Introduction to Objective Development

- Review Definitions (+ one new one)
- How Objectives fit into an Instream Flow Study
- Examples: Goal, Objectives, Indicators, and Conceptual Model
- Objectives for the Lower Sabine
- Questions?

Definitions:

- Goal: a vision of a healthy environment for the river system that reflects local values
- Objectives: specific means to accomplish goal
- Indicators: measures that show progress in meeting objectives
- Conceptual model:

  a representation of how a system is thought to function

How a Goal Fits in the Process

Goal Development Consistent with Sound Ecological Environment

Collect Baseline Information and Evaluate

⇩

Collaborate with Public and Stakeholders through Meetings and Workgroups

⇩

Study Design

⇩

Multidisciplinary Data Collection and Evaluation

⇩

Data Integration to Generate Flow Recommendations

⇩

Study Report

How Objectives Fit in the Process

Goal for River Sub-Basin

Objectives Required to Meet Goal

Indicators to Measure Progress

Collect Baseline Information and Evaluate

Collaborate with Public and Stakeholders through Meetings and Workgroups

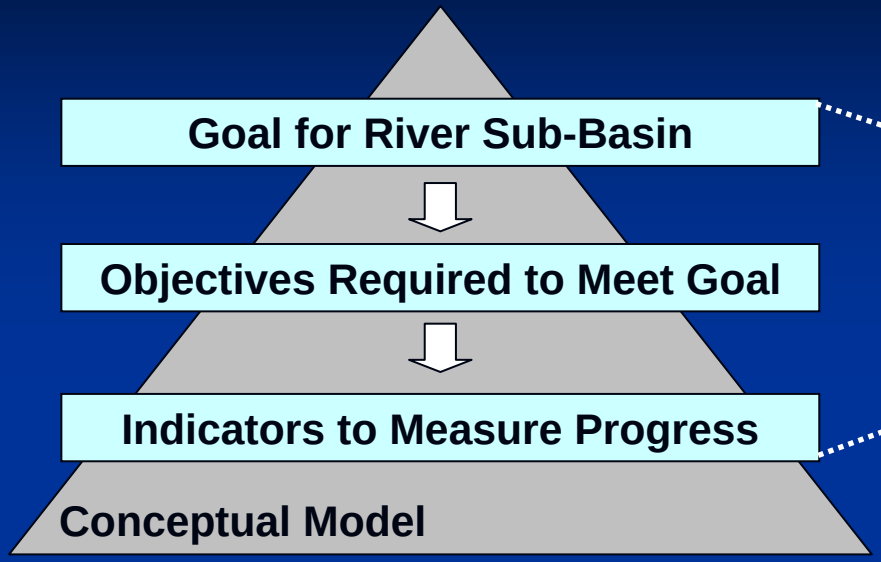
Study Design

Multidisciplinary Data Collection and Evaluation

Data Integration to Generate Flow Recommendations

Study Report

How Objectives Fit in the Process



Collect Baseline Information and Evaluate

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Collaborate with Public and Stakeholders through Meetings and Workgroups

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Study Design

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Multidisciplinary Data Collection and Evaluation

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Data Integration to Generate Flow Recommendations

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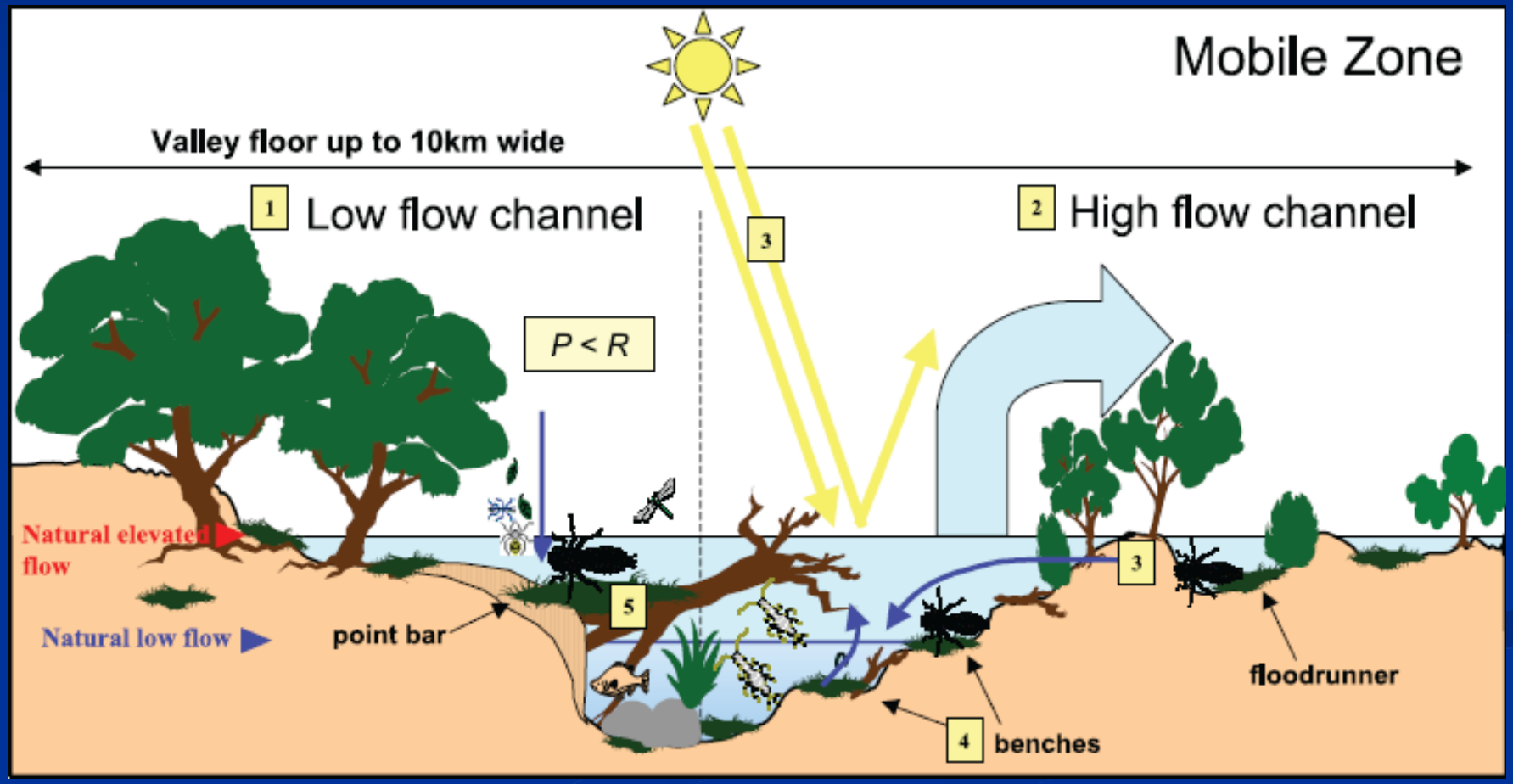
Study Report

