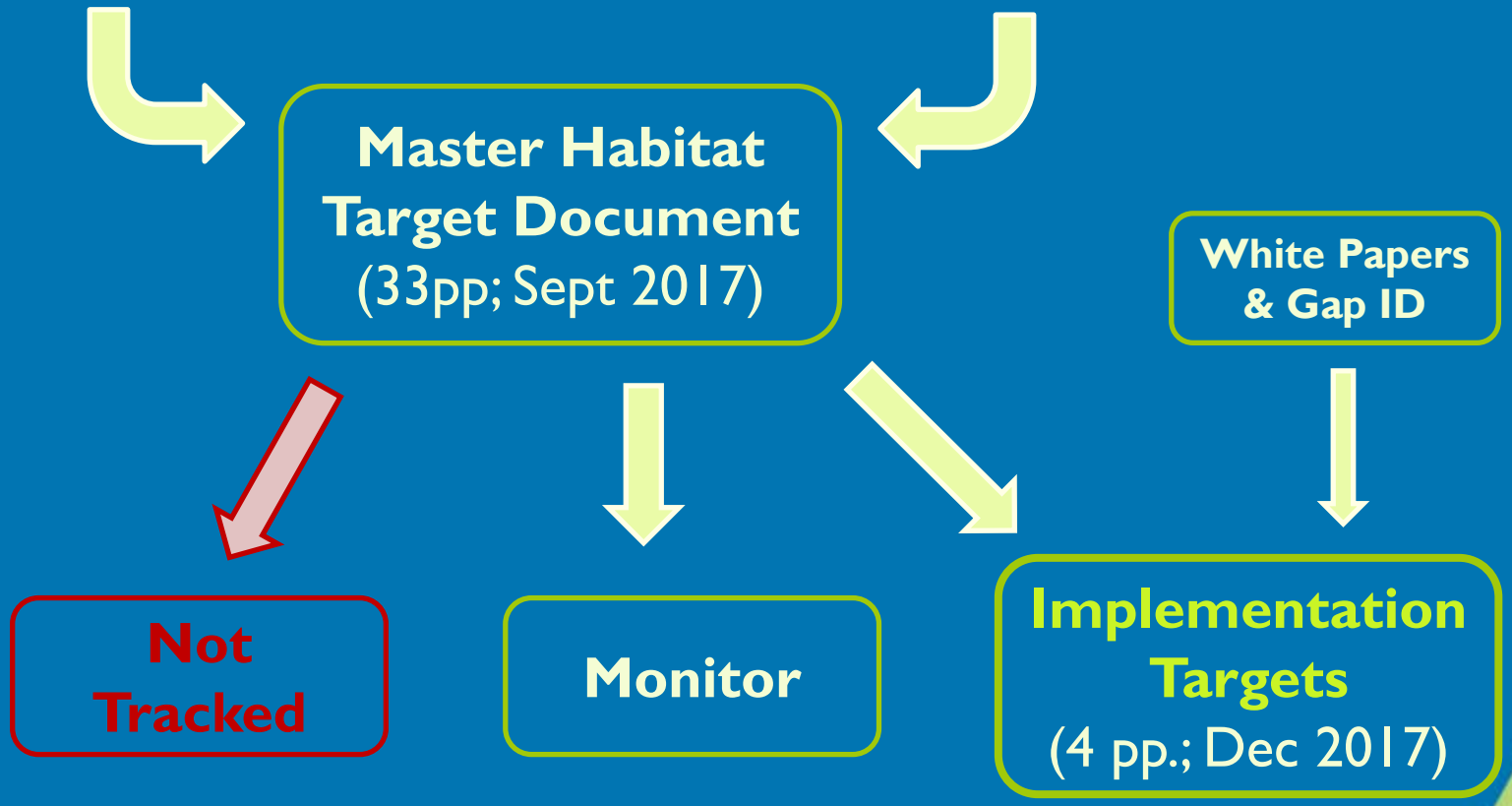
Implementation Technical Committee

December 13, 2017; Tukwila Community Center

9:00	Agenda Review & Introductions	All
9:10	Green Duwamish Contaminants White Paper	Jenée Colton, King County
10:00	Salmon Recovery 4-Year Work Plan	Karen Bergeron, WRIA 9
10:15	Loman Beach Park	David Graves, City of Seattle
10:45	Break	---
11:00	Salmon Plan Update: Goal Development	Matt Goehring, WRIA 9
11:50	Round Robin Updates	All

Salmon Plan Update:
Habitat Indicators & Targets

- 2005 Habitat Plan
- 2006 Implementation Guidance
- 2014 Duwamish Blueprint
- 2016 Re-green the Green



