

Fish Monitoring Equipment and Technology



Fisheries monitoring can provide essential information on aquatic resources before, during, and after development project construction to ensure such projects have fewer impacts on fish populations. This includes evaluating whether fish passage structures are working, and whether fish populations are changing in abundance. Maintaining healthy fish populations is necessary for the security of vital food resources, and for protecting the structure and relationships of nature's ecosystems.

FISHBIO uses many technologies in our work to study, monitor, and conserve fishes:

Passive Inductive Transponder





PIT Tags and Antennas

- Small tags are inserted into fish with a simple syringe.
- Tags give each fish a unique identification code and last for fish's entire life without batteries.
- Antennas automatically detect and record tagged fish passing within 1 m.
- Commonly used in the United States for monitoring salmon passage at hydroelectric facilities.
- Relatively inexpensive and suitable for small fish (55 mm) as well as large fish.

Acoustic Tags and Receivers

- Tags are surgically inserted or externally attached to fish and give each a unique identification code.
- Fish can be tracked for weeks to more than a year, over thousands of kilometers.
- Remote, solar-powered receiver systems automatically record fish tags passing within 100-500 m.
- Commonly used in the United States to look at fish survival and movement through areas impacted by development projects.







VAKI Riverwatcher

- Infrared system automatically counts and measures passing fish in turbid water.
- Camera system detects and automatically photographs fish in clear water.
- Can be installed at fish ladders to monitor fish passage.

DIDSON[™] Sonar

- A state-of-the-art camera that uses sound waves to record fish in muddy water or at night.
- Can detect fish from 1-100 m away.
- Can be used to monitor fish behavior near structures.



Coded-Wire Tags

- Small metal strips are inserted into fish snout or cheek.
- Micro-printed numbers on tag identify individual fish.
- Inexpensive method suitable for very small fish (22 mm), as well as large fish.
- Fish must be sacrificed to remove tag and read identification code.



Fish Marking

- Temporary marks are applied to fish to identify at recapture.
- A variety of tags and dyes can be applied to fish, and last from a few weeks to years.
- Recapturing marked fish helps estimate fish population size, migration behavior, and survival rates.

FISHBIO – Lao PDR

Ban Wat Chan Unit 14 House number 133 Vientiane Capital, Lao PDR

mekong@fishbio.com +(856) 202-999-3276

www.fishbio.com www.mekongfishnetwork.org