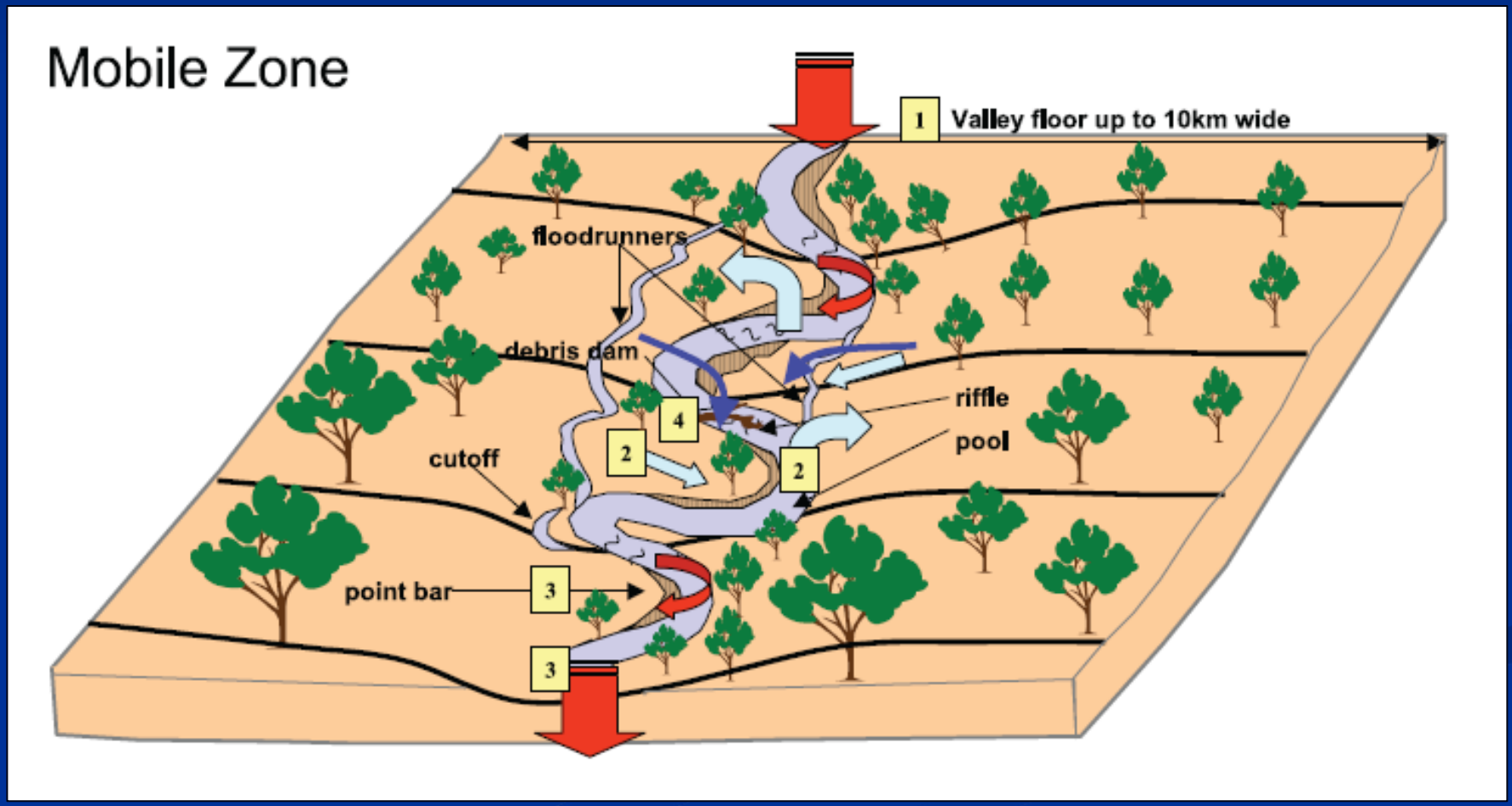
Example: Murray-Darling Basin

- **Goal:** "a healthy, working river – one that assures us of continued prosperity, clean water and a flourishing environment."

