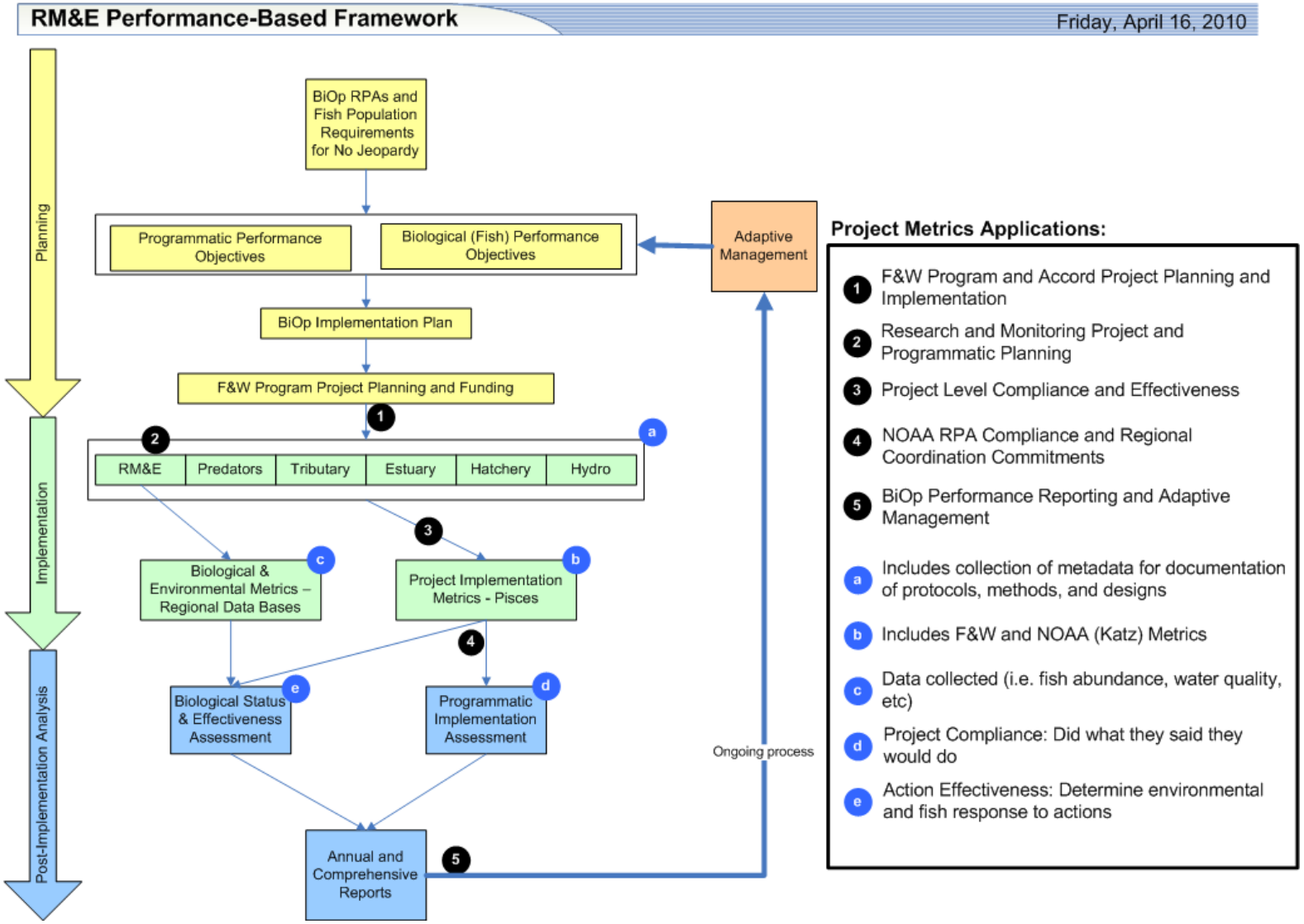
BPA's Post-Implementation Monitoring: Application of Compliance Monitoring to Support Action Effectiveness Assessments

