Strategy Level	2011-DOI Mission Area	2011 - Goal	Strategy (*Priority goal*)	CERC																								
				Environmental Toxicology and Chemistry	Ecological Integrity	Large River Ecology	Environmental Risk Assessment and Restoration	Innovative Methods and Indicators	EERSC	EM&ERSC	GLSC	ILWSC	INKYWSC	IAWSC	MIWSC	MNWSC	MOWSC	NWHC	NEWSC	NDWSC	NPWRC	OHWSC	SDWSC	UMESC	WIWSC			
DOI	Provide Natural and Cultural Resource Protection and Experiences	**Protect America's Landscapes**	Improve land and water health by managing wetlands, uplands and riparian areas																									
			Sustain fish, wildlife, and plant species by protecting and recovering the Nation's fish and wildlife																									
			Climate change vulnerability assessments and related adaptation																									
		Protect America's Cultural and Heritage Resources	Protect cultural and historical assets and related resources																									
		Provide Recreation and Visitor Experience	Enhance the enjoyment and appreciation of our natural and cultural heritage																									
		Manage the Impacts of Wildland Fire	Establish fire-adapted ecosystems																									
			Adapt communities to wildfires																									
			Respond to wildfires																									
	Sustainably Manage Energy, Water, and Natural Resources	**Secure America's Energy Resources**	Ensure environmental compliance and safety of energy development																									
			Develop renewable energy potential																									
			Increase approved capacity for renewable energy development																									
			Manage conventional energy development																									
			Account for energy revenues																									
		Manage Water for the 21st Century	Conserve water																									
			Enable increased water conservation capability																									
			Improve reliability of water delivery																									
			Improve infrastructure and operation efficiency of tribal water facilities																									
		Sustainably Manage Timber, Forage, and Non-energy Minerals	Manage timber and forest product resources																									
			Provide for sustainable forage and grazing																									
			Manage non-energy mineral development																									
	Advance Govt-to-Govt Relationships with Indian Nations and Honor Commitments to Insular Areas	**Meet Our Trust, Treaty, and Other Responsibilities to American Indians and Alaska Natives**	Protect Indian treaty and subsistence rights																									
			Fulfill fiduciary trust																									
			Strengthen tribal judicial systems																									
			Manage and develop resources assets																									
			Create economic opportunity																									
			Strengthen Indian education																									
			Make communities safer																									
			Reduce violent crime through strategic deployment																									
			Support self-governance and self-determination																									
			Manage for protection of water rights																									
		Empower Insular Communities	Improve quality of life																									
			Create economic opportunity																									
			Promote efficient and effective governance																									
	Provide a Scientific foundation for Decision Making Ensure the Quality & Relevance of Science Products to Partners & Customers	**Ensure the Quality & Relevance of Science Products to Partners & Customers**	Ensure overall customer satisfaction																									
		Provide Science for Sustainable Resource Use, Protection, and Adaptive Management	Identify and predict ecosystem changes																									
			Identify and model causes and impacts of changes to the Earth and ocean systems																									
			Assess and forecast climate change and its effects																									
			Monitor and assess water availability and quality																									
			Assess national and international energy and mineral resources																									
		Provide Scientific Data to Protect and Inform Communities	Monitor and assess natural hazards risk and resilience																									
			Identify the connection between the natural environment and wildlife and human health																									
		Develop a Comprehensive Science Framework for Understanding the Earth	Develop an integrated data framework that is used to guide science-based stewardship of natural resources																									
			Generate geologic maps and models for sustaining resources and protecting communities																									
			Advance the Earth science application of geospatial information																									
	Building a 21st Century Department of the Interior	**Building a 21st Century Workforce**	Hiring reform																									
		Youth Stewardship and Engagement	***Hire or temporarily engage individuals aged 15-25***																									
		Sustainability of Interior's Operations	Use of alternative fuels																									
			Reduce energy intensity																									
			Sustainable buildings																									
		Dependability and Efficiency of Information Technology	Reduce IT infrastructure																									
			Decrease operational expense																									
		Improving Acquisition and Real Property Management	Reduce high-risk acquisitions																									
			Reduce unneeded real property assets																									
			Overall condition of building per facility condition index																									
DOI		**Natural Resource Damage Assessment and Restoration (NRDAR) Program**		1																								
DOI	Threatened and Endangered Species Research			1																								

