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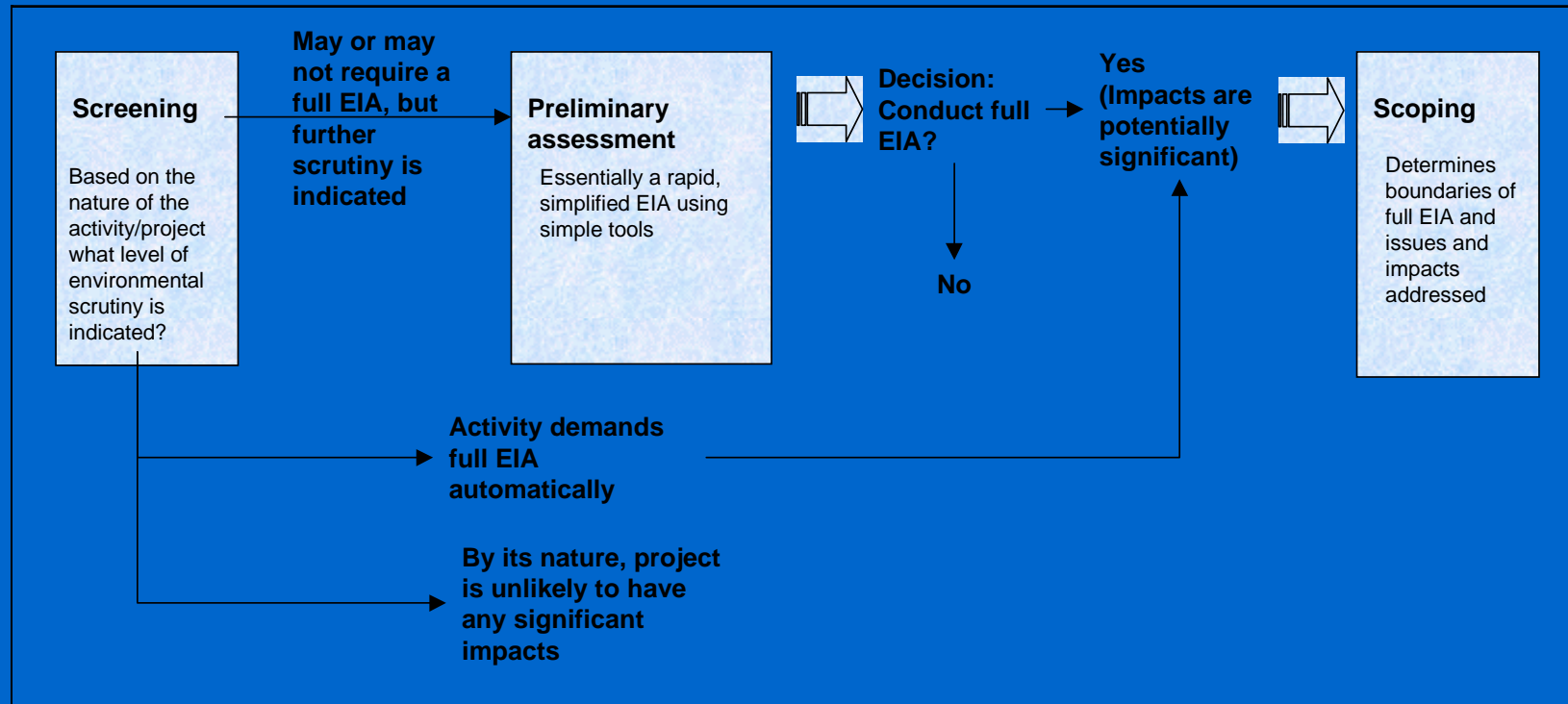
Information Requirements and Tools

for
Screening
and

Preliminary Assessment



Review: Phase 1 of the EIA process



Review: Phase 1 of the EIA process

- ◆ Gathering information.
 - ◆ to acquire an understanding of the project
- ◆ Screening.
 - ◆ to determine what further steps of the EIA process will be conducted, if any.
- ◆ Preliminary Assessment.
 - ◆ a rapid, streamlined EIA; determines if a full EIA should be undertaken
- ◆ Scoping
 - ◆ determine boundaries of a full EIA



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Limited focus

- ◆ Tools most applicable to phase 1 of the EIA
 - ◆ simpler tools
 - ◆ focused on impact identification, data assembly, prediction & evaluation
 - ◆ public participation, communication, and management techniques not discussed
 - ➔ more prominent in full-scale EIAs
 - ➔ Obviously central to community-based conservation projects



