

Trinity River Restoration Program
Science Program Report
September 12, 2011

Overview

This report summarizes the major science program activities that have occurred since May 2011 and major initiatives now underway:

– **Fiscal Year 2012 Work Planning / Prioritized List** **Page 2**

Intent:

1. *Review Fiscal Year 2012 work planning process*
2. *Discuss alterations to the Fiscal Year 2012 Science Work*

– **Fiscal Year 2013 Work Planning** **Page 4**

Intent:

1. *Discuss changes in Fiscal Year 2012 work planning process*
 - a. *Timing*
 - b. *Scientific Advisory Board input*
 - c. *Big questions*

– **Big Questions** **Page 5**

Intent:

1. *Share status of Big Question development*
2. *Get TAMWG input on major uncertainties*

– **Review Update** **Page 6**

Intent:

1. *Share status of various reviews*

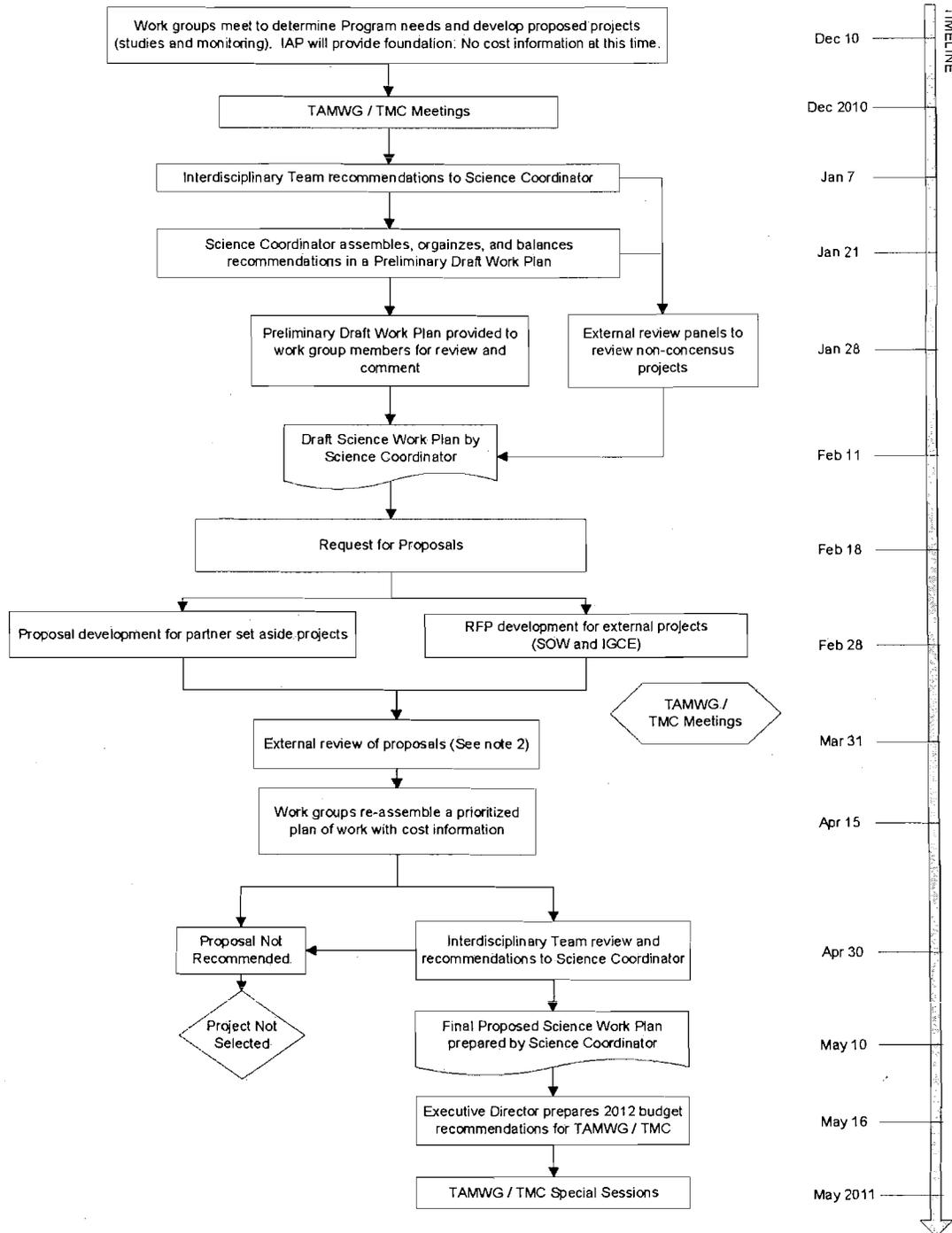
Please note that three additional major initiatives were discussed separately on the agenda:

1. Flow Reporting (Presenter: Krause)
2. System Status Report (Presenter: Hemphill)
3. Phase I Review (Presenters: Bandrowski / Clarke)

Materials for those efforts were provided separately.

Fiscal Year 2012 Work Planning / Prioritized List

Science Work Plan Development Process



Notes:

- (1) Recurring or on-going projects may not be subject to this full process.
- (2) Program intends to have all 2012 proposals reviewed by expert review panels, except rotary screw trap projects which were reviewed in 2010.

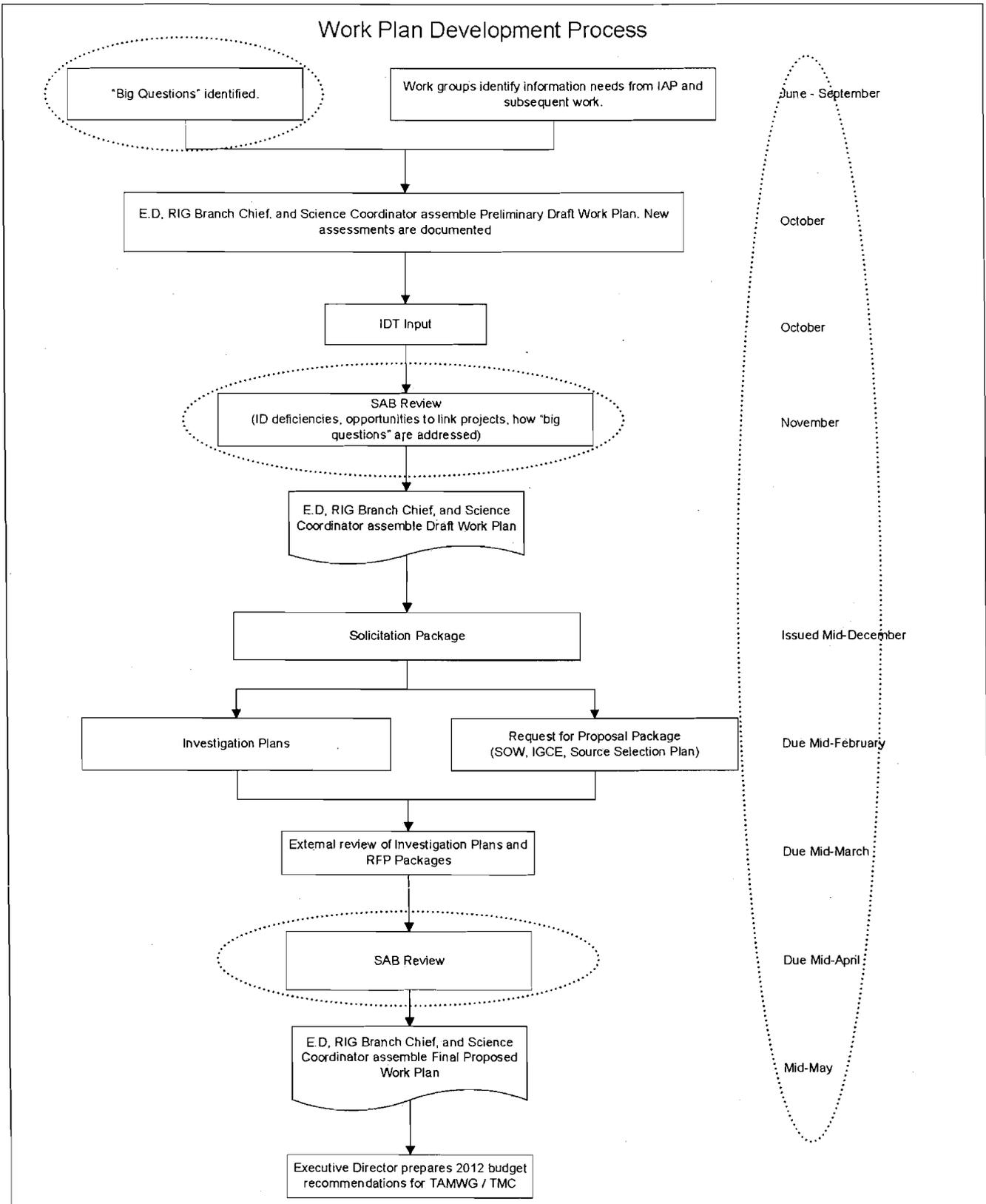
Fiscal Year 2012 Work Planning / Prioritized List

