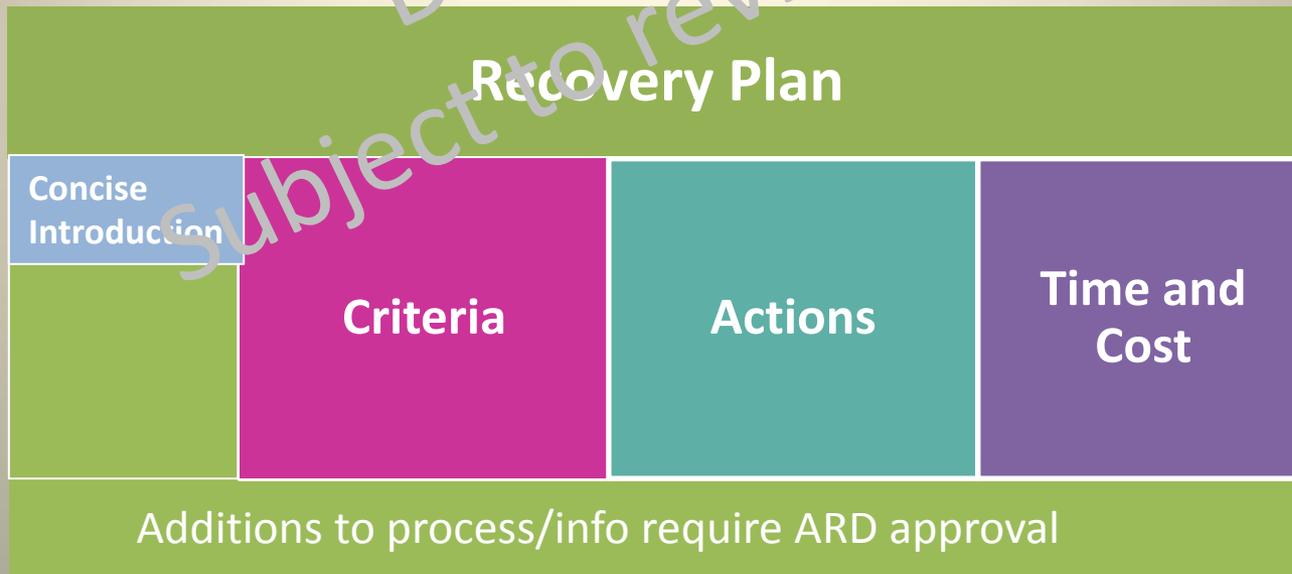




What is the Recovery Enhancement Vision?





We all want to secure and recover our species - that is why we come to work each day



150 + listed species with no recovery plan

MDL: 250 + species to assess status, if decision is to list, prepare recovery plans

**Shrinking
budget**

*Draft:
Subject to revision*

**Shrinking
workforce**



Status Quo...





Status Quo Recovery Planning:

Plans are static and inflexible

- Planning often occurs under conditions of extreme uncertainty
- New information and understanding require adjustments in a species' recovery program
- Revising plans can take as long as developing a new plan
- Revising a current plan takes a lower priority to developing plans for species without plans
- As a result, many plans are outdated and inaccurate



Recovery Transformation Objectives:

1. Minimize costs for development of recovery documents
2. Maximize efficiency of completing recovery documents
3. Maximize effectiveness of recovery implementation
4. Maximize Integration across the T &E Program
5. Minimize cost and time of implementing selected alternative



Recovery Transformation

Guiding Principles:

1. Efficiency and Flexibility
2. Creativity and Effectiveness
3. Decision Support
4. Integration and Communication



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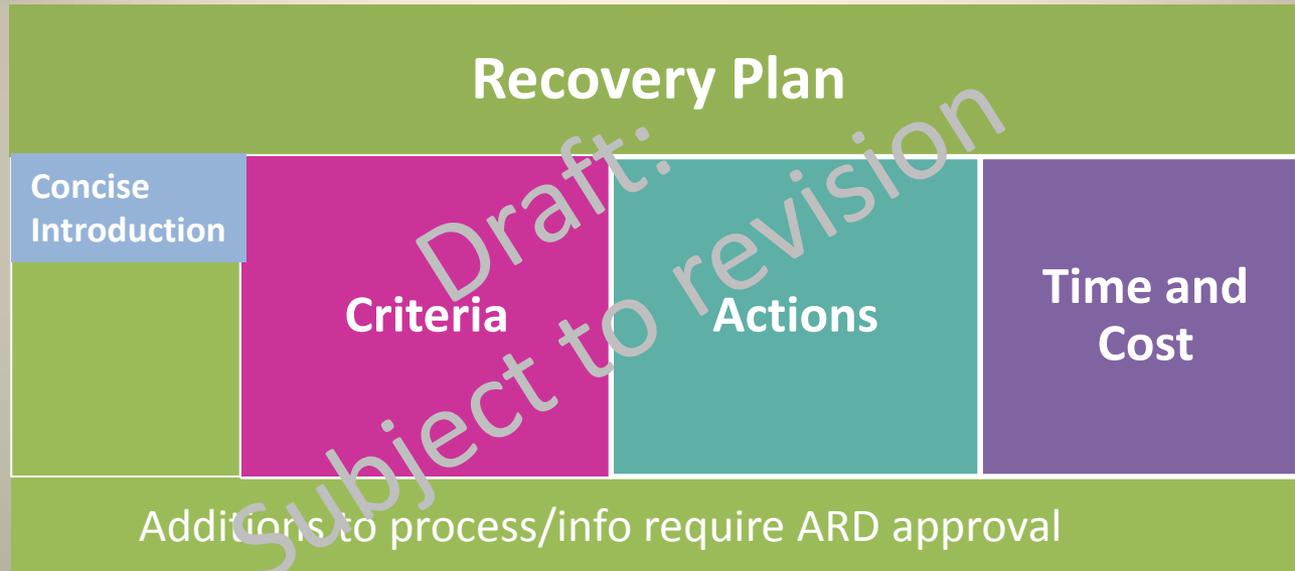


Recovery Transformation Assumptions

- An up-to-date SSA is available
- REV planning is initiated immediately upon completion of listing
- Underlying analyses upon which recovery plan is based will be completed and documented elsewhere (usually SSA)



Recovery Enhancement Vision





How can we do a plan without a background and the analysis that gives us?

Species Status Assessment

- **Ideally, the SSA is developed for candidate or listing determination. Includes the ‘background’, including species biology and threats and analysis of these to determine current status. The strategy, objectives and criteria should flow directly from the SSA.**
- **The recovery plan can then focus on identifying what recovered looks like, the actions needed to get there, and how to implement them.**
- **This will focus recovery on implementation and not on re-doing the biology background and threats assessments.**

