
- Leading and managing change.



Questions for the SHC practitioner:

- How much effort is directed toward opportunity vs. targets?
- How cohesive is the partnership?
- What are the population objectives?
- What are the priority areas based on?
- What are the specific habitat objectives (how much of what quality and where)?
- Who, how, and what is being monitored?
- And is that information feeding back to:
 - Revise models
 - Evaluate accomplishments
 - Assess net progress (toward pop. objectives)



SHC Example:

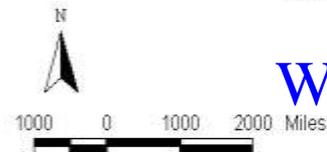
Multispecies management: Horseshoe Crab & Red Knot





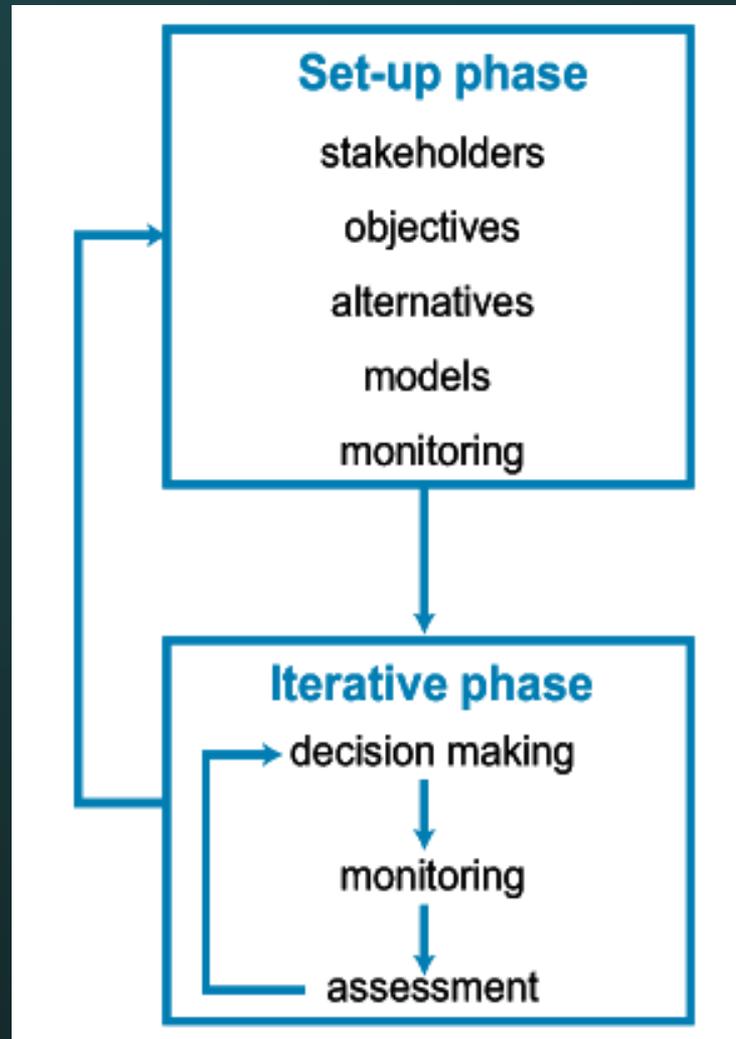
Red knot, *Calidris canutus*
Breeding, migration, and wintering grounds