Work Group	IDT ranking	Fate	Project Title
General	Above line	Existing con.	Streamgaging
Fish	1, 2	Inv. Plan	Assessing effects of restoration on Chinook Salmon and Coho Salmon rearing habitat
Fish	3	Inv. Plan	Spring and fall Chinook and coho salmon and fall-run steelhead run-size estimation using mark-recapture methods.
Fish	4, 5, 13, 25,	Inv. Plan	Trinity River juvenile salmonid outmigrant monitoring program
Fish	5	Inv. Plan	Trinity River Juvenile Chinook Salmon Disease Assessment
Temperature		Sub-group	Annual Operations Process (Reservoir forecasting (DWR & CVO); Reservoir modeling (CVO & TRRP); River modeling (TRRP & USFWS); River temperature tracking)
Temperature	6	Market Res.	Cold Water Pool Volume Analysis
Temperature	7	Sub-group	Temperature Model Support
Fish	8, 31	Inv. Plan	Trinity River Chinook salmon redd and carcass survey
Fish	9	Inv. Plan	Monitor harvest of naturally produced fall Chinook
Physical	10	Existing con.	USGS Geomorphic Assessment
Riparian / Wildlife	11	Inv. Plan	Map and Quantify Riparian Vegetation
Riparian / Wildlife	12, 29, 39, 45, 54, 55	Existing con.	Wildlife Monitoring and Assessment
Fish	14, 22	Inv. Plan	Trinity River juvenile salmonid spatial and temporal density monitoring
Physical	16	Inv. Plan	Implementation monitoring and analysis
Physical	17	Inv. Plan	Geomorphic monitoring and assessment of bed scour and mobility
Physical	20	Existing con.	Sediment monitoring
General	Above line	Other	Water year specific activities
Fish	21	Inv. Plan	Trinity River Hatchery Chinook Coded Wire Tagging
Fish	21	Inv. Plan	Develop cohort reconstructions for Chinook and coho evaluate cohort performance or year class strength, and population growth rate.
Fish	21	Inv. Plan	Klamath-Trinity River fall/spring run Chinook scale age analysis
Fish	23	Sub-group	Juvenile salmonid survival: Coho salmon spawner success and limiting life stages.
Riparian / Wildlife	24	Market Res.	Trinity River Foothill Yellow-legged Frog Egg Mass Surveys
Fish	27	Inv. Plan	Monitor harvest of naturally produced spring Chinook
Riparian / Wildlife	28, 34	Market Res.	Monitor the distribution and abundance of western pond turtles
Physical	30	Market Res.	Test and Evaluate Side Channel and Alcove Parameters
Fish	32	Inv. Plan	Adult Fall-Run Chinook Salmon Disease Assessment
Riparian / Wildlife	35	Inv. Plan	Model how proposed WY2012 streamflows will affect hardwood regeneration
Fish	36	Sub-group	Range of Thermal Heterogeneity, a Simple Data Collection and Analysis
Physical	40	Inv. Plan	Linking sediment supply to channel complexity
Physical	40	Inv. Plan	Retrospective evaluation of topographic changes at Rush Creek and Indian Creek deltas on the Trinity River
Physical	41	Inv. Plan	Quantifying Channel Complexity
Fish	46	Market Res.	Map and quantify the extent (area) of available adult holding habitat at rehab sites and throughout the mainstem
Riparian / Wildlife	53	Sub-group	Riparian PITAs 3, 4, 5

