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Managing Water in the West

FCRPS BiOp Tributary Habitat Implementation Update

October 4, 2011

U.S. Department of the Interior
Bureau of Reclamation

Goals

- **Meet FCRPS BiOp requirements**
- **Explore ideas to improve the project selection processes to meet BiOp requirements**

Today's Topics

- **FCRPS BiOp requirements**

- **AA timelines/processes**
- **Recent planning and implementation tools**
- **EP prep tasks**
- **Integration**
- **Summary**

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Table 5. Estimated Habitat Quality Improvements

ESU	Major Population Group	Population	Estimated Percentage Habitat Quality Improvement of 2007-2009 Actions	Total Estimated Percentage Habitat Quality Improvement of 2007-2018 Actions
Snake River Spring/Summer Chinook	Grand Ronde/Imnaha	**Catherine Creek**	**4**	**23**
		Lostine/Wallowa River	2	2 *
		Grand Ronde River upper mainstem	**2**	**23**
		Imnaha River mainstem	1	1 *
	Middle Fork Salmon River	Big Creek	1	1 *
	South Fork Salmon River	Secesh River	1	1 *
		South Fork Salmon River Mainstem	<1	<1 *
	Lower Snake	**Tucannon River**	**7**	**17**
	Upper Salmon River	East Fork Salmon River	1	1 *
		Lemhi River	7	7 *
		Pahsimeroi River	41	41 *
		Salmon River lower mainstem below Redfish Lake	1	1 *
		Salmon River upper mainstem above Redfish Lake	14	14 *
		Valley Creek	1	1 *
		Yankee Fork	**10**	**30**
Upper Columbia Spring Chinook	Upper Columbia – Below Chief Joseph	**Entiat River**	**10**	**22**
		Methow River	**2**	**6**
		Wenatchee River	**1**	**3**

Table 5. Estimated Habitat Quality Improvements (continued)

ESU	Major Population Group	Population	Estimated Percentage Habitat Quality Improvement of 2007-2009 Actions	Total Estimated Percentage Habitat Quality Improvement of 2007-2018 Actions
Middle Columbia Steelhead	Cascades Eastern Slope Tributaries	Deschutes River – eastside	1	1 *
		Deschutes River – Westside	<1	<1 *
		Fifteen mile Creek (winter run)	<1	<1 *
		Klickitat River	4	4 *
	John Day River	John Day River lower mainstem tributaries	<1	<1 *
		John Day River upper mainstem	<1	<1 *
		Middle Fork John Day River	<1	<1 *
		North Fork John Day River	<1	<1 *
		South Fork John Day River	1	1 *
	Umatilla and Walla Walla River	Touchet River	4	4 *
		Umatilla River	4	4 *
		Walla Walla River	4	4 *
	Yakima River Group	Naches River	4	4 *
		Satus Creek	4	4 *
		Toppenish	4	4 *
		Yakima River upper mainstem	4	4 *
Snake River Steelhead	Clearwater River	**Lochsa River**	**6**	**16**
		Lolo Creek	**8**	**12**
		Selway River	**<1**	**<1**
		South Fork Clearwater River	**5**	**14**

Table 5. Estimated Habitat Quality Improvements (continued)

ESU	Major Population Group	Population	Estimated Percentage Habitat Quality Improvement of 2007-2009 Actions	Total Estimated Percentage Habitat Quality Improvement of 2007-2018 Actions
Snake River Steelhead	Grand Ronde River	Grand Ronde River lower mainstem tributaries	<1	<1 *
		Grand Ronde River upper mainstem	4	4 *
		Joseph Creek (OR)	<1	<1 *
		Joseph Creek (WA)	4	4 *
		Wallowa River	<1	<1 *
	Hells Canyon	Hells Canyon		
	Imnaha River	Imnaha River		*
	Lower Snake	Asotin Creek	4	4 *
		Tucannon River	5	5 *
	Salmon River	**Lower Middle Fork mainstem and tribs (Big, Camas, and Loon Creeks)**	**1**	**2**
		East Fork Salmon River	2	2 *
		Lemhi River	3	3 *
		Pahsimeroi River	9	9 *
		Salmon River upper mainstem	6	6 *
		Secesh River	**1**	**6**
		South Fork Salmon River	**<1**	**1**
Upper Columbia Steelhead	Upper Columbia River – below Chief Joseph	**Entiat River**	**6**	**8**
		Methow River	**2**	**4**
		Okanogan River	**12**	**14**
		Wenatchee River	**1**	**4**

* The Action Agencies may provide funding and/or technical assistance for replacement projects should they become necessary for the Action Agencies to achieve equivalent MPG or ESU survival benefits.

Today's Topics

- FCRPS BiOp requirements
- **AA timelines/processes**
- Recent planning and implementation tools
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RPA		2011	2012	2013	2014	2015	2016	2017	2018
		J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D
1	**Implementation Plan**								
	Draft Report								
	Prepare trib Hab section								
1	**Supplemental Trib Hab Imp Plan**								
	Draft Report								
	Analyze data								
2	**Annual Progress Report**								
	Draft report			**2012 APR subsumed by**			**2015 APR subsumed by 2016 CE**		
	Compile Habitat data								
3	**Comprehensive Evaluation**								
	Draft Report								
	Compile Habitat Data								
35	**Update Subbasin Programmatic Plans**								
	Draft Report								
	Analyze data								
35	Finalize benefit conversion								
	Expert Panel Workshops								
	Orientation mtgs								
	Send materials to subbasin leads								
	Prepare RME materials for each subbasin								
	Update tracking materials for each wkshp								
35	**Project Planning and Implementation**								
	Construct project (3)								
	Complete permits/Env. Compl. (3)								
	Project design (2-3)								
	Landowner coordination (1-3)								
	Project selection (1)								
	Project identification/prioritization (-1)								
	RME update (-1)								

Notes

Project planning and implementation is a continuous process. The majority of projects take 3 years to complete. The number within parentheses represents the year in which a 3-year activity usually occurs. Project construction (Green) milestones can occur in any month; but the relation between green and purple milestones is about the same in the year of construction.