Breeding Area



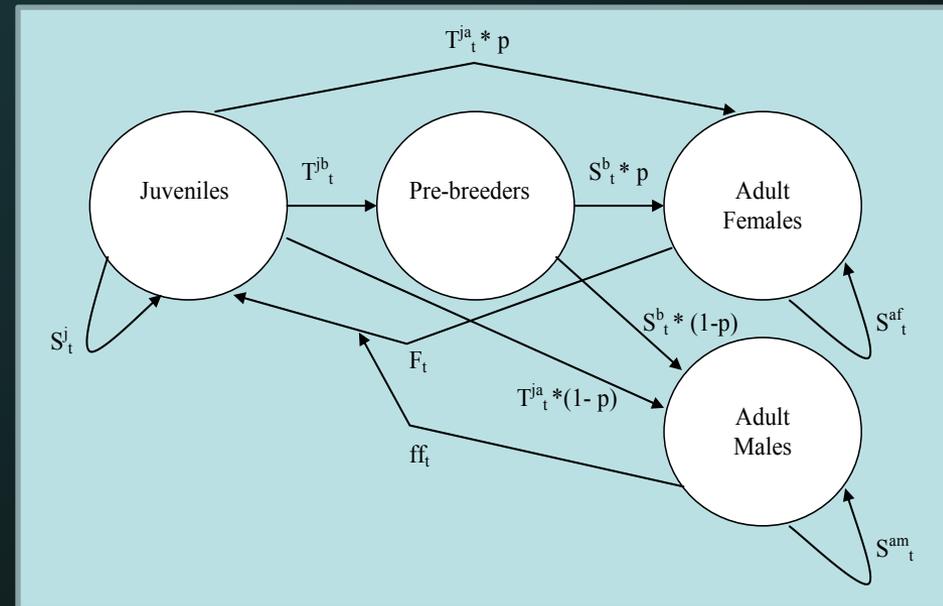
Wintering Area

Double-loop Learning

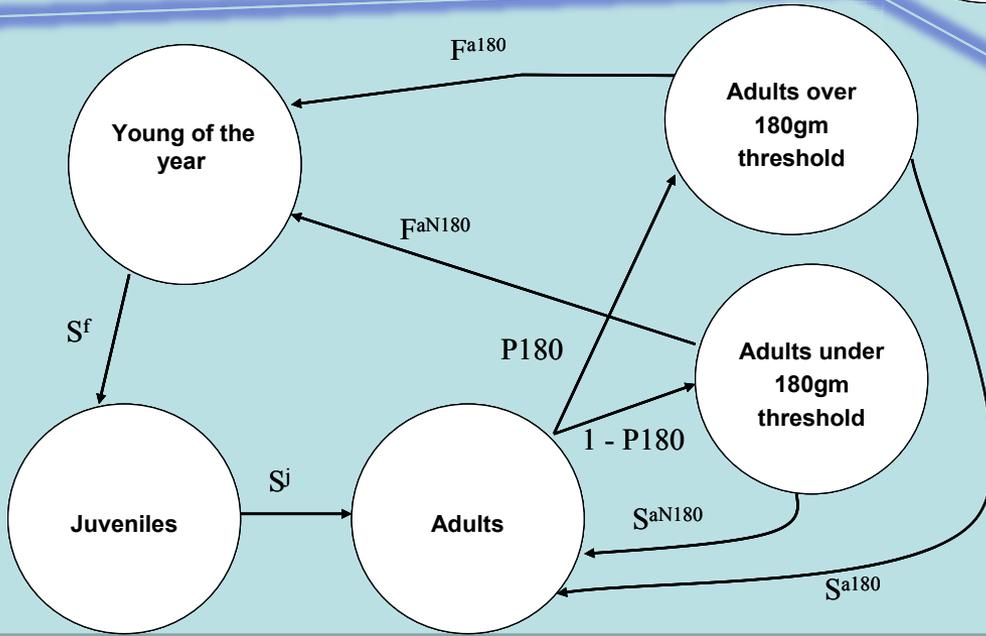
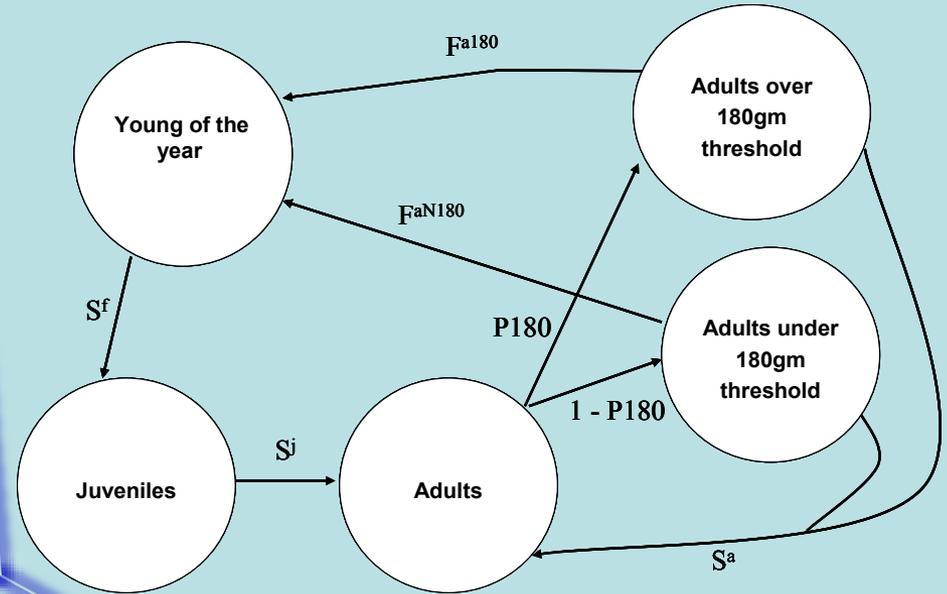
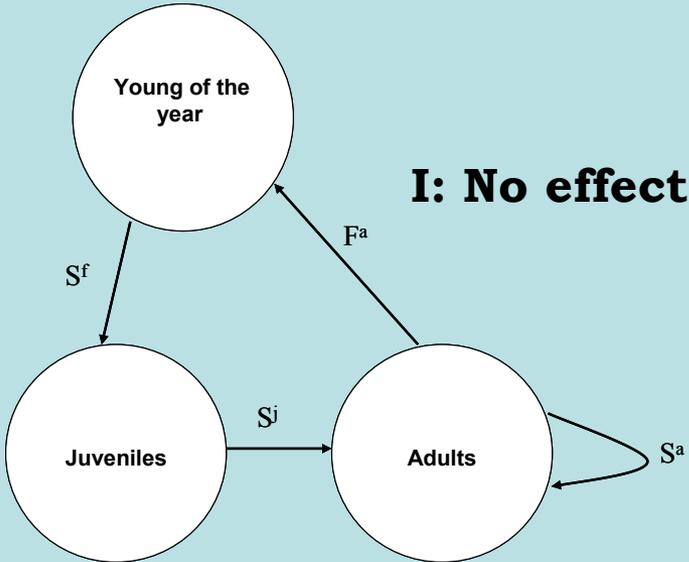