Conceptual Model: Murray-Darling Basin

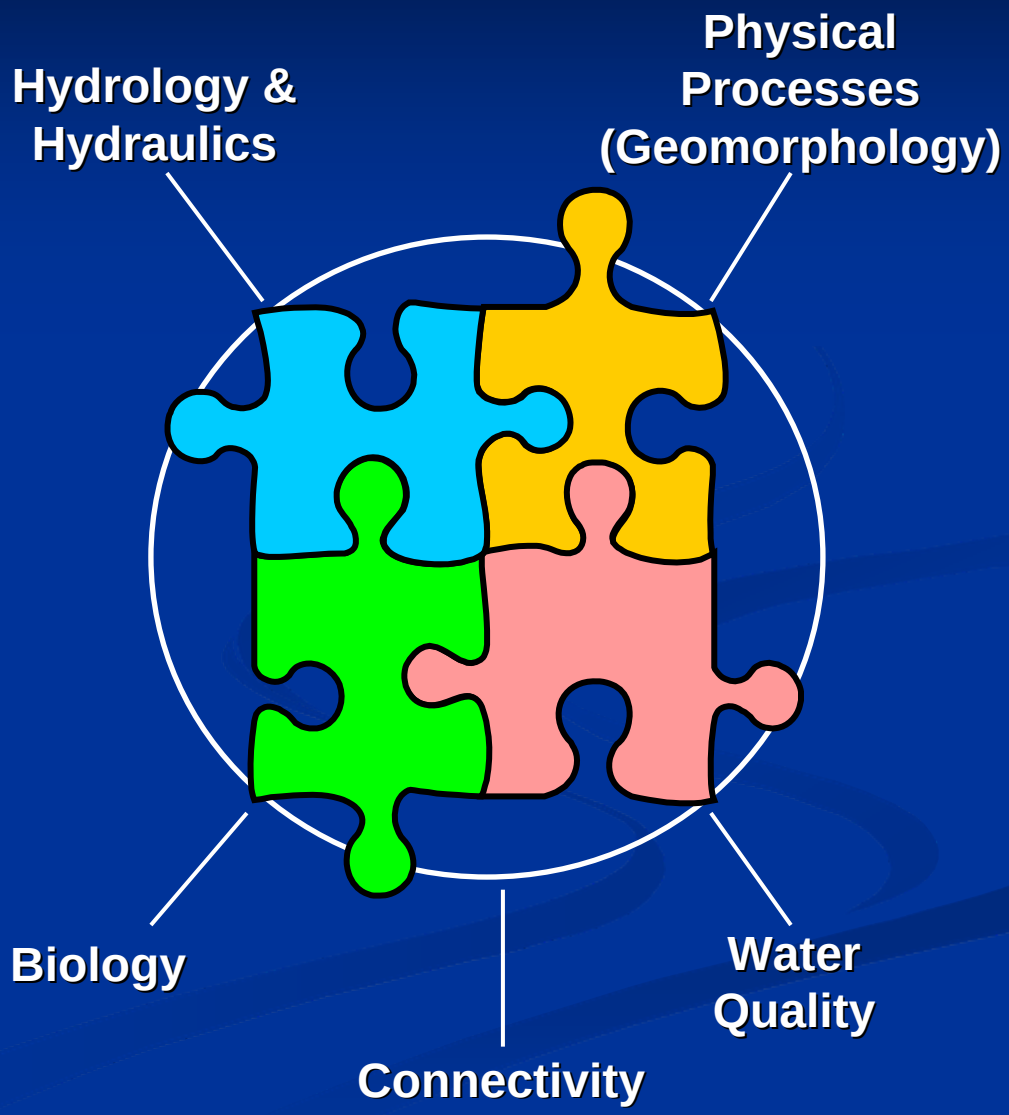


Conceptual Model: Murray-Darling Basin



Example: Murray-Darling Basin

- **Objectives:**

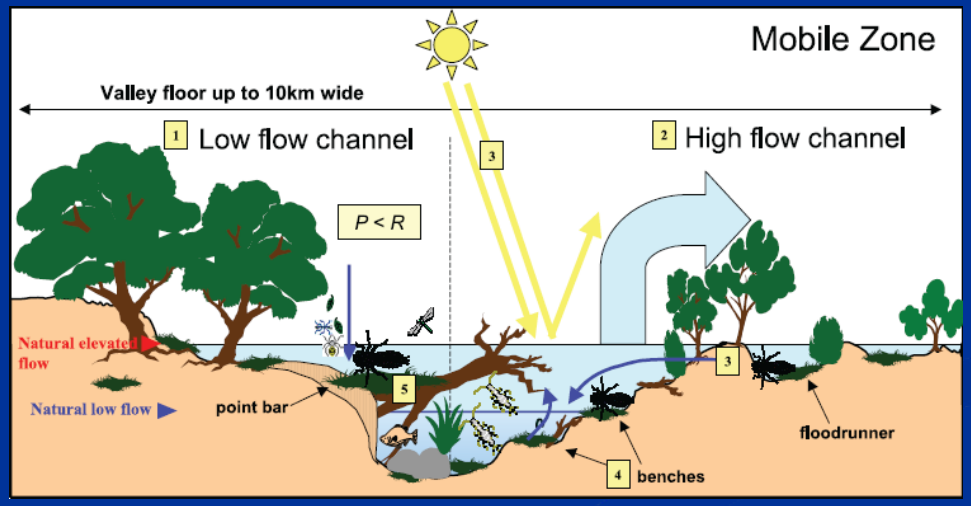


Goal: a healthy, working river

- **Objectives:**

1. Reinstate ecologically significant elements of the flow regime

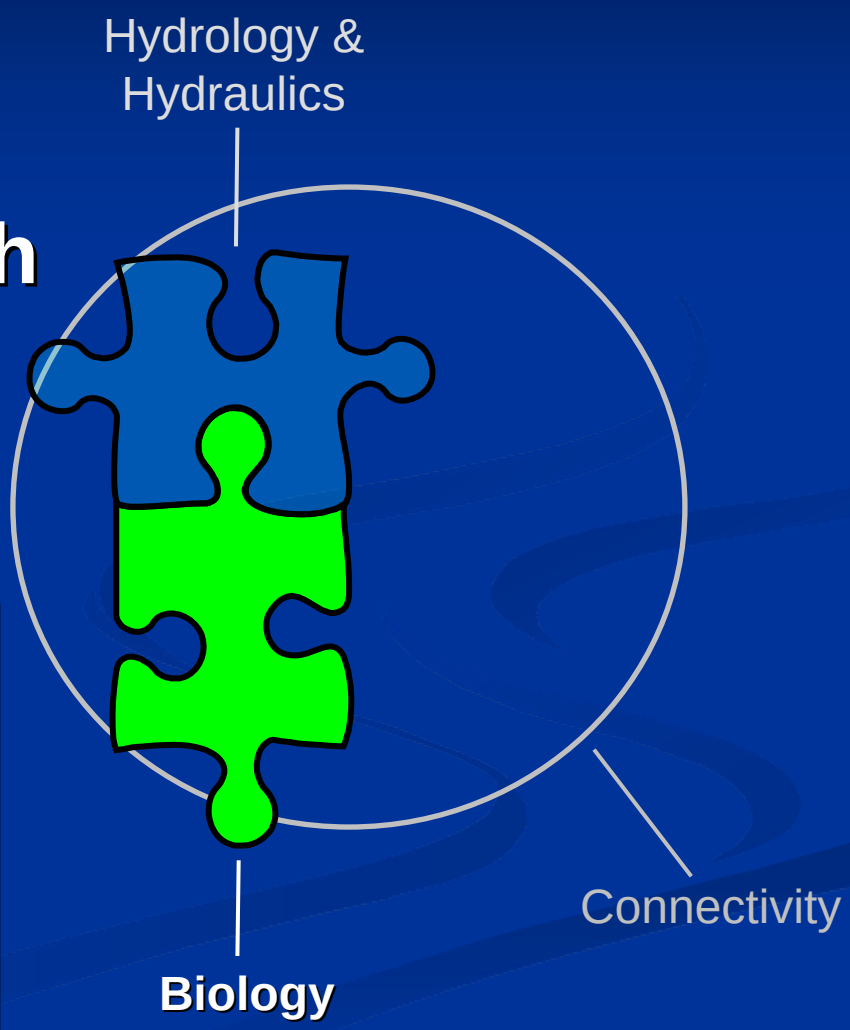
Hydrology & Hydraulics

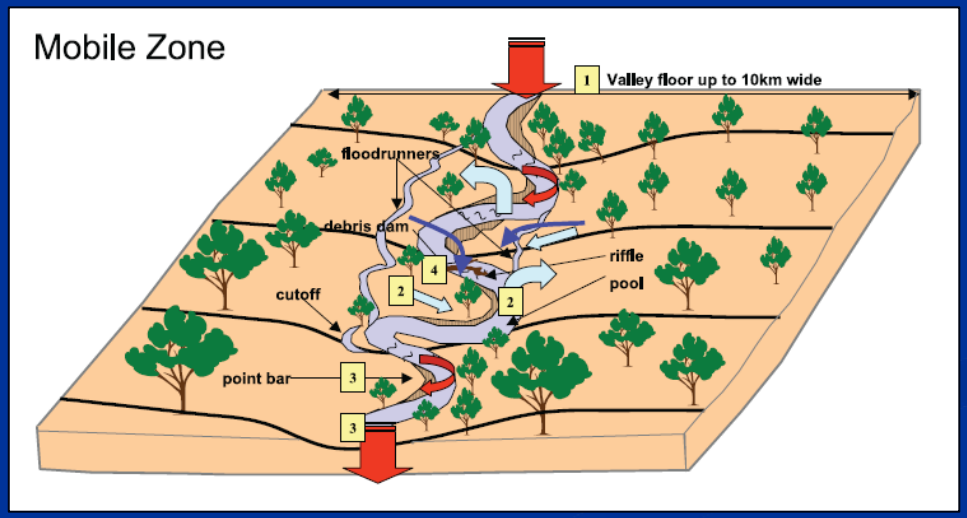


