SAN JOAQUIN RIVER RESTORATION PROGRAM

Seepage and Conveyance Technical Feedback Group

July 6, 2011
11704 Henry Miller Avenue
Dos Palos, CA

Agenda

- Introductions and Technical Feedback Group (TFG) Purpose
- Action Item Review and Update
- 2011 Interim Flows
- Parcel Groupings for Further Evaluation
- Draft High Priority Project Locations
- Information & Data Exchange
- Next Steps and Follow Through

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Review and Context

TECHNICAL FEEDBACK GROUP OBJECTIVES

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TFG Objectives

- Convey Interim and Restoration Flows while avoiding seepage impacts
- Identify potential projects that would avoid seepage impacts
- Identify locations for projects with potential for seepage impacts
- Develop a common understanding of the process, procedures and expectations for projects

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Process & Decision-making

- Monthly Meetings
  - Focused on Seepage Project Handbook and identifying projects to avoid seepage impacts
- Additional topics and meetings identified and considered as we proceed
  - Update Charter in Fall 2011
- Reclamation and its partner agencies retain decision authority for Program implementation

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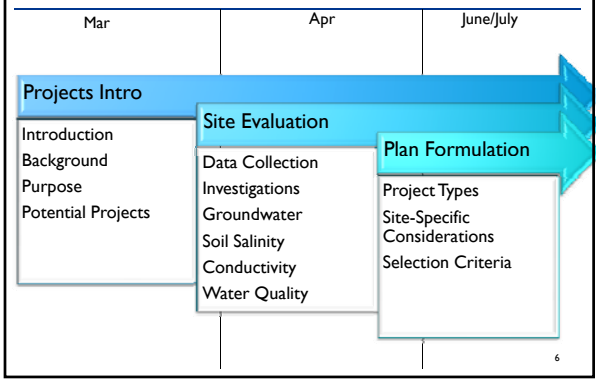
Discussion Topics



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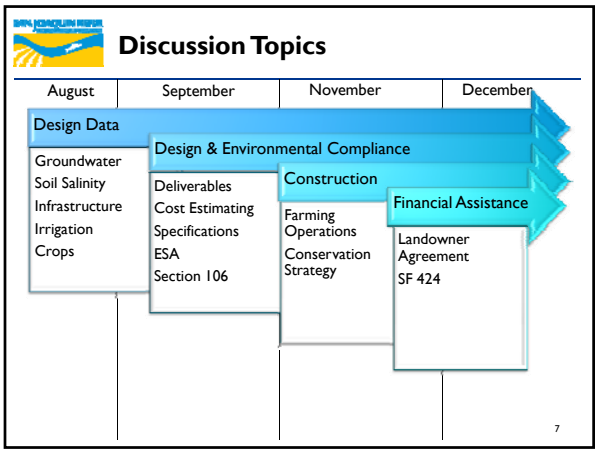
Discussion Topics
August
September
November
December
Design Data
Groundwater
Soil Salinity
Infrastructure
Irrigation
Crops
Design & Environmental Compliance
Deliverables
Cost Estimating
Specifications
ESA
Section 106
Construction
Farming Operations
Conservation Strategy
Financial Assistance
Landowner Agreement
SF 424
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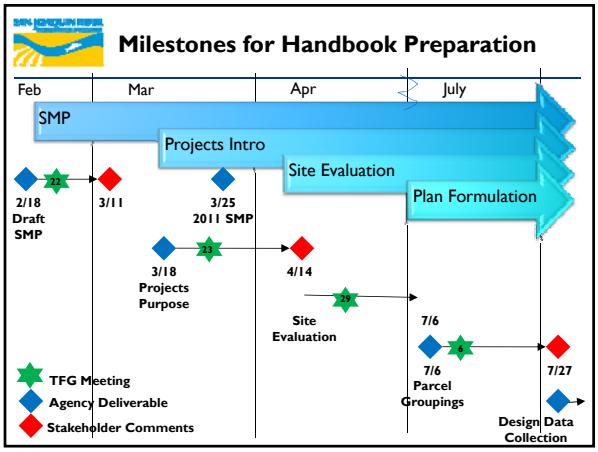
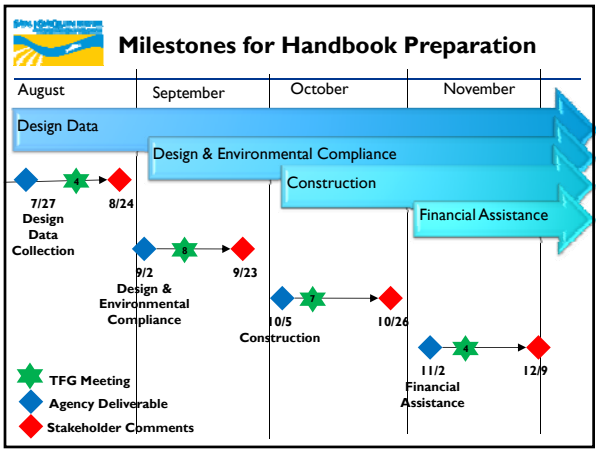

