

Status, Gaps, Challenges on Data Availability on the Fish Biodiversity in the Lower Mekong Basin

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Talk Outline

- Status and trend of fish biodiversity in the LMB
- Causes the declines in fishery biodiversity in the LMB
- Status, gaps and challenges on data availability of fish biodiversity in the LMB

Status and trend of fish biodiversity in the LMB

- About 1,200 fish species were recorded in LMB
- Fisheries (fish and OAAs) are vital for the economics, food security, nutrition (macro and micro), and livelihoods for LMB population
- Fisheries resources in LMB declined 25-30% in 2022 compared to 2010, due to direct pressures from development activities in mainstream
- Catch rate (CPUE) and fish abundance (number and biomass) declined, and fish size tend to be smaller and smaller
- 2.3 million tons/year worth an estimated \$11 billion, world's largest freshwater fishery (2010)
- 1.7 million tons/year worth an estimated \$ 8.4 billion (2022)
- Other Aquatic Animals (OAAs) contributing a further 443,000 tonnes, worth an estimated \$1.4million).
- Number of fishers (fulltime and part-time) is declining due to declining fish stocks and other factors.

Causes the declines in the fish biodiversity in the LMB

- Environment and habitat degradation (river and habitat fragmentation, changing water flows, pollution and degradation of water quality, and land use change)
- Climate change (exp. drought)
- Over-exploitation of fish stocks (overfishing and increasing fishing effort)
- Other factors resulting in declines in the capture fishery in the LMB
 - Loss of genetic diversity of aquatic animals
 - Invasive alien species
 - Policy, regulations, management, coordination and information

Status, Gaps and Challenges on data availability of fish biodiversity in the LMB

Status

- Fisheries monitoring is one of the Core River Monitoring Network “CRMN” of the MRC long-term monitoring activities, implemented by its LMB member countries: Cambodia, Lao PDR, Thailand, and Vietnam to produce these long-term data in LMB.
- CRMN has 5 environmental disciplines:
 1. Hydrology (3 parameters “water level, rainfall, and discharge”, 68 stations in LMB)
 2. Discharge and Sediment (6 parameters, 17 stations in LMB)
 3. Water quality (16 parameters, 48 stations in LMB)
 4. Ecological health (4 biological indicators, 41 sites in LMB)
 5. Fisheries (3 activities “FADM, FLDM and Dai Fisheries Monitoring”, 47 sites in LMB)
- All data of the 5 environmental disciplines are stored in database system at MRC secretariat in Vientiane, Lao

Fisheries Monitoring in LMB

Key fisheries indicators:

- Fish catch (by fisher, kg), fish catch composition, length frequencies, and fishing gears used (FADM),
- Larvae and juvenile fish abundance and diversity; fish larvae quantity and density (FLDM)
- Fish abundance, biomass biodiversity, length frequencies and fish prices at landing sites (Dai Monitoring)

Fineries Monitoring	LMB (site)	Cambodia (site)	Lao (site)	Thailand (site)	Vietnam (site)	Status
Fish Abundance and Diversity Monitoring (FADM)	38	11	15	5	7	On going
Fish Larvae Drift Monitoring (FLDM)	8	2	2	2	2	On going
Dai Fisheries Monitoring	1	1 (45 Dai Units)	0	0	0	On going

Source: MRC

Biological and Ecological Health Monitoring in LMB

- Assess the ecological health condition at the selected sampling sites in LMB
- 4 Biological indicators: Benthic diatom, zooplankton, littoral macro-invertebrates, and benthic macro-invertebrates were studied.

Biological and ecological monitoring	LMB (site)	Cambodia (site)	Lao (site)	Thailand (site)	Vietnam (site)	Status
Ecological Health Monitoring	41	17	8	8	8	On going

Gaps

- Fish migration data/importation in fisher-log book.
- Fish price data
- Fish consumption data
- OAAs data and value
- Data on small/family scale
- Number of full and part time fishers

Challenges

- Capacity/skill on (zooplankton, diatom and fish larvae identification, data analysis, data management, report writing)
- Capacity/skill on SOP/SOM/Guidelines
- Capacity/skill on using equipment (esp. for EHM)
- Data quality

Thank You

