Council Study

Council Study BioRA – Modelling Coordination

Ecosystem Model
# Ecosystem Model – Linked Indicators

![Diagram showing linked indicators for ecosystem model]

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Ecosystem Model - Linked Indicators

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## Code Indicator

<table>
<thead>
<tr>
<th>Hydrology</th>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAR</td>
<td>All</td>
<td>Mean annual runoff</td>
</tr>
<tr>
<td>Do</td>
<td>Onset</td>
<td>Onset</td>
</tr>
<tr>
<td>Dd</td>
<td>Duration</td>
<td>Duration</td>
</tr>
<tr>
<td>Dq</td>
<td>Minimum 5-day discharge</td>
<td>Minimum 5-day discharge</td>
</tr>
<tr>
<td>Ddv</td>
<td>Average daily volume</td>
<td>Average daily volume</td>
</tr>
<tr>
<td>DRang</td>
<td>Within-day range in discharge</td>
<td>Within-day range in discharge</td>
</tr>
</tbody>
</table>

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[www.mrcmekong.org](http://www.mrcmekong.org)
Modelling inputs to BioRA

- **Flow** (discharge, velocity/shear stress, water levels)
- **Flooding** (area, duration, depth; also for different vegetation types)
- **Sediment** (concentration, floodplain sedimentation)
- **Nutrients**

Options under study: primary production, agricultural production, oxygen, fish production etc.

BioRA DSS time series processing to derive model indicators

BioRA DSS ecological and morphological impact analysis
Past and on-going modelling for BioRA

1. Provision of 1985 – 2008 data in 7 focal areas for BioRA DSS setup (not including Zone 5!)
2. Provision of synthetic scenario data for BioRA DSS calibration (tuning of DSS to provide expected results)
3. Provision of different TS flooding indicators for BioRA; iterative process still on-going

Test Scenarios

- Test Scenarios are defined for BioRA DSS validation
- Test Scenarios will show how well BioRA DSS performs in comparison with natural system behaviour
- Definition process on-going
Next steps

1. Finalize approach for Tonle Sap
2. Define indicators for Cambodian Floodplains and Vietnamese Delta modelling
3. Run the impact model and provide time series and possibly GIS layers