



## ARCTIC OFFSHORE AND PATROL VESSEL

The Arctic Offshore and Patrol Vessels (AOPVs) – called the *Harry DeWolf*-class – are ice-strengthened patrol ships designed to extend the Royal Canadian Navy’s reach deeper into Arctic waters, expand its operating season there, and provide the RCN with new capabilities in a wide range of global safety and security missions.

Their construction was first announced in July 2007 and the AOPVs were subsequently included in the National Shipbuilding Procurement Strategy (now the National Shipbuilding Strategy), launched in October 2011. A contract was signed with Irving Shipbuilding in Halifax in 2015 for six to eight vessels (subsequently reduced to five vessels, with an option for a sixth) with construction of the first AOPV beginning in September 2015. In November 2018 the government announced a sixth ship, the *Robert Hampton Gray*, will be built.

The first ship of the class, HMCS *Harry DeWolf*, is now in the water and will soon proceed to sea trials. The second of the ships, *Margaret Brooke*, is currently being assembled in Halifax with the third, *Max Bernays*, in initial stages of construction.

These vessels are designed as versatile patrol ships, capable of engaging across a wide spectrum of safety and security missions. Canada’s defence policy, *Strong, Secure, Engaged*, released in 2017 states that these ships will “provide armed, sea-borne surveillance of Canadian waters, including in the Arctic. They will enforce sovereignty, cooperating with partners, at home and abroad, and will provide the Government of Canada with awareness of activities in Canada’s waters.” To put specific missions to this broad objective, the navy’s 2015 Concept of Use lists the following tasks for the ships:

- search and rescue;
- support for other government departments (for example, fisheries or border services);
- maritime domain awareness (to be aware of who is in Canadian waters and what they are doing);
- assistance to law enforcement (for example, smuggling);
- aid to civil power (for example, assistance dealing with an oil spill in the Arctic);
- logistical support to the Canadian Armed Forces and other government departments (for example, transport of equipment or personnel for disaster relief operations); and
- and sovereignty protection.

To undertake this range of tasks, the AOPV will need a great deal of space. They will have this and, at 5,800 tonnes, will be the largest ships in the Canadian Navy until the delivery of the Joint Support Ships in the mid-2020s. Despite their large size, they will carry a small crew of 45, with the capacity to support up to 40 additional personnel. Designed for Arctic operations, the AOPV will meet the International Association of Classification Societies’ (IACS) PC 5+ ice requirements with a Polar Class 4 bow, allowing them to travel through a metre of ice. The

vessels can also carry multi-purpose rescue and assault boats, as well as pick-up trucks, all-terrain vehicles, and snowmobiles in the vehicle bay. The aft helicopter deck is large enough to support the Canadian Armed Forces' new CH-148 Cyclone maritime helicopter (though for Arctic operations it may typically employ smaller Griffon helicopters), and can operate a variety of unmanned aerial vehicles if required. The AOPVs can also be integrated with payloads such as underwater survey equipment and has space designed for shipping containers. A 20-ton crane with self-loading and unloading capability will be fitted on the ship to make loading and unloading all this equipment faster.

While armed, the AOPVs are not intended to engage in combat. The ships will have a BAE Mk 38 deck gun designed for constabulary rather than war-fighting duties. The decision to arm these ships so lightly is based on years of assessing threats in the Arctic, which concluded that the security threat in the region is, and will likely remain, unconventional. Thus, rather than war-fighting, these ships will be focused on monitoring, policing and assisting civilian and commercial activity. These are the low risk, high probability security threats projected to emerge because of the increased use and development of the Arctic.

In the Arctic, the AOPVs will likely spend most of their time in a support role, assisting other government departments and agencies in fulfilling their northern mandates. This support work may include hydrographic surveying with the Canadian Hydrographic Service, fisheries patrols with the Department of Fisheries and Oceans, and constabulary operations with the RCMP. Because they are not icebreakers, the AOPVs will redeploy south during the winter.

Current and forthcoming AOPVs

- HMCS *Harry DeWolf* (AOPV 430)
- HMCS *Margaret Brooke* (AOPV 431)
- HMCS *Max Bernays* (AOPV 432)
- HMCS *William Hall* (AOPV 433)
- HMCS *Frédéric Rolette* (AOPV 434)
- HMCS *Robert Hampton Gray* (AOPV 435)

In addition to these other tasks, the AOPVs are also intended to buttress Canada's sovereignty in the North. A major element of sovereignty in the North is to maintain presence, illustrate functional control and stewardship.<sup>1</sup> This is accomplished by enhancing Canadian ability to operate in the region, manifested in the increased awareness, response and support capability. It is also accomplished by the navy's increased ability to monitor activity as it increases in the region and to support other government departments as they invariably see their responsibilities expand as Arctic ice melts. The AOPVs will be an important tool in enforcing the laws and regulations in the Arctic – for example, on shipping, environment, fishing and military presence.

