



Compensatory Mitigation Site Selection

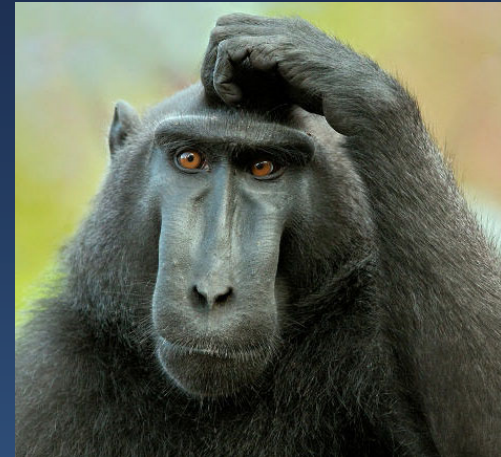
Jeff Phillips | U. S. Fish and Wildlife Service

Strategic Conservation Planning and Conservation Banking

Where to start?

■ Look at existing plans first:

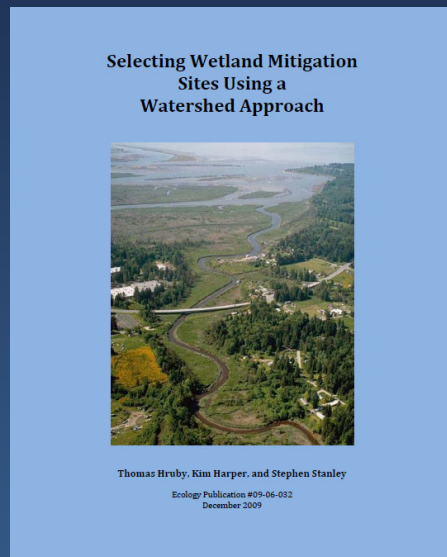
- Recovery Plans and 5-year Reviews
- State Wildlife Action Plans (SWAPs)
- Habitat Conservation Plans (HCPs)
- Green Infrastructure Plans
- Land Management Plans (LMPs), Special Area Management Plans (SAMPs), Integrated Natural Resources Management Plans (INRMPS)



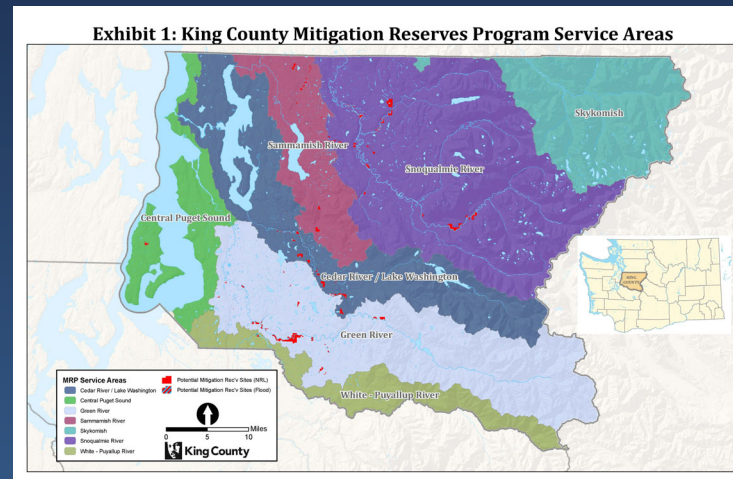
NMFS: The Landscape Framework

- NMFS supports an ecosystem approach to conservation that provides for multiple species and life stages, and mitigation that is ecologically sustainable.
- Listing of species occurs at the scale of evolutionarily significant units (ESUs) or distinct population segments (DPS).
- Conservation banks for highly migratory fish species must be strategically placed and sized to support survival and recovery; location is an important consideration when evaluating the conservation potential of a proposed bank.

Corps: The Watershed Approach



Western WA (Ecology 2009)
Eastern WA (Ecology 2010)



ILF Mitigation Site Selection

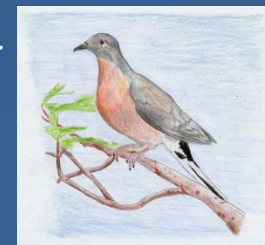
- Nested site selection approach
- Start close to impacts (sub-basin)
- Expand to entire Service Area

Corps: The Watershed Approach

- **Important considerations and information that can be used for a watershed approach, including identifying priorities**
 - Current trends in habitat loss or conversion
 - Sources of watershed impairments
 - Cumulative impacts of past development activities
 - Current development trends
 - Presence and habitat requirements of sensitive species
 - Site conditions that favor or hinder the success of compensatory mitigation, including the contribution upland/riparian resources have on aquatic resource functions
 - Requirements of regulatory/non-regulatory programs (habitat conservation plans, storm water)
 - Chronic environmental problems such as flooding or poor water quality
 - Comprehensive treatment of all aquatic resource functions (habitat, water quality, etc.)

