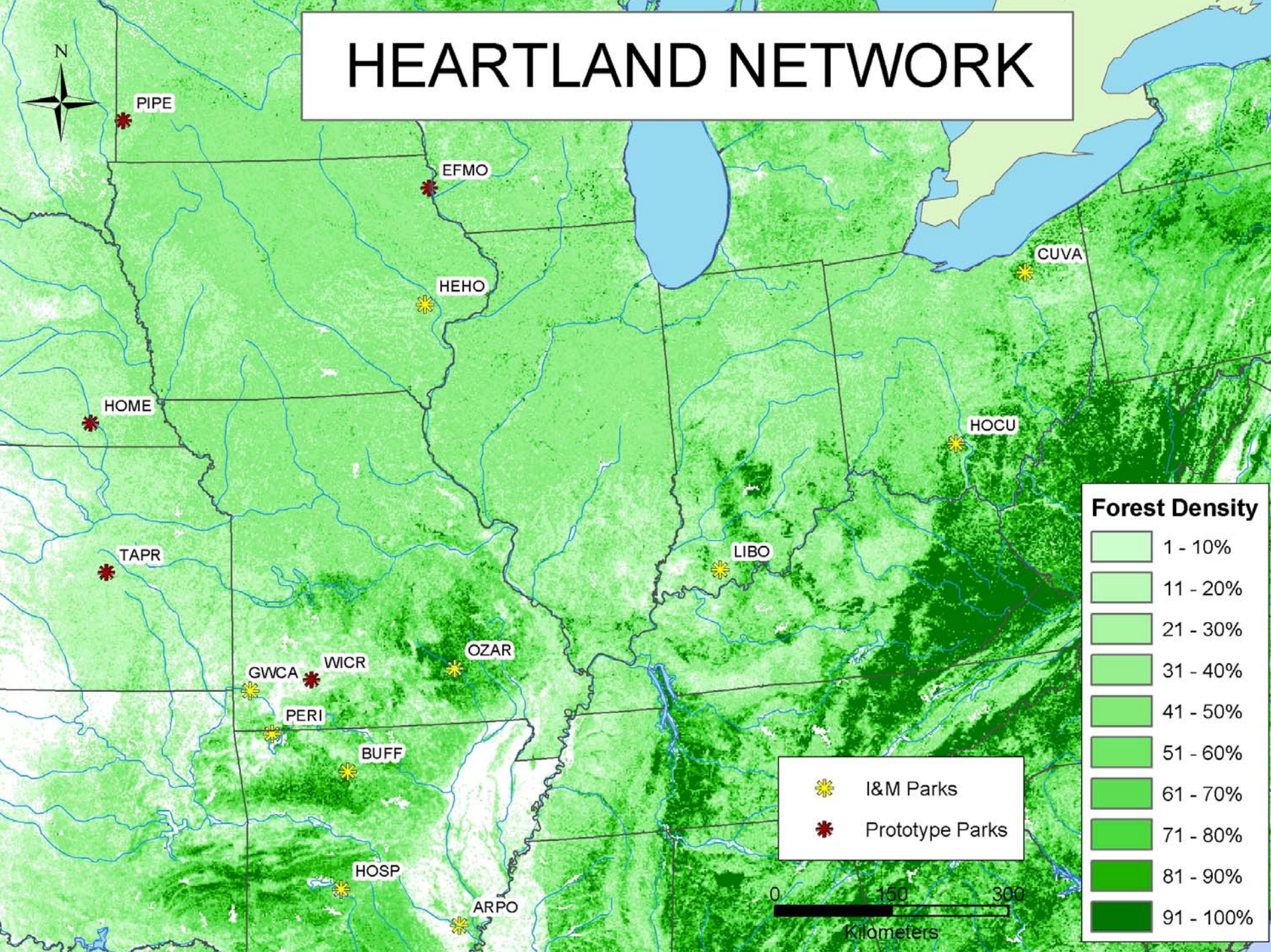