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Information requirements

- ◇ Environmental characteristics of project site/area
 - ◆ climatic information
 - ◆ land use patterns
 - ◆ human resource use
 - ◆ habits/ecosystems present
 - ◆ physical and biological characteristics
 - ◆ status of protected areas



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Information requirements

- ◆ Economic and social data
 - ◆ crops, livestock, and associated agricultural practices
 - ◆ local water sources & usage
 - ◆ local sanitation and hygiene
 - ◆ population size, demographics
 - ◆ community organization
 - ◆ land ownership, distribution, gender roles, other aspects of local religion, culture, and tradition that impact resource use.



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Information requirements

- ◆ Map-based information
 - ◆ Topographic and physical
 - ◆ Maps, plans, and sketches of the proposed project or activity



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Data sources

- ◆ Direct observation during site reconnaissance
- ◆ Local population
- ◆ Local consultants/counterparts

- ◆ University/training centers
- ◆ Reports (e.g., National Action Plan, USAID Environmental Sector Assessment)
- ◆ Government statistics and ministries
- ◆ GIS databases



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Tools for screening and preliminary assessment

- ◇ checklists
- ◇ matrices
- ◇ overlays
- ◇ networks



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Checklists

- ◇ Bring structure to:
 - ◆ gathering and classifying information
 - ◆ identifying potential environmental impacts
 - ◆ thinking about possible mitigation actions
 - ◆ useful for making “threshold” determinations



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Types of Checklists

- ◇ Simple Lists
- ◇ Descriptive Checklists
- ◇ Scaling Checklists
- ◇ Questionnaire Checklists
 - ◆ the USAID checklist (see PVO/NGO Guidelines...)



Example of a Simple checklist

Proposed Activities

clearing	X
cut/fill	X
dredging	X
blasting	-

Environmental components:

Physical

air quality	X
water quality	X
water flow	X

Biological

spawning habitat	X
rearing habitat	X

Socio-economic

fishing	X
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(After Sadar, 1994)



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Sample of a checklist

**SEE SAMPLE IN
PARTICIPANTS' SOURCEBOOK**



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Checklists + & -

◇ Advantages

- ◆ can structure initial stages of assessment
- ◆ help to ensure that vital factors are not neglected
- ◆ are easy to apply, particularly by non-experts

◇ Disadvantages

- ◆ pose danger of “tunnel vision”



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Interaction Matrices

- ◇ Allow for the identification of cause-effect relationships
- ◇ Qualitative or quantitative estimates can be used
- ◇ Can address impact severity and significance



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Example of an Interaction Matrix

	Spawning habitat (substrate)	Fishing	Water quality	Water Flow
Dredging				
Clearing				
Access				

