The Delta Restoration Network proposes a hub organization to adaptively manage Delta restoration within regional conservation strategies that support technical analysis and stakeholder participation.

Introduction: The Delta Restoration Network (DRN) was created out of recognition that current restoration efforts and future restoration envisioned by the BDCP would require extreme levels of coordination and integration to be ecologically successful and broadly acceptable. Discussions with potential participants and a consensus of shared concerns indicated the need to bring people together to have deliberate discussions around restoration. Meetings began in early 2012 with 14 agencies, several NGO and consultant partners and some Delta community participation. The group quickly coalesced around the need to produce a short, unifying framework that would create the expectation of coordination and integration of ongoing and future restoration in the Delta. The following summarizes the key concepts that are central to the Restoration Framework.

Problem/opportunity statement: We know that every restoration action will have profound effects within and beyond their boundaries that change with time. Restored land-water connections will generate cascading Delta-wide effects on hydrodynamics, geomorphology, chemistry, and ecology. Restorations will be strongly affected by restorations that came before and after. Incremental restoration progress will continuously change the Delta baseline including the ecosystem effects of Delta flows. Delta community stakeholders require deference and consideration on multiple feasibility issues that value the Delta-as-place. Given the complexity and reach of restoration effects, *choices about sequence, location, design, pace, and scale of restorations will strongly influence long term outcomes*. We must invest in working analysis and decision support systems that can hold complexity for scientists and stakeholders and envision alternative restoration futures that meet the co-equal goals.

Proposal: The DRN proposes to embrace the intrinsic complexity of Delta restoration with continuous development and participatory application of *Delta regional conservation strategies*. Conservation strategies are adaptively managed learning and decision support systems that integrate people, best available scientific understanding, and analysis tools. They consider the unique ecosystem drivers, local knowledge, historical ecosystem functions, and land use histories of priority Delta restoration areas. Conservation strategies are at once dynamic strategic vision and practical feasibility assessment systems. They are not a product. Rather, they are continuous learning and technical assessment environments that take in changing social, economic, and landscape conditions to continuously refine alternative restoration futures. They spell out tradeoffs among options and clarify management and policy decision points. They assure that the multitude of restoration projects add up to effective native species conservation, water supply reliability, and thriving Delta communities and economies.

Regional conservation strategies support two parallel purposes:

1. *Provide technical support value for early restoration actions now.* Ongoing restorations need rapid and effective restoration designs and alternatives analysis that meet both regulatory and CEQA requirements. In particular, project proponents require modeling and multidisciplinary assessments to maximize ecosystem services minimize impacts. We propose that this purpose is the logical evolution of the established ERP DRERIP process for restoration assessment.

2. *Support long-term regional restoration planning.* Regional conservation strategies are dynamic roadmaps that overlay contemporary Delta working landscape and flood control imperatives with historical ecological understanding. They integrate best available scientific information with practical feasibility assessment tools for planning ecologically effective and socially acceptable change.

Regional conservation strategies integrate three primary components:

1. A dynamic inventory of regional ecosystem, infrastructure, flood control, demographic, and economic attributes. Information is maintained in an open GIS framework.
2. An assessment of how target species adapted to historical ecological functions. Resulting pattern and process metrics can guide acquisition choices and restoration performance measurement.
3. A feasibility assessment system that facilitates broad stakeholder and policy input into the multiple factors that affect restoration outcomes and Delta community prosperity.

Integrate technical analysis and decision support: Envisioning alternative future restoration scenarios requires two related analyses. *First*, adaptive change management requires considerable technical analysis of multiple interacting factors. We must fully embrace the breadth and depth of social and ecosystem complexity to identify feasible alternatives. This requires integrating data synthesis, GIS analysis, and Delta systems models of processes and economics. *Second*, Delta stakeholders and policy people must actively participate in alternative future scenario building by engaging restoration complexity in tractable ways. A hub organization for restoration adaptive management must offer the Delta community a receptive environment for challenging and improving regional restoration scenarios based on local knowledge and economic imperatives. We envision a home for clarifying issues and negotiating the terms and conditions of agreements about alternative Delta futures.

A hub organization for adaptively managing Delta restoration: A restoration "hub" organization would be the vessel for coordinating technical analysis and stakeholder input. The hub would host and support multidisciplinary subject matter experts with demonstrated system knowledge on data synthesis modeling, GIS, and collaborative science. Future restoration scenario building would be directed by the Delta Restoration Network. The Delta Conservancy could oversee a minimum of organization hierarchy for an initial pilot hub effort. Like the cogs in a wheel, the hub would also rely on interagency experts to engage as needed on current restoration projects and conservation strategy building (perhaps based on the NCEAS model). It would leverage existing model integration tools and expertise from regional NGO's (e.g. TNC Delta EFT, SFEI Eco Atlas, and OSU Envision). Consultants and university labs with demonstrated process modeling and decision analysis expertise would build analysis tools (contracting must be simplified). Delta stakeholder representatives would advise on feasibility assessment approaches that could be built into decision analysis systems. Earliest hub activities would support in-process restoration actions. In parallel, first-version restoration conservation strategies would be built for priority restoration area. Workshops for gathering local knowledge should occur early and often. Alternative future scenarios should be plainly and transparently vetted. They should be spatially explicit, capture policy alternatives, report restoration performance metrics, and help visualize results.