Strategy Level	2014-18 DOI Mission Area	Goal	Strategy (*Priority goal*)	CERC					EERSC	EM&ERSC	GLSC	ILWSC	INKYWSC	IAWSC	MIWSC	MNWSC	MOWSC	NWHC	NEWSC	NDWSC	NPWRC	OHWSC	SDWSC	UMESC	WIWSC
				Environmental Toxicology and Chemistry	Ecological Integrity	Large River Ecology	Environmental Risk Assessment and Restoration	Innovative Methods and Indicator																	
DOI	Celebrating and Enhancing America's Great Outdoors	Goal I: Protect America's landscapes	Improve land and water health by managing wetlands,uplands,and riparian areas																						
			Sustain fish, wildlife,and plant species																						
			Manage wildland fire for landscape resiliency,strengthen the ability of communities to protect against fire,and provide for public and firefighter safety In wildfire response																						
		Goal 2: Protect America's Cultural and Heritage Resources	Protect culturaland historical assets and related resources																						
		Goal 3: Enhance Recreation and Visitor Experience	Enhance the enjoyment and appreciation of our natural and cultural																						
	Strengthening Tribal Nations and Insular Communities	Goal I: Meet Our Trust, Treaty, and Other Responsibilities to American Indians and Alaska Natives	Protect reserved Indian treaty and subsistence rights																						
			Fulfill fiduciary trust																						
		Goal 2: Improve the Quality of life in Tribal and Native Communities	Support self-governance and self-determination																						
			Create economic opportunity																						
			Strengthen Indian education																						
			Make communities safer																						
		Goal 3: Empower Insular Communities	Improve quality of life																						
			Create economic opportunity																						
			Promote efficient and effective eovernance																						
	Powering our Future and Responsible Use of the Nation's Resources	Goal I: Secure America's Energy Resources	Ensure environmental compliance and safety of energy development activities																						
			Develop renewable energy potential																						
			Manage conventional energy development																						
			Account for energy revenue																						
		Goal 2: Sustainably Manage Timber, Forage, and Non-Energy Minerals	Manage timber and forest product resources																						
			Provide for sustainable forage and grazing																						
			Manage non-energy mineraldevelopment																						
	Engaging the Next Generation	Goal I: Create new, systemic opportunities for outdoor play	Develop or enhance outdoor recreation partnerships that provide outdoor play																						
		Goal 2: Provide educational opportunities	Reach the Nation's K-12 population																						
		Goal 3: Provide volunteers on public lands	Enable the ability to engage more young volunteers																						
		Goal 4: Develop the next generation of lifelong conservation stewards and ensure our own skilled and	Provide conservation work and training opportunities for young people																						
	Ensuring Healthy Watersheds and Sustainable Water	Goal I: Manage Water and Watersheds for the 21st Century	Improve reliability of water delivery																						
			Better ensure the future of watersheds against the impacts of climate change																						
		Goal 2: Extend Water Supplies Through Conservation	Expand water conservation capabilities																						
		Goal 3: Availability of Water to Tribal Communities	Protect tribal water rights																						
			Improve infrastructure and operational efficiency of tribal water																						
	Building a Landscape-level Understanding of Our Resources	Goal I: Provide Shared Landscape-Level Management and Planning Tools	Ensure the use of landscape-levelcapabilities and mitigation actions																						
		Goal 2: Provide Science to Understand,Model and Predict Ecosystem, Climate and Land Use Change	Identify and predict ecosystem changes at targeted and landscape-levels (biota,land cover, and Earth and ocean systems) Assess and forecast climate change and its effects																						
		Goal 3: Provide Scientific Data to Protect, Instruct, and Inform Communities	Monitor and assess natural hazard risk and resilience																						
			Provide environmental health to aside decisionmaking																						
		Goal 4: Provide Water and Land Data to Customers	Monitor and assess water availability and quality																						
			Generate geologic maps																						
			Assess nationaland international energy and mineral resources																						
			Interior's Strategic Plan FY 2014-2018																						

