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Evaluation of risk of decline for coastal fishes

Coastal fishes, although providing important services to mankind (such as fisheries catch and recreation), are under stress due to natural and anthropogenic disturbances (e.g., pollution and harvesting). To ensure persistence and sustainability for coastal fishes, it is urgent to identify species with high vulnerability or risk of declines. Biological traits (e.g., body size, growth rates, maturation schedules, lifespan, etc.) relevant to population growth rates may provide insight into the potential for populations to withstand disturbances. To understand vulnerability for common coastal fishes to disturbances at Taiwan coast, we plan to collect biological trait data from the *Fish Database of Taiwan* (<http://fishdb.sinica.edu.tw/>) and conduct a meta-analysis. Our objectives are to 1) identify species with high risk of decline, and 2) determine the biological traits relevant to species vulnerability. To conduct this project, we encourage students taking OCEAN 5105 *Population Ecology & Sustainable Fisheries Resources* and OCEAN 5052 *Computer-intensive Statistics in Ecology* as background courses.

**GOALS**: Assess population sensitivity to fishing and/or environmental changes by collecting and analyzing available life history and fisheries data

**REQUIREMENTS**:

1. Background courses:

* OCEAN 5105 *Population Ecology & Sustainable Fisheries Resources*
* OCEAN 5052 *Computer-intensive Statistics in Ecology*

1. Analytic techniques

* Programming (such as R or Matlab)