Predictive Modeling: HSC Models

- Age/Stage-structured
 - Juv survival = 0.88
 - Transition to pre-breeder = 0.093
 - Transition to adult = 0.0007
 - Pre-breeder survival = 0.97
 - Adult survival = 0.64 (males) and 0.63 (females)
 - Probability of entering adult stage as a male (1-p) is 0.52 based on equilibrium sex ratios; un-harvested and sex-specific maturity



Alternative Predictive Models – Red Knot



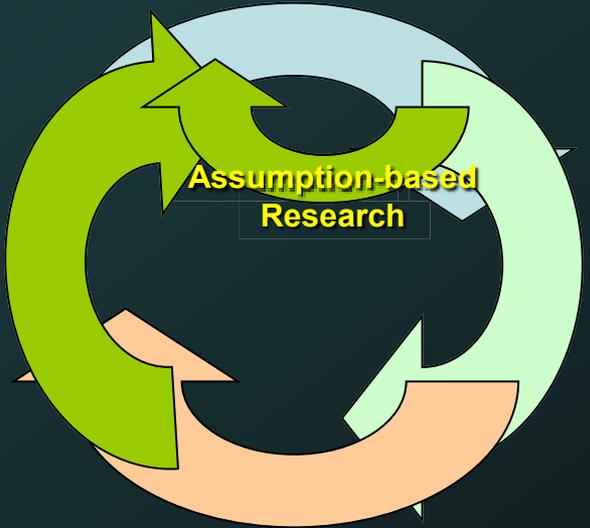
III: Fecundity and survival effect

SHC Example:

Multispecies mgt: Horseshoe Crab & Red knot pop'ns

ASMFC: Fishery Compliance, Int'l shorebird teams

Monitoring and Research



Biological Planning

ASMFC + ESA Recovery Plan : Pop'n Objectives

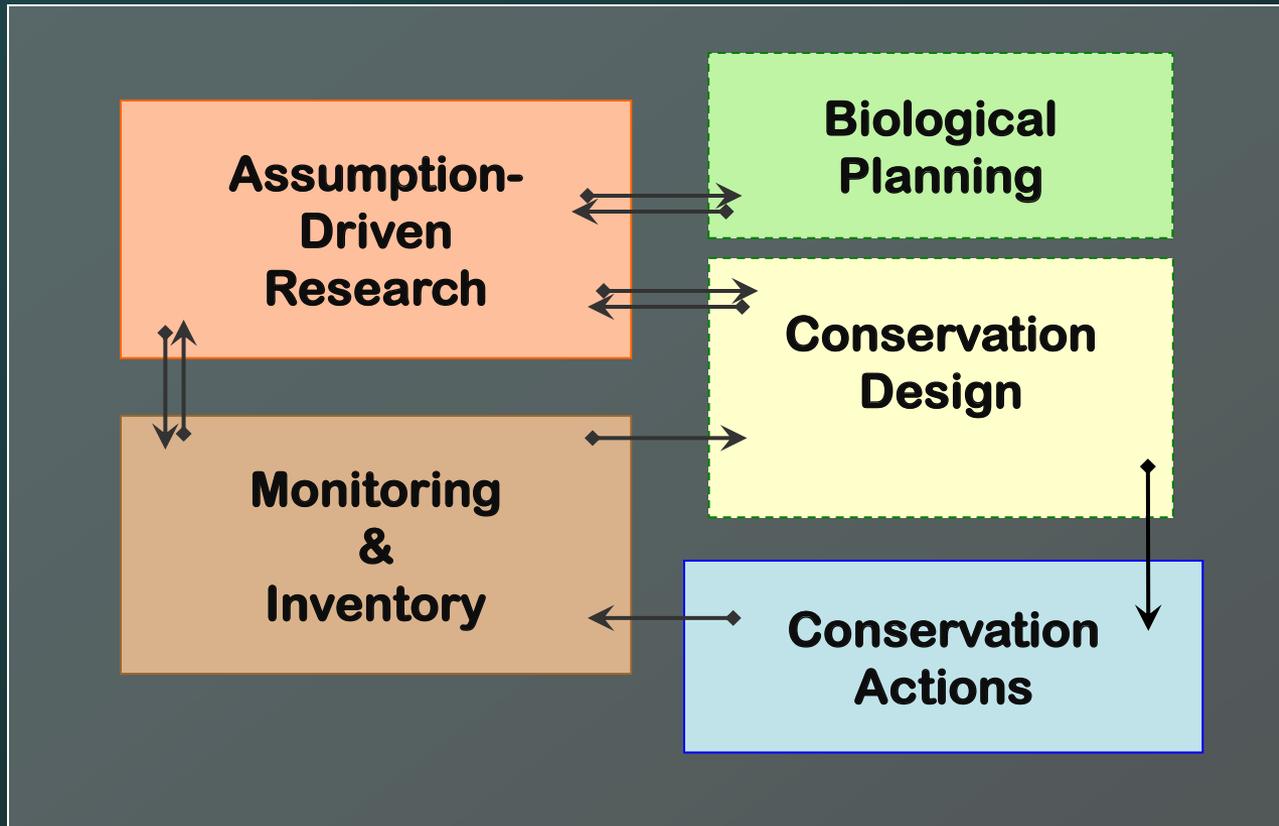
Conservation Design

ARM WG: Pop'n response to alternatives

Conservation Delivery

ASMFC Board: Sets Harvest Regs

Wheel fatigue ? Interconnectivity

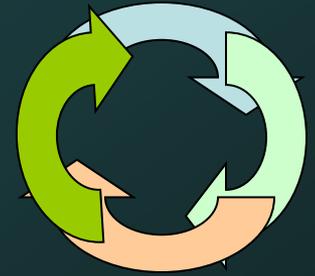




**SHC -
Landscape
Conservation**

CORBIS-BETTMANN

“Management vs. Leadership”