Goal: a healthy, working river

- **Objectives:**

2. Overcome barriers to migration of native fish species

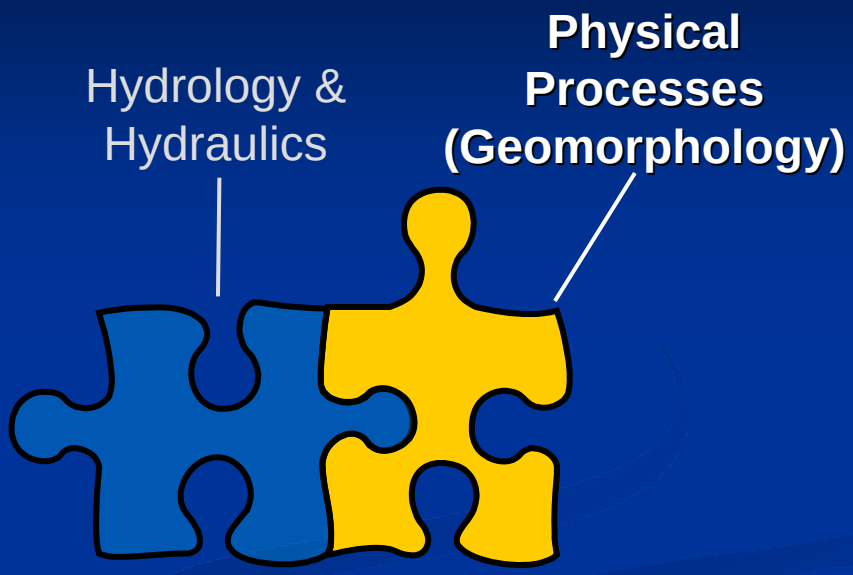


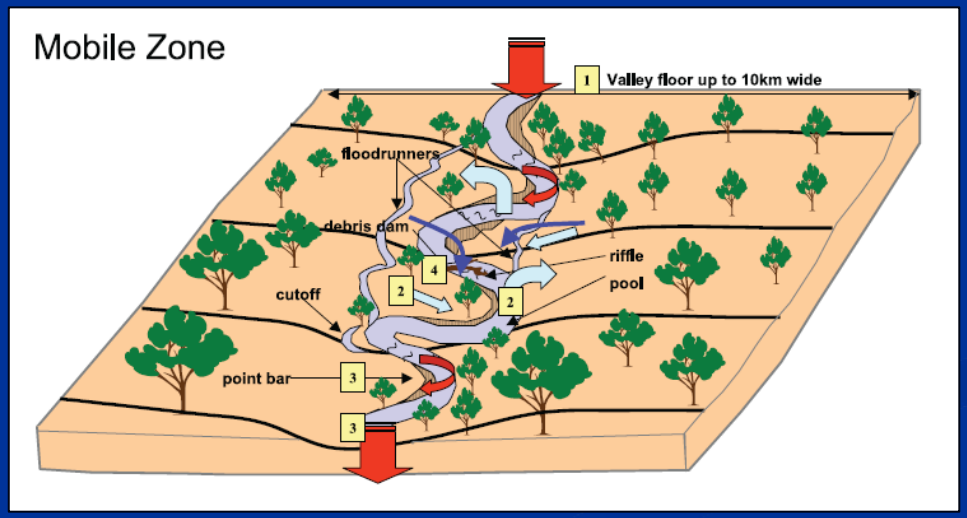


Goal: a healthy, working river

- **Objectives:**

3. Maintain current levels of channel stability

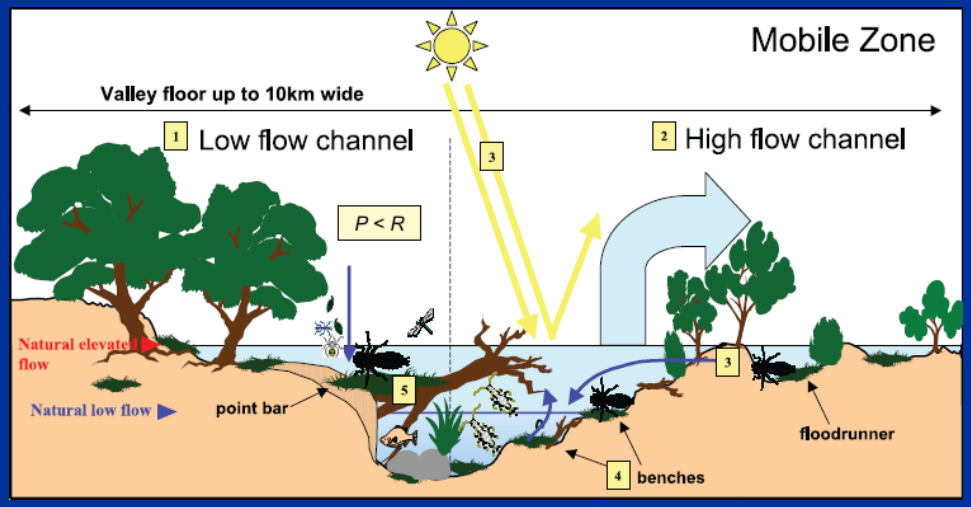


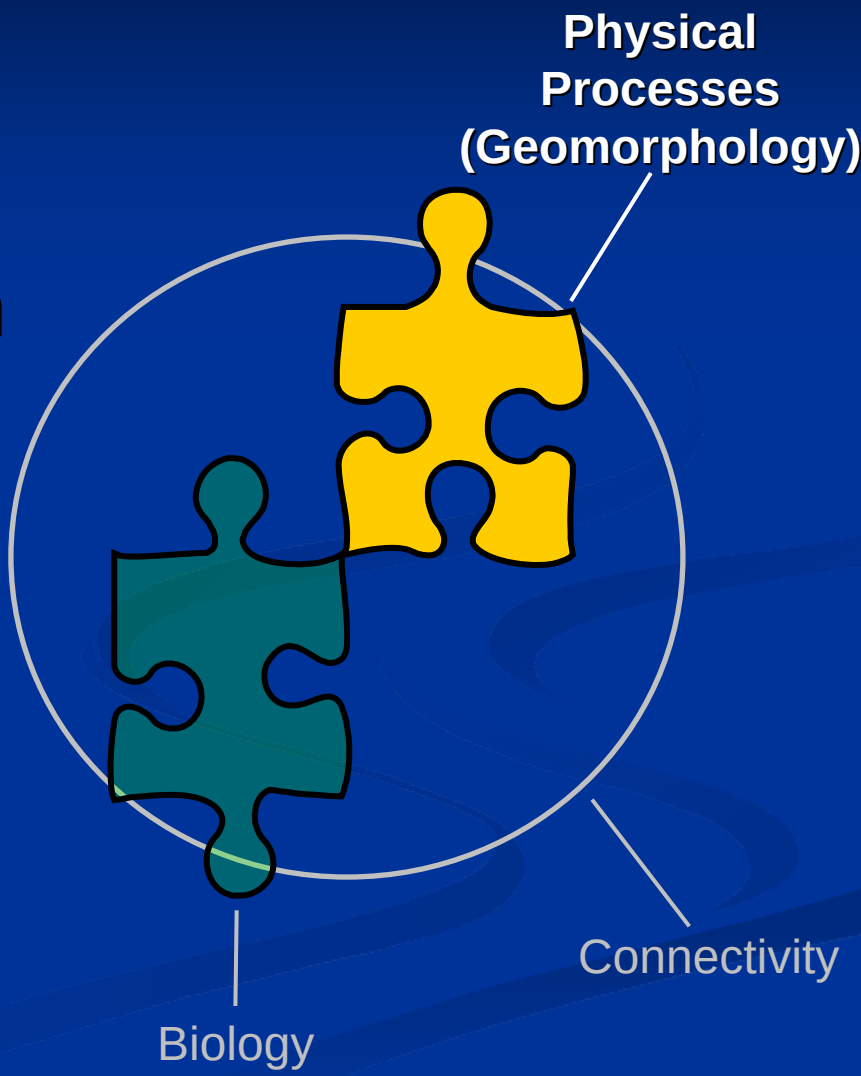


Goal: a healthy, working river