(-1) - yr milestones occur before projects are selected. Project selection can occur in any month informed by the last set of RME info.

Green boxes- major milestone
Purple boxes- interim milestone (floating due time)
Red boxes- interim milestone (fixed due time)
Orange boxes- work activity

RPA		2011	2012	2013	2014	2015	2016	2017	2018
		J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D
1	**Implementation Plan**								
	Draft Report								
	Prepare trib Hab section								
1	**Supplemental Trib Hab Imp Plan**								
	Draft Report								
	Analyze data								
2	**Annual Progress Report**								
	Draft report								
	Compile Habitat data			2012 APR subsumed by 2013 CE			2015 APR subsumed by 2016 CE		
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	Draft Report								
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	RME update (-1)								

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Green boxes- major milestone
Purple boxes- interim milestone (floating due time)
Red boxes- interim milestone (fixed due time)
Orange boxes- work activity

Solid and dashed lines show connections and dependencies among more than one activity
Red solid- RME deliverables feed Project Planning and Implementation and support Expert Panel workshop estimates;
Expert Panel results feed Subbasin Programmatic Plans; Subbasin Programmatic Plans feed Comprehensive Analyses, Implementation Plans, and Supplemental Implementation Plans
Red dashed- Supplemental IP completes trib hab installment for last year of prior Implementtion Plan
Blue solid- 3 years of planned projects inform Expert Panel estimates of expected benefits for next 3-yr implmentation cycle
Blue dashed- 3 years of completed projects inform Expert Panel validation/estimates for last 3-yr implementation cycle
Purple dashed- Completed projects feed APRs and Comprehensive Evaluations

2010 – 2012 Planned Actions Table

Upper Columbia River Steelhead and Spring Chinook - Entiat River

Assessment Unit (AU)	Primary Limiting Factor(s) (PLF) by AU	Actions	2010 Metric	2010 Planned Value	2011 Metric	2011 Planned Value	2012 Metric	2012 Planned Value	Comments
Lower Entiat	Low Stream flow	Continue Knapp-Wham and Hanan Detwiler irrigation ditch consolidation effort							
Lower Entiat		Continue exploring extension of Entiat Irrigation District line upstream to serve PUD canal/system users							
Lower Entiat		Pursue other water conveyance efficiency and diversion improvements	cubic feet/second restored to stream	2 cfs (McKenzie); USBR stimulus well conversions ~ 2 cfs; Roaring Cr. Well conversion ~ 1.5 cfs; BOR					Surface water effect, savings will be somewhat less.
Lower Entiat		Improve on-farm irrigation application efficiency, scheduling, and general water conservation.		2 cfs (McKenzie); USBR stimulus well conversions ~ 2 cfs; Roaring Cr. Well conversion ~ 1.5 cfs; BOR					Surface water effect, savings will be somewhat less.
Lower Entiat		Provide technical and cost-share assistance for water metering and reporting							
Lower Entiat		Continue conversion of surface water diversions to ground water/well withdrawals, when feasible	cubic feet/second restored to stream	1 cfs (surface to wells)					
Lower Entiat	Riparian condition	Implement riparian planting projects with willing landowners							
Lower Entiat		Work with willing landowners to protect larger, undisturbed riparian areas by first pursuing conservation easement, lease, and options other than outright property acquisition							
Lower Entiat	Floodplain connectivity	Implement Ecosystem Diagnosis and Treatment (EDT) Alternative 5 related to side-channel options	miles of river restored	0.2 miles (Foreman)	miles of river restored	0.3 miles (hatchery) CMB review comment: planned for implementation in 2010			
Lower Entiat	Habitat diversity	Implement EDT Alternative 5, focusing on pool forming structures	miles of river treated	0.2 miles (lower screw trap); 0.2 miles (Foreman); 0.3 miles (B2B Phase 3)	miles of river restored	0.3 miles (4 mile bridge); 0.3 miles (hatchery); 0.3 miles (LBS); 0.3 miles (Keystone) CMB review comment: implement action in next cycle, 2014, per IMW decision			
Lower Entiat	Habitat quantity	Implement EDT Alternative 5, focusing on pool forming structures	miles of river restored	0.2 miles (lower screw trap); 0.2 miles (Foreman); 0.3 miles (B2B Phase 3)	miles of river restored	0.3 miles (4 mile bridge); 0.3 miles (hatchery); 0.3 miles (LBS); 0.3 miles (Keystone) CMB review comment: implement action in next cycle, 2014, per IMW decision			

Estimated % Change of Limiting Factors from Implementation of 2010-2012 Actions

Steelhead - Entiat River

Assessment Unit	Limiting Factor	2010-2012 VALUES					
		Starting Low Bookend	10-12 Estimates		Updated High Bookends		Updated LF Weight
			2018	2033	2018	2033	
Lower Entiat	Excessive Fine Sediment	23	24	24	30	30	10
Lower Entiat	Floodplain connectivity	20	21	21	21	21	6
Lower Entiat	Habitat diversity	15	19	19	41	41	20
Lower Entiat	Habitat quantity	15	19	19	41	41	35
Lower Entiat	Low Stream flow	80	85	85	87	87	2
Lower Entiat	Obstructions/entrainment[1]						
Lower Entiat	Riparian condition	30	30	30	35	40	2
Lower Entiat	Side-channel connectivity	10	12	12	15	15	25
Mad River	Habitat diversity	91	91	91	97	99	33.33
Mad River	Habitat quantity	90	90	90	97	99	33.33
Mad River	Improve streamflow[1]						
Mad River	Two obstructing pipes in Tillicum	98	98	98	100	100	33.33
Middle Entiat	Excessive Fine Sediment	23	24	24	30	30	40
Middle Entiat	Habitat diversity	60	62	62	70	80	35
Middle Entiat	Riparian condition	80	81	82	85	90	20
Middle Entiat	Stormy obstructions to passage	93	93	93	99	99	5
Middle Entiat	Water Quantity[1]						

