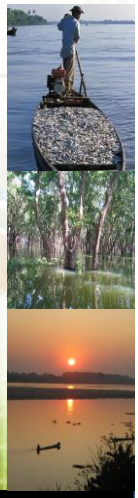
BioRA Preparation Meeting PART I
Office of the Secretariat in Vientiane
18 – 19 March 2015

BioRA: Focus area selection - Mekong mainstem

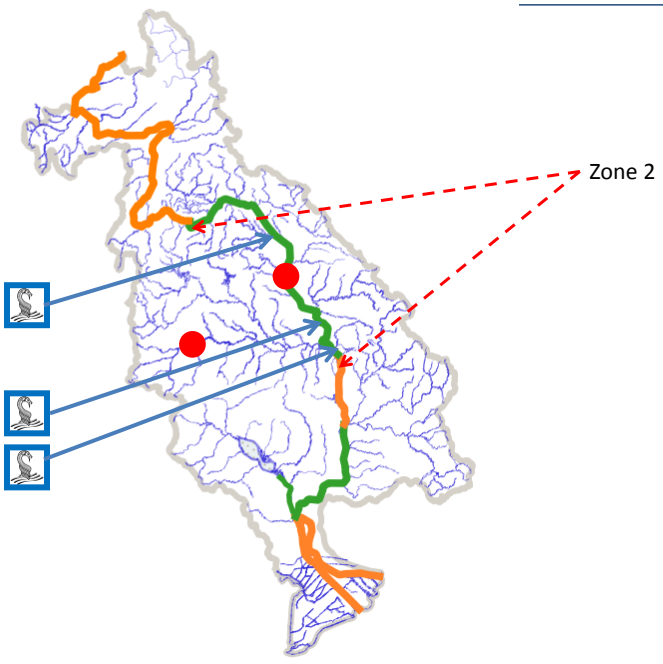


Motivation for approach

- Decision to use IBFM delineation
- Disciplines zones = hydrolological zones

BUT

- Need to react to scenarios comprising:
  - Variety of water-resource developments
  - Variety of (as yet unknown) locations
- Necessitates numerous locations in DRIFT
- Limited resources



Approach

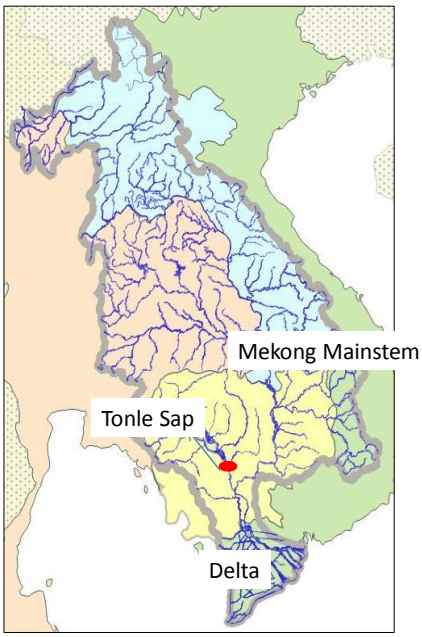
- Distributed nodes throughout the study area that will:
  - capture transboundary effects
  - distinguish impacts from water-resource developments regardless of location
- Groups nodes with similar relationships to flow and sediment change so that we know:
  - Where to focus our attention
  - To which nodes we can extrapolate response curves

Process

- Delineate the Lower Mekong River into main ecosystem units

For each ecosystem:

- Establish a network of biophysical nodes
- For each indicator, group the nodes for which the response curves will be similar
- For each indicator, group nodes into functional units
- Group the nodes into Integrated Units of Analysis (IUAs)
- Select focus areas within each IUA
- Allocate nodes to socio-economic zones