Habitat Indicators:
Examples

Implementation Targets

- Shoreline armor extent
- Duwamish shallow water habitat
- Riparian forest coverage

Monitor, but no formal target

- Duwamish LWD jams
- Benthic Index of Biotic Integrity
- Days above 7-day water temperature standard

Not Tracked

- Overwater structures
- Nearshore & Duwamish tributary riparian coverage

Nearshore

Habitat Indicator	Necessary Future Cond. (2005 Plan)	10-year Target (2005 Plan)	Current Condition	Recommended 10-year Target (by 2028)	Sources	Notes
Shoreline Armor*	65% of shoreline in natural condition	Restore 13,500 ft. of shoreline	64%/59 mi. of shoreline armored[1]. 1500 ft. restored, but net gain of 70 ft.[2]	Remove 3,000 ft. (<1% improvement) of hard armor and achieve an overall net reduction in hard armor	1) Salmon Plan 2) 2014 WRIA 9 Marine Shoreline Monitoring and Compliance	Armor setbacks and soft-shoreline stabilization? Track soft protection separately. Prioritize feeder bluffs
Marine Riparian Vegetation*	65% of marine shoreline characterized by riparian tree cover[1].	No target developed.	40%/36 mi. of shoreline has riparian tree cover [24%/21.8 mi. of shoreline is dense trees; 16%/14.8 mi. is patchy trees]	60 ac. and/or 3.25 mi. (~3.5% gain) of shoreline revegetated[3]	1) Salmon Plan 2) WRIA 9 Status and Trends Monitoring Report: 2005-2010 3) Re-Green the Green 2016	Target mouths of creeks and areas without bluffs or shade on mainland.
Shoreline Conservation	Not Applicable	Protect 5 mi. of shoreline[2]. As of 2014, 4 mi. were protected[3]	9.5 mi. of adjacent upland protected as natural lands[1]	Acquire 2 mi. of shoreline for permanent protection, prioritizing beaches and feeder bluffs	1) 2017 GIS analysis of ownership and shoretype data 2) Implementation Guidance (2006) 3) WRIA 9 Status and Trends Report: 2005-2010	Outlier? Not a habitat measure and conservation not required for function. Does not include all public lands if management intent is not protective of natural features.
Pocket Estuaries*	Marine nearshore habitats improved to increase juvenile rearing, life stage diversity and productivity.	Restore 6 pocket estuaries	2 restored in previous 10 yrs.	Restore 5 pocket estuaries	1) Implementation Guidance (2006) 2) PSNERP Strategies for Nearshore Protection & Restoration (2012)	Capture as a priority area for shoreline armor removal? Lacking assessment of natural/modified conditions? 12 degraded; 5 existing barrier embayments[2]

Duwamish

Habitat Indicator	Necessary Future Cond. (2005 Plan)	10-year Target (2005 Plan)	Current Condition	Recommended 10-year Target (by 2028)	Sources	Notes
Shallow Water Habitat	173 ac. of shallow water habitat in the transition zone (RM 1-10) (30% of historic) [1]	Restore 26.5 ac. of shallow water habitat	5.8 ac. as of 2014 has been restored	40 ac. of shallow water habitat created between RM 1-10 [2]	1) Salmon Plan 2 Duwamish Blueprint 2014	Need to define categories of shallow water habitat. Chinook Wind should be ~2-3 ac.
Riparian Forest*	65% of each bank of the river has > 165 ft. of riparian tree coverage (586 ac. total)	No Target was developed	69 ac./12% of 165 ft. buffer contains trees. 34 ac./ 20% of 50 ft. buffer contains trees.[3]	170 ac. (~29% of 165 ft. buffer) /9.8 mi. of bank revegetated[2]	1) Salmon Plan 2) Re-Green the Green 2016 3) Hand-digitized for Lower Green SWIF, 2013	Discuss feasibility of target given land use constraints (e.g., 59% of 165 ft. buffer is impervious surface).