Science Strategy Level	USGS Mission Area	Program	Component	CERC					EERSC	EM&ERSC	GLSC	IL WSC	INKY WSC	IA WSC	MI WSC	MN WSC	MO WSC	NWHC	NE WSC	ND WSC	NPWRC	OH WSC	SD WSC	UMESC	WI WSC
				Environmental Toxicology and Chemistry	Ecological Integrity	Large River Ecology	Environmental Risk Assessment and Restoration	Innovative Methods and Indicators																	
USGS	Climate and Land Use Change	**Land Change Science (LCS)**																							
		National Climate Change and Wildlife Science Center (NCCWSC)																							
		Carbon Sequestration																							
		Land Remote Sensing (LRS)																							
		Research and Development Program (R&D)																							
		Earth Resources Observation and Science Center (EROS)																							
	Ecosystems	**Invasive Species Program**																							
		Fisheries Program																							
		Status & Trends Program																							
		Genetics & Genomics																							
		International																							
		Science and Decisions Center																							
		Cooperative Research Units																							
		Environments Program																							
		Wildlife Program																							
		Microbiology																							
		USA National Phenology Network																							
		Energy and Wildlife		1																					
	Environmental Health Mission Area	**Toxi substances Hydrology Program**		1																					
		Contaminant Biology Program																							
	Ecological Effects of Contaminants			1																					
	Energy and Minerals	**Energy Resources**	National Oil & Gas Assessment																						
			Geothermal																						
			Wind Energy																						
			Coal Assessments																						
			World Petroleum Assessment																						
			Geothermal resources																						
			Energy Information																						
			Environment																						
		USGS Science and Decisions Center																							
		Mineral Resources	Research and Assessment																						
			Minerals Information																						
		Toxi substances Hydrology Program																							
		National Laboratories																							
MWR	Environmental effects of mining and energy			1																					

Skills	CERC	EERSC	EM&ERS	GLSC	IL WSC	INKY	WASC WSC	MI WSC	MN WSC	MO WSC	NWHC	NE WSC	ND WSC	NPWRC	OH WSC	SD WSC	UMESC	WI WSC
Environmental Toxicology	X																	
Environmental Chemistry	X																	
Large River Ecology	X																	
Ecological Risk Assessment and Restoration Science	X																	
Ecological Effects of Contaminants: Innovative Methods and Indicators	X																	
Information Technology	X																	
Administrative Services	X																	
Oil, gas and coal resource analysis and assessment; analysis of links between energy use and human health an environment impacts		X																
New SEM with expanded capabilities		X																
X-ray diffraction capability		X																
Critical CO_2 extractor capabilities		X																
Environmental SEM		X																
Geostatical Analyst		X																
Quantitative Mineral Resource Assessments			X															
Mineral Environmental Assessments			X															
Stream Sediment and Soil geochemical sampling			X															
Remote Sensing			X															
Geochemical analyses			X															
Geophysical compilation			X															
Statistical Analysis			X															
Genetics/qPCR (fish, invertebrates, bacteria)				X														
Microbial ecology (sources, tracking)				X														
Harmful Algal Blooms (HABs)				X														
Expansion of Scientific Dive Team and Scientific Dive Safety training program				X														
Motorboat Operator Certification Course				X														
Fork Lift Operator training course				X														
Data Rescue Program application through Core Science Systems				X														
Ecomapper (AUV)					X													

