

ACTIVITIES OF YEAR 2006

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Fisheries

Within the framework of the project on the development of fishing gears for whelk fisheries for an alternative to dredge, field and laboratory studies were completed at the Stations in Trabzon, Ordu and Samsun so as to measure the fishing capacity of traps having different features and to determine the bio-ecological characteristics of sea snails.

Within the scope of the project on the Follow up of Anchovy Culture in the eastern Black Sea, in addition to anchovy-related activities, the activities related to bonito and horse mackerel were conducted on the account of the fact that these are also related with the purse seine fisheries and anchovy fishing. In addition to the bio-ecological characteristics of these species, the non-target species were also determined in whole fishing season.

In line with the Project on the Black Sea Trout Culture and Use of the Black Sea Trout for Marking, which was jointly conducted with the Aquaculture Department, the marked fish were released at 4 stations in Yanbolu creek, and gastric content of the marked fish recaptured and flora and fauna of Yanbolu creek were determined.



In October and November 2006, the preliminary activities were carried out within the scope of the Subproject on the Research of Bio-ecological Characteristics and Flounder (*Platichthys flesus luscus* Pallas, 1811) Culture under the Nationwide Aquaculture Project

jointly conducted with the Aquaculture Department.

The Aquaculture Department is conducting one of the work packages of the Project on Determining the Present State of Sturgeon Populations and the Research Possibilities of Culture; namely, the "Researches on the Population-Habitat and Fishing Interactions of Sturgeon Distributed in the Black Sea Coasts of Turkey". The field studies were conducted in Samsun and Sakarya. Besides, the promotion activities were carried out in the Black Sea provinces.

Aquaculture

Within the scope of the Project on the Black Sea Trout Culture and the Use of the Black Sea Trout for Fish Releasing, the activities for stripping, maintenance of eggs and fry, fry rearing and releasing to the nature were done. Hatching took place in the incubators which were independently installed inside the closed circulating hatchery system. Live bait unit was established in order to feed the fries that absorbed the vitellus sac with the live bait.

Under the umbrella of the Project on the Determining the Present State of Sturgeon Populations and the Research Possibilities of Culture Project, maintenance, feeding and the controls were done in accordance with the work package of "Maintenance and Feeding". Within this work package, 2 belugas were transported into the tank environment and adaptation activities were initiated.

The fish culturists and new entrepreneurs who applied to our institute were provided with necessary technical information and consultancy service. The applications of those who want to culture fish in the inland waters were evaluated and on-site analyses were done to assist in building facility. Accordingly, necessary information was given and the reports were prepared. The information on the selection of the site, cage systems and production techniques were given to those who are interested in culturing fish in marine cages; and site assessment was done and the reports

were generated. The activities were also carried out for troubleshooting in coordination with Fish Diseases and Ecology Department.

The participation also took place in collecting the brood stock and candidate brood stock from the wild within the framework of fish releasing project which was executed by the Provincial Directorate of Environment and Forestry. Also, the adaptation of the fish captures was done.



Ecology

Within the scope of the protocol signed between Çayeli Copper Enterprises Inc. and our institute and also in accordance with Environmental Measuring and Monitoring Program conducted by our Institute in Çayeli, 47th, 48th, 49th and 50th period samplings were done in March, June, September and December, respectively. In the project, different depths were determined in 7 stations in the offshores of Rize-Çayeli located in the Black Sea; instant measurements and analyses and water sampling were done at 4 stations in Büyükdere and Beyaz Su Creeks located within the borders of Rize-Çayeli. At the laboratory environment, the water samples were first enriched by employing the extraction method and then AAS and heavy metal analyses were done. The results of the analyses were reported and submitted to the relevant authorities and agencies.

In the Project on the Analysis of Some Physical and Chemical Characteristics of the Seawater in the offshores of Trabzon, weekly measurements with CTD probe were carried out at different depths (50m, 100m and 200m) from 3 stations determined. In total, 39 measurements were done all the year round. The study consisted of the measurements of the parameters in the water column: namely, temperature, salinity, sigma-t, electrical

conductivity, dissolved oxygen, pH, light transmittance and chlorophyll-a. The writing of the final report of the project covering the study period from 2004 to 2006 started.

The Department realized weekly physical measurements and chemical analyses in the closed recirculation unit of our institute. Physical and chemical analyses were realized in Yanbolu Creek within the scope of the "Project on the Black Sea Trout Culture and the Use of the Black Sea Trout for Fish Releasing". And then the findings were presented in the form of a report.

Under the Project on Determining the Present State of Sturgeon Populations and the Research Possibilities of Culture, station determination activities were undertaken in Kızılırmak and Yeşilirmak Rivers which fall inside the borders of Samsun Province. The objective was to determine the water quality in the habitat of sturgeon. At the end of this study, 2 different stations in Kızılırmak River and 3 different stations in Yeşilirmak River were determined. Once every two months, the samples were taken and on-site measurements were done at the stations determined. The physical measurements and chemical analyses and heavy metal analyses were done on the samples taken. In the region where there are fisheries enterprises in Ordu-Perşembe Bay, our department made the assessment of monthly seawater analyses within the Project on Monitoring Sea Bass and Trout Facilities in Ordu Perşembe Marine Cages.