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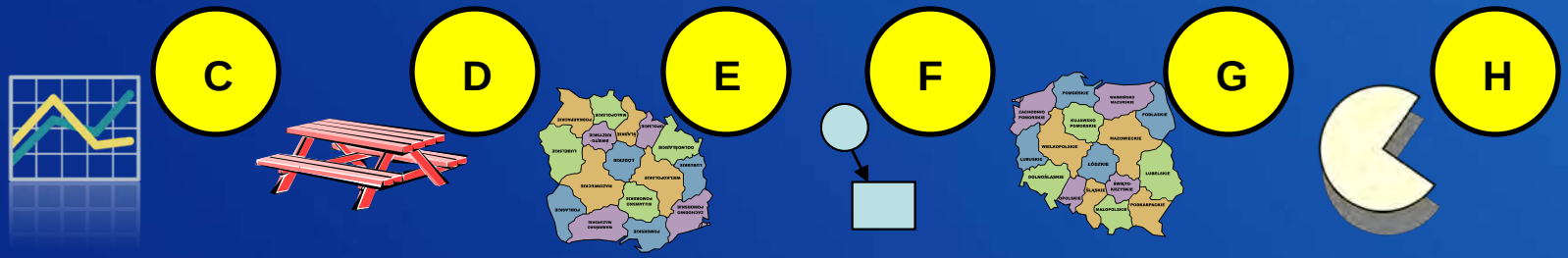
Today's Topics

- FCRPS BiOp requirements
- AA timelines/processes
- **Recent planning and implementation tools**



- Summary

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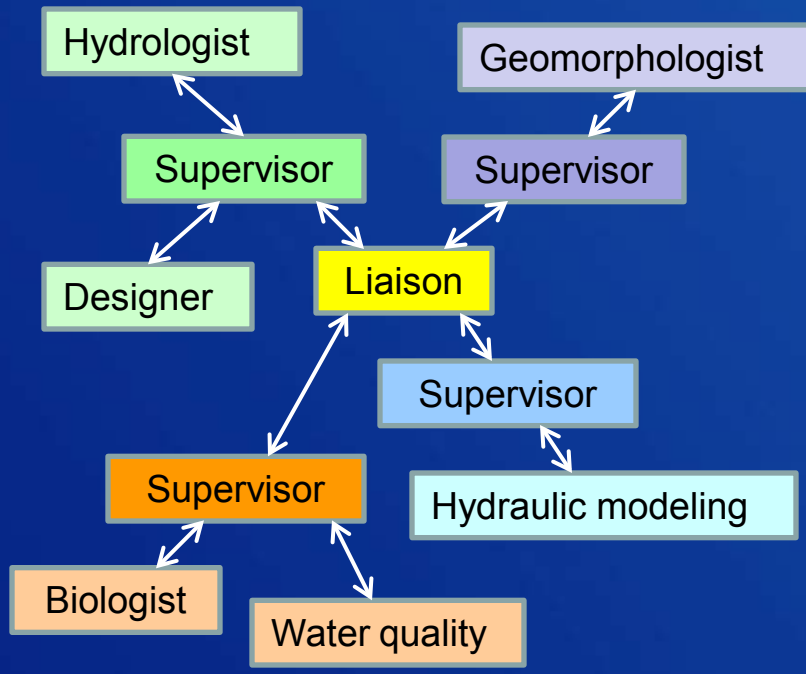
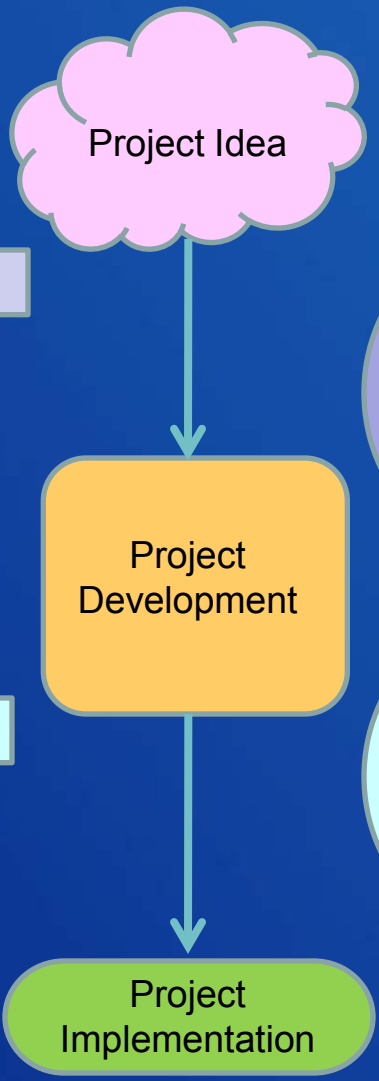
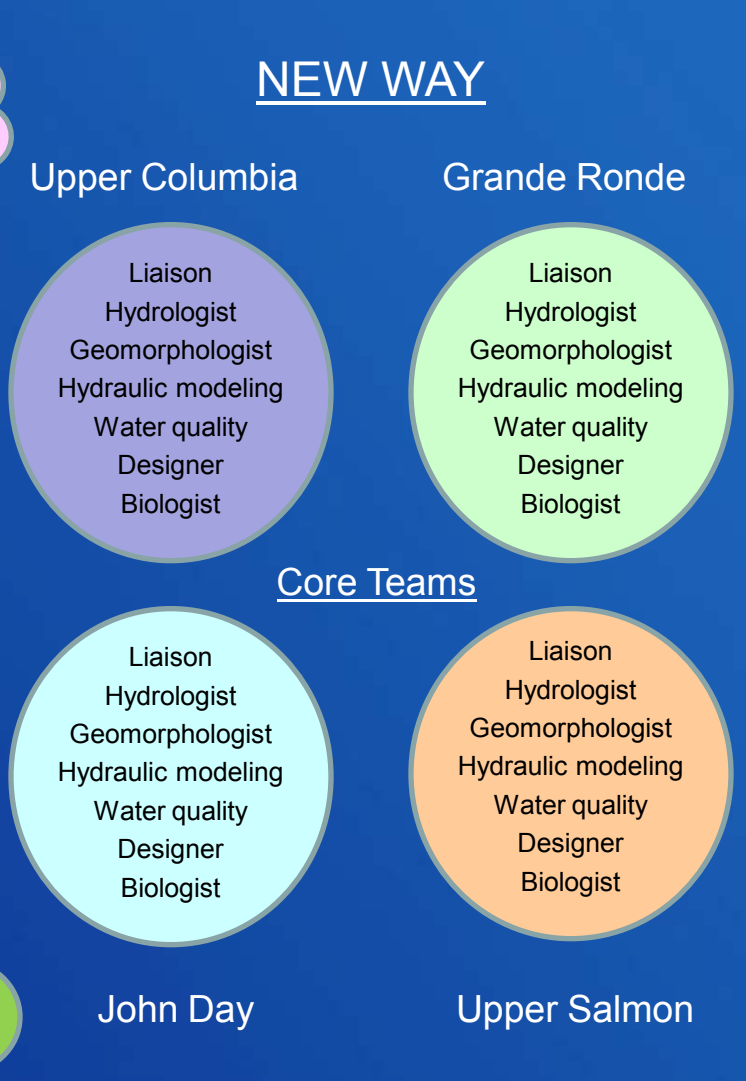
F1

