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For sustainable development




BioRA DSS Workshop

Background, Objectives and Outputs

BioRA DSS Technical Workshop
Phnom Penh, Cambodia
15-19 February 2016

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Contents


- Objectives
- BioRA Approach, Process and Progress
- BioRA Reports
- BioRA DSS Technical Workshop Approach
- BioRA DSS Workshop facilitators
- Recording comments

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OBJECTIVES


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BioRA Objective

To provide clear and comparable information on the positive and negative impacts of proposed water resources developments on the aquatic resources of Mainstem Lower Mekong River, inclusive of the Tonle Sap Great Lake and the Mekong Delta.

- Greater and documented detail than SEA or BDP
- Transparent
- Repeatable



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BioRA Scope of Activities



In order to accomplish the BioRA objective, the following technical activities are involved:

- Comprehensively review and consolidate existing knowledge on ecosystem status and trends in the LMB
- Identify and quantify at the fundamental level the stressor-response relationships (i.e., response curves) between important ecosystem elements (i.e., represented by a number of indicators under each of the 6 non-IKMP disciplines)
- Based on these relationships, build a new ecosystem model for the LMB (proposed to be called hereinafter as ECO-LMB) based on DRIFT
- In conjunction with DSF and other CS models, apply ECO-LMB to determine positive and negative impacts of WR developments
- Build capacity of the Member Countries to perform similar assessments using ECO-LMB (primarily via learning by doing approach such as this workshop)

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Workshop Objectives



- Continue the process of transferring the knowledge to the Member Countries (Interim Reports, and ECO-LMB)
- Test the preliminary ECO-LMB as per requirement of the MCs
- Compile comments on the interim reports and the ECO-LMB