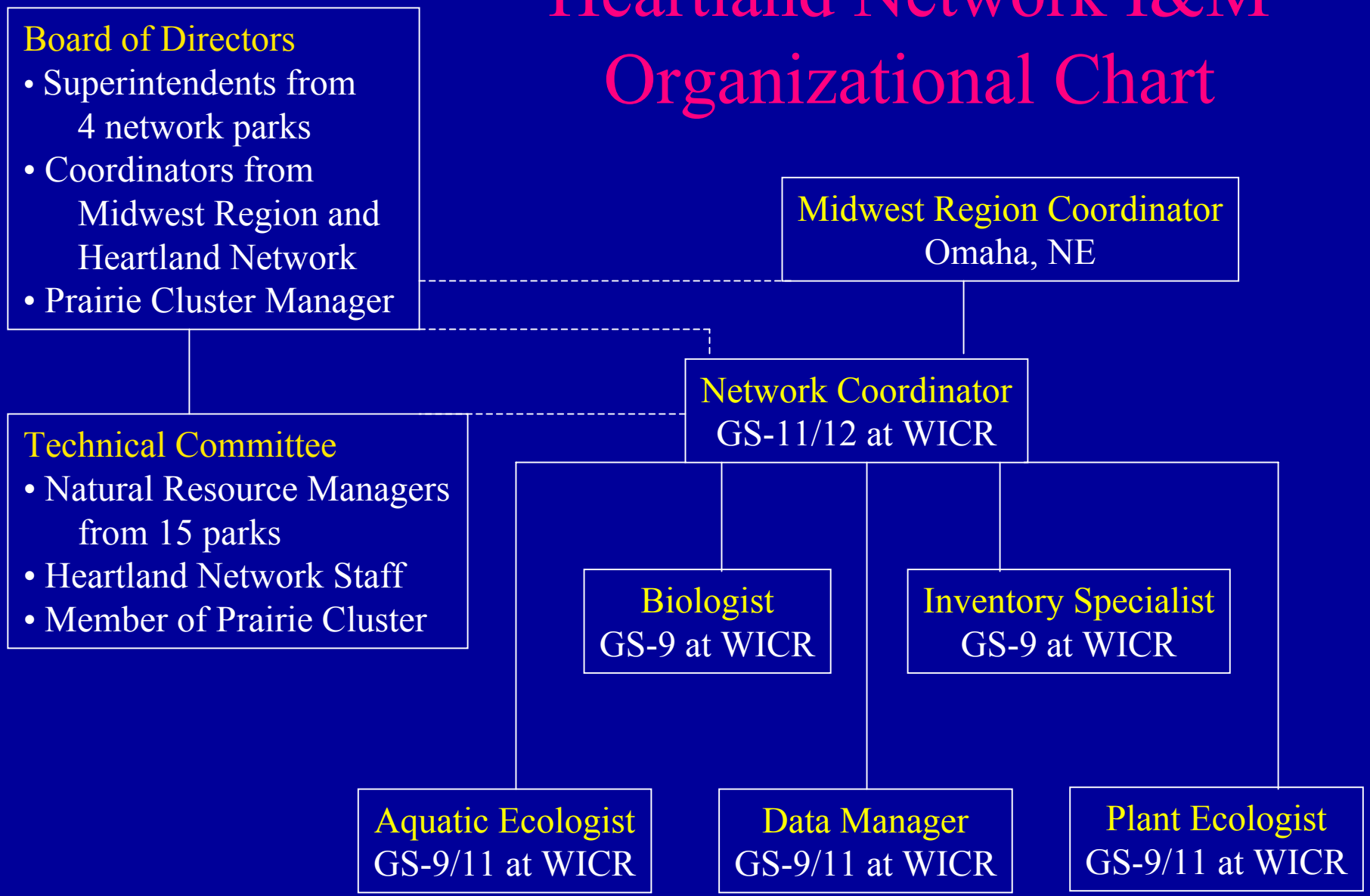