“**Management** is a set of processes that can keep a complicated system of people and technology running smoothly. The most important aspects... include planning, budgeting, organizing, staffing, controlling, and problem solving.”

“**Leadership** defines what the future should look like, aligns people with the vision, and inspires them to make it happen despite the obstacles.”

“**Successful transformation** is 70 to 90 percent leadership and only 10 to 30 percent management.”



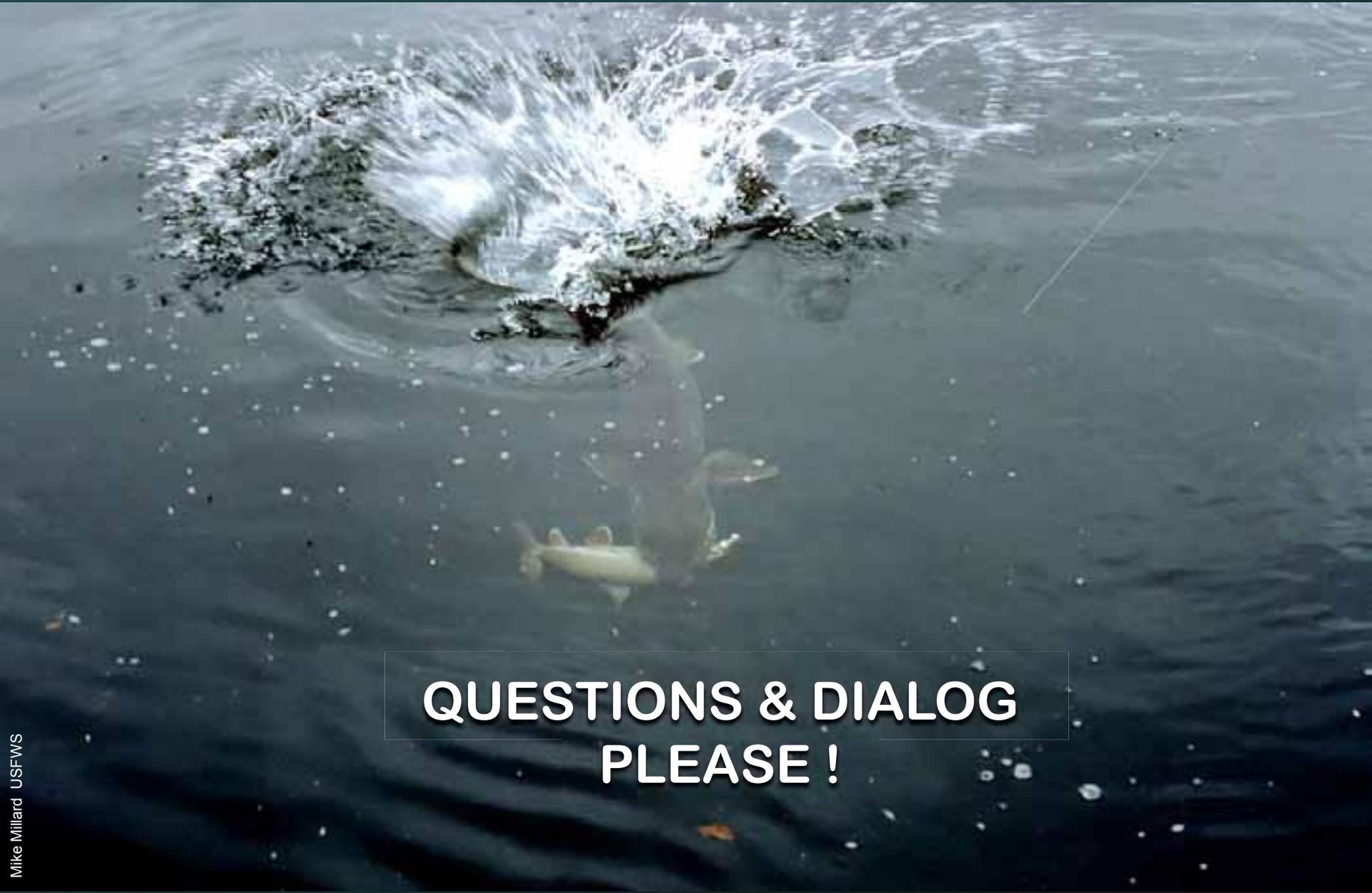
so where are we now ?....