GREEN / DUWAMISH AND CENTRAL PUGET SOUND WATERSHED

Lower Green

Habitat Indicator	Necessary Future Cond. (2005 Plan)	10-year Target (2005 Plan)	Current Condition	Recommended 10-year Target (by 2028)	Sources	Notes
Off Channel Habitat	45% of historical off-channel habitat (2.8 mi. side channels; 450 ac. wetlands; 5039 ac. floodplains)	16.5 ac. of reconnected off-channel habitat (including riparian area).[1] Create 1.4 mi. of side channel by 2034[2]	TBD	Needs to be developed	1) Implementation Guidance (2006) 2) Approved by WEF as Technical Recommendations May 8, 2014	Habitat categories: 1.side channel 2. floodplain tributary 3. backwaters 4. floodplain wetland 5. other floodplain
Riparian Forest*	75% of each bank of the river to >165 ft. wide[1] (828 ac. total)	No target was developed	222 ac./27% of 165 ft. buffer has trees. 84 ac./34% of 50 ft. buffer (248 ac.) has trees.[3]	250 acres (~30% of 165 ft. buffer)/ 8.52 mi. of high priority, unforested shoreline planted with trees by 2025[2]	1) Approved by WEF as Technical Recommendations May 8, 2014 2) Re-Green the Green: 2016 3) Hand-digitized for Lower Green SWIF, 2013	Discuss feasibility of target (e.g., 24% of 165 ft. buffer is impervious surface).
Large Woody Debris*	1705 pieces per mi. (21 key pieces) [1]	No target was developed, but there was a decrease over 10 years	2004: 54 pieces/mi.[3] 2014: 48.5 pieces/mi.[2]	425 pieces/mi., which is half of 2014 20-year targets[1]	1) Approved by the WEF as Technical Recommendations May 8, 2014 2) LG/Duwamish River Habitat Assessment 2014 3) LG River Baseline Habitat Survey Report, 2004	
Bank Armor	No new, decreasing amount[1]	No new, decreasing amount[1]	2014: 42 mi. of river bank, 17.7 mi. are KC levees and 9.8 mi. are KC maintained revetments. The other 14.5 mi. are combination of semi-armored roads and natural banks[2]	Set back 1 mi. of levee (based on Lower Russell Rd)	1) Salmon Plan 2) 2017 King County unpublished GIS data	Difficult to measure. Measured incorrectly in Status & Trends. 2004 baseline data not collected in a way that allows tracking of changes in armor. Levee setbacks count only if expands CMZ.

Middle Green

Habitat Indicator	Necessary Future Cond. (2005 Plan)	10-year Target (2005 Plan)	Current Condition	Recommended 10-year Target (by 2028)	Sources	Notes
Floodplain Connectivity / Lateral Channel Migration	Floodplain subject to lateral channel migration represents 65% of historical conditions. Historic floodplain was 3,185 ac.[1]		1751 ac. or 55% of floodplain current connected at 100 yr. flood.[2]	Needs to be developed	1) Historical Aquatic Habitats in the Green and Duwamish River Valleys and the Elliot Bay Nearshore, KC WA 2005. 2) 2017 analysis comparing UW historic data to KC FEMA mapped 100 yr. floodplain.	Metric emphasizes process restoration vs. habitat substitution (e.g., Lower Green)
Riparian Forest*	> 65% of Channel Migration Zone (1424 of 2,190 ac.) and up to 165 ft. wide where possible[1]	No target was developed	2005: 50.3% 2009: 50.5% of the Channel Migration Zone forested[1]	175 acres (8% of CMZ) / 4.4 mi. revegetated[2]	1) WRIA 9 Status and Trends Monitoring Report: 2005-2010, WRIA 9 ITC, 2012 2) Re-Green the Green: 2016	Track implementation by bins of 0-50, 50-100, 100--165 ft.
Large Wood Debris*	10 jams/mi.[1]	No target was developed	2006: 2.2 jams/ mi.[3] 2015: 3.8 jams/ mi.[2]	5 jams/mi.	1) WRIA 9 Strategic Assessment 2005 2) Middle Green River LWD Monitoring, 2016 3) WRIA 9 Status and Trends Monitoring Report: 2005-10	Likely achievable within 10 years. Sustaining >5 jams/mile in an ongoing basis may take longer. From RM 32.0 to 61.0
Bank Armor	No new, decreasing amount[1]	No new, decreasing amount[1] *Target met*	2004=25% 2009=24%[2, 3]	Set back 1 mi. of revetment/levee (Based on Porter, Lones and Hurley projects, which together are a little under a mile)	1) Salmon Plan 2) Analysis lumped part of the LG and MG, numbers are higher than should be. 3) WRIA 9 Status and Trends Monitoring Report: 2005-2010, WRIA 9 ITC, 2012	Is bank armoring duplicative of possible metric for CMZ? Include levee setbacks if result in expansion of CMZ.