Fisheries Health

The field and laboratory studies of the Project on Monitoring Net Cage Fisheries in Ordu/Perşembe that started in June, 2004 and lasted for 18 months were completed in December, 2005. The findings obtained from the project studies were evaluated with the fish culturing enterprises in the region and were communicated to the sector and the relevant organizations in various meetings. The final report of the project was written and sent to the relevant organizations.

During the culture studies in Maçka facilities upon huge losses of eggs and fries of Black Sea Trout in 2005 within the scope of the "Project on the Black Sea Trout Culture and the Use of the Black Sea Trout for Fish Releasing", BKD (Bacterial Kidney Disease) was first diagnosed in Turkey. Further researches and eradication studies are being carried out at the moment. The BKD data accumulated were compiled and were published as an article in the "Bulletin of the European Association of Fish Pathologists".



Due to the VHS disease (Viral Hemorrhagic Septicemia) diagnosed and quarantined in 2004 during the Turbot Culture activities, the activities carried out in 2005 in turbot hatchery were resumed in 2006. After a series of measures introduced, the quarantine was removed in 2006. All these studies conducted with the Japanese experts were published in an international journal. The eggs were disinfected. When the larvae were transported to the tanks, daily live and bottom samples were taken and analyzed with microscope and possible changes were observed. Besides, bacterial and parasitic studies were done. The larvae were screened for VHSV. From time to time plankton, rotifer and Artemia samples were collected and

parasitic analyses were done; and the medication was used for bacterial load in rotifers.

Also viral studies were done on sturgeon, anchovy, sea bream and sea bass.

Due to the diseases emerged in a private enterprise in the region, our institute gave necessary information, and diagnostic and treatment services were delivered to the enterprise owners who applied to the institute for further information.

Genetics

Within the scope of the Project on Determining the Genetic Structure of Brown Trout (*Salmo trutta L.*) in Turkey, the laboratory studies and data analysis were completed and the final report of the project was drafted. The report in question is still being written now.

Sampling of sturgeon was done within the framework of the Project on the Determining the Present State of Sturgeon Populations and the Research Possibilities of Culture, and tissue samples were collected from a total of 78 fish. The enzymes, chemical, consumable material and inventory stock to be utilized during the laboratory studies were procured. DNA extraction started and 42 DNA samples were collected.



In line with the Project on Sturgeon to be submitted to TÜBİTAK (Scientific and Technological Research Council of Turkey), a sub-work package was prepared: namely, the Study on Defining Sturgeon Scattered Around the Turkish Coasts of the Black Sea, and on Determining Hybridization and Population Structure Based on AFLP and Microsatellite Markers".

With the participation of the relevant departments of Rize, Atatürk, KTU (Black Sea Technical University) and Hacettepe Universities and TAGEM (General Directorate of Agricultural Researches – Elazığ, Eğirdir, and Akdeniz and Trabzon Central Fisheries Research Institutes), the “Project on Researching Fisheries Gene Resources” was prepared to submit to TÜBİTAK (Scientific and Technological Research Council of Turkey) with a view to establish gene banks to store gene material and information, i.e. DNAs.

Training

Our institute has been collaborating with the JICA (Japan International Cooperation Agency) for the preparation and publishing of the “*Turkish Journal of Fisheries and Aquatic Sciences*” and also a technical bulletin called “YUNUS Research Bulletin”. The Journal is being distributed to the agencies related to fisheries and aquaculture.

The website of our institute (www.sumae.gov.tr) is updated and given a diversity of content. The information about the institute staff and the projects are available on this website. The digital format of the scientific journal is regularly made available on the journal’s own website (www.trjfas.org). The website of the institute also has links to the individual websites of Yunus Research Bulletin, turbot project (www.kalkan.sumae.gov.tr) and sturgeon project (www.mersin.sumae.gov.tr).



Prior to the “Fisheries Program and Project Meeting” held on March 21-23, 2006 in Antalya, the summaries of all the projects to be presented during the project were collected from all the institutes and were compiled in the

handouts of the meeting and were sent to the attendants. The meeting was held and the report was prepared and forwarded to the relevant units.

On May 2-4, 2006, a seminar on “Fish Diseases” was organized in Trabzon for the staff of the Ministry.

Our institute joined “Future Fish Eurasia, International Fair for Fish Imports/Exports, Fishing, Aquaculture and Processing Technologies” organized on 8-11 June, 2006 in Istanbul and opened a booth and promoted the publications of the institute to the visitors of the fair.

The Institute took part in the preparation and organization of JRC workshop held in the Black Sea Technical University on October 30 – November 1, 2006. A booth was opened during the workshop and the staff of the institute gave information to the participants.



The institute participated in KAGROTEK Agricultural Fair organized in Trabzon World Trade Center on November 1-13, 2006.

Under the coordination of our institute, the meetings for the Exchange of Information (BAV) were organized 3 times that year with the participation of Provincial Directorates of Agriculture of Trabzon, Giresun, Ordu, Rize and Artvin provinces.

The Director of the Institute gave information at several times in relevant years on local and international newspapers and television channels concerning turbot and Black Sea trout culture and other activities of the institute.

Like every year, the seminars included in the “In-service Training” of the Ministry were carried out in this year. The staff of the institute joined the seminars conducted in the other provinces as trainers.