The letters 'LCC' are rendered in a bold, yellow, 3D-style font with a slight shadow effect, set against a dark blue background. Each letter is contained within a thin white rectangular border.

- LCCs have NOT replaced SHC !
- LCCs are a functional framework.
- **SHC** is a operational framework or a “business model”

**“Upon the conduct of each
depends the fate of all.”**

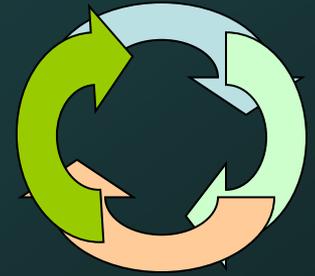
-- Alexander the Great



QUESTIONS & DIALOG

PLEASE !

A National Geographic Framework



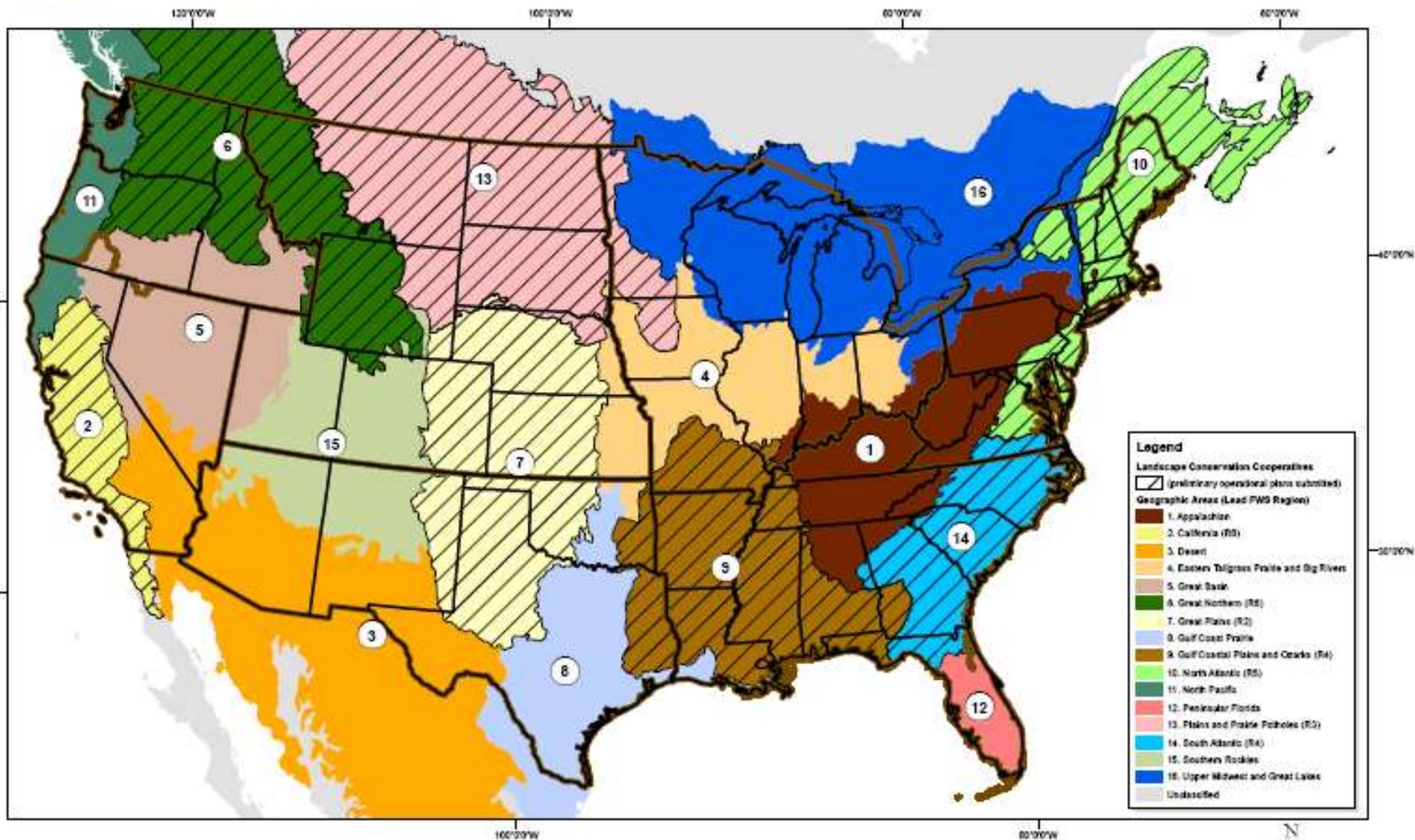
- A national geographic framework provides spatial context for biological planning and conservation design at landscape and population scales.
- The framework aims to put science in the right places so resource managers have access to the decision-making tools they need – especially as we work together to develop national strategies to help wildlife adapt in a climate-changed world.
- The Service will use the framework as a base geography to help design the first generation of LCCs.