Surface-Water Modeling--1-D and 2-D Unsteady-flow hydraulic (FEQ, FESWMS, SWMM), & continuous watershed (HSPF and SWMM5) modeling for FEMA NFIP studies. Provide support and model training and development.					X													
Instantaneous Data (UV) recovery using Mitron paper tape readers					X													
Google Map applications for real-time precipitation and gage-linked inundation (for several WSCs)					X													
Stream Restoration assessment and modeling					X													
Sediment and Contaminant Transport Modeling (Kalamazoo Team and Office of Surface Mining)					X													
Sediment Surrogates (acoustic, laser-diffraction, turbidity--partial OSW funds)					X													
Dam Removal Modeling and monitoring					X													
Operable Hydraulic Structure Ratings					X													
Lake Sedimentation Analysis					X													
Regionalization of Flow Duration Curves as a basis for daily streamflow in ungaged basins and load duration curves (WaterSMART)					X													
Urban Peak Flow Adjustment to Land Use and Climate					X													
Uncertainty Analysis--Measured discharge, computed peaks, and ratings					X													
Geoprobe					X													
fractured Rock Characterization for flow and transport					X													
Characterizaion Work on Hazardous Waste Sites					X													
Nitratax continuous nitrate monitoring					X													
High level of competence in the use of hydroacoustic instrumentation for streamflow and bathymetric data collection					X													
Water gun seismic evaluation on land surfaces and structurres					X													
Geophysical studies					X													
Groundwater/Surface Water Interactions					X													
PO4 Continuous Phosphate Analyzer					X													
Water-quality modeling (SWAT)					X													
Regional water-quality characterization (logistic regression, geostatistics)					X													

Glacial aquifer characterization (water quality, water use, and geologic)					X													
Flood inundation mapping Center of excellence						X												
Bathymetric surveying capabilities						X												
Fluvial erosion hazards expertise (tying fluvial geomorph science to hazard mitigation)						X												
Super/sentry gage O&M (from installation to data management to surrogate development)						X												
WATER-TOPMODEL expertise -- for many applications across the Commonwealth, Region, and						X												
Molecular microbiological laboratory, biosafety level II								X										
Development of molecular methods to identify pathogens or genes specific to particular environments								X										
Application of parameter-estimation techniques to hydrologic modeling								X										
quality								X										
The MIWSC also has staff with very strong groundwater modeling and progranmming skills								X										
High resolution multibeam ecosounder and motion-compensated terrestrial lidar										X								
Phytoforensice and phytoscreening										X								
Borehole geophysics										X								
Macroinvertebrate sampling										X								
1-D and 2-D hydraulic modeling										X								
Microbial source tracking and bacteria source studies										X								
Groundwater modeling										X								
Wetland hydrology										X								
Statistician with expertise in data mining including automated data retrieval and analysis, outlier detection, and data cleaning.													X					
Statistician has expertise in web log analyses including usage patterns, trends, analysis of sessionized logs and navigation paths, and data aggregation methods such as the Porter Stemming Algorithm.													X					
Research statistician with expertise in applying time series and stochastic hydrology for streamflow and water-quality modeling.													X					

One senior hydrologic technician and a hydrologist with extensive international experience. The experience led to USAID funding: 1) to install a streamgage monitoring system to improve flood warning capability in Ukraine and 2) to provide a water-resource assessment training class in Amman, Jordan for Iraqi water-resource engineers. Currently, NDWSC and Water Resources Branch staffs are working with Afghan Ministry of Environment and World Bank staff to develop an MOU to funding hydrologic data collection training program for Afghanistan water-													X					
Advanced regional and local numerical groundwater modeling, optimization, parameter estimation techniques to simulate flow and thereby providing decision-makers and scientists with comprehensive management and predictive tools.												X						
Hydrographic multibeam echosounder surveys or riverine and lake assessments. Advanced hydrographic processing Caris software, and USGS developed tools and scripts for rapid processing of multibeam echosounder hydrographic surveys.												X						
Wide range of geophysical surveying tools used for geologic framework studies, levee seepage, canal leakage, and numerical groundwater modes.												X						
Hydraulic and hydrologic surface-water modeling including multi-dimensional and steady and unsteady flow models and empirical and theoretical run-off models. Detailed experience in flood inundation												X						
Ground-based LiDAR for rapid topographic and structures surveying												X						
Green infrastructure water-balance studies, evapotranspiration measurement, and stormwater monitoring.												X						
Pipeline monitoring using passive membrane devices and traditional soil vapor sampling.												X						
Monitoring and assessment of geomorphic change and sediment transport in constructed river side-channels and chutes.												X						
Empirical and theoretical sediment transport studies												X						

