South Central NTAs and Vital Signs

DRAFT June 2, 2015

Staff assigned Vital Signs to each NTA; our draft is below. Many South Central NTAs address more than one Vital Sign. Table 1 summarizes this analysis, while Table 2 provides the complete description of each NTA.

Table 1: Summary of Assignment of NTAs to Vital Signs

Vital Sign	**Number of South Central NTAs**	**List of South Central NTAs**
Protect and Restore Habitat		
Estuaries	3	SC2, SC3, SC12
Floodplains	4	SC2, SC3, SC5, SC12
Land Development and Cover	5	SC2, SC3, SC12, SC13, SC14
Eelgrass	0	
Shoreline Armoring	1	SC4
Water Quality		
Marine Water Quality	0	
Freshwater Quality	9	SC6, SC7, SC8, SC9, SC10, SC11, SC12, SC13, SC14
Marine Sediment Quality	9	SC6, SC7, SC8, SC9, SC10, SC11, SC12, SC13, SC14
Toxics in Fish	9	SC6, SC7, SC8, SC9, SC10, SC11, SC12, SC13, SC14
Species and Food Web		
Chinook Salmon	1	SC3

Key Assumptions:

1. We assigned all stormwater-related NTAs to the Freshwater Quality, Marine Sediment Quality, and Toxics in Fish Vital Signs. We did not assign them to the Marine Water Quality Vital Sign because the indicators for that Vital Sign relate more to traditional water quality parameters (temperature, salinity, nutrient balance, algae biomass, dissolved oxygen) and to dissolved oxygen. The LIO should discuss whether this assumption is appropriate.
2. We assigned habitat-related NTAs to the Land Development and Cover, Estuaries, and Floodplains Vital Signs (as appropriate) rather than simply to the Chinook Salmon Vital Sign because while an increase in Chinook salmon is the ultimate goal, the NTAs seem to relate more directly to those Vital Signs. SC3 has fish passage barrier removal as one performance measure, so we assigned that one to Chinook Salmon since it relates directly to fish. The LIO should discuss whether this assumption is appropriate.

Note that we did not assign any of the following Vital Signs to South Central NTAs:

- Summer Stream Flows
- On-Site Sewage
- Swimming Beaches
- Shellfish Beds
- Quality of Life Index
- Sound Behavior Index
- Recreational Fishing Permit Sales
- Commercial Fisheries Harvest
- Orcas
- Pacific Herring
- Birds

Given the results in Table 1, staff proposes that the South Central LIO adopt the following Vital Signs as ecosystem outcomes for planning purposes:

Chinook Salmon:

- Land Development and Cover
- Estuaries
- Floodplains
- Shoreline Armoring

Water Quality

- Marine Sediment Quality
- Freshwater Quality
- Toxics in Fish

The LIO should discuss whether to adopt Chinook Salmon as an 8th Vital Sign or keep it as a category as shown above, and whether to add Vital Signs related to the Shellfish Strategic Initiative. Table 2 follows below.

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
SC1	**Support state and local partnerships to advance the Action Agenda**. Use South Central Caucus Group (LIO) as a forum to advance local actions by sharing information and supporting local governments in the following. Sharing approaches to developing and implementing policies, regulations, and incentives. Developing model ordinances. Identifying and developing incentive programs. Promoting funding and technical assistance for updating, adopting and implementing policies and regulations. Promoting education and outreach through ECO Net.	By May 2015, hold two meetings to review and share incentives and model regulations. After full South Central Caucus Group (LIO) review, bring findings to the ECB. In 2015, recommend ways to incorporate findings into state and local policies and regulations.	Residential and commercial development Runoff from built environment	D2.1	All
SC2	**Identify and protect high-value salmon recovery habitat and lands at immediate risk of conversion**. Secure funding to acquire high-priority, high-threat land as identified in salmon recovery plans and seek funding to secure property.	By December 2015, secure funding for acquiring land and protecting the following high-priority, high-threat areas in each WRIA. WRIA 8: $7,950,000: Middle Cedar River: 70 acres of floodplain. Issaquah Creek: 125 acres of floodplain and riparian area. Bear Creek: 150 acres of riparian areas, wetlands, and forested uplands. WRIA 9: $18,600,000: Lower Green River: 273 acres of floodplain and riparian area. Middle Green River tributary streams: 230+ acres of floodplain and riparian area. Marine Nearshore (Vashon-Maury Island): 10	Residential and commercial development	A2.1 (A2.2)	**Protect and Restore Habitat –** • Land Development and Cover • Floodplains • Estuaries