Organizational Changes







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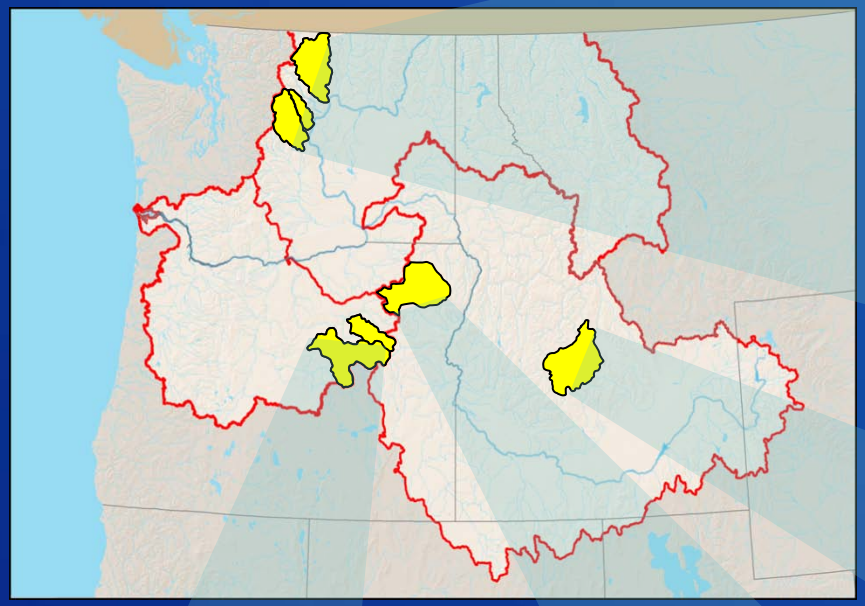
USBR Tributary and Reach Assessments, 2011



Methow
TA- 79 mi.

Big Valley RA
7 mi.

Lower
White Pine
RA 2 mi.

Middle Methow RA
11 mi.

Upper
White Pine
RA 2 mi.

Preston RA
2 mi.

Kahler RA
4 mi.

Stormy RA
3 mi.

Entiat
TA- 26 mi.

Wenatchee
Nason Creek TA- 10 mi.

Oxbow RA
2 mi.

Middle Fork
John Day

Forrest RA
4 mi.

Upper John Day
TA- 26 mi.

Grande Ronde

Upper Salmon

Yankee Fork TA- 18 mi.

Catherine Creek TA- 59 mi.

http://www.usbr.gov/pn/programs/fcrps/thp/index.html

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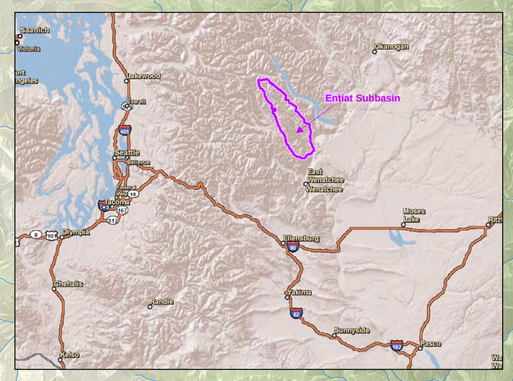
Managing Water in the West

Entiat Subbasin, Washington

Upper Columbia Spring Chinook and Steelhead Population Assessment Units and Limiting Factors



Lucerne

Antilon Lake

Donnke Lake

Upper Entiat

North Fork Entiat River

Entiat River

Lake Chelan

Middle Entiat

Mad River

Mad Creek

Lower Entiat

Roaring Creek

Rocky Reach Dam

Ardenvoir

Entiat

Manson

Twin Lakes (2)