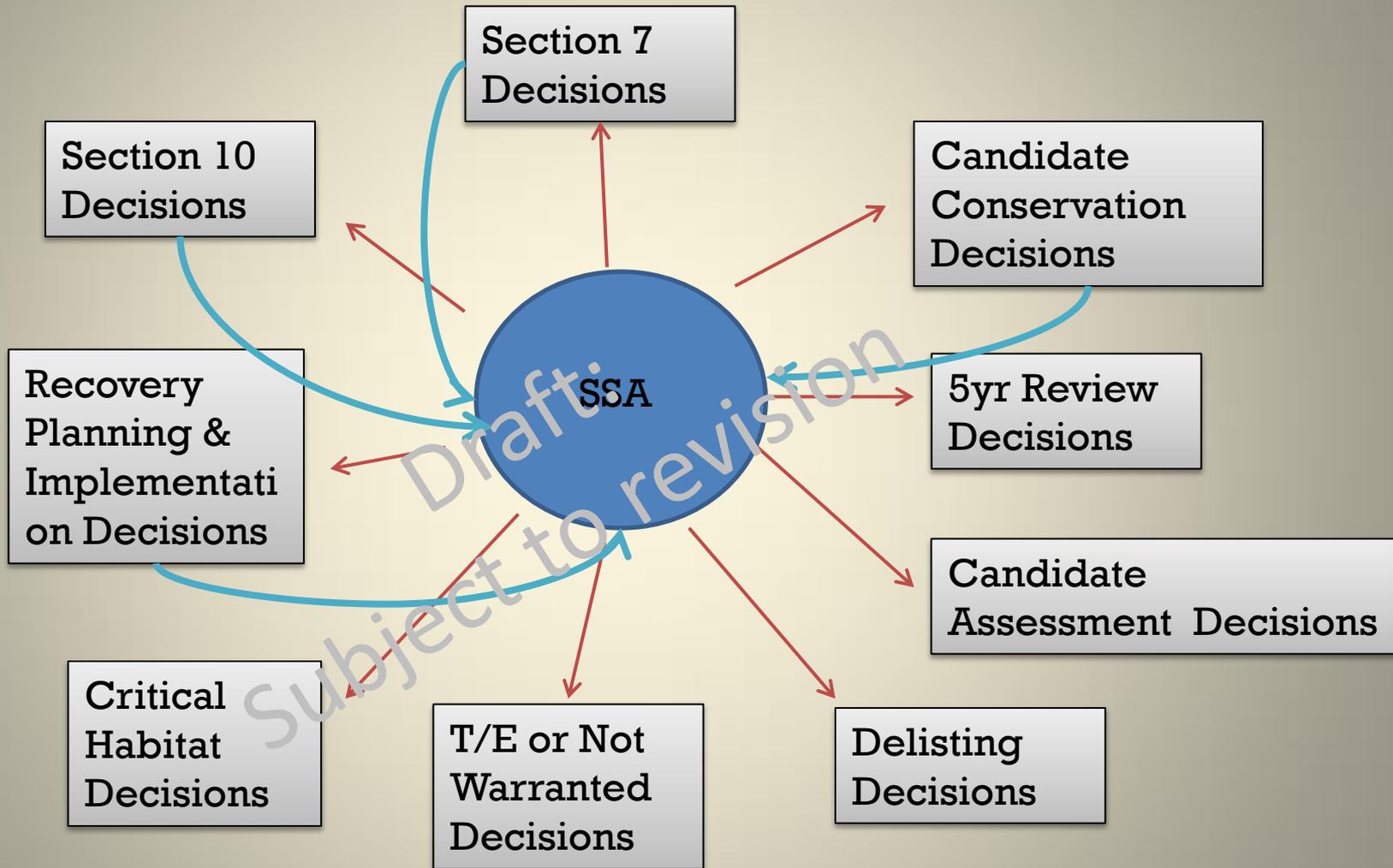


Endangered Species Integration with SSA as unifying analytical framework





Foundation for ESA Decisions





Species Status Assessment Informs Recovery Planning

- **Species Status Assessment replaces Background section of traditional recovery plan**
- **It contains the analysis of what a species needs to sustain populations in the wild over time, and evaluates the “threats” that have affected it in the past, are currently affecting it and will affect it in the future**
- **Species Status Assessment is living: can be updated as new information becomes available**
- **Species Status Assessment is a separate document, referred to by recovery plan; is not included in public review and comment process for recovery plan (but is available for reference with draft and final recovery plan)**



Recovery Implementation Strategy (RIS)

- Short-term, revisable implementation document
- Who does what, when, where
- Actions (from Recovery Plan)  Activities (in RIS)

RP Action

- Establish additional populations in a drainage (recovery unit, management unit, etc.)