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
		acres of nearshore habitat and riparian area. Duwamish River: 10 acres of floodplain, wetland and riparian area. Hamm Creek City Light North DUW-11 WRIA 10: $6,600,000: Puyallup River main stem: 130 acres of upland, floodplain, and riparian area. Carbon River canyon area: 500 acres of forested upland and riparian area. Carbon River main stem: 25+ acres of floodplain and riparian area. South Prairie Creek: 60 acres of riparian area and floodplain. Beginning in March 2014, and semi-annually thereafter, WRIAs will report to LIO on the list of high-priority, high-threat land acquisitions as identified in salmon recovery plans.			
SC3	**Implement high-priority projects listed in local salmon recovery plans**. Secure funding for high-priority projects listed in the salmon recovery 3-year work plans for WRIAs 8, 9, and 10.	By December 2015, secure funding for implementation of high-priority restoration actions in each watershed. WRIA 8: $16,690,000 for habitat restoration and $50,000,000 for infrastructure improvements, including fish passage facilities at Hiram H. Chittenden (a.k.a. Ballard) Locks. Lower Cedar River: 77 acres of riparian and floodplain restoration. South Lake Washington: 750 linear feet of lakeshore restoration and 1,500 linear feet of tributary stream restoration. Hiram H. Chittenden Locks: Corp's list of prioritized infrastructure improvements, including critical fish passage facilities as secured funding from headquarters.	Residential and commercial development Freshwater levees and floodgates	A6.1 (A2.2)	**Protect and Restore Habitat –** • Land Development and Cover • Floodplains • Estuaries **Species & Food Web –** • Chinook Salmon

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
		Issaquah Creek: 1,800 linear feet of stream channel restoration and 155 acres riparian area restoration. Bear Creek: 370 linear feet of stream channel restoration and 2.3 acres riparian restoration. Sammamish River: 5,500 feet of stream channel restoration and 85 acres of floodplain and riparian restoration. Marine Nearshore: 1,750 linear feet of coastal tributary stream channel restoration and 28 acres of salt marsh restoration. WRIA 9: $16,035,000. Lower Green River: 31+ acres floodplain restoration. Duwamish River: 5-10 acres of shallow water habitat and 2 acres of riparian restoration. Marine Nearshore: remove 4,400 linear feet of shoreline armoring, revegetate 3.2 acres of shoreline with native plants, and restore 550 feet of linear stream channel. Middle Green River: 14+ acres floodplain and riparian area. Downstream fish passage at Howard Hanson Dam; work with NOAA and USA Corp of Engineers to obtain approvals and funding Nearshore outreach (grant) – for consultants, homeowners and other influencers WRIA 10: $80,000,000. Upper White River forest road decommissioning and flood plain restoration: about 100 miles of forest road. South Prairie Creek floodplain reconnection and habitat restoration: 300 acres.			

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
		Replace dam and build new fish collection facilities at Buckley Fish Trap. Alward Road Levee Setback: Acquisition Phase: 142 acres. Puyallup Estuary Acquisition at Union Pacific: 30 acres. By June 2014, WRIAs will report to LIO on status of implementation of high-priority habitat protection and restoration in salmon recovery plans.			
SC4	**Improve shorelines in the South Central Puget Sound Action Area by limiting new residential shoreline armoring and overwater coverage, and promoting "green" shoreline replacements**. Encourage programs and help implement projects that implement and promote incentives and best practices identified in local Shoreline Master Program studies updates. Support actions to retrofit/restore public and private shoreline properties. Assist local governments by providing information on best practices and models. (e.g., hold informational sessions at standing planner forums including Puget Sound Regional Council, King County, and Seattle). Work to promote existing and new incentive programs. Use South Central Caucus Group (LIO) as a forum for sharing best practices for shoreline restoration and model shoreline regulations.	Report quarterly to South Central Caucus Group (LIO) on education and other actions funded by Puget Sound Acquisition and Restoration, Estuary Salmon Restoration Project, and other sources. By third quarter 2015, implementers will report to South Central Caucus Group on progress made on working with private property owners and reaching priority audiences to promote green shorelines practices. By second quarter 2015, King Conservation District assists 20 landowners in implementing shoreline protection, restoration, and enhancement practices. In 2015, explore options for using existing funding mechanisms to assist landowners who are willing to implement aquatic area enhancement protection and enhancement practices.	Marine shoreline infrastructure and freshwater Shoreline infrastructure Residential and commercial development	B1.2 (B1.3)	**Protect and Restore Habitat –** • Shoreline Armoring