U.S. Department of the Interior

Landscape Conservation Cooperatives - Interim Geographic Framework





PRESS TIME

TO HOLDS

SPI
AGENTS OFFICE
SAFETYPHOTO
INTERNATIONAL

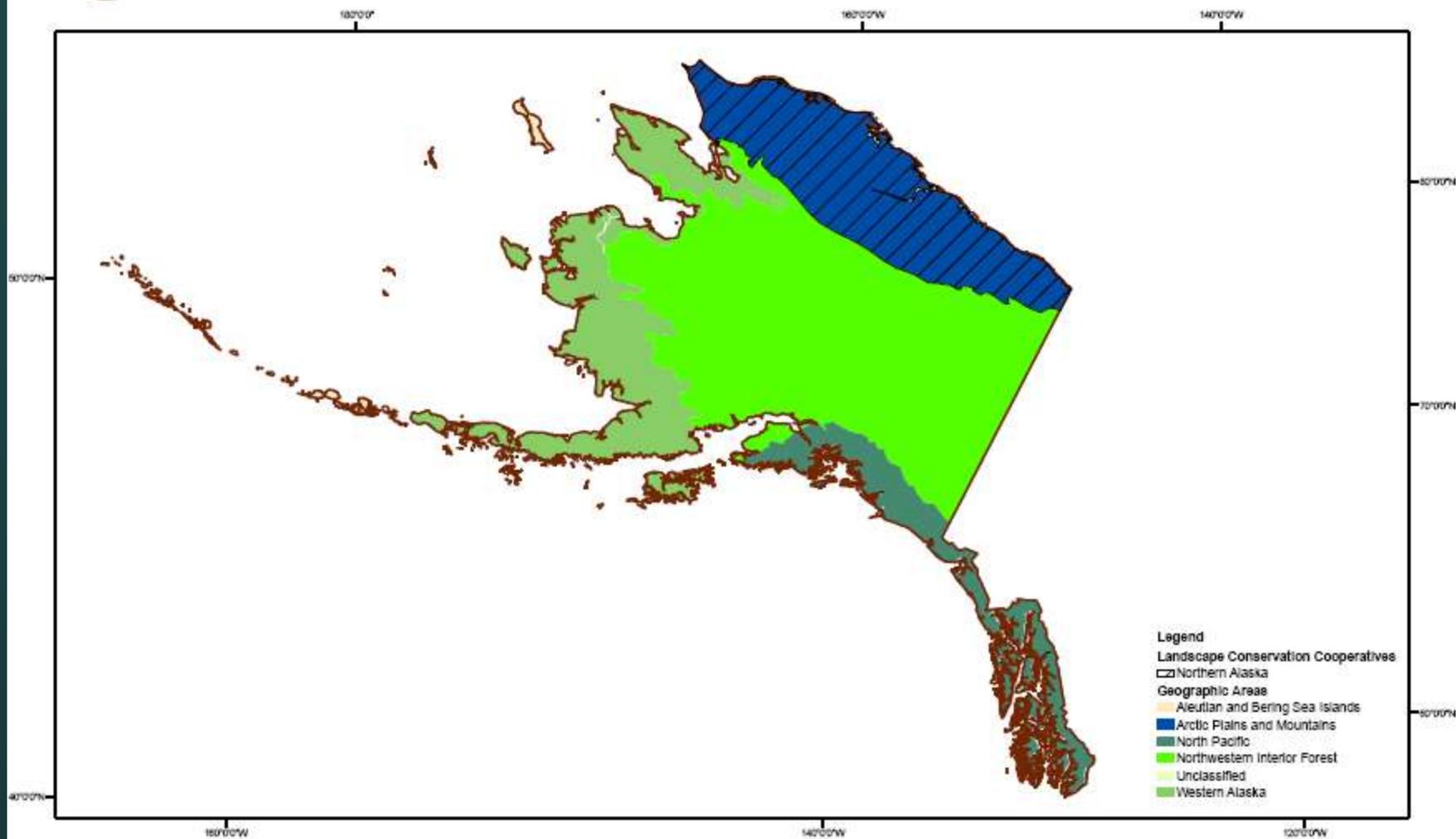
U.S. Department of the Interior
Bureau of Land Management