- **Objectives:**

4. Protect and restore key habitat features in the river and riparian zone

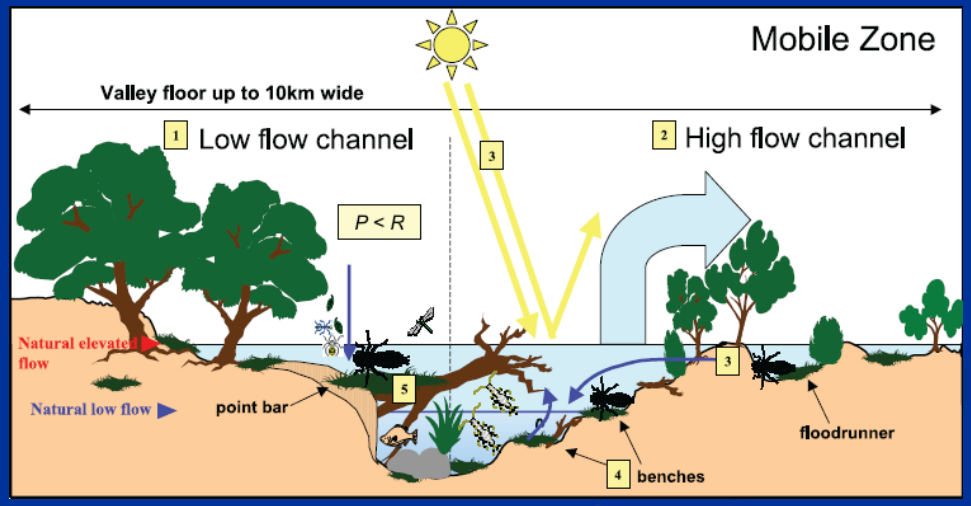


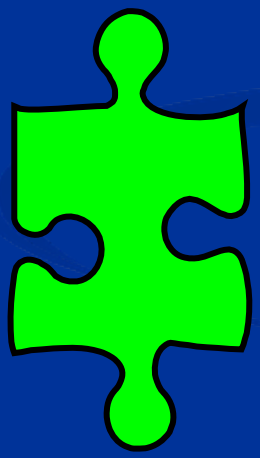


Goal: a healthy, working river

- Objectives:

5. Prevent the extinction of native species from the riverine system



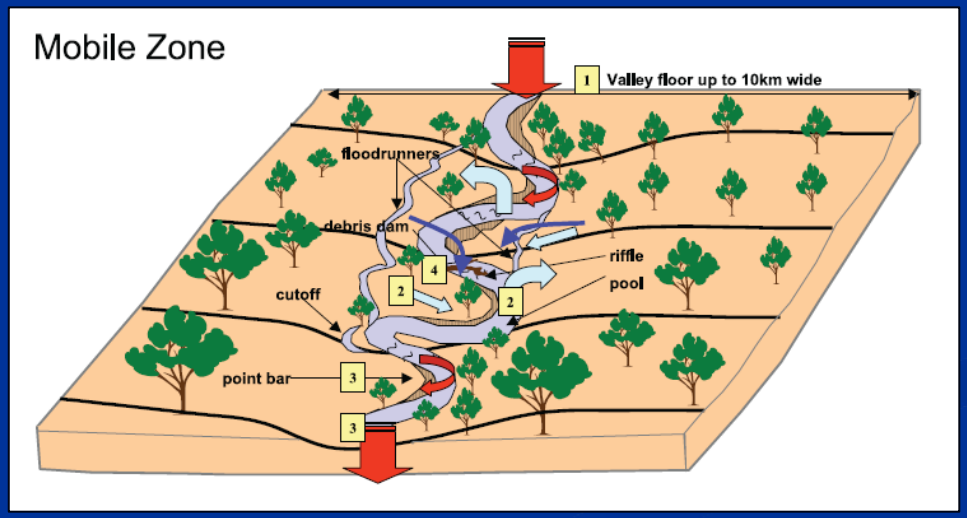


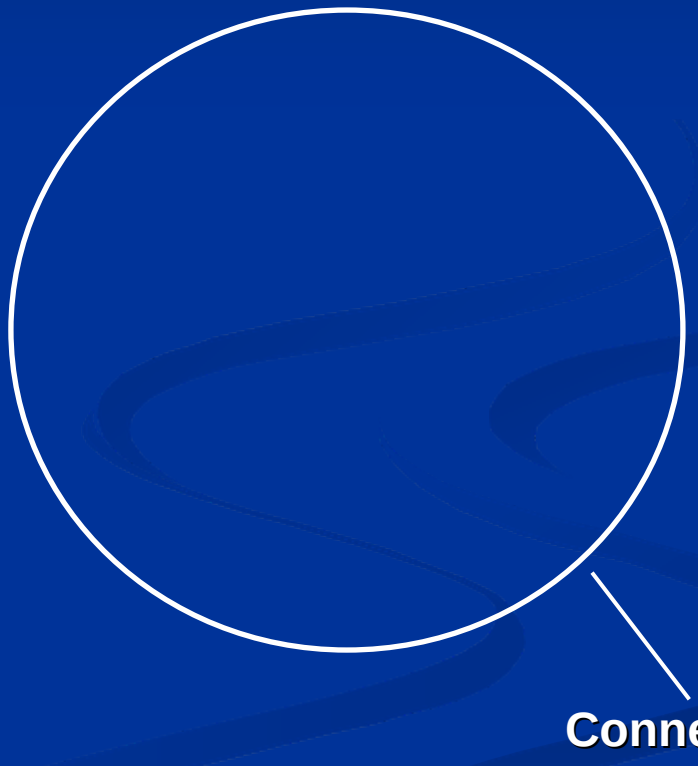
Biology

Goal: a healthy, working river

- Objectives:

6. Improve connectivity between the river and riparian zone

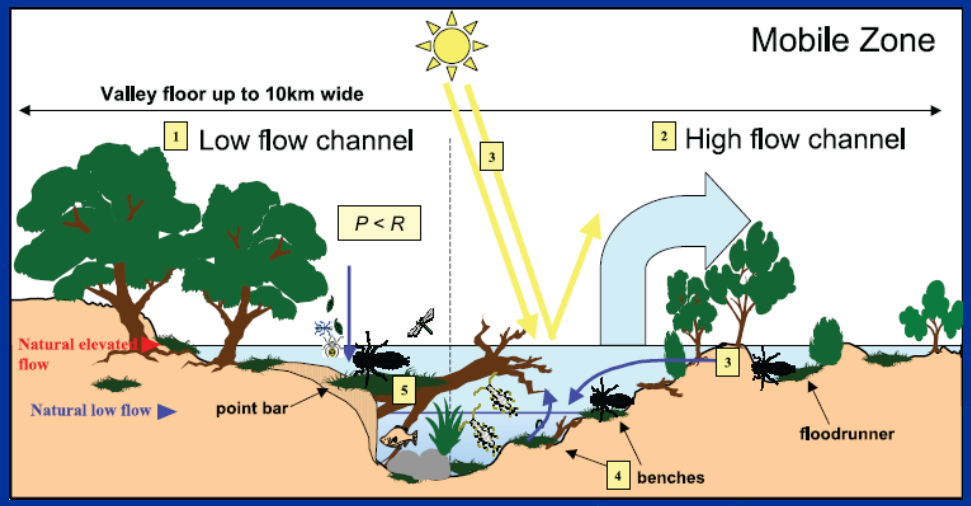


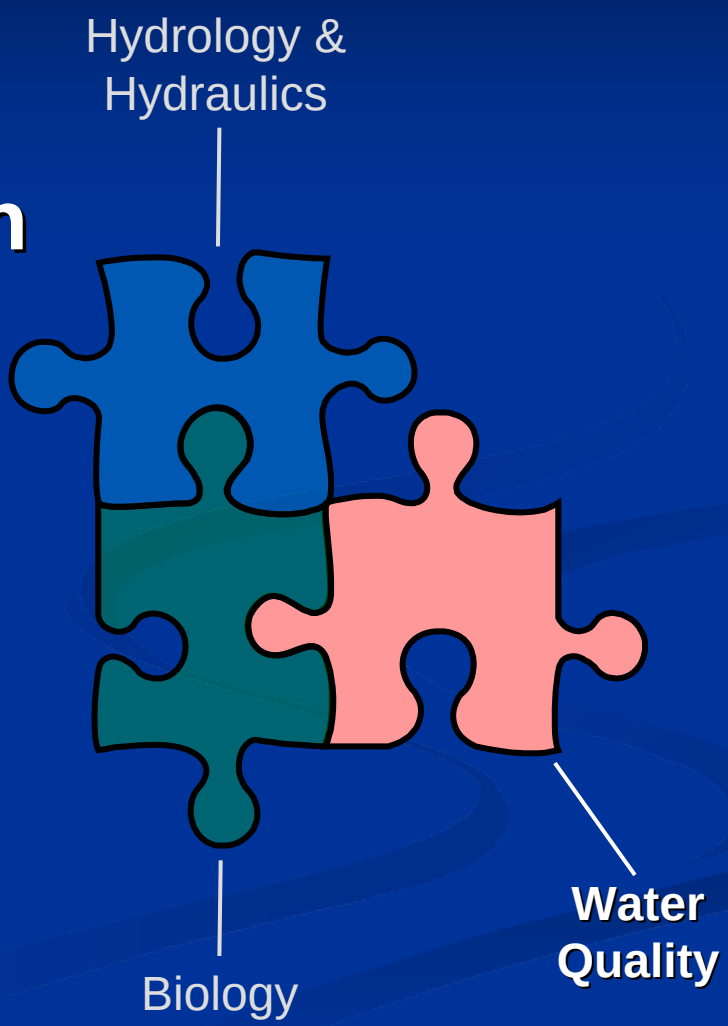


Goal: a healthy, working river

- **Objectives:**

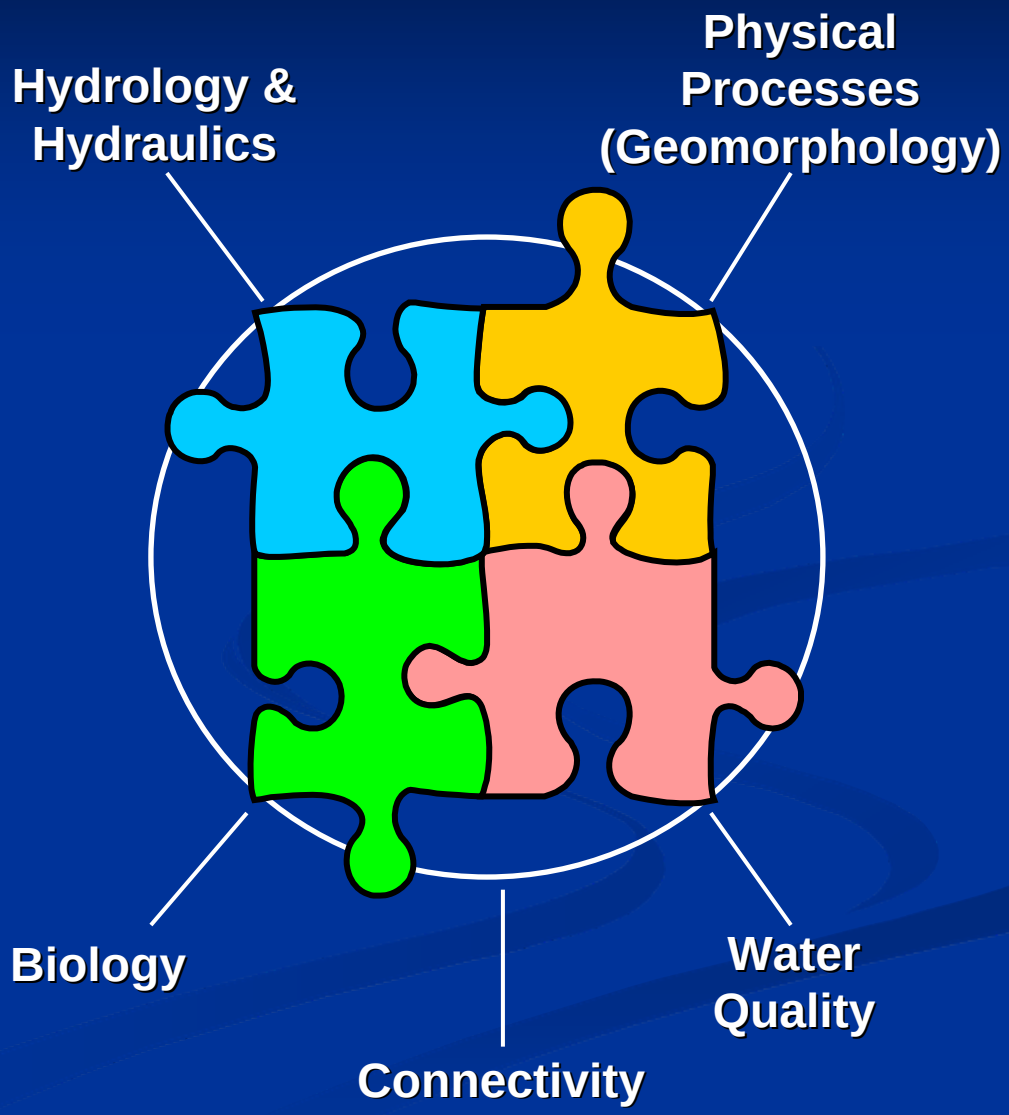
7. Manage flow-related water quality to sustain ecological processes and productive capacity