RIS Activities

- Identify # populations necessary
- Survey habitat to identify suitable sites
- Restore habitat if/where necessary
- Determine whether to translocate from existing or captive breeding
- Identify source population(s)
- Introduce/translocate
- Monitor
- Revise approach if monitoring indicates need



REV Document relationships

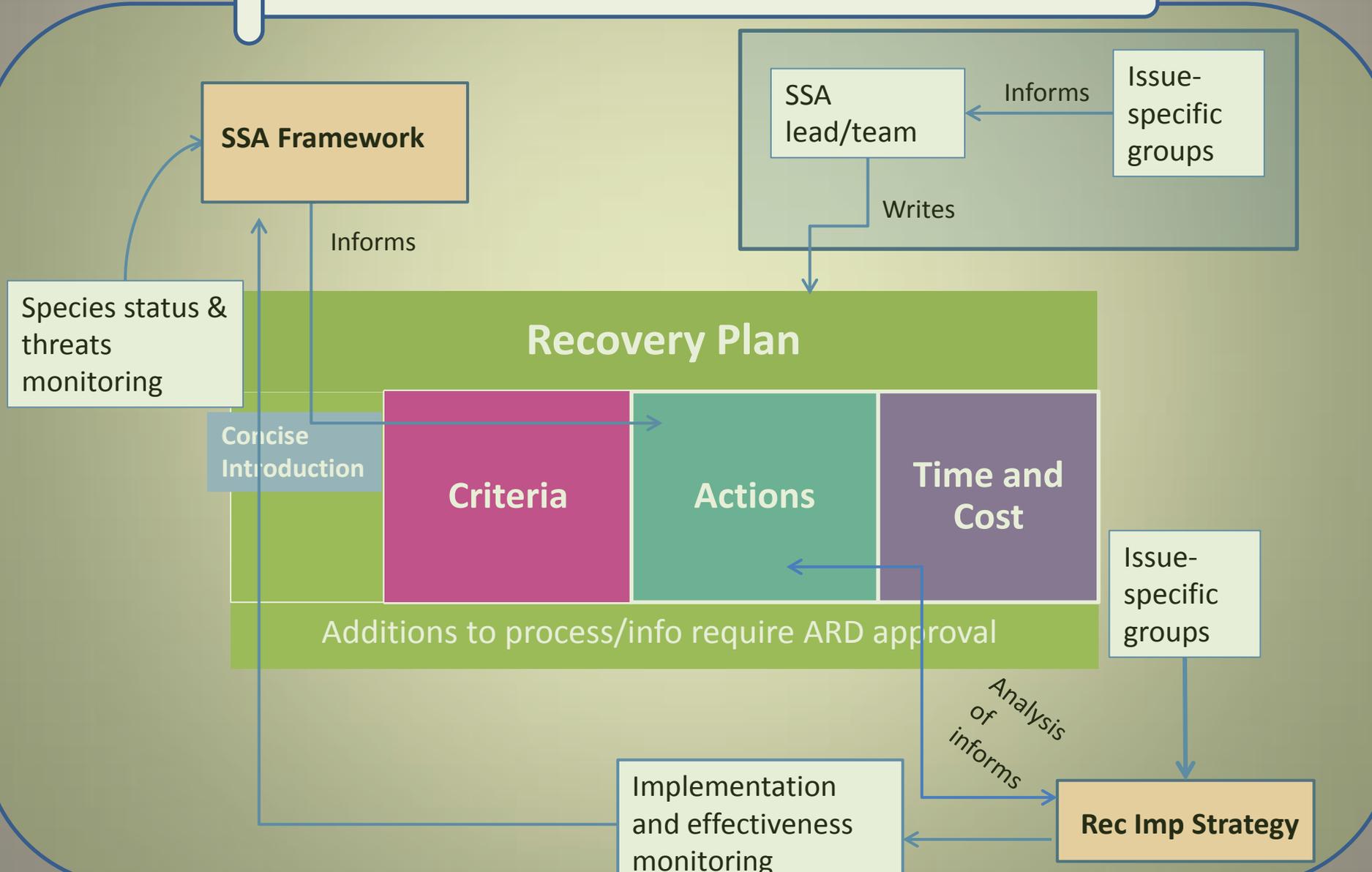
Species Status Assessment (SSA) Report



Recovery Implementation Strategy



Centralized Interactive Database (ECOS)





