

MEETING SUMMARY | STAKEHOLDER UPDATE WEBINAR

WETLANDS RECOVERY PROJECT

May 5, 2015

Table of Contents

1. WELCOME AND INTRODUCTIONS.....	1
2. TIME PROJECT OVERVIEW	2
A. TIME Project Background	2
B. Parallel Projects	2
3. TIME PROJECT DELIVERABLES AND SCALING UP	3
A. Scenario Planning	3
B. Ecosystem Services	3
C. Visualization Tools	4
4. WETLAND RECOVERY PROJECT REGIONAL STRATEGY UPDATE	6
A. Regional Strategy Update Overview	6
B. Wetland Advisory Group	7
5. CLOSING REMARKS	7
6. ATTENDANCE	8

1. WELCOME AND INTRODUCTIONS

Kristen Goodrich, Tijuana River National Estuarine Research Reserve (TRNERR), Coastal Training Program Coordinator, opened the webinar and thanked participants for joining. She noted that the Temporal Investigation of Marsh Ecosystems (TIME) project is funded by the National Estuarine Research Reserve System Science Collaborative. The Tijuana River Valley (TRV) is being used as a pilot study location for the TIME project.

Kristen introduced the project team members who would be presenting or speaking at any point during the webinar:

- Dr. Jeff Crooks, TRNERR
- Dr. Julio Lorda, TRNERR
- Greg Gauthier, California State Coastal Conservancy (SCC)
- Jocelyn Christie, SCC, Sea Grant Fellow
- Dr. Dorian Fougères, Center for Collaborative Policy, California State Sacramento

Other TIME project partners include Southern California Coastal Water Research Project (SCCWRP), the San Francisco Estuary Institute (SFEI) and the Southern California Wetlands Recovery Project (WRP).

She then reviewed the agenda and the following goals of the webinar:

1. Ensure stakeholders are up to date with recent developments regarding the TIME Project and the Regional Strategy Update (RSU).
2. Ensure stakeholders understand outcomes and expectations of these parallel efforts.

Dorian, meeting facilitator, reviewed webinar functionality and ground rules for discussion.

Please refer to the webinar's accompanying PowerPoint slides for further detail on any of the following discussion topics. The slides may be downloaded [here](#).

2. TIME PROJECT OVERVIEW

Jeff provided an **overview** of the TIME project: Part of the impetus for the TIME project came from the recognition that wetland managers are receiving management data from a variety of sources (e.g. T-Sheets, historical ecology data, climate change modeling data, etc.), and they do not have the tools to allow them determine how these factors interact with each other. This level of understanding is critical for the ability to make informed management decisions.

Managers have indicated that they are in need of tools that provide a better understanding of what their wetland ecosystem used to look like, currently looks like, and might look like in the future.

In order for this data to be combined into a strategy for wetland recovery, the functioning of ecosystems may be considered through the filter of ecosystem services, achieved through a collaborative process.

A. TIME Project Background

- The TIME project focuses on two spatial scales:
 - Regionally: southern California
 - Locally: Tijuana River Valley (TRV)
- During the initial issues assessment phase, it was determined that the project should focus on finding innovative approaches to using **temporal information** and **ecosystem services** to steer wetland recovery.
- The TIME project uses the TRV as a case study with the ultimate goal of transferring tools and lessons learned to other wetland systems within the region. This “scaling up” will be coordinated via the WRP RSU over the next several years.

B. Parallel Projects

Several other parallel projects also inform and overlap with TIME:

- **Historical Ecology**
 - Effort led by SFEI with funding from SCC
 - Currently two years into a three-year project
 - Uses visualization to provide a historical view of the region that will allow wetland managers to consider things such the way the system worked historically, the dynamic nature of the system, and various constraints on the system when making management decisions
 - Example: Schematic demonstrating the changes in course of the Tijuana River since 1904 (see slides)
- **Current Mapping**
 - Maps of current day are being produced to allow for a crosswalk mechanism between historic and future conditions
- **Future: Climate Understanding and Resilience in the River Valley (CURRV)**
 - Funded by National Oceanic and Atmospheric Administration’s Climate Program Office
 - TRNERR is one of two Reserves in the country conducting this effort
 - CURRV runs in parallel with TIME and includes:
 - Future Scenario Planning
 - Climate Adaptation Strategies
 - CURRV Documents can be accessed on the TRNERR Website:
 - [CURRV Info Flyer](#)
 - [Scenarios Summary Report](#)