Heartland
Network
Vital Signs
Program
Janet Eckhoff, PhD
Network Coordinator


HEARTLAND NETWORK
N
PIPE
EFMO
HEHO
CUVA
HOME
HOCU
TAPR
LIBO
OZAR
GWCA
WICR
PERI
BUFF
HOSP
ARPO
Forest Density
1 - 10%
11 - 20%
21 - 30%
31 - 40%
41 - 50%
51 - 60%
61 - 70%
71 - 80%
81 - 90%
91 - 100%
I&M Parks
Prototype Parks
0
150
300
Kilometers

Heartland Network I&M Organizational Chart



“We’ve got a lot of Heart”

Mike Williams, Heather Parker, Janet Eckhoff, Brent Frakes

Network Staff

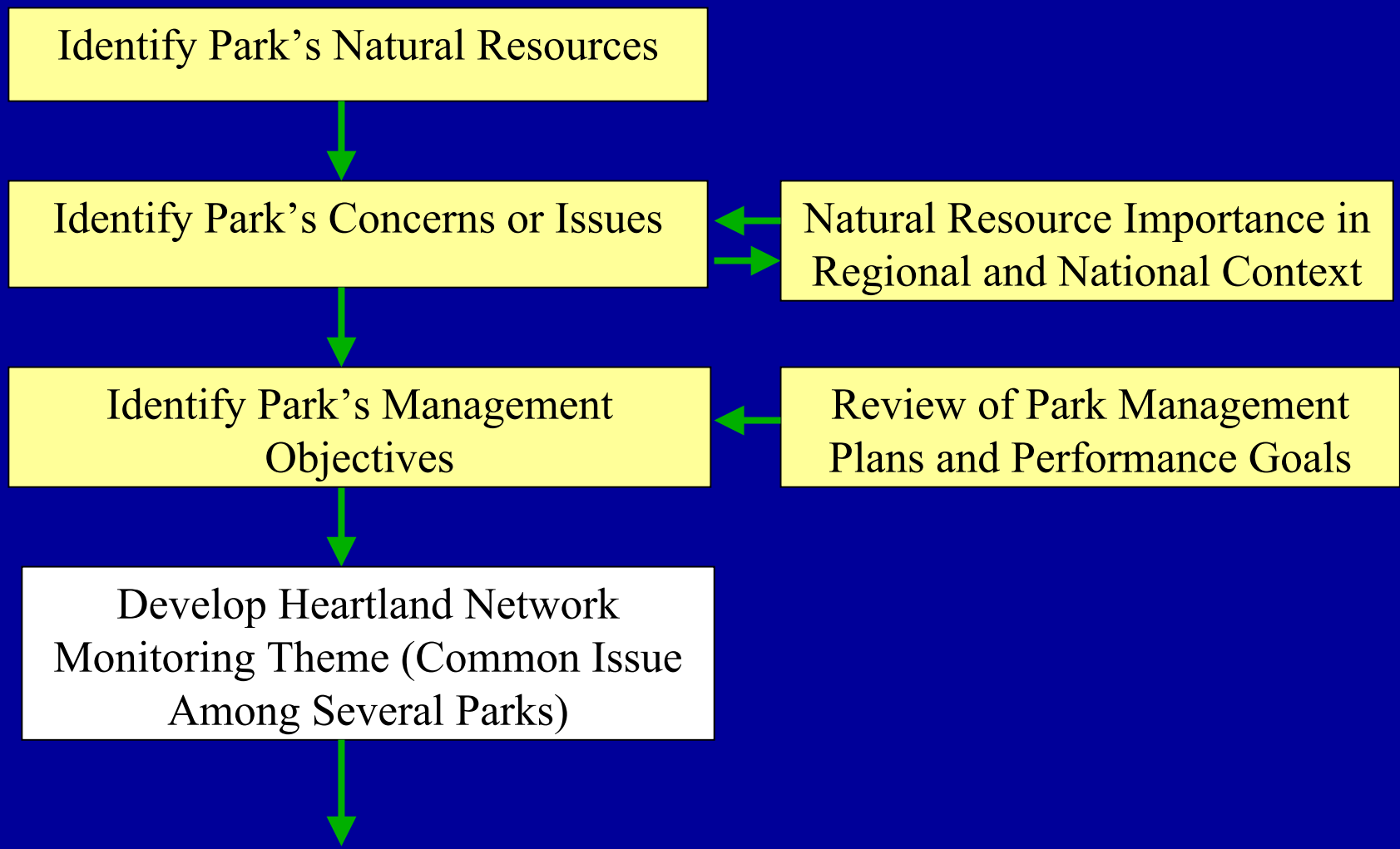
Advantages:

- More people to get the work done
- More diverse expertise
- More opportunities for participation with outside agencies and NPS programs

Weakness or other issues:

- Personnel costs
- Office space issues
- Location of the individuals

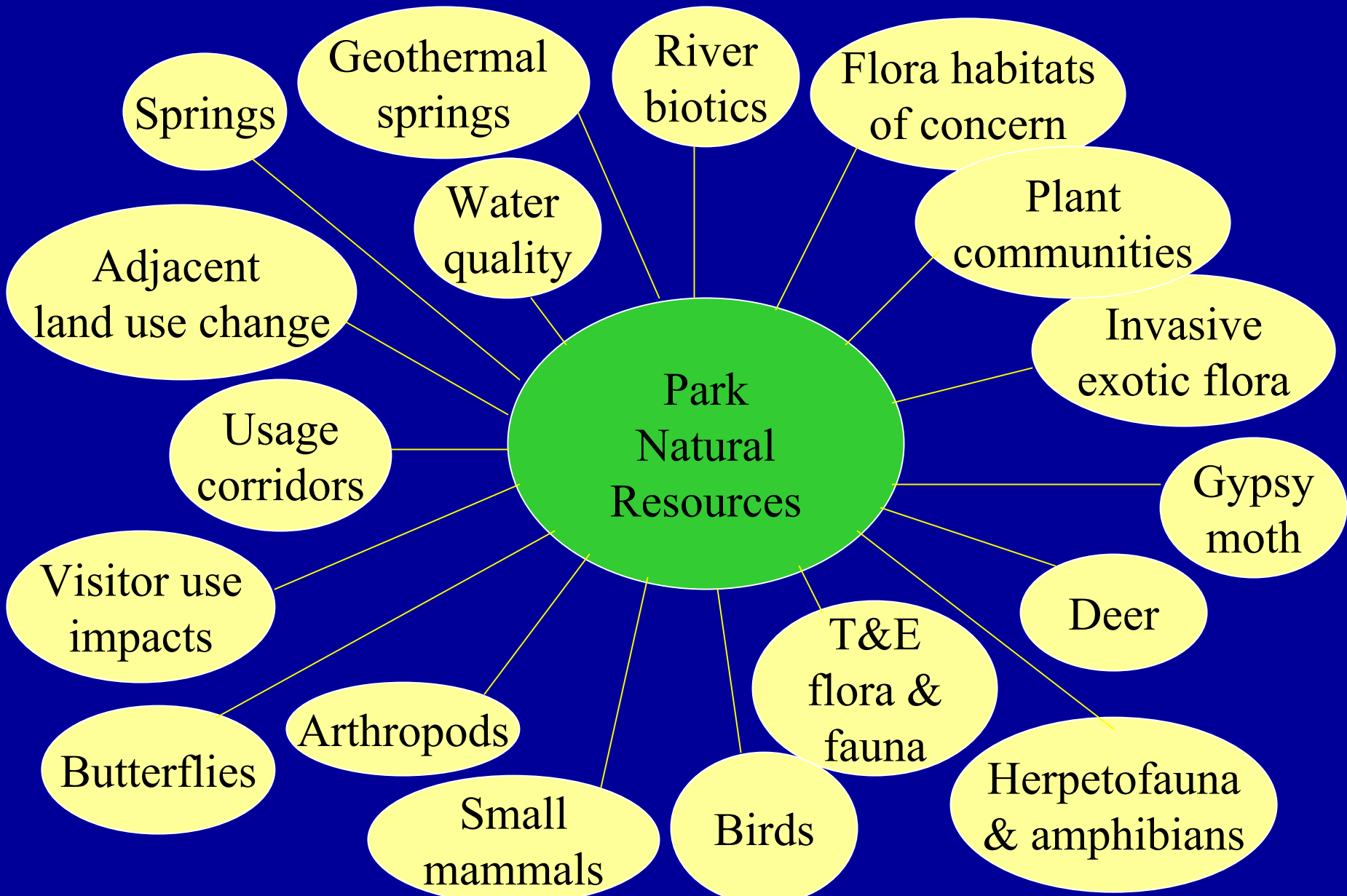
Phase I: Define Heartland Network parks' natural resources, monitoring issues, objectives, and network-level themes



