

WATER ABSTRACTION FROM FRESHWATER CRITICAL HABITAT

TANAP NATURAL GAS PIPELINE LOT3 CONSTRUCTION TURKEY



TEKFEN CONSTRUCTION

WATER ABSTRACTION FROM RIVER

Kızılırmak River is the longest river that flows entirely within the boundaries of Turkey and joins the Black Sea. The river has permanent flow with high flow rate during the whole year.

The project specifications require water abstraction from Kızılırmak River at KP 1093+451 for hydrostatic testing.

- Project Biodiversity Action Plan identifies this point as freshwater critical habitat.
- Project Biodiversity Action Plan also defines the period of 1 April - 30 June as construction constraint period for all critical habitats.
- Water abstraction and discharge activities in the Work Schedule coincided with this constraint period.



STUDIES ON MITIGATION MEASURES

Temporary disturbance to streams, and aquatic life in the direct path was largely unavoidable; however, short-term impacts were easy to cover if appropriately mitigated.

TEKFEN Environmental team made researches to avoid impacts of water abstraction and discharge during the constraint period.

Mitigation measures were developed. Client was convinced that with the developed mitigation measures even during the restricted period it was possible to work without harming the environment.

The approval of the Client was obtained for water abstraction and discharge in restricted period defined in the Contract.

TEKFEN environmental team focused on;

- Fish species protection measures,
- Abstraction measures,
- Discharge measures.



MITIGATION MEASURES

1. PROTECTION OF FISH SPECIES

- In order to keep adult fish out of the affected area of water abstraction, crosscut net barriers were used both upstream and downstream .
- Additionally a cage filter was implemented to prevent young fish to be drawn by the abstraction pipe.

2. ABSTRACTION MEASURES

- Water abstraction and discharge points were selected from rocky parts of the habitat rather than from vegetated littoral area.
- Water was abstracted from a point as deep as possible
- Water abstraction rate was set 10% of the flow rate of the river in order not to distort the hydrological regime.
- No chemical treatment was used during hydrostatic testing period.

3. DISCHARGE MEASURES

- Water was cascaded in order not to deteriorate the habitat integrity and not to cause surplus turbidity.
- Water discharge period was prolonged in order to decrease the flow rate.
- Water was oxygenated by physical means before discharge.
- The physicochemical characteristics of the discharged water were measured to make sure the discharged water quality was within the acceptable limits of recipient environment.



RESULT



- TEKFEN environmental team observed no dead fish or fry during or after hydrostatic testing activities.
- No water quality degradation was observed during or after discharge.
- The method, that was first experienced in Kızılırmak River, was found to be so effective that, afterwards, during the progress of the project, it was successfully applied to the other Freshwater Critical Habitats.
- No construction activity was stopped or rescheduled.