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	Compile incentive information and provide to local governments. Coordinate outreach and incentive programs with existing industry best practices such as Leadership in Energy and Environmental Development, Green Shores for Homes project, and Built Green Certification program. Seek funding to engage streamside/riparian, lakeshore, and nearshore area property owners and to increase assistance to shoreline landowners who are willing to implement aquatic area protection and enhancement practices. Support WRIA 8 Green Shorelines Steering Committee's outreach and education to key marine and freshwater shoreline audiences (e.g., property owners, real estate agents, construction and landscaping communities, and local government planning departments) to share green shorelines materials and messages and to encourage improved shoreline restoration stewardship. Support ECO Net endorsed education and outreach efforts for this action. Retrofit/restore public and private lands				
SC5	**Improve floodplains management by creating partnerships of interested parties (especially local governments and business community)**. Work with federal and state agencies to address and resolve conflicts between	By February 2015, the Green River System-Wide Improvement Framework will make substantial progress in developing priorities for levee improvements in support of multiple benefit rivers and floodplains. By December 2015, brief the PSP Leadership Council	Marine levees and tidegates Freshwater levees and tidegates Residential and	A5.2 (A5.3, A5.4)	**Protect and Restore Habitat –** • Floodplains

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	regulations that are a barrier to completing multi-benefit projects. Over the next 2 years, support King County's effort to lead the advisory committees of the Green River System-Wide Improvement Framework (SWIF) in developing integrated priorities for levee improvements that meet flood protection, safety, economic development, and habitat, vegetation management, agriculture, and recreation objectives and that bridge conflicts in federal regulations. Over the next 2 years, support the Russell Foundation's work with WRIA 10 to complete a Watershed Open Space Strategy (WOSS). The process will focus on development of a regional strategy by aligning with current ecological management efforts in the watershed to promote inter-organizational collaboration and action. Share information among local governments on successful approaches to meeting requirements of the FEMA Biological Opinion. Participate in forums to address conflicts between agriculture, flood hazard reduction projects, and habitat restoration projects in the floodplain. Advocate for state to improve alignment and coordination between minimum	and ECB and the state legislature on the status of multiple benefit floodplain management initiatives, including status of Level of Protection from Flooding goals established for the Green River System – a new human dimension ecosystem recovery goal. By June 2015, compile the percentage of local jurisdictions with significant floodplain area that comply with the FEMA Biological Opinion. By September 2014, King County will develop concept, strategy, and candidate projects for 2014 legislative session and report to LIO. By December 2015, King and Pierce County will report on progress in implementing major floodplain protection and restoration projects in King and Pierce Counties. By August 2014 WRIA 9 will report out to LIO on progress of the Howard Hanson Dam Biological Opinion.	commercial development Freshwater levees and floodgates		

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	requirements for local Flood Hazard Reduction Plans, Comprehensive Plans under the Growth Management Act (GMA), and minimum requirements for regulation of Frequently Flooded Areas. Implement major floodplain protection and restoration projects in King and Pierce Counties funded under state 2013 Capital Improvement Plan appropriation for Coordinated Investment in Puget Sound Floodplains Strategy, including Carlin Project and Lower Cedar River Integrated Floodplain Restoration Project in King County and the Green and White rivers in Pierce County. Continue to identify, implement, and publicize floodplain restoration projects, including the Needham Road Setback Levee Project and Calistoga Reach Setback Levee and Side Channel Construction Project that provide multiple benefits, including public safety, salmon habitat enhancement, open space, and recreation. Demonstrate quantifiable benefits of major floodplain restoration projects to salmon recovery, flood resilience, water quality, and agriculture and help make the case for ongoing investments of state funding in multi-objective flood hazard reduction projects. Work with King County, Corps, and other partners to identify alternatives to the existing policies on levee vegetation.				
SC6	**Identify, guide, and fund stormwater retrofits**.	By September 2014, comment on Ecology's retrofit prioritization and allocation criteria.	Runoff from built	C2.3 (C2.1)	**Water Quality –** • Marine