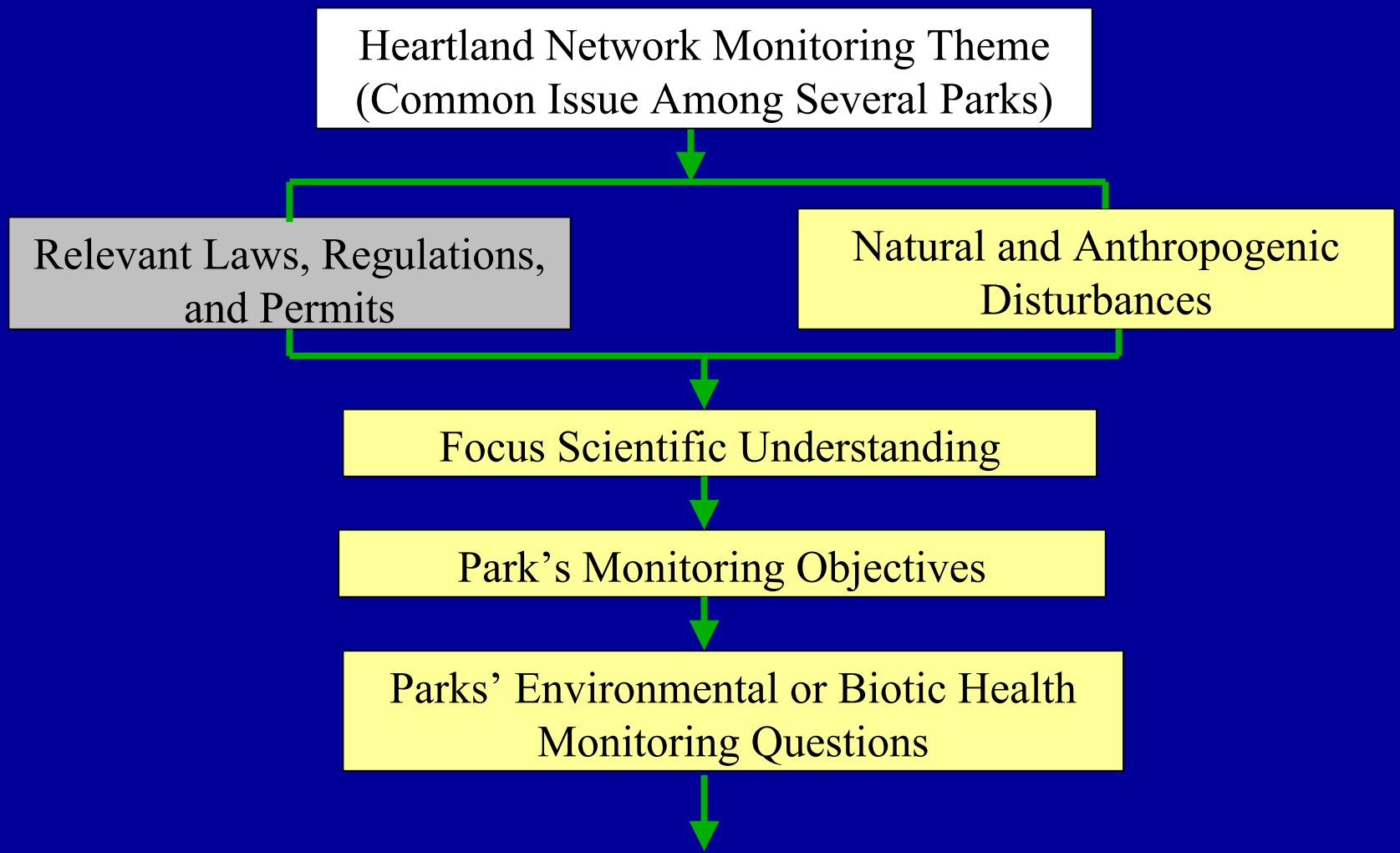
Heartland Network Parks' GPRA Goals

General category	Goal #	Parks with this GPRA goal
Disturbed lands restored	1a01A	CUVA, HOCU, OZAR
Disturbed lands restored	1a09B	OAZR
Disturbed lands restored	1a1A	ARPO, BUFF, CUVA, EFMO, HOSP, OZAR, PIPE, WICR
Disturbed lands restored	1b01A	OAZR
Exotic vegetation contained	1a1B	CUVA, EFMO, GWCA, HOCU, HOSP, OZAR, PIPE, WICR
Natural resource inventories acquired or developed	1b01	PERI, TAPR
Stable federal T&E species or species of concern populations	1a2D	PIPE
Stable federal T&E species or species of concern populations	1a2X	ARPO, CUVA, GWCA, WICR
Stable federal T&E species or species of concern populations	1b02D	PIPE
Vital signs for natural resource monitoring identified	1b3	CUVA, HOCU, HOSP, LIBO, OZAR, PIPE, TAPR
Water quality improvement	1a04	BUFF, HOSP, WICR
Water quality improvement	1a4	CUVA, HOSP, OZAR, PIPE
Water quality improvement	1b1	BUFF
Wildlife habitat protected	1a01A	OAZR
Wildlife habitat protected	1a02c	BUFF
Wildlife habitat protected	1a02D	GWCA, WICR
Wildlife habitat protected	1a2A	BUFF
Wildlife habitat protected	1a9B	OAZR

Parks' Natural Resource Issues



Phase I: Develop monitoring questions incorporating legal & ecological parameters, and park management and monitoring objectives



Heartland Network Parks' top four monitoring issues summarized by themes

Plant Communities (T&E and unique habitats)

- ARPO, GWCA, HEHO, HOCU, LIBO, PERI

Exotic Plants

- ARPO, CUVA, GWCA, HOCU, HOSP, LIBO

Aquatic

- BUFF, CUVA, GWCA, HEHO, HOSP, OZAR

Land Use Change

- ARPO, HEHO, HOSP, LIBO, OZAR, PERI

Wildlife; Soils; Air Pollution

- BUFF, CUVA, GWCA, HOCU, PERI; ARPO; LIBO

Plant Communities Monitoring Workgroup

Eddie Dengg, CUVA
Zack Holden, PERI
Rodney Rovang, EFMO
Mike DeBacker, Prairie Cluster
*Janet Eckhoff, HN Coordinator
Brent Frakes, HN Data Manager
Rob Klein, NPS Fire Ecologist
Phyllis Adams, MWR I&M Coordinator
Dan Dey, Forest Service, Columbia, MO