U.S. Fish and Wildlife Service

Proposed Landscape Conservation Cooperatives FY2010

Alaska



Legend
Landscape Conservation Cooperatives
Northern Alaska
Geographic Areas
Aleutian and Bering Sea Islands
Arctic Plains and Mountains
North Pacific
Northwestern Interior Forest
Unclassified
Western Alaska

0 105 210 420 630 840 Miles

0 265 530 1,060 1,590 2,120 Kilometers



Albers Equal Area Conic
NAD83

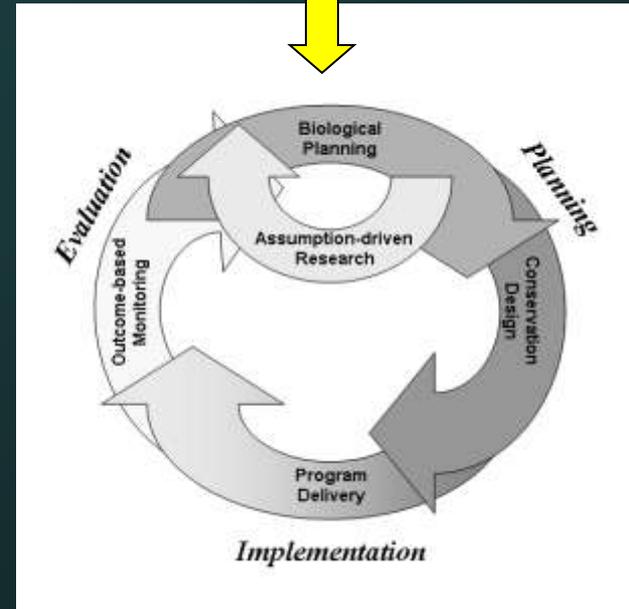
Our Business Model

**Sustainable Ecosystems
(Populations)**



The outcomes we need
to achieve

= f (Administration, Outreach, LE,
Conservation Delivery)



The big attention getter

We challenge you to
figure out how you can
make the greatest
contribution to the
Service achieving this
mission, whatever your
present role in the
agency.