Green



Fiscal Year 2013 Work Planning



Big Questions = What we don't know but want to learn

Target Species Use

- 1) Do terns, plovers, and whooping cranes use Program habitat complexes and/or habitat meeting Program minimum criteria in proportions greater than their availability?
- 2) What is the relationship between concurrently available riverine and sandpit nesting habitat and tern and plover use and productivity?
- 3) What is the relationship between availability of riverine nesting habitat meeting Program minimum criteria and tern and plover use and reproductive success?
- 4) What is the relationship between availability of whooping crane roosting habitat meeting Program minimum criteria and whooping crane use?
- 5) How does tern, plover, and whooping crane use of the central Platte River relate to overall population recovery objectives?

Physical Processes, Management Actions, & Species Response

- 6) How do short-duration high flows (SDHF), restoring sediment balance, and mechanical channel alterations contribute to the maintenance of channel width and creation of a braided river channel?
- 7) What is the relationship between SDHF, sediment balance, and tern and plover riverine nesting habitat meeting Program minimum criteria?
- 8) What is the relationship between SDHF, sediment balance, and whooping crane habitat meeting Program minimum criteria?
- 9) Have Program water-related activities avoided adverse impacts to pallid sturgeon in the lower Platte River?

Next Steps

- 10) What uncertainties exist at the end of the First Increment, and how might the Program address those uncertainties in the Second Increment?

Big Questions



"Big Questions" = Data Synthesis

- Utilize "weight of evidence" or "strong inference" approach – the logical box!
- Performance measures from monitoring and research that pertain to specific PRRIP hypotheses
- Data visualizations – graphs / tables / charts / others

Review Update

Complete reviews:

1. Fiscal Year 2012 Investigation Plans (POC: Ernie Clarke)
Documentation available on TRRP FTP site for each project:
 - Original investigation plan
 - Reviewer evaluations
 - Comment / response form
 - Updated investigation plan

Report revisions in progress:

1. Water Year 2010 Implementation Monitoring Report* (POC: Dave Gaeuman)
2. Photographic Monitoring of Channel Rehabilitation Sites on the Trinity River, California, 2007-2010* (POC: Matthew Smith-Caggiano)
3. 2010 Bed-material Sediment Budget Update, Trinity River, Lewiston Dam to Douglas City, California (POC: Dave Gaeuman)
4. Distribution of Chinook Salmon Redds in the Mainstem Trinity River 2002 to 2010 (POC: Charlie Chamberlain)

Report reviews in progress:

1. Integrated Habitat Assessment of the Upper Trinity River, 2009 - DRAFT REPORT (POC: Damon Goodman)
2. CDFG Trinity Basin Salmon and Steelhead Monitoring Report 2009-2010 Season⁺ (POC: Wade Sinnen)
3. Fiscal Year 2011 Sub-Program Review: Adult monitoring projects (POC: Joe Polos)
4. SAB evaluation of the Fiscal Year 2012 draft work plan (POC: Ernie Clarke)

Upcoming Activities:

1. Report Review: Outmigrant
2. Development of TRRP Scientific Peer Review Guidelines
3. FY 2013 Investigation Plans reviews