Streamlining the Administrative process & Providing Tools for Practitioners

Templates and protocols

Support is integrated with the SSA FIT

Delegate Signature authority for 5YSR, Recovery Outline to lowest appropriate level

Better access to modeling & geospatial expertise

FR notices only for Draft RP

Draft
Subject to revision



Transition process

- Do not, cannot, have SSAs for all currently outstanding RP development needs
- Also, want to learn by doing:
 - “early adopters” provide feedback to refine the process
- FWS plans to begin using 3-part formatting for all recovery planning very soon (all 3 parts posted – notice and comment for RP)
 - Biological report
 - Recovery Plan
 - Implementation Activities
- REV for all new planning with SSAs
- Move to REV across-the-board as resources support SSA development





Just some of the REV RP efforts...

Region 1

- Streaked horned lark
- Taylor's checkerspot butterfly

Region 2

- Northern Edwards salamanders (3 species)
- Arkansas River shiner
- New Mexico meadow jumping mouse
- 6 West Texas Invertebrates (4 springsnails & 2 amphipods)
- Texas snowbells
- Lesser Prairie-Chicken

Region 3

- Snuffbox, Rayed bean, Sheepnose & Spectaclecase mussels
- Dakota skipper
- Prairie bush clover

Region 4

- Several plans under consideration

Region 5

- North Atlantic Salmon (w NMFS)

Region 6

- Pagosa skyrocket
- Gunnison's sage grouse
- Canada lynx
- Blowout penstemon

Draft: Subject to revision



More about the relationship between the SSA and RP

RP Steps after SSA:

Step 1. Plan & organize RP effort

Step 2. Gather information relevant to the species

Step 3. Conduct a species status assessment

Step 4. Develop Vision

Step 5. Define Criteria (develop metrics)

Step 6. Develop options for strategy

Select recovery strategy

Step 7. Investigate options for Actions to implement

Select Actions, start RIS development

Step 8. Calculate Time & Costs

Step 9. Develop monitoring plan

Step 10. Integrate adaptive management

SSA



SSA informs Recovery Planning

SSA Process →

Assess & rank reasons for currently unmet species needs

Assess & rank reasons for unmet future needs

Species Ecological Requirements

Man-made and natural factors

Current Conditions

Future Conditions and Prognosis

Recovery Criteria

Consider conservation strategies

Recovery Vision

Recovery Strategy

Recovery Actions

Time and Cost

RIS

Recovery Process →

Subject to revision



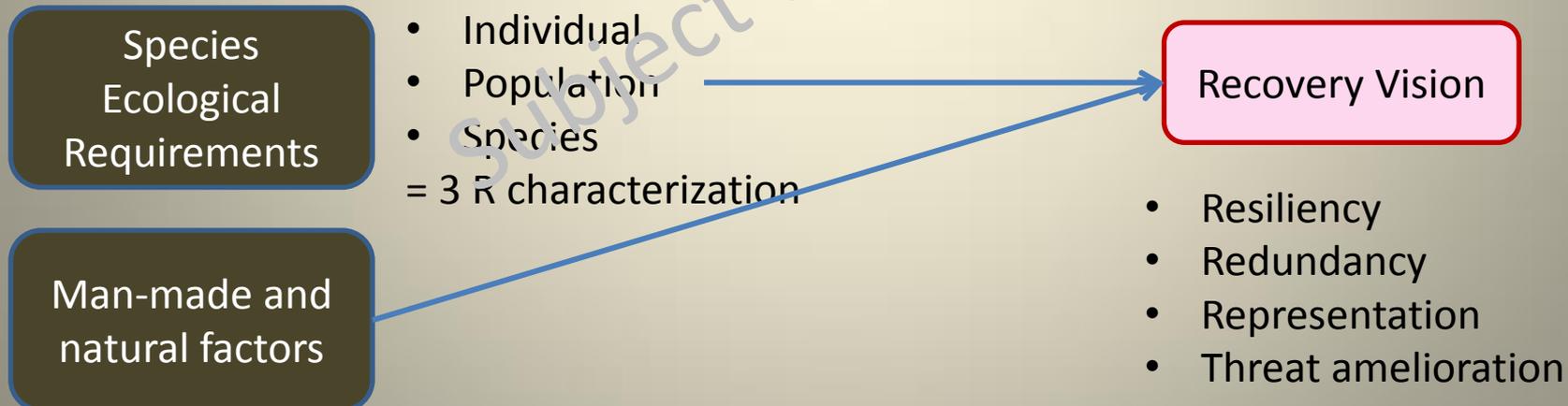
Recovery Vision: A narrative description of the state of the species when the goal of the recovery plan has been achieved, and thus, **the protections of the ESA are no longer needed.**

