

Santi Poucharean 2008: Spawning Season and Spawning Ground of Fishes in Pasak Jolasid Reservoir, Lop buri Province. Doctor of Philosophy (Fisheries Science), Major Field: Fisheries Science, Department of Fishery Biology. Thesis Advisor: Associate Professor Charumas Meksumpun, Ph.D. 332 pages.

Spawning season and spawning areas of fishes in Pasak Jolasid reservoir was studied during October 2004 to August 2005 by quantitative and qualitative analyses of fish larvae and juvenile distribution. Twenty five of pelagic sampling stations were surveyed by larvae net towing and seventeen of littoral sampling stations were surveyed by seining and electro-fishing. The environmental parameters i.e. hydrological data, water qualities and biological parameters were also studied for integrated analysis. The result showed that the at least 19 species of larvae and 52 of juveniles were found during the survey. The most of fishes spawned during July to August (88% all of larvae) around upper Pasak river and river canal of upper part of the reservoir which were 94% of larvae that found in the whole periods. Additionally, the 4 economic species were found for spawning periods and spawning areas i.e. Thai river sprat (*Clupeichthys aesarnensis*) spawned at the time throughout of year with highest level in October (44.23%) around western of middle part of the reservoir, Jullien's mud carp (*Henicorhynchus siamensis*) spawned during July (95.46%) around upper part of the reservoir to Lum-Sonthi tributary, Long-fin barb (*Dangila spilopluera*) spawned during early of August (98.55%) around river canal from upper part to middle part of the reservoir and Red-finned catfish (*Pteropangasius pluerotaenia*) spawned during July to early of August (98.55%) around river canal to pelagic area of middle part of the reservoir. The species composition and distribution of juveniles output showed that the highest nursery period of juveniles occurred in October in the upper part and eastern of middle part of the reservoir, in these areas found 90.82% all of juvenile in October. Analysis on relationships between yolk-sac larvae and some environmental parameters found that the water temperature and pH had significant impact on spawning stimulation of Thai river sprat ($p < 0.01, < 0.05$) While, water runoff, pH and total suspended solid had significant impact on spawning stimulate of Jullien's mud carp and Red finned catfish ($p < 0.05, < 0.01, < 0.01$ and $p < 0.05, < 0.01, < 0.01$, respectively). These findings show that the spawning season and spawning areas of the most fishes were almost similar to the measures of spawning season and conservative areas of fish for Pasak Jolasid reservoir that notified by Department of Fisheries. However, the spawning season and spawning areas of Thai river sprat and some economic species that was not covered by the notifications should be further considered so as to protect these fishery resources.

Student's signature

Thesis Advisor's signature