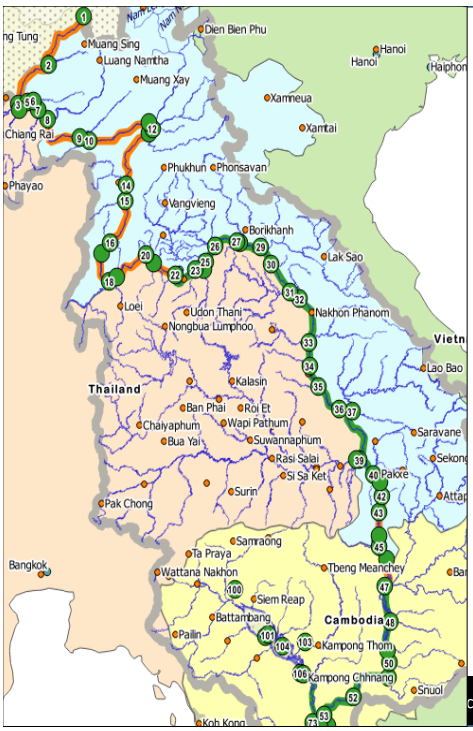
Main ecosystem units

- **Mekong mainstem – Today**
- Tonle Sap and Delta – Siem Reap

Establish a network of biophysical nodes

Placed a node:

1. International borders
2. Hydrological zones
3. Geomorphological zones
4. Tributary inflows
5. Conservation hotspots
6. Fish migration pathways
7. Existing and planned water-resource developments
8. Socio-economic zones



Mainstem network of nodes

Group nodes with similar response curves

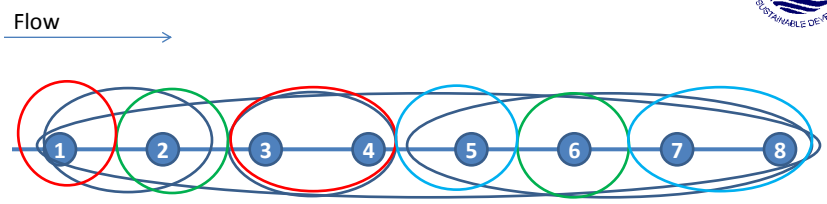
For each discipline indicator:

- Group the nodes where you expect the response to flow changes to be similar
  - denote the node as A, B, C, etc.

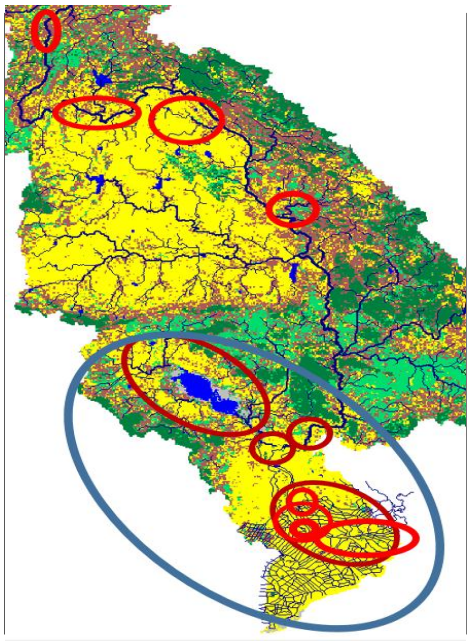
NODES

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Geomorphology	Suspended sediment	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	C	C	C	C	C
	Bedload sediment	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
	Active channel width	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
	Size of sediment in active channel	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
	Area of cobble bars	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
	Area backwaters and secondary channels	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Depth of pools	A	A	A	A	A	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C
	Undercut banks	A	A	B	B	A	A	B	C	B	A	B	B	B	A	B	B	B	A	B	B	A

Similar response curves



A	A	A	A	A	A	A	A
A	A	B	B	C	C	C	C
A	B	A	A	C	B	C	C



Group nodes into functional units/IUAs

Select focus areas in IUA

Information provided

- A3 map of nodes for mainstem
  - each node represents the reach between it and its upstream node
- Table of nodes
- MRC-BDP Planning Atlas
- .kml file of nodes
- Excel spreadsheet

Please save Excel file as: OSV_your name_date.xlsx