Milestones for Handbook Preparation
Feb
Mar
Apr
July
SMP
Projects Intro
Site Evaluation
Plan Formulation
22
2/18 Draft SMP
3/11
3/25 2011 SMP
23
3/18 Projects Purpose
4/14
24
Site Evaluation
7/6
6
7/6 Parcel Groupings
7/27
Design Data Collection
TFG Meeting
Agency Deliverable
Stakeholder Comments


Milestones for Handbook Preparation
August
September
October
November
Design Data
Design & Environmental Compliance
Construction
Financial Assistance
4
7/27 Design Data Collection
8/24
8
9/2 Design & Environmental Compliance
9/23
7
10/5 Construction
10/26
4
11/2 Financial Assistance
12/9
TFG Meeting
Agency Deliverable
Stakeholder Comments

Review and Update

ACTION ITEMS

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Action Items

Open Action Items	ID'ed	Due	Assigned to:	Status
1. Work Plan for additional tensiometer work to develop more data on capillary fringe.	1/14/11	February 2011	Lee & Green	Need updated due date from Sarge.
2. Provide Monty and Chris with the excel files that the graphs are based on	2/10/11	3/10/11	Harrison	Pending
3. Add river mile station to river profile to link wells to locations	2/10/11	3/10/11	Harrison	Pending
4. Explore partnering on the cultural resources survey to expand the scope to go out beyond the levee to collect information that would help evaluate projects	2/10/11	3/10/11	Forsythe & White	Discussions underway with DWR.
5. Check that right of first refusal is offered to landowner	3/22/11	5/2/11	Mooney	Complete
6. Reclassify request for monitoring during floods as a hotline call. (Burkhart, Coburn, Nickel)	4/29/11	7/6/11	Mooney	Complete
7. Make CDEC streamgage info on stage consistently report in elevation	4/29/11			
8. Clarify the transition between flood and Interim Flows	4/29/11		Mooney	

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Tensiometer Study

- Reclamation is currently reviewing Sarge's draft plan
- Research – may not obtain decisive conclusions
- Suggested additions may include:
  - More specificity on site selection, including criteria for water table, crop, and distance from edge of field
  - Determinations of field capacity
  - Range in soil textures, USDA logs on site

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Spring 2011 Hotline Calls

SJRRP Seepage Site Visit Form

Seepage Report ID Number: *2011-2*

Date and Time of Site Evaluation: *March 1, 2011*

Names of personnel attending site evaluation, agencies belonging to and contact info (phone): *Stephen Lee (Reclamation), Joe Brummer (CNS, consultant to Reclamation), Katrina Harrison (Reclamation), Dave Wooley (Reclamation), Shawn Coburn (landowner)*

Landowner Name, phone, contact info: *Shawn Coburn*

Seepage Location

Address or Parcel:

River Mile (if known): *197.8*

Approximate Distance from SJR: *Well PZ-09-R3-5 is located in an elevated position on the river levee between the canal and the river. The well appears to be 4-5 feet higher than the field near soil boring PZ-09-R3-5-1.*