Exotic Flora Monitoring Workgroup

Eddie Dengg, CUVA
Kristin Legg, PIPE
Gary Sullivan, WICR
Gia Wager, LIBO
John Boetsch, Prairie Cluster
*Janet Eckhoff, HN Coordinator
Brent Frakes, HN Data Manager
Julie Stumpf, MWR Botanist
Phyllis Adams, MWR I&M Coordinator

Aquatic Monitoring Workgroup

Victoria Grant, OZAR
Sherry Middlemis-Brown, HEHO
David Mott, BUFF
Meg Plona, CUVA
David Peitz, Prairie Cluster
*Janet Eckhoff, HN Coordinator
Brent Frakes, HN Data Manager
Darin Carlisle, MWR Aquatic Ecologist
Phyllis Adams, MWR I&M Coordinator
Dr. Robert Jacobson, U MO, Columbia
Dr. Charles Rabeni, U MO, Columbia

Land Use Change MonitoringWorkgroup

Chuck Bitting, BUFF
Anthony Gareau, CUVA
Kevin Eads, ARPO
Victoria Grant, OZAR
Stephen Rudd, HOSP
Brian Witcher, Prairie Cluster
Janet Eckhoff, HN Coordinator
*Brent Frakes, HN Data Manager
Peter Budde, MWR GIS Specialist
Phyllis Adams, MWR Coordinator
Dr. Robert Weih, UAR, Monticello

Workgroups

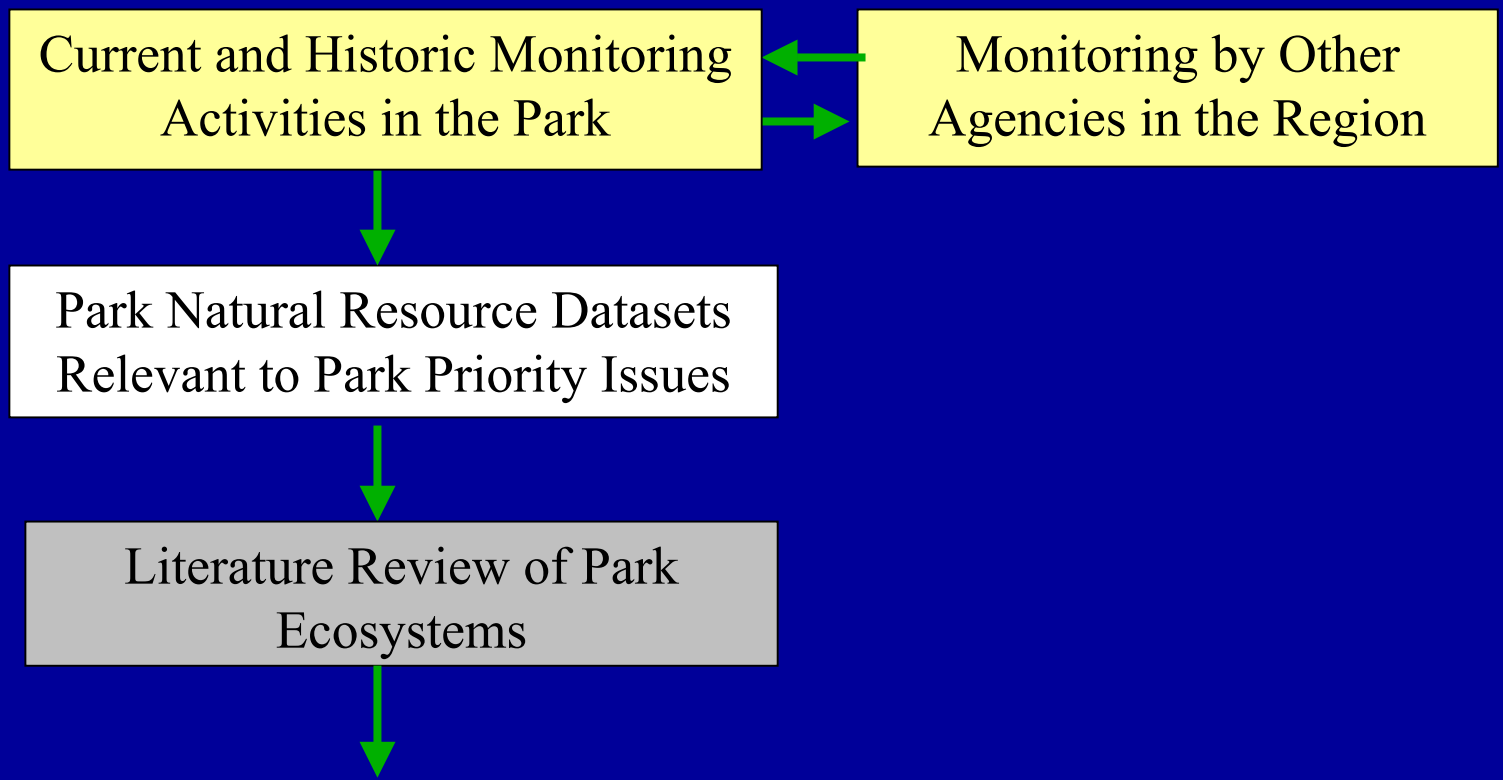
Strengths:

- Easier to get everyone together
- Concentrates interest and expertise
- Spreads out work load per park – involves more people from larger parks
- Involves outside expertise in the whole process

Weakness:

- Communication – “going off on their own”
- Can increase Network work load

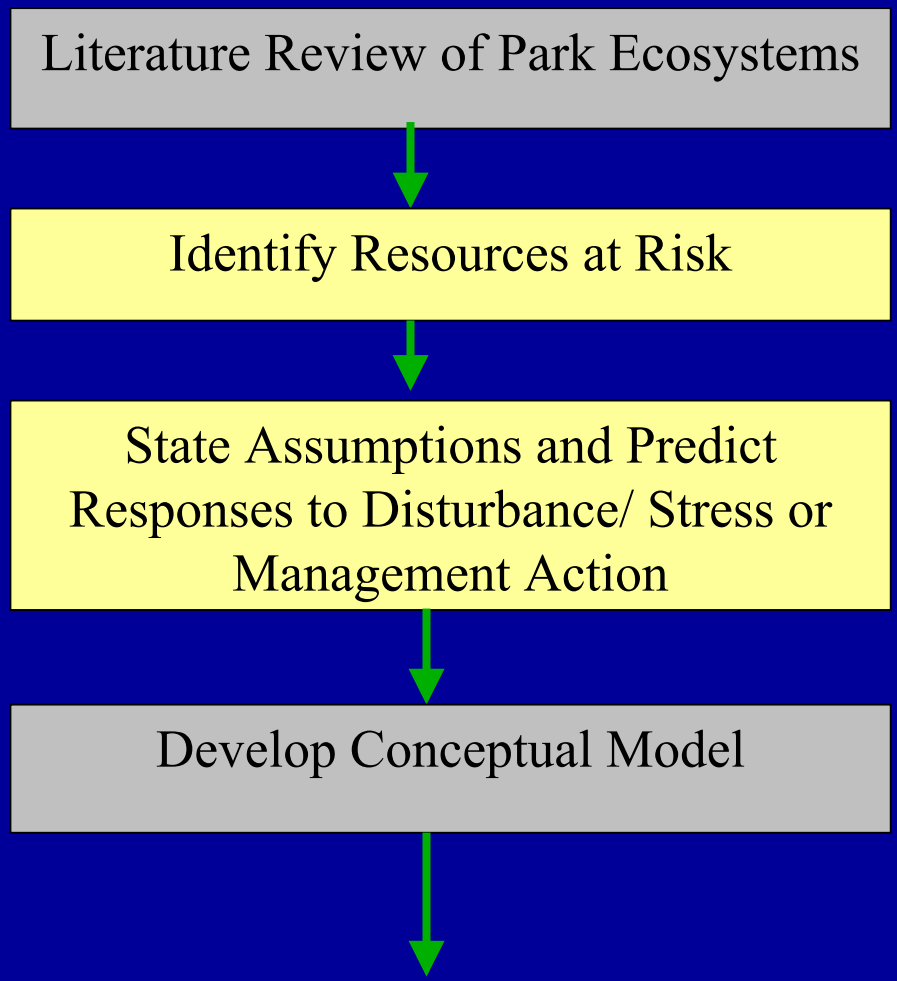
Phase I: Complete data and information mining



