

# Charter for Hydroacoustics Work Group of the Water Mission Area

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## Introduction

Rapid advances in hydroacoustic technologies and their applications for surface water measurements require the development of standardized techniques and practices, including ongoing field support of this instrumentation. Since the early 1990s, the USGS Office of Surface Water (OSW) has recognized the need for guidance, method development, and training for hydroacoustic instruments. In 1994, the Hydroacoustic Work Group (HaWG) was established by the OSW to assist it developing technical guidance and training for acoustic Doppler current profiler (ADCP) field users in water resources programs. The OSW was abolished as part of the Water Mission Area (WMA) reorganization on October 1, 2017 and the HaWG now is under the authority of the Observing Systems Division (OSD). The need for the HaWG remains. Changes to the charter have been made to reflect the new line authority for the HaWG and the reorganization of the regions and water science centers.

## Purpose

The purpose of the HaWG is to assist the OSD in its mission to provide guidance, method development, and training in the application of hydroacoustic instrumentation for streamflow, velocity, depth, and other hydraulic and hydrologic measurements. Hydroacoustic instrumentation includes ADCPs, acoustic Doppler velocimeters (ADV), acoustic Doppler velocity meters (ADVMs), and other acoustic instruments.

## Composition

The composition of the HaWG is intended to represent a cross-section of USGS Water Mission Area (WMA) and Water Science Center (WSC) program needs and interests. The HaWG will consist of:

- (1) 7 rotational positions representing the Water Science Centers (WSC).
- (2) At least 1 one, but no more than 2 permanent members from the Hydrologic Networks Branch (HNB), unless funded for hydroacoustics support.
- (3) 1 permanent member from the Hydrologic Instrumentation Facility (HIF).
- (4) 1 permanent member from the Office of Quality Assurance.
- (5) 1 member from the USGS outside the WMA, if available.
- (6) Other members may be added to the HaWG, if the HaWG believes their participation is beneficial. These members may be from USGS or other cooperating agencies and may serve on an ad hoc or ongoing basis.

When selecting candidates the HaWG will consider the following factors:

- (1) Capability and commitment of the candidate to consistently participate on the HaWG;

- (2) the needs of WMA and WSC data and interpretive programs, as well as, other USGS mission areas;
- (3) expertise in one or more hydroacoustics application areas; and
- (4) geographic representation.

Hydroacoustics application areas include discharge measurement methods (both mid-section and moving boat, ADVs and ADCPs), index velocity measurements and records computation, velocity mapping, bathymetry, measurement of tidally-affected flows, acoustic-based sediment transport measurements, and other acoustic-based surrogate modeling.

## Terms of Service

The five rotational members representing the water science centers shall serve for a period of five years. A member may terminate their service early as a result of changes in duties, transfers, or other, unforeseen circumstances. Approximately 4-6 months prior to the expiration of a member's term, the HaWG will identify and select a candidate to fill the position of the outgoing member. Some overlap (approximately 4 months) in the service of the outgoing and incoming member is encouraged. Every attempt will be made to have only one of the members rotate off per year. The permanent members do not have term limits, but serve at the discretion of their supervisors. The terms of members added to the HaWG are at the discretion of the HaWG and that member's supervisor.

## Responsibilities

The HaWG assists the OSD by:

- Facilitating the exchange of information between the OSD and users of hydroacoustic instruments and methods in Water Mission Area (WMA) and other programs;
- Reviewing and advising OSD on work priorities;
- Reviewing and developing proposed WMA policies, reports, and similar documents;
- Identifying emerging issues requiring action by OSD;
- Providing introductory and continuing hydroacoustics training to USGS staff and cooperators;
- Providing advice and direction regarding technical issues, instrument development, software, ancillary tools, testing, and training;
- Assisting in the evaluation, development, and application of new hydroacoustic methods and software; and
- Coordinating policies, training, and technology develop with other workgroups and committees within the WMA.

HaWG members serving on a rotating basis will periodically communicate with Water Science Center (WSC) hydroacoustic specialists and other interested parties. This communication may consist of announcements about new procedures, new instruments, training opportunities and needs, solicitation of information about issues of concern to WSC, and other related topics.

The HaWG members participate in conference calls on a regular basis. Typically conference calls will be held on a monthly basis, but never less than quarterly. A face-to-face meeting of the HaWG will be held annually, if sufficient funds are available to support the travel costs of the members.

## **Leadership**

The members of the HaWG select a chairperson and a vice-chairperson from the rotational and permanent members of the HaWG to serve two-year terms. At least one rotational member should be chair or vice-chair. The chairpersons may be re-elected as long as they are members of the HaWG but may not serve 2 consecutive terms.

The chairperson will schedule regular conference calls for the HaWG. Prior to meetings or conference calls, the chairperson or his/her designee will solicit input and feedback from the HaWG regarding topics of interest and will prepare an agenda. The chairperson or his/her designee will facilitate meetings and lead the HAWG through each of the agenda items. In the event that the chairpersons cannot attend a scheduled meeting or conference call, the chairpersons shall appoint another HaWG member to serve as facilitator for that meeting. The chairperson or meeting facilitator shall ensure that minutes of the meeting are kept and shared with the members of the HaWG and the OSD Director

## **Authority and Funding**

The HaWG is sponsored by and reports to the OSD. The salary for the rotational members' service on the HaWG is covered by their respective WSC. Salary for permanent members of the HaWG is covered by their respective division or branch. Any other members of the HaWG are funded by their respective employers. When a specific and significant task has been assigned and agreed to by a HaWG member, funding may be provided, if available. However, the HaWG is unable to complete its responsibilities without fully funded OSD staff dedicated to hydroacoustics. Therefore, the success of the HaWG has been and continues to be dependent on work by OSD staff that are funded and dedicated to hydroacoustics support and development. When possible, OSD will fund travel to face-to-face meetings.