3. TIME PROJECT DELIVERABLES AND SCALING UP

A. Scenario Planning

- **Scenario planning** offers a good approach to considering multiple complex variables, and allows for embracing uncertainty
 - Future scenarios are not predictions, but rather plausible conditions informed by science
 - The TRV are not time-specific, but can evolve from different extremes over the course of many decades
 - Focus for these future scenarios is sea level rise (SLR) and riverine flooding
 - Considers both the built and natural environments
- Note: the TIME project refers to scenarios “A” and “D” at various occasions throughout the presentation (see slides)

B. Ecosystem Services

Julio presented on the use of ecosystem services in the TIME project. TIME is synthesizing information from the past, present and future conditions of wetlands to assess changes to ecosystem services and how these changes may inform restoration management.

The following topics were discussed:

- Definition of ecosystem services as used in the TIME Project
- Methodology of developing ecosystem services tools applicable to TIME
- **Typology:** Significant and representative coastal wetland habitats for the TRV pilot study region
- **Ecosystem Services List:** Developed using Millennium Ecosystems Assessment (MEA), McInnes study, and input from an Advisory Group
 - The TIME Project has prepared local examples and explanations to accompany each ecosystem service identified.
 - **Trade-off Analyses:** The TIME Project is looking at how ecosystem services are/can be provided by the present conditions, a wetlands restoration project, and different future climate change scenarios.
 - When there is data on the provisioning of certain ecosystem services by various habitats, the tradeoff analyses are straightforward (e.g. carbon sequestration, mineral accretion).
 - Spider diagrams: The red dotted lines show current provisioning of services for a habitat, and the blue line demonstrates the increase or reduction of services given a future scenario (Scenario D, in this case)
 - When there is limited or no data about the provisioning of services, we can use expert opinion.
 - Some services may be important to consider for management decisions, but confidence in how those services might change in the future could be low
 - Trade-off tools could provide an idea as to what type of research or monitoring may be important to conduct to be able to better answer how the services might change, given possible future conditions
 - Trade-off analysis exercises could be useful for climate adaptation planning.
 - TRNERR is currently conducting ecosystem services trade-off analyses for the Tijuana Estuary Tidal Restoration Project (TETRP).

C. Visualization Tools

- SCCWRP is working with Esri to produce visualization tools that demonstrate how the wetland habitat of the TRV changes through time
- There will be visualizations for the future scenarios developed by CURRV and TIME as well as other models that have already been developed
- This component of the project will take another 1-2 years for completion

The TIME Project will conclude in June 2015 and in the upcoming months, the Project Team will produce a “Lessons Learned” document that speaks to how ecosystem services and ecological data from past, present and future scenarios were used in the TRV to steer wetland recovery

Questions from participants followed:

- How will the methodology take into account management and maintenance activities conducted in the future for various restoration efforts?
 - The project has not achieved that level of specificity yet. The project team is still attempting to refine where ecosystem services will be most applicable.
 - Most of the identified services are general and integrate across habitat types. These services are more applicable at the ecosystem level.
 - For services that are tightly correlated with habitat, methodology can be more specific with regard to how future restoration efforts would affect the ecosystem. These services may lend themselves to more stringent analyses.

- Do you think it is feasible to manage the sediment input based on your scenario analysis?
 - Yes, it is feasible.
 - While the scenarios developed for CURRV are driven by climate change, the resulting effects to the tidal prism and increasing or decreasing sedimentation could also be a result of land use choices.

- Are scenarios ranked and prioritized? Are there economic values associated with each scenario?
 - The TIME project is not currently evaluating or conducting valuation of ecosystem services or management planning due to the scope of this project. It is possible to do this in the future.
 - Scenarios are informally ranked based on the importance that restoration managers inherently put on various services.
 - The CURRV Project is conducting an evaluation of how vulnerable these habitats are in the face of climate change (by engaging scenario planning). Eventually, adaptation strategies will be produced.
 - Note that all of these parallel efforts are still ongoing. Some of these project choices have not yet been made.

- Was there or will there be any quantitative analysis of projected changes in river hydrology, such as analyzing downscaled precipitation data from global climate change modeling?
 - Though the project team would find this information very useful, there is limited downscaled data available for the TRV. The natural hydrology of river flow is very dynamic.
 - University of California - Irvine is currently working on the Flood Resilient Infrastructure and Sustainable Environments (RISE) Project, funded by the National Science Foundation. This project examines riverine flooding using this type of downscaled data, as well as other physical and social ecological contributors to flooding.