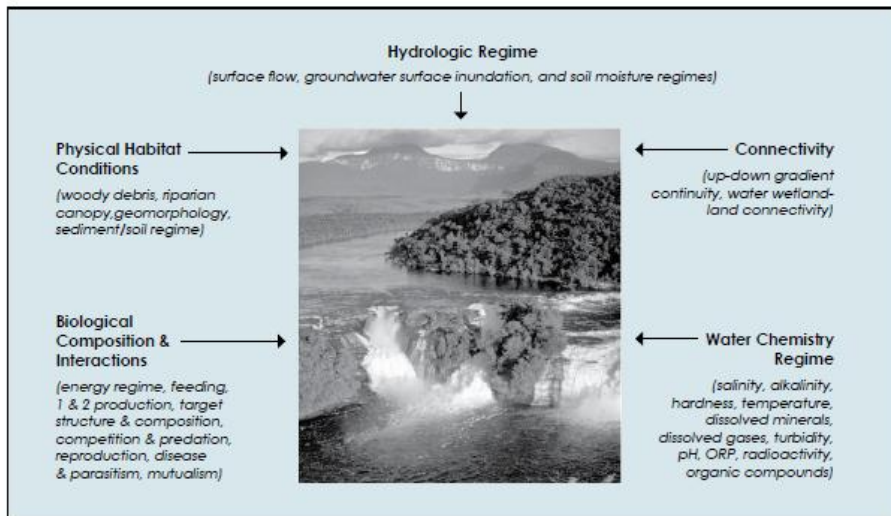


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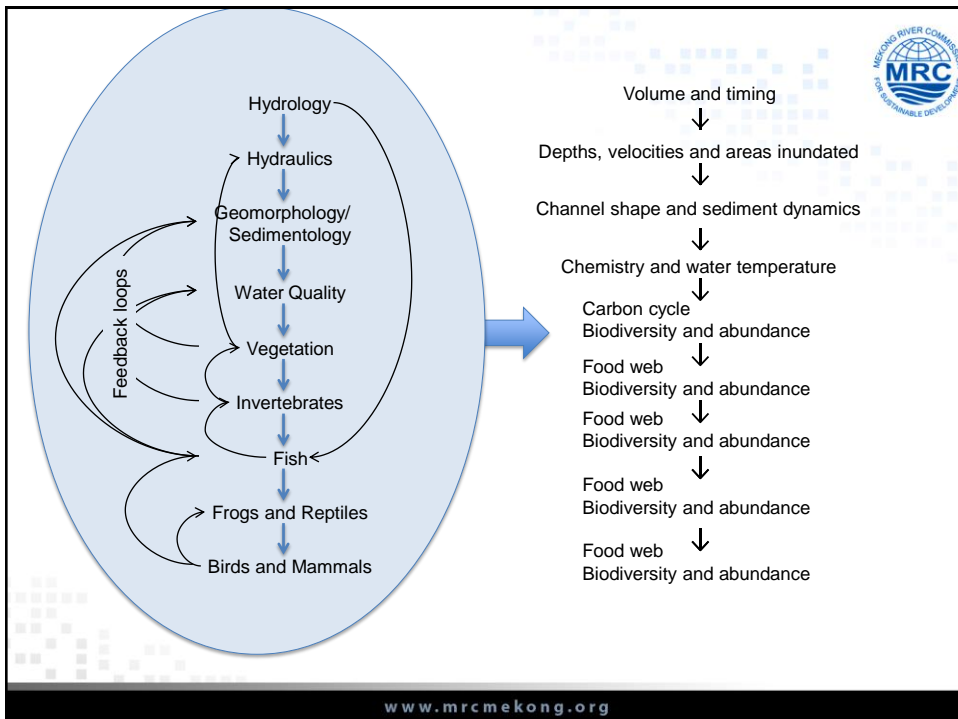
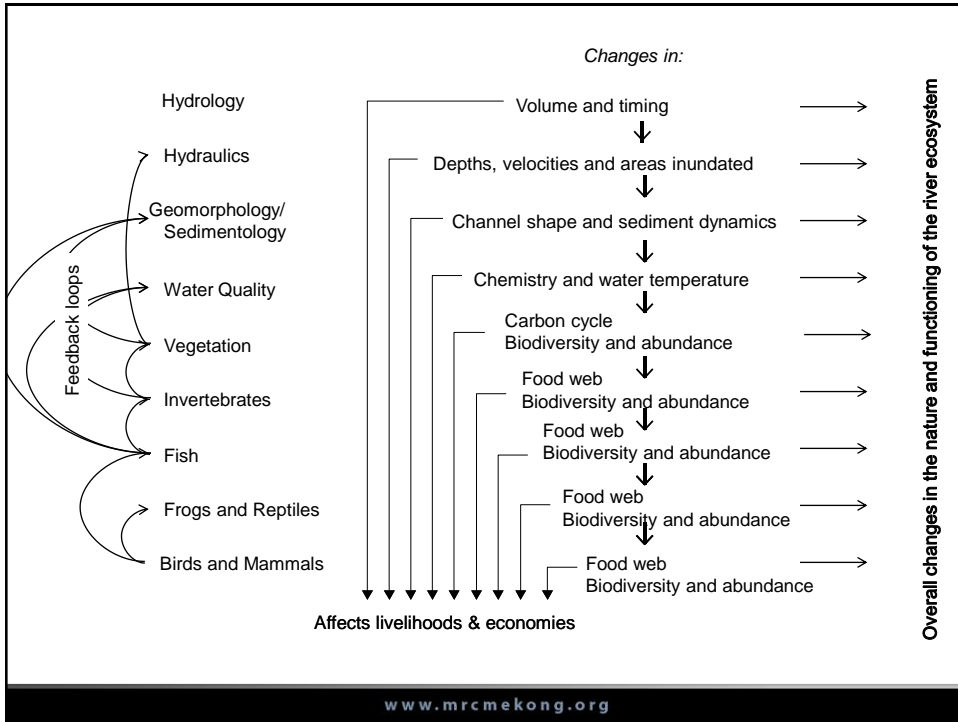


BioRA APPROACH, PROCESS AND PROGRESS

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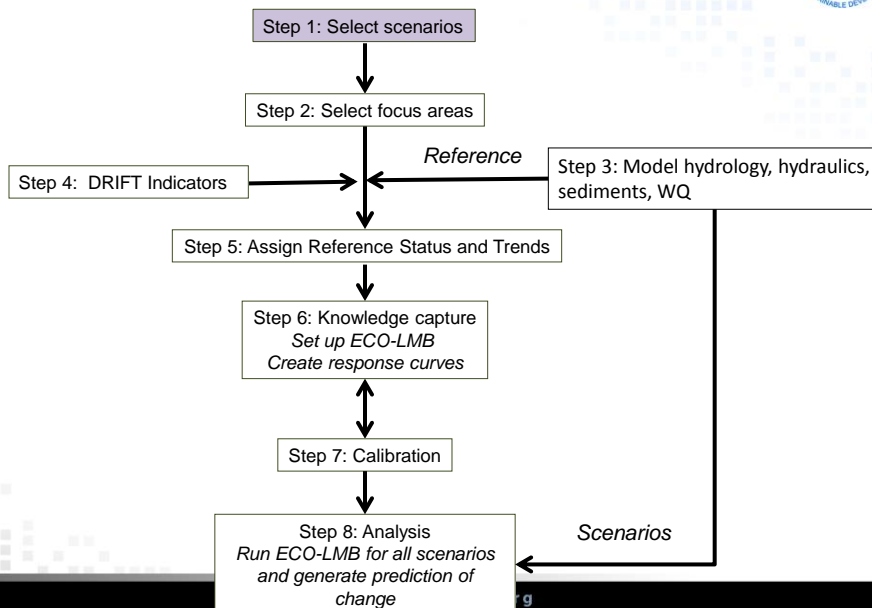
DRIFT