Telma

Merritt

Plain

Winton

Peshastin

Leavenworth

Wenatchee Lake

Fish Lake

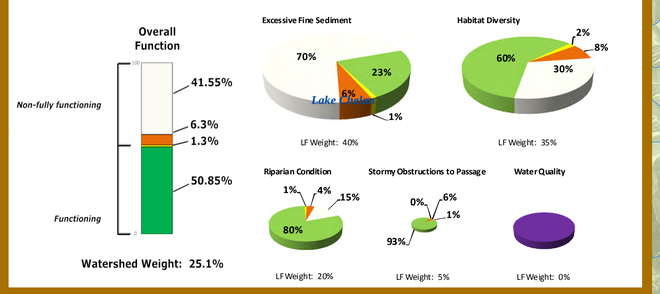
Wapato Lake

Roses Lake

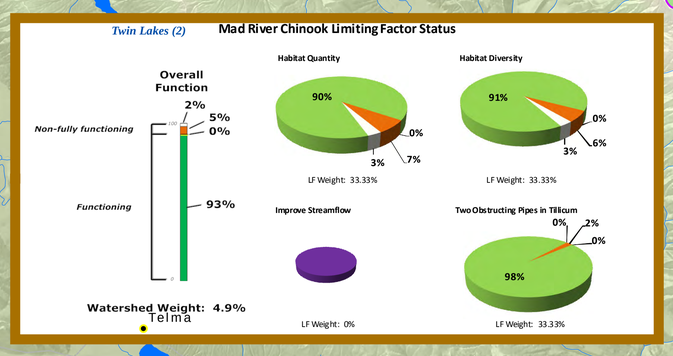
Falls

Waterville

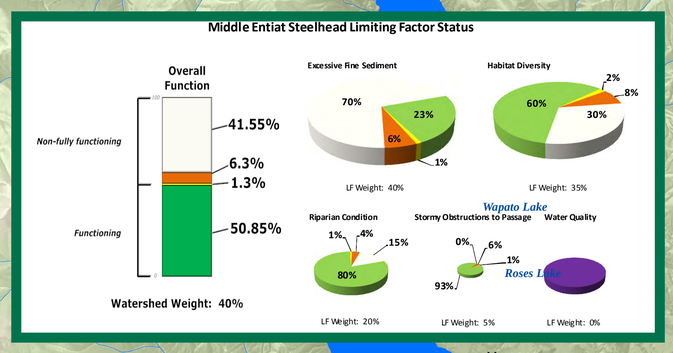
Middle Entiat Chinook Limiting Factor Status



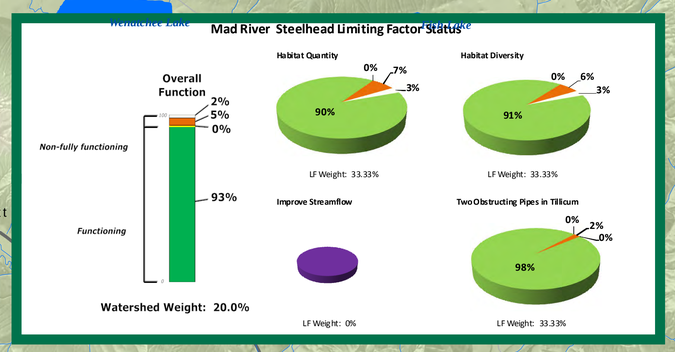
Mad River Chinook Limiting Factor Status



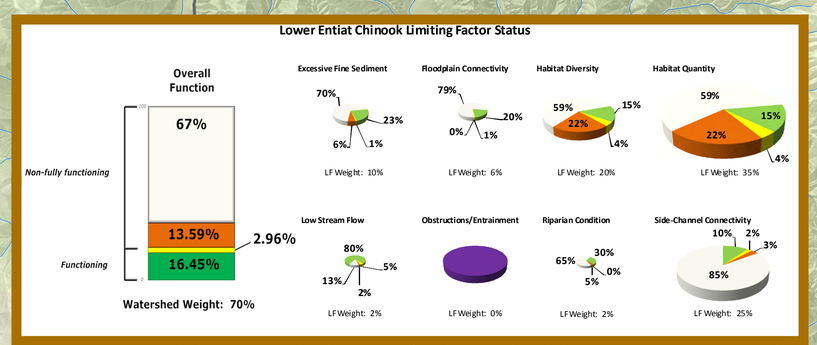
Middle Entiat Steelhead Limiting Factor Status



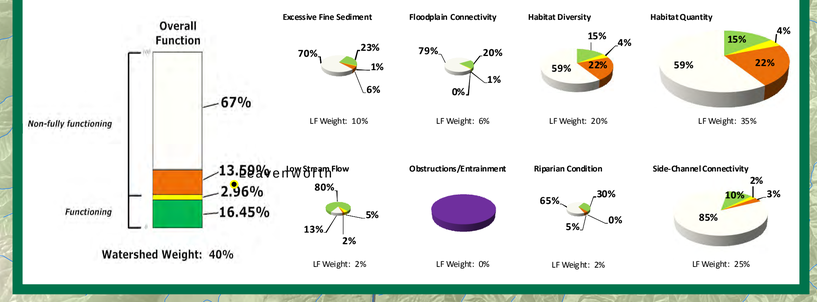
Mad River Steelhead Limiting Factor Status



Lower Entiat Chinook Limiting Factor Status



Lower Entiat Steelhead Limiting Factor Status



Assessment Units

- Lower Entiat
- Middle Entiat
- Mad River
- Upper Entiat
- Entiat Subbasin Boundary (HUC 8)
- Information Details for Chinook
- Information Details for Steelhead
- Conditions 2006
- Conditions 2007-2012
- Identified Potential 2013-2018
- Remaining Potential 2013-2018
- Undefined/Pending Definition

Bars and Pies Charts:
Bar and pie charts were generated from estimates of the habitat condition of key limiting factors associated with habitat actions planned and completed for the FCRPS BiOp from 2007 to 2012 that were made at the last FCRPS BiOp Expert Panel workshops (2009 and 2010). The bars and pies only represent conditions for the term of the FCRPS BiOp (2007-2018), do not include conditions associated with habitat actions completed by other parties within this time period, and, therefore, may not represent the status of these key limiting factors for other than FCRPS BiOp purposes.

Details:
Stacked bars and values (Overall Function) represent differences between functioning (green and yellow) and non-fully-functioning (orange and white) key limiting factors aggregated for each assessment unit. The size of each bar is relative to the Intrinsic Potential of each Assessment Unit within the population as defined in draft Population Status Assessments produced by the Interior Columbia Basin Technical Recovery Team. Assessment Unit bar size is proportional to where actions are likely to provide the greatest biological benefits. The interinsic potential weighting factor (Watershed Weight) is denoted below each bar.