- When projecting habitat distribution changes in the future (e.g., based on SLR), are temperature changes (either terrestrial or aquatic) being accounted for?
 - The project team does not believe that the models they have been using take into account temperature changes.
 - This is a well-timed question, as funding was recently received from the San Diego Foundation to begin exploring other drivers of change in the TRV. TRNERR may begin looking at how temperature and acidification might affect the estuary via another parallel project.

- A major issue we are all trying to grapple with is how to make decisions regarding what to do now to improve ecosystem services, versus what those changes will do in the future with SLR. Will the methodology address this?
 - The hope is that it does. This issue contributed to the genesis of the TIME project: when TRV wetland managers began to consider SLR in relation to the restoration project TETRP, they began to wonder if the ocean was going to “do the work for them”, and if so, when.
 - Using the ecosystem services approach, managers can start to understand what efforts might be compromised by action, or inaction, in the face of SLR and flooding.

4. WETLAND RECOVERY PROJECT REGIONAL STRATEGY UPDATE

A. RSU Overview

Greg provided an overview of the WRP’s RSU, with corresponding slides. The following topics were covered:

- History of the WRP since its inception in 1997
 - TIME project was a vision of the WRP. The original intent was to conduct a regional project, then scale the products down to the local level. It was soon recognized that efforts should start locally and be scaled up regionally.
- 2001 Regional Strategy identified six regional goals and key strategies of the WRP
 - These goals have guided projects for work planning, outreach efforts, etc.
- 2002 and 2008 WRP Needs Statement
 - WRP Science Advisory Panel (SAP) (2002) and Wetland Manager’s Group (WMG) (2008) develop needs statement for improved regional planning
 - The WMG wanted to move away from opportunistically reacting to projects to be more strategic with project selection and design
- Why the WRP is being updated now and new data from the last 15 years
- Approach for the RSU (see diagram in slides)
- Sources of data/inputs
- Tasks related to completing the RSU
- RSU team members
- Role of the SAP and its current members

- The SAP was reconvened in the fall of 2014 with three years of funding from a U.S. Environmental Protection Agency Wetlands Program Development grant
- Anticipated final products
 - Maps
 - Visualization tools
 - Decision trees
 - Project selection criteria
- WRP hopes to use this webinar format to share information with a wide audience as products are developed
- Funding support

B. Wetland Advisory Group

Jocelyn presented on the newly established Wetland Advisory Group (WAG). She reviewed:

- The three groups supporting the WRP's efforts: the SAP, the WMG, and the WAG
 - The WAG is a new stakeholder committee
- Why the WAG was created
 - The WMG declared the need for stakeholder feedback on the RSU to ensure RSU products are useful to project partners
- What the WAG will be tasked with
 - The WAG will provide feedback on products and tools, such as those developed by TIME
- Stakeholder groups that will form the WAG
 - Invites to various wetland professionals, partners, and grantees have been extended
- Where and when the WAG will meet
 - The WAG will host three meetings per year and is expected to be assembled for the duration of the three-year RSU process

5. CLOSING REMARKS

Kristen thanked the presenters, the TIME team members, and the participants for joining in the webinar. The TIME team will follow up with meeting participants with a PDF of the presentation slides, a meeting summary, and copies of the supporting documents referenced during the webinar.

Should any participants have follow-up questions or would like additional information on the topics discussed, they should contact the members of the TIME team and/or the RSU subcommittee members (Greg and Jocelyn).

6. ATTENDANCE

Webinar Participants

1. Amber Pairis
2. Amy Merrill
3. Andrea Adams-Morden
4. Ariana Katovich
5. Bruce Orr
6. Carla Pisbe
7. Cynthia Mallett
8. David Cannon
9. Debra Sharpton
10. Devin Spencer
11. Doug Gibson
12. Eric Chavez
13. Erin Chin
14. Estelle Sandhaus
15. Gabe Buhr
16. George Thomson
17. Jane Ballard
18. Jim Peugh
19. Joan Cardellino
20. Joddi Leipner
21. Jonna Engel
22. Kim Kolpin
23. Lawrence Smith
24. Luz Quinnell
25. Matt Yurko
26. Mayda Winter
27. Nick Garrity
28. Peter Massey
29. Rachel Couch
30. Samantha Richter
31. Shirley Birosik
32. Slader Buck
33. Susan Brodeur
34. Trish Chapman
35. Virginia Gardner

Project Team

1. Dorian Fougères
2. Greg Gauthier
3. Jeff Crooks
4. Jocelyn Christie
5. Julio Lorda
6. Kristin Goodrich
7. Meagan Wylie
8. Shawn Kelly