Example: Murray-Darling Basin

- **Objectives:**

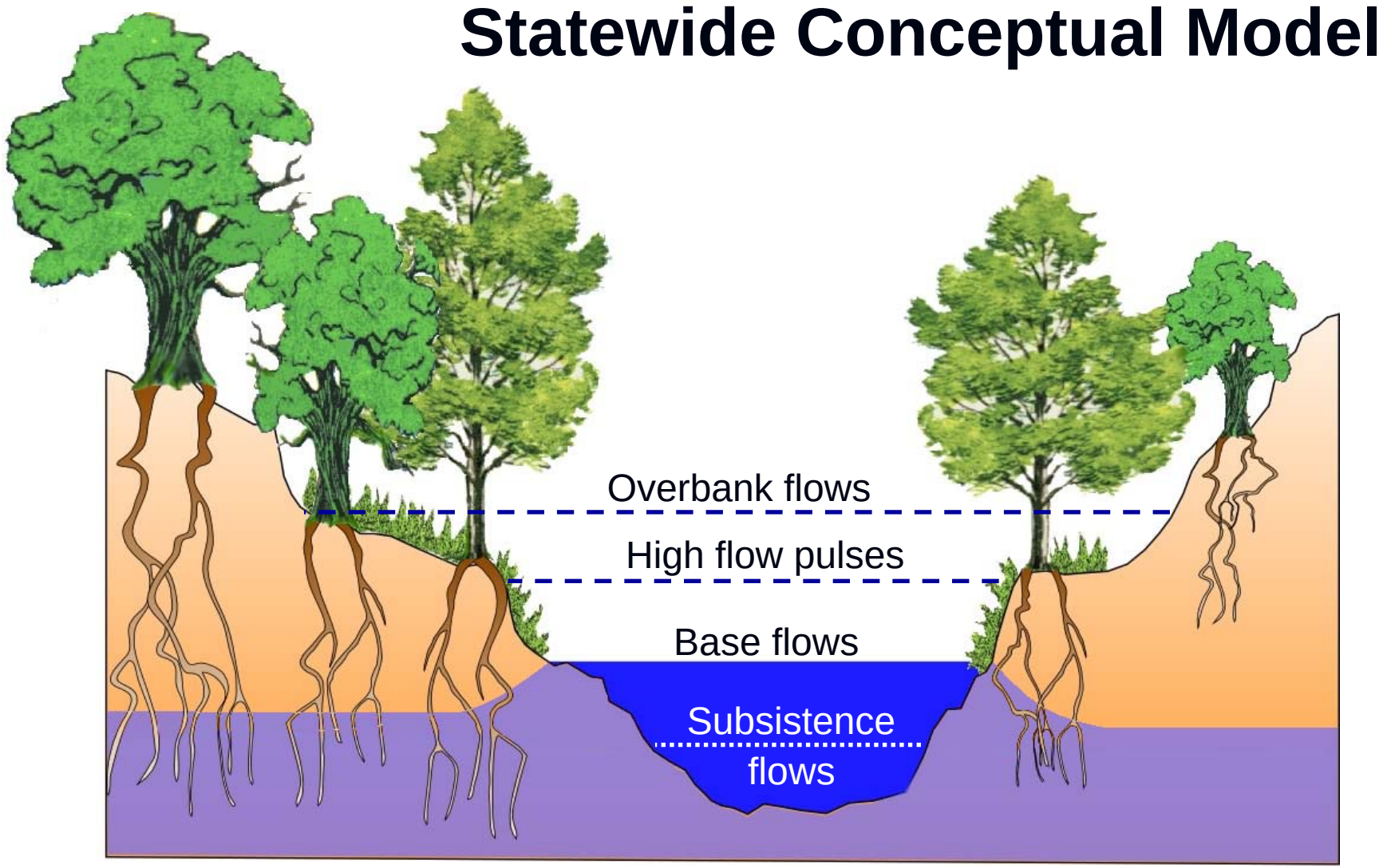


Lower Sabine Sub-basin

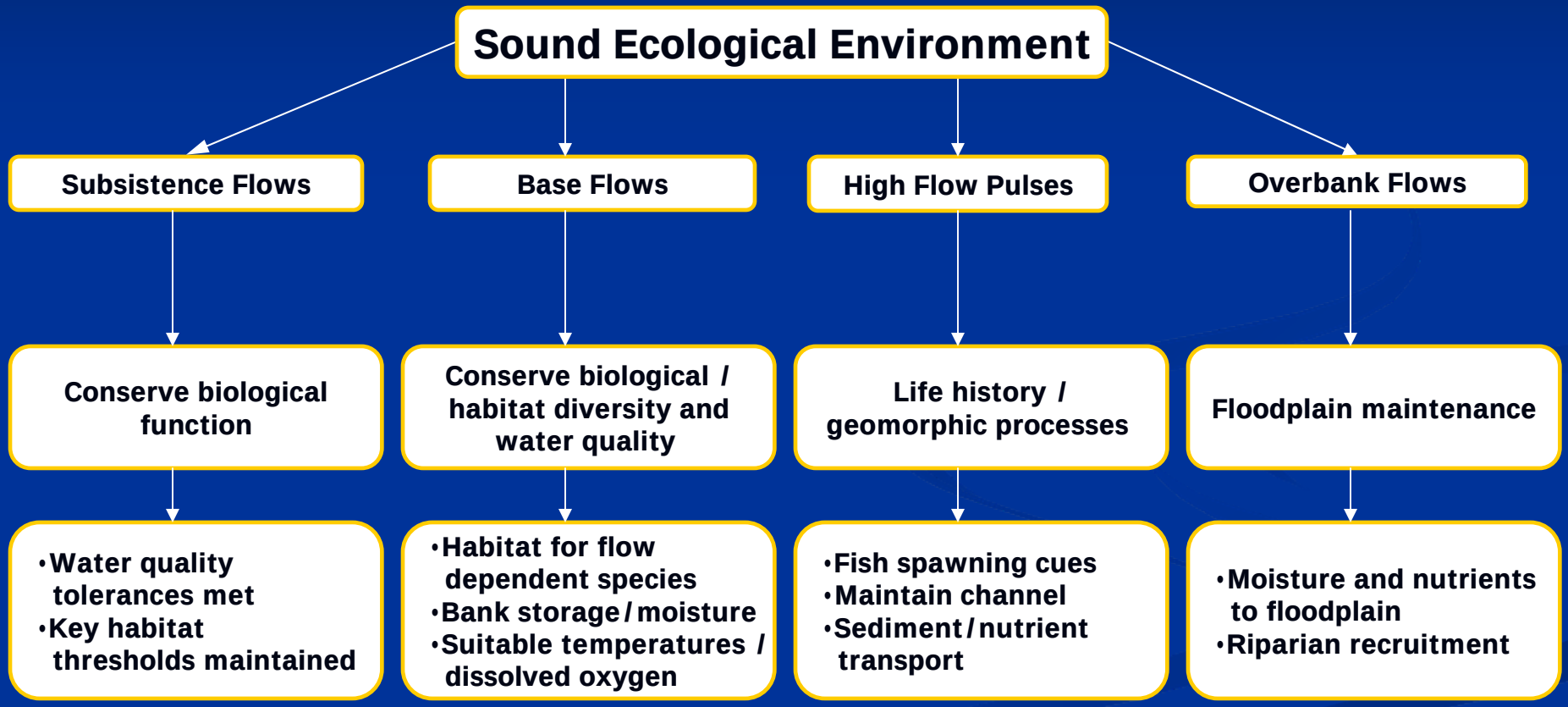
- **Statewide Goal:** "A resilient, functioning ecosystem characterized by intact, natural processes and a balanced, integrated, and adaptive community of organisms comparable to that of the natural habitat of the region."
- **Specific Goal:** "Our goal is a healthy, functioning Lower Sabine River Basin that has
  - high quality water,
  - sufficient flow, and
  - a sustainable ecosystem

  to assure a dynamic balance between human needs and the environment ."