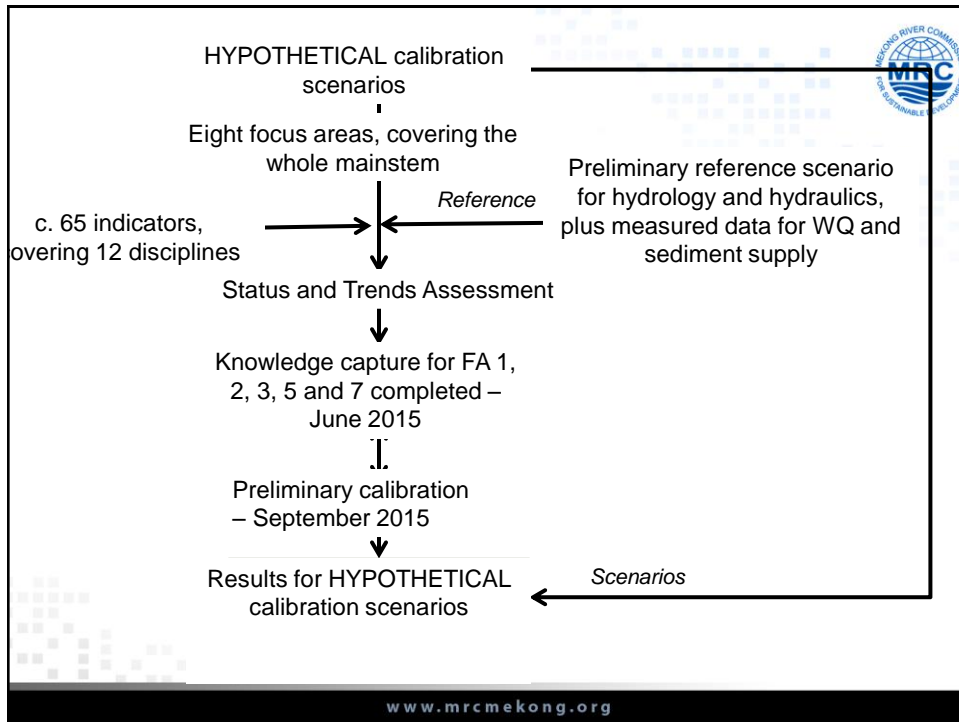


- Shell used to build an ecosystem model for LMB (i.e. all information contained in ECO-LMB are specific to LMB)
- Provides a structured software development process for the development and documentation of the response curves
- Provides a knowledge management and decision support platform to enable the following:
 - Informed decision making when models are not available for assessing ecosystem impacts
 - Linkage with calibrated hydraulic, sediment, and water quality models (e.g., DSF) to take advantage of existing modeling capabilities
 - Assessment of what-if water resources development scenarios
- Provides a transparent and repeatable process that facilitates peer-review of the response curves (including data, literature, and expert opinions used in developing the curves), and their adjustments/enhancements when appropriate based on additional information and expert opinions that may become available in the future

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Steps in Developing and Applying the New Ecosystem Model for the LMB (ECO-LMB)





Progress to date (2015)....

- Selected FAs
- Selected indicators
- Identified links
- Completed status and trends assessment (context)
- Constructed preliminary reference scenario
- Trained 24 specialists to use DRIFT shell so that they can set up ECO-LMB
- Populated ECO-LMB for FA 1, 2, 3, 5 and 7
- Constructed preliminary calibration scenarios
- Preliminary calibration for FA 1, 2, 3, 5 and 7

Planned Activities(2016)



- **Test preliminary calibration of FA 1, 2, 3, 5 and 7**
- Replace preliminary Reference Scenario with actual Reference Scenario
- Populate ECO-LMB for FA 4, 6, and 8 (Delta)
- Calibrate all sites to Reference Scenario
- Update existing technical reports
- Run Cumulative and Thematic Scenarios
- Report on results for Cumulative and Thematic Scenarios
- Handover ECO-LMB

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BIORA REPORTS



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BioRA Reports to date



Report	Date	Contents
Progress Report 1	April 2015	Focus Areas Indicators
Progress Report 2	August 2015	Status and Trends Assessment Initial DSS Set-up
<i>Interim Technical Report 1 (Vol. 1)</i> SPECIALISTS' REPORT	December 2015	<ul style="list-style-type: none"> - Updated Status and Trends - Indicators - Linked indicators - Response curves - Motivations
<i>Interim Technical Report 1 (Vol. 2)</i> GUIDE TO VIEWING AND UPDATING THE BIORA DSS	December 2015	Basic User Manual
<i>Interim Technical Report 1 (Vol. 3)</i> PRELIMINARY CALIBRATION REPORT	December 2015	Outcome of KCW and Preliminary Calibration Workshop
BioRA DSS (Preliminary Calibration)	December 2015	

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SPECIALISTS' REPORT



Provides specialist information underlying the Response Curves, and other information, used in the ECO-LMB :

- assumptions and limitations
- literature review
- indicators and linked indicators
- status and trends assessment
- response curve
- supporting evidence and reasoning for each response curve.

