

Your Engineered  
Solutions Provider

# Bedford Pumps provide Fish Friendly Flood Relief to North America

## Bedford Pumps Case Study

Bedford Pumps are delighted to have supplied three of their Fish Friendly pumps to the District of Mission in British Columbia, Canada.

The pumpsets have just undergone commissioning in a new "Fish Friendly" pumping station at Hatzic Lake in time to prevent the annual winter flooding.

Hatzic Lake adjoins the Fraser River, the longest river within British Columbia and the tenth longest river in Canada. The new Pumping Station will pump raw water from Hatzic Lake directly into the Fraser River.

The existing antiquated pumping station at Hatzic Lake had long since proven inadequate. Persistent flooding problems have plagued the area over a 65 year period, due to inadequate pumping capacity as well as channel avulsions and sediment infilling. Additional flood risk is also a factor from the adjoining Fraser River during Spring Freshet as well as storm events within the catchment area. In addition the existing pumping station is believed to have been responsible for significant fish mortalities.

Bedford Pumps have supplied three Submersible Axial pumps from their SAF Fish Friendly range. The SAF range of pumps have been rated as "Excellent" in a trial designed to access their ability to comply with EU legislation brought into force to tackle the rapid decline in global populations of the European Eel. The rigorous tests were performed by VisAdvies BV, an independent research consultancy in the field of water management focusing on the environment of fish in all types of inland waterways, in a dry dock in Holland. They performed the evaluation by means of forced exposure of the fish to the pump. Three representative groups of fish were used, in two size classes, 0-15cm and 16cm plus. The pump was tested at flow rates between 1300 l/s and 2300 l/s, running at speeds between 330 and 518 rpm consecutively.

The three pumpsets each provide a duty of 2700 l/s at 5.25m head. To minimise construction costs the submersible pumps were installed in a wet well canister. Each pump is fitted with Bedford Pumps' innovative Fish Friendly impeller which enables the fish to pass through the hydraulic passages unimpeded. The design of the SAF pumps, in addition to protecting the fish, will demonstrate a significant improvement in hydraulic efficiency resulting in an 8% reduction in power absorbed.

Bedford Pumps standard range of Fish Friendly pumps cover from 400 to 8,000 l/s at 2m to 6m head and are ideally suited for Land Drainage, Flood Defence and Fish Farm applications. Larger capacity pumps can also be designed to meet specific requirements.



*Hatzic Lake, British Columbia, Canada*



*Bedford Pumps SAF pump on trial in Holland*



*Bedford Pumps SAF pumps for Hatzic Lake*