Service Guidance – Siting Compensatory Mitigation

- Sited in locations that have been identified in landscape-scale conservation plans or mitigation strategies as areas that will meet conservation objectives and provide the greatest long-term benefit.
- The focus is the conservation needs of the species
- Compensation must be in-kind for the species, critical habitat, or proposed critical habitat, but not necessarily the same *type* of habitat impacted by the action.
- Habitat may be used as a surrogate when number individuals is difficult to measure.



Siting Compensatory Mitigation - Considerations

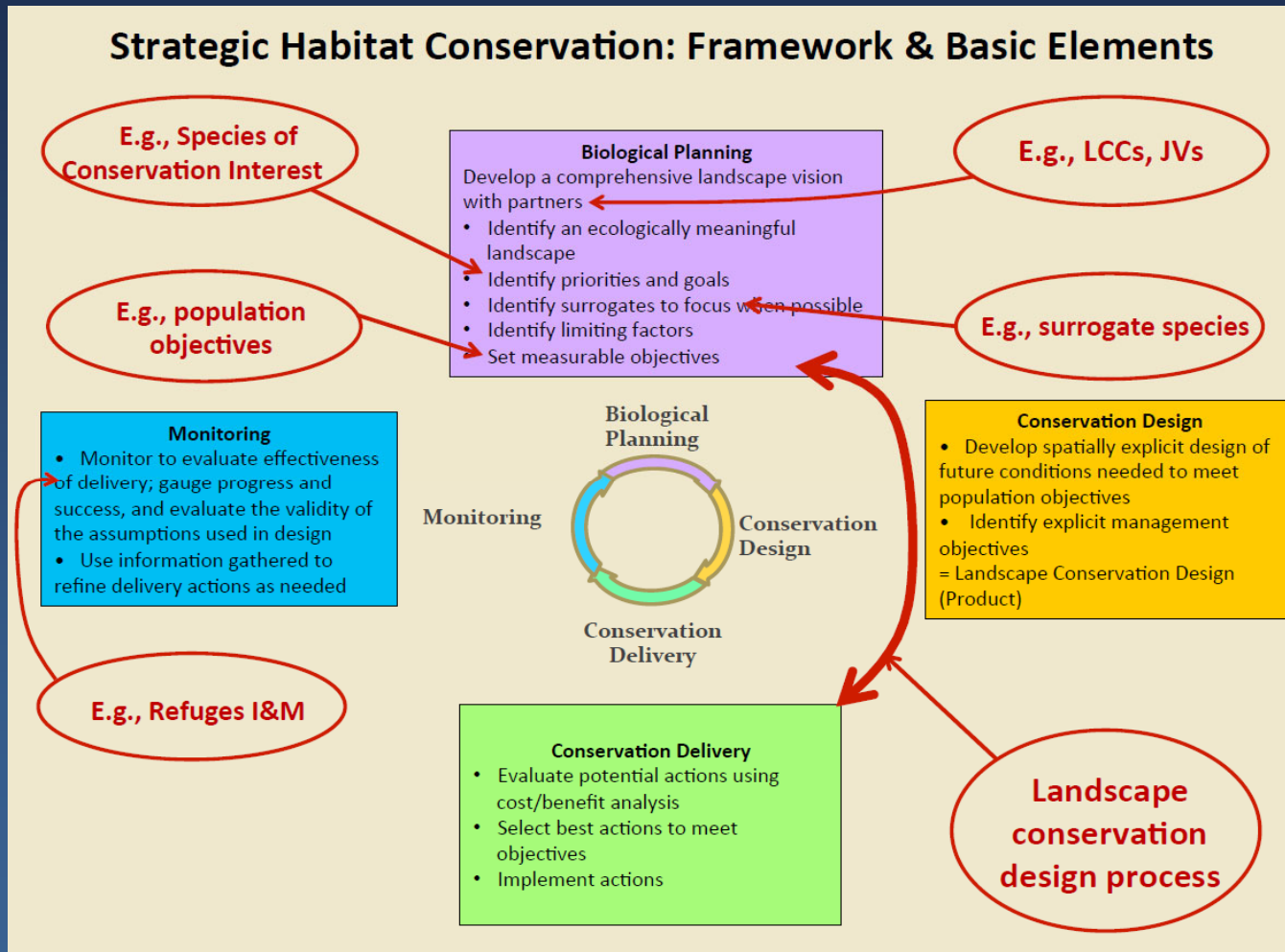
- Core areas of habitat and connectivity
- Designated and proposed critical habitat
- Recovery plans, 5-year reviews, state conservation recommendations, LCCs
- Ecological functions provided by the habitat (but not necessarily the same ones impacted – the focus is on greatest needs of the species)
- Strategic Habitat Conservation (should show up in all of the above!)
- Sustainability of site:
 - Encumbrances and split estates (due diligence, Phase 1 assessment)
 - Land use trends and adjacent land uses
 - Climate change



Strategic Habitat Conservation

- SHC is the USFWS framework for landscape conservation; encourages a comprehensive view
- Adaptive resource management framework for making management decisions about where and how to deliver conservation efficiently to achieve specific biological outcomes
- Encompasses all USFWS programs and addresses both habitat and non-habitat factors limiting species populations

Strategic Habitat Conservation



Site Specific Considerations

■ Micro level considerations:

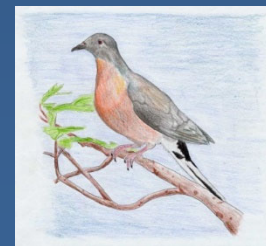
- Split estates
- Title issues
- Previous land uses
- Contaminants on site (natural or human-caused)
- Neighboring land uses
- Other considerations?