- The "state of the species" describes the ecological requirements of the species and is characterized in terms of the 3Rs and the relevant threats (negative natural or manmade factors).
- The "goal" is the conservation and survival of the species.

The species' ecological needs are foundational to SSA and foundational to Recovery Planning

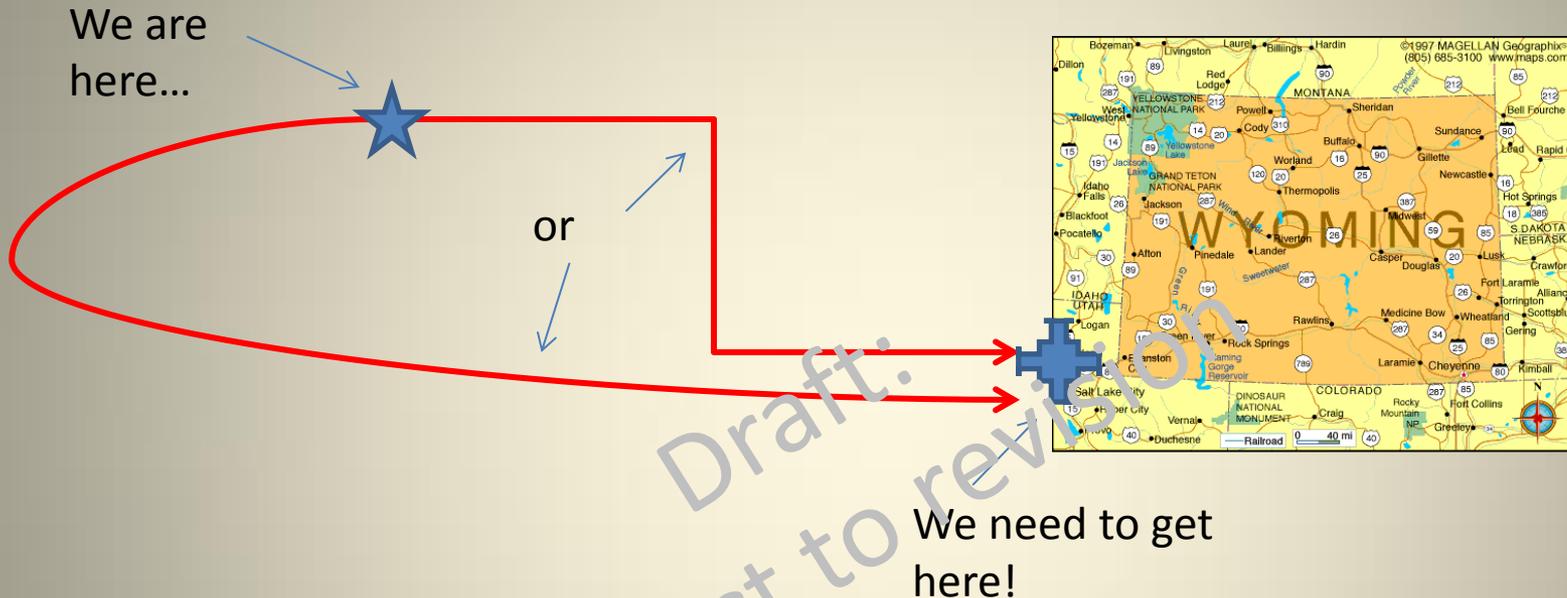
SSA

Recovery Planning





Recovery Strategy: How to get there!