Lower Sabine Sub-basin



Simple Conceptual Model



Lower Sabine Sub-basin

- **Statewide Objectives:**

"Evaluate intact natural processes:

- Characterize system hydrology and hydraulics
- Examine status of geomorphic processes within the system
- Characterize system water quality
- Define connectivity issues within the system

Evaluate biological communities

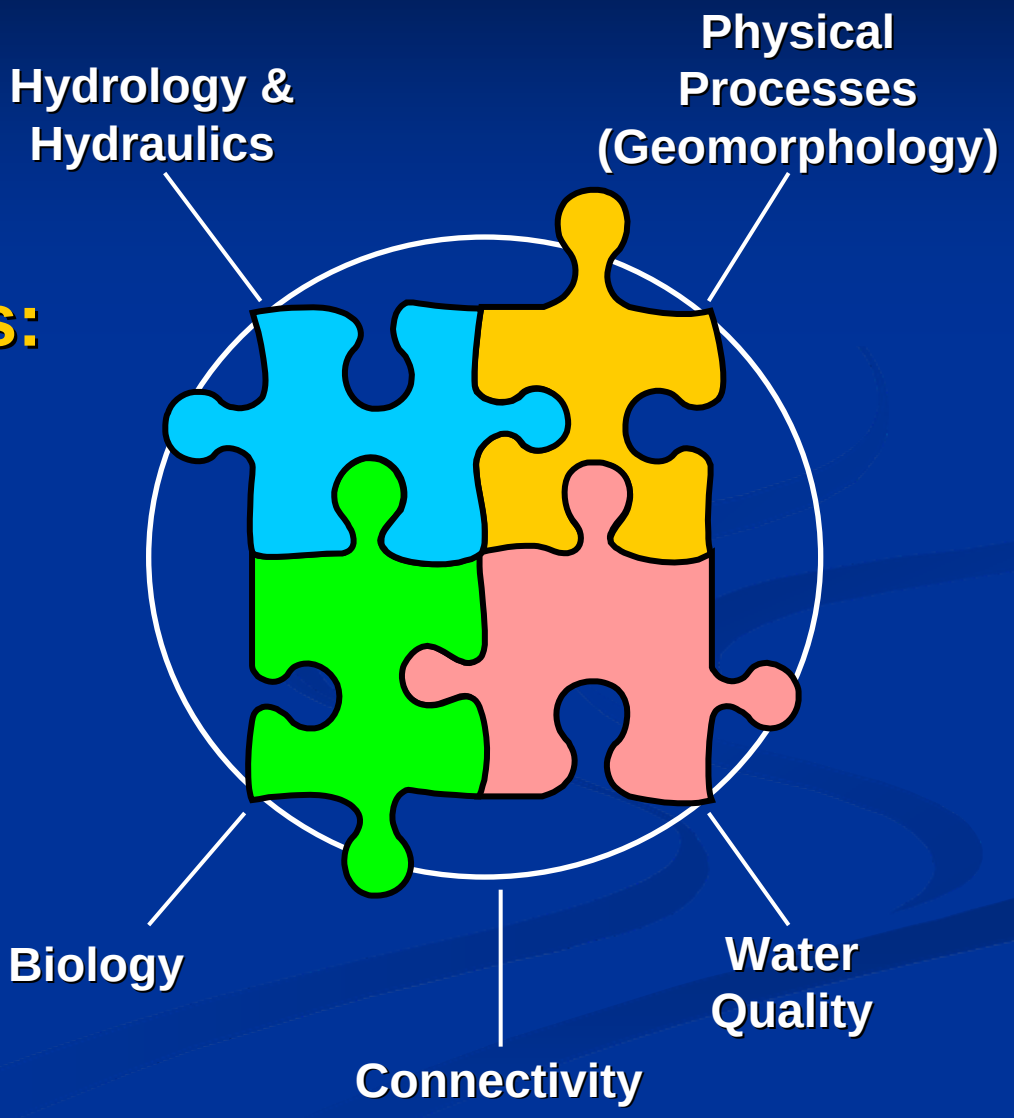
- Examine the integrity of the biological community
- Examine biodiversity within the system
- Define the influence and relationship of other riverine components relative to biology of system."

- **Specific Objectives: ?**

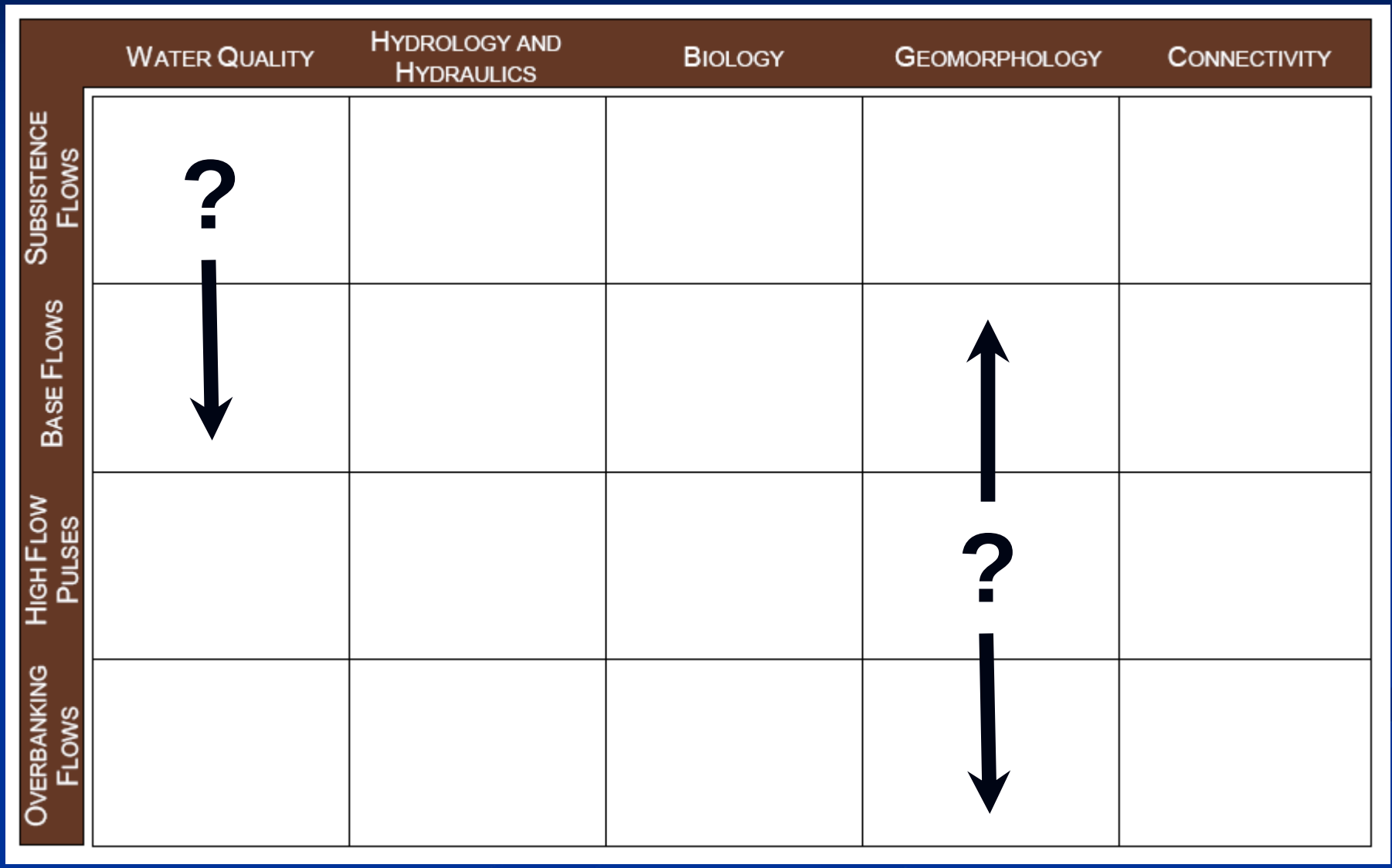
Lower Sabine Sub-basin

- **Specific Objectives:**

?



Lower Sabine Sub-basin



Lower Sabine Sub-basin

Did we miss anything?

- **Key Components**
- **Key Concerns**
- **Local Values**

Questions?