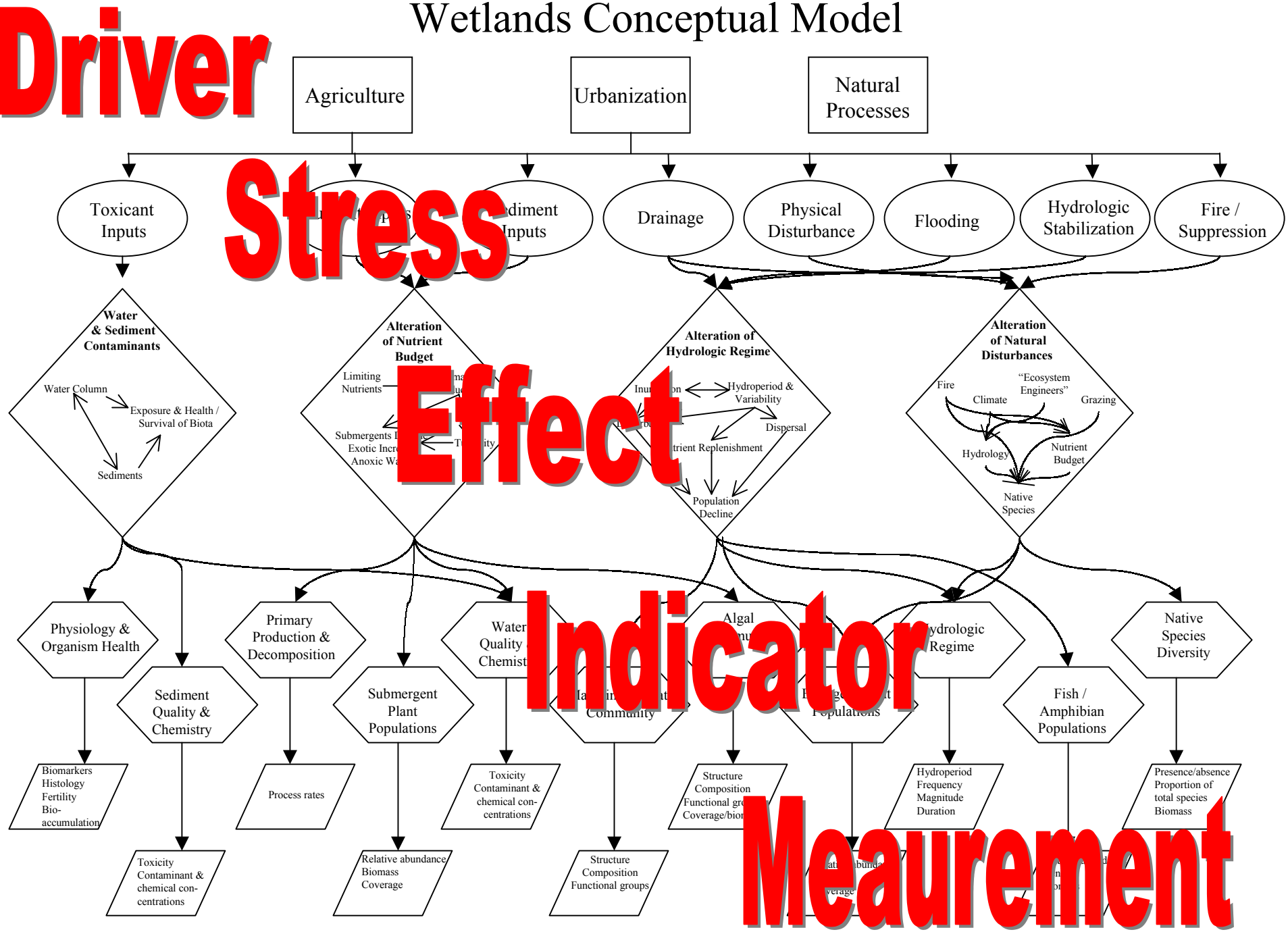
Bibliographic references by park and monitoring theme

Park	Aquatics	Invasive Exotic Plants	Land Cover/Use Change	Plant Communities	Wildlife Populations
ARPO	6	5	3	14	10
BUFF	156	18	84	130	200
CUVA	107	20	23	72	116
EFMO	32	21	4	76	61
GWCA	47	12	5	132	90
HEHO	3	0	0	25	2
HOCU	0	0	0	3	1
HOME	26	22	25	69	31
HOSP	75	5	128	148	62
LIBO	3	1	2	28	11
OZAR	299	33	28	122	231
PERI	2	1	12	57	21
PIPE	10	35	12	70	44
TAPR	0	0	0	1	1
WICR	52	31	10	116	67

Phase I: Develop conceptual models



Wetlands Conceptual Model



Workshops: Aquatic and Terrestrial

Successful in:

- Park resource managers discussing/learning about their park's issues in a broader context
- 'Outside' researchers and scientists learning about the NPS, I&M Program, and park issues
- Brainstorming about potential indicators and available protocols*
- Refining potential monitoring questions for parks

Unsuccessful in:

- *Defining individual park's management and monitoring issues and monitoring questions
- Keeping people's interest if the topic doesn't relate to their park