Appendix H: Park-Specific Vital Signs

Park Priorities for Network Vital Signs

A 2004 GPRA goal for the 19 park units within the SCPN was to identify park-specific vital signs. During the vital signs selection process, the network staff worked collaboratively with park resource managers, superintendents, and outside experts to identify the most important long-term monitoring needs across SCPN parks. Additionally, during July and August of 2004, Lisa Thomas and Chris Lauver visited each of the 19 parks to discuss the network vital signs with park staff and assist with identification of any remaining top priority monitoring needs. During these visits, park staff members were asked to determine the park's priority level for each network vital sign in the network monitoring effort (Table H1).

Park-Specific Vital Signs

During network staff visits to the parks, some parks identified additional vital signs beyond the network list as a top priority for their park. These park-specific vital signs are listed by park in Table H2.

During the vital signs selection workshop held in May of 2004, a discussion was held among the Science and Technical Advisory Committee members on how the network should address monitoring of park-specific vital signs. In general, the group expressed caution for the network assuming a significant role in these efforts and was concerned that park-specific projects not impair the network's ability to monitor network vital signs. Rather, the group suggested that it would be helpful for the network staff to serve as consultants to park managers, as each park worked to develop monitoring to meet park specific needs (for example, help with data management, experimental design, and data analysis).

Table H1. Park priorities for the Southern Colorado Plateau Network for monitoring core and secondary vital signs.

SCPN Core Vital Sign	A Z R U	BAND	CACH	CHCU	E LMA	E LMO	GLCA	GRCA	HUTR	MEVE	NAVA	P E F O	PETR	RABR	SAPU	SUCR	WACA	WUPA	YUHO
* Air quality [1]		C1	low	med	med	med	med	C1	low	C1	low	C1	low	med	low				med
* Climate conditions and soil moisture		med	med	hi	hi	hi [2]	med	med	med	low	med	low [2]	med	med	med	low	low	low	low
* Land use/land cover and landscape vegetation pattern	hi	hi	hi	med	hi	hi	med	hi	hi	med	hi	hi		low	med	hi	hi	hi	hi
* Vegetation condition and disturbance patterns		med	hi	med	hi		med	hi	med	hi	low	hi	low	low	low	med	med	med	
Soil stability and upland hydrologic function	hi	hi [2]	low	hi	med	med	hi	med	low	hi	hi	med	hi	low	med	hi	hi	hi	low
Vegetation composition and structure (upland)	hi	hi	low	med	med	med	hi	hi		hi	hi	hi	hi	low	med	hi	hi	hi	low
Vegetation composition and structure (riparian)	med	hi	hi	hi	low		hi	hi [4]	hi	hi	hi	hi			hi		hi	med	
Spring, seep, and tinaja ecosystems		med	hi	hi	med	hi	hi	hi	hi	med	hi	hi		low	hi		hi	hi	hi
Habitat-based bird communities		hi	med	low	med	low	med	hi	hi [4]	hi	med	med	med	low	med	med	med	med	
A terrestrial invertebrate group		med	low	low	med	med	med	hi	low	hi	med	med	med	low	low	low	low	low	low
Stream flow and depth to groundwater	med	med [2]	hi	hi	low		low [2]	hi	hi	hi	med	hi	med [5]	low	hi		hi	hi	
Channel morphology		med	hi	hi	low	low	low	med	hi	hi	hi	hi	hi	hi	hi		med	med	
* Water chemistry of streams and springs	low	hi	med	low		low	hi	hi	med	med	med	med [2]	med [6]		low		med [3]	med	med
Aquatic macroinvertebrates		med	med			med	hi	hi [3, 4]		med	med	low			low		med	med	low
* Invasive exotic plants		med	hi	med	med	hi	hi	hi	hi [4]	hi	hi	med	med	hi	hi	med	med	med	hi
Night sky condition		med	med	hi	hi	hi	hi	med	low	low	med	hi	low		low	med	med	med	low
Natural soundscape condition		med	med	low	hi	hi	hi	low [2]	low	low	hi	med	low	hi	low	med	med	med	low
SCPN Secondary Vital Sign																			
* Fish communities		low	low				med	low[2]		hi								low	
* Federally listed species		low	med		med	low	med	hi		med	med						med	low	
* Special-status plant and animal species or communities (endemic, relictual, disjunct, declining, sensitive, rare or unique)		hi	low	low	hi [7]	low	hi	hi		med	hi	low	low	low		med	med	med	hi
Impacts of visitor use		low	hi	low	low	hi	hi	med	low	med	low	low	low	med	low	hi	hi	hi	
* Agents of anthropogenic change and other disturbances		low	hi	med	low	med	hi	med	med	hi		low			low	med	med	med	

Shading indicates vital sign is either not applicable or of very low priority.
* Monitoring is at least partially implemented through other sources.
[1] Vital sign is limited to existing monitoring at Class 1 (C1) parks. Additional park needs also stated.
[2] Priority level for network considers monitoring currently conducted through other sources.
[3] Springs
[4] Tributaries and streams; riparian
[5] Extreme event flow
[6] Runoff contaminants
[7] Bats & cave fauna, kipukas, douglas fir/aspen relicts

Table H2. Park-specific monitoring priorities in addition to the SCPN vital signs.

Park-Specific Monitoring Needs	AZRU	BAND	CACH	CHCU	ELMA	ELMO	GLCA	GRCA	HUTR	MEVE	NAVA	PEFO	PETR	RABR	SAPU	SUCR	WACA	WUPA	YUHO
Petrified wood theft												hi							
Status of paleo resource sites							hi					hi							
Ice caves and associated habitats					med														
Volcanic resources								med								hi			
Earthcrack and blowhole system																		hi	
Cave, mine, and karst resources								hi											
Mineral resources								med											
Stability/ rate of change of alcove surfaces			med					low											
Pronghorn herds												med							
Mule deer												low							
Elk abundance and effects		hi		hi				med											
Prairie dogs								med	med			med							
Reptiles								med				hi							
Bats								med				low							
Status of Medicinal & Ceremonial Plant Populations in Traditional Plant Collection Sites			hi					med											
Invasive exotic animals								hi											
Aquatic nuisance species (plant/animal)							hi	hi											
Perched aquifer contaminants		med						med											
Backcountry camp sites								hi											
Recreational water quality							hi	hi											
Hydrocarbon monitoring - Lake Powell							hi												
Sedimentation -- Lake Powell							hi												
Ecological effects of severe drought		hi						hi											