CENTRAL PUGET SOUND WATERSHED

Upper Green

Habitat Indicator	Necessary Future Cond. (2005 Plan)	10-year Target (2005 Plan)	Current Condition	Recommended 10-year Target (by 2028)	Sources	Notes
Fish Passage	Up and downstream fish passage provided at Howard Hanson Dam	Fish passage. Target not met	Upstream passage facility complete. Downstream passage not complete	Downstream passage at HHD		Upstream passage facility built by TPU. Downstream facility to be built by ACOE is 10 years behind schedule unclear when they will start.
Bank Armor	No new, decreasing amount[1]	No new, decreasing amount[1] Target met	2004=15% armored 2009=15% armored[2]	Set back 0.5 mi. of levee	1) Salmon Plan 2) WRIA 9 Status and Trends Monitoring Report: 2005-2010, WRIA 9 ITC, 2012	Majority of armor is associated with BNSF. No tally of road armoring, but it is likely to decrease as river migrates and landowners adjust road alignments per Forest Practices guidelines.

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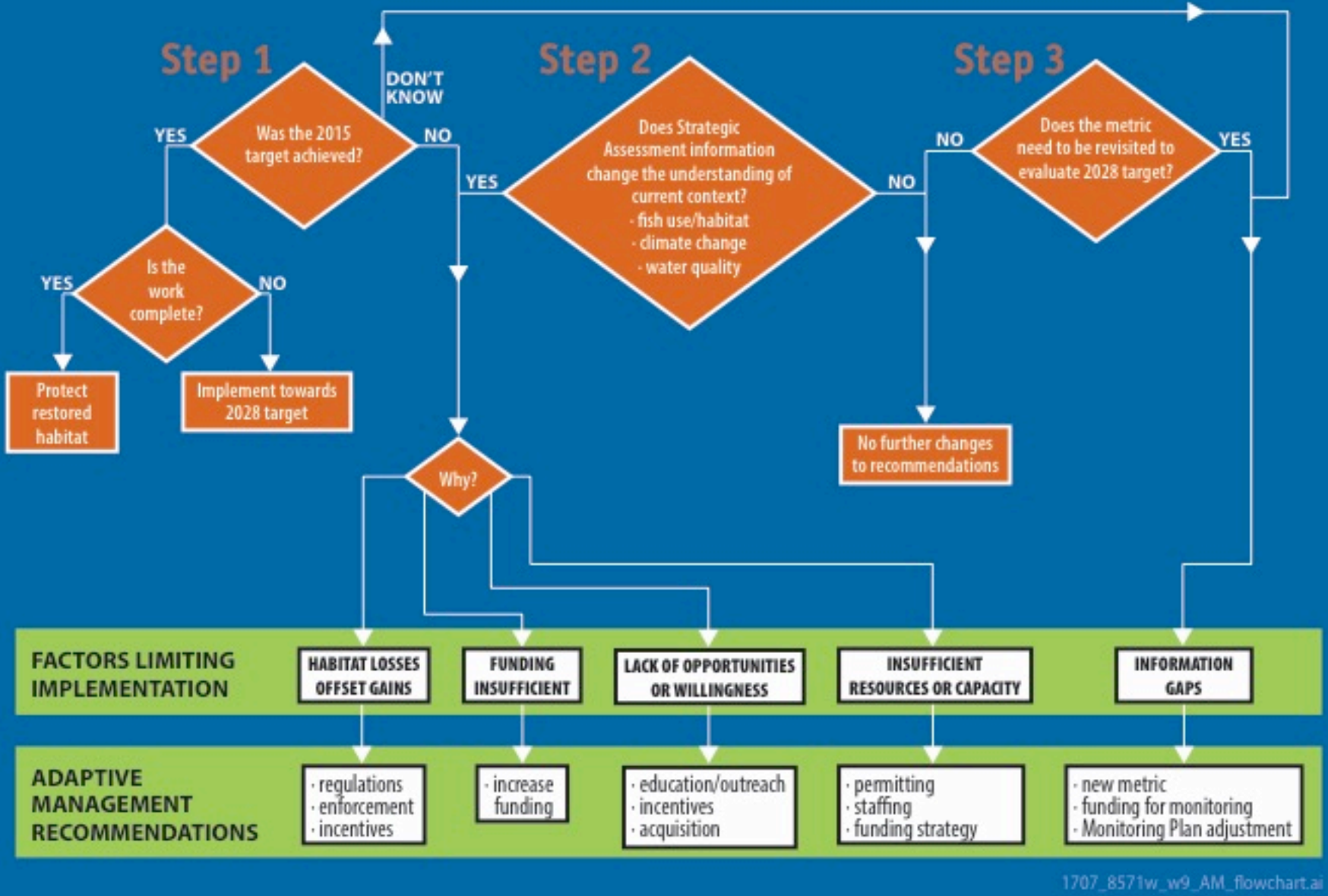
WRIA 9 Adaptive Management Decision Framework



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