Critical Task Hazard Analysis Worksheet

Critical Task: Bottom Sampling from Small Vessels (minimum of 2 persons)

Notes:

- This Task Hazard Analysis (THA) is in response to the Canada Labour Code Part II, the Canada Occupational Health and Safety Regulations Part XIX Hazard Prevention Program, and the DFO Occupational Health and Safety Manual.
- It is to assist personnel in identifying foreseeable hazards when *Bottom Sampling from Small Vessels (minimum of 2 persons)*.
- The application of these control measures will assist in preventing occupational accidents.
- This THA is to be reviewed regularly to ensure that all potential hazards have been identified.

Region: Pacific	TASK HAZARD ANALYSIS
Branch/Division: Science	Bottom Sampling from Small Vessels (minimum of 2 persons)
Last revision: August 12, 2020	Developed from *Bottom Sampling from Small Boats* by A. Koudy's CHS C&A 2003 and updated by R. Hare CHS Pacific 2007. V1.0 developed by A. Schofield.

Column A - BASIC STEPS	Column B - HAZARDS CONSIDER: Health and safety, damage to people, property, equipment or program/the 5 categories of hazards; biological, physical, ergonomic, chemical, and psycho-social.	Column C – TASK INSTRUCTIONS Define how each step is to be performed safely, ensuring all hazards are addressed.
1. Preparation.	a) Lifting. b) Working around water.	a) Gather equipment. Ensure in good working order. b) Ensure personnel are trained and familiar with operational requirements prior to deploying. c) Follow safe work procedures from **THA-SWP Science Pacific Lifting Transporting and Handling Heavy Objects.** d) Follow safe work procedures from **THA-SWP Science Pacific Working Around Water.** e) **Follow THA-SWP COVID General Duties, THA-SWP COVID Shared work spaces, and THA-SWP COVID Vehicles and Small Boats**
2. Stow sampling equipment in boat.	a) Weight unevenly distributed in boat. b) Improperly secured equipment.	a) Distribute weight evenly. b) Secure equipment with proper tie downs.

	c) Restricted movement and access to operate boat.	**c)** Keep deck as clear as possible and away from gear necessary for safe boat operation.
3. Deploy sampling equipment.	a) Personal injury. b) Falling overboard. c) Drowning. d) Entanglement. e) Slipping on wet/muddy decks. f) Dropping items on feet.	a) Wear CSA approved PFDs, safety glasses, gloves and protective footwear. b) Arm samplers cautiously following manufacturer's operating manuals. c) Keep personnel clear of moving parts. d) Ensure long hair, dangling accessories, rings or other jewelry are tied, fitted, covered or otherwise secure to prevent entanglement. e) Retrieve samples cautiously keeping in mind weight distribution of vessel. Secure as necessary. f) Keep working area as clean as possible to avoid buildup of slippery sediments. g) Be accompanied by at least one other person. **h)** Follow safe work procedures from **THA-SWP Science Pacific Deployment of Equipment from Vessels**
4. Retrieve sampling equipment.	a) Same as step 3, Deploy sampling equipment.	a) Same as step 3, Deploy sampling equipment.
5. Sub-sample material collected.	a) Chemical exposure. b) Exposure to hazardous water/sediment samples.	a) Follow safe work procedures from **THA-SWP Science Pacific Hazardous Materials Handling.** b) Wear protective clothing, gloves etc. c) Be aware of area where sample is collected and has potential for hazard e.g. proximity to heavy industry. d) Follow safe work procedures from **THA-SWP Science Pacific Sorting and Sampling at Sea.**

Science	**Branch**
Pacific	**Region**
Bottom Sampling from Small Vessels	**Subject**

I. PURPOSE

- Provide guidance to Science Branch staff on how to perform bottom sampling from small vessels properly and safely.
- Provide guidance on how to minimize risks to which the staff may be exposed when they are performing bottom sampling from small vessels. This procedure is intended to guide the supervisor's and staff's use of discretion and common sense when making decisions related to bottom sampling from small vessels.
- It is the responsibility of all Science Branch staff to conduct risk assessments on an ongoing basis to prevent injury to themselves, the public and other employees.
- As per Canada Labour Code Part II, 126. (1), employees shall review and comply with these procedures.
- Bottom Sampling from Small Vessels is dangerous work but it can be done safely. If not done safely the severity of loss will be high. This task is done occasionally and if an accident occurs, the probability of loss occurring is high.
- **The Safe Work Procedures focus on hazards. The Critical Task Hazard Analysis Worksheet makes reference to defective equipment, contaminated fuel, storage of dangerous goods, collisions, capsizing and drowning.**
- The Safe Work Procedures for bottom sampling will contribute to safe work and will ensure that the work is undertaken only under controlled and safe circumstances.

II. PROCEDURES

See above Critical Task Hazard Analysis Worksheet for Basic Steps, Hazards and Control Measures/Task Instructions.

III. TRAINING REQUIREMENTS

CHS only:

- The training required for bottom sampling from small vessels is as per the CHS Pacific Training Process and the Multidisciplinary Hydrographer Progression Plan if applicable.
- Task specific training must be completed and documented as such in the CHS Training Database before task can be undertaken.

All other Science Divisions:

- Task specific training must be completed and documented before task can be undertaken.

IV. PERSONAL PROTECTIVE EQUIPMENT REQUIRED

- PFD, safety glasses, gloves, protective clothing and footwear.
- See Critical Task Analysis Worksheet.

V. REFERENCES

- Canada Labour Code http://laws-lois.justice.gc.ca/eng/acts/L-2/
- Canadian Occupational Health and Safety Regulations http://laws.justice.gc.ca/eng/regulations/sor-86-304/page-1.html
- Canada Centre for Occupational Health and Safety http://www.ccohs.ca/topics/hazards/#ctgt_1-1
- DFO Occupational Health and Safety Manual https://intranet.ent.dfo-mpo.ca/ss/en/node/1442
- Mandatory Health and Safety Training: http://intra.dfo-mpo.gc.ca/loop-courant/ncr/2012/20120615/20120615_2_e.htm
- Policy on Harassment Prevention and Resolution http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=26041
- CCG Safe Boating Guide http://www.tc.gc.ca/media/documents/marinesafety/TP-511e.pdf

VI. APPROVED BY

Dr. Carmel Lowe, Regional Director, Science Branch

OSH Representative Review by:
Interviews conducted with:
Bottom Sampling from Small Vessels V1.0: A. Schofield 29-Feb-2016

OSH Representative Review by: K.R. Halcro Jun -2016
Updated by D. Jackson June-2016 (V2.0)

Updated by M Archer Nov 20, 2016: CHS Version Archived. Science version covers requirements for all of Science, including CHS.(V3.0)
Updated by E Oliphant, T Barlow, D Havens & G Roberts on May 10, 2017: Protective footwear added to PPE. (V4.0)

Subject Matter Expert/Peer Review by R. Loschiavo Dec 10, 2019: no updates made
OSH Representation Review by T Barlow Jan 23, 2020: updated link for DFO Occupational Health and Safety Manual, (V4.1)

Subject Matter Expert/Peer Review by R. Loschiavo July 21, 2020: no updates made
OSH Representation Review by E. Bonner Aug 12, 2020: references added for THA-SWP COVID procedures, (V4.2)

Carmel Lowe

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Director: Dr. Carmel Lowe

Branch: Science

Region: Pacific