Pie slices and values indicate the functioning and non-fully-functioning parts for each limiting factor. The green part represents the condition of the limiting factor at the start of the 2010 FCRPS BiOp. The yellow part represents the progress associated with planned and completed actions from 2007 to 2012. The orange part represents the potential for additional progress identified at the expert panel workshops; and the white part indicates potential additional improvement that may or may not be possible within the term of the FCRPS BiOp. The size of the pies for each assessment unit are proportional to the limiting factor weight assigned at expert panel workshops. The Limiting Factor Weight is denoted below each pie. Purple pies indicate that Limiting Factor condition is undefined and pending definition by the expert panels. Greatest biological benefits are likely to be gained by implementing actions that address limiting factors represented by the largest pies in each assessment unit.

Sources: Assessment Units GIS data provided by the National Oceanic and Atmospheric Administration.

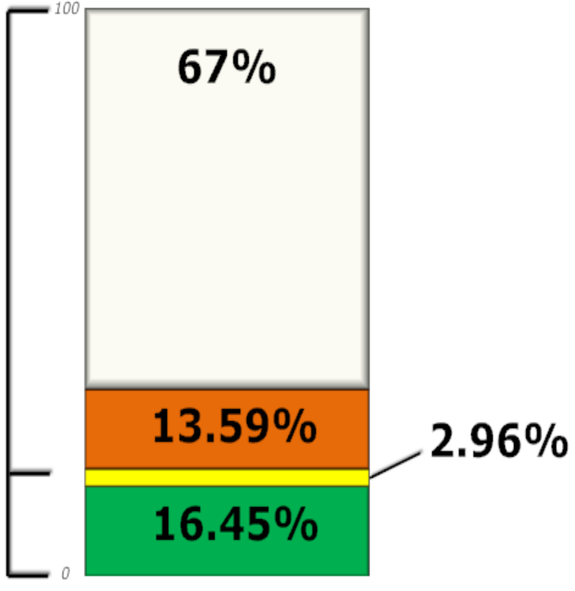
0 1 2 4 Miles

Map Prepared by PNGIS – May, 2011

Lower Entiat Chinook Limiting Factor Status

H1

Overall Function

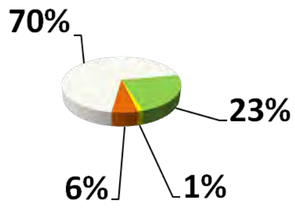


Non-fully functioning

Functioning

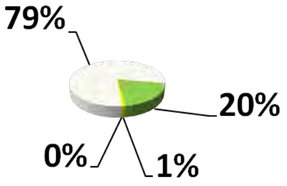
Watershed Weight: 70%

Excessive Fine Sediment



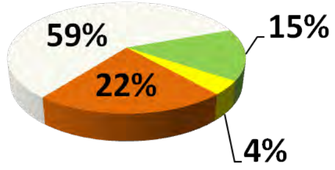
LF Weight: 10%

Floodplain Connectivity



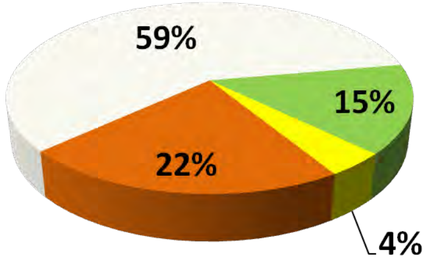
LF Weight: 6%

Habitat Diversity



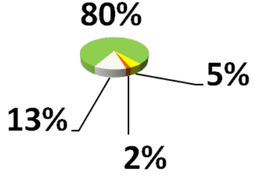
LF Weight: 20%

Habitat Quantity



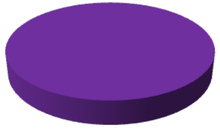
LF Weight: 35%

Low Stream Flow



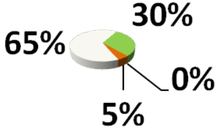
LF Weight: 2%

Obstructions/Entrainment



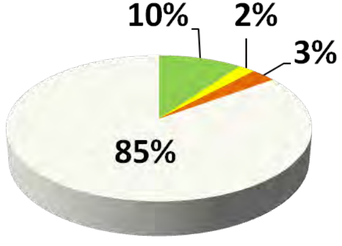
LF Weight: 0%

Riparian Condition



LF Weight: 2%

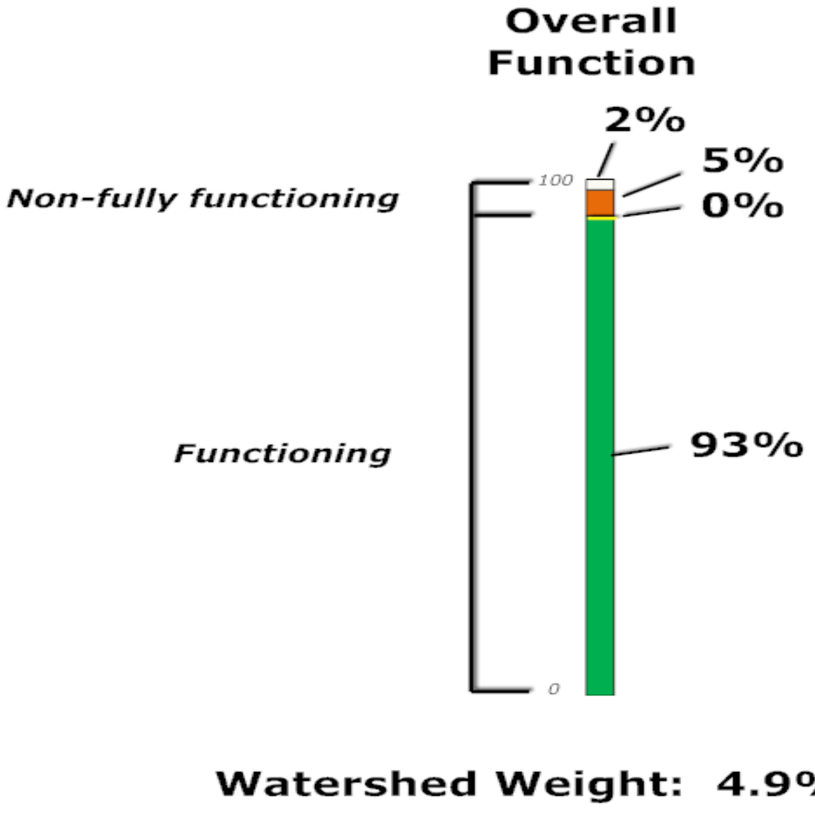
Side-Channel Connectivity



LF Weight: 25%

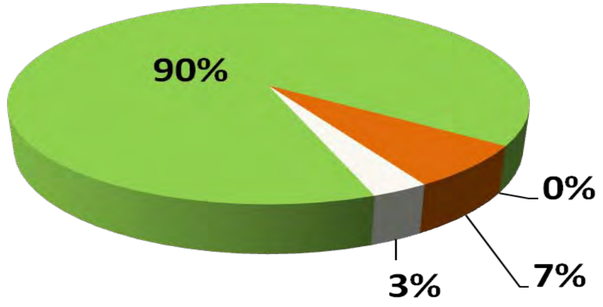
Mad River Chinook Limiting Factor Status

