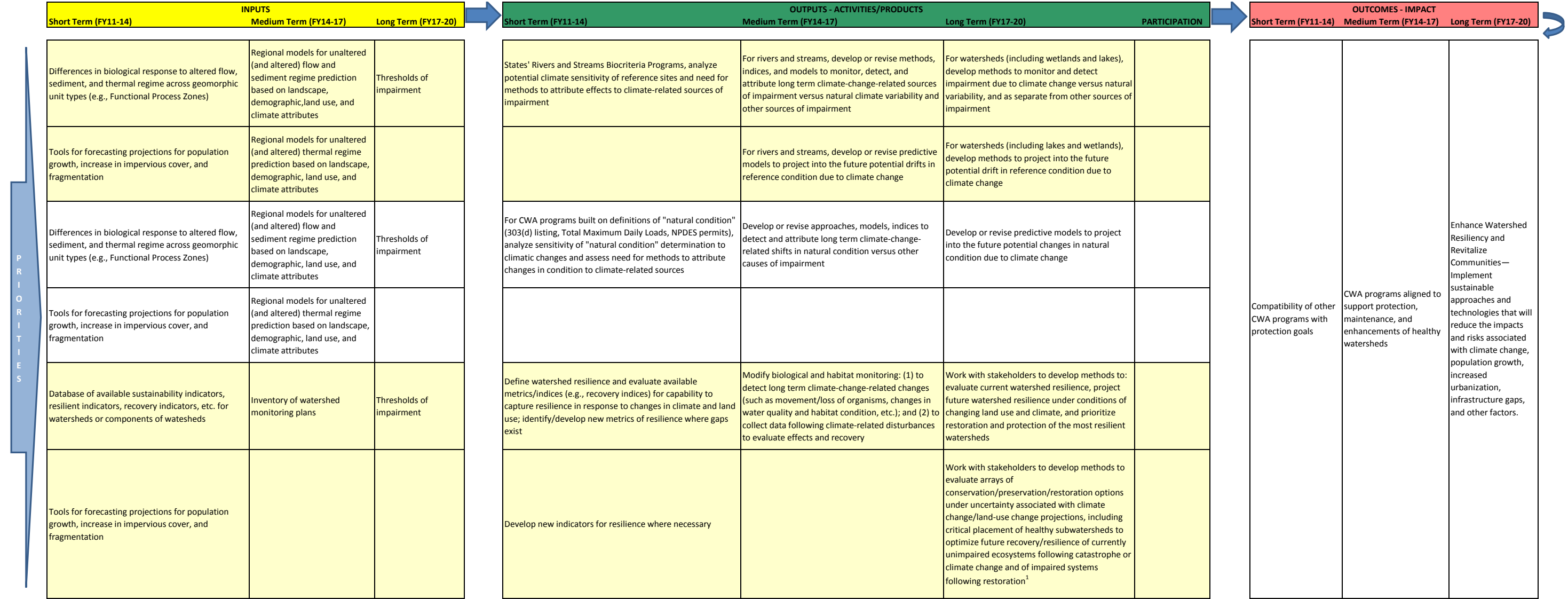


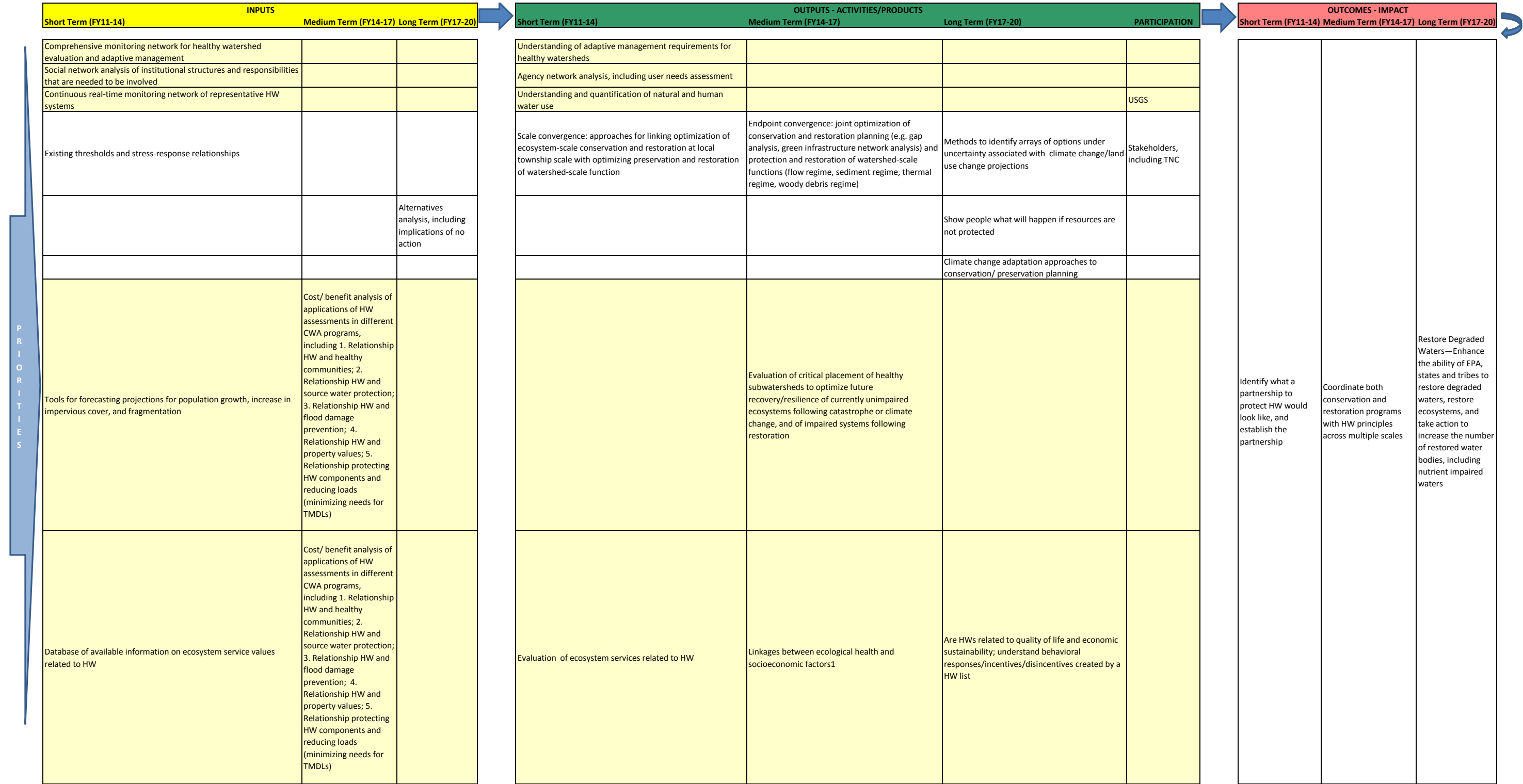
INPUTS		
Short Term (FY11-14)	Medium Term (FY14-17)	Long Term (FY17-20)
Agency network analysis, including user needs assessment (social network analysis of institutional structures and responsibilities that are needed to be involved)		
Quantified human and natural water use/needs		
Costs of protecting watersheds compared to drinking water treatment of degraded waters		
Cost effectiveness of protecting active river area (e.g., floodplains) from development as compared to payments for storm damages		
Relationship between maintaining pre-development hydrology and load reduction (minimizing needs for TMDLs)		
Link between landscape-scale green infrastructure and aquatic related terrestrial health/WQ		
Cost-effectiveness of protection as compared to restoration (319 program)		
Inventory of existing state and Federal data sources for HWIA		
Demonstrated utility of probabilistic monitoring data for identification of all healthy watersheds		
Evaluation of human disturbance indicators at watershed scale using available data and identification of thresholds of impairment		
Agency network analysis, including user needs assessment (social network analysis of institutional structures and responsibilities that are needed to be involved)		
Addition of multiple ecosystem types to conceptual model for integrated watershed assessments, including coastal systems		
Poff/Thorp spatial framework		
Proposed classification frameworks		
Examination of existing expertise and data		
Screening level landscape disturbance indicators		
Existing stressor-response relationships and thresholds		
Regional models for unaltered (and altered) flow regime prediction based on landscape, demographic, and climate attributes	Development and evaluation of cost-effective metrics for Healthy Watershed Assessment elements, esp. functional measures: surface and subsurface water regime, geomorphology, thermal regime, sediment regime, woody debris regime, connectivity at state-wide scale	
Available data on human and natural water use/needs		
Regional models for unaltered (and altered) thermal regime prediction based on landscape, demographic, and climate attributes		
Regional models for unaltered (and altered) sediment regime prediction based on landscape, demographic, and climate attributes		
Available information on movement of aquatic-dependent organisms through watershed		
Existing optimization methods		
Existing optimization methods		