Proximity to levee toe of most seepage (feet) – or through levee: *No seepage*

Dave Mooney

2011 INTERIM FLOWS

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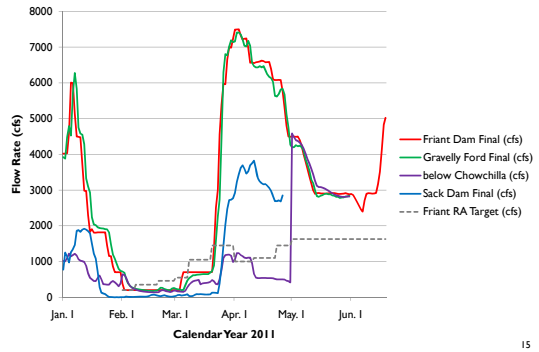
Current Status- Flood and Interim Flows



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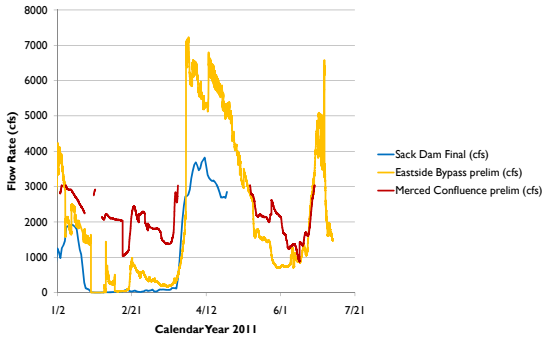
Downstream Flows



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Katrina Harrison

PARCEL GROUPINGS FOR FURTHER EVALUATION

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Elements of the Seepage Project Handbook

- Introduction
- Site Evaluation
- Plan Formulation ← Today
- Data Collection
- Design
- Environmental Compliance
- Construction
- Financial Assistance

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Plan Formulation

1) Divide project area into parcel groups
2) Initial existing data collection
   - Prioritize parcel groups for first tier of potential project locations; rule out others
3) Develop list of potential projects for a parcel group

- Today: Walk through parcels adjacent to the SJRRP project area, have been divided into parcel groups,

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Step 1: Parcel Grouping Memo

- Purpose: Divide the project area into manageable sections for initiating and tracking projects
- Criteria for Initial Parcel Grouping:
  - Ownership
  - Topography
  - Infrastructure
  - Level of flow where impacts may occur
  - Soil Texture

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Step 1: Parcel Grouping Memo

- Parcel groups may become seepage projects
- SCTF Comments: Logical divisions where criteria change
- Next steps:
  1. Existing Data Review
  2. Decision on further evaluation
  3. Site Evaluation
  4. Potential Seepage Project

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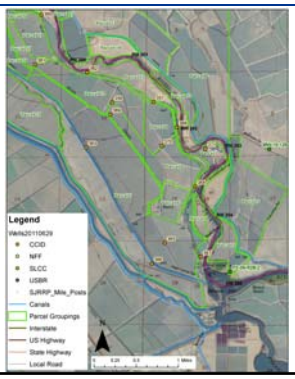
Step 1: Parcel Groupings



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Step 2: Initial Existing Data Collection

- Purpose:

1) Prioritize initial list of parcel groups for further analysis / rule out others
2) Get initial list of potential projects on a specific parcel group

- Please add other information:
  - Historical flooding
  - High groundwater
  - No issues

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Step 2: Initial Existing Data Collection

- Data includes:
  - Location information
  - Identified as historical seepage locations
  - Groundwater monitoring
  - Seepage observed from 2011 floods
  - Elevation
  - 1D hydraulic modeling

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Step 2: Initial Existing Data Collection

- Please add other information:
  - Historical flooding
  - High groundwater
  - No concerns, continued monitoring
  - No further seepage consideration needed

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Step 2: Initial Existing Data Collection

Parcel Group 1

Reach: 3
River Mile: 203
Bank: Left
Area (acres): 1218

Review:
- ☐ No Further considerations for seepage
- ☐ No present concerns, continued monitoring
- ☐ Historical seepage or flooding observed, evaluation required
- ☐ Interim Flows seepage, flooding, or shallow groundwater observed