H2



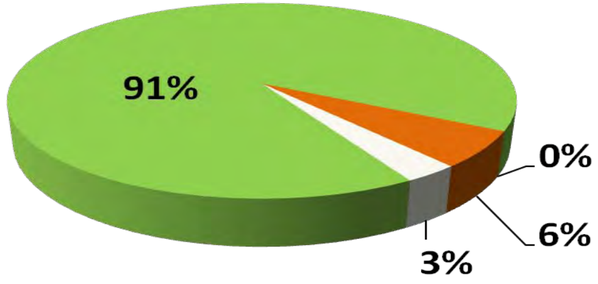
Watershed Weight: 4.9%

Habitat Quantity



LF Weight: 33.33%

Habitat Diversity

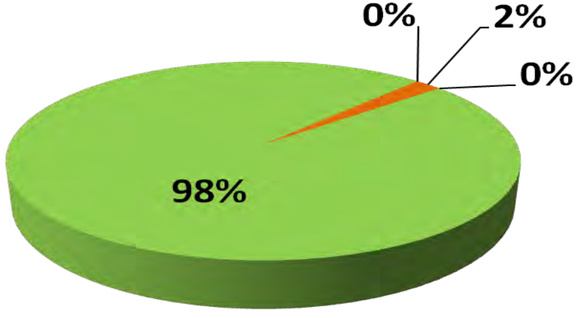


LF Weight: 33.33%

Improve Streamflow

LF Weight: 0%

Two Obstructing Pipes in Tillicum



LF Weight: 33.33%

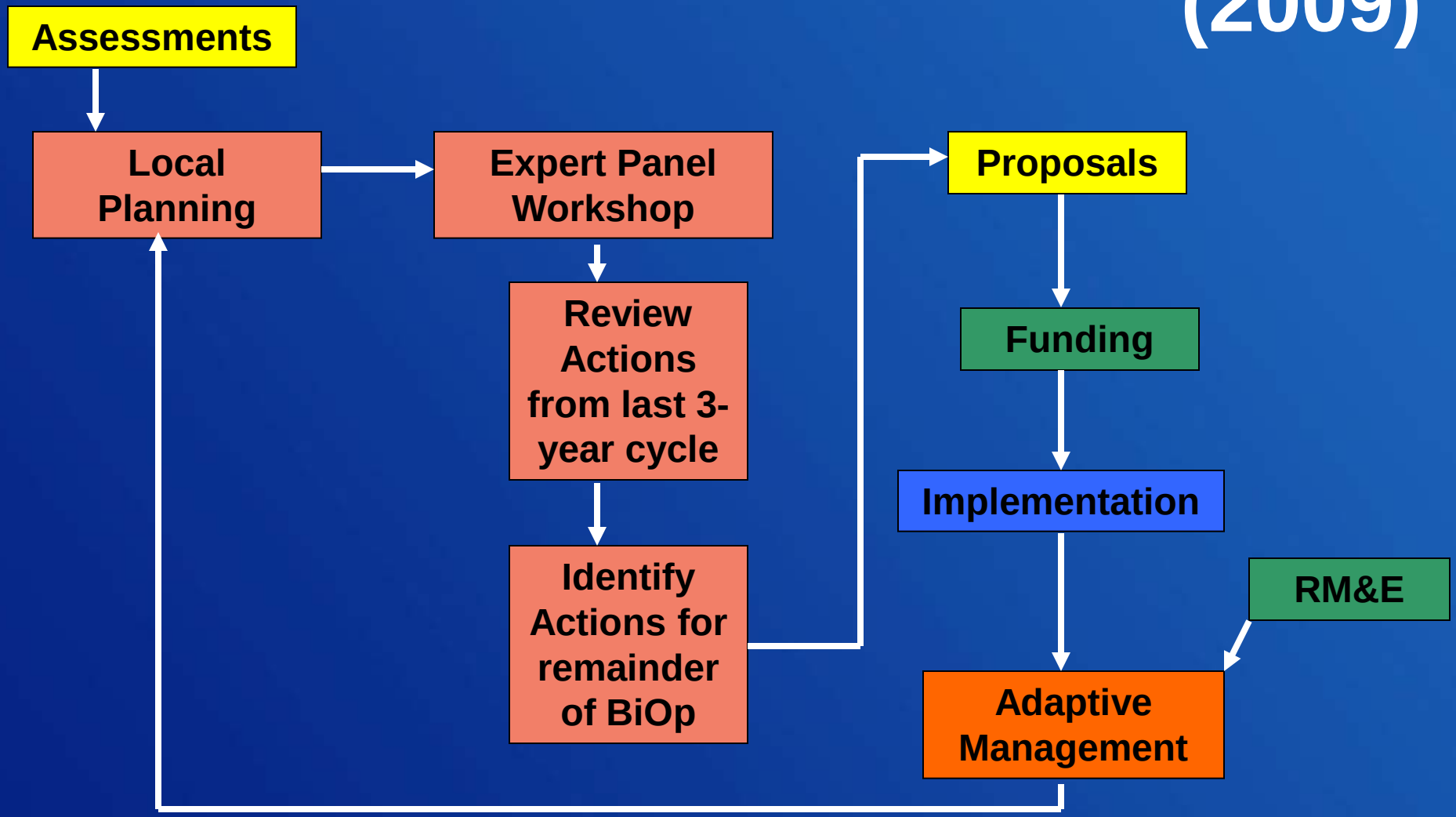
EP Prep tasks

- Standardizing Limiting Factors
- Building list of 2009-2012 completed projects
- Building list of 2013-2018 projects
- Developing database system to manage workshop proceedings
- Working w/NOAA FSC to support EPs (and watershed planning groups) with readily-available, relevant monitoring info
- EP workshops completed by April

Integration

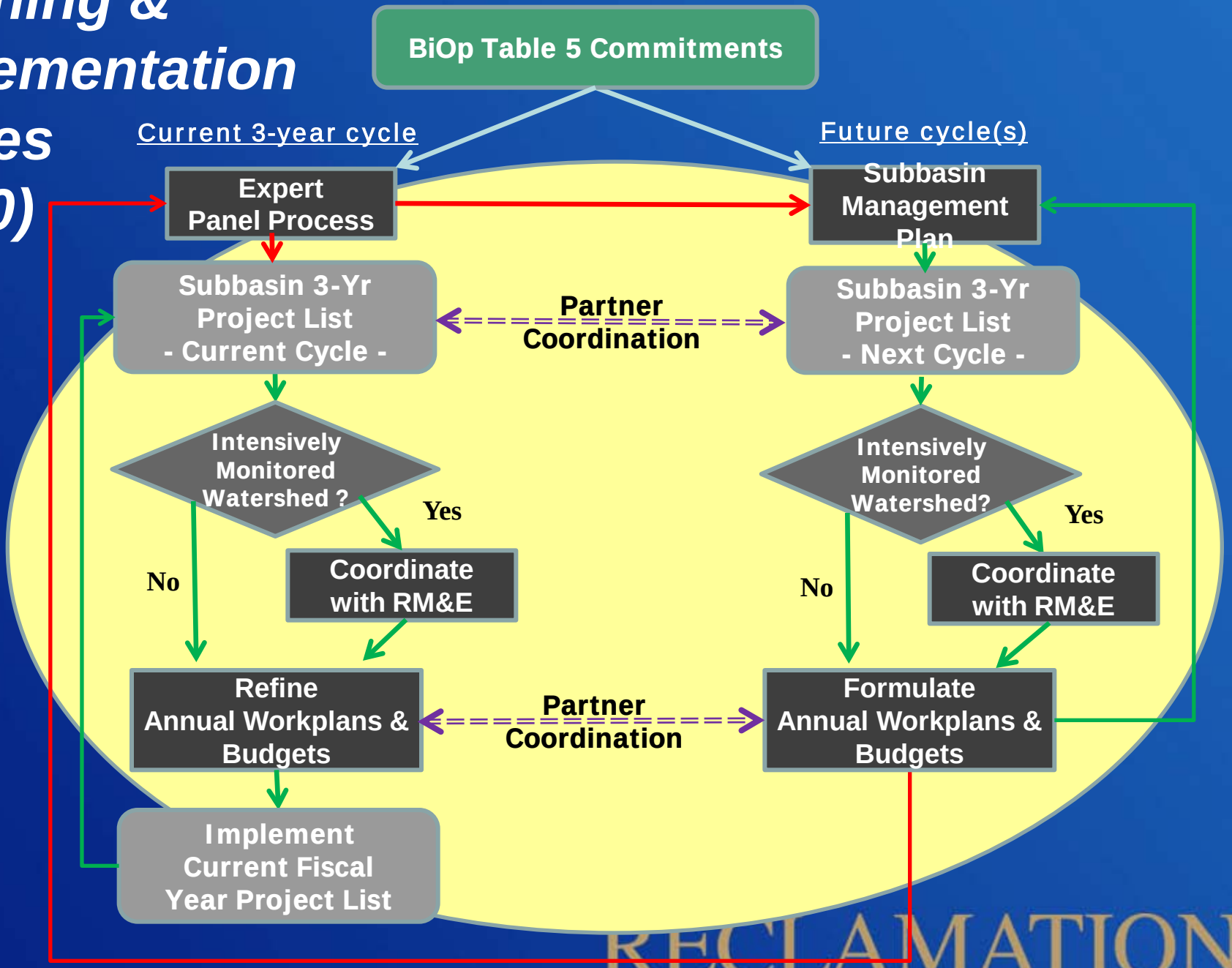
- **USBR- BPA- NOAA- NPCC- CRITFC- Watershed Partners**
- **Planning- Funding- Implementation- Reporting- RME- Adaptive Management-**

Generalized Implementation Cycle (2009)



RECLAMATION

Planning & Implementation Cycles (2010)



RECLAMATION

Summary

- FCRPS BiOp table 5 commitments are paramount
- AAs and region have two BiOp implementation cycles behind us
- Results indicate where progress is in line and where focus is needed
- Tools help illustrate what can be done and where to do it to provide greatest biological benefits
- Reclamation has made significant internal adjustments to better address table 5 commitments and provide technical services for this effort
- Reclamation contributions aid integrated approach to plan and implement habitat improvement projects among regional partners, (but not all the way there yet)