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	Complete WRIA 9 retrofit study and promote it as a model. Advocate locally and sound-wide through the LIO for increased funding for priority stormwater retrofit projects. Develop a list of high-priority stormwater retrofit projects to support local investments and state funding request in 2014 and 2015, using upcoming guidance from Ecology and findings from the WRIA 9 study on stormwater retrofit priorities. Participate in the Commerce's technical assistance and study of examples of urban-specific implementation or stormwater retrofit projects. Support ECO Net endorsed education and outreach efforts for this near-term action.	By January 2015, identify and analyze funding mechanisms that incorporate existing and new funding. By June 2015, complete WRIA 9 retrofit study. By December 2015, identify next steps to support carrying out stormwater retrofit planning and projects throughout the South Central Puget Sound Action Area. By June 2014, report on monitoring and modeling tools for future stormwater retrofit evaluations. By December 2015, implement 15 stormwater retrofit projects. By December 2015, complete Swan Creek Watershed Characterization and Action Plan, and implement at least one retrofit project. By third quarter 2014 and 2015, provide information to the Washington State Legislature on the high priority stormwater retrofit projects for 2014/2015 legislative session.	environment Residential and commercial development		Sediment Quality • Fresh Water Quality • Toxics in Fish
SC7	**Promote operation and maintenance and improvements to existing stormwater systems**. Promote, support and guide technical assistance for local government adoption of improved operation and maintenance techniques for existing stormwater infrastructure, such as: System flushing Vactoring High-efficiency street cleaning	By December 2015, create a list of the number of local jurisdictions implementing, and types of local operation and maintenance techniques.	Runoff from built environment Residential and commercial development	C2.3	**Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish
SC8	**Increase education of and stewardship by homeowners and businesses to reduce stormwater pollution**. Increase education of and stewardship by	By December 2015, identify number of persons and businesses reached.	Runoff from built environment	C2.5	**Water Quality –** • Marine Sediment Quality

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	homeowners, businesses, and institutions to reduce pollutant loadings to stormwater (e.g., fertilizers, pesticides, oils, cleaners). Support ECO Net endorsed education and outreach efforts for this action.				• Fresh Water Quality • Toxics in Fish
SC9	**Share information on low impact development/green stormwater infrastructure and facilitate the transition from conventional stormwater management**. Use LIO as a forum for sharing approaches to implementing Low Impact Development policies. Encourage local government participation in Washington State University Low Impact Development technical workshops. Support ECO Net endorsed education and outreach efforts for this near-term action. Support development of regulations that implement Action Agenda priorities.	By December 2015, hold two forums that highlight successful integration of low impact development/green stormwater infrastructure into local regulations.	Runoff from built environment	C2.2	**Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
SC10	**Support restoration of the voter approved local Model Toxics Control Account**. Advocate for fund protection. Support the use of the Model Toxics Control Account for grants and programs that expedite multiparty cleanup efforts. Support and promote programs that leverage other grants to expedite cleanups. Educate and promote the protection of the Local Toxics Control Account and identify. Opportunities for acquisition and redevelopment of vacant, orphaned, or abandoned property.	By December 2015, increase awareness of state and local government about the value of protecting the Local Toxics Control Account in 2016. By December 2015, hold a forum on opportunities for acquisition and redevelopment of vacant, orphaned, or abandoned property.	Toxics and legacy contaminants	E1.3	**Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish
SC11	**Keep toxics and excess nutrients out of the waste stream**. Identify and implement strategies to keep toxics and excess nutrients out of the waste stream through product stewardship and source control. Support state and local programs for safe reduction, recycling, or disposal of hazardous wastes from households, small businesses, and agriculture. Support programs and projects that implement, teach, or otherwise encourage BMPs that remove toxic pollutants from the environment (source control; alternative products; hazardous waste technical assistance). Inventory toxics reduction efforts and programs and additional chemicals of concern that need to be reduced. Through the NW Product Stewardship	By September 2014, ECO Net will report on education and outreach efforts for this near-term action. By September 2014, Ecology and/or NW Product Stewardship Council will report to South Central Caucus Group (LIO) on status of their efforts. By December 2015, obtain new funding for key toxic reduction activities. By March 2015, develop inventory of toxics reduction efforts and programs and additional chemicals of concern that need to be reduced. By December 2015, increase funding for the Washington Toxics Reduction Strategy Workgroup Recommendations of January 16, 2013.	Toxics and legacy contaminants	C1.2 (C1.1)	**Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	Council, coordinate efforts for product-focused strategies to reduce the use of toxic chemicals. Coordinate with and support new product stewardship initiatives. Support and promote the implementation of the Washington Toxics Reduction Strategy Workgroup Recommendations of January 16, 2013. Support efforts to increase funding. Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound environment.				
SC12	**Secure additional funding necessary to implement priority fish and wildlife habitat and high-value aquatic habitat area enhancement projects**. Provide input to the PSP's work to develop a gap analysis and funding strategy for implementation of the Action Agenda, including the following. Articulate need for better funding coordination of habitat, water quality, and flood investments at a watershed level. Describe specific financial needs and challenges of urbanized watersheds in protecting and restoring habitat and in prioritizing and carrying out stormwater retrofits. Involve research and analysis conducted by WRIAs 8 and 9 on watershed funding options and models.	By December 2014, identify large-scale habitat restoration projects for the next round of Puget Sound Acquisition and Restoration. By third quarter 2014 and 2015, promote the current round of "coordinated investment" floodplain restoration projects and development of the next set of candidate projects for 2014/2015 legislative session.	Runoff from built environment Residential and commercial development	E1.4 (E1.3)	**Protect and Restore Habitat –** • Land Development and Cover • Floodplains • Estuaries **Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	Provide examples of successful watershed-based decision-making models and successful multi-benefit projects that help "tell the story." Provide the WRIA 9 issue paper on watershed investment concepts for consideration. Provide input on state legislative proposals for potential new watershed-based governance structures and funding authorities. Develop specific project proposals in support of federal and state appropriation requests to support salmon habitat restoration, habitat acquisition, major floodplain restoration, and stormwater retrofits. Support WRIAs 8, 9, and 10 in maintaining and refining the 3-year list of habitat protection and restoration implementation priorities. Support the King Conservation District in securing additional funding to address regional and local aquatic area enhancement and water quality protection priorities, with special emphasis on private property, subject to the outcome of joint task force recommendations. Support the work of WRIA 9 in preparing issue papers on key watershed-based investment concepts, including governance, geography, multiple benefit projects, and funding, and in preparing legislation for the session.				
SC13	**Complete Regional Alliances Project and**	By February 2015, develop a formal report on	Residential and	A4.2	**Protect and**

