

= Una @-@ class submarine =

The Una @-@ class submarine ( also known as Type 911 ) was a class of six midget submarines built for the Yugoslav Navy at the Brodogradilište specijalnih objekata ( English : Special objects shipyard ) during the 1980s . They were designed with the purpose of laying small minefields and transporting naval special forces , with or without their submersibles , in shallow waters that were inaccessible for larger submarines . Due to their mission profile that called for a small design as well as the need to stay undetected , they lacked torpedo armament and a generator for battery recharging .

During the Croatian War of Independence and the dissolution of SFR Yugoslavia , five of the six boats were relocated to Boka Kotorska where they served with the SR Yugoslav Navy . One , So?a ( P @-@ 914 ) , was captured in drydock by Croatian forces . It was later modified and entered service with the Croatian Navy as Velebit ( P @-@ 01 ) . All of the boats have since been decommissioned .

= = Development = =

During the 1970s the Brodarski Institute ( BI ) from Zagreb started working on a new class of submarines for the Yugoslav Navy ( JRM ) . The project , designated B @-@ 91 and led by Lieutenant Colonel Davorin Kaji? , was tasked with developing a class of midget submarines capable of operating in the shallow waters of the northern Adriatic . Using their small dimensions , the submarines were to be able to maneuver in depths as shallow as 10 metres ( 33 ft ) ; such abilities were needed to conduct offensive minelaying near the enemy coastline , reconnaissance , and transporting naval special forces in hostile waters .

All six boats were completed from 1985 to 1989 at the Brodogradilište Specijalnih Objekata ( BSO ) in Split , SR Croatia and named after rivers in SFR Yugoslavia : Tisa ( P @-@ 911 ) , Una ( P @-@ 912 ) , Zeta ( P @-@ 913 ) , So?a ( P @-@ 914 ) , Kupa ( P @-@ 915 ) and Vardar ( P @-@ 916 ) . Further planned improvements included the addition of a Stirling engine , either by refitting the existing boats or building a new , seventh one , but the imminent breakup of Yugoslavia happened before anything was realized .

= = Description = =

The Una @-@ class featured a single @-@ hulled design , measuring 18 @. @ 82 m ( 61 ft 9 in ) in length with an average draught of 2 @. @ 4 m ( 7 ft 10 in ) . The boats displaced 76 @. @ 1 tonnes ( 74 @. @ 9 long tons ) when surfaced and 87 @. @ 6 tonnes ( 86 @. @ 2 long tons ) when submerged . Because deploying naval commandos was one of their main tasks , they were equipped with an underwater exit / re @-@ entry chamber .

Propulsion consisted of two 18 @-@ kilowatt ( 24 hp ) electric motors , mounted on a single shaft and powered by two battery groups with 128 cells each . The class lacked the ability to recharge during surface drive making them dependent on external power sources such as harbours and depot ships . Maximum achievable speed was 8 knots ( 15 km / h ; 9 mph ) underwater and 7 knots ( 13 km / h ; 8 mph ) surfaced . Traveling at a speed of 3 knots ( 6 km / h ; 3 mph ) they had a range of 250 ? 270 nautical miles ( 460 ? 500 km ; 290 ? 310 mi ) . Maximum diving depth was 120 m ( 390 ft ) . The sensor suite included an active / passive Krupp Atlas sonar .

In accordance with their expected mission , the boats could transport up to six naval commandos armed with 6 ? 12 M @-@ 66 or M @-@ 71 limpet mines . Also at their disposal were four large AIM @-@ 70 / 71 bottom mines mounted on the outside of the submarines . Four R @-@ 1 swimmer delivery vehicles could be carried in place of the AIM @-@ 70 / 71 mines . With a full crew of six members the boats had an underwater endurance of 160 hours which was reduced to 96 hours if the complement numbered ten personnel ( four crew members and six naval commandos ) .

= = Boats = =

= = History = =

= = = Service and decommissioning = = =

All six boats were in service with the 88th submarine flotilla of the JRM with Lora Naval Base being their homeport . At the start of the Croatian War of Independence all boats except So?a were relocated to Montenegro without participating in combat operations . Croatian forces captured So?a in drydock at the BSO where it was undergoing an overhaul . So?a underwent a modification program that improved its autonomy by installing a diesel generator . It was recommissioned , now with the Croatian Navy , in 1996 as Velebit ( P @-@ 01 ) and remained in service until the early 2000s when it was declared redundant . The remaining boats entered service with the new SR Yugoslav Navy . The first ones to be decommissioned sometime between 1997 and 2001 were Tisa and Una . In 2003 a decision was made that the ongoing major overhaul of Kupa would stop ; the boat was decommissioned and broken up in 2008 . It appears that the last Una @-@ class boats in service with the SR Yugoslav Navy were Zeta and Vardar , both of them being decommissioned in 2005 .

= = = Aftermath = = =

Ownership of the decommissioned boats passed on to Montenegro after the country declared independence in 2006 , ending the state of Serbia and Montenegro and its joint armed forces . In 2009 the Ministry of Defence announced that it is willing to donate three Una @-@ class submarines to former SFR Yugoslav republics of Slovenia , Croatia and Serbia . Although the " Submariner " society from Pula was interested in accepting the donation and exhibiting it in a museum , the Croatian MoD responded with a statement that accepting the donation is against national interests ; since most of the fleet of the former Yugoslav Navy was relocated to Montenegro at the beginning of the Croatian War of Independence , Croatia claims the military equipment of the former joint armed forces was stolen , and should be a subject of succession . The MoD further explains that the state interest is in compensation for that equipment , not returning " obsolete , damaged and corroded equipment which nowadays Serbia and Montenegro are unsuccessfully trying to sell " .

Slovenia on the other hand reacted positively to the offer ; in 2011 Zeta was loaded on a truck and transported by road through Serbia and Hungary . Although longer and thus more expensive , sea routes and roads that included crossing the Croatian border were avoided in fear of Croatian authorities confiscating the submarine . P @-@ 913 was restored with the help of the " Slovenian Submariners Society " and the Slovenian Army , being officially opened on 17 September 2011 at the Pivka Military History Park .

In 2013 , Una and a Heroj @-@ class attack submarine , Heroj ( P @-@ 821 ) , were restored and opened to the public in the museum section of the Porto Montenegro marina . The project was initiated by the " Submariner " Society from Tivat and was , after approval by the Montenegro MoD , financed by Porto Montenegro . The donation of one of the submarines to Serbia was initiated by the " Submariner " society from Belgrade in 2009 . However it wasn't until five years later in June 2014 that the Government of Montenegro officially accepted the proposal and agreed to cede Tisa ( P @-@ 911 ) to Serbia . The submarine will be exhibited at the Museum of Science and Technology in Belgrade .