OUTPUTS - ACTIVITIES/PRODUCTS			
Short Term (FY11-14)	Medium Term (FY14-17)	Long Term (FY17-20)	PARTICIPATION
Cost/benefit analysis of applications of Healthy Watershed Assessments in different Clean Water Act programs, including relationship between healthy watersheds and healthy communities			
Flexible assessment framework to identify healthy watersheds using diverse, available state-level data			
Evaluation of approaches at state scale for HW protection Proposed definition of HW (condition, including resilience) Proposed set of elements and metrics for evaluation			
User needs/program assessment			
Conceptual model			
A consistent, nested framework	A consistent, nested framework		
Evaluation of existing and proposed methods for stratifying HWIA, including use of nested scales	Classification framework		
Evaluate relationship between FPZs and ecoregions			
Evaluation of differences in biological response to altered flow regime and altered thermal regime across geomorphic unit types (e.g., Functional Process Zones)			
Test of screening level landscape disturbance indicators			
Analyze gaps in stressor-response relationships and thresholds	Develop missing stressor-response relationships and thresholds		
Fill in gaps in regional models for unaltered flow regime prediction	Assessment methods for woody debris regime, sediment regime, connectivity, temperature, invasive species, flow regime, thermal regime		
Fill in gaps w respect to human and natural water use needs			
Assessment methods for woody debris regime, sediment regime, connectivity, temperature, invasive species, flow regime, thermal regime			
Evaluation of healthy groundwater regimes (and associated metrics), groundwater-dependent community composition, functioning and water requirements; connectivity of critical ground-surfacewater interaction zones for recolonization			
Fill in gaps in regional models for unaltered (and altered) thermal regime prediction based on landscape, demographic, and climate attributes			
Fill in gaps in regional models for unaltered (and altered) sediment regime prediction based on landscape, demographic, and climate attributes			
Demonstrate cost-effective geomorphology survey methods, using best combination of field and remote-sensing data			
Modification of biological and habitat monitoring designs and strategies to emphasize longitudinal, lateral, and vertical connections	Coordinated assessments of different system types		
Evaluate movement of organisms and barrier effects (e.g., culverts)			
Joint optimization of conservation planning (e.g., gap analysis, green infrastructure network analysis) and protection of watershed-scale functions (flow regime, sediment regime, thermal regime, woody-debris regime)		Optimization of multiple endpoints	
	Approaches for linking optimization of ecosystem-scale conservation at local township scale with optimizing preservation of watershed-scale function		

OUTCOMES - IMPACT		
Short Term (FY11-14)	Medium Term (FY14-17)	Long Term (FY17-20)
Demonstrate benefit of HWA for other CWA programs	Promote the use of available resources (e.g., 604(b), 319) to develop HW lists and protect HW	Increase Protection of Healthy Waters—Increase focus on the protection of source waters and healthy watersheds to ensure they remain protected from degradation and depletion
Preliminary Healthy Watershed List		
Achieve consensus on core set of elements and		
Pilot demonstration of approaches at state scale for HW identification	Refinement of methods for HW assessment	



¹ Also builds on research under LTG1 (related to scale convergence and Endpoint convergence)



¹ Also builds on LTG1 short-term outcome 'Achieve consensus on core set of elements and metrics for HW