After Sadar, 1994



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Sample of a Leopold Matrix

IN PARTICIPANTS' SOURCEBOOK



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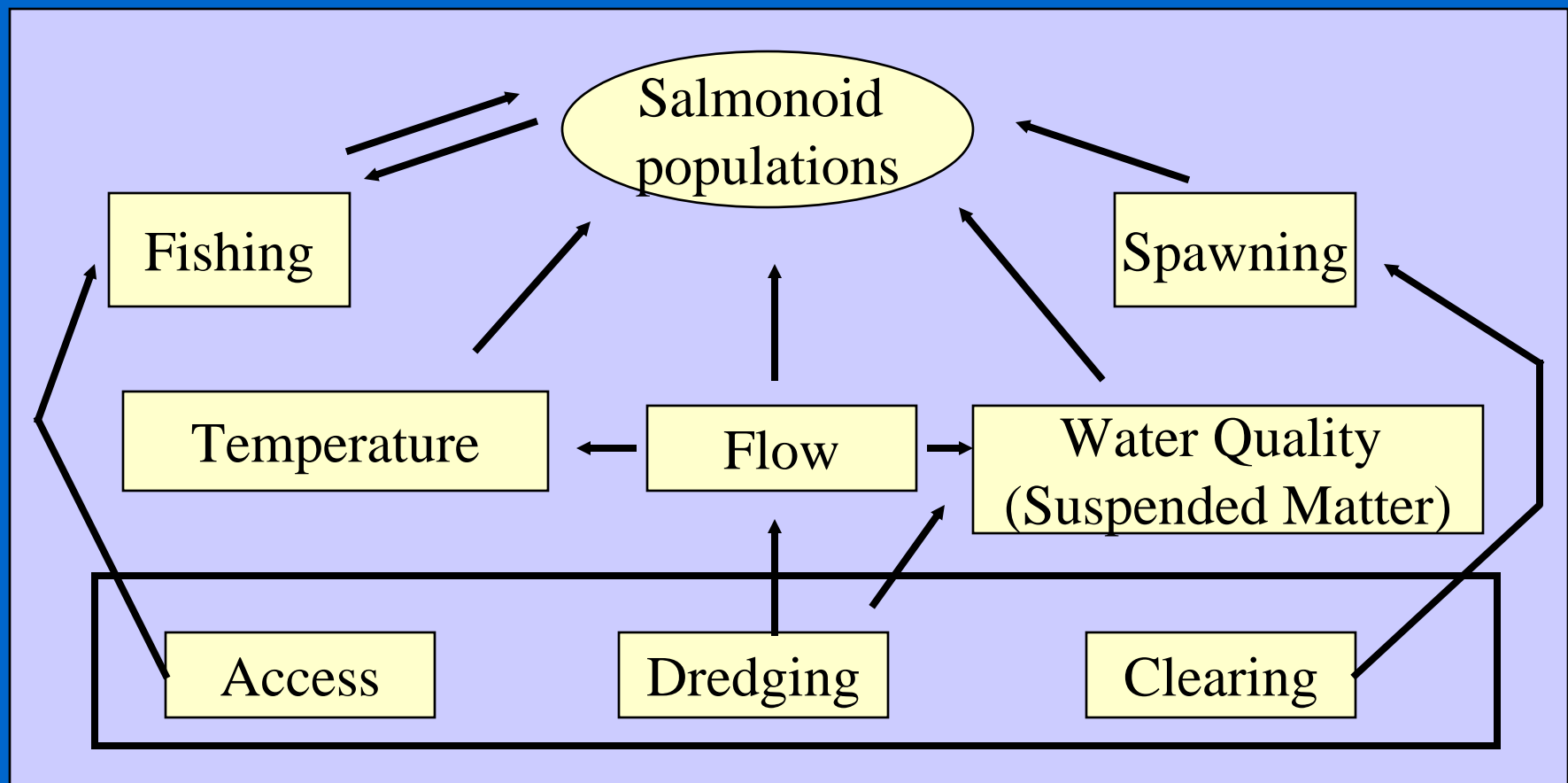
Network Analyses

- ◇ Used to identify cause-effect linkages
- ◇ Visual description of linkages
- ◇ Extension of information found in matrices



Example of a Network Analysis

(After Sadar, 1994)



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Network Analyses + & -

◇ Advantages

- ◆ Provides visual summaries that are easily understood and communicated to decision-makers and the public
- ◆ Useful for identifying important indirect impacts

◇ Disadvantages

- ◆ May oversimplify relationships; can be hard to show adequate level of detail
- ◆ As with above methods analysis is static
- ◆ Doesn't show relative significance of impacts



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Map Overlays

- ◇ Separate mapping of critical environmental features at the same scale as project's site plan
 - ◆ e.g. wetlands, steep slopes, soils, floodplains, bedrock outcrops, wildlife habitats, vegetative communities, and cultural resources...
- ◇ Older Technique: environmental features are mapped on transparent plastic in different colors
- ◇ Newer Technique: Geographic Information Systems (GIS)



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Map Overlays + & -

◆ Advantages

- ◆ maps are commonly available
- ◆ Excellent for showing spatial dimension and location of impacts
- ◆ Most useful for assessing alternative routes for linear developments, e.g. pipelines, roads, transmission lines

◆ Disadvantages

- ◆ Less successful with timing, reversibility, and probability of impacts
- ◆ Sharp boundary definitions can be misleading



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More advanced EIA tools

- ◇ Cost-Benefit Analysis
- ◇ Multi-Criteria Analysis
- ◇ Risk Assessment
- ◇ Simulation modeling



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Choosing tools

◇ Criteria for choosing tools

- ◆ appropriateness.
 - Tool can produce the needed output
- ◆ economy
- ◆ in general:
 - sophisticated and resource-intensive methods *not* most appropriate in practice
 - resource constraints on EIA are real--but are minimized by early planning and appropriate tool choice
 - EIA is typically <1% of capital cost