Status:

Identified as parcel having historical seepage by: Landowner, RMC

Nearby Monitoring Wells: 365, 366, 363, 369, 361, 367

Shallowest Groundwater Level Measured: 4.8 feet below ground surface
Measured on 8/17/2010 in Monitoring Well 364

Shallowest Groundwater Level Observed in 2011 (depth of surface ponding):
Approximate Max Elevation (NAVD 88): Max Flow (cfs):

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Step 3: Initial List of Projects

- Projects include:
- Real Estate
  - Easements
  - Acquisition
- Physical
  - Tile drains
  - Slurry walls
  - Drainage ditches
  - Shallow well pumping
  - Conveyance improvements

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Discussion

- Are these groupings okay?
- Are we missing divisions in soil texture, infrastructure, etc. to divide differently?
- Which parcel groups do we have enough information about to say no further analysis is needed?
- Which parcel groups need further analysis of existing data?
- Are there any parcel groups we know already need a project?

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Katrina Harrison

DRAFT HIGH-PRIORITY LOCATIONS FOR ANALYSIS

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Priority Parcel Groups

- Selected potential parcel groups for priority evaluation
- Criteria:
  - Observed 2011 seepage AND/OR
  - District manager observed historical seepage AND/OR
  - Shallowest nearby groundwater level above 4 feet, unaffected by irrigation

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As shown in Parcel Group Packet

Parcel Group 2

Reach: 3
River Mile: 204.2
Bank: Right
Area (acres): 149

Review:
- ☐ No Further considerations for seepage
- ☐ No present concerns, continued monitoring
- ☐ Historical seepage or flooding observed, evaluation required
- ☐ Interim Flows seepage, flooding, or shallow groundwater observed

Status:
7/5/2011 Identified as potential parcel group for evaluation

Identified as parcel having historical seepage by: Landowner, District, SCTF, RMC

Nearby Monitoring Wells: PZ-09-R2B-2, 367, 364, 371, MW-10-129, PZ-09-R2B-1

Shallowest Groundwater Level Measured: 4.8 feet below ground surface
Measured on 4/20/2011 in Monitoring Well PZ-09-R2B-2

Shallowest Groundwater Level Observed in 2011 (depth of surface ponding): -1.60
Approximate Max Elevation (NAVD 88): 149.2 Max Flow (cfs): 3700

1D Hydraulic Model Cross-Section Station: 453056

Local Flow at which Water Surface Elevation in the SJR is equal to the lowest ground surface elevation assuming flat groundwater gradient (cfs): 1838.7

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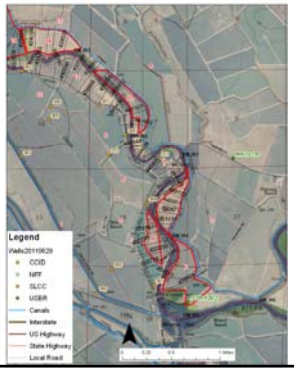
Priority Parcel Groups – Part 1



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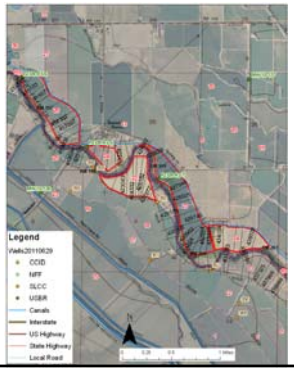
Priority Parcel Groups – Part 2



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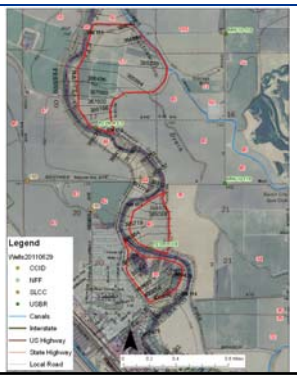
Priority Parcel Groups – Part 3