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
	share results to increase infill development in urban centers while meeting stormwater requirements and Growth Management Act mandates. Through the Regional Alliance Project, Develop recommendations for incentives and cost-effective tools to meet stormwater management and Growth Management Act requirements for development in urban areas in order to encourage infill development in urban centers instead of greenfield locations and to improve water quality. Develop recommendations related to comprehensive plan policy and development regulations to inform 2015 updates. Other actions may be identified. Key partner in these efforts: Commerce	agreed next steps to Puget Sound Regional Council Growth Management Policy Board. By March 2015, present a final report to the PSP ECB.	commercial development Runoff from built environment Agriculture	(A2.3, A4.1)	**Restore Habitat –** • Land Development and Cover **Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish
SC14	**Retain forest canopy cover and soils to attenuate stormwater runoff**. Promote programs that support retention and increase in forest canopy cover on private and public lands, especially those in priority and sensitive areas. Identify and implement watershed revegetation in the Swan Creek Watershed through the Pierce County Raise the Grade initiative.	By December 2015, WSU will hold workshops on coached forest management planning. By January 2015, King Conservation District will implement at least two Forest Health Management Plans with technical and cost-share assistance. By December 2015, King Conservation District will seek to secure funding for urban canopy assessment and management plan development for at least one local jurisdiction. By December 2015, WRIA 8 will: Implement Trees for Streams Program to protect and restore riparian area canopy cover and streamside vegetation in high-priority sub-	Residential and commercial development Runoff from built environment Timber harvesting	A2.1, (C4.1, C1.1, C2.1, C2.2, E 1.6)	**Protect and Restore Habitat –** • Land Development and Cover **Water Quality –** • Marine Sediment Quality • Fresh Water Quality • Toxics in Fish

	Near-Term Action	Performance Measures	Pressure(s)	Regional Sub-Strategy[2]	Vital Signs
		basins (Cedar River, Bear Creek, and Issaquah Creek). Conduct three workshops for property owners to promote riparian area stewardship. Provide technical assistance to at least 30 property owners to develop planting plans and support plantings. By December 2015, Pierce County Conservation District will implement at least two community planting events in the Swan Creek Watershed. By third quarter 2014 and 2015, owners will conduct two workshops for property owners with livestock to protect and enhance riparian functions.			