Siting Compensatory Mitigation - Considerations

Options for split estates:

- Use crediting methodology to account for future uncertainty
- Establish a reserve credit account
- Subsurface use agreement
- Mineral subordination agreement



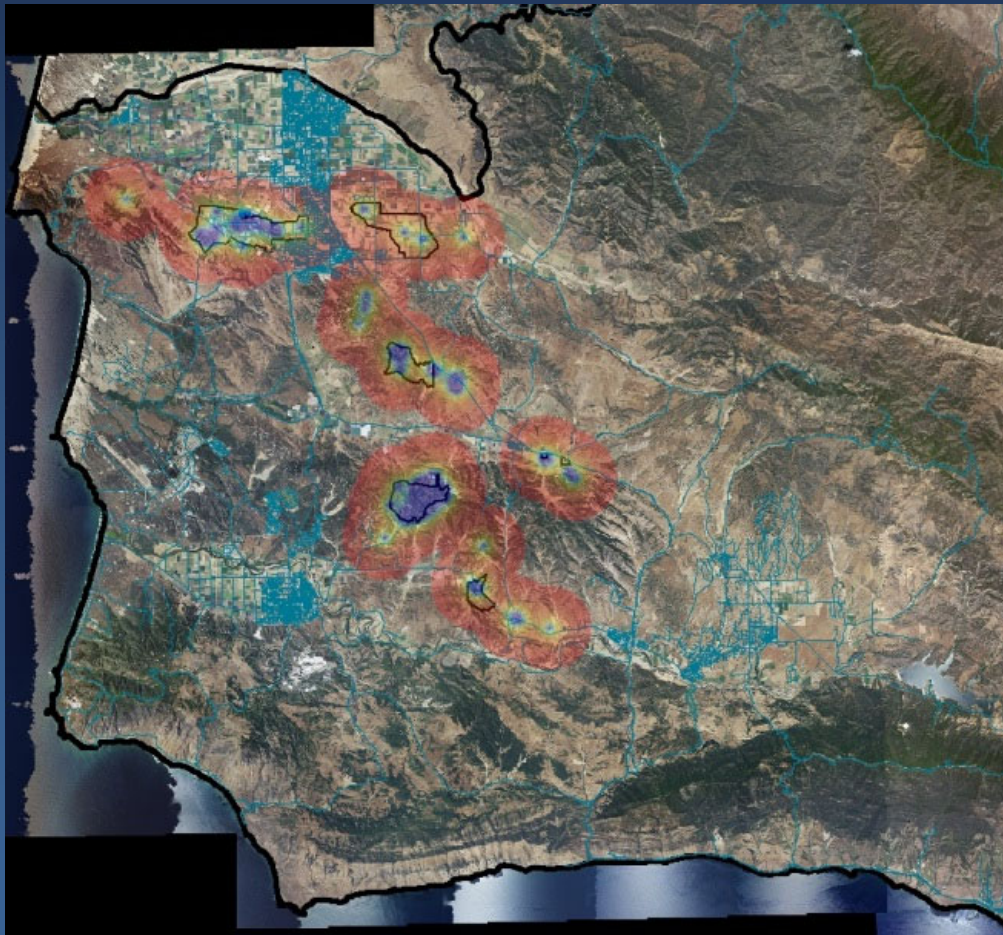
Site Selection – Santa Cruz RCD In-Lieu Fee Program

- Species: Santa Cruz long-toed salamander, California red-legged frog, tidewater goby
- Working groups comprised of local biologists, landowners/land managers, partners and staff from the two counties will utilize established conservation strategies as identified in published Service documentation, as well as other regional and landscape-scale conservation plans, to guide mitigation site selection recommendations

Site Selection – Santa Cruz RCD In-Lieu Fee Program

- Priority will be given to mitigation sites that meet the criteria identified below, if applicable:
 - The site provides a significant opportunity to achieve resource gain via restoration/enhancement, creation, or preservation;
 - The site has a high likelihood of providing sustainable ecological benefits for the species in the long-term;
 - The site represents opportunities to correct ecosystem alterations through the removal of stressors and other constraints that have altered hydrologic or other ecosystem processes; and
 - There is a high likelihood of being able to implement the mitigation with minimal environmental impact, and at a reasonable cost.

Site Selection – Species Value Mapping



- California tiger salamander – reproductive value (based on age class density). Red=low; Blue=high
- This is a raster (grid) file, so total reproductive value of any polygon can be easily summed.
- Black outlines are critical habitat units (drawn long before this modeling – but the model shows they captured the RV well).
- La Purisima Conservation bank is ideally sited.

Questions?



Conservation Banking

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