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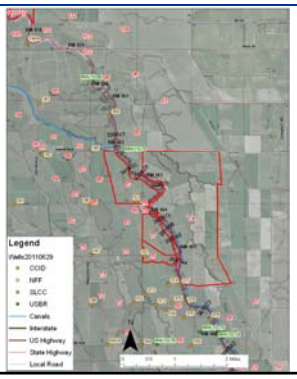
Priority Parcel Groups – Part 4



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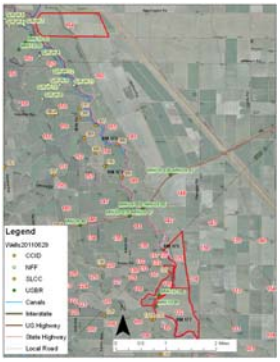
Priority Parcel Groups – Part 5



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Priority Parcel Groups

- What are we missing?
- Are there other criteria for selecting priority parcel groups we should be considering?

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Prioritization Methods - Brainstorm

- Within priority parcel groups -
  - By location
  - By locations observed to flood in 2011 (flows different in different reaches)
  - By locations observed to historically flood (may be missing information)
  - By calculated Friant release flow from HEC-RAS and groundwater threshold assuming flat groundwater table

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Projects Next Steps

- Comments back on parcel groups
- Comments back on data for parcel groups
- Comments back on priority parcel groups
- Prioritization Method within Priority groups
- Initial Projects for each Priority Parcel Group
- Selection Criteria
- Weighting
- Final Project Alternative(s)

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Dave Mooney

INFORMATION & DATA EXCHANGE

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Brainstorming

- Purpose: Open Forum for further comments
- Possible input includes:
  - Are we missing pieces of site evaluation?
  - Has anyone come up with creative solutions to a challenge?
  - Strategies to avoid inducing seepage?

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Challenges

- Ownership
- Operations and Maintenance
- Water Discharge
- Water Rights
- Long-term Monitoring
- Cost-share
- Terms of an Agreement

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Patti Ransdell

NEXT STEPS AND FOLLOW-THROUGH

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Next Steps

- Feedback from Landowners on Parcel Groups, considerations for parcel groups, and priority parcel groups – July 27
- Set Next Meeting Dates:
  - August 4
  - September 8

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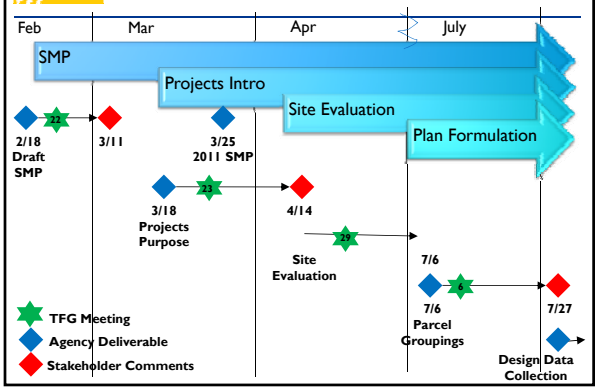
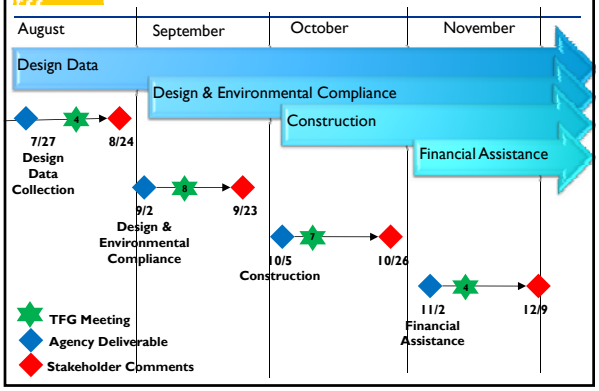
Milestones for Handbook Preparation



Milestones for Handbook Preparation



Action Items and Review

- Update Action Items
  - Revised Actions
  - New Actions

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Contact

- Technical Feedback Group – David Mooney
  - 916-978-5458
  - dmmooney@usbr.gov
- Seepage Concerns – Seepage Hotline
  - 916-978-4398
  - interimflows@restoresjr.net

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