Two hard copies available at workshop, plus electronic copies

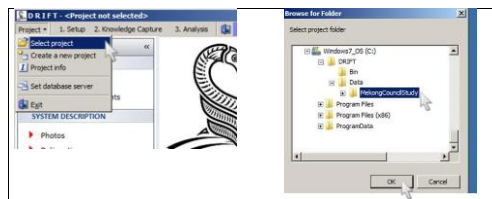
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GUIDE TO BIORA DSS

- Guide to the main aspects of the BioRA DSS, including viewing and updating the information

Copies printed for individual use this week



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PRELIMINARY CALIBRATION REPORT

- Format of the standard DRIFT DSS results as a basis for discussion on the format of BioRA results
- Illustrates how the DSS reacts to hypothetical calibration scenarios:
 - 10 hypothetical calibration scenarios
 - changes to flow regime
 - changes to sediment supply
 - barriers to fish migration

Two hard copies available at workshop, plus electronic copies

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BioRA Technical Reports in 2016



Report	Expected Due Date
Specialist's Report (Update)	September 2016
Guide to Viewing and Updating ECO-LMB (Update)	December 2016
BioRA DSS Calibration Results (Update)	October 2016
Draft Technical Report for the cumulative scenario (New)	December 2016
Draft Technical Report for thematic scenarios (New)	December 2016
Software: ECO-LMB DSS (Update)	December 2016

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BIORA DSS (ECO-LMB) TECHNICAL WORKSHOP APPROACH



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Approach for the Week



- Agenda divided into two major parts:
 - Familiarisation (Mon and Tues)
 - Testing (Wed, Thurs, and Friday)
- Within each part:
 - Presentations to provide context
 - Response curves and justifications (3 disciplines)
 - Hands-on practical sessions with ECO-LMB
- Throughout
 - Will use and disseminate selected contents of the technical reports
 - Compile comments on the technical reports and ECO-LMB

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ECO-LMB Software Version 2.75



- Use throughout the workshop
- Load on individual laptops after the coffee break
- BioRA Team will guide installation

Familiarisation:

- Guide to BioRA DSS
- Specialists' Report

Testing:

- Prelim. Calibration Report (1st 10 calibration scenarios)
- Handouts for additional testing scenarios

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Software Requirements



- Operating system: Windows 7 or 8.
- Minimum RAM: 4 GB.
- Recommended specification: Intel I5 2 GHz.
- Disk space required: 10 MB for software
600 MB for the data files
- To view the maps in the SETUP section of the ECO-LMB, Google Earth must be installed on your computer.
- **Mouse** – extras provided (ask Ms Na)

If you do not have any of the above – please contact Ms Na or Henry to see if a plan can be made

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BIORA DSS WORKSHOP FACILITATORS



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WORKSHOP FACILITATORS



Name	BioRA role	Workshop role
Dr Henry Manguerra	Council Study Coordinator	Process
Dr So Nam	BioRA Manager	Oversight
Dr Cate Brown	BioRA Technical Coordinator	Process Hands on DSS General queries
Dr Alison Joubert	DRIFT DSS Manager	Hands on DSS Technical issues
Dr Lois Koehnken	Geomorphology Lead	Hands on DSS Geomorphological queries
Prof. Ian Cowx	Fish Lead	Hands on DSS Fish queries
Dr Hoang Minh Duc	Herpetology Lead	Hands on DSS Herpetofauna queries
BioRA National Consultants	National Expert Support	Hands on DSS Discipline queries
Ms Manothone Vorabouth	Council Study Administration	Administration and Logistics

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RECORDING COMMENTS



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Recording Comments



Please:

- Take a notebook from the back table, and label it with:
 - BioRA DSS Workshop
 - Your Name
 - Your Country
 - Your Affiliation
- Record all comments/suggestions in the note book
- Hand notebook to Ms. Na at the end of the workshop
- These will be collated into the workshop report, and responded to in the Report or DSS reviews
- This is to ensure we do not miss vital comments

Please also feel free to raise questions or comments at any time.
There is also some time to discuss the comments and feedback on Friday

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Thank You



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