The ships are referred to as Arctic *Offshore* Patrol Vessels indicating that they have more than one role. Outside the Arctic, the AOPV will be deployed on a wide range of patrol and surveillance duties, as well as humanitarian/disaster relief missions overseas. Operating off foreign coasts in a support capacity will be made easier by the ships' ample space for cargo and embarked civilian support personnel and the AOPV will work in conjunction with the forthcoming *Preserver*-class AORs to deliver supplies and assist responders ashore.

The other missions already mentioned, such as fisheries patrols, surveillance, smuggling/narcotics interdiction, which are often undertaken by Canadian frigates can be more effectively performed by the AOPVs, owing to their carrying roughly a third the crew of a patrol frigate. The ships' size and space for additional personnel also makes them ideal platforms for maritime scientific research. As such, the *DeWolf*-class will support Defence Research Development Canada, the Canadian Armed Forces and government efforts in scientific research and development, while also being able to respond to academic and industry requests.

Designed as versatile support and patrol craft, the AOPV will undertake a variety of global missions for Canada and extend the range of the RCN into the ice-covered areas of the Arctic for the first time since the 1950s.

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## Notes

<sup>1</sup> On this see the 2009 “Statement on Canada’s Arctic Foreign Policy,” which explains that “Canada exercises its sovereignty daily through good governance and responsible stewardship. It does so through the broad range of actions it undertakes as a government.... We exercise our sovereignty in the Arctic through our laws and regulations, as we do throughout Canada.”

# HARRY DEWOLF-CLASS ARCTIC/OFFSHORE PATROL SHIP

The Arctic/Offshore Patrol Ship (AOPS) project will deliver six ice-capable ships, designated as the Harry DeWolf Class, after Canadian wartime naval hero Vice-Admiral Harry DeWolf. The AOPS will be capable of:

- armed sea-borne surveillance of Canada's waters, including the Arctic
- providing government situational awareness of activities and events in these regions
- cooperating with other partners in the Canadian Armed Forces and other government departments to assert and enforce Canadian sovereignty, when and where necessary.

Construction of the first AOPS began in September 2015, with HMCS *Harry DeWolf* scheduled for delivery in 2019.

## AOPS SPECIFICATIONS:

Length:	103 metres
Beam:	19 metres
Complement:	65



Halifax-class Canadian Patrol Frigate  
Displacement: 4,770 tonnes



Harry DeWolf-class Arctic/Offshore Patrol Ship  
Displacement: 6,440 tonnes



To scale

Kingston-class Maritime Coastal Defence Vessel  
Displacement: 970 tonnes



### HELICOPTER CAPABILITY

Depending on the mission, the embarked helicopter could range from a small utility aircraft right up to the new CH-148 maritime helicopter.



### CARGO/PAYLOADS

Multiple payload options such as shipping containers, underwater survey equipment, or a landing craft. Ship has a 20-tonne crane to self-load/unload.

### VEHICLE BAY

For rapid mobility over land or ice, the ship can carry vehicles such as pickup trucks, ATVs, and snowmobiles.



### DIESEL/ELECTRIC PROPULSION

**Propulsion:** Two 4.5 megawatt main propulsion engines, four 3.6 megawatt generators.

### RETRACTABLE ACTIVE FIN STABILIZERS

Deployed to reduce ship roll for open ocean operations, retracted for operations in ice.



### MULTI-PURPOSE OPERATIONAL SPACE

Where operational planning and mission execution will be coordinated.



### INTEGRATED BRIDGE NAVIGATION SYSTEM

Modern integrated bridge, from which control of navigation, machinery, and damage control systems can be performed.



### MULTI-ROLE RESCUE BOATS

Top speed of 35+ knots, 8.5 metres long. Will support rescues, personnel transfers, or boarding operations.



### BAE MK 38 GUN

Remote controlled 25 mm gun to support domestic constabulary role.

### ENCLOSED FOCSLE/CABLE DECK

Protects foredeck machinery and workspace from harsh Arctic environment.

### BOW THRUSTER

To enable manoeuvring or berthing without tug assistance.