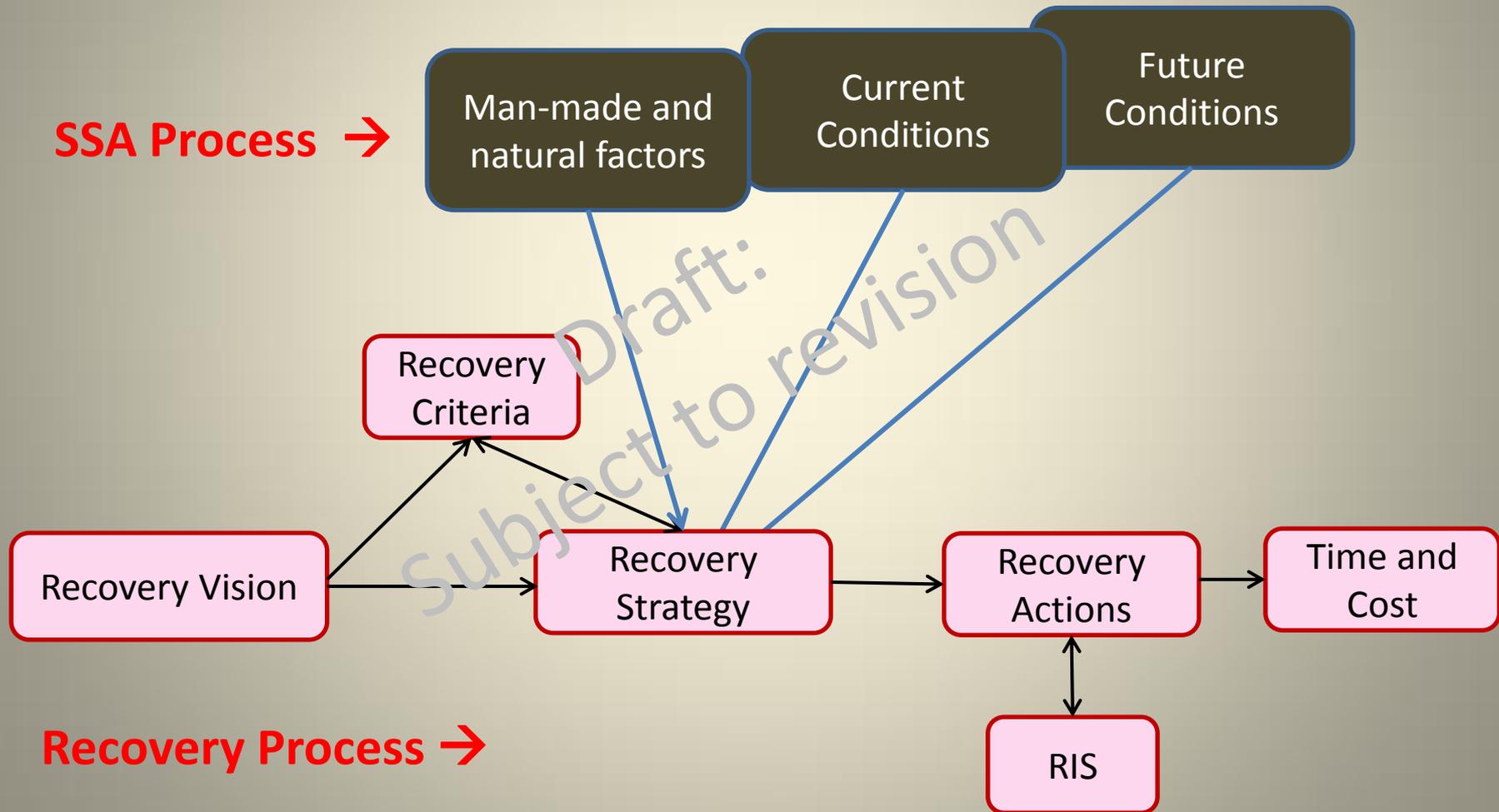


Recovery Strategy : The assumptions, logic, and description of the path considered most promising for achieving the Recovery Vision.