Semi-portable GCMS												X						
Staffing and methodology to conduct field, laboratory and animal health studies with amphibians, birds and											X							
Statistical expertise to consult on study design and analysis of data.											X							
Quantitative epidemiology, disease ecology and											X							
Expertise on laboratory management and molecular diagnostics											X							
Emerging Diseases Branch is comprised of wildlife biologists, veterinarians, statisticians, epidemiologists, and informatics specialists. This multidisciplinary group is responsible for investigations and disease ecology studies of emerging and recurring priority wildlife diseases, maintaining and analyzing comprehensive datasets on wildlife disease events, and providing response and management consultation and training for external partners.											X							
Field and laboratory capabilities for emergency response to wildlife disease outbreaks.											X							
Internationally-recognized expertise in wildlife disease pathology and ecology.											X							
World Organization for Animal Health (OIE) Collaborating Centre in consortium with the Canadian Cooperative Wildlife Health Centre on research, diagnosis and surveillance of wildllife pathogens.											X							
High security biological safety level (BSL) 3 laboratories and animal containment facility.											X							
Laboratories (enhanced BSL 3) and animal isolation facilities (ABSL3) certified for research on highlly pathogenic avian influenza viruses.Program.											X							
Facilities and staff registered with Federal Select Agent Program											X							
Certified member of the USDA National Animal Health Laboratory Network (NAHLN).											X							
Public Health Service Animal Welfare Assurance with the NIH Office of Laboratory Animal Welfare. Functioning Animal Care and Use Program, including a full-time Attending Veterinarian,.											X							

Capability to conduct mouse-protection bioassay for detection of botulinum neurotoxins in clinical samples.											X							
Methodology to characterize virulent isolates of Newcastle Disease.											X							
Pacific Island wildlife disease investigation and response capabilities.											X							
Laboratory methodology to detect and isolate fibropapilloma viruses in green sea turtles.											X							
Expertise and methodology to investigate coral diseases.											X							
Comprehensive wiildlife disease databases spanning 40 years.											X							
Extensive histopathology collection of wildlife tissues, microbial isolates, microscopic slides and microphotographs.											X							
Culture-based and PCR-based protocols and assays to identify *Pseudogymnoascus* sp. Fungus (WNS in bats.											X							
Capability to construyct artificial hibernacula for studying WNS transmission in hibernating bats.											X							
Animal husbandry and clinical veterinary capability to house and care for unique wildlife species in experimental setting.											X							

Training Needed	CERC	EERSC	EM&ERSC	GLSC	IL WSC	INKY WSC	IA WSC	MI WSC	MN WSC	MO WSC	NWHC	NE WSC	ND WSC	NPWRC	OH WSC	SD WSC	UMESC	WI WSC
1-week detail for new safety person to visit Regional Safety Manager	1																	
Watercraft	2												1					
Leadership 101		1	1					2			1	1						
Wilderness First Aid			12															
BASIS+/Project planning software training/FBMS				1														
Ongoing "leadership" segments with an applied focus (Plan-Do-Check-Act cycle,				1														
Project planning/management				1														
Team-work skills				1														
Communication training					1													
2D hydrologic modeling expertise -- for FIM and other SW work						1												
Commonwealth multi-beam digital echo-sounder						1												
Cross training for IN staff on WATER						1												
Trends analysis expertise						2												
ADCP refresher training								2										
Continuous water-quality equipment training									7									
Leadership 201											1		2					
Administrative training													2					
Safety training													1					
Leadership Intensive											1							
MWR regional training from Acquisitions Branch in Denver to address specific needs											1							
IPDS training											1							
Safety																		

CERC																		
EERSC																		
EM&ERSC																		
GLSC																		
IL WSC																		
IN WSC																		
IA WSC																		
KY WSC																		
MI WSC																		
MN WSC																		
MO WSC																		
NWHC																		
NE WSC																		
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WI WSC																		