July 28, 2010

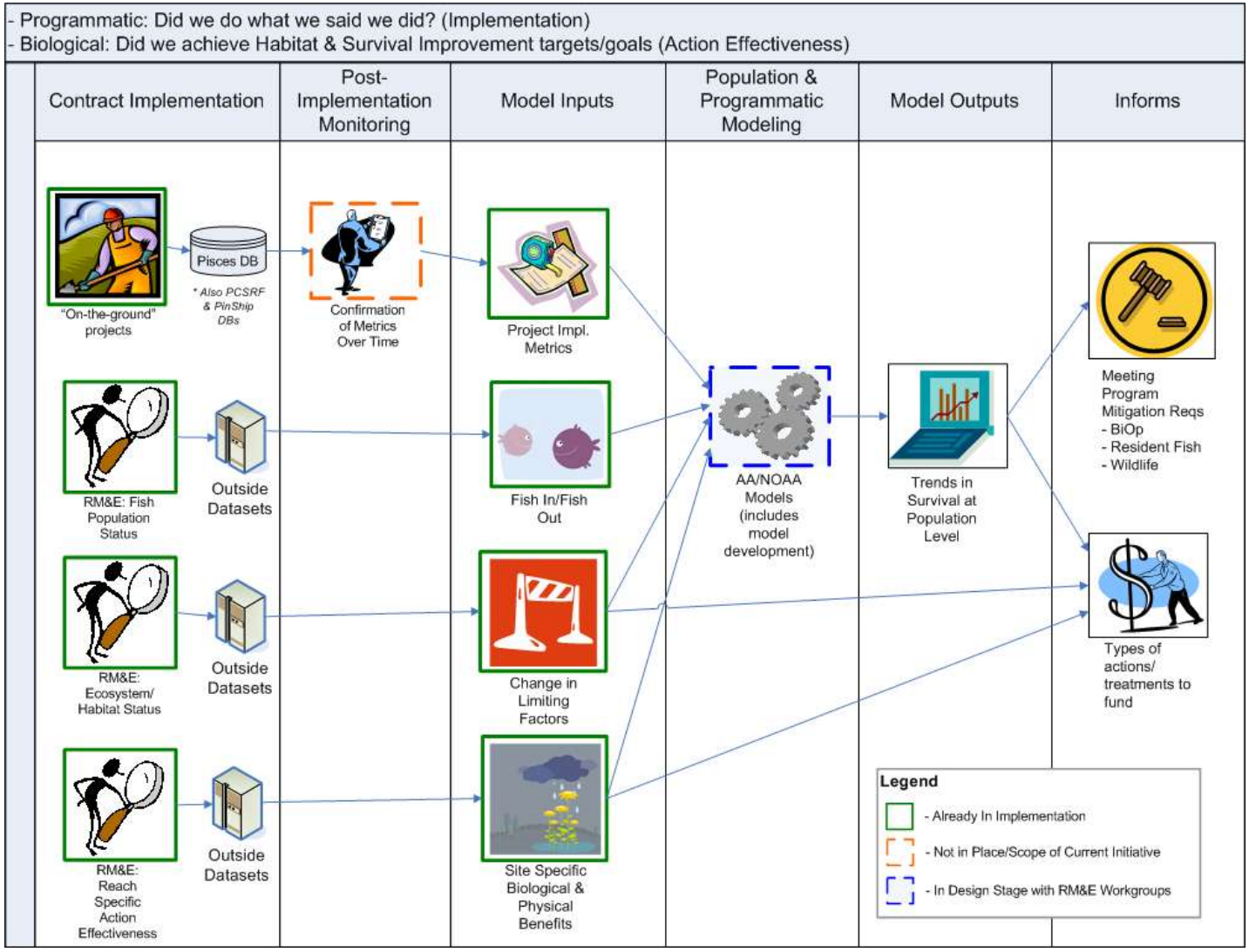
Goals/Value of Post-Implementation Monitoring

- Improve inputs to action effectiveness assessment models
  - Integrate comprehensive evaluation of action effectiveness for salmonid habitat based on common PCSRF Phase II metrics (Katz et al.)
- Improve the quality of programmatic reporting
- Allows funder to defend metrics for audit purposes
- Ensure projects are delivering proposed actions as stated in the BiOp
- Meet the compliance monitoring requirement in the BiOp

RM&E Performance Framework



Implementation and Action Effectiveness



- Initiative focuses on post-contract data validation
- Specifically for “on the ground” work

High Level Approach

- Contract with a third party to
  - analyze work done by F&W funded projects and
  - capture the value provided by the work at the time of the validation
- Review the metric at different time horizons:
  - at the end of the contract,
  - x years out,
  - y years out (where y > x)
  - etc as needed

  } out years
- Review a sampled subset of metrics (the actual sample percentages have yet to be determined) depending on importance of coverage and costs

Proposed Sampling Segments Based on Work Elements (Project Types)

Current Approach - Review:

1. X% of each BPA action/Work Element type;
2. Priority Populations
   - IMWs
   - RM&E Workgroup primary population per MPG
   - BPA survival gap priorities from RPA 35 Project or reach level effectiveness work (z% sample size), then
3. Collect data at the end of the contract and future years to validate remaining value