Actions are directly informed by the SSA



Recovery Strategy: The assumptions, logic, and description of the path considered most promising for achieving the Recovery Vision.





A **3R framework** for SSA

Representation provides consistency and clarity for ES decisions

- Ecological settings (past and current distribution, evolutionary strategy)
- Genetic and demographic diversity

Redundancy

- Number of populations (within each area of representation)
- Distribution

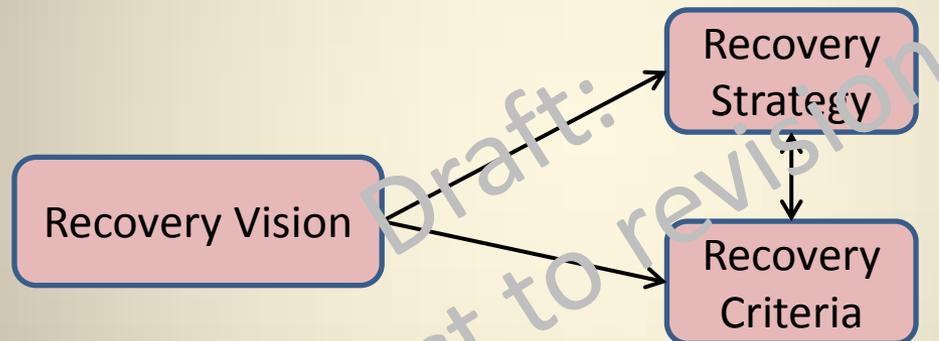
Resiliency

- Self-sustaining populations across Representative units (populations, conservation units)
 - Population size and growth rate
 - Stage/age class distribution
 - Genetic heterozygosity
 - Habitat conditions
 - Ecological interactions
 - Threats
- Connectivity among populations (including meta-population structure if appropriate)



Recovery Criteria: The measurable thresholds for representation, redundancy, resiliency, and threats needed to achieve the recovery vision.

- Criteria are expressed quantitatively wherever possible (“objective, measurable”)
- Criteria quantify the vision



- Resiliency
- Redundancy
- Representation
- Threat amelioration

- Quantify 3 Rs
- Address threats to 3 Rs that could preclude delisting or regress post delisting (recovery actions)

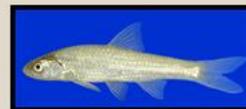


Present spreadsheet: review & discuss

Recovery Planning Process: Steps 2, 3, 4 (iteratively - can start with criteria, or strategy, just iterate)				
Vision Component	Example Metrics	Demographic-Based Criteria	Threat-Based Criteria	Decision Analysis
Representation <i>(genetic & ecological diversity to maintain adaptive potential)</i>	recovery unit management unit conservation units ecological setting life history unit (e.g., spring run v fall run salmon)	types of units # of units distribution connectivity	level and extent of threat that allows for identified necessary aspects of representation	There are likely trade-offs among alternative sets of criteria; use decision analysis to help determine what the best solution is
Redundancy <i>(number & distribution of populations withing representational units to withstand catastrophic events)</i>	# populations per representational unit distribution and connectivity of populations	# populations distribution connectivity	level and extent of threat that allows for identified necessary aspects of redundancy	
Resiliency <i>(health of individual populations to withstand stochastic events)</i>	population size sex ratios growth rates age class distribution survivorship genetic heterogeneity habitat conditions connectivity among populations etc.	# individuals, immigration emigration annual survival etc.,	level and extent of each threat that allows for identified necessary aspects of resiliency	



Recovery Enhancement Vision.
Operational Plan



Ecological Services
U.S. Fish and Wildlife Service
Revised November 2015



Go to Google site for lots more information!

<https://sites.google.com/a/fws.gov/rev/>



Draft:
Subject to revision