** Actual sample sizes to be determined by the team

Example Metrics and Frequency

Action (WE Name)	Metric Name	Decision	Recommended Frequency
Create, Restore, and/or Enhance Wetland	# of acres of habitat created by type [estuarine, freshwater non-tidal, riparian, upland]	CE - Monitor at end of contract and out years	Systematic (e.g., every third year.)
Create, Restore, and/or Enhance Wetland	# of acres of habitat rehabilitated/enhanced by type [estuarine, freshwater non-tidal, riparian, upland]	CE - Monitor at end of contract and out years	0
Create, Restore, and/or Enhance Wetland	% of acres of habitat restored/re-established remaining	No - No Monitoring beyond Pisces SOW	0
Decommission Road/Relocate Road	# Miles of road or trail treated	C - Monitor at end of contract only	Year 1
Decommission Road/Relocate Road	# of direct sediment entry points eliminated	No - No Monitoring beyond Pisces SOW	0
Decommission Road/Relocate Road	# of miles of new road created in upland or riparian area	C - Monitor at end of contract only	Year 1
Enhance Floodplain/Remove, Modify, Breach Dike	% of acres of new floodplain habitat that remain functional	No - No Monitoring beyond Pisces SOW	0
Enhance Floodplain/Remove, Modify, Breach Dike	Increase in floodprone width	No - No Monitoring beyond Pisces SOW	0
Enhance Floodplain/Remove, Modify, Breach Dike	Length of Dike Removed	C - Monitor at end of contract only	Year 1
Enhance Floodplain/Remove, Modify, Breach Dike	Mean bankfull width in the treated reach	No - No Monitoring beyond Pisces SOW	0
Increase Instream Habitat Complexity and Stabilization	# of boulders by size class	AE - Action Effectiveness Study	Years 1, 3, 5,10
Increase Instream Habitat Complexity and	# of logs ~~jam~~	ectiveness Study	Years 1, 3, 5,10

Estimated Cost of Monitoring

- Tetra Tech did a cost estimate using FY09 data
- Sample sizes will drive the final cost based on Approximately 950 WE sample sites per year.

- 5% Sample Size → ~$270K Annual Run Rate

Contract Year Monitored	Fiscal Year Spending									
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
FY2010	$94,775	$11,529	$20,436	$6,662	$30,654			$7,075		$20,436
FY2011		$104,253	$12,681	$22,479	$7,328	$33,719			$7,783	
FY2012			$114,678	$13,949	$24,727	$8,061	$37,091			$8,561
FY2013				$126,146	$15,344	$27,200	$8,867	$40,800		
FY2014					$138,760	$16,879	$29,920	$9,753	$44,880	
FY2015						$152,636	$18,567	$32,912	$10,729	$49,368
FY2016							$152,636	$18,567	$32,912	$10,729
FY2017								$152,636	$18,567	$32,912
FY2018									$152,636	$18,567
FY2019										$152,636
TOTAL	$94,775	$115,781	$147,795	$169,236	$216,813	$238,495	$247,081	$261,744	$267,507	$293,209

- 10% Sample Size → ~$540K Annual Run Rate

Contract Year Monitored	Fiscal Year Spending									
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
FY2010	$189,550	$23,057	$40,872	$13,323	$61,308			$14,151		$40,872
FY2011		$208,505	$25,363	$44,959	$14,656	$67,438			$15,566	
FY2012			$229,356	$27,899	$49,455	$16,121	$74,182			$17,122
FY2013				$252,291	$30,689	$54,400	$17,733	$81,600		
FY2014					$277,520	$33,758	$59,840	$19,506	$89,760	
FY2015						$305,272	$37,134	$65,824	$21,457	$98,737
FY2016							$305,272	$37,134	$65,824	$21,457
FY2017								$305,272	$37,134	$65,824
FY2018									$305,272	$37,134
FY2019										$305,272
TOTAL	$189,550	$231,562	$295,590	$338,472	$433,627	$476,989	$494,161	$523,487	$535,013	$586,417

Notes:

- Assumed 10% annual program growth thru FY2016, then no growth
- Does not include possible cost for Hatchery, and possible savings for remote sensing
- Compounding cost due to multiple reviews for some metrics
- Costs may be greater for a one time sample effort to support model calibration in the IMWs

Questions for Discussion

Question
Will this create a requirement for sponsors to capture more metrics?
What additional work will there be for contractors and Project Managers?
What happens if we cannot get access to the sites for monitoring?
How to we deal with the likely response from sponsors that we “don’t trust them?”
Should sponsors think that their future work is contingent on the results of the monitoring?
Will this effort look at contract already completed or in progress? (or just new contracts)
Who is responsible for the communication plan (internal and external) and when will it go “live”?

Potential Problems and Issues

- Katz Metrics are needed for standard metric collection for modeling Action Effectiveness
- Metrics may be the same but different definitions or guidance may result in reporting different metric values
- Protocols and methods for validation.
  - Standard operating procedures generally not documented
    - Consistency between implementer and professional 3rd party
      - Different instructions and techniques for monitors and Sponsors
    - For one the ground and remote sensing no methods in WWW.MonitoringMethods.org
- Coordination between programs lacking
  - (Pilot BOR, BPA and UCSRB coordination).

Potential Problems and Issues

- The sample size selection rate is informed by both the need to have a certain level of precision in a given metric (although this may not apply for yes/no metrics) and the total number of projects in the sample pool.
- If all monitoring for a category is conducted using remote sensing, then the impetus for project sponsors to make sure that their projects are functional on the ground is lessened.
- The potential for a random inspection can help improve the probability of following through on implementation.
- Lack of validation for real time actions:
  - Release or Catch for Harvest or Hatcheries
  - Water Transactions, unless metered

Next steps and Solutions

- Build capacity to track 3rd party metric validation & value appreciation or depreciation over time.
- Build models to use metrics (Katz compatible) common to multiple systems to support comprehensive action evaluations.
- Set Models to help prioritize future actions
- Set up action effectiveness studies to track and report compliance metrics.